Phoenix • Arizona
IAFP 2021
JULY 18-21
Program Book
foodprotection.org
Guaranteeing safe products and regulatory compliance requires constant vigilance. And in a dynamic food production environment, constant vigilance requires capable tools. From cutting-edge diagnostic instruments to expert consultation and validation services, bioMérieux equips your organization with the tools you need to deliver safe, high-quality products more efficiently—safeguarding both your brand reputation and your bottom line.

Learn more at biomerieux-usa.com
# TABLE OF CONTENTS

Welcome from the Executive Board ................................................................. 3
General Information .......................................................................................... 4
Welcome from Local Arrangements ............................................................... 5
Committee Networking Schedule .................................................................. 6
IAFP 2021 Schedule .......................................................................................... 7
Schedule-at-a-Glance ......................................................................................... 8
Sponsors ............................................................................................................. 10
General Sessions ............................................................................................... 11
Exhibit Information ............................................................................................ 12
Student Information .......................................................................................... 13
Sustaining Members ......................................................................................... 14
Ivan Parkin Lecture ......................................................................................... 18
Ivan Parkin Lecture Abstract ......................................................................... 19
Program
  Monday Morning .............................................................................................. 25
  Monday Afternoon ............................................................................................ 31
  Tuesday Morning .............................................................................................. 37
  IAFP Business Meeting .................................................................................. 42
  Tuesday Afternoon ........................................................................................... 42
  Wednesday Morning ......................................................................................... 47
  Wednesday Afternoon ...................................................................................... 52
John H. Silliker Lecture .................................................................................... 56
John H. Silliker Abstract ................................................................................... 57
Poster Sessions
  Monday ............................................................................................................ 59
  Tuesday .......................................................................................................... 67
  Wednesday ..................................................................................................... 75
Affiliate Delegates ......................................................................................... 83
Affiliate Officers .............................................................................................. 84
About the Award Recipients ......................................................................... 89
Exhibitors ........................................................................................................ 115
Policy on Commercialism ............................................................................. 132
JFP Awards ....................................................................................................... 135
FPT Awards ...................................................................................................... 136
60-, 50-, 40-, 30-, and 20-Year Members ....................................................... 137
Past Presidents ............................................................................................... 138
Past Annual Meetings and Locations ............................................................ 139
Author and Presenter Index .......................................................................... 141
Developing Scientist Competitors ............................................................... 163
Undergraduate Student Award Competitors ............................................. 164
IAFP 2021 Workshops .................................................................................... 165
Phoenix Convention Center Floor Plans ..................................................... 166

---

printed 6-25-2021
IAFP’s European Symposium on Food Safety

IAFP’S EUROPEAN SYMPOSIUM ON FOOD SAFETY has been shaping the future of food safety since 2005, bringing together hundreds of food safety professionals from across Europe and around the world to exchange ideas and gain knowledge about the latest in developments and techniques in food science and safety. The 2022 Symposium includes a vast array of diverse topics and speakers for those working in industry, government and academia.

MORE INFORMATION AVAILABLE AT foodprotection.org
WELCOME FROM THE EXECUTIVE BOARD

On behalf of the Executive Board, it is my pleasure to welcome you to IAFP 2021. This year, similar to last year, the Annual Meeting will take on a new look. Last year, we conducted a Virtual Annual Meeting in October due to conditions resulting from COVID-19. This year’s conference will be hybrid, meaning that speakers, exhibitors and attendees will be able to participate in-person in Phoenix or virtually from any place in the world via the Internet. The hybrid option provided the best choice for IAFP in our commitment to go forth with holding an Annual Meeting in order to continue providing the latest in food safety information and timely topics while protecting the health and safety of our Members and attendees.

Food safety is ongoing in today’s interconnected world. IAFP 2021 will help you stay in touch with current and emerging issues, the latest science, and solutions to new and ongoing problems. While networking this year will be done carefully in-person and through a screen for our virtual attendees, we hope you continue to reach out to old friends and colleagues as well as extend a hand to those developing scientists who are attending for the first time.

The Executive Board offers a special thank you to Martin Duplessis, Program Committee Chair, and the entire Program Committee for organizing another exceptional lineup of symposia, roundtables, technical presentations, and posters – especially having to arrange for the program without meeting in-person. The added value with 2021’s Annual Meeting is that attendees are able to take part in all sessions, presentations, and lectures by viewing the recordings after the conclusion of the actual meeting. You won’t have to miss any part of this year’s event!

We extend our sincere gratitude to our exhibitors, sponsors, and long-time attendees who continue to help us spread the food safety message through your ongoing and dedicated support. Whether you are a new Member, long-time Member, student Member, or even a prospective Member, the IAFP Executive Board eagerly welcomes you and encourages you to actively participate in IAFP 2021.

Together, we ARE Advancing Food Safety Worldwide!

Roger Cook
IAFP President
GENERAL INFORMATION

**Luggage Check Room**
The Luggage Check Room is located in *Room 125B* and is available Sunday through Wednesday. The hours are listed below:

**Sunday, July 18**
8:00 AM – 10:00 PM

**Monday, July 19**
8:00 AM – 6:30 PM

**Tuesday, July 20**
8:00 AM – 6:30 PM

**Wednesday, July 21**
8:00 AM – 10:00 PM

**Speaker-Ready Room**
The Speaker-Ready Room is located in *Room 126B* and is available for speakers Sunday through Wednesday, 7:00 a.m. to 5:00 p.m.

**Press Release Postings**
A Press Release poster board will be available in the Exhibit Hall for Press Releases. Post your Press Release for maximum exposure.

**Cell Phone Policy**
As a courtesy to our presenters, we request that you turn off cell phones while attending sessions. Thank you for your cooperation.

**Recording Policy**
Unauthorized video or audio recording will not be allowed without prior approval. By attending the IAFP Annual Meeting, you authorize IAFP to take your picture to be used in our publications.

All sessions, with speaker approval, will be video recorded by IAFP and posted on the IAFP website for attendees’ access.

**Meeting App**
The IAFP 2021 app is available at the App Store and the Android market.

**WiFi Internet**
Complimentary WiFi Internet is available throughout the lobbies, Exhibit Hall, and meeting rooms. To access:

- Use the IAFP 2021 "WiFi" Network.
- Password: iafp2021

Sponsored by [Hygiena](#)

PROGRAM COMMITTEE

**Chairperson**
Martin Duplessis, Food Directorate, Health Canada

**Vice Chairperson**
Carrie Rigdon, Minnesota Department of Agriculture

**Members**
Doris D’Souza, University of Tennessee-Knoxville
Heidy Den Besten, Wageningen University
Francisco Diez, University of Georgia
Paul Hanlon, Abbott Nutrition
Janell Kause, USDA/FSIS
Ramin Khaksar, Clear Labs
Abani Pradhan, University of Maryland
Manan Sharma, USDA/ARS
Angela Shaw, Iowa State University
Gregory Siragusa, SCOUT Microbiology
Benjamin Warren, Land O’ Lakes
Pamela Wilger, Cargill, Inc.
Christina Wilson, Columbus Public Health

**Board Liaisons**
Roger Cook, New Zealand Food Safety
Ruth Petran, Ruth Petran Consulting, LLC

CONNECT AT IAFP 2021

![Facebook](#)

@IAFPFOOD #IAFP2021

IAFP REGISTRATION HOURS

- **Saturday, July 17** – 12:00 p.m. – 7:00 p.m.
- **Sunday, July 18** – 8:00 a.m. – 9:00 p.m.
- **Monday, July 19** – 7:30 a.m. – 5:30 p.m.
- **Tuesday, July 20** – 8:00 a.m. – 5:30 p.m.
- **Wednesday, July 21** – 8:00 a.m. – 12:00 p.m.
Welcome from the Arizona Environmental Health Association (AZEHA). The Arizona Environmental Health Association welcomes you to the Valley of the Sun, or what some refer to as the Valley of the Surface of the Sun! The Phoenix area is certainly no stranger to feeling the heat of the sun a little bit more than other places on Earth. Phoenix has recently experienced temperatures as high as 117 Degrees Fahrenheit! Although the Phoenix area experiences a dry heat and shade is helpful, it's always a good reminder to be mindful of the temperature, bring water, and know your limits. Also rest assured that virtually every building in Phoenix has air conditioning.

The 2021 IAFP Annual Meeting is sure to be another outstanding meeting place for professionals, scientists, and subject-matter experts who are committed to advancing food safety. The program offers a plethora of options for attendees to learn more about areas of food safety that are sure to benefit you, your team, and your workplace.

A little more about Phoenix: it is situated in Maricopa County which is the fourth largest county in the nation and the fastest growing. We have been experiencing record amounts of people moving into Maricopa County from West Coast states and internationally – all to get a taste of the heat and the amenities Arizona has to offer. Speaking of which, Arizona has an extremely diverse geography: from the world-famous, natural wonder of the world, the Grand Canyon; to Karchner Caverns with its stalagmites; to the popular science experiment Biosphere 2; to the red rock in Sedona; ancient ruins of Montezuma’s Castle; to the real Tombstone; to the mountains and valleys in between, Arizona has so much to offer the adventure-seeker, the biologist, the outdoorsman, and the curious-minded person.

Phoenix has a variety of exciting amenities to offer, including: arts and culture; great dining; sporting events; historic buildings; retail; night-life; and community spaces; all within reasonable distance of the Phoenix Convention Center. Please check out the VisitPhoenix website to see what entertainment options are available to you during your stay.

We hope you have a great experience in Phoenix and an even better experience at the IAFP Annual Meeting.

Arizona Environmental Health Association Board

David Morales
President

Andres Martin
President-Elect

Jennifer Podulka
Treasurer

Cheri Dale
Past President

Blanca Caballero
Secretary

Bianca Arriaga
Board Member

Danny Chhun
Board Member

Veronica Oros
Board Member

Jackie Ward
Board Member

Bianca Caballero
Secretary
<table>
<thead>
<tr>
<th>MEETING TIME</th>
<th>MEETING</th>
<th>ROOM</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 AM – 5:00 PM</td>
<td>Committee on Control of Foodborne Illness</td>
<td>ROOM 232</td>
</tr>
<tr>
<td>8:00 AM – 10:00 AM</td>
<td>Food Hygiene and Sanitation</td>
<td>ROOM 231 BC</td>
</tr>
<tr>
<td>8:00 AM – 10:00 AM</td>
<td>Affiliate Council</td>
<td>ROOM 230</td>
</tr>
<tr>
<td>9:00 AM – 10:45 AM</td>
<td>Webinar Committee</td>
<td>ROOM 224 B</td>
</tr>
<tr>
<td>9:00 AM – 11:00 AM</td>
<td>Food Safety Assessment, Audit and Inspection</td>
<td>ROOM 222</td>
</tr>
<tr>
<td>9:00 AM – 11:00 AM</td>
<td>Advanced Molecular Analytics</td>
<td>ROOM 224 A</td>
</tr>
<tr>
<td>9:00 AM – 11:00 AM</td>
<td>HACCP Utilization and Food Safety Systems</td>
<td>ROOM 223</td>
</tr>
<tr>
<td>9:00 AM – 11:00 AM</td>
<td>Viral and Parasitic Foodborne Disease</td>
<td>ROOM 226 A</td>
</tr>
<tr>
<td>9:00 AM – 12:00 PM</td>
<td>Meat and Poultry Safety and Quality</td>
<td>ROOM 221 BC</td>
</tr>
<tr>
<td>10:00 AM – 12:00 PM</td>
<td>International Food Protection Issues</td>
<td>ROOM 226 BC</td>
</tr>
<tr>
<td>10:00 AM – 12:00 PM</td>
<td>3-A Committee on Sanitary Procedures</td>
<td>ROOM 231 A</td>
</tr>
<tr>
<td>10:00 AM – 12:00 PM</td>
<td>JFP Management</td>
<td>ROOM 228 B</td>
</tr>
<tr>
<td>10:15 AM – 12:15 PM</td>
<td>Food Defense</td>
<td>ROOM 231 BC</td>
</tr>
<tr>
<td>10:30 AM – 11:30 AM</td>
<td>Past Presidents’</td>
<td>ROOM 228 A</td>
</tr>
<tr>
<td>11:00 AM – 12:00 PM</td>
<td>Student (PDG Meeting)</td>
<td>ROOM 230</td>
</tr>
<tr>
<td>11:00 AM – 12:00 PM</td>
<td>Constitution and Bylaws</td>
<td>ROOM 224 B</td>
</tr>
<tr>
<td>12:00 PM – 1:30 PM</td>
<td>Student Luncheon</td>
<td>NORTH BALLROOM D</td>
</tr>
<tr>
<td>1:00 PM – 3:00 PM</td>
<td>Fruit and Vegetable Safety and Quality</td>
<td>ROOM 222</td>
</tr>
<tr>
<td>1:00 PM – 3:00 PM</td>
<td>Food Safety Culture</td>
<td>ROOM 231 BC</td>
</tr>
<tr>
<td>1:00 PM – 3:00 PM</td>
<td>Dairy Quality and Safety</td>
<td>ROOM 224 A</td>
</tr>
<tr>
<td>1:00 PM – 3:00 PM</td>
<td>Retail and Foodservice</td>
<td>ROOM 223</td>
</tr>
<tr>
<td>1:00 PM – 3:00 PM</td>
<td>Pre-Harvest Food Safety</td>
<td>ROOM 226 BC</td>
</tr>
<tr>
<td>1:00 PM – 3:00 PM</td>
<td>Beverages and Acid/Acidified Foods</td>
<td>ROOM 226 A</td>
</tr>
<tr>
<td>1:00 PM – 3:00 PM</td>
<td>Seafood Safety and Quality</td>
<td>ROOM 231 A</td>
</tr>
<tr>
<td>1:00 PM – 3:00 PM</td>
<td>Food Packaging</td>
<td>ROOM 230</td>
</tr>
<tr>
<td>1:00 PM – 3:00 PM</td>
<td>Membership</td>
<td>ROOM 228 A</td>
</tr>
<tr>
<td>2:00 PM – 3:00 PM</td>
<td>Diversity, Equity and Inclusion Council</td>
<td>ROOM 224 B</td>
</tr>
<tr>
<td>2:00 PM – 4:00 PM</td>
<td>Low Water Activity Foods</td>
<td>ROOM 221 BC</td>
</tr>
<tr>
<td>2:00 PM – 4:00 PM</td>
<td>FPT Management</td>
<td>ROOM 228 B</td>
</tr>
<tr>
<td>3:15 PM – 5:15 PM</td>
<td>Applied Laboratory Methods</td>
<td>ROOM 222</td>
</tr>
<tr>
<td>3:15 PM – 5:15 PM</td>
<td>Microbial Modelling and Risk Analysis</td>
<td>ROOM 231 BC</td>
</tr>
<tr>
<td>3:15 PM – 5:15 PM</td>
<td>Developing Food Safety Professionals</td>
<td>ROOM 224 A</td>
</tr>
<tr>
<td>3:15 PM – 5:15 PM</td>
<td>Food Safety Education</td>
<td>ROOM 223</td>
</tr>
<tr>
<td>3:15 PM – 5:15 PM</td>
<td>Food Fraud</td>
<td>ROOM 226 BC</td>
</tr>
<tr>
<td>3:15 PM – 5:15 PM</td>
<td>Food Chemical Hazards and Food Allergy</td>
<td>ROOM 226 A</td>
</tr>
<tr>
<td>3:15 PM – 5:15 PM</td>
<td>Food Law</td>
<td>ROOM 231 A</td>
</tr>
<tr>
<td>3:15 PM – 5:15 PM</td>
<td>Sanitary Equipment and Facility Design</td>
<td>ROOM 230</td>
</tr>
<tr>
<td>3:15 PM – 5:15 PM</td>
<td>Water Safety and Quality</td>
<td>ROOM 228 A</td>
</tr>
<tr>
<td>4:00 PM – 5:00 PM</td>
<td>Nominating</td>
<td>ROOM 224 B</td>
</tr>
</tbody>
</table>
FRIDAY AND SATURDAY, JULY 16–17

IAFP Workshop – 8:30 a.m. – 5:00 p.m.
Developing Environmental Monitoring Programs for Small and Midsize Processors
2 days – Friday, July 16 and Saturday, July 17 (8:30 a.m. – 5:00 p.m.)

SATURDAY, JULY 17

IAFP Workshops – 8:00 a.m. – 5:00 p.m.
Air Quality and Mold Contamination in Food Production and Storage Facilities – Monitoring, Sampling, Testing, and Remediation Techniques
1 day – Saturday, July 17 (8:30 a.m. – 5:00 p.m.)
Genomics 101 for Food Safety
1 day – Saturday, July 17 (8:30 a.m. – 5:00 p.m.)
Welcome Reception • 5:00 p.m. – 6:30 p.m.

SUNDAY, JULY 18

Committee and PDG Networking • 8:00 a.m. – 5:00 p.m.
Student Luncheon (ticket required) • 12:30 p.m. – 1:30 p.m.
Opening Session and Ivan Parkin Lecture • 6:00 p.m. – 7:30 p.m.
Cheese and Wine Reception • 7:30 p.m. – 9:30 p.m.
Exhibit Hours • 7:30 p.m. – 9:30 p.m.

MONDAY, JULY 19

Symposia & Technical Sessions • 8:30 a.m. – 5:15 p.m.
Poster Sessions • 8:30 a.m. – 6:15 p.m.
Exhibit Hours • 10:00 a.m. – 6:15 p.m.
Exhibit Hall Lunch • 11:45 a.m. – 1:30 p.m.
Exhibit Hall Reception • 5:15 p.m. – 6:15 p.m.

TUESDAY, JULY 20

Committee and PDG Chairperson Breakfast (by invitation) • 7:30 a.m. – 9:00 a.m.
Symposia & Technical Sessions • 8:30 a.m. – 5:15 p.m.
Poster Sessions • 8:30 a.m. – 6:15 p.m.
Exhibit Hours • 10:00 a.m. – 6:15 p.m.
Exhibit Hall Lunch • 11:45 a.m. – 1:30 p.m.
Business Meeting • 12:30 p.m. – 1:15 p.m.
Exhibit Hall Reception • 5:15 p.m. – 6:15 p.m.
Student Mixer • 7:00 p.m. – 9:00 p.m.

WEDNESDAY, JULY 21

Symposia & Technical Sessions • 8:30 a.m. – 3:30 p.m.
Poster Sessions • 8:30 a.m. – 3:30 p.m.
Networking Lunch • 11:45 a.m. – 1:30 p.m.
John H. Silliker Lecture • 4:00 p.m. – 4:45 p.m.
Awards Reception and Banquet • 6:00 p.m. – 9:30 p.m.
## Schedule-at-a-Glance

### Sunday, July 18

**Opening Session – Ivan Parkin Lecture – North Ballroom A-C**

If it's all about people, isn't it? – Robert B. Graviss, Ph.D., Cornell University, Ithaca, New York, USA

### Monday, July 19

**Monday, 8:30 a.m. – 12:15 p.m.**

- **S1** – Foodborne Disease Outbreak Update
  - S2: Physiological State of Mind: Detection Challenges for Strressed/Sub-healthy Injured Pathogens
  - S3: (v) New and Innovative Technologies for Sanitation in Dry Processing Environments
  - S4: To Disinfect or Not? How to Appropriately Use Disinfectants in Food Settings
  - Technical Session 1 – Viruses and Parasites
  - RT1: (v) Improving the Food Recall Effectiveness of Regulatory Agencys
  - RT2: Don’t Forget about Me! Educating Underrepresented Growers on Produce Safety
  - RT3: – (v) Advances in Powdered Food Safety and Quality Sampling Plans: Theory, Simulation, & Practice

**Monday, 1:30 p.m. – 5:15 p.m.**

- S10 – FSMA Turns 10: Achievements, Compliance, and the Future of Food Safety
  - Technical Session 3 – Antimicrobials
  - RT14: – Incentives for Preventative Control of Zoonoses in Food Animals

### Tuesday, July 20

**Tuesday, 8:30 a.m. – 12:15 p.m.**

- S19 – One Size Does Not Fit All: Advancing Surrogate Science and Collaboration to Enable Pathogen Reduction Technologies in a Variety of Matrices
  - S20 – Novel and Emerging Technologies for Food Processing Facility Environmental Control
  - S21: Recent State and Local Outbreak Investigations
  - Technical Session 7 – Meat, Poultry and Eggs
  - RT20: FDA’s New Era of Smarter Food Safety: One Year after the “Blueprint” Release, How is the Industry Embracing This Change?

**Tuesday, 12:30 p.m. – 1:15 p.m.**

- IAFP Business Meeting

### Wednesday, July 21

**Wednesday, 8:30 a.m. – 12:15 p.m.**

- S28: Cyclospora: A Crash Course in the Emerging Pathogen from Farm to Table
  - S30: Latest Developments in Food Safety Standards for Water Reuse in Food Production and Processing
  - Technical Session 9 – Molecular Analytics, Genomics and Microbiome
  - S10: To Verify or Validate: A Rapid Pathogen Method: What about the Matrix?

**Wednesday, 1:30 p.m. – 3:30 p.m.**

- S38: Flour Safety: Challenges and Lessons Learned from the Recent Outbreaks and Sampling Study
  - S39: Root Cause Analysis: Approaches for Investigating Contamination Incidents and Preventing Recurrence
  - Technical Session 12 – Molecular Analytics, Genomics and Microbiome
  - S40: Cannabis and Your Supply Chain – How to Protect Yourself and Your Customers
  - S41: Every Flush Has Data: The Role of Wastewater Epidemiology in Improving Food Safety with Lessons Learned from COVID-19

**Wednesday, 4:00 p.m. – 4:45 p.m.**

- John H. Silliker Lecture – We All are Working on the Same Puzzle – Barbara J. Masters, DVM, Tyson Foods, Washington, D.C., USA

*(v) – Virtual

* - LIVE at scheduled time, NOT recorded*
# SCHEDULE-AT-A-GLANCE

<table>
<thead>
<tr>
<th>Time</th>
<th>Day</th>
<th>Session Title</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>127 A-C</td>
<td>Sunday, July 20</td>
<td>Opening Session – Ivan Parkin Lecture – North Ballroom A-C</td>
<td>Exhibit Hall</td>
</tr>
<tr>
<td>12:30 p.m.</td>
<td></td>
<td>It’s All About People, Isn’t it? – Robert B. Gravani, Ph.D., Cornell University, Ithaca, New York, USA</td>
<td></td>
</tr>
<tr>
<td>12:30 p.m. – 1:30 p.m.</td>
<td>Monday, July 19</td>
<td>RT4 – Informal Markets: Building Consumer Demand for Food Safety in Low-Resource Environments</td>
<td>Technical Session 2 – Modeling and Risk Assessment</td>
</tr>
<tr>
<td>1:30 p.m. – 5:15 p.m.</td>
<td>Monday, July 19</td>
<td>RT7 – The Drive for Better Sanitation and Food Safety Compliance through Measurements, Management, and Culture</td>
<td>Technical Session 4 – Microbial Food Spoilage, Pre-Harvest Food Safety and Chemical Hazards and Food Allergens</td>
</tr>
<tr>
<td>5:15 p.m. – 6:00 p.m.</td>
<td>Monday, July 19</td>
<td>Technical Session 5 – Food Safety Systems, Sanitation and Hygiene and Packaging</td>
<td></td>
</tr>
<tr>
<td>8:30 p.m. – 11:45 p.m.</td>
<td>Monday, July 19</td>
<td>Poster Session 2 – Beverages and Acid/ Acidified Foods; Food Toxicology; General Microbiology; Laboratory and Detection Methods; Microbial Food Spoilage; Pre-Harvest Food Safety; Produce; Sanitation and Hygiene; Viruses and Parasites; Water</td>
<td></td>
</tr>
<tr>
<td>1:30 p.m. – 5:15 p.m.</td>
<td>Tuesday, July 20</td>
<td>Technical Session 6 – Food Law and Regulation; Epidemiology</td>
<td></td>
</tr>
<tr>
<td>5:15 p.m. – 6:15 p.m.</td>
<td>Tuesday, July 20</td>
<td>Technical Session 8 – Communication, Outreach and Education; Food Defense</td>
<td></td>
</tr>
<tr>
<td>6:30 p.m. – 8:15 p.m.</td>
<td>Tuesday, July 20</td>
<td>Technical Session 10 – Communication Outreach and Education; Epidemiology; Food Defense; Food Law and Regulation; Food Processing Technologies; Food Safety Systems; Laboratory and Detection Methods; Modeling and Risk Assessment; Packaging; Retail and Food Service Safety</td>
<td></td>
</tr>
<tr>
<td>8:30 p.m. – 11:15 p.m.</td>
<td>Tuesday, July 20</td>
<td>Poster Session 3 – Labelling Safety; Food Law and Regulation; Food Processing Technologies; Food Safety Systems; Laboratory and Detection Methods; Modeling and Risk Assessment; Packaging; Retail and Food Service Safety</td>
<td></td>
</tr>
<tr>
<td>1:30 p.m. – 3:30 p.m.</td>
<td>Wednesday, July 21</td>
<td>Technical Session 11 – Laboratory and Detection Methods</td>
<td></td>
</tr>
<tr>
<td>3:30 p.m. – 4:15 p.m.</td>
<td>Wednesday, July 21</td>
<td>Technical Session 13 – Low Water Activity Foods</td>
<td></td>
</tr>
<tr>
<td>4:00 p.m. – 4:45 p.m.</td>
<td>Wednesday, July 21</td>
<td>John H. Siller Lecture – We All are Working on the Same Puzzle — Barbara J. Masters, DVM, Tyson Foods, Washington, D.C., USA</td>
<td></td>
</tr>
</tbody>
</table>
THANK YOU, SPONSORS!

APPLIED FOOD DIAGNOSTICS

MERCK Animal Health
The Science of Healthier Animals®

Ecolab
F&H Food Equipment Company
Frozen Food Foundation
Institute for the Advancement of Food and Nutrition Sciences
Land O'Lakes
Marler Clark Attorneys at Law
Nelson-Jameson
Packaged Ice Association

American Frozen Food Institute
Arizona Leafy Greens Marketing Agreement and Yuma Safe Produce Council
Arkansas Association for Food Protection
Association of Food and Drug Officials (AFDO)
Cargill, Inc.
Chobani
Consumer Brands Association
Creme Global

Thank you, Sponsors!

GOLD SPONSORS

SILVER SPONSORS

PLATINUM SPONSORS

CONTRIBUTORS

Romer Labs
RTI International
SmartWash Solutions
Smithfield Foods Packaged Meats Division
Tyson Foods
The Fred and Elizabeth Weber Trust
UW Food Research Institute
Vitsab International
Walmart

(as of 6/23/21)
GENERAL SESSIONS

SUNDAY, JULY 18
OPENING SESSION
IVAN PARKIN LECTURE
IT’S ALL ABOUT PEOPLE, ISN’T IT?
6:00 P.M. – 7:30 P.M.

Join us for the IAFP 2021 Opening Session, where various awards will be presented, including the Fellow Award, the Travel Awards, and the Student Travel Scholarship. Enjoy the Cheese and Wine Reception in the Exhibit Hall following the Opening Session.

TUESDAY, JULY 20
U.S. REGULATORY UPDATE ON FOOD SAFETY
12:30 P.M. – 1:30 P.M.

Don’t miss the U.S. Regulatory Update on Food Safety. Experts from the U.S. Food and Drug Administration and the U.S. Dept. of Agriculture will provide the latest updates and changes within their respective agency, followed by a Q&A with attendees.

WEDNESDAY, JULY 21
CLOSING SESSION
JOHN H. SILLIKER LECTURE
WE ALL ARE WORKING ON THE SAME PUZZLE
4:00 P.M. – 4:45 P.M.

Barbara J. Masters, DVM
Vice President, Regulatory Policy, Food and Agriculture
Tyson Foods, Inc.
Washington, D.C., USA

Robert B. Gravani, Ph.D.
Professor Emeritus of Food Science
Cornell University
Ithaca, New York, USA

Frank Yiannas, MPH
Deputy Commissioner
Food Policy and Response
U.S. Food & Drug Administration (FDA)
Silver Spring, MD, USA

Sandra Eskin
Deputy Under Secretary for Food Safety
U.S. Department of Agriculture (USDA)
Washington, D.C., USA
EXHIBIT HALL EVENTS AND INFORMATION

CHEESE AND WINE RECEPTION
SUNDAY, JULY 18  7:30 p.m. – 9:30 p.m.
Sponsored by
Cheese donated by LAND O’LAKES, Inc.

EXHIBIT HALL BREAKS
MONDAY, JULY 19
10:00 a.m. Coffee Break
Sponsored by DEIBEL LABORATORIES
3:00 p.m. Coffee Break

TUESDAY, JULY 20
10:00 a.m. Coffee Break
3:00 p.m. Coffee Break

EXHIBIT HALL LUNCH
MONDAY, JULY 19  11:45 a.m. – 1:30 p.m.
Sponsored by ALTA Diagnostics

TUESDAY, JULY 20  11:45 a.m. – 1:30 p.m.

EXHIBIT HALL RECEPTIONS
MONDAY, JULY 19  5:15 p.m. – 6:15 p.m.
Sponsored by APPLIED FOOD DIAGNOSTIC

TUESDAY, JULY 20  5:15 p.m. – 6:15 p.m.

EXHIBIT HOURS
SUNDAY, JULY 18  7:30 p.m. – 9:30 p.m.
MONDAY, JULY 19  10:00 a.m. – 6:15 p.m.
TUESDAY, JULY 20  10:00 a.m. – 6:15 p.m.

35-YEAR EXHIBITORS
3M Food Safety

30-YEAR EXHIBITORS
3-A Sanitary Standards, Inc.
bioMérieux, Inc
Charm Sciences, Inc.
Mérieux NutriSciences
Nelson-Jameson, Inc.
Thermo Fisher Scientific
Weber Scientific
Whirl-Pak®

25-YEAR EXHIBITORS
Ecolab Inc.
IEH Laboratories & Consulting Group
Michelson Laboratories, Inc.
NEOGEN
Q Laboratories

20-YEAR EXHIBITORS
Bio-Rad Laboratories, Inc.
Deibel Laboratories
FDA/Center for Food Safety and Applied Nutrition
Food Quality & Safety
Food Safety Magazine
Food Safety Net Services
Food Safety Summit
Hygiena
International Food & Meat Topics
Microbiologics
MilliporeSigma

15-YEAR EXHIBITORS
ASI Food Safety
Eurofins
Hardy Diagnostics
Interscience Laboratories, Inc.
Michigan State University Online Food Safety Program
Procter and Gamble Professional
Quality Assurance & Food Safety Magazine
Springer Nature

10-YEAR EXHIBITORS
AEMTEK Laboratories
Bioscience International, Inc.
ClorDiSys Solutions Inc.
Copan Newlab
Coming Incorporated
Diversey, Inc.
Food Safety News
IFC
Intertek Alchemy
National Environmental Health Association
Neutec Group, Inc.
Pall Corporation
Partnership for Food Safety Education
Rochester Midland Corporation–Food Safety Division
Romer Labs
Seward Laboratory Systems Inc.
SGS
Sterilex
Stop Foodborne Illness
USDA-NAL, Food Safety Research Office (FSRIO)
STUDENT ACTIVITIES

STUDENT LUNCHEON
SUNDAY, JULY 18
12:00 p.m. – 1:30 p.m.
North Ballroom D
Sponsored by Mars Global Food Safety Center

STUDENT MIXER
TUESDAY, JULY 20
7:00 p.m. – 9:00 p.m.
Sheraton Phoenix Downtown
Sponsored by Smithfield Foods

JOB FAIR
Attention Job Seekers and Employers!
Job announcements will be posted at the Student PDG booth.

EXHIBITOR SHOWCASE

SCHEDULE OF PRESENTATIONS

MONDAY, JULY 19
10:15 a.m. ACO, Inc.
11:30 a.m. bioMérieux, Inc.
12:00 p.m. Satorius
12:30 p.m. INFICON Inc.
3:00 p.m. 3M Food Safety
4:30 p.m. Hamilton Company

TUESDAY, JULY 20
11:30 a.m. Bayer
12:30 p.m. Mérieux NutriScience
3:00 p.m. 3M Food Safety

The exhibitor showcase is located in the Exhibit Hall.
## Sustaining Members

### Gold Members

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>3M Food Safety</td>
<td><a href="http://www.3m.com">www.3m.com</a></td>
</tr>
<tr>
<td>AEMTEK, Inc.</td>
<td><a href="http://www.aemtek.com">www.aemtek.com</a></td>
</tr>
<tr>
<td>Ajinomoto Foods North America, Inc.</td>
<td><a href="http://www.ajinomotofoods.com">www.ajinomotofoods.com</a></td>
</tr>
<tr>
<td>bioMérieux, Inc.</td>
<td><a href="http://www.biomerieux.com">www.biomerieux.com</a></td>
</tr>
<tr>
<td>Bio-Rad Laboratories</td>
<td><a href="http://www.biorad.com">www.biorad.com</a></td>
</tr>
<tr>
<td>Cargill</td>
<td><a href="http://www.cargill.com">www.cargill.com</a></td>
</tr>
<tr>
<td>Charm Sciences, Inc.</td>
<td><a href="http://www.charm.com">www.charm.com</a></td>
</tr>
<tr>
<td>Chobani</td>
<td><a href="http://www.chobani.com">www.chobani.com</a></td>
</tr>
<tr>
<td>The Coca-Cola Company</td>
<td><a href="http://www.thecocacolacompany.com">www.thecocacolacompany.com</a></td>
</tr>
<tr>
<td>Conagra Brands</td>
<td><a href="http://www.conagrabrands.com">www.conagrabrands.com</a></td>
</tr>
<tr>
<td>Costco Wholesale</td>
<td><a href="http://www.costco.com">www.costco.com</a></td>
</tr>
<tr>
<td>Diversey, Inc.</td>
<td><a href="http://www.diversey.com">www.diversey.com</a></td>
</tr>
<tr>
<td>Driscoll's Inc.</td>
<td><a href="http://www.driscolls.com">www.driscolls.com</a></td>
</tr>
<tr>
<td>Ecolab Inc.</td>
<td><a href="http://www.ecolab.com">www.ecolab.com</a></td>
</tr>
<tr>
<td>Eurofins</td>
<td><a href="http://www.eurofinsus.com">www.eurofinsus.com</a></td>
</tr>
<tr>
<td>Food Safety Net Services, Ltd.</td>
<td><a href="http://www.fsns.com">www.fsns.com</a></td>
</tr>
<tr>
<td>GOJO Industries</td>
<td><a href="http://www.gojo.com">www.gojo.com</a></td>
</tr>
<tr>
<td>Hydrite Chemical Co.</td>
<td><a href="http://www.hydrite.com">www.hydrite.com</a></td>
</tr>
<tr>
<td>Hygiena</td>
<td><a href="http://www.hygiena.com">www.hygiena.com</a></td>
</tr>
<tr>
<td>Kellogg Company</td>
<td><a href="http://www.kelloggs.com">www.kelloggs.com</a></td>
</tr>
<tr>
<td>Kraft Heinz Company</td>
<td><a href="http://www.kraftheinzcompany.com">www.kraftheinzcompany.com</a></td>
</tr>
<tr>
<td>LABPLAS Inc.</td>
<td><a href="http://www.labplas.com">www.labplas.com</a></td>
</tr>
<tr>
<td>Merck Animal Health</td>
<td><a href="http://www.merck-animal-health-usa.com">www.merck-animal-health-usa.com</a></td>
</tr>
<tr>
<td>Mérieux NutriSciences</td>
<td><a href="http://www.merieuxnutrisciences.com">www.merieuxnutrisciences.com</a></td>
</tr>
<tr>
<td>MilliporeSigma</td>
<td><a href="http://www.sigmaaldrich.com/food">www.sigmaaldrich.com/food</a></td>
</tr>
<tr>
<td>Nestle USA, Inc.</td>
<td><a href="http://www.nestle.com">www.nestle.com</a></td>
</tr>
<tr>
<td>PepsiCo</td>
<td><a href="http://www.pepsi.com">www.pepsi.com</a></td>
</tr>
<tr>
<td>Remco Products Corp.</td>
<td><a href="http://www.remcoproducts.com">www.remcoproducts.com</a></td>
</tr>
<tr>
<td>Thermo Fisher Scientific</td>
<td><a href="http://www.thermofisher.com">www.thermofisher.com</a></td>
</tr>
<tr>
<td>Walmart</td>
<td><a href="https://corporate.walmart.com">https://corporate.walmart.com</a></td>
</tr>
</tbody>
</table>

### Silver Members

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFCO</td>
<td><a href="http://www.afcocare.com">www.afcocare.com</a></td>
</tr>
<tr>
<td>Campden BRI</td>
<td><a href="http://www.campdenbri.co.uk">www.campdenbri.co.uk</a></td>
</tr>
<tr>
<td>Dole Food Company, Inc.</td>
<td><a href="http://www.dole.com">www.dole.com</a></td>
</tr>
<tr>
<td>Dubai Municipality</td>
<td><a href="http://www.dm.gov.ae">www.dm.gov.ae</a></td>
</tr>
<tr>
<td>F &amp; H Food Equipment Co.</td>
<td><a href="http://www.fhfoodequipment.com">www.fhfoodequipment.com</a></td>
</tr>
<tr>
<td>Maple Leaf Foods</td>
<td><a href="http://www.mapleleaffoods.com">www.mapleleaffoods.com</a></td>
</tr>
<tr>
<td>Nelson-Jameson, Inc.</td>
<td><a href="http://www.nelsonjameson.com">www.nelsonjameson.com</a></td>
</tr>
<tr>
<td>Neogen Corporation</td>
<td><a href="http://www.neogen.com">www.neogen.com</a></td>
</tr>
<tr>
<td>OSI Group</td>
<td><a href="http://www.osigroup.com">www.osigroup.com</a></td>
</tr>
<tr>
<td>Sodexo</td>
<td><a href="http://www.sodexo.com">www.sodexo.com</a></td>
</tr>
<tr>
<td>TreeHouse Foods, LLC</td>
<td><a href="http://www.treehousefoods.com">www.treehousefoods.com</a></td>
</tr>
<tr>
<td>Vitaquest International</td>
<td><a href="http://www.vitaquest.com">www.vitaquest.com</a></td>
</tr>
<tr>
<td>Weber Scientific</td>
<td><a href="http://www.weberscientific.com">www.weberscientific.com</a></td>
</tr>
</tbody>
</table>

(Continued on next page)
<table>
<thead>
<tr>
<th>SUSTAINING MEMBERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-A Sanitary Standards, Inc.</td>
</tr>
<tr>
<td>Alpha Biosciences, Inc.</td>
</tr>
<tr>
<td>American Dairy Products Institute</td>
</tr>
<tr>
<td>Applied Food Diagnostics</td>
</tr>
<tr>
<td>Art’s Way Scientific, Inc.</td>
</tr>
<tr>
<td>BCN Research Laboratories, Inc.</td>
</tr>
<tr>
<td>Bia Diagnostics</td>
</tr>
<tr>
<td>BioControl Systems, Inc.</td>
</tr>
<tr>
<td>Bioscience International, Inc.</td>
</tr>
<tr>
<td>BIOTECON Diagnostics</td>
</tr>
<tr>
<td>Bruker</td>
</tr>
<tr>
<td>Chernen Microbiological Services, Ltd.</td>
</tr>
<tr>
<td>Columbia Laboratories</td>
</tr>
<tr>
<td>Consumer Brands Association</td>
</tr>
<tr>
<td>Corvium, Inc.</td>
</tr>
<tr>
<td>Crystal Diagnostics</td>
</tr>
<tr>
<td>CultureMediaConcepts</td>
</tr>
<tr>
<td>DARDEN Restaurants, Inc.</td>
</tr>
<tr>
<td>De Wafelbakkers</td>
</tr>
<tr>
<td>Deibel Laboratories, Inc.</td>
</tr>
<tr>
<td>Diamond V</td>
</tr>
<tr>
<td>Electrol Specialties Co.</td>
</tr>
<tr>
<td>Element Materials Technology</td>
</tr>
<tr>
<td>Empirical Technology, Inc.</td>
</tr>
<tr>
<td>Food Directorate, Health Canada</td>
</tr>
<tr>
<td>Food Microbiological Laboratories, Inc.</td>
</tr>
<tr>
<td>Food Research Institute, University of Wisconsin – Madison</td>
</tr>
<tr>
<td>FREMONTA Corp.</td>
</tr>
<tr>
<td>HiMedia Laboratories Pvt. Ltd.</td>
</tr>
<tr>
<td>IDEXX Laboratories, Inc.</td>
</tr>
<tr>
<td>IEH Laboratories &amp; Consulting Group</td>
</tr>
<tr>
<td>The Industrial Fumigant Company, LLC</td>
</tr>
<tr>
<td>Institute for Food Safety and Health</td>
</tr>
<tr>
<td>International Dairy Foods Association</td>
</tr>
<tr>
<td>Intertek Alchemy</td>
</tr>
<tr>
<td>The Kroger Co.</td>
</tr>
<tr>
<td>Mastronardi Produce Limited</td>
</tr>
<tr>
<td>Matrix Sciences</td>
</tr>
<tr>
<td>METER Group, Inc.</td>
</tr>
<tr>
<td>Michelson Laboratories, Inc.</td>
</tr>
<tr>
<td>Michigan State University Online Food Safety Programs</td>
</tr>
<tr>
<td>Micro Essential Laboratory, Inc.</td>
</tr>
<tr>
<td>Micro-Smedt</td>
</tr>
<tr>
<td>Microbac Laboratories, Inc.</td>
</tr>
<tr>
<td>Microbiologics, Inc.</td>
</tr>
<tr>
<td>Midland Scientific, Inc.</td>
</tr>
<tr>
<td>Mondelez International</td>
</tr>
<tr>
<td>Nasco Whirl-Pak Division</td>
</tr>
<tr>
<td>NatureSweet</td>
</tr>
<tr>
<td>NSF International</td>
</tr>
<tr>
<td>NSF Lab Solutions</td>
</tr>
<tr>
<td>Orkin Commercial Services</td>
</tr>
<tr>
<td>Polyskope Labs</td>
</tr>
<tr>
<td>Post Consumer Brands</td>
</tr>
<tr>
<td>The Procter &amp; Gamble Company</td>
</tr>
<tr>
<td>Publix Super Markets, Inc.</td>
</tr>
<tr>
<td>Puremed Canada Inc.</td>
</tr>
<tr>
<td>Q Laboratories, Inc.</td>
</tr>
<tr>
<td>Quaker Maid Meats</td>
</tr>
<tr>
<td>QualiTru Sampling Systems</td>
</tr>
<tr>
<td>Quality Flow Inc.</td>
</tr>
<tr>
<td>QuanTEM Food Safety Laboratories, LLC</td>
</tr>
<tr>
<td>R &amp; F Products</td>
</tr>
<tr>
<td>Reading Thermal</td>
</tr>
<tr>
<td>Recall InfoLink</td>
</tr>
<tr>
<td>Rentokil</td>
</tr>
<tr>
<td>Restaurant Brands International</td>
</tr>
<tr>
<td>Retail Business Services, an Ahold Delhaize USA Company</td>
</tr>
<tr>
<td>Rochester Midland Corporation</td>
</tr>
<tr>
<td>Romer Labs, Inc.</td>
</tr>
<tr>
<td>Sensitest Inc.</td>
</tr>
<tr>
<td>Seward Laboratory Systems Inc.</td>
</tr>
<tr>
<td>Steamericas, Inc.</td>
</tr>
<tr>
<td>Steritech</td>
</tr>
<tr>
<td>TEGAM, Inc.</td>
</tr>
<tr>
<td>Testo Solutions USA, Inc.</td>
</tr>
<tr>
<td>Texas Roadhouse, Inc.</td>
</tr>
<tr>
<td>Truly Nolen International for Pest Control K.S.A.</td>
</tr>
<tr>
<td>United Fresh Produce Association</td>
</tr>
<tr>
<td>Upside Foods</td>
</tr>
<tr>
<td>Vikan A/S</td>
</tr>
<tr>
<td>Vitsab International AB</td>
</tr>
<tr>
<td>Wegmans Food Markets, Inc.</td>
</tr>
</tbody>
</table>
IAFP extends its sincere appreciation for all you do toward keeping the global food supply safe.

Thank You!
We are honored to receive the 2021 IAFP Food Safety Innovation Award for SalQuant™. Stop by booth #303 to learn how to quantify Salmonella in your facility.
6th Asia-Pacific Symposium on Food Safety 2021

IAFP Asia-Pacific Symposium

Post-Corona & Food Safety

Date | November 11~12, 2021
Venue | ICC JEJU KOREA

For More Information, Scan Me
(http://am.foodhygiene.or.kr/)

Secretariat
Tel: 82-2-566-0417  Fax: 82-2-566-4417
Homepage: http://www.foodhygiene.or.kr
E-mail: foodhygiene@paran.com

Organizers

The Korean Society of Food Hygiene and Safety
SUNDAY, JULY 18
Phoenix Convention Center 6:00 p.m.
Ballroom A–C

WELCOME TO IAFP 2021
Roger Cook, IAFP President

IAFP FOUNDATION
Gary Acuff, Foundation Chairperson

DAVE THENO SAFETY FELLOWSHIP AWARD
Presented by: Mitzi Baum, STOP Foodborne Illness

PEANUT PROUD STUDENT SCHOLARSHIP
Presented by: Darlene Cowart, Peanut Proud
Daniel Vega

TRAVEL AWARDS
Presented by: Ruth Petran, IAFP President-Elect, Gary Acuff, Foundation Chairperson

STUDENT TRAVEL SCHOLARSHIPS
Jessica Brown Minh Duong Brenda Moraa Kimang’a Keshnee Reega
Shiyu Cai Marina Girbal Xingchen Liu Anna Townsend
Bienvenido Cortes Sarah L. Jones Ajay Mittal Joseph Wambui
Devin Daeschel Karuna Kharel Owade Joshua Ombaka Christina Wormald
Adwoa Dankwa Minji Kim Solomon Rajkumar Racharla Jiyoon Yi

HEALTH OR AGRICULTURAL DEPARTMENT EMPLOYEES IN NORTH AMERICA
Jennifer Eberly

FOOD SAFETY PROFESSIONAL IN A COUNTRY WITH A DEVELOPING ECONOMY
Kubir Nath Bhattarai Titilayo Falade Amin Olaimat

FELLOWS AWARD
Presented by: Ruth Petran, IAFP President-Elect, and Kali Kniel, IAFP Past President
Jianghong Meng

THE IVAN PARKIN LECTURE
Introduction: Ruth Petran, IAFP President-Elect
It’s All About People, Isn’t It?
Robert Gravani, Ph.D.

CLOSING COMMENTS
Roger Cook, IAFP President

CHEESE AND WINE RECEPTION
Sponsored by: LAND O’LAKES, INC.
IAFP Exhibit Hall, Phoenix Convention Center 7:30 p.m. – 9:30 p.m.
IVAN PARKIN LECTURE

SUNDAY, JULY 18
OPENING SESSION
6:00 P.M. – 7:30 P.M.

It’s All About People, Isn’t It?

Dr. Robert B. “Bob” Gravani is Professor Emeritus of Food Science at Cornell University in Ithaca, New York, where during a more than 40-year career, he has been actively engaged in Extension/Outreach, Teaching, and Research activities. Dr. Gravani has worked in all sectors of the food system, developing innovative and interactive food safety programs for constituents in production agriculture, food processing, food retailing, and food service as well as for regulatory agencies and consumers.

Dr. Gravani twice received the Cornell Institute of Food Science Teaching Excellence Award and was the 2009 recipient of the Cornell College of Agriculture and Life Sciences Outstanding Extension/Outreach Award.

An IAFP Member since 1978, Dr. Gravani served as President of the Association in 1988–1989, and received the Honorary Life Award in 2016, the Fellow Award in 2003, the Harry Haverland Award in 2001, and the Elmer Marth Educator Award in 1995. He was a member of the Cornell University Institute of Food Science team that received the GMA Food Safety Award in 2010. During his tenure on the IAFP Executive Board, Dr. Gravani was instrumental in creating the Program Advisory Committee (now known as the Program Committee) and the Ivan Parkin Lecture.
In recent years, there have been some major and notable foodborne outbreaks and product defects resulting in national recalls of a wide variety of food products that were contaminated with biological, chemical or physical hazards and affected many people. When these incidents were analyzed, they were often found to be caused by failures of Good Manufacturing Practices (GMPs) and were rarely caused by true food system failures. Yes, GMPs, problems with people performing their tasks correctly. Consider some high profile events such as a major foodborne outbreak where *Salmonella*-contaminated product was shipped despite knowing that it was contaminated, food allergen recalls where product and package mismatches occurred, or recalls related to physical hazards like plastic, glass or metal pieces being found in processed food products. Recalls that are easily preventable by empowered employees taking action when a potential problem might threaten the safety of a product.

Organizations normally address these, as well as other challenging situations, by allocating a variety of resources, including monetary resources, technological innovations and personnel. Of these, personnel is often the one resource that may not receive as much attention as the others, since a company workforce is already in place. So let’s talk about people. People are the major asset of any organization. Think about it…how can a company or organization prosper and advance without a well-trained, strong, knowledgeable workforce, dedicated to company values and mission, working toward a common goal of producing, processing, transporting, distributing, preparing or merchandising safe foods? Those employees need to perform their job responsibilities in food safety and quality with consistency, each and every time they perform them. Many companies have on-boarding training, refresher training, on-the-job training and many other kinds of programs designed to provide employees with more information about their job tasks. But, are these programs working and are they effective?

The answer to this question begins with thoughts about the common characteristics (core values) of world-class food companies. These core values frequently set the organization apart from the competition and give employees an understanding of the fundamental beliefs of the company. One of these core values, a culture of learning, can and does have a profound influence on the behaviors of employees throughout every department and job function within the company. People are unique and different from each other, so their perceptions, beliefs, attitudes, values, principles, practices and behaviors toward food safety and quality in an organization are crucial to them performing their tasks correctly, competently and consistently. Think about the evolution of a learning culture within an organization…from the very traditional, “basic” training (the minimum amount of information needed to do one’s job), to actually creating a learning environment that empowers people to build upon their knowledge and skills and gives them new, updated information and practices to do their work at a higher level of proficiency.

It’s about providing new ideas, innovative thinking, exciting and meaningful engagement in teaching and learning, to create behavioral changes in the workforce. A culture of learning is learner centered, performance based and focused on results. It is creating an organization workforce of individuals who have reached the stage where they are “unconsciously competent.” Employees who perform their tasks regularly, routinely, capably, knowledgeable and proficiently! Each and every time! Several companies that have a learning culture and achieved success in the marketplace will be highlighted.
Thank you to the following organizations for your generous contributions:

Arizona/California Leafy Greens Marketing Agreement
BCN Research Laboratories, Inc.
Certified Laboratories
Florida Association for Food Protection
Food Safety Net Services, Ltd.
Georgia Association for Food Protection
Gerber Poultry, Inc.
Hamilton Company
Hygiena
Microbiologics, Inc.
Shoe Cover Magic
Zee Company

Thanks also to all our **GOLD** and **SILVER** Sustaining Members for your support. A portion of your Membership dues goes directly to the Foundation!
INDIVIDUAL CONTRIBUTORS

Thanks to the following individuals for their support of the IAFP Foundation!

**DIAMOND • $2,500+**
Gary R. Acuff
Larry R. Beuchat
Lisa Lane
William D. Marler
Donald W. Schaffner
Jenny Scott
Tori Stivers
Fred Weber

**PLATINUM • $1,000 – $2,499**
Peter K. Ben Embarek
Carl S. Custer
Natalie M. Dyenson
Donna M. Garren
Kathleen A. Glass
Dale A. Grinstead
Joseph Holt
Alejandro S. Mazzotta
Mickey Parish
Brian Perry
Elliot T. Ryser
Caroline Smith DeWaal
Joseph M. Stout
Katherine M.J. Swanson
R. Bruce Tompkin

**GOLD • $500 – $999**
J. Stan Bailey
Neil A. Bogart
Betsy Booren
Francisco Diez
Linda J. Harris
William T. Huntley
Kalmia E. Kniel
Vickie Lewandowski
Susan Linn
Jennifer C. McEntire
John Saniga, Jr.
Isabel Walls
Paul P. Winniczuk

**SILVER • $250 – $499**
Rhona S. Applebaum
Dane T. Bernard
John C. Bruhn
Catherine N. Cutter
Mark Davis
James S. Dickson
Jeffrey M. Farber
Sanjay Gummalla
John J. Guzewich
Kevin A. Habas
Stephen J. Kenney
Alvin C.B. Lee
Michael R. Taylor
David W. Tharp
We live in a global economy and the way food is grown, processed, and handled can impact people around the world. Combine these issues with the complexity of protecting the food supply from food security threats and the challenges to food safety professionals seem overwhelming. However, with your support the IAFP Foundation can make an impact on these issues.

Funds from the Foundation help to sponsor travel for deserving scientists from developing countries to our Annual Meeting, sponsor international workshops, distribute JFP and FPT journals to developing countries through FAO in Rome, and supports the future of food scientists through scholarships for students or funding for students to attend IAFP Annual Meetings.

It is the goal of the Association to grow the IAFP Foundation to a self-sustaining level of greater than $1.0 million by 2010. With your generous support we can achieve that goal and provide additional programs in pursuit of our goal of Advancing Food Safety Worldwide®.

Everyone Benefits When You Support The IAFP Foundation

Contribute today by calling 515.276.3344 or visiting www.foodprotection.org
We live in a global economy and the way food is grown, processed, and handled can impact people around the world. Combine these issues with the complexity of protecting the food supply from food security threats and the challenges to food safety professionals seem overwhelming. However, with your support the IAFP Foundation can make an impact on these issues.

Funds from the Foundation help to sponsor travel for deserving scientists from developing countries to our Annual Meeting, sponsor international workshops, distribute JFP and FPT journals to developing countries through FAO in Rome, and supports the future of food scientists through scholarships for students or funding for students to attend IAFP Annual Meetings.

It is the goal of the Association to grow the IAFP Foundation to a self-sustaining level of greater than $1.0 million by 2010. With your generous support we can achieve that goal and provide additional programs in pursuit of our goal of Advancing Food Safety Worldwide®.

Contribute today by calling 515.276.3344 or visiting www.foodprotection.org
The safety of the world’s food supply depends upon dedicated organizations such as yours. IAFP commends your efforts!
Discover Bio-Rad’s philosophy for meat safety solutions

- More than science, it’s innovation
- More than partnership, it’s understanding
- More than safety, it’s public health

Learn more at bio-rad.com/meatsafety

BIO-RAD is a trademark of Bio-Rad Laboratories, Inc.
MONDAY, JULY 19

ALL DAY
8:30 a.m. – 6:15 p.m.
Exhibit Hall

Poster Session 1
Antimicrobials; Beverages and Acid/Processed Foods; Dairy; Food Chemical Hazards and Food Allergens; Low-Water Activity Foods; Meat, Poultry and Eggs; Molecular Analytics, Genomics and Microbiome; Seafood
P1-01 through P1-88 – Authors present 10:00 a.m. – 11:30 a.m. and 5:15 p.m. – 6:15 p.m.
P1-89 through P1-192 – Authors present 2:15 p.m. – 3:45 p.m. and 5:15 p.m. – 6:15 p.m.

MORNING
8:30 a.m. – 12:15 p.m.
North Ballroom A-C
122 A
T1
Technical Session 1 – Viruses and Parasites
132 C
T2
Technical Session 2 – Modeling and Risk Assessment

8:30 a.m. – 10:00 a.m.
North Ballroom D
S2
Physiological State of Mind: Detection Challenges for Stressed/Sub-lethally Injured Pathogens
122 BC
S3
Advances in Powdered Food Safety and Quality Sampling Plans: Theory, Simulation, and Practice
124 AB
S4
How Regulators are Integrating Food Safety Culture into Food Safety Performance and Assessment Strategies
132 AB
S5
(v) Improving the Food Recall Effectiveness of Regulatory Agencies
123
RT1
(v) Don’t You Forget about Me! Educating Underrepresented Growers on Produce Safety
131 A-C
RT2
(v) Opportunities and Challenges: Developments in Clostridium botulinum Challenge Studies
129 A
RT3
Informal Markets: Building Consumer Demand for Food Safety in Low-Resource Environments

10:00 a.m. – 10:45 a.m.
Break – Refreshments Available in the Exhibit Hall

10:00 a.m. – 5:30 p.m.
Exhibit Showcase Presentations in the Exhibit Hall

10:45 a.m. – 12:15 p.m.
North Ballroom D
S6
To Disinfect or Not? How to Appropriately Use Disinfectants in Food Settings
122 BC
S7
Log Reduction and Product Grouping Strategies for Validation – Does One Size Fit All?
124 AB
S8
Reducing Food Safety Risks of Pork Products: Science-based and Data-driven Steps to Reduce Salmonella
131 A-C
S9
(v) Tracking and Combating Spoilage Microorganisms and Pathogens in Food Processing: Biosensing, Interventions, and Active Packaging
121 A-C
RT5
Are All Salmonella Equal? Genomic Approach for Risk Ranking, Salmonella Strains
123
RT6
Strengthening Food Safety Risk Management on the African Continent through International Collaboration
129 A
RT7
The Drive for Better Sanitation and Food Safety Compliance through Measurements, Management, and Culture
132 AB
RT8
When Crime Threatens Food Safety

11:45 a.m. – 1:45 p.m.
Lunch Available in the Exhibit Hall

AFTERNOON
12:30 p.m. – 1:30 p.m.
North Ballroom A-C

U.S. Regulatory Update on Food Safety

1:30 p.m. – 5:15 p.m.
North Ballroom A-C
S10
(v) FSMA Turns 10! Achievements, Compliance, and the Future of Food Safety
122 A
T3
Technical Session 3 – Antimicrobials
132 C
T4
Technical Session 4 – Microbial Food Spoilage, Pre-Harvest Food Safety and Food and Chemical Hazards and Food Allergens

1:30 p.m. – 3:00 p.m.
124 AB
S11
(v) Tracing Back to the Source: Challenges to Link Parasite and Viral Genotypes between Outbreak Clinical Samples and On-farm Environmental Sources of Contamination
131 A-C
S12
Food Safety Protection during Rendering of Animal Offal for Manufacturing Human and Animal Food/Feed: Needs and Opportunities
129 A
S13
Balancing Food Safety and Soil Health through the Use of Biological Soil Amendments
132 AB
S14
Dust Off That Data! Transform Testing Results into Meaningful Food Safety Improvements
North Ballroom D
RT9
NGS Case Study – The Challenges and Solutions to Implementing Genomics in a Live Factory Environment
121 A-C
RT10
Changing Lanes in the Middle of a Pandemic: Challenges and Lessons Learned from Managing SARS-CoV-2 in the Food Sector
122 BC
RT11
Diversity in Food Culture from Sushi to Steak Tartare: An Interdisciplinary Approach to Understanding Roots of Food Safety Behaviors
123
RT12
Food Safety Interventions in Low- and Middle-Income Countries: How Can QMRA be Used Effectively?

3:00 p.m. – 3:45 p.m.
Break – Refreshments Available in the Exhibit Hall

3:45 p.m. – 5:15 p.m.
122 BC
S15
(v) How COVID-19 Has Altered Consumers’ Food Choices and Preferences and Their Hygienic Practices
129 A
S16
If You Want to Go Fast, Go Alone; But If You Want to Go Far, Go Together: Collaborating with Historically Black Colleges and Universities, Hispanic-serving Institutions, Non-Governmental Organizations, and Community-based Organizations on Produce Safety Education and Training
131 A-C
S17
Can Enterobacteriaceae Testing Provide a Better Indicator of Salmonella Risk on Zone 1 Surfaces in Dry Processed Foods?
North Ballroom D
RT13
(v) Frozen and Fresh Produce: Enteric Viruses Contamination, Detection and Public Health Impact
121 A-C
RT14
Incentives for Pre-Harvest Control of Zoonoses in Food Animals
124 AB
RT15
Agricultural Water Quality Management in a Changing Regulatory Landscape
132 AB
RT16
Boo! Does That Delivery from a Ghost Kitchen Scare You?

EVENING OPTIONS
5:15 p.m. – 6:15 p.m.
Exhibit Hall Reception
bioMérieux Symposium, 121 A-C

6:30 p.m. – 8:00 p.m.
MONDAY MORNING
JULY 19
Posters will be on display 8:30 a.m. – 6:15 p.m.
(See details beginning on page 59)

S1 Foodborne Disease Outbreak Update
North Ballroom A-C
Organizers: Laura Gieraltowski, Kari Irvin, Ewen Todd
Convenors: Laura Gieraltowski, Kari Irvin

8:30 (v) *Salmonella* Newport Infections Linked to Red Onions
JOYCE CHENG, Outbreak Management Division, Centre for Foodborne, Environmental and Zoonotic Infectious Diseases, Public Health Agency of Canada, Guelph, ON, Canada and DIANE DUCHARME, U.S. Food and Drug Administration – CFSAN- Produce Safety Network, College Park, MD, USA

9:00 (v) *Listeria monocytogenes* in Deli Meat
AMANDA CONRAD, Centers for Disease Control and Prevention (CDC), Atlanta, GA, USA and ANDREA COTE, United States Department of Agriculture Food Safety Inspection Service (USDA – FSIS), Atlanta, GA, USA

9:30 Frozen Strawberries Linked to a Multi-Year International Hepatitis A Outbreak in Germany
CLAUDIA RUSCHER, State Office for Health and Social Affairs, Berlin, Germany

10:00 Break – Refreshments Available in the Exhibit Hall

S2 Physiological State of Mind: Detection Challenges for Stressed/Sub-lethally Injured Pathogens
North Ballroom D
Organizer and Convenor: Preetha Biswas

Applied Laboratory Methods
Meat and Poultry Safety and Quality
Fruit and Vegetable Safety and Quality

8:30 (v) Physiological Stress Factors, Background Flora and Other Challenges in Food Safety Pathogen Detection
YI CHEN, U.S. Food and Drug Administration, College Park, MD, USA

9:00 Stress Tolerance Strategies in *Salmonella* Outbreak Strains Leading to Enhanced Survivability in Processing Environment
HALEY OLIVER, Purdue University, West Lafayette, IN, USA

9:30 Stresses Encountered in Food Processing Facility and Techniques Used to Find and Detect Pathogenic *Listeria*
MATHEW HENDERSON, Land O’Frost, Inc., Chicago, IL, USA

10:00 Break – Refreshments Available in the Exhibit Hall

S3 (v) New and Innovative Technologies for Sanitation in Dry Processing Environments
121 A-C
Organizers: VM Balasubramaniam, Abigail B. Snyder
Convenors: Dennis Heldman, Jena Roberts

Food Hygiene and Sanitation
Low Water Activity Foods

8:30 (v) Establishing Critical Factors for Novel Dry Sanitation Technologies
ABIGAIL B. SNYDER, Cornell University, Ithaca, NY, USA

9:00 (v) Decontamination of Dry Food Plant with Superheated Steam: Current Status and Future Research Needs
VM BALASUBRAMANIAM, The Ohio State University, Columbus, OH, USA

9:30 (v) Tools for Dry Sanitation in the Spice Industry, Current Approaches and Remaining Needs
STEVE LOMBARDO, McCormick & Company, Baltimore, MD, USA

10:00 Break – Refreshments Available in the Exhibit Hall

All times listed in Pacific time (U.S.)

– Symposia
– Roundtables
– Technicals
– Developing Scientist Competitor
– Topic Areas
– Virtual

IAFP 2021
PLATINUM SPONSOR
S4 Advances in Powdered Food Safety and Quality Sampling Plans: Theory, Simulation, and Practice 124 AB
Organizer: Brienna Larrick
Convenor: Timothy Stubbs
Sponsored by Institute for the Advancement of Food and Nutrition Sciences

Dairy Quality and Safety
Microbial Modelling and Risk Analysis
8:30 (v) Modelling the Effect of Sampling Methods on Detection Tests for Powdered Product
ROGER KISSLING, Fonterra, Waikato, New Zealand
9:00 Simulating Production and Hazard Scenarios in Powdered Product Sampling to Improve Food Safety Sampling Plans
MATTHEW J. STASIEWICZ, University of Illinois Urbana-Champaign, Champaign, IL, USA
9:30 Industry Need and Role for Improved Sampling of Powdered Products
PAMELA WILGER, Cargill, Inc., Wayzata, MN, USA

10:00 Break – Refreshments Available in the Exhibit Hall

S5 How Regulators are Integrating Food Safety Culture into Food Safety Performance and Assessment Strategies 132 AB
Organizers and Convenors: Lone Jespersen, Laura Nelson
Food Safety Assessment, Audit and Inspection
Food Safety Culture
Food Safety Education
8:30 (v) Development of a Maturity Model to Evaluate Food Safety and Food Safety Culture Assessment Systems by Global Food Safety Regulatory Agencies
ROUNAQ NAYAK, Harper Adams University, Newport, United Kingdom
8:50 (v) Three-Prong Advancement of Food Safety Culture – Regulators, Industry and Consumers
CONRAD CHOINIERE, U.S. Food and Drug Administration, College Park, MD, USA
9:10 Management Commitment as a Key Pillar in Robust Food Safety Cultures
STEVEN WEARNE, VP Chair Codex, London, United Kingdom
9:30 (v) Introducing a Validated Industry Measurement System Integrating a Food Safety Culture Model
AMANDA HILL, Dairy Food Safety Victoria, Camberwell, Australia

10:00 Break – Refreshments Available in the Exhibit Hall

RT1 (v) Improving the Food Recall Effectiveness of Regulatory Agencies 122 B-C
Organizers: Joseph Corby, Steven Mandernach
Convenor: Steven Mandernach
Sponsored by Association of Food & Drug Officials (AFDO)

Developing Food Safety Professionals
Food Safety Education
HACCP Utilization and Food Safety Systems
8:30 (v) JESSICA BADOUR, Georgia Department of Agriculture, Atlanta, GA, USA
(v) MITZI BAUM, STOP Foodborne Illness, Chicago, IL, USA
(v) NANCY Beyer, Missouri Department of Health and Senior Services, Jefferson City, MO, USA
(v) JENNIFER PIERQUET, Association of Food & Drug Officials, Des Moines, IA, USA
(v) ARMANDO ZAMORA, U.S. Food and Drug Administration, Rockville, MD, USA

10:00 Break – Refreshments Available in the Exhibit Hall

RT2* (v) Don’t You Forget about Me! Educating Underrepresented Growers on Produce Safety 123
Organizers: Elizabeth Bihn, Benjamin Chapman, Sarah Cope, Minh Duong
Convenor: Minh Duong
Communication, Outreach and Education
Food Law
Fruit and Vegetable Safety and Quality
Pre-recorded, no live Q&A
8:30 ELIZABETH BIHN, Cornell University, Geneva, NY, USA
JOSIAH GRIFFIN, Indigenous Food & Agriculture Initiative, Fayetteville, AR, USA
NATHAN HARKLEROAD, Agriculture and Land-Based Training Association, Salinas, CA, USA
ANNALISA HULTBERG, University of Minnesota, St. Paul, MN, USA
ARMITRA JACKSON-DAVIS, Alabama A&M University, Madison, AL, USA
ANDREW WILLIAMS, The United Christian Community Association, Safford, AL, USA

10:00 Break – Refreshments Available in the Exhibit Hall

RT3 (v) Opportunities and Challenges: Developments in Clostridium botulinum Challenge Studies 131 A–C
Organizer and Convenor: Kristin Schill
Sponsored by UW Food Research Institute

Applied Laboratory Methods
Food Defense
8:30 (v) STEPHEN GROVE, Nestlé Development Centre – Solon, Solon, OH, USA
MICHAEL W. PECK, QIB Extra Ltd., Norwich, United Kingdom
SABINE PELLETT, University of Wisconsin-Madison, Madison, WI, USA
MAXINE ROMAN, Kraft Heinz, Glenview, IL, USA
JENNY SCOTT, U.S. Food and Drug Administration – CFSAN, College Park, MD, USA

10:00 Break – Refreshments Available in the Exhibit Hall

All times listed in Pacific time (U.S.)

RT4  Informal Markets: Building Consumer Demand for Food Safety in Low-Resource Environments
129A
Organizers: Elisabetta Lambertini, Caroline Smith DeWaal
Convenor: Caroline Smith DeWaal
Communication, Outreach and Education
Food Hygiene and Sanitation
International Food Protection Issues

8:30  PETER BEN EMBAREK, World Health Organization, Geneva, Switzerland
    (v) ELISABETTA LAMBERTINI, GAIN – Global Alliance for Improved Nutrition, Rockville, MD, USA
    (v) STELLA NORDHAGEN, GAIN – Global Alliance for Improved Nutrition, Geneva, Switzerland
    (v) AUGUSTINE OKORUWA, GAIN – Global Alliance for Improved Nutrition, Abuja, Nigeria
    (v) DELIA GRACE RANDOLPH, Natural Resources Institute, University of Greenwich and International Livestock Research Institute, Kent, United Kingdom

10:00  Break – Refreshments Available in the Exhibit Hall

S6  To Disinfect or Not? How to Appropriately Use Disinfectants in Food Settings
North Ballroom D
Organizers: Jeffrey Anderson, Elaine Black, David Buckley, Clyde Manuel
Convenor: David Buckley
Food Hygiene and Sanitation
Retail and Foodservice

10:45  (v) Regulatory Differences and Applications of Sanitizer and Disinfectants in Food Settings
    KRISTIN WILLIS, EPA, Washington, D.C., USA
11:15  Best Practices for Sanitizer and Disinfectant Use in Food Settings
    CHARLES PETTIGREW, Procter & Gamble, Mason, OH, USA
11:45  (v) Addressing Sanitizer and Disinfectant in the Code. What Changes Do We Need to Make?
    ANGELA FRASER, Clemson University, Clemson, SC, USA
12:15  Lunch Available in the Exhibit Hall

S7  Log Reduction and Product Grouping Strategies for Validation – Does One Size Fit All?
122 B-C
Organizers: Jena Roberts, Aparna Tatavarthy
Convenors: Rhoma Johnson, Jena Roberts, Aparna Tatavarthy
HACCP Utilization and Food Safety Systems
Low Water Activity Foods
Microbial Modelling and Risk Analysis

10:45  Risk Assessment and Product Categorization for Process Validation
    JULIANY RIVERA CALO, Ardent Mills, Denver, CO, USA
11:10  (v) Breakdown of the Risk Assessment – Does It Add Up to a 5-Log Reduction?
    IAN HILDEBRANDT, Michigan State University, East Lansing, MI, USA
11:35  (v) FDA Perspective on Product Grouping
    NATHAN ANDERSON, U.S. Food and Drug Administration, Bedford Park, IL, USA
12:00  Panel Discussion
12:15  Lunch Available in the Exhibit Hall

S8  Reducing Food Safety Risks of Pork Products: Science-based and Data-driven Steps to Reduce Salmonella
124 AB
Organizers: Robin Kalinowski, Jennifer Wages
Convenor: Jennifer Wages
Applied Laboratory Methods
Meat and Poultry Safety and Quality
Pre Harvest Food Safety

10:45  A Reflective Perspective on Performance Standards: Industry and Government Roles, Responsibilities and Limitations
    MINDY BRASHEARS, Texas Tech University, Lubbock, TX, USA
11:15  Principles Behind Using Real-Time PCR (RT-PCR) for Quantification of Salmonella in Pork Matrices
    TYLER STEPHENS, Hygiena, Marion, TX, USA
11:45  (v) Salmonella Prevalence, Serotypes and Pathogenicity Levels Associated with Swine
    JOHN SCHMIDT, U.S. Department of Agriculture – ARS, Clay Center, NE, USA
12:15  Lunch Available in the Exhibit Hall

S9  (v) Tracking and Combating Spoilage Microorganisms and Pathogens in Food Processing: Biosensing, Interventions, and Active Packaging
131 A-C
Organizer: (Christine) Xiaoqi Liu
Convenor: Xianqin Yang
Food Hygiene and Sanitation
Food Packaging
Meat and Poultry Safety and Quality

10:45  (v) Can Nanotechnology for Chemical and Biochemical Sensing Impact the Food Industry?
    JUSTIN PAHARA, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada
11:15  (v) What are We Forgetting: From Microbial Safety and Shelf Life to Microbiota of Meat and Functionality of Meat Products
    XIANQIN LIU, Agriculture and Agri-Food Canada, Lacombe, AB, Canada; Sampathkumar Balamurugan, Agriculture and Agri-Food Canada, Guelph, ON, Canada
11:45  (v) Sustainability Meets Technology: Natural Polymers in Functional Food Packaging
    YIXIANG WANG, McGill University, Ste-Anne-de-Bellevue, QC, Canada
12:15  Lunch Available in the Exhibit Hall
RT5 Are All Salmonella Equal? Genomic Approach for Risk Ranking Salmonella Strains
121 A-C
Organizers: J. Emilio Esteban, Isabel Walls
Convenor: Isabel Walls
Advanced Molecular Analytics
Applied Laboratory Methods
Meat and Poultry Safety and Quality
10:45 (v) DAYNA HARHAY, USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE, USA
(v) KERI NORMAN, College of Veterinary Medicine and Biomedical Sciences, Texas A&M University, College Station, TX, USA
NOELLE NOYES, Food-Centric Corridor, Infectious Disease Laboratory, Department of Veterinary Population Medicine, College of Veterinary Medicine, University of Minnesota, Saint Paul, MN, USA
(v) MICHAEL ROBACH, GFSI, Atlanta, GA, USA
MARTIN WIEDMANN, Cornell University, Ithaca, NY, USA
(v) BART WEIMER, University of California, Davis, Davis, CA, USA
12:15 Lunch Available in the Exhibit Hall

RT6 Strengthening Food Safety Risk Management on the African Continent through International Collaboration
123 A-C
Organizer and Convenor: Leon Gorris
Food Law
International Food Protection Issues
Microbial Modelling and Risk Analysis
10:45 (v) LUCIA ANELICH, Anelich Consulting, Pretoria, South Africa
(v) KEBEDE AMENU, Addis Ababa University, Bishoftu, Ethiopia
(v) JOYCE THAIYA, Ministry of Agriculture Nairobi, Kenya
(v) ABDOUILIE JALLOW, Food Safety & Quality Authority of the Gambia, Serre Kunda, KMC, Gambia
BARBARA KOWALCYK, The Ohio State University, Columbus, OH, USA
(v) ADEWALE OLUSEGUN OBADINA, Federal University of Agriculture Abeokuta, Abeokuta, Nigeria
12:15 Lunch Available in the Exhibit Hall

RT7 The Drive for Better Sanitation and Food Safety Compliance through Measurements, Management, and Culture
129 A
Organizers: Elizabeth Demmings, Dale Grinstead
Convenor: Chris Jordan
Food Hygiene and Sanitation
Food Safety Assessment, Audit and Inspection
Food Safety Culture
10:45 (v) BARBARA CHAMBERLIN, New Mexico State University, Las Cruces, NM, USA
(v) PAULA HERALD, Steritech, Prospect, KY, USA
(v) LONE JESPERSEN, Cultivate, Haueterive, Switzerland (v) MARK MOORMAN, U.S. Food and Drug Administration-CFSAN, Laurel, MD, USA
HALEY OLIVER, Purdue University, West Lafayette, IN, USA
CHARLES SEAMAN, Hy-Vee, Ankeny, IA, USA
12:15 Lunch Available in the Exhibit Hall

RT8 When Crime Threatens Food Safety
132 AB
Organizers: Karen Everstine, Elise Forward
Convenor: Karen Everstine
Food Chemical Hazards and Food Allergy
Food Defense
Food Fraud
10:45 (v) ROY FENOFF, The Citadel, Charleston, SC, USA
(v) ELISE FORWARD, Forward Food Solutions, LLC, River Falls, WI, USA
KATIE ZAMMIT, Cargill, Wayzata, MN, USA
CLARE MENEZES, McCormick UK Ltd., Haddenham, United Kingdom
BONNIE STRANSKY, Federal Bureau of Investigation, Washington, D.C., USA
(v) JENNIFER VAN DE LIGT, Food Protection and Defense Institute, Saint Paul, MN, USA
12:15 Lunch Available in the Exhibit Hall
T1-07 10:45 Assessment of the Infectivity of Coronavirus on Table Grapes during Storage and Following Sulfur Dioxide Fumigation
ASHLYN LIGHTBOWN, Erin DiCaprio, Department of Food Science and Technology, University of California-Davis, Davis, CA, USA

T1-08 11:00 Study on Persistence and Survival of SARS-CoV-2 in Various Foods
JANAK DHAKAL, Jonathan Joyce, Mo Jia, Andrea Bertke, Reza Ovissipour, Virginia Tech University, Blacksburg, VA, USA

T1-09 11:15 (v) Study on Survival of Herpes Simplex Virus (HSV-1) on Foods, a Method Development for SARS-CoV-2 Study
Janak Dhakal, MO JIA, Jonathan Joyce, Reza Ovissipour, Andrea Bertke, Virginia Tech University, Blacksburg, VA, USA

T1-10 11:30 (v) Salmonella Serotypes from FSIS Samples Linked to Outbreaks
Wu San Chen, JEOFFREY LEVINE, United States Department of Agriculture, Food Safety and Inspection Service, Atlanta, GA, USA

T1-11 11:45 (v) Transfer of Norovirus Surrogate Bacteriophage MS2 from Glass, Stainless Steel and Polypropylene Surfaces to Raspberries
Maria Mayara de Souza Grilo, Geany Targino de Souza Pedrosa, Ruthchelly Tavares da Silva, Donald W. Schaffner, MARCIANE MAGNANI, Federal University of Paraiba, Joao Pessoa, Paraiba, Brazil

T1-12 12:00 (v) Comparative Analyses and Virulence Potential of Incompatibility Group FIB Plasmid Containing Salmonella Schwarzengrund Strains Isolated from Food and Clinical Sources
BIJAY KHAJANCHI, Monique Felix, Danielle Sopovski, Noah Yoskowitz, Carter Abbott, Christopher Grim, Ashlyn Carlton, Nesreen Aljahdali, Jing Han, Yasser M. Sanad, Shaohua Zhao, Steven Foley, Food and Drug Administration and National Center for Toxicological Research, Jefferson, AR, USA

12:15 Lunch Available in the Exhibit Hall

T2 132 C Technical Session 2 – Modeling and Risk Assessment

T2-01 8:30 (v) Farm-to-Consumer Quantitative Risk Assessment Model for Listeria monocytogenes on Fresh-Cut Cantaloupe
SARAH I. MURPHY, Ece Bulut, Laura K. Strawn, Michelle Danyluk, Martin Wiedmann, Renata Ivanek, Cornell University, Ithaca, NY, USA

T2-02 8:45 (v) Farm-to-Fork Quantitative Microbial Risk Assessment Model for Escherichia coli O157:H7 on Fresh-Cut Lettuce
ECE BULUT, Sarah I. Murphy, Laura K. Strawn, Michelle Danyluk, Martin Wiedmann, Renata Ivanek, Cornell University, Ithaca, NY, USA

T2-03 9:00 (v) Heat Transfer Analysis of Dry Roasting Peanuts to Achieve Food Safety Goals
KAITLYN E. CASULLI, Donald W. Schaffner, Kirk Dolan, Michigan State University, East Lansing, MI, USA

T2-04 9:15 (v) Secondary Model for the Survival of Salmonella in Model Low Water Activity Matrix Based on Intrinsic and Extrinsic Factors
MATTHEW J. IGO, Donald W. Schaffner, Rutgers, The State University of New Jersey, New Brunswick, NJ, USA

T2-05 9:30 (v) Using Machine Learning to Predict Antimicrobial Resistance Non-Typhoidal Salmonella enterica from Poultry Products
COLLINS TANUI, Shraddha Karanth, Edmund Benefo, Abani Pradhan, University of Maryland, Department of Nutrition and Food Science, College Park, MD, USA

T2-06 9:45 An Exploratory Quantitative Risk Assessment Model for Salmonella enterica by Chicken Consumption at Home in the Central Region of Mexico: Inclusion of the Pathogen’s Genotypic and Phenotypic Print
ANGÉLICA GODÍNEZ-OVEDO, Francisco Garcés-Vega, Fernando Sampredo, Elisa Cabrera-Díaz, John P Bowman, Montserrat Hernandez-Illurriaga, Universidad Autonoma de Queretaro, Queretaro, QA, Mexico

10:00 Break – Refreshments Available in the Exhibit Hall

T2-07 10:45 (v) Using Bayesian Statistics to Model the Growth of Shiga Toxin-producing Escherichia coli (STEC) in Raw Meat during Dynamic Chilling and Freezing Conditions
SREE SOUNDARYA TEJASWI KARAMCHETI, Gale Brightwell, Matthew Schofield, Phil Bremer, University of Otago, Dunedin, New Zealand

T2-08 11:00 Comparison between Lasso and Classification and Regression Tree for Predicting of E. coli Prevalence in Pasture Poultry Farms
XINRAN XU, Michael Rothrock, Abhinav Mishra, University of Georgia, Athens, GA, USA

T2-09 11:15 (v) Development of a Predictive Modeling Approach to Evaluate Food Safety Compliance
AMANI BABEKIR, Anna Starobin, Ecolab Inc., Greensboro, NC, USA

T2-10 (v) Comparative Exposure to Antibiotic-Resistant Salmonella enterica in Beef from Different Countries
MATTHEW J. IGO, Donald W. Schaffner, Rutgers, The State University of New Jersey, New Brunswick, NJ, USA

T2-11 11:45 Characterizing the Risk of SARS-CoV-2 Infection Among Essential Food Workers: A Quantitative Microbial Risk Assessment Approach
DERRICK COOPER, Julia Sobolik, Elizabeth Sajewski, Juan S. Leon, Emory University, Atlanta, GA, USA

T2-12 12:00 SARS-CoV-2 Transmission Risks and Risk Mitigation Strategies Among Essential Workers in an Indoor Food Processing Facility
JULIA SOBOLIK, Derrick Cooper, Lee-Ann Jaykus, Elizabeth Sajewski, Juan S. Leon, Emory University, Atlanta, GA, USA

12:15 Lunch Available in the Exhibit Hall
Frank Yiannas, MPH, is the Deputy Commissioner for Food Policy and Response, a position he assumed in December 2018.

Mr. Yiannas is the principal advisor to the U.S. FDA Commissioner in the development and execution of policies related to food safety, including implementation of the landmark FDA Food Safety Modernization Act (FSMA), helping reduce food safety risks and achieve high rates of compliance with FDA food safety standards. He previously served in leadership roles with Walmart and the Walt Disney Company.

Sandra Eskin was appointed Deputy Under Secretary for Food Safety on March 16, 2021. In this role, Mrs. Eskin leads the Office of Food Safety at the U.S. Department of Agriculture, overseeing the Food Safety and Inspection Service (FSIS), which has regulatory oversight for ensuring that meat, poultry and egg products are safe, wholesome and accurately labeled.

Prior to joining USDA, Mrs. Eskin was the Project Director for Food Safety at The Pew Charitable Trusts in Washington, D.C., a position she held since November 2009. She also served as the Deputy Director of the Produce Safety Project (PSP), a Pew-funded initiative at Georgetown University from 2008–2009. While at PSP, she was a senior scholar with the O’Neill Institute for National and Global Health Law at Georgetown University.

Mrs. Eskin spent nearly 20 years as a public-policy consultant to numerous consumer advocacy and public-interest organizations, providing strategic and policy advice on a broad range of consumer-protection issues, in particular food and drug safety, labeling, and advertising. She has served as a member of multiple federal advisory committees related to consumer information on prescription drugs, meat and poultry safety, and foodborne illness surveillance. During her career, she has written numerous reports and articles on food-safety topics. Mrs. Eskin received her J.D. from UC Hastings College of the Law, and her B.A. from Brown University.
MONDAY AFTERNOON
JULY 19

U.S. REGULATORY UPDATE ON FOOD SAFETY
North Ballroom A-C

12:30 (v) Update from U.S. Department of Agriculture
SANDRA ESKIN, Deputy Under Secretary for Food Safety,
U.S. Department of Agriculture, Washington, D.C.

12:50 (v) Update from U.S. Food and Drug Administration
FRANK YIANNAS, U.S. Food & Drug Administration (FDA),
Silver Spring, MD, USA

1:10 Audience Questions & Answers

S10 (v) FSMA Turns 10! Achievements, Compliance,
and the Future of Food Safety
North Ballroom A-C
Organizers and Convenors: Lillian Hsu, Jenny Scott

Food Law
HACCP Utilization and Food Safety Systems

1:30 (v) FSMA's Focus on Prevention – The Vision and
Challenges to Achieving It
MIKE TAYLOR, Former Deputy Commissioner, U.S. Food
and Drug Administration, Washington, D.C., USA

2:00 (v) What Do Inspections Reveal about Implementation
of Preventive Controls?
GLENN BASS, U.S. Food & Drug Administration, White
Oak, MD, USA

2:30 (v) A Good Food Safety System Gets Better – Impact
of FSMA
KELLY STEVENS, General Mills, Minneapolis, MN, USA

3:00 Break – Refreshments Available in the Exhibit Hall

3:45 (v) Benefits of FSMA for Consumers
BARRBARA KOWALCZYK, The Ohio State University,
Columbus, OH, USA

4:15 (v) Impact of FSMA on Trading Partners
DANIEL BURGOYNE, Canadian Food Inspection
Agency, Ottawa, ON, Canada

4:45 (v) Building on FSMA for the Decades to Come
FRANK YIANNAS, U.S. Food & Drug Administration
(FDA), Silver Spring, MD, USA

5:15 p.m. – 6:15 p.m. – Exhibit Hall Reception

S11 (v) Tracing Back to the Source: Challenges to Link
Parasite and Viral Genotypes between Outbreak
Clinical Samples and On-Farm Environmental
Sources of Contamination
124 AB
Organizer: Mauricio Durigan
Convenors: Alexandre da Silva, Mauricio Durigan

Viral and Parasitic Foodborne Disease
Water Safety and Quality

1:30 (v) Best Practices for Environmental Source Tracking
of Non-Cultivable Foodborne Pathogens
LEE-ANN JAYKUS, North Carolina State University,
Department of Food, Bioprocessing and Nutrition
Sciences, Raleigh, NC, USA

2:00 (v) Challenges with Sampling and Testing During
Cyclosporiasis Outbreak Investigations
ALEXANDRE DA SILVA, U.S. Food and Drug Admin-
istration – CFSAEN, Office of Applied Research and Safety
Assessment, Laurel, MD, USA

2:30 (v) Foodborne Parasites: Genotyping Schemes for
Surveillance and Outbreak Investigations
RACHEL CHALMERS, Public Health Wales, Microbiology
and Health Protection, Singleton Hospital, Swansea,
United Kingdom

3:00 Break – Refreshments Available in the Exhibit Hall

S12 Food Safety Protection during Rendering of Animal
Offal for Manufacturing Human and Animal Food/
Feed: Needs and Opportunities
131 A–C
Organizers: Kimberly Anderson, Thomas Taylor
Convenor: Xiuping Jiang

HACCP Utilization and Food Safety Systems
Low Water Activity Foods
Meat and Poultry Safety and Quality

1:30 What's the Renderer to Do about Food Safety Protection?
An Industry Perspective
ANSEN POND, Pilgrim's Pride, Mt. Pleasant, TX, USA

2:00 Validating Pathogen Control in Carcass Components
during Rendering: Research Update and Existing Data
Gaps
THOMAS TAYLOR, Texas A&M University, College
Station, TX, USA

2:30 (v) FDA FSMA and Animal Food Safety Preventive
Controls Review and Implementation
JENNIFER ERICKSON, U.S. Food and Drug
Administration, Silver Spring, MD, USA

3:00 Break – Refreshments Available in the Exhibit Hall
S14 Dust Off That Data! – Transform Testing Results into Meaningful Food Safety Improvements  
132 AB  
Organizers and Convenors: Neil Bogart, Josie Greve-Peterson  
HACCP Utilization and Food Safety Systems  
Dairy Quality and Safety  
1:30 (v) Using Control Charts to Establish Statistical Process Control in Food Manufacturing  
SARAH I. MURPHY, Cornell University, Ithaca, NY, USA  
2:00 (v) Development and Utilization of Heat Mapping in Data Analysis  
STEPHANIE MAGGIO, North Carolina State University, Raleigh, NC, USA  
2:30 (v) Food Safety and Quality Data Management Using Artificial Intelligence  
MEHRDAD TAJKARIMI, EAS Consulting Group, Los Angeles, CA, USA  
3:00 Break – Refreshments Available in the Exhibit Hall  
RT9 NGS Case Study – The Challenges and Solutions to Implementing Genomics in a Live Factory Environment  
North Ballroom D  
Organizers: Clare Thorp, Brendan Ring  
Convenor: John O’Brien and Panos Skandamis  
Sponsored by Creme Global  
Advanced Molecular Analytics  
Microbial Modelling and Risk Analysis  
Sanitary Equipment and Facility Design  
Live only, not recorded  
1:30 (v) DEANN AKINS-LEWENTHAL, Conagra Brands, Omaha, NE, USA  
PABLO CARRION, Nestle Purina, St. Louis, MO, USA  
(v) JOHN DONAGHY, Nestlé S.A., Vevey, Switzerland  
(v) SÉAMUS FANNING, University College Dublin, Dublin, Ireland  
(v) KALLIOPI RANTSIOU, University of Turin, Grugliasco, Italy  
MARTIN WEIDMANN, Cornell University, Ithaca, NY, USA  
3:00 Break – Refreshments Available in the Exhibit Hall  
RT10 Changing Lanes in the Middle of a Pandemic: Challenges and Lessons Learned from Managing SARS-CoV-2 in the Food Sector  
121 A–C  
Organizers: Benjamin Chapman, Michelle Danyluk  
Convenor: Benjamin Chapman  
Communication, Outreach and Education  
Meat and Poultry Safety and Quality  
Retail and Foodservice  
1:30 (v) ROGER COOK, New Zealand Food Safety, Wellington, New Zealand  
(v) DONNA GARREN, American Frozen Food Institute, Arlington, VA, USA  
STEVEN MANDERNACH, Association of Food and Drug Officials, New York, NY, USA  
KATIEROSE MCCULLOUGH, North American Meat Institute, Washington, D.C., USA  
(v) ERIC MOORE, Testo Solutions USA, Inc., West Chester, PA, USA  
(v) DONALD W. SCHAFFNER, Rutgers, The State University of New Jersey, New Brunswick, NJ, USA  
3:00 Break – Refreshments Available in the Exhibit Hall  
RT11 Diversity in Food Culture from Sushi to Steak Tartare: An Interdisciplinary Approach to Understanding Roots of Food Safety Behaviors  
122 BC  
Organizers: Caroline Smith DeWaal, Phyllis Posy, Amarat (Amy) Simonne  
Convenor: Amarat (Amy) Simonne  
Food Hygiene and Sanitation  
Food Safety Education  
International Food Protection Issues  
1:30 CAROLINE SMITH DEWAAL, Global Alliance for Improved Nutrition, Washington, D.C., USA  
(v) BOBBY KRISHNA, Dubai Municipality, Dubai, United Arab Emirates  
(v) DIMA FAOUR-KLINGBEIN, DFK for Safe Food Environment, Hannover, Germany  
(v) ADEWALE OLUSEGUN OBADINA, Federal University of Agriculture, Abeokuta, Nigeria  
(v) AMARAT (AMY) SIMONNE, University of Florida, Gainesville, FL, USA  
(v) JOE MAC REGENSTEIN, Cornell University, Ithaca, NY, USA  
3:00 Break – Refreshments Available in the Exhibit Hall  
RT12 (v) Food Safety Interventions in Low- and Middle-Income Countries: How Can QMRA be Used Effectively?  
123  
Organizers and Convenors: Marcel Zwietering and Arie Havelaar  
HACCP Utilization and Food Safety Systems  
International Food Protection Issues  
Microbial Modelling and Risk Analysis  
1:30 (v) KEBEDE AMENU, Addis Ababa University, Bishoftu, Ethiopia  
(v) PETER BEN EMBAREK, World Health Organization, Geneva, Switzerland  
(v) SINH DANG, CGIAR, Hanoi, Vietnam  
(v) DELIA GRACE, International Livestock Research Institute, Nairobi, Kenya  
3:00 Break – Refreshments Available in the Exhibit Hall  
S15 (v) How COVID-19 Has Altered Consumers’ Food Choices and Preferences and Their Hygienic Practices  
122 BC  
Organizers: Dima Faour-Klingbeil, Ewen Todd  
Convenor: Ewen Todd  
Epidemiology  
Food Hygiene and Sanitation  
Retail and Foodservice  
3:45 (v) Knowledge and Practices Regarding Safe Household Cleaning and Disinfection for COVID-19 Prevention in the United States  
MARGARET PERSON, Centers for Disease Control and Prevention, Atlanta, GA, USA  

All times listed in Pacific time (U.S.)

4:15 (v) Perception of Risk, Food Shopping, and Hygienic Practices in Arab Countries during a Pandemic
DIMA FAOUR-KLINGBEIL, School of Biological and Marine Sciences, University of Plymouth, Devon, United Kingdom

4:45 (v) Food Safety during and after the Era of COVID-19 Pandemic
AMIN ELEIMAT (OLAIMAT), Department of Clinical Nutrition and Dietetics Faculty of Applied Medical Sciences, The Hashemite University, Zarqa, MB, Jordan

5:15 p.m. – 6:15 p.m. – Exhibit Hall Reception

S16 If You Want to Go Fast, Go Alone; But If You Want to Go Far, Go Together: Collaborating with Historically Black Colleges and Universities, Hispanic-serving Institutions, Non-Governmental Organizations, and Community-based Organizations on Produce Safety Education and Training
129 A
Organizers: Michelle Danyluk, Armitra Jackson-Davis, Veerachandra Yemmireddy
Convenors: Armitra Jackson-Davis, Kristin Woods
Sponsored by the IAFP Foundation
Communication, Outreach and Education
3:45 Historically Black Colleges and Universities (HBCU) Role in Food Safety and the Produce Safety Rule
ARMITRA JACKSON-DAVIS, Alabama A&M University, Madison, AL, USA
4:15 Non-Governmental Organizations and Community-based Organizations Impact on the Food System and Education
BILLY MITCHELL, Local Food Safety Collaborative, Jeffersonville, GA, USA
4:45 Hispanic-Serving Institutions (HSIs) Role in Food Safety and the Produce Safety Rule
VEERACHANDRA K. YEMMIREDDY, University of Texas Rio Grande Valley, Edinburg, TX, USA

5:15 p.m. – 6:15 p.m. – Exhibit Hall Reception

S17 Can Enterobacteriaceae Testing Provide a Better Indicator of Salmonella Risk on Zone 1 Surfaces in Dry Processed Foods?
131 AC
Organizer and Convenor: Rocelle Clavero-Grabarek
Sponsored by The IAFP Foundation
Applied Laboratory Methods
HACCP Utilization and Food Safety Systems
3:45 Can Increased Zone 1 Testing for Enterobacteriaceae Reduce Salmonella Contamination in Low-Moisture Foods?
WARREN STONE, Zone One Consulting LLC, Napa, CA, USA
4:15 Rapid Detection of Enterobacteriaceae and Subsequent Salmonella Identification on Food Contact Surfaces
RICK KANABY, Neogen Corporation, Lansing, MI, USA
4:45 Practical Considerations in Using Enterobacteriaceae as Indicator for Salmonella in a Dry Food Manufacturing Plants
JOSEPH D. MEYER, Kerry, Waunakee, WI, USA

5:15 p.m. – 6:15 p.m. – Exhibit Hall Reception

RT13 (v) Frozen and Fresh Produce: Enteric Viruses Contamination, Detection and Public Health Impact
North Ballroom D
Organizers: Donna Garren, Sanjay Gummalla
Convenor: Lory Revell
Sponsored by American Frozen Food Institute
Applied Laboratory Methods
Fruit and Vegetable Safety and Quality
Viral and Parasitic Foodborne Disease
3:45 (v) SABAH BIDAWID, Health Canada, Ottawa, ON, Canada
(v) SOPHIE BUTOT, Nestlé Research Center, Lausanne, Switzerland
(v) LEE-ANN JAYKUS, North Carolina State University, Department of Food, Bioprocessing and Nutrition Sciences, Raleigh, NC, USA
(v) JAN VINJÉ, Centers for Disease Control and Prevention, Atlanta, GA, USA

5:15 p.m. – 6:15 p.m. – Exhibit Hall Reception

RT14 Incentives for Preharvest Control of Zoonoses in Food Animals
121 AC
Organizer and Convenor: Carl Custer
Food Safety Culture
Fruit and Vegetable Safety and Quality
Meat and Poultry Safety and Quality
3:45 TODD CALLAWAY, University of Georgia, Athens, GA, USA
J. EMILIO ESTEBAN, United States Department of Agriculture, Food Safety and Inspection Service, Washington, D.C., USA
(v) BILL MARLER, Marler Clark, The Food Safety Law Firm, Seattle, WA, USA
(v) RAFAEL RIVERA, U.S. Poultry and Egg Association, Tucker, GA, USA
(v) TANYA ROBERTS, Center for Foodborne Illness Research & Prevention, Vashon, WA, USA
(v) CRAIG WILSON, Costco Wholesale, Issaquah, WA, USA

5:15 p.m. – 6:15 p.m. – Exhibit Hall Reception

RT15 Agricultural Water Quality Management in a Changing Regulatory Landscape
124 AB
Organizers: Davis Blasini, Ricardo Orellana, Don Stoeckel
Convenor: Betsy Bihn
Fruit and Vegetable Safety and Quality
Water Safety and Quality
3:45 FAITH CRITZER, Washington State University, School of Food Science, Prosser, WA, USA
DREW MCDONALD, Taylor Farms, Sacramento, CA, USA
ROGER NOONAN, New England Farmers Union, Boston, MA, USA
HUGO POBLETE, Sociedad Agricola La Rosa Sofruco, Peumo, Chile
(v) KRUTI RAVALIYA, U.S. Food and Drug Administration, College Park, MD, USA
CHANNAH ROCK, University of Arizona, Maricopa, AZ, USA
LAURA K. STRAWN, Virginia Tech, Blacksburg, VA, USA

5:15 p.m. – 6:15 p.m. – Exhibit Hall Reception
T3 Technical Session 3 – Antimicrobials

Ex Vivo Evaluation of the Effectiveness of Lactobacillus Metabolites with Berry Phenolic Extracts Against Campylobacter

ZAJEBA TABASHSUM, Mengfei Peng, Zabdiel Alvarado-Martinez, Debabrata Biswas, University of Maryland, College Park, MD, USA

Adaptation of Listeria to Increasing Sanitizer Concentrations

SAMANTHA BOLTEN, Anna Sophia Harrand, Jordan Skeaes, Martin Wiedmann, Cornell University, Ithaca, NY, USA

(v) β-Phenylethylamine as a Natural Food Additive Shows Antimicrobial Activity Against Listeria monocytogenes on Ready-to-Eat Foods

Francis Muchaamba, Roger Stephan, TAURAI TASARA, Institute for Food Safety and Hygiene, Vetsuisse Faculty, University of Zurich, Zurich, Switzerland

(v) Network Assisted Variant Analysis Reveals Novel Genetic Elements Linked to Nisin Tolerance and Sensitivity in Listeria monocytogenes

JOSEPH WAMBUI, Marc J.A. Stevens, Patrick Murigu Kamau Njage, Taurai Tasara, Institute for Food Safety and Hygiene, Vetsuisse Faculty, University of Zurich, Zurich, Switzerland

(v) Effect of Ohelo Berry (Vaccinium calycinum) Juice on Physicochemical Properties, Biofilm Formation, and Virulence Gene Expression of Listeria monocytogenes

BIYU WU, Xiaohan Liu, Stuart Nakamoto, Yong Li, University of Hawaii At Manoa, Honolulu, HI, USA

Disinfectant Efficacy Against Staphylococcus aureus and Pseudomonas aeruginosa Dry Surface Biofilms is Product, Time Point and Strain Dependent

CARINE A. N kemngong, Gurpreet Kaur Chaggar, Haley Oliver, Purdue University, West Lafayette, IN, USA

3:00 Break – Refreshments Available in the Exhibit Hall

T3-07 (v) Efficacy and Quality Attributes of Antimicrobial Agents Applied Via a Commercial Electrostatic Spray Cabinet to Inactivate Salmonella on Chicken Thigh Meat

ANURADHA PUNCHIHEWAGE DON, Salina Parveen, Jurgen Schwarz, Lindsey Hamill, Caleb Nindo, Parker Hall, Bob Vimini, University of Maryland Eastern Shore, Princess Anne, MD, USA

T3-08 In-Plant Validation of Novel On-Site Ozone Generation Technology (Bio-Safe) Compared to Lactic Acid on Beef Carcasses and Trim Using Natural Microbiota and Salmonella and E. coli O157 Surrogate Enumeration

DIEGO CASAS, David Vargas Arroyo, Emile Radazzo, Dan Lynn, Alejandro Cheeverly, Mindy Brashears, Marcos X. Sanchez-Plata, Mark Miller, Texas Tech University, Lubbock, TX, USA

Association between Antibiotic Resistance and Sanitizer Resistance of Escherichia coli Isolated from Agricultural Water

YEN NGUYEN, Biyu Wu, Lynn Nakamura-Tengan, Yong Li, University of Hawaii at Manoa, Honolulu, HI, USA

Selection of a Potential Symbiotic Against Cronobacter sakazakii

ALFRED KE, Valeria R. Parreira, Jeffrey M. Farber, Lawrence Goodridge, Canadian Research Institute for Food Safety (CRIFS), Department of Food Science, University of Guelph, Guelph, ON, Canada

Antifungal Activity and Bioprotective Potential of Lactic Acid Bacteria isolated from Kunu-Zaki, a Nigerian Indigenously Fermented Beverage

OMOTADE R. OGUNREMI, First Technical University, Ibadan, Nigeria

(v) Antimicrobial Food-Grade Coatings on Hydrophobic Plastics for Reducing Cross-Contamination of Fresh Produce

JIYOON YI, Nitin Nitin, University of California, Davis, Davis, CA, USA

5:15 p.m. – 6:15 p.m. – Exhibit Hall Reception

T4 Technical Session 4 – Microbial Food Spoilage, Pre-Harvest Food Safety and Food and Chemical Hazards and Food Allergens

Convenor: Matthew Moore

(v) An Evaluation of Inter-Laboratory Analytical Results for Mycotoxins in Cereal Grains

RONALD SARVER, Eric Bergeron, Chris Eakin, Mary Gadola, Mine Gezgin, Alex Kostin, Ben Strong, Neogen Corporation, Lansing, MI, USA

(v) Effect of Changes in Fermentation Conditions on the Selection of Appropriate Calibrants for the Quantitation of Gluten in Fermented-Hydrolized Foods

RAKHI PANDA, Marc Boyer, Eric Garber, U.S. Food and Drug Administration, College Park, MD, USA

Maximum Levels for Carcinogenic Pyrrolizidine Alkaloids in Kitchen Herbs Introduced

ARNE DUEBECKE, Quality Services International GmbH, Bremen, Germany


AJAY MITTAL, Avtar Singh, Soottawat Benjakul, International Center of Excellence in Seafood Science and Innovation, Prince of Songkla University, Hat Yai, Thailand

All times listed in Pacific time (U.S.)

- Symposia  - Roundtables  - Technicals  - Developing Scientist Competitor  - Topic Areas  - Virtual
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:30</td>
<td>T4-05 Advanced Bioinformatics for Highly Resolved Profiling and Quantification of Spoilage Microbiota and Prediction of Functions Influencing Food Spoilage</td>
</tr>
<tr>
<td></td>
<td>NUR HASAN, Shakur Abdullah, Mauricio Chalita, Jongsk Chun, EzBiome, Gaithersburg, MD, USA</td>
</tr>
<tr>
<td>2:45</td>
<td>T4-06 (v) A Meta-Analysis Assessment of the Bacterial and Fungal Contaminants in Caprine and Ovine Cheese caprine cheese</td>
</tr>
<tr>
<td></td>
<td>SHOLEEM GRIFFIN, Owen Falzon, Kenneth Camilleri, Vasili P. Valdramidis, Department of Food Sciences and Nutrition, Faculty of Health Sciences, University of Malta, Msida, Malta</td>
</tr>
<tr>
<td>3:00</td>
<td>Break – Refreshments Available in the Exhibit Hall</td>
</tr>
<tr>
<td>3:45</td>
<td>T4-07 (v) Longitudinal Dynamics and Antimicrobial-Resistance Profiles of Salmonella in Beef Cattle and the Feedlot Environment</td>
</tr>
<tr>
<td></td>
<td>COLETTE NICKODEM, Keri Norman, Texas A&amp;M University College of Veterinary Medicine &amp; Biomedical Sciences, College Station, TX, USA</td>
</tr>
<tr>
<td>4:00</td>
<td>T4-08 Intracellular Autolytic Salmonella Vaccine in Preventing Salmonellosis</td>
</tr>
<tr>
<td></td>
<td>MENGFEI PENG, Jungsoo Joo, Debabrata Biswas, University of Maryland, College Park, MD, USA</td>
</tr>
<tr>
<td>4:15</td>
<td>T4-09 Effect of Turkey-Derived Lactobacillus Probiotics and Trans-Cinnamaldehyde Against Multidrug-Resistant Salmonella Heidelberg in Turkey Pouls</td>
</tr>
<tr>
<td></td>
<td>GRACE DEWI, Shijinaraj Manjankattil, Claire Peichel, Timothy Johnson, Sally Noll, Carol Cardona, Anup Kollanoor Johny, University of Minnesota, St. Paul, MN, USA</td>
</tr>
<tr>
<td>4:30</td>
<td>T4-10 Effects of Common Litter Treatments on Campylobacter jejuni Cross-Contamination in Broilers</td>
</tr>
<tr>
<td></td>
<td>MATTHEW BAILEY, Dianna Bourassa, James Krehling, Luis Munoz, Aidan Talortco, Kaicie Chasteen, John Adkins, Kenneth Macklin, Auburn University, Auburn, AL, USA</td>
</tr>
<tr>
<td>4:45</td>
<td>T4-11 Growth of Escherichia coli O157:H7 on Romaine Lettuce Leaves Under Different Conditions of Relative Humidity is Associated with Leaf Properties and Composition of Resident Bacterial Communities</td>
</tr>
<tr>
<td></td>
<td>DIANA VANESSA SARRIA-ZUNIGA, Amanda J. Deering, Robert E. Pruitt, Purdue University, West Lafayette, IN, USA</td>
</tr>
<tr>
<td>5:00</td>
<td>T4-12 (v) Survival and Transfer of Escherichia coli in Soils and on Radishes</td>
</tr>
<tr>
<td></td>
<td>PUSHPINDER KAUR LITT, Alyssa Kelly, Alexis Omar, Gordon Johnson, Manan Sharma, Kalmia Kniel, Hygiena, Newark, DE, USA</td>
</tr>
<tr>
<td>5:15</td>
<td>EVENING OPTIONS</td>
</tr>
<tr>
<td>5:15 p.m. – 6:15 p.m.</td>
<td>Exhibit Hall Reception</td>
</tr>
</tbody>
</table>

**Evening Options**

- **5:15 p.m. – 6:15 p.m.** Exhibit Hall Reception
- **6:30 p.m. – 8:30 p.m.** bioMérieux Symposium (Open to all attendees) 121 A-C

---

All times listed in Pacific time (U.S.)

- **Symposia**
- **Roundtables**
- **Technical**
- **Developing Scientist Competitor**
- **Topic Areas**
- **Virtual**
MICROBIOLOGY TESTING SERVICES

FAST. ACCURATE. LOCAL. CONVENIENT.

Talk to the scientists who perform your tests.
Each lab is ready to provide you the support you need.

Rapid Solutions
Accurate Results
Regulatory Expertise
Nationwide Locations
Tailored Sample Logistics
Online Ordering and Results

eurofins.us/Food
TUESDAY, JULY 20

ALL DAY
8:30 a.m. – 6:15 p.m.
Exhibit Hall

Poster Session 2
Food Toxicology; General Microbiology; Laboratory and Detection Methods; Microbial Food Spoilage; Pre-Harvest Food Safety; Produce; Sanitation and Hygiene; Viruses and Parasites; Water
P2-01 through P2-09 – Authors present 10:00 a.m. – 11:30 a.m. and 5:15 p.m. – 6:15 p.m.
P2-92 through P2-191 – Authors present 2:15 p.m. – 3:45 p.m. and 5:15 p.m. – 6:15 p.m.

MORNING
8:30 a.m. – 12:15 p.m.

North Ballroom D
S18 Recent State and Local Outbreak Investigations
132 AB
T5 Technical Session 5 – Produce
132 C
T6 Technical Session 6 – Food Safety Systems, Sanitation and Hygiene and Packaging

8:30 a.m. – 10:00 a.m.
North Ballroom A-C
S19 One Size Does Not Fit All: Advancing Surrogate Science and Collaboration to Enable Pathogen Reduction Technologies in a Variety of Matrices
121 A-C
S20 Novel and Emerging Technologies for Food Processing Facility Environmental Control
122 BC
S21 No Silver Bullet in Sight: How to Achieve Continuous Improvement in Fresh Produce Safety with Existing Knowledge and Tools
122 A
S22 Identifying, Tracking, and Controlling Spoilage: “Toolbox” for Dairy Processing
129 A
S23 Your Significant Other: Using Statistics to Interpret Microbiological Data
124 AB
RT17 (v) A North American Perspective on Antimicrobial Resistance and Regulatory Action
123
RT18 Diversifying the Pipeline in Food Safety Education: Engaging Historically Black Colleges and Universities (HBCUs)
131 A-C
RT19 Emergency Use of Microbial Methods of Detection by Industry – Alternative Routes Proving Fit for Purpose

10:00 a.m. – 10:45 a.m.
Break – Refreshments Available in the Exhibit Hall

10:00 a.m. – 5:30 p.m.
Exhibit Showcase Presentations in the Exhibit Hall

10:45 a.m. – 12:15 p.m.

121 A-C
S24 Latest Developments in Food Safety Standards for Water Reuse in Food Production and Processing
124 AB
S25 Decoding Codex Alimentarius - Not a Secret Society
129 A
S26 Shelf-Life Testing: Problems, Pitfalls, and Promise
122 A
S27 Use of Novel and Alternate Processing Technologies for Dairy Products
122 BC
RT20 FDA’s New Era of Smarter Food Safety: One Year after the “Blueprint” Release, How is the Industry Embracing This Change?
131 A-C
RT21 Riding the Tide of Multi-Disciplinary Approaches to Evaluate Behavior-Change Effectiveness of Food Safety Education
123
RT22 Collaboration in the Desert – A Research Model for Advancing Fresh Produce Safety
136
RT23 Novel Foods, Novel Challenges: Food Safety Concerns in Plant-Based, Cell-Cultured, and “Clean Label” Products

11:45 a.m. – 1:45 p.m.
Lunch Available in the Exhibit Hall

AFTERNOON
12:30 p.m. – 1:15 p.m.

121 A-C

1:30 p.m. – 5:15 p.m.

North Ballroom A-C
S28 C is for Cyclospora: A Crash Course in the Emerging Pathogen from Farm to Table
122 A
T7 Technical Session 7 – Meat, Poultry and Eggs
132 C
T8 Technical Session 8 – Communication, Outreach and Education; Food Defense; Food Law and Regulation; Epidemiology

1:30 p.m. – 3:00 p.m.

121 A-C
122 BC
S30 To Verify or Validate a Rapid Pathogen Method: What about the Matrix?
129 A
S31 To Be Acid or To Be Acidified, That is the Question
131 A-C
132 AB
S33 (v) Allergen Management at Retail in the New Era of Smarter Food Safety: From the Front Lines of Restaurants, Food Service, and Retail Grocery
North Ballroom D
RT24 Operational Choices and Risk-based Decision Making Around Clean Breaks in Dry Environments
124 AB
RT25 Food Irradiation: Where We’ve Been, Where We Are Now, and What’s Next

3:00 p.m. – 3:45 p.m.
Break – Refreshments Available in the Exhibit Hall

3:45 p.m. – 5:15 p.m.

North Ballroom D
S34 Risk Ranking Approaches to Inform Diverse Decisions in Government and Industry
122 BC
S35 We Quantified, Now What? Actual *Salmonella* Quantification Approaches Utilized in the Protein Industry Today
124 AB
S36 The Forgotten Option: Formulation-based Preventive Controls for Human Foods
121 A-C
RT26 A Support Group for Difficult Matrices – You’re Not Alone with Your Detection and Confirmation Problems
132 AB
RT27 Ever Thought of Being an Expert Witness?
131 A-C
RT28 Fact or Fiction? How to Evaluate Antimicrobial Products for Your Sanitation Program

EVENING OPTIONS
5:15 p.m. – 6:15 p.m.
Exhibit Hall Reception

7:00 p.m. – 9:00 p.m.
Student Mixer, Sheraton Phoenix Downtown
TUESDAY MORNING
JULY 20
Posters will be on display 8:30 a.m. – 6:15 p.m.
(See details beginning on page 67)

S18 Recent State and Local Outbreak Investigations
North Ballroom D
Organizer and Convenor: Steven Mandernach
Sponsored by Association of Food and Drug Officials
Epidemiology
Food Safety Assessment, Audit and Inspection
8:30 (v) Imported Jar of Peppers Causes Botulism in Family
IRINA CODY, Texas Department of Health and Human
Services, Austin, TX, USA
9:00 Raw Egg Usage Associated with Salmonella
Outbreak
D.J. IRVING, Tennessee Department of Health,
Nashville, TN, USA
9:30 (v) Multi-State E. coli Outbreak Involving Clover Sprouts
in Restaurants
THAO SCHLICHTE, Iowa Department of Inspections and
Appeals, Des Moines, IA, USA
10:00 Break – Refreshments Available in the Exhibit Hall
10:45 (v) Scrombroid Outbreak Involving Imported Tuna Loins
BRENDALEE VIVEIROS, Rhode Island Department of
Health, Providence, RI, USA
11:15 The Needle in the Haystack: Finding the Outbreak Strain
of Listeria monocytogenes in Enoki
LAUREN EDWARDS, Michigan Department of Agricul-
ture and Rural Development, Lansing, MI, USA
11:45 Salmonella London Outbreak at a Local BBQ Restaurant
KATIE GARMAN, Tennessee Department of Health,
Nashville, TN, USA
12:15 Lunch Available in the Exhibit Hall
S19 One Size Does Not Fit All: Advancing Surrogate
Science and Collaboration to Enable Pathogen
Reduction Technologies in a Variety of Matrices
North Ballroom A-C
Organizers: Jennifer Acuff, Kathleen Glass,
Kristin Schill
Convenors: Jennifer Acuff, Jarius David,
Kristin Schill
Dairy Quality and Safety
Low Water Activity Foods
Applied Laboratory Methods
8:30 T D T Research on Surrogate Organisms in Low-Water
Activity Foods and Ingredients
BRADLEY TAYLOR, Brigham Young University, Provo,
UT, USA
9:00 Interpreting Validation Studies: How Do the Results
Apply to the Real World?
JAMES DICKSON, Iowa State University, Ames, IA, USA
9:30 The Use of Surrogates in Industrial Applications for
Low-Moisture Products: Challenges and Solutions
ERDOGAN CEYLAN, Mérieux NutriSciences, Crete, IL, USA
10:00 Break – Refreshments Available in the Exhibit Hall

S20 Novel and Emerging Technologies for Food
Processing Facility Environmental Control
121 A-C
Organizers and Convenors: Kathy Knutson,
Jeffrey Kornacki
Food Hygiene and Sanitation
HACCP Utilization and Food Safety Systems
8:30 A Novel Fluorescent Approach to Verification of
Cleaning Efficacy
KATHY KNUTSON, Kornacki Microbiology Solutions,
Green Bay, WI, USA; YALE LARY, Holmes Smokehouse
– RR Brand Foods, Lufkin, TX, USA
9:00 Generation of Reactive Oxygen Species to Control
Microbiology in Food Processing Facilities
BRIAN TAYLOR, AirROS by SAGE Industrial, Fresno,
CA, USA
9:30 Use of Probiotic Approaches and Metagenomics to
Control the Microbiome of a Processing Facility
MICHELE SAYLES, Diamond Pet Food, Topeka, KS,
USA
10:00 Break – Refreshments Available in the Exhibit Hall

S21 No Silver Bullet in Sight: How to Achieve Continuous
Improvement in Fresh Produce Safety with Existing
Knowledge and Tools
122 BC
Organizer and Convenor: Genevieve Sullivan
Sponsored by SmartWash Solutions
Pre Harvest Food Safety
HACCP Utilization and Food Safety Systems
8:30 Taking Steps Beyond Data Collection: The Industry
Need for Data-Driven Improvements
DREW MCDONALD, Taylor Farms, Salinas, CA, USA
9:00 Continual Improvement in Preventive Controls:
Opportunities Drawn from Fresh Produce Case
Examples
TREVOR V. SUSLOW, Product Marketing Association,
Davis, CA, USA
9:30 (v) Moving the Mountain Together: The Industry, Aca-
demia, and Government Partnership is Essential for the
Development of Best Practices
YAGUANG LUO, USDA–ARS, EMFSL, Beltsville, MD,
USA
10:00 Break – Refreshments Available in the Exhibit Hall

S22 Identifying, Tracking, and Controlling Spoilage:
“Toolbox” for Dairy Processing
122 A
Organizers: Erin Headley, Sarah I. Murphy,
Phyllis Posy
Convenors: Sarah I. Murphy, Phyllis Posy
Dairy Quality and Safety
Developing Food Safety Professionals
Water Safety and Quality
8:30 (v) Identifying: Methods for Detection, Characterization,
and Tracking Microbial Spoilage Organisms in Dairy
NICOLE MARTIN, Cornell University, Ithaca, NY, USA

All times listed in Pacific time (U.S.)
9:00 Tracking: Digital “Tools” for Identifying and Preventing Spoilage Risks
Michele Gorman, Chobani, LLC, Manlius, NY, USA
9:30 (v) Controlling: How Infrastructure, Equipment Design and Sanitation are Critical to Minimize and Prevent Spoilage
NEIL A. BOGART, Ecolab, Alabaster, AL, USA
10:00 Break – Refreshments Available in the Exhibit Hall

S23 Your Significant Other: Using Statistics to Interpret Microbiological Data
129 A
Organizer and Convenor: Julie Weller
Applied Laboratory Methods
Food Safety Assessment, Audit and Inspection
8:30 AOAC Method Comparison: Equivalence or No Statistical Difference?
SHARON BRUNELLE, Brunelle Biotech Consulting, Corvallis, OR, USA
9:00 Beyond the POD: Taking a Deeper Dive into Evaluating Method Performance
ALEX BRANDT, Food Safety Net Services, San Antonio, TX, USA
9:30 (v) FSIS Regulatory Perspective on Evaluating Establishment Support for Product Dispositions
MERYL SILVERMAN, USDA FSIS, Washington, D.C., USA
10:00 Break – Refreshments Available in the Exhibit Hall

RT17 (v) A North American Perspective on Antimicrobial Resistance and Regulatory Action
124 AB
Organizers: Jessica Chen, Uday Dessai, Heather Harbottle
Convenor: Heather Harbottle
Meat and Poultry Safety and Quality
8:30 (v) UDAY DESSAI, USDA Food & Inspection Service, Washington, D.C., USA
(v) JASON FOSTER, Centers for Disease Control and Prevention, Atlanta, GA, USA
(v) HEATHER HARBOTTLE, U.S. Food and Drug Administration, Rockville, MD, USA
(v) MANISHA MEHROTRA, Health Canada, Ottawa, ON, Canada
(v) ENRIQUE PEREZ-GUTIERREZ, Pan American Health Organization, Washington, D.C., USA
(v) THOMAS HAMMACK, U.S. Food and Drug Administration, Center for Food Safety & Applied Nutrition, College Park, MD, USA
(v) KELLY STEVENS, General Mills, Minneapolis, MN, USA
10:00 Break – Refreshments Available in the Exhibit Hall

RT18 Diversifying the Pipeline in Food Safety Education: Engaging Historically Black Colleges and Universities (HBCUs)
123
Organizers: Shannon Coleman, Armitra Jackson-Davis, Shecoya White
Convenor: Armitra Jackson-Davis
Communication, Outreach and Education
Food Safety Education
8:30 OLGA BOLDEN-TILLER, Tuskegee University, Tuskegee, AL, USA
MICHELLE DANYLUK, University of Florida CREC, Lake Alfred, FL, USA
ALIYAR FOUADKHAY, Public Health Microbiology Laboratory, Tennessee State University, Nashville, TN, USA
ARMITRA JACKSON-DAVIS, Alabama A&M University, Madison, AL, USA
SHECOYA WHITE, Mississippi State University, Mississippi State, MS, USA
KRISTIN WOODS, Alabama Cooperative Extension System, Grove Hill, AL, USA
10:00 Break – Refreshments Available in the Exhibit Hall

RT19 (^) Emergency Use of Microbial Methods of Detection by Industry – Alternative Routes Proving Fit for Purpose
131 A–C
Sponsored by Institute for the Advancement of Food and Nutrition Sciences
Organizer and Convenor: Brienna Larrick
Applied Laboratory Methods
Food Safety Assessment, Audit and Inspection
^Live only, not recorded
8:30 (v) DEANN AKINS-LEWENTHAL, Conagra Brands, Omaha, NE, USA
PATRICK BIRD, PMB Biotek Consulting, West Chester, OH, USA
MEGAN S. BROWN, Eurofins Microbiology Laboratories, Inc., Madison, WI, USA
(v) THOMAS HAMMACK, U.S. Food and Drug Administration, Center for Food Safety & Applied Nutrition, College Park, MD, USA
(v) KELLY STEVENS, General Mills, Minneapolis, MN, USA
10:00 Break – Refreshments Available in the Exhibit Hall

S24 Latest Developments in Food Safety Standards for Water Reuse in Food Production and Processing
121 A–C
Organizers: Leon Gorris, Phyllis Posy
Convenors: Leon Gorris, Elisabetta Lambertini
Food Law
Pre Harvest Food Safety
Water Safety and Quality
10:45 Agricultural Water Standards: Delivering Consumers Safe Food Products That Re-Use Water
DON STOECKEL, California Department of Food and Agriculture, Sacramento, CA, USA
11:15 (v) Regulating Water Re-Use in Food Processing to Ensure Acceptable Risk to Consumers
DIMA FAOUR-KLINGBEIN, DFK for Safe Food Environment, Hannover, Germany
11:45 (v) Standardizing Water Re-Use Standards Related to Food Safety on an International Level
KANG ZHOU, Food and Agriculture Organization of the United Nations, Rome, Italy

All times listed in Pacific time (U.S.)
- Symposia
- Roundtables
- Technicals
- Developing Scientist Competitor
- Topic Areas
- Virtual
12:15 Lunch Available in the Exhibit Hall

S25 Decoding Codex Alimentarius – Not a Secret Society
124 AB
Organizers: Alexandria Lau, Paul Hanlon, Brent Kobielush
Convenor: Alexandria Lau
Food Chemical Hazards and Food Allergy
Food Hygiene and Sanitation
International Food Protection Issues
10:45 (v) What is the Codex Alimentarius and Why Everyone Working in Food Safety Should Pay Attention to It SARAH CAHILL, Joint FAO/WHO Food Standards Programme, Rome, Italy
11:15 (v) Allergen Controls and Thresholds: An Example of How Codex is Working Toward Science-based, Harmonized Food Safety Standards JENNY SCOTT, U.S. Food and Drug Administration – CFSAN, College Park, MD, USA
11:45 The Cadmium in Cocoa Story: How Codex Accounts for Production, Trade and Safety in Standards for Contaminants MARTIN SLAYNE, Slayne Consulting LLC, New York, NY, USA
12:15 Lunch Available in the Exhibit Hall

S26 Shelf-Life Testing: Problems, Pitfalls, and Promise
129 A
Organizers: Jeffrey Kornacki, Cari Lingle
Convenors: John David, Jeffrey Kornacki
Applied Laboratory Methods
Microbial Modelling and Risk Analysis
10:45 (v) What is (and is Not) Shelf Life? NICOLE MARTIN, Cornell University, Ithaca, NY, USA
11:15 An Approach to Accelerated Shelf-Life Determination (and Case Study) BRADLEY STAWICK, Stawick Laboratory Management, Rutherford, NJ, USA
11:45 Why Environmental Monitoring Programs Appropriately Executed Can Reduce Costs and Improve Shelf Life and Product Safety JEFFREY KORNACKI, Kornacki Microbiology Solutions, Inc., Madison, WI, USA
12:15 Lunch Available in the Exhibit Hall

S27 Use of Novel and Alternate Processing Technologies for Dairy Products
122 A
Organizers: Roy Betts, Alvin Lee, Purnendu Vasavada
Convenors: Alvin Lee, Purnendu Vasavada
Dairy Quality and Safety
Food Safety Assessment, Audit and Inspection
10:45 (v) New Technologies and the Hurdles They Face to Achieve Broad Adoption TIMOTHY STUBBS, National Dairy Council, Rosemont, IL, USA
11:15 (v) Validating High-Pressure Processing for Dairy Products DEON MAHONEY, DeonMahoney Consulting, Melbourne, Australia
11:45 (v) The U.S. Regulatory Pathway to Nonthermal Pasteurization of Milk Products STEPHEN WALKER, U.S. Food and Drug Administration, Bedford Park, IL, USA
12:15 Lunch Available in the Exhibit Hall

RT20 FDA’s New Era of Smarter Food Safety: One Year after the “Blueprint” Release, How is the Industry Embracing This Change?
North Ballroom A-C
Organizer and Convenor: Vidya Ananth
Food Safety Assessment, Audit and Inspection
Food Safety Culture
Food Defense
10:45 NATHAN ANDERSON, U.S. Food and Drug Administration, Bedford Park, IL, USA
AARON ASMUS, Hormel Foods, Austin, MN, USA
DERRICK BAUTISTA, Del Monte Foods, Inc., Walnut Creek, CA, USA
MONISHA P. CHAKRABORTY, Taylor Farms Pacific, Tracy, CA, USA
(v) ANDREW KENNEDY, USFDA, Silver Spring, MD, USA
PAMELA WILGER, Cargill, Inc., Wayzata, MN, USA
12:15 Lunch Available in the Exhibit Hall

RT21 Riding the Tide of Multi-Disciplinary Approaches to Evaluate Behavior-Change Effectiveness of Food Safety Education
122 BC
Organizers: Yaohua (Betty) Feng, Benjamin Chapman, Vijay Juneja
Convenor: Yaohua (Betty) Feng
Food Safety Education
Communication, Outreach and Education
Food Safety Assessment, Audit and Inspection
10:45 (v) YAOHUA (BETTY) FENG, Purdue University, West Lafayette, IN, USA
(v) LAWRENCE GOODRIDGE, University of Guelph, Guelph, ON, Canada
(v) JOHN BOYCE, J.M. Boyce Consulting, LLC, Middletown, CT, USA
AARON LAVALLEE, USDA FSIS OPACE, Washington, D.C., USA
(v) AMY REIBMAN, Purdue University, West Lafayette, IN, USA
12:15 Lunch Available in the Exhibit Hall

RT22 Collaboration in the Desert – A Research Model for Advancing Fresh Produce Safety
131 A–C
Organizer and Convenor: Channah Rock
Sponsored by Arizona Leafy Greens Marketing Agreement and Yuma Safe Produce Council
Fruit and Vegetable Safety and Quality
Pre Harvest Food Safety
Water Safety and Quality
10:45 (v) JOHN BOELTS, Desert Premium, Yuma, AZ, USA
ELSTON GRUBAUGH, Wellton Mohawk Irrigation and Drainage District, Wellton, AZ, USA
JULIE ANN KASE, U.S. Food and Drug Administration, College Park, MD, USA
TERESSA LOPEZ, Arizona LGMA, Phoenix, AZ, USA
CHANNAH ROCK, University of Arizona, Maricopa, AZ, USA
12:15 Lunch Available in the Exhibit Hall
RT23 Novel Foods, Novel Challenges: Food Safety Concerns in Plant-Based, Cell-Cultured, and “Clean Label” Products

Organizers: Crista Righi and Todd Napolitano
Convenors: Kurt Westmoreland
Food Safety Assessment, Audit and Inspection
Food Safety Culture
HACCP Utilization and Food Safety Systems
Live only, not recorded

10:45 (v) DEANN AKINS-LEWENTHAL, Conagra Brands, Omaha, NE, USA
JOCelyn ALFIERI, Mérieux NutriSciences, Markham, ON, Canada
DAVid RASMUSSEN, KraftHeinz, Chicago, IL, USA
Lilia M. SANTIAGO-CONNOLLY, Kellogg Company, Battle Creek, MI, USA
TRACIE SHEEHAN, Mérieux NutriSciences, Chicago, IL, USA

12:15 Lunch Available in the Exhibit Hall

T5 Technical Session 5 – Produce

132 AB
Convenors: Govindaraj Dev Kumar, Manreet Bhullar

T5-01 8:30 Based on Farm Size
MEREDITH MELENDEZ, Elizabeth Bihn, Michelle Danyluk, Christopher Gunter, Phillip Tocco, Wesley Kline, Rutgers NJAES Cooperative Extension, Trenton, NJ, USA

T5-02 8:45 Harvest Practices Aid in Pathogen Transfer as a Result of Animal Intrusion
BAN SABER, Jessica L. Dery, Natalie Brassill, Teresa Reyes, Stevi Zozaya, Channah Rock, University of Arizona, Dept. of Environmental Science, Yuma Agricultural Center, Yuma, AZ, USA

T5-03 9:00 Sunlight Affects Both Viability and Die-Off of Salmonella and Escherichia coli
GOVINDARAJ DEV KUMAR, Dumitru Macarisin, Laurel Dunn, Abhinav Mishra, University of Georgia, Griffin, GA, USA

T5-04 9:15 Fate of Salmonella and Listeria monocytogenes on the Surface of Whole Mangoes during Storage
GOVINDARAJ DEV KUMAR, Dumitru Macarisin, Laurel Dunn, Abhinav Mishra, University of Georgia, Griffin, GA, USA

T5-05 9:30 Effect of Sanitizers and Organic Load on Removal of Silver Nanoparticles from Contaminated Lettuce
GAYATHRI GUNATHILAKA, Jianzhou He, Hui Li, Wei Zhang, Elliot Ryser, Department of Food Science and Human Nutrition, Michigan State University, East Lansing, MI, USA

T5-06 9:45 Efficacy of Chlorine and Peroxyacetic Acid Against Salmonella and Shiga-Toxigenic Escherichia coli in Simulated Postharvest Water Systems with Varying Levels of Chemical Oxygen Demand
KORY ANDERSON, Faith Critzer, Washington State University, Prosser, WA, USA

10:00 Break – Refreshments Available in the Exhibit Hall

T5-07 10:45 Isolation and Characterization of AmpC and Extended Spectrum β-Lactamase-producing Enterobacteriaceae from Fresh Vegetables
Sun Hee Moon, Xinhui Li, Xu Yang, EN HUANG, University of Arkansas for Medical Sciences, Little Rock, AR, USA

T5-08 11:00 Tomato Fruit Surface Metabolome Changes as Fruit Ripen Affect Salmonella Newport Association with Fruit
SHIRLEY A. MICALLEF, Sanghyun Han, University of Maryland, College Park, MD, USA

T5-09 11:15 Differences in Colonization and Internalization of Salmonella enterica Serovars in Cucumber Fruit
KELLIE P. BURRIS, Robin Grant Moore, Lee-Ann Jaykus, Otto D. Simmons III, Jie Zheng, Elizabeth Reed, Christina M. Ferreira, Eric Brown, Rebecca L. Bell, U.S. Food and Drug Administration, Center for Food Safety & Applied Nutrition, Raleigh, NC, USA

T5-10 11:30 Plant Growth-promoting Rhizobacteria Pseudomonas strains as Possible Agents to Enhance Food Safety by Limiting Salmonella enterica Association with Kale
XINGCHEN LIU, Chiun-Kang Hsu, Shirley A. Micallef, University of Maryland, College Park, MD, USA

T5-11 11:45 Surfaces in Washington State Apple Packinghouses
BLANCA E. RUIZ-LLACSAHUANGA, Alexis Hamilton, Robyn Zaches, Ines Hanrahan, Faith Critzer, Washington State University, School of Food Science, Prosser, WA, USA

T5-12 12:00 Characterization of the Relationship between Post-Harvest Fungal Rot and Listeria innocua Die-Off Rates on Gala Apples during Long-Term Storage
ALEXIS HAMILTON, Blanca E. Ruiz-Llacahuanga, Manoella Mendoza, James Mattheis, Ines Hanrahan, Faith Critzer, Washington State University, School of Food Science, Prosser, WA, USA

12:15 Lunch Available in the Exhibit Hall

T6 Technical Session 6 – Food Safety Systems, Sanitation and Hygiene and Packaging

132C
Convenor: Zahra Mohammad

T6-01 8:30 Remote Inspection and Audit: First Pilot Project in the World That Uses Augmented Reality to Conduct Remote Inspections on Food Safety with the Official Italian Authority in Italy
MARCO PIERANTONI, Noemi Trombetti, Fabio Mannarino, Franco Rapetti, Claudio Galliottini, AUSL Parma, Regione Emilia Romagna Italy

T6-02 8:45 Survival of Generic E. coli and Non-O157 STEC in Organic Fields Grazed by Sheep
SEJIN CHEONG, Michele Jay-Russell, Carolyn Chandler, Viktoria Haghani, Peiman Aminabadi, Sequoia Williams, Nicole Tautges, Amelie Gaudin, Alda Pires, Department of Population Health and Reproduction, School of Veterinary Medicine, University of California-Davis, Davis, CA, USA
**T6-03** (v) How Does Cross-Contaminated *Escherichia coli* O157:H7 on Fresh-Cut Lettuce Behave?  
9:00  
AKIHIRO ANDO, Ryoma Honda, Kento Koyama, Shigenobu Koseki, Hokkaido University, Sapporo, Japan

**T6-04** (v) Pre-Exposure to Protective Bacterial Cultures in Food Attenuates *Listeria monocytogenes* Virulence  
9:15  
SULAIMAN ALJASIR, Dennis D’Amico, University of Connecticut, Storrs, CT, USA

**T6-05** Persistence of the Enveloped phi6 Bacteriophage  
9:30  
ZAHRA MOHAMMAD, Sujata Sirsat, University of Houston, Houston, TX, USA

**T6-06** Development and Characterization of Electrospray Starch/  
9:45  
Yellow Mustard Mucilage Coatings for the Preservation of Cherry Tomatoes  
ANTO PRADEEP RAJA CHARLES, Tony Jin, Ying Wu, Agnes Kilonzo-Nthenge, Fur Chi Chen, Tennessee State University, Nashville, TN, USA

**T6-07** (v) The Physicochemical Properties of Powders are Associated with the Ease of Removal from Surfaces Using Scraping and Brushing  
10:00  
LONG CHEN, Yadwinder Singh Rana, Dennis Heldman, Abigail B. Snyder, Cornell University, Ithaca, NY, USA

**T6-08** (v) Prevalence and Mapping of *Listeria* spp. and *Listeria monocytogenes* in Small and Very Small Food Manufacturing Facilities in Nebraska  
11:00  
CYRIL ETAKA, Bismarck Martinez, Carmen Cano, Byron Chaves, University of Nebraska-Lincoln, Lincoln, NE, USA

**T6-09** Evaluation of the Ability of Two *Enterococcus* spp. Strains to Inhibit *Listeria monocytogenes* in Monoculture and in the Context of a Complex Microbiome  
11:15  
Priscilla Sinclair, Jasna Kovac, Luke LaBorde, JINGZHANG FENG, The Pennsylvania State University, University Park, PA, USA

**T6-10** (v) Inactivation of *Listeria monocytogenes* on Cantaloupe  
11:30  
by Eugenol Nanoemulsion in Combination with Commercial Sanitizers  
BRINDHALAKSHMI BALASUBRAMANIAN, Kimberly Rankin, Jodie Allen, Abhinav Upadhyay, Department of Animal Science, University of Connecticut, Storrs, CT, USA

**T6-11** (v) Cleaning and Sanitizing in Produce Facilities: Training Gaps, Opportunities and Industry Preferences  
11:45  
JOVANA KOVACEVIC, Stephanie Brown, Joy Waite-Cusic, Oregon State University, Corvallis, OR, USA

**T6-12** (v) Characterization of Lytic *Escherichia coli* O157:H7 Specific Phage Focusing on Its Novelty  
12:00  
SU-HYEON KIM, Damilare Emmanuel Adeyemi, Yu-Bin Jeon, Mi-Kyung Park, Kyungpook National University, Daegu, South Korea

12:15 Lunch Available in the Exhibit Hall

---

*All times listed in Pacific time (U.S.)*
S30 To Verify or Validate a Rapid Pathogen Method: What about the Matrix?  
**122 BC**  
Organizers: Erin Headley, Wendy McMahon  
Convenor: Erin Headley  
Applied Laboratory Methods  
Dairy Quality and Safety  
1:30 (v) Risk to the Industry When Methods are Not Sufficiently Validated for the Product Matrix Being Tested  
STEPHEN J. BURBICK, The Kraft Heinz Company, Glenview, IL, USA  
2:00 The Past, the Present, and the Future of Method Validations  
WENDY MCMAHON, Mérieux NutriSciences, Crete, IL, USA  
2:30 The Method or the Matrix? Case Studies  
JEFFREY KORNACKI, Kornacki Microbiology Solutions, Inc., Madison, WI, USA

S31 To Be Acid or To Be Acidified, That is the Question  
**129 A**  
Organizers and Convenors: April Bishop, May Yeow  
Beverages and Acid/Acidified Foods  
Food Law  
Microbial Modelling and Risk Analysis  
1:30 Utilizing Buffer Capacity Modeling to Help Determine the Safety of an Acid/Acidified Food Product  
Fred Breidt, USDA/ARS, Raleigh, NC, USA  
2:00 (v) Process Authority Perspective on Acidified Foods Evaluation  
DAVID BRESNAHAN, Bresnahan TPC, Inc., Kenmore, WA, USA  
2:30 What is the Likelihood of Vegetative Pathogens Survive in Low pH Products?  
ERDOGAN CEYLAN, Mérieux NutriSciences, Crete, IL, USA  
3:00 Break – Refreshments Available in the Exhibit Hall

**131 A-C**  
Organizers: Amani Babekir, Kara Baldus, Robert Buchanan, J. David Legan  
Convenors: J. David Legan, Dennis Seman  
Sponsored by The IAFP Foundation  
Food Safety Culture  
Food Hygiene and Sanitation  
Developing Food Safety Professionals  
1:30 (v) Why is It so Hard to Talk about Risk and How Can We Do It Better?  
KARIN HOELZER, Maximus, Washington, D.C., USA  
2:00 Risk Communication for the Corporate Executive: What, When and How?  
JOHN PETIE, WellPet, Boston, MA, USA  
2:30 (v) What Should Scientists Know about Company Insurance?  
JEN PINO-GALLAGHER, M3 Insurance, Madison, WI, USA  
3:00 Break – Refreshments Available in the Exhibit Hall
S33 (v) Allergen Management at Retail in the New Era of Smarter Food Safety: From the Front Lines of Restaurants, Food Service, and Retail Grocery
132 A-B
Organizer and Convenor: Michael Roberson
Food Chemical Hazards and Food Allergy
Retail and Foodservice
1:30 (v) The Grocery Store is the Last Line of Defense for the Consumer
STEVE OSWALD, Wakefern Food Corp., Elizabeth, NJ, USA
2:00 (v) Menu Management and Allergens in the Restaurant
AL BAROUDI, The Cheesecake Factory, Calabasas, CA, USA
2:30 (v) A Regulatory Perspective on Food Allergens at Retail
GLENDIA LEWIS, Food & Drug Administration, CFSAN, College Park, MD, USA
3:00 Break – Refreshments Available in the Exhibit Hall

RT24 (v) Operational Choices and Risk-based Decision Making Around Clean Breaks in Dry Environments
North Ballroom D
Organizers: Chad Galer, Sarah I. Murphy, Abigail B. Snyder
Convenor: Abigail B. Snyder
Dairy Quality and Safety
Food Hygiene and Sanitation
Low Water Activity Foods
1:30 (v) NATHAN ANDERSON, U.S. Food and Drug Administration, Bedford Park, IL, USA
(v) ELIZABETH GRASSO-KELLEY, U.S. Food and Drug Administration, Bedford Park, IL, USA
(v) LESLIE HINTZ, U.S. Food and Drug Administration, College Park, MD, USA
(v) YVONNE MASTERS, John B. Sanfilippo & Son, Inc., Chicago, IL, USA
(v) BENJAMIN WARREN, Land O’ Lakes, Arden Hills, MN, USA
(v) EDITH WILKIN, Leprino Foods Co, Denver, CO, USA
3:00 Break – Refreshments Available in the Exhibit Hall

RT25 Food Irradiation: Where We’ve Been, Where We are Now, and What’s Next
124 AB
Organizer and Convenor: Katherine Marshall
Basketball and Cheese Dairy
Food Hygiene and Sanitation
Microbial Modelling and Risk Analysis
3:45 Now We Can Count! Utilizing Salmonella Quantitation Tools for Food Safety Progress across Multiple Matrices
JACQUELYN ADAMS, Tyson Foods, Inc., Springdale, AR, USA
4:15 Using Salmonella Limits Testing to Make Informed Decisions
SHERRI WILLIAMS, JBS, Greeley, CO, USA
5:15 p.m. – 6:15 p.m. – Exhibit Hall Reception

S34 Risk Ranking Approaches to Inform Diverse Decisions in Government and Industry
North Ballroom D
Organizers: Yuhuan Chen, Sofia Santillana Farakos
Convenors: John Bassett, Sofia Santillana Farakos
Food Chemical Hazards and Food Allergy
HACCP Utilization and Food Safety Systems
Microbial Modelling and Risk Analysis
3:45 Integrated Multi-Expert and Multi-Criteria Approach for the Hierarchization of Food – Biological and Chemical Hazards for Food Safety
MYRIAM MERAD, Université Paris Dauphine-CNRS, Paris, France
4:15 Qualitative and Quantitative Risk Evaluation and Risk Management for Food Safety in a Multinational/Multiproduct Environment
DANE BERNARD, Bold Bear Food Safety, Arnold, MD, USA
4:45 (v) Risk-Ranking Model for Food Tracing to Inform FDA Decisions in Developing Traceability Regulations
YUHUAN CHEN, U.S. Food and Drug Administration – CFSAN, College Park, MD, USA
5:15 p.m. – 6:15 p.m. – Exhibit Hall Reception

S35 We Quantified, Now What? Actual Salmonella Quantification Approaches Utilized in the Protein Industry Today
122 BC
Organizer: April Englishbey
Convenors: April Englishbey, Stacy Stoltenberg
Sponsored by Hygiena
Applied Laboratory Methods
Meat and Poultry Safety and Quality
Microbial Modelling and Risk Analysis
3:45 Now We Can Count! Utilizing Salmonella Quantitation Tools for Food Safety Progress across Multiple Matrices
JACQUELYN ADAMS, Tyson Foods, Inc., Springdale, AR, USA
4:15 Quantification: A Tool to Assess Risk in HACCP Plans
MELODY THOMPSON, Cargill Meat Solutions, Wichita, KS, USA
4:45 Using Salmonella Limits Testing to Make Informed Decisions
SHERRI WILLIAMS, JBS, Greeley, CO, USA
5:15 p.m. – 6:15 p.m. – Exhibit Hall Reception

S36 The Forgotten Option: Formulation-based Preventive Controls for Human Foods
124 AB
Organizers: Adam Borger, Erdogan Ceylan
Convenor: Erdogan Ceylan
Beverages and Acid/Acidified Foods
Microbial Modelling and Risk Analysis
HACCP Utilization and Food Safety Systems
3:45 Current Guidance and Challenges for Formulation-based Preventive Controls for Foods
LORALYN LEDENBACH, Kraft Heinz Company, Glenview, IL, USA

All times listed in Pacific time (U.S.)
4:15 An Industry Perspective on Validation of Formulation-based Preventive Controls
DERRICK BAUTISTA, Del Monte Foods, Inc., Walnut Creek, CA, USA

4:45 (v) An Academic Approach to Validation of Formulation-based Preventive Controls: Microbiological Modeling and Challenge Studies
HEIDY DEN BESTEN, Wageningen University and Research, Wageningen, The Netherlands

5:15 p.m. – 6:15 p.m. – Exhibit Hall Reception

RT26 A Support Group for Difficult Matrices – You’re Not Alone with Your Detection and Confirmation Problems
121 A-C
Organizers: Elizabeth Palmer, Sarita Raengpradub
Convenor: Sarita Raengpradub
Applied Laboratory Methods
Low Water Activity Foods
Live only, not recorded

3:45 ANDREA CIPRIANI, Mérieux NutriSciences, Chicago, IL, USA
DANIEL SMIESZEK, Nestlé, Dublin, OH, USA
CÉCILE VADIER, Barry-Callebaut France, Louviers, France
PAMELA WILGER, Cargill, Inc., Wayzata, MN, USA
(v) BRADLEY ZIEBELL, Conagra Brands, Omaha, NE, USA

5:15 p.m. – 6:15 p.m. – Exhibit Hall Reception

RT27 Ever Thought of Being an Expert Witness?
132 A-B
Organizers: Robert Buchanan, Christopher Griffith, Ewen Todd
Convenor: Ewen Todd
Epidemiology
Food Law
International Food Protection Issues

3:45 DAVID ACHESON, The Acheson Group, Bigfork, MT, USA
(v) ROBERT L. BUCHANAN, University of Maryland-College Park, College Park, MD, USA
(v) CHRISTOPHER GRIFFITH, Professor Emeritus, Cardiff Metropolitan University, Cardiff, UK, Dorchester, United Kingdom
(v) LEE-ANN JAYKUS, North Carolina State University, Department of Food, Bioprocessing and Nutrition Sciences, Raleigh, NC, USA
DAVID SHARFSTEIN, Hogan Lovells, Washington, D.C., USA
(v) EWEN TODD, Ewen Todd Consulting, Okemos, MI, USA

5:15 p.m. – 6:15 p.m. – Exhibit Hall Reception

RT28 Fact or Fiction? How to Evaluate Antimicrobial Products for Your Sanitation Program
131 A-C
Organizers: Jeffrey Anderson, David Buckley, Dale Grinstead,
Convenor: Charles Pettigrew
Food Hygiene and Sanitation
Retail and Foodservice

3:45 (v) TAJAH BLACKBURN, Environmental Protection Agency, District of Columbia, D.C., USA
DAVID BUCKLEY, Diversey, Charlotte, NC, USA
(v) JEFF EDELEN, Whole Foods Market, Austin, TX, USA
(v) ANGELA FRASER, Clemson University, Clemson, SC, USA
ROSIMEIRE MIRANDA, LSG Sky Chefs, Irving, TX, USA

5:15 p.m. – 6:15 p.m. – Exhibit Hall Reception

T7 Technical Session 7 – Meat, Poultry and Eggs
122 A
Convenors: Adeniyi Odugbemi, M. Alexandra Calle

T7-01 Effect of Poultry Litter Moisture Content on Litter to Dust Transfer of Salmonella
1:30 AMRIT PAL, Matthew Bailey, Kenneth Macklin, Dianna Bourassa, Auburn University, Auburn, AL, USA

T7-02 Effect of Litter Treatments on Persistence of Salmonella Enteritidis in Reuse Poultry Litter
1:45 AIDAN TALORICO, James Krehling, Kaicie Chasteen, Luis Munoz, Matthew Bailey, Dianna Bourassa, Kenneth Macklin, Auburn University, Auburn, AL, USA

T7-03 (v) Characteristics of Multi-Jurisdictional Poultry Associated Whole Genome Sequencing Clusters in Canada
2:00 Danielle Dumoulin, JENNIFER LIANG, Rima Kandar, Ashley Kerr, Russell Forrest, Cynthia Misfeldt, Jennifer Cutler, Outbreak Management Division, Centre for Food-borne, Environmental and Zoonotic Infectious Diseases, Public Health Agency of Canada, Guelph, ON, Canada

T7-04 Effect of Antimicrobial Interventions on Salmonella Percent
2:15 Positive in Raw Poultry Slaughter Establishments
2:30 Application of Yellow Mustard Mucilage in Micro-encapsulation of Essential Oil and Polyphenols for Targeted Delivery to Gastrointestinal Tract of Poultry

T7-05 2:45 Application of Yellow Mustard Mucilage in Micro-encapsulation of Essential Oil and Polyphenols for Targeted Delivery to Gastrointestinal Tract of Poultry
HAONA BAO, Tennessee State University, Nashville, TN, USA

T7-06 A Value Chain Approach to Identify Hazards and Risks
2:45 to Child Health Associated with Enteropathogens Carried by Chickens in Maputo, Mozambique
Frederica Lamar, Kelsey Jesser, AMÉLIA MONDLANE-MILISSE, Courtney P. Victor, Hernógones Mucache, Éric Fèvre, José M. Fafetine, Joaquim Ângelo Osvaldo Saide, Matthew C. Freeman, Karen Levy, Universidade Eduardo Mondlane, Maputo, Mozambique

3:00 Break – Refreshments Available in the Exhibit Hall

All times listed in Pacific time (U.S.)
T7-07  
3:15  Consumption of Chicken Cooked with Different Methods  
Hyemin Oh, Jang Won Yoon, Se-Wook Oh, YOHAN YOON, Sookmyung Women’s University, Seoul, South Korea

T7-08  
3:30  Cooked in an Air Fryer and a Convection Oven  
CARMEN CANO, Cyril Etaka, Xinyao Wei, Byron Chaves, University of Nebraska-Lincoln, Lincoln, NE, USA

T7-09  
4:00  Isolates from Cattle Lymph Nodes in FSIS Regulatory Pork Samples  
JOSEPH M. BOSELEVAC, Maria Scott, Jeanetta Tankson, USDA/ARS, Clay Center, NE, USA

T7-10  
4:30  Architectural Framework  
SAMPATHKUMAR BALAMURUGAN, Laura Arvaj, Shai Barbut, Tsun Yin Alex Lau, James De Souza, Philip Strange, Agriculture and Agri-Food Canada, Guelph, ON, Canada

T7-11  
4:45  Fumonisin Exposure Among Reproductive Age Women  
ARIEL GARSOW, Olga Torres, Jorge Matute, Ronald Riley, Archania Lamicichane, Barbara Kowalczyk, The Ohio State University, Columbus, OH, USA

T8-07  
2:15  Potential Utility of the Intentional Adulteration Assessment Tool (IAAT) – Survey of Food Industry  
RABIH JABBOUR, Joseph Zarzycki, Shelly Stobierski, DHS, APG, MD, USA

T8-08  
4:30  in Response to the 2018 Farm Bill  
JESSICA COX, Todd Army, Nathaniel Rice, Carol Brevett, DHS CSAC, Washington, D.C., USA

T8-09  
4:15  to Support Individual Sanitary Measure Equivalence Reviews  
Janell Kause, Eric Ebel, Wayne Schlosser, MICHAEL WILLIAMS, Berhanu Tameru, Stephanie Defibaugh-Chavez, United States Department of Agriculture, Food Safety and Inspection Service, Fort Collins, CO, USA

T8-10  
4:30  A Novel Approach to FSIS Species Identification  
TYE BOYNTON, Courtney Johnson, USDA-FSIS, Athens, GA, USA

T8-11  
4:45  Risk Ranking of FSIS Shiga Toxin-Producing Escherichia coli (STEC) Based on Virulence Genes  
JAMIE WASILENKO, Mustafa Simmons, Susan Hammons, Maria Scott, Michael Day, William Shaw, Glenn Tillman, United States Department of Agriculture, Food Safety and Inspection Service, Fort Collins, CO, USA

T8-12  
5:00  Aligning Confirmation Criteria for E. coli O157:H7 and the “Top Six” Non-O157 Shiga Toxin-Producing E. coli (STEC)  
MICHAEL DAY, Susan Hammons, Lorenza Rozier, Maria Scott, Glenn Tillman, Mustafa Simmons, William Shaw, USDA-FSIS, Athens, GA, USA

5:15 p.m. – 6:15 p.m. – Exhibit Hall Reception
Have you done all you can to ensure your conveyor is safe and free of microbial contamination? Sure, you conduct your daily wash-downs, but is that enough?

More and more food processors are finding that adding a XENON Pulsed Light decontamination system to the conveyor line not only increases the level of protection, but may also result in sanitization procedures being needed less frequently.

Learn more about the XENON Z-2000, the bolt-on solution for continuous conveyor belt decontamination.

Call today at 800-936-6695 or visit us online at www.xenoncorp.com

Pulsed Light not only keeps food contact surfaces clean, it has been proven effective and safe* for the decontamination of food surfaces. Researchers are now finding that more and more foods, such as fresh and frozen fruits, produce, meat and poultry, can be effectively decontaminated with Pulsed Light. Because it’s a non-thermal process, Pulsed Light kills microorganisms while preserving nutrients and sensory properties that can be negatively affected by other treatment options.

* The FDA has issued regulations for the safe treatment of food by Pulsed Light during its production, processing and handling (Code 21CFR179.41 Pulsed Light for the treatment of food).
WEDNESDAY, JULY 21

ALL DAY
8:30 a.m. – 3:30 p.m.
Exhibit Hall

Poster Session 3
Communication Outreach and Education; Epidemiology; Food Defense; Food Law and Regulation; Food Processing Technologies; Food Safety Systems; Laboratory and Detection Methods; Modeling and Risk Assessment; Packaging; Retail and Food Service Safety
P3-01 through P3-96 – Authors present 9:00 a.m. – 11:00 a.m.
P3-97 through P3-187 – Authors present 1:00 p.m. – 3:00 p.m.

MORNING
8:30 a.m. – 12:15 p.m.
131 A-C S37 (v) U.S. Army-Funded Research of Novel Food Safety Technologies
122 A T9 Technical Session 9 – Molecular Analytics, Genomics and Microbiome (1)
132 C T10 Technical Session 10 – General Microbiology, Food Processing Technologies; Water; and Seafood

8:30 a.m. – 10:00 a.m.
North Ballroom D S38 Flour Safety: Challenges and Lessons Learned from the Recent Outbreaks and Sampling Study
121 A-C S39 Root Cause Analysis: Approaches for Investigating Contamination Incidents and Preventing Recurrence
123 S40 (v) Cannabis and Your Supply Chain – How to Protect Yourself and Your Customers
122 BC S41 Every Flush Has Data: The Role or Wastewater Epidemiology in Improving Food Safety with Lessons Learned from COVID-19
124 AB S42 Managing Meat and Poultry Safety: Uniting Food Safety Regulations and Industry Efforts for Process Control
127 A-C S43 (v) Making Donations Count: Reducing Waste in Hunger Relief Organizations
129 A S44 (v) Beyond Metagenomic Sequencing: Metadata, Ontologies, and Big Data
132 AB S45 Failure to Launch – Learn to Live with Your Food Safety Plan Year Round

10:00 a.m. – 10:45 a.m.
Break – Refreshments Available in the Poster Session Area

10:45 a.m. – 12:15 p.m.
North Ballroom D S46 (v) Progressing Allergen Risk Management: Thresholds and Quantitative Risk Assessment
124 AB S47 (v) WGS Quality and Quantity – Can You Have It All?
127 A-C S48 General Update on Bacillus and Overview of Available Tools to Identify, Distinguish, and Trace B. cereus Microbial Hazard
129 A S49 (v) After 2020, Where Do We Go Next in Enhancing Consumer Food Safety Education?
123 S50 (v) The Impact of Foodborne Disease: Emerging Research on Disease Outcomes and Economic Burden
132 AB S51 (v) A Growing Concern for Marine Biotoxins
121 A-C RT20 Can You Trust Third-Party Certification?
122 BC RT30 Microbial Resistance – Is It Related to Sanitation?

11:45 a.m. – 1:45 p.m.
Lunch Available in the Poster Session Area

AFTERNOON
1:30 p.m. – 3:30 p.m.
North Ballroom D S52 Paradigm Shifting Foodborne Outbreaks and Their Impact on Food Safety
121 A-C S53 Safeguarding Food Security and Food Industry Workforce in Pandemic Times Using Breakthroughs in Molecular Diagnostics and Advances in Genomic Epidemiology
122 BC S54 Defining Criteria for Assessment and Execution of Gluten-Free and Allergen-Free Claims
123 S55 Environmental Transmission, Detection, and Molecular Characterization of Foodborne and Waterborne Parasites
124 AB S56 Recent Advances in Understanding Phage Applications to Mitigate Food Safety Risk
127 A-C S57 (v) Developing Atmospheric Cold Plasma as a Nonthermal Food Safety Tool
131 A-C S58 Lessons Learned from Consumer Food Safety Initiatives Related to the COVID-19 Pandemic to Guide Future Outreach and Communication Practices
129 A S59 Where’s the Beef? Grinding Recordkeeping and Intended Use at Retail
132 AB T11 Technical Session 11 – Laboratory and Detection Methods
122 A T12 Technical Session 12 – Molecular Analytics, Genomics and Microbiome (2)
132 C T13 Technical Session 13 – Low Water Activity Foods

3:00 p.m. – 3:45 p.m.
Break – Refreshments Available Outside Ballroom D

4:00 p.m. – 4:45 p.m.
North Ballroom D
John H. Silliker Lecture
We All Are Working on the Same Puzzle
Barbara Masters, Tyson Foods, Washington, D.C., USA

EVENING OPTIONS
6:00 p.m. – 7:00 p.m. Reception, North Ballroom Foyer
7:00 p.m. – 10:00 p.m. IAFP Awards Banquet, North Ballroom A-C
WEDNESDAY MORNING
JULY 21

Posters will be on display 8:30 a.m. – 3:30 p.m.
(See details beginning on page 75)

S37 U.S. Army-Funded Research of Novel Food Safety Technologies
131 A–C
Organizers and Convenors: Genevieve Flock, Shannon McGraw, Michael Wiederoder

Food Defense
Food Packaging
Water Safety and Quality

8:30 (v) Food Safety Challenges in Military Field Feeding
SHANNON MCGRAW, U.S. Army DEVCOM Soldier Center, Natick, MA, USA

9:00 (v) AI–Enabled Nondestructive Surveillance of Foodborne Pathogens – A Toolkit for Multiplex Identification of Viable Pathogens in Military Rations
BOCE ZHANG, University of Massachusetts, Lowell, Lowell, MA, USA

9:30 Rapid Detection of Foodborne Pathogens Using Enzymatic Digestion and Phage-based Separation / Detection
SAM NUGEN, Cornell University, Ithaca, NY, USA

10:00 Break – Refreshments Available in the Poster Session Area

10:45 (v) Detection of Food Pathogens and Toxic Chemicals Using Laser-induced Breakdown Spectroscopy
ROSALIE MULTARI, Creative LIBS Solutions, Bernalillo, NM, USA

11:15 (v) Electrochemical Detection of Toxic Metals and Organics in Water
PRADEEP KURUP, University of Massachusetts-Lowell, Lowell, MA, USA; CONNOR SULLIVAN, University of Massachusetts-Lowell, Lowell, MA, USA; ERIC BRACK, U.S. Army DEVCOM Soldier Center, Natick, MA, USA

11:45 (v) Multi-Year Package Integrity and Vitamin Stability for Space Flight
DANIELLE FROIO-BLUMSACK, U.S. Army DEVCOM Soldier Center, Natick, MA, USA

12:15 Lunch Available in the Poster Session Area

S38 Flour Safety: Challenges and Lessons Learned from the Recent Outbreaks and Sampling Study
North Ballroom D
Organizers: Nathan Anderson, Aparna Tatavarthy
Convenors: Nathan Anderson, Linda Verrill

Food Safety Education
International Food Protection Issues
Low Water Activity Foods

8:30 (v) Learnings from the FDA Retail Flour Sampling Program
APARNA TATAVARTHY, U.S. Food and Drug Administration, College Park, MD, USA

9:00 (v) Persistence of Shiga Toxin-Producing E. coli in Baking Flour
ALEXANDER O. GILL, Health Canada, Ottawa, ON, Canada

9:30 Challenges and Opportunities for Flour Millers
JULIANY RIVERA CALO, Ardent Mills, Denver, CO, USA

10:00 Break – Refreshments Available in the Poster Session Area

S39 Root Cause Analysis: Approaches for Investigating Contamination Incidents and Preventing Recurrence
121 A–C
Organizer: Jack Guzewich
Convenors: Jack Guzewich, Kari Irvin, Timothy Jackson

8:30 (v) A Guide for Conducting a Food Safety Root Cause Analysis
JACK GUZEWICH, Retired, Albany, NY, USA

9:00 Root Cause Analysis in a New Era of Smarter Food Safety
MARK MOORMAN, U.S. Food and Drug Administration, College Park, MD, USA

9:30 Industry Implementation of Root Cause Analysis for Near Miss Investigations
ANGIE SIEMENS, Cargill, Inc., Wichita, KS, USA

10:00 Break – Refreshments Available in the Poster Session Area

S40 (v) Cannabis and Your Supply Chain – How to Protect Yourself and Your Customers
123
Organizer and Convenor: Jesse Miller

Applied Laboratory Methods
Beverages and Acid/Acidified Foods
Food Law

8:30 (v) Recent Trends in Cannabis Law and Food
RENDA AL-MONDHIRY, Amin Talati Wasserman, Washington, D.C., USA

9:00 (v) Best Practices for Producing Safe Food from a Former FDA Investigator
LARISA PAVLICK, United Natural Products Alliance, Salt Lake City, UT, USA

9:30 (v) Transparency in Testing Cannabis – Mitigate Risk While Getting a Return on Your Investment in Quality
ELAN SUDBERG, Alkemist Labs, Garden Grove, CA, USA

10:00 Break – Refreshments Available in the Poster Session Area

S41 Every Flush Has Data: The Role or Wastewater Epidemiology in Improving Food Safety with Lessons Learned from COVID-19
122 BC
Organizers: Olfa Mahjoub, Manan Sharma, Ewen Todd
Convenors: Dima Faour-Klingbeil, Manan Sharma

Applied Laboratory Methods
Viral and Parasitic Foodborne Disease
Water Safety and Quality

8:30 Wastewater and Pathogens: Using the Past to Inform the Future
KALMIA KNIEL, University of Delaware, Newark, DE, USA

9:00 (v) What Does the Presence of Foodborne Pathogens in Wastewater Tell Us?
LAWRENCE GOODRIDGE, University of Guelph, Guelph, ON, Canada

All times listed in Pacific time (U.S.)
9:30 Better Together: A Metagenomic Approach to Detection of Target Pathogens and Microbial Communities in Wastewater
GREGORY SIRAGUSA, Scout Microbiology LLC, Waukesha, WI, USA

10:00 Break – Refreshments Available in the Poster Session Area

S42 Managing Meat and Poultry Safety: Uniting Food Safety Regulations and Industry Efforts for Process Control
124 AB
Organizers: John David, Thomas Taylor
Convenor: John David
Sponsored by 3M Company
HACCP Utilization and Food Safety Systems
Meat and Poultry Safety and Quality
8:30 Challenges in Poultry Processing for the Control of Salmonella and Campylobacter
MANPREET SINGH, University of Georgia, Athens, GA, USA
9:00 Salmonella and STECs in Beef – Changing Regulations THOMAS TAYLOR, Texas A&M University, College Station, TX, USA
9:30 Pork Safety and the New Swine Inspection System JAMES DICKSON, Iowa State University, Ames, IA, USA
10:00 Break – Refreshments Available in the Poster Session Area

S43 (v) Making Donations Count: Reducing Waste in Hunger Relief Organizations
127 A-C
Sponsored by: RTI International
Organizers: Nicole Arnold, H. Lester Schonberger, Ellen Thomas Shumake
Convenor: Nicole Arnold
Food Safety Education
Food Chemical Hazards and Food Allergy
Communication, Outreach and Education
8:30 (v) Understanding How Food Waste and Food Safety Impact Food Donations to Address Food Insecurity in North Carolina ELLEN THOMAS SHUMAKER, RTI International, Research Triangle Park, NC, USA
9:00 (v) Ensuring Safety When Connecting Food-Insecure Patients to Salvaged/Gleaned Food LAUREN SASTRE, East Carolina University, Greenville, NC, USA
9:30 (v) Identifying How Food Safety Impacts Food Waste within Virginia Food Banks H. LESTER SCHONBERGER, Virginia Tech, Blacksburg, VA, USA
10:00 Break – Refreshments Available in the Poster Session Area

S44 (v) Beyond Metagenomic Sequencing: Metadata, Ontologies, and Big Data
129 A
Organizer: Pushpinder Kaur Litt
Convenors: Christopher Grim, Pushpinder Kaur Litt
Advanced Molecular Analytics
Applied Laboratory Methods
Epidemiology
8:30 (v) Development of a Mixs Food Metadata Standard CHRISTOPHER GRIM, CENTER FOR FOOD SAFETY AND APPLIED NUTRITION, U.S. FOOD AND DRUG ADMINISTRATION, LAUREL, MD, USA
9:00 (v) Use of a Site Ontology for Characterizing Manufacturing Environmental Space ABIGAIL B. SNYDER, CORNELL UNIVERSITY, ITHACA, NY, USA
9:30 (v) Harmonizing and Future-Proofing Food Data with Ontologies EMMA GRIFFITHS, FACULTY OF HEALTH SCIENCES, SIMON FRASER UNIVERSITY, VANCOUVER, BC, CANADA
10:00 Break – Refreshments Available in the Poster Session Area

S45 Failure to Launch – Learn to Live with Your Food Safety Plan Year Round
132 AB
Organizers: Neil Bogart, Lone Jespersen
Convenor: Neil Bogart
Food Safety Culture
Food Safety Assessment, Audit and Inspection
8:30 How Can Food Safety Audits Drive Complacency in the Corporate C-Suite? JORGE HERNANDEZ, WENDY’S, DUBLIN, OH, USA
9:00 Nudges to Create C-Suite Change before You Have to LONE JESPERSEN, CULTIVATE, HAUTERIVE, SWITZERLAND
9:30 (v) Arming the QA Team to Effectively Implement the Food Safety Systems NEIL A. BOGART, ECOLAB, ALABASTER, AL, USA
10:00 Break – Refreshments Available in the Poster Session Area

S46 (v) Progressing Allergen Risk Management: Thresholds and Quantitative Risk Assessment North Ballroom D
Organizer: Neal Saab
Convenor: Kevin Boyd
Sponsored by Institute for the Advancement of Food and Nutrition Sciences
Food Chemical Hazards and Food Allergy
10:45 (v) Bayesian Hierarchical Evaluation of Dose-Response for Peanut Allergy in Clinical Trial Screening LYNNE HABER, UNIVERSITY OF CINCINNATI, CINCINNATI, OH, USA
11:15 (v) Occurrence of Allergens in Pre-Packaged Foods in Conjunction with the Use of Precautionary Labeling in Canada: Learnings and Future Directions SAMUEL GODEFRY, UNIVERSITE LAVALE, DEPARTMENT OF FOOD SCIENCE, FACULTY OF AGRIulture and FOOD SCIENCES, QUEBEC CITY, QC, CANADA

All times listed in Pacific time (U.S.)
= Symposia  = Roundtables  = Technicals  = Developing Scientist Competitor  = Topic Areas  v = Virtual
11:45 (v) Practical Applications of Quantitative Risk Assessment of Allergens
   BENJAMIN REMINGTON, University of Nebraska, Lincoln, NE, USA

12:15 Lunch Available in the Poster Session Area

S47 (v) WGS Quality and Quantity – Can You Have It All?
   124 AB
   Organizers: Angela Nguyen, Sarita Raengpradub
   Convenor: Sarita Raengpradub
Advanced Molecular Analytics
   Applied Laboratory Methods

10:45 (v) Update on Whole Genome Sequencing Draft International Standard (ISO WG25)
   PETER EVANS, USDA, Washington, D.C., USA

11:15 (v) Routinely Generating High-Quality WGS Data for a Non-Routine Test
   ANGELA NGUYEN, Mérieux NutriSciences, Crete, IL, USA

11:45 (v) Impact of Quality Data on Use of WGS in the Food Industry
   JEROME COMBRISSON, Mars Global Services, Aimargues, France

12:15 Lunch Available in the Poster Session Area

S48 General Update on Bacillus and Overview of Available Tools to Identify, Distinguish, and Trace B. cereus Microbial Hazard
   127 A–C
   Organizers: Florence Postollec, Sandra Tallent
   Convenor: Pamela Wilger
Advanced Molecular Analytics
   Applied Laboratory Methods
   Food Hygiene and Sanitation

10:45 (v) A General Update on Bacillus cereus Group and Overview of Available Tools to Identify, Distinguish and Trace B. cereus sensu lato
   FLORENCE POSTOLLEC, ADRIA Food Technology Institute - UMT ACTIA 19.03 ALTER’IX, France, Quimper, France

11:15 (v) Bacillus Thuringiensis: More than 50 Years of Safe Use as a Biopesticide
   BRIAN FEDERICI, University of California Riverside, Riverside, CA, USA

11:45 (v) Modeling B. cereus Growth and Cereulide Formation in Different Matrices
   MARIEM ELLOUZE, Nestlé Research, Lausanne, Switzerland

12:15 Lunch Available in the Poster Session Area

S49 (v) After 2020, Where Do We Go Next in Enhancing Consumer Food Safety Education?
   129 A
   Organizer and Convenor: Michael Roberson
Communication, Outreach and Education
   Food Safety Education
   Food Safety Culture

10:45 (v) New Era of Smarter Food Safety: Develop and Promote a Smarter Food Safety Consumer Education Campaign
   SHARMIL DAS, U.S. Food and Drug Administration, Washington, D.C., USA

11:15 (v) The Importance of Enhancing Food Safety Education
   SHELLEY FEIST, Partnership for Food Safety Education, Arlington, VA, USA

11:45 (v) Relentless Focus on the Consumer and Their Culture of Food Safety
   MICHAEL ROBERSON, Publix Super Markets, Inc., Lakeland, FL, USA

12:15 Lunch Available in the Poster Session Area
RT30  Microbial Resistance – Is It Related to Sanitation?  
122 BC  
Organizers: Dale Grinstead, Ruth Petran  
Convenor: Dale Grinstead  
Food Hygiene and Sanitation  
10:45  (v) HENK C. DEN-BAKKER, University of Georgia, Center for Food Safety, Griffin, GA, USA  
CHARLES GIAMBRONE, Rochester Midland Corporation, New Hope, PA, USA  
(v) ERIC MOORMAN, Butterball, Mt. Olive, NC, USA  
(v) ELIZABETH GRASSO-KELLY, U.S. Food and Drug Administration, Bedford Park, IL, USA  
(v) SIDDHARTHA THAKUR, Department of Population Health and Pathobiology, CVM, NCSU, Raleigh, NC, USA  
(v) DIANE WALKER, MSU Center for Biofilm Engineering, Bozeman, MT, USA  
MARTIN WIEDMANN, Cornell University, Ithaca, NY, USA  

12:15 Lunch Available in the Poster Session Area  
T9  Technical Session 9 – Molecular Analytics, Genomics and Microbiome (1)  
122 A  
Convenors: Anand Soorneedi, Douglas Marshall  
T9-01  (v) Trace Amounts of Antibiotic in Feed Modified Fecal Microbiota of Weaning Pigs Experimentally Infected with a Pathogenic Escherichia coli  
KWANGWOOK KIM, Cynthia Jinno, Yanhong Liu, University of California, Davis, Davis, CA, USA  
T9-02  (v) Genomic Analysis of the Locus of Heat Resistance in Escherichia coli  
PEIPEI ZHANG, Xianqin Yang, Agriculture and Agri-Food Canada, Lacombe, AB, Canada  
ILYA SLIZOVSKIY, Jarno Alanko, Daniel Lokshantanov, Travis Gagie, Christina Boucher, Noelle Noyes, Food-Centric Corridor, Infectious Disease Laboratory, Department of Veterinary Population Medicine, College of Veterinary Medicine, University of Minnesota, Saint Paul, MN, USA  
T9-04  Multiplexing Long-Read Sequencing and Automated Analysis for Salmonella Serotype Prediction  
JIAOJIE ZHENG, Xuwen Wienenke, Younous Adrouji, Sarita Raengpradub, Mérieux NutriSciences, Crete, IL, USA  
T9-05  (v) Deciphering the Transition of Listeria monocytogenes into Injury Using Fluorescent Microscopy and RT-qPCR  
MARIANNA ARVANITI, Panagiotis Tsakanikas, Spiros Paramithiotis, Vasiliki Papadopoulou, Artemis Giannakopoulou, Panagiotis Skandamis, Laboratory of Food Quality Control and Hygiene, Department of Food Science and Human Nutrition, University of Athens, Athens, Greece  
T9-06  (v) New Insights into Foodborne Outbreaks Caused by egc Enterotoxins from S. aureus  
LIVIA SCHWENDIMANN, Thomas Berger, Jacques-Antoine Hennekinne, Yacine Nia, Michel-Yves Mistou, Hans-Ulrich Graber, Agroscope, Bern, Switzerland  

10:00 Break – Refreshments Available in the Poster Session Area  

T9-07  (v) Comparative Genomic Analysis of Persistent and Non-Persistent Escherichia coli O157:H7 Isolated from Cattle  
Lin Teng, MIJU KIM, Zhengxin Ma, Amber Ginn, Tong Ding, David J. Baumler, Charles W. Kaspar, Dongjin Park, KwangCheol Casey Jeong, University of Florida, Gainesville, FL, USA  
T9-08  (v) Transmission of Antimicrobial-Resistant Genes at the Wildlife-Livestock Interface  
TING LIU, Shinyoung Lee, Peixin Fan, Raoul Boughton, KwangCheol Casey Jeong, University of Florida, Gainesville, FL, USA  
T9-09  Genetic Diversity and Virulence of Listeria monocytogenes  
11:15 Recovered from an Artisan Cheese Facility over a Decade  
REBECCA BLAND, Stephanie Brown, Lorraine McIntyre, Sion Shyng, Jovana Kovacevic, Oregon State University, Portland, OR, USA  
T9-10  Metagenomic Analysis of the Microbiome Associated with Single-Use Glove Manufacturing  
BARRY MICHAELS, Jenna Brooks-McLaughlin, Ryan McLaughlin, Katherine Sandoval, Stephen Ardagh, B. Michaels Group Inc., Palatka, FL, USA  
T9-11  (v) Comparative Whole Genome Analysis of MRSA to Understand Genetic Features Associated with Host Adaptation and Dissemination in Both Humans and Food Animals  
YUTING ZHAI, John Morris, KwangCheol Casey Jeong, University of Florida, Gainesville, FL, USA  
T9-12  (v) Comparison of Pathogenic Characteristics for Listeria monocytogenes Isolated from Various Foods and Identification of Variations in Whole Genome Sequences  
Jihye Ryu, Yukyung Choi, Kyoung-Hee Choi, YOHAN YOON, Sookmyung Women’s University, Seoul, South Korea  

12:15 Lunch Available in the Poster Session Area  
T10  Technical Session 10 – General Microbiology, Food Processing Technologies; Water; and Seafood  
132 C  
Convenor: Alvin Lee  
T10-01  Withdrawn  
T10-02  Frontiers in Pressure-based Treatment of Bacterial Spores and Pressure-Stressed Pathogens of Public Health Concern  
ALIYAR FOULADKHAH, Public Health Microbiology Laboratory, Tennessee State University, Nashville, TN, USA  
T10-03  Inactivation of Salmonella, Shiga Toxin-producing E. coli and Listeria monocytogenes in Raw Diet Pet Foods Using High Pressure Processing  
ALVIN LEE, Nicole Maks, Viviana Aguilar, Karolina Piszczor, Brittany Swicegood, Mu Ye, Korinne Elston, Josh Warren, Edward O’Neill, Mark Fleck, Susy Tejayadi, Institute for Food Safety and Health, Illinois Institute of Technology, Bedford Park, IL, USA
T10-04 (v) Lower Levels of Lipoprotein YhcN Likely Contribute to Bacillus subtilis Spores High Pressure Superdormancy
ALESSIA I. DELBRÜCK, Paolo Nanni, Rosa Heydenreich, Alexander Mathys, ETH Zurich, Zurich, Switzerland

T10-05 Biofilm Formation of Wild-Type and Rifampicin-Resistant
9:30 O157 and Non-O157 Shiga Toxin-producing Escherichia coli and Their Inactivation by Bactericidal Compounds
SABRINA WADOOD, Aliyar Fouladkhah, Public Health Microbiology Laboratory, Tennessee State Uni, Nashville, TN, USA

T10-06 (v) Characterization and Application of Bacteriophages for Biocontrol of Shiga Toxin-producing Escherichia coli
YU TONG LINDA LU, Siyun Wang, University of British Columbia, Vancouver, BC, Canada

10:00 Break – Refreshments Available in the Poster Session Area

T10-07 (v) Dynamic Changes in Bacterial Communities during Seafood Decomposition at Low Temperature
KRISTIN BUTLER, Marlee Hayes, Sarah May, Madison D. McGough, Ronald Benner, U.S. Food and Drug Administration, Gulf Coast Seafood Laboratory, Dauphin Island, AL, USA

T10-08 Effect of Acidified Fish Nutrients and Physiological State of Vibrio cholerae in the Biofilm Formation Capacity on Food Contact Surfaces
JOSE EDUARDO LUCERO-MEJIA, Andres De Luna-Bugallo, Montserrat Hernandez-Iturriaga, Universidad Autonoma de Queretaro, Queretaro, QA, Mexico

T10-09 (v) Microbial Safety and Quality of Public Drinking Water in Ethiopia: Lessons Learned from Eleven Years Retrospective Data
SAMSON GABRE, Redwan Edicho, Firehiwot Abersa Dera, Tesfaye Bedada, Waktola Gobana Sima, Yosef Beyene, Adey Feleke Desta, Addis Ababa University, Addis Ababa, Ethiopia

T10-10 (v) Comparison and Evaluation of Methods for Monitoring Agricultural Water to Meet FSMA Produce Safety Rule Requirements
Elizabeth Bihn, LAURA PINEDA-BERMUDEZ, Lindsay Springer, Kelly Coughlin, Don Stoeckel, Cornell University, Geneva, NY, USA

T10-11 The Effect of Rainfall on Spatiotemporal Patterns of Salmonella enterica and Listeria monocytogenes Survival in Irrigation Water Sources Using Empirical Orthogonal Functions
SEONGYUN KIM, Yakov Pachepsky, Kalmia Kniel, Shirley A. Micallef, Salina Parveen, Fawzy Hashem, Amy R. Sapkota, Manan Sharma, U.S. Department of Agriculture – ARS, Environmental Microbial and Food Safety Laboratory, Beltsville, MD, USA

T10-12 (v) E. coli O157:H7 Viability after Storage within Ultrafilters or Ultrafilter Backflush
AI KATAOKA, Rebecca Zaayenga, Roberto Guzman, Andrew Battin, Pascal Iraola, Jennifer Wolny, Julie Ann Kase, U.S. Food and Drug Administration, Center for Food Safety & Applied Nutrition, College Park, MD, USA

12:15 Lunch Available in the Poster Session Area
S52 Paradigm Shifting Foodborne Outbreaks and Their Impact on Food Safety
North Ballroom D
Organizers: Minh Duong, Margaret Kirchner, Katie Overbey
Convenors: Margaret Kirchner, Lily Yang
Food Safety Culture
Epidemiology
Food Safety Education
1:30 (v) Epidemiology of Foodborne Outbreaks That Challenge Conventions
MICHAEL BAZACO, U.S. Food and Drug Administration, College Park, MD, USA; Stelios Viazis, U.S. Food and Drug Administration, Portland, OR, USA; Doug Karas, U.S. Food and Drug Administration, College Park, MD, USA
2:00 Managing Risk after Paradigm-Shifting Foodborne Outbreaks
DAVID ACHESON, The Acheson Group, Bigfork, MT, USA
2:30 Lessons Learned after the 2014 Caramel Apple Outbreak
KATHLEEN GLASS, Food Research Institute, University of Wisconsin-Madison, Madison, WI, USA
3:00 (v) How Foodborne Outbreaks Have Informed FSIS Policy
KIS HALE, USDA, Washington, D.C., USA
3:30 Refreshments Available Outside North Ballroom D

S53 Safeguarding Food Security and Food Industry Workforce in Pandemic Times Using Breakthroughs in Molecular Diagnostics and Advances in Genomic Epidemiology
121 A–C
Organizers: Marc Allard, Ramin Khaksar
Convenor: Marc Allard
Advanced Molecular Analytics
Food Defense
Viral and Parasitic Foodborne Disease
1:30 What Can the Food Manufacturers Do to Mitigate the Critical Risk Factors Associated with a Fast-Spreading Contagion?
TIMOTHY JACKSON, Driscoll’s of the Americas, Watsonville, CA, USA
2:00 (v) Role of FDA in Assisting Food Manufacturers in Preventing Outbreaks through the Use of WGS
MARC ALLARD, U.S. Food and Drug Administration – Center for Food Safety and Applied Nutrition, College Park, MD, USA
2:30 Creative Strategies in Providing Access to Faster Testing in Rural and Resource-Limited Settings
Douglas Marshall, Eurofins Scientific Inc., Fort Collins, CO, USA
3:00 Leveraging NGS, Automation and Cloud Technologies to Provide Real-Time Genomic Epidemiological Insights
RAMIN KHAKSAR, Clear Labs Inc., San Carlos, CA, USA
3:30 Refreshments Available Outside North Ballroom D

S54 Defining Criteria for Assessment and Execution of Gluten-Free and Allergen-Free Claims
122 B–C
Sponsored by Mérieux NutriSciences
Organizers: Shruthi Shankar, Tracie Sheehan
Convenor: Tracie Sheehan
Food Chemical Hazards and Food Allergy
Food Safety Assessment, Audit and Inspection
International Food Protection Issues
1:30 (v) Requirements for Gluten-free Certification Audits
BARRY MEIKLE, BRCGS, Guelph, ON, Canada
2:00 (v) Summary of Research on Dose-Response Data in Celiac Disease and Food Allergic Patients
STEVE L. TAYLOR, University of Nebraska, Lincoln, NE, USA
2:30 (v) VITAL and Criteria for Assessment and Execution of Gluten-Free and Allergen-Free Claims
KIRSTEN GRINTER, Allergen Bureau, Sydney, NSW, Australia
3:00 Industry Best Practices for Gluten-Free and Allergen-Free Claims on Foods and Ingredients
TRACIE SHEEHAN, Mérieux NutriSciences, Chicago, IL, USA
3:30 Refreshments Available Outside North Ballroom D

S55 Environmental Transmission, Detection, and Molecular Characterization of Foodborne and Waterborne Parasites
123
Organizers: Sonia Almeria, Monica Santin
Convenors: Sonia Almeria, Alexandre da Silva, Monica Santin
Applied Laboratory Methods
Viral and Parasitic Foodborne Disease
Water Safety and Quality
1:30 (v) Novel Approaches to Detection and Molecular Characterization of Waterborne Parasites
ERIC VILLEGAS, WECD, CEMM, ORD, EPA, Cincinnati, OH, USA
2:00 (v) Molecular Detection of Cyclospora in Agricultural Water
MAURICIO DURIGAN, U.S. Food and Drug Administration – CFSAN, Office of Applied Research and Safety Assessment, Laurel, MD, USA
2:30 (v) Challenges in the Detection of Food and Waterborne Parasites in Environmental Samples and Use of Molecular Technologies
LIHUA XIAO, College of Veterinary Medicine, South China Agricultural University, Guangzhou, Guangdong, GA, China
3:00 (v) Application of Next Generation Amplicon Sequencing to Detect Mixed Infections of Food and Waterborne Parasites
JENNY MALONEY, ARS, USDA, Beltsville, MD, USA
3:30 Refreshments Available Outside North Ballroom D
S56  Recent Advances in Understanding Phage Applications to Mitigate Food Safety Risk

124 AB
Organizers: Thomas G. Denes, Sofia Feng, Matthew D. Moore
Convenors: Sofia Feng, Matthew D. Moore
Developing Food Safety Professionals
Food Hygiene and Sanitation

1:30 (v) Advances in Understanding Infection Dynamics of Listeria Phages
THOMAS G. DENES, Department of Food Science, University of Tennessee, Knoxville, TN, USA

2:00 (v) Phages as an Intervention for Salmonella Kill in Poultry Operation during 2nd Processing
JOËL VAN MIERLO, Micreos Food Safety, Wageningen, The Netherlands

2:30 (v) Free and Immobilized Bacteriophage Applications to Enhance Food Safety from Farm to Fork
HANY ANANY, Agriculture and Agri-Food Canada, Guelph Research and Development Center, Guelph, ON, Canada

3:00 (v) Advancements in Gram-Negative Phage Biology
LONE BRONDSTED, University of Copenhagen, Copenhagen, Denmark

3:30 Refreshments Available Outside North Ballroom D

S57  (v) Developing Atmospheric Cold Plasma as a Nonthermal Food Safety Tool
127 A–C
Organizers: Rick Falkenberg, Brienna Larrick
Convenors: Chad Galer, Kathleen Glass, Timothy Stubbs
Sponsored by Institute for the Advancement of Food and Nutrition Sciences

Applied Laboratory Methods
Meat and Poultry Safety and Quality

1:30 (v) Cold Plasma: Introduction to Technology, Path to Commercialization, Regulatory Approval and Worker Safety
BRENDAN A. NIEMIRA, USDA-ARS, Wyndmoor, PA, USA

2:00 (v) Case Study: Inactivation of Aflatoxin/Grains
KEVIN KEENER, University of Guelph, Guelph, ON, Canada

2:30 (v) Case Study: Inactivation of Listeria monocytogenes in Soft Cheese
MELHA MELLATA, Department of Food Science and Human Nutrition, Iowa State University, Ames, IA, USA

3:00 (v) Case Study: From Bench to Prototype for Fresh Produce Safety
PAULA BOURKE, University College Dublin, Dublin, Ireland

3:30 Refreshments Available Outside North Ballroom D

S58  Lessons Learned from Consumer Food Safety Initiatives Related to the COVID-19 Pandemic to Guide Future Outreach and Communication Practices

131 A–C
Organizers: Nicole Arnold, Londa Nwadike, Adrienne Shearer, Lily Yang
Convenors: Londa Nwadike, Adrienne Shearer, Lily Yang
Communication, Outreach and Education
Food Safety Culture
Food Safety Education

1:30 (v) Rapid Response during the Pandemic for the Development and Dissemination of Consumer Information through Cooperative Extension
NATALIE SEYMOUR, Ecolog Inc., Saint Paul, MN, USA

2:00 Expanding Consumer Outreach during the Pandemic through Technology and Collaboration with Municipalities
WENQING (WENNIE) XU, LSU AgCenter, Baton Rouge, LA, USA

2:30 (v) Consumer Perceptions and Behaviors during the Pandemic: Navigating a Food Safety Communications Challenge
ALI WEBSTER, IFIC, Washington, D.C., USA; SILVIA DUMITRESCU, IFIC, Washington, D.C., USA

3:00 (v) Consumer Food Safety Education and Practices in the Retail Space during the Pandemic
ZHINONG YAN, Walmart, Bentonville, AR, USA

3:30 Refreshments Available Outside North Ballroom D

S59  Where’s the Beef? Grinding Recordkeeping and Intended Use at Retail
129 A
Organizers: Kristina Barlow, Robert Witte
Convenor: William Lanier
Meat and Poultry Safety and Quality
Retail and Foodservice

1:30 State Perspective on Grinding Record Keeping and Intended Use
JENNIFER EBERLY, Maine Department of Agriculture, Conservation, and Forestry, Augusta, ME, USA

2:00 (v) Grinding Record Keeping and Intended Use
ROBERT WITTE, U.S. Department of Agriculture – FSIS, Omaha, NE, USA; THOMAS COLLARO, U.S. Department of Agriculture – FSIS, Waltham, MA, USA

2:30 (v) Grinding Record Keeping at Retail
TODD ROSSOW, Publix Super Markets, Inc., Lakeland, FL, USA

3:00 Intended Use of Intact Products
SHERRI WILLIAMS-TRUJILO, JBS/USA, Greeley, CO, USA

3:30 Refreshments Available Outside North Ballroom D
**T11 Technical Session 11 – Laboratory and Detection Methods**

132 AB

**Convenor: Catharine Carlin**


1:30 CATHARINE R. CARLIN, Mérieux NutriSciences, Chicago, IL, USA

**T11-02** Validation of the Environ Assay for the Detection of *Listeria*, *Listeria monocytogenes* and *Salmonella* in Environmental Surface Samples

1:45 BENJAMIN KATCHMAN, Cory Newland, Melissa May, Michael Hogan, PathogenDx, Tucson, AZ, USA

**T11-03** Verification of Quantification and Limits Testing of *Salmonella* in Finely Textured Beef (FTB) Using Hygiene’s BAX<sup>®</sup> System Real-Time PCR Assay for *Salmonella*

2:00 APRIL ENGLISHBEY, Stacy Stoltenberg, Melody Thompson, Hygiene, Magnolia, TX, USA

**T11-04** A Rapid Assurance<sup>®</sup> Gds Method for Quantitative Estimation of *Salmonella* Contamination Level in Raw Beef

2:15 CONG YU, Charlotte Lindhardt, Ta Deng, Ellis Marschand, Brian Connolly, Khyati Shah, Lisa John, MilliporeSigma, Bellevue, WA, USA

**T11-05** Rapid Identification and Molecular Characterization of *Escherichia coli* Isolates from Food and Environment through Whole Genome Sequencing

2:30 Nicolas Lopez, Li Ma, Claudia Diaz, GUODONG ZHANG, Food and Drug Administration, East Lansing, MI, USA

**T11-06** Using an Impedance Cytometer for the Enumeration of Bacteria Commonly Found on Food Production Surfaces and Foodstuff

2:45 STEFAN WIDMANN, Romer Labs Division Holding GmbH, Tulin, MO, Austria

**T11-07** Rapid Identification of Food Pathogens Using Magnetic Nanoparticles and Supervised Machine Learning Algorithms Applied to High Resolution Microscope Images

3:00 SAAD ASADULLAH SHARIEF, Evangelyn Alocilja, Michigan State University, East Lansing, MI, USA

**T11-08** Custom Baits with Mitochontrakr to Detect and Identify Insects in Food

3:15 MONICA PAVA-RIPOLL, Andrea Ottesen, Mark Mammel, Elizabeth Reed, Padmini Ramachandran, Food and Drug Administration, Center for Food Safety & Applied Nutrition, Office of Food Safety, College Park, MD, USA

3:30 Refreshments Available Outside North Ballroom D

---

**T12 Technical Session 12 – Molecular Analytics, Genomics and Microbiome (2)**

122 A

**Convenors: Salina Parveen, Varalakshmi Sudagar**

**T12-01** Multi-Serovar *Salmonella* Populations Hide Antibiotic Resistance Reservoirs in Food Animals

1:30 NIKKI W. SHARIAT, Amy Sizeloff, Naomi Ohta, Keri Norman, Guy Loneragan, Bo Norby, H. Morgan Scott, University of Georgia, Athens, GA, USA

**T12-02** Preliminary Analysis of the Role of the Noncoding RNA Rli47 in the *Listeria monocytogenes* Response to Lactic Acid Stress

1:45 BIENVENIDO CORTES, Faith Seggerman, Marissa Stroud, Stephan Schmitz-Esser, Iowa State University Interdepartmental Microbiology Program, Ames, IA, USA

**T12-03** Impact of *Lactobacillus*-Originated Metabolites on EHEC in Collected Rumen Fluid

2:00 ARPITA ADITYA, Mengfei Peng, Debabrata Biswas, University of Maryland, College Park, MD, USA

**T12-04** Effects of Electrolyzed Water Treatment on the Metabolic Responses of “Big Six” in Vegetable Sprouts

2:15 YUE WANG, Hongshun Yang, National University of Singapore, Singapore

**T12-05** Purified Plant-Derived Phenolic Acids on *Salmonella* Typhimurium and in *Escherichia coli* in Collected Rumen Fluid

2:30 ZABDIEL ALVARADO-MARTINEZ, Zajeba Tabashsum, Mengfei Peng, Debabrata Biswas, University of Maryland, College Park, MD, USA

**T12-06** Investigation of Microbiome Shift by Plant Probiotic in Strawberry Plants

2:45 JUN HAENG NAM, Alyssa Tibodeau, Si Hong Park, Oregon State University, Corvallis, OR, USA

**T12-07** Romaine Lettuce Phyllosphere Microbial Communities Shift as the Crop Develops and in Relation to Irrigation Water Type by the Time of Harvest

3:00 Sultana Sowaiman, Mary Theresa Callahan, Chris Bollinger, Donald L. Murphy, Zhao Chen, Jianghong Meng, SHIRLEY A. MICALLEF, University of Maryland, College Park, MD, USA

**T12-08** Expansion of *Salmonella* Infantis pESI Plasmid to Additional *Salmonella* Serotypes

3:15 GLENN TILLMAN, Jamie Wasilenko, Mustafa Simmons, Frankie Beacorn, Labeed Ben-Ghaly, William Shaw, Elizabeth McMillan, Jonathan Frye, Gregory Tyson, Jason Folster, United States Department of Agriculture, Food Safety and Inspection Service, Athens, GA, USA

3:30 Refreshments Available Outside North Ballroom D

---

**T13 Technical Session 13 – Low Water Activity Foods**

132 C

**Convenor: Kristin Schill**

**T13-01** Combined Effect of Protein and Fat on Thermal Resistance of *Salmonella enterica* Enteritidis PT 30 in Low-Moisture Foods

1:30 Yalan Zhang, Siqi Lv, Haitao Xiong, SHUXIANG LIU, Sichuan Agricultural University, Ya’an, China

---

All times listed in Pacific time (U.S.)

- **Symposia**
- **Roundtables**
- **Technical Session**
- **Developing Scientist Competitor**
- **Topic Areas**
- **Virtual**
<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Time</th>
<th>Authors/Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>T13-02</td>
<td>(v) Comparing Efficacy of Neo-Temper and Lactic Acid in Reducing <em>Enterococcus faecium</em> on Wheat Applied in Tempering Stage of Milling</td>
<td>1:45</td>
<td>GOZE DEMIRCIOGLU, Fadi Dagher, Fatemeh Rahmany, Jay Pandya, Ashley Cloutier, Amir Hamidi, Agri-Neo Inc., Toronto, ON, Canada</td>
</tr>
<tr>
<td>T13-03</td>
<td>Effect of Steam Conditioning on Microbial Safety and Quality of Pecans</td>
<td>2:00</td>
<td>KARUNA KHAREL, Achyut Adhikari, Louisiana State University AgCenter, Baton Rouge, LA, USA</td>
</tr>
<tr>
<td>T13-04</td>
<td>(v) Thermal Inactivation of <em>Salmonella</em> and <em>Enterococcus faecium</em> during Walnut Toasting</td>
<td>2:15</td>
<td>JIIN JUNG, Linda J. Harris, University of California-Davis, Department of Food Science and Technology, Davis, CA, USA</td>
</tr>
<tr>
<td>T13-05</td>
<td>(v) Potassium Lactate as a Strategy for Sodium Content Reduction without Compromising Salt Associated Antimicrobial Activity in Salami</td>
<td>2:30</td>
<td>FRANCIS MUCHAAMBA, Helena Stoffers, Ralf Blase, Ueli von Ah, Roger Stephan, Taurai Tasara, Institute for Food Safety and Hygiene, Vetsuisse Faculty, University of Zurich, Zurich, Switzerland</td>
</tr>
<tr>
<td>T13-06</td>
<td>(v) Viability, Membrane Integrity and Metabolic Activity of <em>Salmonella enterica</em> in Conventionally and Osmotically Dehydrated Coconut Flakes during Storage</td>
<td>2:45</td>
<td>Ruthchelly Tavares da Silva, Maria Mayara de Souza Grilo, Geany Targino de Souza Pedrosa, Thatyane Mariano Rodrigues de Albuquerque, Evandro L. de Souza, Verônica Ortiz Alvarenga, Donald W. Schaffner, MARCIANE MAGNANI, Federal University of Paraíba, João Pessoa, Paraíba, Brazil</td>
</tr>
</tbody>
</table>

**T13-07** (v) Neo-Pure Achieves >1-Log CFU/g Reduction in Aerobic Plate Counts (APC) on Crude Dehydrated Onion Flakes | 3:00 | JAY PANDYA, Ashley Cloutier, Goze Demircioglu, Rebecca Karen Hylton, Pooneh Peyvandi, Fatemeh Rahmany, Fadi Dagher, Amir Hamidi, Agri-Neo Inc., Toronto, ON, Canada |

**T13-08** (v) Neo-Pure Achieves >4-Log Reduction in Surrogate *Enterococcus faecium* NRRL B-2354 on Dehydrated Onion Flakes | 3:15 | JAY PANDYA, Ashley Cloutier, Goze Demircioglu, Rebecca Karen Hylton, Pooneh Peyvandi, Fatemeh Rahmany, Fadi Dagher, Amir Hamidi, Agri-Neo Inc., Toronto, ON, Canada |

3:30 Refreshments Available Outside North Ballroom D

---

**4:00 p.m. – 4:45 p.m.**
**JOHN H. SILLIKER LECTURE**
**North Ballroom D**

*We All are Working on the Same Puzzle*
BARBARA MASTERS, DVM, Tyson Foods, Inc.
Washington, D.C., USA

---

**EVENING OPTIONS**
6:00 p.m. – 7:00 p.m.
*Awards Banquet Reception, North Ballroom Foyer*

7:00 p.m. – 9:30 p.m.
*IAFP Awards Banquet, North Ballroom A-C*
Dr. Barbara J. “Barb” Masters is the Vice President of Regulatory Policy, Food and Agriculture for Tyson Foods, Inc. in Washington, D.C., where she provides regulatory vision and support for food safety and quality policies and procedures.

Prior to joining Tyson Foods, Dr. Masters served as the Global Vice President for Food Safety and Quality at Keystone Foods (now owned by Tyson Foods). She previously spent nine years as a Senior Policy Advisor at the law firm of Olsson-Frank Weeda, working closely with the meat and poultry industry to ensure regulatory compliance.

Dr. Masters also served as Administrator of the U.S. Department of Agriculture’s (USDA) Food Safety and Inspection Service (FSIS), where she established a solid infrastructure of science-based policies and data analysis to reduce foodborne illness and product recalls. She was responsible for reenergizing the Agency’s training program and ensuring training reflecting national policies.

A Member of IAFP since 2008, Dr. Masters holds a Doctor of Veterinary Medicine from Mississippi State University and a Food Animal Internship from Kansas State University. She also did advanced coursework in biotechnology at Texas A&M University.
JOHN H. SILLIKER LECTURE ABSTRACT

WE ALL ARE WORKING ON THE SAME PUZZLE

Barbara J. Masters, DVM
Vice President, Regulatory Policy,
Food and Agriculture
Tyson Foods, Inc.
Washington, D.C., USA

I am honored and humbled to present the John H. Silliker Lecture. Dr. Silliker was a pioneer and a visionary when it comes to *Salmonella*, so it seems fitting to present on the pathogen we are all still at war with. Each year we attend the IAFP Annual Meeting to learn the latest and greatest scientific information on food safety. I have personally attended many presentations on *Salmonella*, focusing on poultry to produce – on-farm to processing. There are many sessions this year dedicated to the topic. Yet the CDC’s Surveillance for Foodborne Disease Outbreaks United States, 2017: Annual Report reports: The pathogen-food category pairs responsible for the most illnesses in outbreaks with a single confirmed etiologic agent were *Salmonella* in turkey (580 illnesses), *Salmonella* in fruits (421), and *Salmonella* in chicken (299).¹

Why are the pieces to this particular puzzle so hard to put together?

Having had the opportunity to wear the hat of a regulator, consultant, industry representative and member of a consumer education organization, I will attempt to examine the efforts taken to reduce *Salmonella* contamination and to ponder what the next steps may be.

The Food Safety and Inspection Service (FSIS) implemented performance standards for raw meat and poultry products in 1996. The performance standards have continued to evolve over the past twenty plus years. FSIS data demonstrates that establishments have met the standards and reduced *Salmonella* contamination in products over time.²

FSIS, CDC, and industry are all using newer laboratory methods. We have genetic sequencing, quantification and enumeration and other laboratory tools being developed.

Industry (beef, pork, and poultry alike) has been working through their respective trade organizations. I am speaking broadly for industry, not for any one company, plant or commodity. My observations have been that there has been sharing of best practices, research projects, and even multi-species task force formation. The trade groups have worked closely with FSIS, the Agricultural Research Service and the Centers for Diseases Control to exchange information and ideas. The poultry industry has shared learnings with the beef and pork industry and vice-versa. The industry is working aggressively to address this as a holistic concern.

The food safety education community has made efforts to continue to improve their tools. There has been information added to recipe cards to educate on handwashing and thermometer usage. There are biennial food safety education conferences to help participants gain insights into how to change consumer behavior to improve food safety practices. FSIS hosted their own food safety education conference in 2020.

The research community is actively engaged in *Salmonella* research. There are projects taking place on quantification methodology and highly pathogenic serotypes. There are on-going projects attempting to compare what comes from a farm or ranch to what is observed at a processing plant.

Having worn all these different hats, I feel I can speak with confidence when I say that when it comes to *Salmonella*, everyone is “all in.” I used to think that each group was engaged in working on their own puzzle. I have come to realize we are all working on a different part of the same puzzle, but perhaps sometimes we are working too far apart to see how the pieces fit together. Perhaps this has prevented us from successfully completing the entirety of the complex puzzle laid before us.

Attending conferences like IAFP where we take off our “day job hat” and listen to the latest science – each through our own lens – provides one of the greatest opportunities for us to work together to find answers. I feel strongly there are answers to this challenge, and if we all look together using science-based, data-driven approaches, we are most likely to complete this frustrating puzzle that has long been challenging us all.

YOUR TRUSTED LABORATORY PARTNER.

VISIT OUR NQAC DUBLIN EXPERTS AT THEIR POSTERS DURING IAFP AND LEARN MORE ABOUT THEIR IMPORTANT RESEARCH ON THESE MICROBIOLOGICAL TOPICS:

INFLUENCE OF SALT CONTENT IN PROCESSED FOODS FOR NEXT-DAY LISTERIA MONOCYTOGENES SCREENING

TUESDAY, JULY 20, 2021 • 8:00AM - 6:00PM
AUTHOR & PRESENTER: CAROL SIVEY

A METHOD COMPARISON STUDY TO EVALUATE RECOVERY OF BIFIDOBACTERIUM LONGUM FROM PET FOOD PRODUCTS

WEDNESDAY, JULY 21, 2021 • 8:00AM - 3:00PM
AUTHOR & PRESENTER: GABRIEL SANGLAY

We are sorry to miss you at our booth this year but look forward to seeing everyone again at IAFP 2022 in Pittsburgh. Until then, visit our website or contact us for more information about working with NQAC Dublin.

Contact us at 614.526.5000 or nqacdublininfo@us.nestle.com.

ISO 17025 Accredited.
Expansive method portfolio.
We receive, test & report seven days a week.
For a complete list of services, visit:
NQACDUBLIN.com
POSTER SESSIONS

POSTER SESSION 1
MONDAY, JULY 19 • 8:30 a.m. – 6:15 p.m.

Antimicrobials
Beverages and Acid/Acidified Foods
Dairy
Food Chemical Hazards and Food Allergens
Low-Water Activity Foods
Meat, Poultry and Eggs
Molecular Analytics, Genomics and Microbiome
Seafood

P1-01 through P1-88 – Authors present 10:00 a.m. – 11:30 a.m. and 5:15 p.m. – 6:15 p.m.
P1-89 through P1-192 – Authors present 2:15 p.m. – 3:45 p.m. and 5:15 p.m. – 6:15 p.m.

POSTER SESSION 2
TUESDAY, JULY 20 • 8:30 a.m. – 6:15 p.m.

Food Toxicology
General Microbiology
Laboratory and Detection Methods
Microbial Food Spoilage
Pre-Harvest Food Safety
Produce
Sanitation and Hygiene
Viruses and Parasites
Water

P2-01 through P2-91 – Authors present 10:00 a.m. – 11:30 a.m. and 5:15 p.m. – 6:15 p.m.
P2-92 through P2-191 – Authors present 2:15 p.m. – 3:45 p.m. and 5:15 p.m. – 6:15 p.m.

POSTER SESSION 3
WEDNESDAY, JULY 21 • 8:30 a.m. – 3:30 p.m.

Communication Outreach and Education
Epidemiology
Food Defense
Food Law and Regulation
Food Processing Technologies
Food Safety Systems
Laboratory and Detection Methods
Modeling and Risk Assessment
Packaging
Retail and Food Service Safety

P3-01 through P3-96 – Authors present 9:00 a.m. – 11:00 a.m.
P3-97 through P3-187 – Authors present 1:00 p.m. – 3:00 p.m.
Antimicrobials

P1-01 Switchgrass Extractives Against Salmonella enterica Serovar Typhimurium Populations In Vitro and In Planta — EMILY CAMFIELD, Alexander Bowman, Kimberly Gwinn, Bonnie Ownley, Nicole Labbe, Doris D’Souza, University of Tennessee, Knoxville, TN, USA

P1-02 (v) Inhibitory Activity of Aqueous Extracts of Pomegranate Peel Products and Juice Powder Against Salmonella enterica — WEIFAN WU, Kevin Mis Solval, Kirk Kealey, Jinru Chen, University of Georgia, Griffin, GA, USA

P1-03 (v) Antimicrobial and Chemical Assessment of Two Green Tea Extracts — MORTEN HYLDGAARD, Jana Fischer, International Flavors and Fragrances Inc. (IFF), Brabrand, Denmark

P1-04 The Antimicrobial Activity of Two Phenolic Acids Against E. coli O157:H7 and L. monocytogenes and Their Effectiveness in a Meat System — Oluwatosin Ademola Ijabadeniyi, L. monocytogenes, O157:H7 and Pseudomonas fluorescens — JINRUI CHEN, University of Georgia, Griffin, GA, USA

P1-05 Catfish Gelatin Coating on Shrimp as an Antimicrobial Agent — HUNTER SONGY, Katheryn Parraga, Hope Eseose, Robert Corsino II, Wenqing (Wennie) Xu, Julie Lively, Evelyn Watts, LSU AgCenter, Baton Rouge, LA, USA

P1-06 Enhancement of Fresh Catfish Fillets Quality by the Application of a Catfish Skin Gelatin and Antimicrobial Coating — KATHERYN PARRAGA, Hunter Songy, Hope Eseose, Robert Corsino II, Evelyn Watts, LSU AgCenter, Baton Rouge, LA, USA

P1-07 (v) Comparison of Antimicrobial Activities of Essential Oil Vapors Against Salmonella enterica as Affected by the Types of Diluents — TAEHYUNG LEE, Jee-Hoon Ryu, Korea University, Seoul, South Korea

P1-08 (v) Comparison of Antimicrobial Activities of Organic Acid Vapors Against Bacillus cereus and Shigella flexneri — HYE-WON YANG, Jee-Hoon Ryu, Korea University, Seoul, South Korea

P1-09 Chemical Disinfection of Sessile Cells of Listeria monocytogenes Under Single- and Dual-Species (with Lactobacillus spp.) Conditions — MAGDALENA OLSZEWSKA, Francisco Diez-Gonzalez, University of Georgia Center for Food Safety, Griffin, GA, USA

P1-10 Biofilm Formation and Phytochemical Disinfection of Sessile Cells of Listeria innocua from Processing Surfaces — MAGDALENA OLSZEWSKA, Astrid Gdjas, Francisco Diez-Gonzalez, University of Warmia and Mazury in Olsztyn, Olsztyn, Poland

P1-11 (v) Effect of Anthocyanins in Okinawan Sweet Potato on Growth and Physicochemical Properties of Salmonella Typhimurium and Listeria monocytogenes — ANDREA FLORES CALLE, Lianger Dong, Yong Li, Marisa Wall, University of Hawaii at Manoa, Honolulu, HI, USA

P1-12 Antimicrobial Effect of Plant-based Essential Oil Against Salmonella spp. in Hummus — KATIE EVANS, Kyla Asher, Taylor Ladner, Shecoya White, Mississippi State University, Mississippi State, MS, USA

P1-13 (v) Application of Cinnamon Oil Nano-Emulsion to Inhibit Salmonella spp. on Alfalfa Seeds and Sprouts — Sridevi Pamula, KANIKI BHARGAVA, Hari Kotturi, University of Central Oklahoma, Edmond, OK, USA

P1-14 Use of Novel Antimicrobials to Mitigate Risk of E. coli in Cake Mixes — GOVINDARAJ DEV KUMAR, KAYLAN HAYMAN, Abhinav Mishra, Kevin Mis Solval, Jasdeep Saini, Jaya Sundaram, University of Georgia, Griffin, GA, USA

P1-15 Plant-based Microemulsions Inactivate Escherichia coli O157:H7 and Pseudomonas fluorescens on Iceberg Lettuce and Improve Visual Quality during 28-Day Storage — STEPHANIE ARELLANO, Bibiana Law, Sadhana Ravishanker, University of Arizona, Tucson, AZ, USA

P1-16 Behavior of Listeria monocytogenes upon Exposure to Muscadine Extract and Chlorine Dioxide in vitro and on Leafy Greens — Angelica Abdallah Ruiz, Jose A. Eusse, M. Gabriela Hidalgo Sindoni, Shecoya White, JUAN SILVA, Mississippi State University, Mississippi State, MS, USA

P1-17 Application of Nanobubble-Antimicrobial Solutions to Remove Fresh Listeria monocytogenes Biofilms on Stainless Steel Food Surfaces — Monipel Babb, Amninder Singh Sekhon, Arshdeep Singh, Phoebue Unger, Yaeseol Yang, MINTO MICHAEL, Washington State University, Pullman, WA, USA

P1-18 Functional Qualities, Antimicrobial Activities and Geospatial Investigation of Retailed Nigerian Honey — PAUL AKINDUTI, Yemisi Obafemi, Oluwaseun Ejilude, Okanlawon Onagbesan, Covenant University, Ota, Nigeria

P1-19 Antimicrobial Efficacy of Photosensitizer Curcumin on Food Contact Surfaces in Cold-Smoked Fish Industry — AISHWARYA VENKATESAN, Karl Matthews, Rutgers, The State University of New Jersey, New Brunswick, NJ, USA

P1-20 Efficacy of Citrus Essential Oil Applications on the Shelf Life of Strawberries — JACINDA LEOPARD, Dianna Wilson, Lauryn Heidelberg, Shecoya White, Mississippi State University, Mississippi State, MS, USA

P1-21 Survival of Escherichia coli (STEC) In vitro and on Leafy Greens Exposed to Natural Antimicrobials and Chlorine Dioxide — M. GABRIELA HIDALGO SINDONI, Angelica Abdallah Ruiz, Jose A. Eusse, Juan Silva, Shecoya White, Mississippi State University, Mississippi State, MS, USA

Blue Text – Developing Scientist Competitor  Green Text – Undergraduate Student Competitor  (v) Virtual
P1-22 Temperature-Dependent Antimicrobial Activity of Menhaden Fish Oil In Vitro and on Pet Food Kibbles Against Salmonella spp. — JANAK DHAKAL, Charles. G. Aldrich, Virginia Tech University, Blacksburg, VA, USA

P1-23 (v) Application of a Natural Bioactive Glycolipid to Control Listeria monocytogenes Biofilms and as Post-Lethality Contaminants in Milk — LANG SUN, Dennis D’Amico, University of Connecticut, Storrs, CT, USA

P1-24 (v) Antimicrobial Effects of a Bioactive Glycolipid on Spore-forming Spoilage Bacteria in Milk — LANG SUN, Kathleen Atkinson, Mengtian Zhu, Dennis D’Amico, University of Connecticut, Storrs, CT, USA

P1-25 Use of White Mustard Essential Oil-based Solutions in Natural Produce Washes Against E. coli — SHJI QIN, Emefa Monu, Amit Morey, Auburn University, Auburn, AL, USA


P1-27 (v) Preventing Pathogen Outgrowth and Extending Shelf Life of Ready-to-Eat Convenience Meal Kit Products Using a Secondary Inhibitor — PURVI CHATTERJEE, Jaya Sundaram, Jasdeep Saini, WTI Inc., Jefferson, GA, USA

P1-28 (v) Natural Disinfectant to Reduce Listeria monocytogenes Contamination on Food Contact Surfaces — PURVI CHATTERJEE, Jaya Sundaram, Jasdeep Saini, WTI Inc., Jefferson, GA, USA

P1-29 (v) Control of Clostridium perfringens Outgrowth Under Abusive Conditions Using Buffered Vinegar as a Secondary Inhibitor — PURVI CHATTERJEE, Jaya Sundaram, Jasdeep Saini, WTI Inc., Jefferson, GA, USA

P1-30 Effects of Cranberry Extract on Conditioning Films and Bacterial Biofilm Formation — Adam Leff, Christopher McNamara, Chayapa Techatratchavan, LAURA LEFF, Kent State University, Kent, OH, USA

P1-31 Effect of Organic Acids-Enhanced Nano Size Ice Slurry Chilling Techniques on the Microbial and Physicochemical Properties of Black Drum (Pogonias cromis) — HOPE ESEOSE, Katheryn Parraga, Hunter Songy, Robert Corsino II, Evelyn Watts, LSU AgCenter, Baton Rouge, LA, USA

P1-32 (v) Salmonella spp. and Listeria monocytogenes Behavior with Chitosan Application on Pig Carcasses Samples — Maria Ciriacelo, MÁRCIO MOURA-ALVES, Rui Silva, Isabel Pinto, Cristina Sarailva, Alexandra Esteves, Department of Veterinary Sciences, School of Agrarian and Veterinary Sciences (ECAV), University of Trás-os-Montes e Alto Douro (UTAD), Vila Real, Portugal

P1-33 Impact of Antimicrobial Application Sequence on Destruction of Salmonella and Campylobacter in Raw Poultry — SARA LASUER, Robert Ames, Garrett McCoy, Daniel Unruh, Corbin, Lenexa, KS, USA

P1-34 Ultrasonic Formulation of Bergamot Oil and Linolaoi Nano-emulsions and Their Bactericidal Activity — GABRIELLA MENDES CANDIDO DE OLIVEIRA, Yaguang Luo, Xiangwu Nou, USDA–ARS, EMFSL, Beltsville, MD, USA

P1-35 Antimicrobial Effects of Corn Zein Impregnated with Nisin as Edible Coating for Mangoes Stored at Different Temperatures — GABRIELLA MENDES CANDIDO DE OLIVEIRA, Antonios Zografos, Yaguang Luo, Xiangwu Nou, USDA–ARS, EMFSL, Beltsville, MD, USA

P1-36 Development of Applied Antimicrobial Intervention to Control Salmonella spp. during Wheat Milling — DANIEL VEGA, Kellen Habib, Katia Pozuelo, Randall Phebus, Kansas State University, Manhattan, KS, USA

P1-37 (v) Effects of Liquid Smoke Preparations on Shelf Life and Growth of Wild-Type Mold and Aspergillus flavus in a Model Semi-Moist Pet Food — AISWARYA DELIEPHAN, Janak Dhakal, Charles. G. Aldrich, Kansas State University, Manhattan, KS, USA

P1-38 (v) Effectiveness of Natural Antimicrobials for Control of Mold Growth on Artificially Inoculated Shredded Cheddar Cheese Held at 7ºC — EMALIE THOMAS-POPO, Aubrey Mendonca, Stephanie Clark, Allison Little, Verilyn Hartanto, Kia Barry, Iowa State University, Ames, IA, USA

P1-39 Exploring the Antimicrobial Efficacy of Spearmint, Peppermint, and Dill Essential Oils and Fumes — SAMANTHA BURROUGHS, Joy Waite-Cusic, Oregon State University, Corvallis, OR, USA

P1-40 Product Depth and Air Velocity Impact Microbial Reduction during Hazelnut Roasting — SAMANTHA BURROUGHS, JOY WAITE-CUSIC, Oregon State University, Corvallis, OR, USA

P1-41 (v) Mature and Immature Biofilms of Listeria monocytogenes Isolated from Vermont Dairy Production Environments are Susceptible to Sodium Hypochlorite — EMILY FORAUER, Andrea Etter, The University of Vermont, Burlington, VT, USA

P1-42 (v) Evaluating the Effect of Organic Load on Peroxyacetic Acid Measurement in a Model Flume Tank — CHRISTOPHER PABST, Jaysankar De, Keith Schneider, University of Florida, Gainesville, FL, USA

P1-43 (v) Inactivation of Escherichia coli O157:H7 in Cabbage Seeds by Combined Treatments of Gaseous Chlorine Dioxide and Mild Wet Heat — WOORIM YEOM, Jee-Hoon Ryu, Korea University, Seoul, South Korea

P1-44 (v) Antimicrobial Activities of Combined Treatments of Gaseous Chloring Dioxide and Mild Wet Heat Against Xanthomonas campestris and Salmonella enterica — XI LI, Woorim Yeom, Jee-Hoon Ryu, Korea University, Seoul, South Korea

P1-45 Use of Antimicrobials and the Fate of Salmonella in Marinated Pork Loins — SHERITA LI, Samantha Marecek, Haley Konoval, Siroj Pokharel, California Polytechnic State University, San Luis Obispo, CA, USA

P1-46 Control of Listeria monocytogenes in Model Wet Dog Foods by Using AAFCO-approved Inhibitor — SUBASH SHRESTHA, Shelly Riemann, Kevin Kroeger, Cargill, Inc., Wichita, KS, USA

P1-47 In Plant Validation Study of Percacetic Acid Intervention on Whole Beef Carcasses Using Escherichia coli Surrogates — DAVID VARGAS ARROYO, Diego Casas, Alejandro Echeverry, Marcos X. Sanchez-Plata, Mark Miller, Texas Tech University, Lubbock, TX, USA

P1-48 (v) Impact of Isolation Environment and Temperature on the Susceptibility of Salmonella to Biocides — VICTOR JAYEOLA, Jie Zheng, Maria Hoffmann, Food and Drug Administration, Center for Food Safety and Applied Nutrition, College Park, MD, USA

P1-49 (v) Efficacy of Disinfectants Against Human Norovirus on Food Contact Surfaces — JEREMY FAIRCLOTH, Clyde Manuel, James Arborgast, Rachel Leslie, Rebecca M. Goulter, Lee-Ann Jaykus, North Carolina State University, Department of Food, Bioprocessing and Nutrition Sciences, Raleigh, NC, USA
P1-50 (v) Effect of Growth Conditions on the Relative Transcription of Planaricin Genes and Antilisterial Capacity of Lactiplantibacillus plantarum Strains — MARIA K. SYROKOU, Panagiota Stasinopoulou, Spiros Paramithiotis, Marios Mataragas, Panagiotis Skandamis, Eleftherios Drosinos, Laboratory of Food Quality Control and Hygiene, Department of Food Science and Human Nutrition, Agricultural University, Athens, Greece

P1-51 (v) Evaluation of Lactobacillus plantarum, Bifidobacterium longum and Saccharomyces bouardi Attachment to Intestinal Mucosa and Inhibition of Pathogenic Microbes — AGNES KILONZO-NTHENGIE, Samuel Nahashon, Tennessee State University, Nashville, TN, USA

P1-52 (v) Isolation of Listeria monocytogenes Specific Bacteriophages and Application on Planktonic Cells and Biofilms Formed on Food Contact Surface — KYE-HWAN BYUN, Min Woo Choi, Sang-Do Ha, Advanced Food Safety Research Group, Brain Korea 21 Plus, Chung-Ang University, Ansung, Gyeonggi-Do, South Korea

P1-53 (v) Isolation and Characterization of Bacteriophages Which is Specific for Salmonella Thompson in South Korea — KYE-HWAN BYUN, Hee Jeong Kim, Sangha Han, Sang-Do Ha, Advanced Food Safety Research Group, Brain Korea 21 Plus, Chung-Ang University, Ansung, Gyeonggi-Do, South Korea

P1-54 (v) Mutations Acquired on Salmonella Enteritidis upon Exposure to a Lytic Phage for 21 Days — Rocio Barrón, María Jesus Serrano, Dacil Rivera, Eduardo Castro-Nallar, Fernanda Arredondo, Pamela Camejo, ANDREA MORENO-SWITT, Pontificia Universidad Católica, Santiago, Chile

P1-55 (v) Whole Genomic Characterization of Phage SB3-induced Salmonella Bacteriophage-Insensitive Mutants — BRIDGET XIE, Valeria R. Parreira, Sudhakar Bhandare, Jeff Gauthier, Roger Levesque, Lawrence Goodridge, University of Guelph, Department of Food Science, Guelph, ON, Canada


P1-57 (v) Changes of Antimicrobial Activities of UV Irradia- tion Against Staphylococcus aureus on Plastic Surfaces as Affected by Intensity and Wavelength of UV Light — DOHYUN KIM, Jujeong Kim, Jee-Hoon Ryu, Korea University, Seoul, South Korea

P1-58 (v) Inactivation of Salmonella enterica by UV-A, UV-B and UV-C Irradiation as Affected by Types of Abiotic Surfaces — YUJEONG KIM, Dohyun Kim, Jee-Hoon Ryu, Korea University, Seoul, South Korea

P1-59 (v) Comparison of Inactivation Efficacy of Plasma-activated Water Against Biofilms on Two Types of Lettuce — MANVEEN KAUR AHUJA, Qingsong Wang, Deepit Salvi, North Carolina State University, Raleigh, NC, USA

P1-60 Investigation of Cross-Resistance Development between a Commercial Quatamery Ammonium Compound Sanitizer and Antibiotics in Lactiplantibacillus monocytogenes Isolated from Fresh Produce Environments — REBECCA BLAND, Joy Waite-Cusic, Jovana Kovacevic, Oregon State University, Portland, OR, USA

P1-61 Comparison of Planktonic Cells and Biofilms of Pressure-Stressed and Wild-Type Bacterial Pathogens of Food Industry Significance — ALIYAR FOULADKHAH, Public Health Microbiology Laboratory, Tennessee State University, Nashville, TN, USA

P1-62 (v) Occurrence and Distribution of Antibiotic-resistant Staphylococcus aureus in a Brazilian Pork Production Chain — LUIS AUGUSTO NER0, Clarisse Vieira Botelho, Angela Sovinski, Juliana Libero Grossi, Douglas Call, Luciano dos Santos Bersot, Universidade Federal de Viçosa, Viçosa, Brazil

P1-63 (v) Ciprofloxacin Resistance in Salmonella enterica Isolated from a Poultry Chain — Juliana Libero Grossi, Cibeli Viana, Ricardo S Reddy Yamatog, Douglas Call, LUIS AUGUSTO NER0, Universidade Federal de Viçosa, Viçosa, Brazil

P1-64 Characterization of Antimicrobial Resistance in Indica- tor Bacteria (E. coli and Enterococcus spp.) from Surface Waters of Wyoming — HARNEEL KAUR, Kelsey Ruehling, Sarah Collins, Bledar Bisha, University of Wyoming, Laramie, WY, USA

Beverages and Acid/Acidified Foods

P1-65 Use of Surrogate Bacteria for Cold-fill Processes Validation and Verification — Virginie Pignard, Priscilla Piller, Pierre-Olivier Beal, VIDYA ANANTH, Pierre-Alexandre Juan, Novolyze Inc. (USA), San Francisco, CA, USA

P1-66 Uptake and Redistribution of Bacillus cereus Spores in Kombucha Systems — ALEXANDRA BROMLEY, Jennifer Perry, University of Maine, Orono, ME, USA

P1-67 (v) Assessing the Microbial Variability and Chemical Com- position in Kombucha during Repeated Brewing Cycles and Refrigerated Storage — ADWOA DANKWA, Lewis Perkins, Jennifer Perry, University of Maine, Orono, ME, USA

P1-68 Control of Spoilage Microorganisms in Cold Mix and Cold-filled Salad Dressings and Condiments — Upasana Hariram, ANAND KUMAR, Shiva Sivashini Rana, Laura Bautista, Kraft Heinz Company, Glenview, IL, USA

P1-69 Determination of 5-Log Reduction of Acid Tolerant Pathogens in Cold-Filled Sauces — Upasana Hariram, SHIVRAJSINH NERO, Universidade Federal de Viçosa, Viçosa, Brazil

Dairy

P1-70 (v) Development of D- and Z-Values for Shiga Toxin-pro- ducing Escherichia coli in Cheesemilk to Reduce Pathogen Risks in Cheese Made with Unpasteurized Milk — SARAH ENGSTROM, Kathleen Glass, Food Research Institute, University of Wisconsin-Madison, Madison, WI, USA

P1-71 Shifts of Microbiota during Cheese Production: Impact on Quality and Safety — JUN HAENG NAM, Yong Sun Cho, Lisbeth Goddik, Si Hong Park, Oregon State University, Corvallis, OR, USA

P1-72 (v) Characterization of the Microbiome Present in Estab- lished Biofilms Collected from Dairy Environments — ANTONIO LOURENCO, Narciso Martin-Quijada, Viktoria Neubauer, Sarah Thalguter, Eva M. Wagner, Martin Wagner, Catherine M. Burgess, Olivia McAuliffe, Kathrin Rychli, Teagasc Food Research Centre, Fermoy, Co., Cork, Ireland

P1-73 (v) Safety, Technological and Functional Characterization of Lactic Acid Bacteria Isolated from Sheep Milk and Dairy Products — MARKKELA TSIGKRIMANI, Konstantina Panagiotatou, Spiros Paramithiotis, Marios Mataragas, Eleftherios Drosinos, Panagiotis Skandamis, Laboratory of Food Quality Control and Hygiene, Department of Food Science and Human Nutrition, Agricultural University, Athens, Greece
(P1-74) (v) Pasteurization of Ice Cream Evaluated Using a Chemiluminescent Assay Measuring Alkaline Phosphatase Activity — Ayla Vaughn, Nate Banner, Ronald Sarver, Neogen Corporation, Lansing, MI, USA

(P1-75) Rapid Quantification of Enterobacteria in Raw Milk Using Real-Time PCR Methods — Steven Wagner, Matthias Giese, Florian Priller, Cordt Grönwald, Kornelia Berghof-Jäger, BIOTECON Diagnostics, Potsdam, Germany

Food Chemical Hazards and Food Allergens

(P1-76) (v) Demonstration of Hygiene High Sensitivity SuperSnap ATP Surface Monitoring as an Excellent Proxy Alternative Method for Remediation of True Allergens from Surfaces during Cleaning Verification — Paul Meighan, Delia Calderon, Hygiena, Camarillo, CA, USA

(P1-77) (v) Recovery of Gluten Residue from Environmental Swabs Following Specific Storage Times and Temperatures — Jessica Humphrey, Shyamali Jayasena, Steve L. Taylor, Joseph Baumert, University of Nebraska-Lincoln, Lincoln, NE, USA

(P1-78) (v) Effectiveness of a Dry-Cleaning Strategy for Removal of Milk and Egg Powder from a Continuous Mixer/Auger System — Rebecca Harris, Binafe Bedford, Riddhi Jain, Xun Guo, Sakshi Gandhi, Lauren Jackson, U.S. Food and Drug Administration, Bedford Park, IL, USA

(P1-79) (v) Occurrence of Aflatoxins in Edible Vegetable Seeds and Oil Samples Available in Retail Markets and Estimation of Dietary Intake in Consumers — Shahzad Zafar Iqbal, Muhammad Waqas, Wajeefa Pervaz, Muhammad Rafique Asi, Government College University Faisalabad, Faisalabad, Pakistan

(P1-80) Effects of High Hydrostatic Pressure on Allergenicity and Fish Protein of Mackerel — Yi-Chen Lee, Shao-Lan Chen, Hsien-Feng Kung, Yu-Ru Huang, Yung-Hsiang Tsai, National Kaohsiung University of Science and Technology, Kaohsiung City, Taiwan

(P1-81) (v) Continued Monitoring of PFAS in U.S. Food Supply — Ivan Leno, Alexander Domesle, J. Emilio Esteban, United States Department of Agriculture, Food Safety and Inspection Service, St. Louis, MO, USA

(P1-82) Application of a Universal ELISA Method to Detect Aflatoxin B1 in Diverse Commodities with Optimized Extraction Procedures — Gursharan Bakshi, Wondu Welde-Mariam and Martin Easter, Hygiena, Santa Ana, CA, USA

(P1-83) (v) Comparison of Two Commercial ELISA Kits on Their Efficacy of Detecting Fish Proteins from Nine Different Fish Species Using Two Extraction Buffers — Tengfei Li, John Lee, Joseph Baumert, University of Nebraska-Lincoln, Lincoln, NE, USA

(P1-84) (v) Performance Verification of an ELISA-based Assay and a Rapid Lateral Flow Immunoassay for Specific Quantification and Detection of Almond Protein in Food Matrices, Clean-in-Place (CIP) Rinse Water and Environmental Samples — Gabriela Lopez Velasco, Patrick Mach, David Mains, 3M, St. Paul, MN, USA

(P1-85) (v) Performance Verification of an ELISA-based Assay Fish Allergen in Asian Matrices — Mabel Ng, Iee Jiuin Chian, Jessie Lee, Yan Zhi Tan, Ng Chloe, Romer Labs Singapore Pte. Ltd., Singapore

(P1-86) Performance Verification of an ELISA-based Assay Fish Allergen on Different Environmental Surfaces and Clean-in-Place (CIP) Rinse Water — Mabel Ng, Iee Jiuin Chian, Yong Wei Liu, Yan Zhi Tan, Romer Labs Singapore Pte. Ltd., Singapore

(P1-87) (v) Performance Verification of an ELISA-based Assay Milk in Chocolate Matrices — Mabel Ng, Yong Wei Liu, Yan Zhi Tan, Romer Labs Singapore Pte. Ltd., Singapore

(P1-88) (v) Evaluation of Allergens in a Survey of Frozen Meals and Meals Ready-to-Eat (MREs) — Weilin Shelver, Amy McGarvey, Kathleen Yeater, U.S. Department of Agriculture, Fort Collins, CO, USA

Low-water Activity Foods

(P1-89) (v) USDA-FSIS Validation of Sodium Chloride Replacement in Biltong Marinade to Achieve >5 Log Reduction of Salmonella — Caitlin Karolekko, Peter Muriana, Oklahoma State University, Stillwater, OK, USA


(P1-91) Effect of Flow Rate on Salmonella Removal in a Simple Model Peanut Butter Push-Through System — XiYang Liu, Nathan Anderson, Susanne Keller, Elizabeth Grasso-Kelley, Illinois Institute of Technology, Institute of Food Safety and Health, Bedford Park, IL, USA

(P1-92) (v) Efficacy of UV-C Treatment to Inactivate Salmonella on Seeds, Treenuets and Their Flours — Rajat Sharma, Amandeep Singh, MD, Asfakur Rahaman, Veerachandra Yemmireddy, University of Texas Rio Grande Valley, Edinburg, TX, USA

(P1-93) Consumption of Raw Flour in the U.S.: Results from the 2019 FDA Food Safety and Nutrition Survey — Linda Verrill, Amy Lando, Fanfan Wu, Aparna Tatavarthy, Sheila Pack Merriweather, Donald Obenhuber, U.S. Food and Drug Administration, College Park, MD, USA

(P1-94) Fate of Salmonella and Shiga Toxin-producing E. coli (STEC) on Soft Wheat Kernels during Tempering — Yawei Lin, Senay Simsek, Teresa Bergholz, Department of Food Science and Human Nutrition, Michigan State University, East Lansing, MI, USA

(P1-95) (v) Assessment of Consumer Flour Thermal Treatments on the Reduction of Salmonella — Kasey Nelson, Ian Hildebrandt, Michael James, Bradley Marks, Michigan State University, East Lansing, MI, USA

(P1-96) (v) A Meta-Analysis of the Effect of Water Activity on the Thermal Inactivation of Different Microorganisms in Low Moisture Foods — Yadwinder Singh Rana, Long Chen, Lynn Johnson, Abigail B. Snyder, Cornell University, Ithaca, NY, USA

(P1-97) (v) Impact of Water Activity Alteration during Heating and Extended Storage on Thermal Resistance of Salmonella in Almond Meal — Mejun Zhu, Xia Song, Hsieh-Chin Tsai, Xiaoye Shen, Juming Tang, Washington State University, Pullman, WA, USA

(P1-98) (v) Effect of Relative Humidity on the Survival Kinetics of Salmonella in Different Tree nut Flours — Rajat Sharma, Amandeep Singh, Veerachandra Yemmireddy, University of Texas Rio Grande Valley, Edinburg, TX, USA

(P1-99) Salmonella and Escherichia coli Populations in Wheat Kernels are Reduced Following Tempering in Lactic Acid and Novel Lactic Acid Solutions — Daniel Unruh, Sara LaSuer, Luke Brown, Robert Ames, Corbin, Lenexa, KS, USA

(P1-100) (v) Thermal Resistance of Bacillus spp. in Naturally Contaminated Mesquite Flour with Two Water Activities — Yue Tong Fan, Jessica Baik, Joshua Gurtler, USDA, ARS, Eastern Regional Research Center, Wyndmoor, PA, USA
P1-101 (v) Radio Frequency Pasteurization Against Salmonella and Listeria monocytogenes in Cocoa Powder — Kenneth Ballom, Nitin Dhowlaghair, Hishe-Chin Tsai, Ren Yang, Juming Tang, Meijun Zhu, ZI HUA, Washington State University, Pullman, WA, USA

P1-102 Determination of Thermal Inactivation Parameters of Salmonella and Listeria monocytogenes in Browine Batter — Phoebe Unger, ARSHDEEP SINGH, Lakshmikantha Channaiah, Amminder Singh Sehkon, Monipel Babb, Yasoeol Yang, Minto Michael, Washington State University, Pullman, WA, USA

P1-103 Thermal Inactivation of Enterococcus faecium NRRL B-2354, Escherichia coli, and Salmonella in Peanut Butter Cookies at Various Moisture Levels — Rico Suhalim, Abdullah Tay, Yimare Motivi Elliott, Nicole Cuthbert, ERDOGAN CEYLAN, Mérieux NutriSciences, Crete, IL, USA

P1-104 (v) Correlation of Intracellular Moisture and Thermal Inactivation Kinetics of Desiccated Salmonella at Acidic pH Conditions — PHILIP STEINBRUNNER, Elizabeth Grasso-Kelley, Susanne Keller, Nathan Anderson, U.S. Food and Drug Administration, Bedford Park, IL, USA

P1-105 (v) Antimicrobial Efficacy of Gaseous Chlorine Dioxide for Inactivation of Salmonella and Enterococcus faecium NRRL B-2354 on Dried Basil Leaves — TUSHAR VERMA, Monica Ponder, Jennifer Acuff, Sibel Irmak, Jeyam Subbiah, University of Nebraska-Lincoln, Lincoln, NE, USA

P1-106 (v) Inactivation of Salmonella and Enterococcus faecium NRRL B-2354 in Black Peppercom and Cumin Seeds Using Gaseous Chlorine Dioxide Technology — XINYAO WEI, Sibel Irmak, Monica Ponder, Jennifer Acuff, Jeyam Subbiah, University of Nebraska-Lincoln, Lincoln, NE, USA

P1-107 (v) Survival of Salmonella and Enterococcus faecium in Spices as Influenced by Water Activity during Storage — YUCEN XIE, Shuang Zhang, Sicheng Sun, Juming Tang, Washington State University, Pullman, WA, USA

P1-108 Detection of Salmonella in Garlic Powder Using the Hygiena™ BAX® System — JULIE WELLER, Victoria Kuhn, Celina To, Anastasia Likanchuk, Qualicon Diagnostics LLC, A Hygiena Company, New Castle, DE, USA

P1-109 Determining the Suitability of Enterococcus faecium NRRL B-2354 as a Potential Surrogate for Salmonella enterica in Fine Ground Black Pepper — Surabhi Wason, Xinyao Wei, Tushar Verma, JEYM SUBBIAH, University of Arkansas, Fayetteville, AR, USA

P1-110 Using Whole Genome Sequencing to Characterize the Genetic Diversity of Salmonella enterica Isolated from Raw Inshell Pistachios — ERIKA ESTRADA, Anne-Laure Moyne, Linda J. Harris, University of California Davis, Department of Food Science and Technology, Davis, CA, USA

P1-111 Efficacy of Gaseous Chlorine Dioxide Against Salmonella enterica and Enterococcus faecium NRRL B-2354 on Chia Seeds — Surabhi Wason, JEYM SUBBIAH, University of Arkansas, Fayetteville, AR, USA

P1-112 (v) Natural Antimicrobials Suitable for Combating Desiccation-resistant Salmonella enterica in Milk Powder — AHMED ABDELHAMID, Ahmed Youssef, The Ohio State University, Columbus, OH, USA

P1-113 Microbial Risks Associated with Soaking and Subsequent Drying of Walnut Kernels — Vanessa Lieberman, ERIKA ESTRADA, Linda J. Harris, University of California Davis, Davis, CA, USA

P1-114 Enterobacteriaceae and Coliform Contamination Patterns in Peanuts Produced and Sold in the Senegalese Peanut Basin — BRIANNA BRITTON, Yurani Granada, Ibrahima Sarr, Jacob Ricker-Gilbert, Jonathan Bauchet, Haley Oliver, Purdue University, West Lafayette, IN, USA

P1-115 (v) Treatment of Wheat Kernels during Simulated Tempering to Control Foodborne Pathogens — MEGHAN DEN BAKKER, Govindaraj Dev Kumar, Francisco Diez-Gonzalez, University of Georgia Center for Food Safety, Griffin, GA, USA

P1-116 Evaluation of Charged Chalk as a Seeding Medium of Low-Moisture Powders — KAYLAN HAYMAN, Govindaraj Dev Kumar, Abhinav Mishra, University of Georgia, Griffin, GA, USA

P1-117 Difference in Growth Rates for Native and Antibiotic-resistant Strains of E. coli O26, O121, and O157:H7 — KAYLAN HAYMAN, Govindaraj Dev Kumar, Abhinav Mishra, University of Georgia, Griffin, GA, USA

P1-119 Homespun Salmonella Biofilms: Invisible Chicken Guests in the Kitchen — CLAUDIA ALEJANDRA PEGUEROS-VALENCIA, Jose Eduardo Lucero-Mejia, Sofia Arvizu-Medrano, Montserrat Hernandez-Iturriaga, Angelica Godinez-Oviedo, Universidad Autonoma de Queretaro, Queretaro, Mexico

P1-120 (v) SMART Design of a Multi-Receptor Phage Cocktail to Tackle Salmonella in Poultry — CARLOS MARTINEZ-SOTO, Hany Anany, Cezar Khursigara, University of Guelph, Guelph, ON, Canada

P1-121 Inhibition of Clostridium perfringens during Cooling of Model Uncured Poultry Products Using Combinations of Lactate, Diacetate, and Propionate — CYNTHIA AUSTIN, Max Golden, Jeffrey Sinderal, Steven Ricke, Kathleen Glass, Meat Science & Animal Biologics Discovery, University of Wisconsin-Madison, Madison, WI, USA

P1-122 Novel Multi-Strain Probiotics Reduces Pasteurella multocida Induced Fowl Cholera Mortality in Broilers: A Randomized Control Study — RINE CHRISTOPHER REUBEN, Shovon Lal Sarkar, Habiba Ibmat, Pravas Roy, Md Ali Ahasan Setu, Iqbal Jahid, Jasnore University of Science and Technology, Jashore, Bangladesh

P1-123 Bio-Mapping of Pathogens and Indicator Organisms throughout the Poultry Processing Chain Using Hygiene’s Micro-nap™ and BAX® System Salquant™, and bioMérieux Tempo® Methods — SAVANNAH APPLEGATE, Tyler Stephens, April Englishbey, Marcos X. Sanchez-Palta,Texas Tech University, Lubbock, TX, USA

P1-124 Salmonella Quantification (SalQuant™) with the Hygiene™ BAX® System for Ground Turkey — JULIE WELLER, Victoria Kuhn, Stacy Stoltenberg, April Englishbey, Anastasia Likanchuk, Melody Thompson, Qualicon Diagnostics LLC, A Hygiena Company, New Castle, DE, USA

P1-125 (v) Evaluation of Ozonated Water as a Microbial Decontamination Strategy for Chicken Parts — CARMEN CANO, Byron Chaves, University of Nebraska-Lincoln, Lincoln, NE, USA

P1-126 Efficacy of Multiple Sequential Interventions at Different Concentrations of Peracetic Acid on Salmonella and Campylobacter on Chicken Wings — AMANDA MOLLER, Jasmine Kataria, Sasikala Vaddu, Cortney Leone, Thiago Sakenoto Belen, Anju Singh, Manpreet Singh, Harshvardhan Thippareddi, University of Georgia, Athens, GA, USA
P1-127 Shelf-Life Extension of Raw Chicken Drumsticks by Injection Application of Vinegar- and Ferment-based Antimicrobial Solutions — DANIEL UNRUH, SARA LaSuer, ROBERT AMES, SEAN BAKER, Garrett McCoy, Corbin, Lenexa, KS, USA

P1-128 Impact of Set-up Temperatures and Pump Rates for Survival of Salmonella and the Surrogate Enterococcus faecium in Moisture-Enhanced, Reconstructed Chicken Patties after Double Pan-Broiling — WENTAO JIANG, Cangliang Shen, West Virginia University, Morgantown, WV, USA

P1-129 Application of Peroxyacetic Acid in Combination with an Acidifier Post-Deathering for Reduction of Campylobacter from Broiler Chicken — ANDREA URRUTIA GIRON, AMRIT PAL, ALEXANDRA JACKSON, DIANNA Bourassa, Auburn University, Auburn, AL, USA

P1-130 Efficacy of On-Site Generated Peroxyacetic Acid in Inoculated on Chicken Skin — AFTAB Siddique, Charles Herron, Indira Torres, Laura Garner, AMIT Morey, Auburn University, Auburn, AL, USA

P1-131 Efficacy of Peracetic Acid Gel Against Salmonella Typhimurium Inoculated on Chicken Skin — AFTAB SIDDIQUE, Charles Herron, Indira Torres, Laura Garner, AMIT Morey, Auburn University, Auburn, AL, USA

P1-132 (v) Pathogens Turn Hypervirulent during Colonization of Food: Salmonella Enteritidis in Egg as an Example — YUMIN XU, Ahmed Abdelhamid, Ahmed Yousef, The Ohio State University, Columbus, OH, USA

P1-133 Salmonella Quantification of Various Pork Matrices Utilizing Hygiene’s BAX® System SalQuant™ — ROSSY BUENO LOPEZ, Savannah Applegate, Stacy Stoltenberg, April Englishby, Tyler Stephens, Jennifer Wages, Marcos X. Sanchez-Plata, Texas Tech University, Lubbock, TX, USA

P1-134 Detection and Prevalence of Salmonella in Swine Lymph Nodes at Harvest — Morgan Miller, Joshua Mahcr, SARA GRAGG, Kansas State University, Manhattan, KS, USA

P1-135 Validation of Post-Harvest Antimicrobial Interventions to Control Shiga Toxin-producing Escherichia coli (STEC) on Market Hog Carcass Surfaces — KATIA POZUELO, Daniel Vega, Qing Kang, Kellen Habib, Francisco Najar-Villarreal, Valentina Trinetta, Travis O’Quinn, Randall Phebus, SARA Gragg, Kansas State University, Manhattan, KS, USA

P1-136 Creation and Characterization of a Film with a Color pH Indicator Coating to Determine the Spoilage of Beef, Using Bio-Based Materials — ANA ROMERO, Duncan Darby, JULIA Sharp, Paul Dawson, Kay Cooksey, Clemson University, Clemson, SC, USA

P1-137 (v) Occurrence and Distribution of Shiga Toxin-producing and Enterohemorrhagic Escherichia coli in Extensive and Intensive Beef Production Chain in Brazil — RAFAELA DE MELO TAVARES, Malu Jagnow Sereno, Juliano Gonçalves Pereira, Ricardo Seiti Yamatogi, Luciano dos Santos Bersot, Luis Augusto Nero, Universidade Federal de Viçosa, Viçosa, Brazil

P1-138 Lethality of Salmonella during the Drying of Restructured Beef Jerky — ASHLEY CAVALLO, Jessica Brown, Jason Scheffler, University of Florida, Gainesville, FL, USA

P1-139 (v) Escherichia coli O157:H7 and Salmonella Occurrence in Raw Ground Beef Samples Collected at Retail — STEPHEN W. MAMBER, Kristina Barlow, Thomas Colllaro, U.S. Department of Agriculture — FSIS, Washington, D.C., USA

P1-140 (v) STEC Screening & Identification in Raw Beef: 8 Hour Foodproof® STEC Method Now AOAC-RI PTM Approved — Stefanie Wendrich, Hanna Hartenstein, Ivo Meier-Wiedenbach, STEVEN WAGNER, Astrid Grönewald, Corrdt Grönewald, Kornelia Berghof-Jäger, BIOTECON Diagnostics, Potsdam, Germany

P1-141 Using a Limits Approach to Detect Specific Levels of Salmonella in Beef Trim and MicroTally™ Swabs with the Hygiene™ BAX® System — JULIE WELLER, Victoria Kuhnel, Stacy Stoltenberg, Anastasia Likanchuk, Qualcom Diagnostics LLC, A Hygiene Company, New Castle, DE, USA

P1-142 (v) Use of New Markers for Precise Detection of Pathogenic Shiga Toxin-producing Escherichia coli — JOSEPH BOSILEVAC, Marie Bugarel, Miguel Machado, Joao Carriço, Patrice Chablain, Deborah Briese, John Murray, J. Stan Bailey, Vikrant Dutta, USDA/ARS, Clay Center, NE, USA

P1-143 (v) Fagecapsules, Micro-Encapsulated Salmonella Bacteriophages with Targeted Intestinal Release — DACIL RIVERA, Fernando Dueñas, Camila Alfaro, Fernando Gonzalez-Nilo, Yorley Duarte, Aiko Adell, Andrea Moreno-Switt, Facultad de Ciencias de la Vida, Universidad Andres Bello, Santiago, Chile

P1-144 Biofilm Formation of Salmonella Typhimurium Quantification of Various Pork Matrices Utilizing Hygiene’s BAX® System SalQuant™ — ROSSY BUENO LOPEZ, Savannah Applegate, Stacy Stoltenberg, April Englishby, Tyler Stephens, Jennifer Wages, Marcos X. Sanchez-Plata, Texas Tech University, Lubbock, TX, USA

P1-145 (v) Does Enriching in Modified Tryptic Soy Broth with Novobiocin Lead to Selection Bias in Escherichia coli Populations? — XIANQIN YANG, Frances Tran, Peipei Zhang, Agriculture and Agri-Food Canada, Lacombe, AB, Canada

Molecular Analytics, Genomics and Microbiome

P1-146 (v) Standardizing the Isolation Source Metadata for the Genomic Epidemiology of Foodborne Pathogens Using LexMapr — MARIA BALKEY, Michael Batz, Gopal Gopinath, Gurinder Gosal, Emma Griffiths, Heather Tate, Ruth Timme, Center for Food Safety and Applied Nutrition, College Park, MD, USA

P1-147 (v) Genotypic Characterization of Listeria monocytogenes Isolates Collected through Provincial Dairy Inspection System in British Columbia, Canada from 2007 to 2017 — STEPHANIE BROWN, Rebecca Bland, Lorraine McIntyre, Sion Shyny, Jovana Kovacevic, Oregon State University, Portland, OR, USA


P1-149 (v) Monitoring the Antimicrobial Resistance Dynamics of Salmonella enterica in Healthy Dairy Cattle Populations at the Individual Farm Level Using Whole-Genome Sequencing — LAURA CARROLL, Ariel Buehler, Julie Siler, Kevin Cummings, Rachel Cheng, Martin Wiedmann, European Molecular Biology Laboratory, Heidelberg, Germany

P1-150 (v) Genomic Diversity of Salmonella Mississippi — RACHEL CHENG, Renato Orsi, Martin Wiedmann, Cornell University, Ithaca, NY, USA

P1-152 How Does Analytic Approach Impact Pathogen Population Structure When Analyzing Whole Genome Sequence Data? — PETER FERM, Enrique Dorfer, Ed Seabolt, James Kaufman, Noelle Noyes, University of Minnesota, Department of Veterinary Population Medicine, St. Paul, MN, USA

P1-153 (v) Direct Detection of Salmonella Serotypes from Food Samples – Complete Solution from Sample to Identification with Next-Generation Sequencing — MARIO GADANHO, Tiina Karla, Hanna Lehmusto, Heikki Salavirta, Milja Tikkanen, Thermo Fisher Scientific, Lisbon, Portugal

P1-154 (v) Precision Metagenomics Using a Hybrid Assembly for Classification of Shiga Toxin-producing Escherichia coli in Enriched Agricultural Water — Meghan Maguire, Julie Ann Kase, Andrea Ottesen, Padmini Ramachandran, Mark Mammel, Sandra Tallent, Eric Brown, Marc Allard, Steven Musser, NARJOJ GONZALEZ-ESCALONA, U.S. Food and Drug Administration, Center for Food Safety & Applied Nutrition, College Park, MD, USA

P1-155 (v) Copper Resistance in Salmonella: An Emerging Food Safety Issue — JULIE HAENDIGES, Eric Brown, Rohan Tikekar, Maria Hoffmann, Food and Drug Administration, Center for Food Safety & Applied Nutrition, College Park, MD, USA

P1-156 (v) Changes in Bacterial and Fungal Components of the Gala Apple Microbiome during Long-Term Storage Conditions — ALEXIS HAMILTON, Faith Critzer, Washington State University, School of Food Science, Prosser, WA, USA

P1-157 Benchmarking Different Metagenomic Laboratory Pathways Based on Biodiversity Analysis of Environmental Samples Collected from a Chicken Farm — XINYANG HUANG, David L Erickson, Mostafa Ghanem, Jianghong Meng, Department of Nutrition and Food Science, University of Maryland, College Park, MD, USA

P1-158 (v) Differences in Salmonella Survival between Strains in Low Water Activity Environments is Only Partially Explained by Genome Differences — MATTHEW J. IGO, Edward G. Dudley, Donald W. Schaffner, Rutgers, The State University of New Jersey, New Brunswick, NJ, USA

P1-159 Genome Sequence Analysis of Stress Tolerant Listeria monocytogenes Isolated from Foods and Humans — JUN HAENG NAM, Eiseul Kim, Hyun Jung Kim, Michael Rothrock, Hae-Yeong Kim, Sang-Do Ha, Si Hong Park, Oregon State University, Corvallis, OR, USA

P1-160 (v) Comparative Genomic Characterization of Cronobacter Species Obtained from a German Powdered Infant Formula Production Facility with Other Strains from Europe, Asia, and the United States — HYEIN JANG, Flavia Negrete, Leah Weinstein, Jayanthi Gangireddla, Isha Patel, Katie Ko, Hannah Chase, Samantha Finkelstein, Yi Chen, Roger Stephan, Angelika Lehner, Athmanya Eshwar, Séamus Fanning, Melinda Hayman, Ben Tall, Felix Reich, Gopal Gopinath, U.S. Food and Drug Administration, Laurel, MD, USA

P1-161 (v) Prevalence of Potentially Enterotoxin and Cereulide-producing Bacillus cereus in Selected Food Products — JELENA JOVANOVIC, Svtlana Tretyak, Katrien Begyn, Andreja Rajkovic, Laboratory of Food Microbiology and Food Preservation, Department of Food Technology, Safety and Health, Faculty of Bioscience Engineering, Ghent University, Ghent, Belgium

P1-162 (v) Lineage-Specific Differences Among Salmonella enterica Serovar Javiana Isolates Reveal Environmental Fitness — TOM JURKIEW, Julie Haendigges, Rebecca L. Bell, Maria Hoffmann, Jie Zheng, Food and Drug Administration, Center for Food Safety & Applied Nutrition, College Park, MD, USA

P1-163 (v) Identification of Microbial Flora in Dry-Aged Beef to Evaluate the Rancidity during Dry Aging — SEJEONG KIM, Heeyoung Lee, Jong-Chan Kim, Yohan Yoon, Risk Analysis Research Center, Sookmyung Women’s University, Seoul, South Korea

P1-164 (v) Application of Metagenomic Methods to Define Microbial Diversity and Subtype Listeria monocytogenes in Dairy and Seafood Manufacturing Facilities — BRANDON KOCUREK, Karen Jarvis, Christopher Grin, Paul Morin, Laura Howard, Andrea Ottesen, Ruth Timme, Susan R. Leonard, Hugh Rand, Errol Strain, James Pettengill, David W. Lacher, Mark Mammel, Daniel Tadesse, Padmini Ramachandran, U.S. Food and Drug Administration, ORS, Jamaica, NY, USA

P1-165 (v) Prevalence and Genetic Diversity of Listeria monocytogenes Isolated from Whole Fresh Avocado Skins — HEE JIN KWON, Mallorey Lovett, Marc Allard, Thomas Hammack, Errol Strain, Ruiping Pamboukian, Amy Barringer, Eric Brown, Jianghong Meng, Yi Chen, U.S. Food and Drug Administration – Center for Food Safety and Applied Nutrition, College Park, MD, USA


P1-167 (v) Long Read Sequencing for Metagenomic Analysis and Detection of Stecs in Agricultural Water — MEGHAN MAGUIRE, Julie Ann Kase, Eric Brown, Marc Allard, Steven Musser, NARJOJ GONZALEZ-ESCALONA, U.S. Food and Drug Administration, Center for Food Safety & Applied Nutrition, College Park, MD, USA


P1-169 (v) Microflora Analysis of Bacterial Biofilms in a Meat Processing Facility over an Eight-Week Period — ANNETTEANSOM, Rob Limburn, Zoe Lambert, Jack Alderton, Alice Foxall, Sam Watts, Campden BRI, Chipping Campden, United Kingdom

P1-171 (v) Multidrug-resistant Salmonella from Swine Lymph Nodes in Different Brazilian States — A Genomic Approach — Nayla Kellen de Oliveira Ventura, Fábio Sossai Possebon, Cibeli Viana, Everton Cruz de Azevedo, Lorena Natalino Haber Garcia, LUIS AUGUSTO NERO, Ricardo Setti Yamatog, Universidade Federal de Viçosa, Viçosa, Brazil

P1-172 (v) Genomic Insights into Divergent Evolution of Virulence and Fitness Traits in Shiga Toxin-Producing Escherichia coli O121 — MICHELLE QUI CARTER, Antares Pham, USDA, ARS, WRRC, Albany, CA, USA

P1-173 Intracompany Proficiency Trial for Whole Genome Sequencing of Listeria monocytogenes and Salmonella enterica — SARITA RAENGPRADUB, Angela Nguyen, Norman Wiernasz, Phyllis Hu, Jiaojie Zheng, Justin Tanner, Steven Robin, Yao Amouzou, Wain Wang, Cameron Parsons, Sébastien Leuillet, Mérieux NutriSciences, Crete, IL, USA


P1-175 Genetic Relatedness of Salmonella enterica Serovar Corvallis from Environmental Isolates from Cambodia and Clinical Cases in the United Kingdom — CARLA L. SCHWAN, Timothy J. Dallman, Peter Cook, Jessie Vipham, Kansas State University, Manhattan, KS, USA

P1-176 (v) Impacts of Manure-derived Fertilizer Application on the Bacterial Community in Raspberry Fields — XIAOYE SHEN, Yuan Su, Chris Benedict, Chad Kruger, Meijun Zhu, Washington State University, Pullman, WA, USA

P1-177 (v) A S. enterica Isolate Persists in an In Vitro Simulator of the Human Intestinal Microbial Ecosystem MSIME™ Model and Disrupts the Gut Metabolome — CEYLON SIMON, Alfred Ke, Ives Ivusic Polic, Valeria R. Parreira, Gisèle LaPointe, Lawrence Goodridge, Canadian Research Institute for Food Safety (CRIFS), Department of Food Science, University of Guelph, Guelph, ON, Canada

P1-178 (v) Evaluation of Salmonella Serotype Prediction with Multiplex Nanopore Sequencing — XINGWEN WU, Hao Luo, Feng Wu, Chongtiao Ge, Shaoting Li, Xiangyu Deng, Martin Wiedmann, Robert Baker, Abigail Stevenson, Guangtao Zhang, Silin Tang, Mars Global Food Safety Center, Beijing, China

P1-179 Evaluation of Nanopore Sequencing Technology to Identify Salmonella enterica Choleraesuis Var. Kunzendorf and Onion Var. 15*, 34* — FENG XU, Chongtiao Ge, Shaoting Li, Silin Tang, Xingwen Wu, Hao Luo, Xiangyu Deng, Guangtao Zhang, Abigail Stevenson, Robert Baker, Mars Global Food Safety Center, Beijing, China

P1-180 (v) Pathogenic Characterization of Listeria monocytogenes Isolates from Enoki Mushroom and Sequences of L. monocytogenes SMFM2019-FV16 Whole Genome — Suyoun Choi, Yukyung Choi, Kyoung-Hee Choi, YOHAN YOON, Sookmyung Women’s University, Seoul, South Korea

P1-181 (v) Phenotypic and Genotypic Characterization of Salmonella Resistance within the U.S. Food and Drug Administration’s Foods Program — SHENIA YOUNG, Kelly Domescle, Gregory Tyson, Chih-Hao Hsu, Errol Strain, Mercedes Loftis, Traci Bickell, Michael Maselli, Celicia Brown, Stephanie Rogers, Marie Buen-Bigomia, Lisa Michel, Omarra Ousley, Connie KieSSLING, William KieSSLING, Kathy Watts, Ebony Laster, Doris Farmer, Joshua Armstrong, Heather Tate, Jason Abbott, Patrick McDermott, Beilei Ge, U.S. Food and Drug Administration — Center for Veterinary Medicine, Laurel, MD, USA

P1-182 Characterization of Microbial Community Dynamics and Detection of Listeria in Food Manufacturing Facilities Using 16S rRNA Gene Sequencing — PADMINI RAMACHANDRAN, James Pettengill, Karen Jarvis, Christopher Grim, Paul Morin, Laura Howard, Ruth Timme, Susan R. Leonard, Hugh Rand, Daniel Tadesse, Errol Strain, Andrea Ottesen, Mark Mammel, U.S. Food and Drug Administration, Center for Food Safety & Applied Nutrition, Office of Regulatory Science, College Park, MD, USA

Seafood

P1-183 Application of a Mitochondrial Sequence Profiling Tool (MitoKmer) to Identify Imported Seafood from Genomic Sequences — PADMINI RAMACHANDRAN, Brandan Kocurek, Elizabeth Reed, Karen Jarvis, Christopher Grim, Paul Morin, Laura Howard, Ruth Timme, Susan R. Leonard, Daniel Tadesse, Errol Strain, Andrea Ottesen, Mark Mammel, U.S. Food and Drug Administration, Center for Food Safety & Applied Nutrition, Office of Regulatory Science, College Park, MD, USA

P1-184 (v) Detection and Survival of Listeria monocytogenes on Seaweed (Sugar Kelp) during Storage — SAMUEL AKOMEA-FREMPONG, Denise Skonberg, Jennifer Perry, University of Maine, Orono, ME, USA

P1-185 (v) The Effect of Dry Salting and Brining on the Physico-chemical and Microbial Properties of Sugar Kelp — RICHA ARYA, Jennifer Perry, University of Maine, Orono, ME, USA

P1-186 (v) Population Dynamics of Vibrio, Oyster Microbiome and Effects of Aquaculture Practices — ESAM ALMUHAIDEB, Salina Parveen, Shah Rashed, Nur Hassan, University of Maryland Eastern Shore, Princess Anne, MD, USA

P1-187 (v) Qualitative Application of Fourier Transform Near-Infrared (FT-NIR) for Freshness Assessment of Fresh Shrimps (Lito-penaeus setiferus) — Imran Ahmad, TONI-ANN BENJAMIN, Florida International University, Miami, FL, USA

P1-188 Bacteriophages Reduce Listeria Contamination in RTE Seafoods — Sonali Sirdesa, Alessandra Moncho, Joël van Mierlo, SOFIA FENG, Robin Peterson, Microes, Atlanta, GA, USA

P1-189 (v) Optimization of Carcinus maenas Fermentation — DELANEY GREINER, Denise Skonberg, Lewis Perkins, Jennifer Perry, University of Maine, Orono, ME, USA

P1-190 The Power of Good Bacteria: A Natural Food Safety Hurdle for Listeria monocytogenes Inhibition on Smoked Salmon — Besnik Hidri, Jenny Triplett, Luc Cherion, DIRK HOFFMANN, Veronique Zuliani, Chr. Hansen, Pohlheim, Germany

P1-191 Efficacy of Phage Intervention Against Salmonella on Salt and Fresh-Water Fish — ALLEGRA ROMER, Sonali Sirdesa, Joël van Mierlo, ROBIN PETERSON, Sofia Feng, Mircroes, Alpharetta, GA, USA

P1-192 (v) Prevalence of Antibiotic-resistant Bacteria in Retail Shrimp — Lakshmi Sharma, Charlene Jackson, Ravinder Nagpal, PRASHANT SINGH, Florida State University, Tallahassee, FL, USA
P2 POSTER SESSION 2

Food Toxicology
General Microbiology
Laboratory and Detection Methods
Microbial Food Spoilage
Pre-Harvest Food Safety
Produce
Sanitation and Hygiene
Viruses and Parasites
Water

Phoenix Convention Center, Exhibit Hall

P2-01 through P2-91 – Authors present 10:00 a.m. – 11:30 a.m. and 5:15 p.m. – 6:15 p.m.
P2-92 through P2-191 – Authors present 2:15 p.m. – 3:45 p.m. and 5:15 p.m. – 6:15 p.m.

Food Toxicology

P2-01 (v) Multi-Mycotoxin Occurrence in Asia Spices — MABEL NG, Lee Jiuan Chin, Jessie Lee, Sharon Loh, Romer Labs Singapore Pte. Ltd., Singapore

P2-02 (v) Multidetermination of Nitrofurans and Chloramphenicol in Food and by Enzyme-Linked Immunosorbent Assay — MABEL NG, Yan Zhi Tan, Yong Wei Liau, Belvick Lee, Romer Labs Singapore Pte. Ltd., Singapore

P2-03 Withdrawn

General Microbiology

P2-04 Changes in Sensitivity to Quaternary Ammonium Compound (QAC) in Seven Listeria monocytogenes Strains after Exposure to Gradually Increasing Concentrations — DIVYA KOBE, Ramakrishna Nannapaneni, Mohit Bansal, Wen-Hsing Cheng, Chander Shekhar Sharma, Aaron Kiess, Mississippi State University, Mississippi State, MS, USA

P2-05 Developing Standard Reference Libraries of Listeria monocytogenes and Escherichia coli O157:H7 Using an Affordable Custom Assembled Hyper Spectral Imaging System — Phoebe Unger, AMNINDER SINGH SEKHON, Xiongzh Chen, Minto Michael, Washington State University, Pullman, WA, USA

P2-06 (v) Understanding Bacteria Adhesion and Biofilm Formation on Different Surfaces Using a Center for Disease Control and Prevention (CDC) Biofilm Reactor — ERIN MANVILLE, Kaitly Rhine, Ellen Mendez, Valentina Trinetta, Dan Boyle, Kansas State University – Food Science Institute, Manhattan, KS, USA

P2-07 Changes in Sensitivity to Ciprofloxacin in Seven Listeria monocytogenes Strains after Exposure to Gradually Increasing Concentration of Quaternary Ammonium Compound — DIVYA KOBE, Ramakrishna Nannapaneni, Mohit Bansal, Wen-Hsing Cheng, Chander Shekhar Sharma, Aaron Kiess, Mississippi State University, Mississippi State, MS, USA

P2-08 (v) Sanitizer Tolerance and Attachment Capacity of Non-Outbreak and Outbreak-Associated Salmonella enterica isolates from Multiple U.S. Outbreaks — ARIEL MARTIN, Andrea Etter, The University of Vermont, Burlington, VT, USA

P2-09 Cold Shock Domain Family Proteins: Investigation of Phenotypes and Regulons in Listeria monocytogenes — FRANCIS MUCHAAMBA, Athamanya Eshwar, Ueli von Ah, Marc J.A. Stevens, Roger Stephane, Taurai Tasara, Institute for Food Safety and Hygiene, Vetsuisse Faculty, University of Zurich, Zurich, Switzerland

P2-10 Identification and Characterization of a Salmonella enterica Plasmid That Confers Increased Resistance to Bacteriophages — JOHN MCFARLANE, Eleanor Dennis, Steven Bowden, Department of Food Science and Nutrition, University of Minnesota, St. Paul, MN, USA

P2-11 Efficacy of Different Bacteriophage Multiplicities of Infection Against Salmonella enterica — CATHERINE WONG, Siyun Wang, Food, Nutrition and Health, University of British Columbia, Vancouver, BC, Canada

P2-12 (v) Novel Approach-based on Mathematical Modeling for Determination of the Lytic Capacity of Two Bacteriophages in a Model of Salmonella Infants — ROCÍO BARRÓN, Rodrigo García, Dalí Rivera, Fernando Dueñas, Andrea Moreno-Swift, Universidad de Concepción, Concepción, Chile

P2-13 A Comparison of Salmonella Survival and Detection Using an Enrichment Technique In Dry and Wet Inoculated Rendered Chicken Fat Treated with Sodium Bisulfate (SBS) — JANAK DHAKAL, Charles G. Aldrich, Virginia Tech University, Blacksburg, VA, USA

P2-14 (v) Evaluation of an Ozonated Water Spray on Microbiological Decontamination of Domestic Kitchen Surfaces — Grace Batima Mahor, CARMEN CANO, Byron Chaves, University of Nebraska-Lincoln, Lincoln, NE, USA

P2-15 Validation of the Baking Step to Control Salmonella and Listeria monocytogenes in Brownies — PHOEBE UNGER, Lakshmikantha Channaiah, Arshdeep Singh, Amninder Singh Sehon, Monipel Babb, Yaseeol Yang, Minto Michael, Washington State University, Pullman, WA, USA

P2-16 (v) Microbiological Load of Edible Insects Sold in South-eastern Brazil — PRISCILA ALMEIDA, Thiago S. Santos, Daniele F. Maffei, University of Sao Paulo, Piracicaba, Brazil

P2-17 (v) Ensuring Escherichia coli Possessing Colibactin Genes (cbl) Linked to Colorectal Cancer Do Not Become a Food Safety Problem for Beef — MANITA GURAGAIN, John Schmidt, Norasai Kalchayanond, Joseph Bosilevac, U.S. Department of Agriculture, Hastings, NE, USA

P2-18 (v) Growth of Staphylococcus aureus in Raw Fish over Time at Non-Refrigerated Conditions — CHRISTIE HANCOCK, Stephanie Nguyen, Balasubrahmanymath Kottapalli, Deann Akins-Lewenthal, Conagra Brands, Omaha, NE, USA

P2-19 (v) Efficacy of Peracetic Acid (PAA) on Agricultural Irrigation Water to Reduce Microbiological Pathogens and Indicators — JESSICA L. DERY, Natalie Brassill, Zoe Scott, Manan Sharma, Seongyu Kim, Channah Rock, University of Arizona, Dept. of Environmental Science, Maricopa Agricultural Center, Maricopa, AZ, USA

P2-20 Characterization of Novel Salmonella Bacteriophages Isolated from Wastewater for Use in Food Protection — ELEANORE HANSEN, Jacob Vitt, Steven Bowden, Department of Food Science and Nutrition, University of Minnesota, St. Paul, MN, USA

P2-21 (v) Quasi-Metagenomic Comparison of Lactose and Universal Preenrichment Broths for Salmonella Detection in Spent Sprot Irrigation Water — ELIZABETH REED, Padmini Ramachandran, Andrea Ottosen, Jacco Marog, Eric Brown, Hua Wang, Thomas Hammack, Ye Zheng, U.S. Food and Drug Administration, Center for Food Safety & Applied Nutrition, College Park, MD, USA

P2-22 (v) Growth Kinetics of Salmonella enterica on Heat-treated Potatoes during Storage — PRAVALIKI LINGARE-DYGARI, Megan Fay, Amiya Patel, Jiaoyun Hu, Joelle K. Salazar, Girvin Liggans, Institute for Food Safety and Health, Illinois Institute of Technology, Bedford Park, IL, USA

Blue Text – Developing Scientist Competitor
Green Text – Undergraduate Student Competitor
(v) Virtual
P2-23  (v) Can Probiotics be Used as Biotechnological Tools to Increase Bioaccessible Phenolics in Soursop Fruit Pulp? — Bianca Beatriz Torres de Assis, Aline Macedo Dantas, Marcos dos Santos Lima, Graciele da Silva Campelo Borges, MARCIANE MAGNANI, Federal University of Paraiba, Joao Pessoa, Paraiba, Brazil

P2-24  (v) Microbial Diversity in Naturally Fermented Fruits from Brazilian Caatinga Biome — Elvira de Lourdes Chaves Macêdo, Rosane Freitas Schwan, Disney Ribeiro Dias, MARCIANE MAGNANI, Federal University of Paraiba, Joao Pessoa, Paraiba, Brazil

P2-25  (v) Presence of Clostridium difficile in Fresh Mushrooms at Retail Stores in Spain — CRISTINA RODRIGUEZ DIAZ, Bernard Taminiau, Eduardo Garcia Fuentes, Nicolas Korsak, Georges Daube, IBIMA, Málaga, Spain

P2-26  Withdrawn

P2-27  (v) Surrogate and Baking Validation of Salmonella enterica, Listeria monocytogenes, and Enterococcus faecium in Sunflower Seed Crackers — JENNIFER TODD-SEARLE, Sarah Pappas, Kelly Poltrok-Germain, Nancy Bontempo, Mondelez International, East Hanover, NJ, USA

P2-28  Effect of Extended Storage on the Survivability and Thermal Resistance of Listeria monocytogenes in Dry and Hydrated Milk Powders — YAESOOL YANG, Amninder Singh Sekhon, Arshdeep Singh, Phoebe Unger, Monipel Babb, Minto Michael, Washington State University, Pullman, WA, USA

P2-29  Effect of Water Droplet Size and pH on the Growth and Survival of Enterococcus faecium in Margarine and Spread Products — MAY YEOW, Luis Espinoza, Judy Chen, Joseph Higgs, Mark Nugent, Rob Beauseau, Ventura Foods, Brea, CA, USA

P2-30  Testing an Affordable Hyperspectral Imaging System for Rapid Identification of Pathogens in Dairy Products — PHOEBE UNGER, Amninder Singh Sekhon, Xiongzhi Chen, Minto Michael, Washington State University, Pullman, WA, USA

P2-31  Prevalence and Antibiotic Susceptibility of Salmonella enterica isolated from Meats and Their Related Samples in a One-Health Concept — FREDERICK ADZITEY, Martin Aduah, Rejoice Eki, University for Development Studies, Tamale, Ghana

P2-32  (v) Antimicrobial Activities and Genotyping of Probiotic Lactobacilli in Nigerian Fermented Condiments as Potential Starter Cultures for Improved Food Safety — YEMISI OBAFEMI, Solomon Oranusi, Kolawole Ajanaku, Paul Akinduti, Covenant University, Ota, Nigeria

P2-33  (v) Fate of Listeria monocytogenes on Citric Acid-treated Hard-cooked Eggs — HUI ZENG, Joelle K. Salazar, Megan Fay, Diana Stewart, Illinois Institute of Technology, Institute for Food Safety and Health, Bedford Park, IL, USA

Laboratory and Detection Methods


P2-36  Quantification of Campylobacter jejuni in Poultry Processing Rinses Utilizing Shortened Enrichment Times and RT-PCR — AARON BODIE, Dana Dittoe, Savannah Applegate, Tyler Stephens, Steven Ricke, Meat Science & Animal Biologics Discovery, University of Wisconsin-Madison, Madison, WI, USA


P2-40  Validation of a PCR Workflow Combining Wet-Pooling and Real-Time PCR for Salmonella Detection in Large Test Portions of Cocoa and Chocolate Products — Wesley Thompson, David Crabtree, Benjamin Bastin, Kateland Koch, MATTHEW HAHS, Daniele Sohier, Thermo Fisher Scientific, Lenexa, KS, USA

P2-41  AOAC Validation Study of a Real-Time PCR Workflow for Salmonella Detection in Large Test Portions of Cocoa and Chocolate Products — Wesley Thompson, David Crabtree, Benjamin Bastin, Kateland Koch, MATTHEW HAHS, Daniele Sohier, Thermo Fisher Scientific, Lenexa, KS, USA

P2-42  (v) Emergency AOAC PTM Certification of a Method to Detect for SARS-CoV-2 from Environmental Surfaces — Patrick Stephenson, David Crabtree, Daniele Sohier, MATTHEW HAHS, Thermo Fisher Scientific, Lenexa, KS, USA

P2-43  Evaluation of Hygiena's New BAX® System Real-Time PCR Assay for E. coli O157:H7 Exact in Meat, Produce and Raw Dairy Matrices — Nisha Corrigan, Joe Benzinger, Benjamin Bastin, Paige Minka, VICTORIA KUHNEL, Priyanka Surwade, Julie Weller, Hygiena, New Castle, DE, USA

P2-44  (v) Internal Validation of the Hygiena™ BAX® System for E. coli O157:H7 and Salmonella from Ready-to-Eat Chicken Sausage — VICTORIA KUHNEL, Julie Weller, Erin Dreyling, Anastasia Likanchuk, Qualicon Diagnostics LLC, A Hygiena Company, New Castle, DE, USA


P2-46  Development of a Novel Plating Medium for Selective and Differential Identification of Escherichia albertii from E. coli and Salmonella enterica — SAMUEL ANNOR, Thomas Taylor, Texas A&M University, College Station, TX, USA

P2-47  (v) Variability in the Detection of Campylobacter jejuni in Unpasteurized Dairy Milk By the FDA-BAM Method — Uma Babu, Lisa Harrison, Ariana Simeone, Marion Pereira, Kelli Hiett, KANNAN BALAN, U.S. Food and Drug Administration — CFSAN, Laurel, MD, USA
P2-74 Efficiency of Detection of Human Pathogens through Whole Carcass Enrichment and Rinsed Methods in Organic and Conventional Chicken Using Metagenomic Approach — ANURADHA PUNCHIHWAGE DON, Nur Hasan, Shah Rashed, Salina Parveen, University of Maryland Eastern Shore, Princess Anne, MD, USA

P2-75 (v) Detection and Quantitation of Dipicolinic Acid Released from C. botulinum Spores Using a Novel, Rapid Liquid Chromatography-Tandem Mass Spectrometry Method — BENJAMIN REDAN, Travis Morrisse, Viviana Aguilar, Catherine Rolfe, Guy Skinner, N. Rukma Reddy, U.S. Food and Drug Administration, Bethesda Park, IL, USA

P2-76 Withdrawn

P2-77 Rapid and Specific Detection of Staphylococcus aureus in Milk and Udder Exudate Based on Endolysin-Mediated ATP Release and Bioluminescent Detection — Sebastian Snowberger, David Trudil, Larry Loomis, GREGORY SIRAGUSA, Scout Microbiology LLC, Waukesha, WI, USA

P2-78 (v) Detection of Aerobic Bacteria from Biofilm on Dried Surfaces Using ATP, Culture, and Selective Microbial Bioluminescent Detection Methods — LINDSEY TABER, Alexandra Garcia, Aderotimi Laniyan, Robert S. Salter, Charm Sciences, Inc., Lawrence, MA, USA

P2-79 (v) Detection of Enterobacteriaceae from Biofilm on Dried Surfaces Using ATP Swab, Culture and Selective Microbial Bioluminescence Detection Methods — LINDSEY TABER, Robert S. Salter, Charm Sciences, Inc., Lawrence, MA, USA


P2-81 (v) High-Resolution Melt Assay for Detection of Virulent Lineages of Shiga Toxin-producing Escherichia coli O26 and O111 — FRANK VELEZ, Joseph Bosilevac, Prashant Singh, Florida State University, Tallahassee, FL, USA

P2-82 Localized Surface Plasmon Resonance Biosensor Based on Polydopamine Molecular Imprinted Polymer for Detection of Multi-Antibiotics in Chicken Meat: Assay Optimization Process and Comparative Study with HPLC — WENQIAN WANG, Michael Kidd, Yanbin Li, Center of Excellence for Poultry Science, University of Arkansas, Fayetteville, AR, USA

P2-83 Comparison of Two Bacteriophage-Based Rapid Assays for the Detection of Salmonella spp. — YUTONG WANG, Ivos Ivusic Polic, Valeria R. Parreira, Lawrence Goodridge, Catherine Rolfe, Guy Skinner, Benoît S. Salter, Charm Sciences, Inc., Lawrence, MA, USA


P2-85 (v) Development of Selective Agar Media to Improve Campylobacter jejuni Detection in Food — Jimyeong Ha, Kyoung-Hee Choi, YOHAN YOON, Sookmyung Women’s University, Seoul, South Korea

Microbial Food Spoilage

P2-86 Intermediate Thermoresistance in Black Yeast Asexual Cells Varibly Increases with Culture Age, Promoting Survival and Spoilage in Thermally Processed Shelf-Stable Foods — SHIYU CAI, Emilfa Rico-Munoz, Abigail Snyder, Cornell University, Ithaca, NY, USA

P2-87 (v) Kerry’s Citrapure® Citrus Extract Technology is Effective at Inhibiting Microbial Spoilage — CHRISTIE CHENG, Jennifer Wasieleksi, John Menton, Kerry, Beloit, WI, USA

P2-88 (v) Spoilage Potential of Biofilms and Planktonic Cells of Bacillus subtilis and Bacillus velezensis in Extended Shelf-Life Milk — Elna Buys, JAMES ELEGBELEYE, University of Pretoria, Pretoria, South Africa

P2-89 (v) Listeria Control in Plant Protein-based Foods — EELCO HEINTZ, Simone Potkamp, Niacet Corp., Tiel, The Netherlands

P2-90 Effect of Lactic Acid on Shelf Life of Fresh Crawfish Tail Meat — JUAN TOUZA, Evelyn Watts, Katheryn Parraga, Génesis Guerra, Maggie Morris, Louisiana State University, Baton Rouge, LA, USA

P2-91 Impact of Polysaccharide Incorporated Ice on Microbial Load of Catfish Fillets during Chilled Storage — DIANNA WILSON, Shecoya White, Mississippi State University, Starkville, MS, USA

P2-92 Withdrawn

Pre-Harvest Food Safety


P2-94 Prevalence and Antibiotic Resistance of Pathogenic E. coli in Dairy Farm — ARPIDA ADITYA, Mengfei Peng, Grace Suh, Debabrata Biswas, University of Maryland, College Park, MD, USA

P2-95 (v) Current and Aggregative Pre-Harvest Sampling Comparison in Commercial Fields — JORGE QUINTANILLA PORTILLO, Gustavo A Reyes, Genevieve Sullivan, Matthew J. Stasiwicz, University of Illinois at Urbana-Champaign, Urbana, IL, USA


P2-97 Salmonella in Environmental Samples Differed between Virginia Produce Farms and Water Samples Collected from Virginia Produce Farms — CLAIRE MURPHY, Daniel Weller, Laura Straw, Virginia Tech, Blacksburg, VA, USA

P2-98 Seasonality Drives the Likelihood of Isolating Listeria monocytogenes from Field and Water Samples Collected from Virginia Produce Farms — CLAIRE MURPHY, Daniel Weller, Laura Straw, Virginia Tech, Blacksburg, VA, USA

P2-99 (v) Prevalence and Characterization of Salmonella spp. Isolated from Fresh Produce and Agricultural Environment in Korea — JI MIN HAN, Heejeong Lee, Hyeju Jung, Mi-Kyung Park, Kyungpook National University, Daegu, South Korea

P2-100 Prevalence of Listeria Species in Environmental Samples Collected from Urban Farms Along a North-South Gradient in the Eastern USA — LAURA STRAWN, Angela Marie C. Ferrell, Tanzy Love, Daniel Weller, Virginia Tech, Blacksburg, VA, USA

Blue Text – Developing Scientist Competitor  Green Text – Undergraduate Student Competitor  (v) Virtual
P2-101 (v) Organic Farming Practices Versus Conventional Production: Associated Pathogens and Food Safety Concerns in a Sustainable Development — CRISTINA RODRIGUEZ DIÁZ, Bernard Taminioua, Nicolas Korsak, Georges Daube, University of Liege, Faculty of Veterinary Medicine, FARAH, Food Microbiology, Liège, Belgium

P2-102 (v) Development of Sanitizing Methods to Reduce Listeria monocytogenes Contamination in Radish, Melon and Carrots during Post-Harvest Washing — RAJALINGAM NAGENDRAN, Song-ji Choi, HyoBin Chae, HyeonJin Chu, InJun Hwang, SeRi Kim, Rural Development Administration, Wanju-gun, South Korea

P2-103 (v) Pre-Harvest Biocontrol of Listeria and Escherichia coli O157 on Lettuce by Lactic Acid Bacteria — Chi-Hung Chen, Hsin-Bai Yin, Christine Mayer, JITTENDRA PATEL, USDA-ARS, Beltsville, MD, USA

P2-104 (v) Application of Cinnamon Oil Nano-Emulsion in Inhibiting Salmonella spp. on Mungbean Seeds and Sprouts — Roshaniben Chaudhari, KANIKI BHARGAVA, Anam Fatima, Hari Kotturi, University of Central Oklahoma, Edmond, OK, USA

P2-105 (v) Development of Plasma-based Decontamination Treatment for Hydroponic Nutrient Solution — WENDY RIVERO PENA, Deepthi Salvi, Qingyang Wang, North Carolina State University, Raleigh, NC, USA

P2-106 (v) Impact of Chlorine and PAA on Inactivation of Salmonella in Agricultural Water — ANJALI KRISHNAN, Faith Critzer, Washington State University-IAREC, Prosser, WA, USA

P2-107 Validating Agricultural Water Treatment on Farms — BLESSING CHUKWUAJA, Joyit Saha, Michelle Danyluk, University of Florida, Lake Alfred, FL, USA

P2-108 Decrease in Disinfection Efficacy of Peracetic Acid (PAA) and Sodium Hypochlorite in the Presence of Nitrogen-based Fertilizers Used on Leafy Greens — ZOE SCOTT, Jessica L. Dery, Natalie Brassill, Channah Rock, University of Arizona, Dept. of Environmental Science, Maricopa Agricultural Center, Maricopa, AZ, USA

P2-109 Effects of Abiotic and Biotic Factors on Survival of Enterohemorrhagic Escherichia coli, Salmonella enterica, and Listeria monocytogenes in Soil Extracts — DIMPLE SHARMA, Autumn Kraft, Teresa Bergholz, Department of Food Science and Human Nutrition, Michigan State University, East Lansing, MI, USA

P2-110 (v) Survival and Transfer of E. coli to Fresh Produce from Organically Managed Soils Amended with Poultry Litter — PETRINA MCKENZIE-REYNOLDS, Patricia Millner, Annette Kenney, Salina Parveen, Amy Collick, Brett Smith, Lurline Woodworth, Susan Rensing, Cassandra Jones, Valentina Trinetta, Kansas State University, ASI, Manhattan, KS, USA

P2-111 (v) Organic Farming Practices Versus Conventional Production: Associated Pathogens and Food Safety Concerns in a Sustainable Development — CRISTINA RODRIGUEZ DIÁZ, Bernard Taminioua, Nicolas Korsak, Georges Daube, University of Liege, Faculty of Veterinary Medicine, FARAH, Food Microbiology, Liège, Belgium

P2-112 Melon Phytochemicals May Impact Foodborne Pathogen Persistence in Melon Juice — XINGCHEN LIU, Chris Bollinger, Wesly Deaver, Xiangwu Niu, Shirley A. Micallef, University of Maryland, College Park, MD, USA

P2-113 (v) Woodchips Increase the Inhibitory Abilities of White-Rot Fungi, Pleurotus ostreatus, in Manure Inoculated with Escherichia coli — ALEXIS OMAR, Aubrey Inkster, Sivaranjani Palani, Anastasia E. M. Chinside, Kalmia Kniel, University of Delaware, Newark, DE, USA

P2-114 (v) Differential Interactions of Pleurotus ostreatus with Escherichia coli TVS355 and Escherichia coli O157:H7 — ALEXIS OMAR, Kalmia Kniel, University of Delaware, Newark, DE, USA

P2-115 (v) Differential Attachment of Wild Type Salmonella enterica Serotype Tennessee and Its Mutant Cells to Peanut Seeds — SEULGI LEE, Jinru Chen, Department of Food Science and Technology, The University of Georgia, Griffin, GA, USA


P2-117 Salmonella Quantification (SalQuant™) with the Hygiena™ BAX® System for Turkey Feet Swabs and Cloacal Swabs — JULIE WELLER, Victoria Kuhnle, Karina Aguilar, Tyler Stephens, Judith Sipple, Anastasia Likanchuk, Sayandro Versteylen, Angel Wilhelm, Qualicon Diagnostics LLC, A Hygiene Company, New Castle, DE, USA

P2-118 (v) Understanding the Environmental Prevalence of Salmonella spp. in Finishing Pigs at Commercial Swine Farms — OLIVIA HARRISON, Jordan Gebhardt, Chad Paulk, Jason Woodworth, Susan Rensing, Cassandra Jones, Valentina Trinetta, Kansas State University, ASI, Manhattan, KS, USA

P2-119 (v) Prevalence of Biofilm Formation Among E. coli Isolated from Goat Feces — CATHERINE GENSLETER, Stephanie Hempstead, Natalie Urie, Alyson Wiedenheft, Katherine Marshall, Shivaramu Keelara, Megan E. Jacob, Department of Agricultural and Human Sciences, CALS, NCSU, Raleigh, NC, USA

P2-120 Effect of Type of Mulch on Microbial Food Safety Risk on Cucumbers Irrigated with Contaminated Water — Juan Moreira, Achyut Adhikari, KATHRYN FONTENO, Louisiana State University AgCenter, Baton Rouge, LA, USA

P2-121 (v) Comparison of the Microbiological Quality and Safety of South African Grown Cucumbers — Stacey Duvenage, SHIRLEY A. MICALLEF, Lise Korsten, University of Maryland, College Park, MD, USA

Produce

P2-122 Survival of Planktonic and Biofilm-Grown Listeria monocytogenes on Apples as Affected by Waxing and Storage Conditions — NATASHA SLONIKER, Ourania Raftopolou, Sophia Kathariou, Randy Beaudry, Elliot Ryser, Michigan State University, East Lansing, MI, USA

P2-123 Survival of Listeria monocytogenes in Romaine Lettuce Juice and Isolation of Antilisterial Bacteria — GANYU GU, Marina Lichterwald, Yaguang Luo, Xiangwu Niu, USDA–ARS, EMFSL, Beltsville, MD, USA

P2-124 Comparison of Existing and Novel Produce Intervention Chemistry Systems to Reduce Bioburden and Spoilage/Pathogenic Bacterial Load on Raw Leafy Produce Products — Charles Glambrome, RACHEL PACELLA, Marcus Torpey, Rochester Midland Corporation Food Safety Division, Rochester, NY, USA

P2-125 Leaf Phytochemical Profiles Differ by Lettuce Variety and Shift in Response to Water Stress, Impacting the Association with Salmonella enterica — XINGCHEN LIU, Chris Bollinger, Shirley A. Micallef, University of Maryland, College Park, MD, USA

P2-126 Leaf Phytochemical Profiles Differ by Lettuce Variety and Shift in Response to Water Stress, Impacting the Association with Salmonella enterica — XINGCHEN LIU, Chris Bollinger, Shirley A. Micallef, University of Maryland, College Park, MD, USA
Evidence of Microbial Transfer from Furrow Water to Leafy Greens during Irrigation — NATALIE BRASSILL, Jessica L. Dery, Ban Saber, Channah Rock, University of Arizona Maricopa Agricultural Research Center, Maricopa, AZ, USA

Colonization of Cantaloupe Fruit with *Escherichia coli* O157:H7 through Blossom Inoculation — KELLIE BURRIS, Robin Grant Moore, Tina Pfefer, Lee-Ann Jaykus, Otto D. Simmons III, Julie Ann Kase, Jie Zheng, Elizabeth Reed, Christina M. Ferreira, Eric Brown, Rebecca L. Bell, U.S. Food and Drug Administration, Center for Food Safety & Applied Nutrition, Raleigh, NC, USA

Effects of Short-Term Temperature Abuse during Storage of Fresh-Cut Cantaloupe on *Listeria monocytogenes* Growth — BRENA KROFT, Patricia Millner, Yaguang Luo, Shirley A. Micalle, Xiangwu Nou, University of Maryland, College Park, MD, USA

Nationwide Survey of Microgreens Consumers’ Food Safety Handling Practices and Perceptions — THOMAS YEARGIN, Isabelle de Prado Artiz, Anh Nguyen, Sujata A. Sirsat, Kristen Gibson, University of Arkansas, Fayetteville, AR, USA

Persistence of Foodborne Pathogens during Microgreen Production in Soil-Free Cultivation Matrix and Subsequent Transfer to Mature Microgreens — WENJUN DENG, Gina M. Misra, Christopher (Adam) Baker, Kristen Gibson, University of Arkansas, Fayetteville, AR, USA

Growth Kinetics of *Salmonella* in Fresh-Cut Papaya as Affected by the Storage Temperature and Relative Humidity — AMANDEEP SINGH, Veerachandra Yemmireddy, University of Texas Rio Grande Valley, Edinburg, TX, USA

Comparison of the Behavior of *Salmonella* Typhimurium and *Listeria monocytogenes* on Papaya and Avocado during Storage and Chlorine Dioxide Treatment — LIJUNG DONG, Yong Li, University of Hawaii at Manoa, Honolulu, HI, USA

Evaluation of the Hygiene™ BAX® System PCR Assays for the Detection of *Salmonella* from 375 g Frozen Potatoes — PRIYANKA SURWADE, Julie Weller, Victoria Kuhnel, Celina To, Anastasias Likanchuk, Qualicon Diagnostics LLC, A Hygiene Company, New Castle, DE, USA

Evaluation of the Hygiene™ BAX® System Real-Time PCR Assays for the Detection of *E. coli* O157:H7 from Mixed Sprouts — JULIE WELLER, Victoria Kuhnel, Anastasias Likanchuk, Qualicon Diagnostics LLC, A Hygiene Company, New Castle, DE, USA

Differential Ability of Various Conventional and Heirloom Tomato Fruit to Support *Salmonella* Association — WESLEY DEAVER, Yue Li, Shirley A. Micalle, University of Maryland, College Park, MD, USA

Survival of Inoculated Generic *Escherichia coli* on Walnuts at Different Phases of Fruit Maturity — CHRIS THEOFEL, Vanessa Lieberman, Erika Estrada, Linda J. Harris, University of California-Davis, Davis, CA, USA

The Effect of Inoculation Method on Growth of *Listeria monocytogenes* on the Surface of Ten Different Types of Whole Uncut Fresh Produce — MARINA CLICHENTHAL, Ana Maria Sabatino, Claire Murphy, Cameron Bardsley, JOYCE ZUCHEL, Donald W. Schaffner, Virginia Tech — Eastern Shore AREC, Painter, VA, USA

Laurec Arginate Enhancing the Efficacy of Peroxyacetic Acid Against *Listeria* on Fresh Apples — XIAOYE SHEN, Jian Cong, Joshua Mugendi, Ines Hanrahah, Meijun Zhu, Washington State University, Pullman, WA, USA

Low-Dose Continuous Gaseous Ozone in Controlling *Listeria innocua* on Red Delicious Apples during Commercial Cold Storage — YUAN SU, Zhi Hua, Lina Sheng, Manoella Mendoza, Yang He, Tonia Green, Ines Hanrahah, Meijun Zhu, Washington State University, Pullman, WA, USA

Evaluation of an Enzymatic Treatment to Control Listerial Biofilm on Produce — ANAHIITA GHRBANI TAJANI, Joanna Carr, Ahmed Elbakush, Bledar Bisha, Mark Gomelsky, University of Wyoming, Laramie, WY, USA

Autoaggregation and Biofilm Formation of *Listeria monocytogenes* in Cantaloupe Juice Extract and on Food Contact Surfaces with Cantaloupe Juice — MARINA LICHTENWALD, Ganyu Gu, Yaguang Luo, Shirley A. Micalle, Xiangwu Nou, ORISE, Beltsville, MD, USA

Efficacy of the Overhead Washing and Waxing System in Improving the Microbiological Quality of Fresh Peaches — PEIEN WANG, Katie B. Pits, Joe Mowery, Jinru Chen, Department of Food Science and Technology, The University of Georgia, Griffin, GA, USA

Effect of Oregano Oil Nano-Emulsion in Inhibiting *Salmonella* spp. on Mungbean Seeds and Sprouts — Anam Fatima, Roshaniben Choudhari, KANIKA BHARGAVA, Hari Kotturi, University of Central Oklahoma, Edmond, OK, USA

Effectiveness of Chlorine and Chlorine Dioxide Against *Listeria monocytogenes* in Lettuce Seeds Used for Hydroponic System — Janny Mendoza, ACHYUT ADHIKARI, Louisiana State University AgCenter, Baton Rouge, LA, USA

Biocontrol of *Salmonella* on Alfalfa Seeds and Sprouts Using a Multi-Hurdle Approach — SI LU, Mairui Gao, Deepa Ashwarya Kuttappan, Mary Anne Amalaradjou, Department of Animal Science, University of Connecticut, Storrs, CT, USA

Evaluating the Potential of 25 PPM Sodium Hypochlorite in Preventing Cross-Contamination of Tomatoes in a Laboratory Model Flume — BRUNA BERTOLDI, Christopher Pabst, Christopher (Adam) Baker, Alan Gutierrez, Jaysankar De, Keith Schneider, University of Florida, Gainesville, FL, USA

Evaluate the Efficacy of a Mixture of Peroxyacetic Acid and H₂O₂ Against the Survival and Cross-Contamination of the *Salmonella* Surrogate *Enterococcus faecium* on Tomatoes during Triple Wash — COREY COE, Rebecca Stearns, Lisa Jones, Cangliang Shen, West Virginia University, Morgantown, WV, USA

Evaluation of Temperature, Concentration, and Contact Time on Bacterial Reduction in Surface Waters by Peroxyacetic Acid (PAA) — LORETTA FRIEDRICH, Michelle Danylik, University of Florida, Lake Alfred, FL, USA

Sanitizer Selection is Critical for the Mitigation of Foodborne Pathogen Cross Transfer during Hydrocooling — GOVINDARAJ DEV KUMAR, Laurel Dunn, Abhinav Mishra, Dumitru Macarisin, University of Georgia Center for Food Safety, Griffin, GA, USA

Evaluation of Ultraviolet Light on Microbial Reduction and Antioxidants of Fresh Strawberries during Storage — MAADH F AL-ANI, PRAACHI PAHARIYA, Prabesh Joshi, Derek J. Fisher, Rupal Choudhary, School of Agricultural Sciences, Southern Illinois University Carbondale, Carbondale, IL, USA

Prevalence of Colistin-Resistant Gram-Negative Bacteria in Fresh Vegetables — XIN LUO, Karl Matthews, Rutgers, The State University of New Jersey, New Brunswick, NJ, USA
P2-153 Initial Microbial Evaluation of a Commercial Coupled Aquaponics Farm — JENNIFER DORICK, Govindaraj Dev Kumar, Laurel Dunn, University of Georgia, Athens, GA, USA

P2-154 Microbial Hazards Associated with Fresh Produce Distribution Centers — ANNA TOWNSEND, Laura Strawn, Benjamin Chapman, Mary Yavelak, Claire Murphy, Laurel Dunn, University of Georgia, Athens, GA, USA

P2-155 (v) Isolation of Salmonella spp. from Fresh Produce Sold at Farmers’ Market and Urban Gardens — SUMIT PAUDEL, Nirosha Ruwani Amarasekara, Amrita Subramanayam Swamy, Mohamad Alasadi, Ka Wang Li, Wentao Jiang, Cangliang Shen, Yifan Zhang, Wayne State University, Detroit, MI, USA

P2-156 (v) On-Farm Environmental Assessment of Very Small to Small-sized Strawberry Farms in the Southeastern United States — DILHANI JAYAWARDHANA, Thomas Yeargin, Kristen Gibson, Angela Fraser, Clemson University, Clemson, SC, USA

P2-157 Implementation of the Produce Safety Rule — Identifying Supplemental Training Methods to Expand the Reach Across the Global Supply Chain — SERGIO NIETO-MONTENEGRO, America Chavez-Martinez, Ivette Ramirez-Rivas, Rocío Ortega-Bañuelos, Judith Candia-Sanchez, Ana Luisa Renteria-Montenegro, Food Safety Consulting & Training Solutions, LLC, El Paso, TX, USA

P2-158 Microbiological Quality of Fresh Produce from PSR-exempt Farms and Their Connection to Food Safety Environment and Handling Practices — ZOILA CHEVEZ, Shijie Qin, Michelle Hayden, Emefa Monu, Auburn University, Auburn, AL, USA

P2-159 (v) Detection of Salmonella from Whole Fresh Peaches Using the Hygiena™ BAX® System — VICTORIA KUHNEL, Julie Weller, Anastasia Likanchuk, Qualicon Diagnostics LLC, A Hygiene Company, New Castle, DE, USA

Sanitation and Hygiene

P2-160 Comparison of Ultraviolet Light (254 nm and 279 nm) Systems for the Inactivation of Feline Calicivirus in Buffer and Inactivation on Formica Coupons by 279 nm UV — EMILY CAMFIELD, Brahmaiah Pendyala, Ankit Patras, Doris D’Souza, University of Tennessee, Knoxville, TN, USA

P2-161 (v) The Prevalence of Quaternary Ammonium Compound (QAC) Resistance in Listeria monocytogenes Isolated from South African Food Factories — KYLE CORBETT, Diane Rip, Pieter Gouws, Centre for Food Safety, Department of Food Science, Stellenbosch University, Stellenbosch, South Africa

P2-162 (v) Anti-Noroviral Efficacy of Hypochlorite-based Surface Sanitizers Designed for Food Industry Applications — JASON FRYE, Rebecca M. Goulter, Katelyn Hammond, William King, Jason Sun, Lee-Ann Jaykus, North Carolina State University, Department of Food, Bioprocessing and Nutrition Sciences, Raleigh, NC, USA

P2-163 Withdrawn

P2-164 (v) Inactivation of Listeria Biofilm on Food-Contact Surfaces by Saturated Steam Treatment — ZI HUA, Frank Younce, Juming Tang, Dojin Ryu, Barbara Rasco, Meijun Zhu, Washington State University, Pullman, WA, USA

P2-165 (v) Industrial Processes Incubation with Surrogate Microorganisms Via Food Matrix for Cleaning and Sanitation Validation Trials — Priscilla Piller, Virginie Pignard, Pierre-Olivier Beal, Moussa Ndiaye, PIERRE-ALEXANDRE JUAN, NOVOLYZE, Daix, France

P2-166 (v) Antimicrobial Activity of ClO₂ Gas Against Salmonella Enteritidis on Almonds — Jihwan Lim, HOIKYUNG KIM, Wonkwang University, Iksan, South Korea

P2-167 Evaluation of Human Specific crAssphage as a Novel Hygiene Indicator in South Korea — SUJIN NAM, Wensi Hu, Ok Kyung Koo, Gyeongsang National University, Jinju, Gyeongsangnam-do, South Korea

P2-168 Quantitation of Listeria spp. from Surfaces Using New Rapid Bioluminogenic Detection Swab and Ensure Touch Luminometer from Hygiena — Paul Meighan, DELARAM NIHOOEI, Hygiena, Camarillo, CA, USA

P2-169 (v) Does Prior Exposure to Sanitizers Affect Listeria monocytogenes Ability to Form Biofilms and Intestinal Cell Interaction? — Md. Asfakur Rahman, Harpreet Kaur, NIRAKAR SAHOO, Veerachandra Yemmireddy, University of Texas Rio Grande Valley, Edinburg, TX, USA

P2-170 (v) AMP, ADP, and ATP Concentrations Differentially Affected by Fermentation Process — NICHOLAS SMITH, Scott A. Rankin, Jeffrey Sindelar, University of Wisconsin-Madison, Department of Food Science, Madison, WI, USA

P2-171 (v) Ultraviolet Light (UV-C) for the Inactivation of Cronobacter sakazakii Suspensions in Buffer and 2% Fat Milk — SARAH WARNER, Ankit Patras, Brahmaiah Pendyala, Doris D’Souza, University of Tennessee, Knoxville, TN, USA

P2-172 (v) In Vitro Assessment of Co- and Cross-resistance Development in Listeria monocytogenes to Different Sanitizer Treatments — Md. Asfakur Rahman, VEERACHANDRA YEMMIREDY, University of Texas Rio Grande Valley, Edinburg, TX, USA

Viruses and Parasites

P2-173 (v) Confirmation of the Presence of C. cayetanensis and C. parvum from Environmental Water Samples — ALYSSA KELLY, Shani Craighead, Kalnina Kneli, University of Delaware, Newark, DE, USA

P2-174 (v) Cyclospora cayetanensis Detection from Soil Samples — SONIA ALMERIA, Alicia Shipley, Chiun-Kang Hsu, U.S. Food and Drug Administration, CFSAN, Office of Applied Research and Safety Assessment, Laurel, MD, USA

P2-175 Concentration and Detection of Human Noroviruses from Food and Environmental Samples Using Engineered Norovirus Binding Bacteria — ANAND SOORNEEDI, Matthew D. Moore, University of Massachusetts Amherst, Amherst, MA, USA

P2-176 Evaluation of Vacuum Evaporation as Method for the Concentration of Biological Analytes from Large Volumes of Water and Artificial Saliva — DANIEL DEMARCO, Ben Edinger, Erica Miller, Alex Angel, William Gregory Book, Zachary Davidson Graves, Adrian Bartholomew Cook, J. David Legan, Douglas Marshall, Eurofins Microbiological Laboratories, Louisville, KY, USA

P2-177 (v) Capture Efficiency and Detection of Hepatitis A Virus on Strawberry Using Apolipoprotein H Coated Magnetic Beads — Anthony Lévesque, Éric Jubinville, JULIE JEAN, Institut sur la nutrition et les aliments fonctionnels, Université Laval, Québec, QC, Canada

P2-178 (v) Copper Inactivation of Viruses Affected by Food Solids, pH, and Other Virus Surrounding Environments — Juan Camacho, Y. CAROL SHIEH, U.S. Food and Drug Administration——ORISE, Chicago, IL, USA

P2-179 (v) Use of In Vivo Fingerpad Methods to Evaluate the Removal and Inactivation Efficacy of Human Norovirus in Hand Washing/Sanitizing Regimens — BLANCA ESCUDERO-ABARCA, Rebecca M. Goulter, Clyde Manuel, Rachel
Leslie, James Arbogast, Lee-Ann Jaykus, North Carolina State University, Department of Food, Bioprocessing and Nutrition Sciences, Raleigh, NC, USA

P2-180 (v) Microbial Risk Assessment for Hepatitis A Virus Foodborne Illness by Oyster Consumption in Korea — EUNYOUNG PARK, Yoonjeong Yoo, Miseon Sung, Changsun Choi, Yohan Yoon, Sookmyung Women’s University, Seoul, South Korea

P2-181 (v) Quantitative Microbial Risk Assessment for Foodborne Viruses by Water Consumption — YOONJEONG YOO, Miseon Sung, Changsun Choi, Yohan Yoon, Sookmyung Women’s University, Seoul, South Korea

P2-182 (v) Quantitative Microbial Risk Assessment for Norovirus Foodborne Illness by Cucumber Consumption — YEWON LEE, Yoonjeong Yoo, Miseon Sung, Changsun Choi, Yohan Yoon, Sookmyung Women’s University, Seoul, South Korea

P2-183 (v) Persistence of Phi 6 Bacteriophage on Human Fingerpad — CHRISTOPHER (ADAM) BAKER, Kristen Gibson, University of Arkansas, Fayetteville, AR, USA

P2-184 (v) Evaluation of the Thermo Fisher Scientific Real-Time SARS-CoV-2 PCR to Detect Surface Contamination of SARS-CoV-2 — SUZANNE JORDAN, Alice Foxall, David Crabtree, Campden BRI, Chipping Campden, United Kingdom

Water

P2-185 Scale of Analysis Drives the Observed Ratio of Spatial to Non-Spatial Variance in Fecal Indicator Bacteria Levels in Upstate New York Surface Water: Insights from Two Decades of Citizen Science Data — Daniel Weller, Donald E. Weller, LAURA STRAWN, Tanzy Love, Virginia Tech, Blacksburg, VA, USA

P2-186 Fecal Contamination of Northeastern Streams That Span an Urban-Rural Gradient is Associated with Land Use and Physicochemical Water Quality — Claire Murphy, Stephanie Johnson, Hyatt Green, Edward Michalenko, Tanzy Love, Laura Straw, DANIEL WELLER, State University of New York College of Environmental Science and Forestry, Department of Environmental and Forest Biology, Syracuse, NY, USA

P2-187 (v) Risk-based Evaluation of Treatments for Water Used at a Pre-Harvest Stage to Mitigate E. coli on Fresh Raspberry in Chile — CONSTANZA AVELLO, Yulie Meneses, Faith Critzer, Xu Li, Bing Wang, University of Nebraska-Lincoln, Lincoln, NE, USA

P2-188 Withdrawn

P2-189 (v) Comparison of Culture and PCR-based Methods for the Detection of Salmonella spp. and Listeria monocytogenes in Nontraditional Irrigation Water on Maryland’s Eastern Shore: A Conserve Study — CHANELLE ACHEAMFOUR, Megan Gerdes, Fawzy Hashem, Salina Parveen, Eric May, Joseph Haymaker, Rico Duncan, Koriante Rogers, Derek Foust, Maryam Taabodi, Eric T. Handy, Cheryl East, Manan Sharma, Rachel Rosenberg Goldstein, Mary Theresa Callahan, Sarah Allard, Shirley A. Micallef, Kalmia Kniel, Amy R. Sapkota, University of Maryland Eastern Shore, Princess Anne, MD, USA

P2-190 (v) Recovery of Salmonella enterica and Listeria monocytogenes in Surface Waters by Rapid and Culture-based Methods: A Conserve Study — Eric T. Handy, Seongyun Kim, Sara Behal, Donghyun Kim, CHERYL EAST, Mary Theresa Callahan, Sarah Allard, Shani Craighead, Brienna Anderson-Coughlin, Samantha Gartley, Kalmia Kniel, Joseph Haymaker, Chanelle Acheamfour, Fawzy Hashem, Salina Parveen, Eric May, Rianna Murray, Amy R. Sapkota, Shirley A. Micallef, Manan Sharma, U.S. Department of Agriculture – ARS, Environmental Microbial and Food Safety Laboratory, Beltsville, MD, USA

P2-191 Withdrawn
P3-05 (v) Evaluation of the Online Produce Safety Alliance Grower
P3-04 (v) A New Communication Tool across Agencies — LINDSAY
Retail and Food Service Safety
Laboratory and Detection Methods
Food Safety Systems
Food Processing Technologies
Food Law and Regulation
Food Defense
Epidemiology
Communication Outreach and Education

P3-01 Analysis of FSMA Produce Safety and Preventive Controls for Human Food Trainings in the Western Region of the United States — STEPHANIE ALVARADO, Stephanie Brown, Joy Waite-Cusic, Jovana Kovacevic, Oregon State University, Portland, OR, USA

P3-02 Improving Access and Motivation for Small and Medium Processors in the Northeast to Comply with FSMA’s Preventive Controls Rule — Amanda Kinchla, CHRISTINA WORMALD, Jill Fitzsimmons, University of Massachusetts, Amherst, MA, USA


P3-04 (v) A New Communication Tool across Agencies — LINDSAY WALERSTEIN, U.S. Food and Drug Administration, College Park, MD, USA

P3-05 (v) Evaluation of the Online Produce Safety Alliance Grower Training Course — CONNIE FISK, Donna Clements, Laura Acuna-Maldonado, Davis Blasini, Ricardo Orellana, Thomas Saunders, Don Stoeckel, Gretchen Wall, Elizabeth Bihn, Cornell University, Geneva, NY, USA

P3-06 Use of In-Depth Interviews to Identify Barriers to Consumers Adopting a Recommended Food-Handling Practice — Abby Gilman, CHRISTOPHER VATRAL, Jennifer Quinlan, Drexel University, Philadelphia, PA, USA

P3-07 (v) Assessment of the Effectiveness of a Piloted Online Delivery of Personal Health and Hygiene Program for Small Food Processor in Iowa — Bridget Perry, Kia Roberts, Javier Elias, Kimberly Anderson, Katherine Gilbert, Melissa Cater, SHANNON COLEMAN, Iowa State University, Ames, IA, USA

P3-08 South Eastern United States Hydroponic Grower Food Safety Needs Assessment — ISABELLA RASCHKE, Isabelle do Prado Artiz, Zahra Mohammad, Sujata Sirsat, University of Houston, Houston, TX, USA

P3-09 (v) Food Safety Smart Tools: Big Data, from Hazard Analysis to Weather Forecasting for a Revolutionary Future Smart Food Safety Management — CLAUDIO GALLOTTINI, Fabio Mannarino, Franco Rapetti, Noemi Trombetti, ITA Corporation, Miami, FL, USA

Blue Text – Developing Scientist Competitor
Green Text – Undergraduate Student Competitor
(v) Virtual
<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>P3-24</td>
<td>Food-Handling Practices of Active Food Delivery Service Users</td>
<td>Chinwendu Ozoh, Angela Shaw, Iowa State University, Ames, IA, USA</td>
</tr>
<tr>
<td>P3-25</td>
<td>(v) A Study to Determine the Barriers and Solutions to SALSA Certified Businesses Transitioning to BRGCS START Intermediate Food Safety Scheme</td>
<td>Ellen W. Evans, Helen Taylor, UK, Cardiff, United Kingdom</td>
</tr>
<tr>
<td>P3-26</td>
<td>The Impact of COVID-19 on Farmers’ Markets Nationwide</td>
<td>Minh Duong, Tiffany Drape, Robert Williams, Laura Strawn, Benjamin Chapman, Renee Boyer, Virginia Tech, Blacksburg, VA, USA</td>
</tr>
<tr>
<td>P3-27</td>
<td>(v) Effectiveness of a Multi-State COVID-19 and Food Safety Outreach Campaign Utilizing Science-based Communication Strategies</td>
<td>Candice Christian, Mary Yavelak, Natalie Seymour, Benjamin Chapman, North Carolina State University, Raleigh, NC, USA</td>
</tr>
<tr>
<td>P3-28</td>
<td>(v) Exploring Food Safety Messages in an Era of COVID-19: Analysis of YouTube Video Content</td>
<td>Merlin Thomas, Yaohua (Betty) Feng, Purdue University, West Lafayette, IN, USA</td>
</tr>
<tr>
<td>P3-29</td>
<td>(v) Food-Handling Practices in the Era of COVID-19: A Mixed-Method Longitudinal Needs Assessment of Consumers in the United States</td>
<td>Merlin Thomas, Juanarchil Godnez, Mai Nguyen, and Yaohua (Betty) Feng, Purdue University, West Lafayette, IN, USA; Peyton Haynes, Louisiana State University, Baton Rouge, LA; USA; Wenyong (Wennie) Xu, LSU Ag Center, Baton Rouge, LA, USA</td>
</tr>
<tr>
<td>P3-30</td>
<td>Effect of Flour Outbreaks and Recalls on Consumer Knowledge and Behavior</td>
<td>Robert Scharff, Yaohua (Betty) Feng, The Ohio State University, Columbus, OH, USA</td>
</tr>
<tr>
<td><strong>Epidemiology</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P3-31</td>
<td>(v) Impact of the COVID-19 Pandemic on Foodborne Disease Healthcare-Seeking Behavior and Diagnoses</td>
<td>James Barkley, Vanora Davila, Kara Galvan, Chris Yao, Joan-Miquel Balada-Llasat, Robert Scharff, Barbara Kowalcyk, The Ohio State University, Columbus, OH, USA</td>
</tr>
<tr>
<td>P3-32</td>
<td>(v) Comparison of Statistical Methods for Identifying Salmonella Contamination Risk Factors of Whole Chicken Carcasses</td>
<td>Aaron Becczkiewicz, Barbara Kowalcyk, The Ohio State University, Columbus, OH, USA</td>
</tr>
<tr>
<td>P3-33</td>
<td>(v) Monitoring Environmental Contaminants in Meat, Poultry, and Egg Products</td>
<td>Alexander Domsele, Randolph Duverna, Cristian Ochoa, United States Department of Agriculture, Food Safety and Inspection Service, Washington, D.C., USA</td>
</tr>
<tr>
<td>P3-34</td>
<td>(v) Shiga Toxin-producing Escherichia coli (STEC) in the Raw Pork Production Chain: A Cause for Concern?</td>
<td>Manirul Haque, Joseph Bosilevac, Byron Chaves, University of Nebraska-Lincoln, Lincoln, NE, USA</td>
</tr>
<tr>
<td>P3-35</td>
<td>(v) Overview of Salmonella Outbreaks Linked to Tuna Imported from Southeast Asian Countries, Existing Challenges, and Potential Prevention Efforts</td>
<td>CERISEHardy, Adiam Tesfai, U.S. Food and Drug Administration – CFSAN, Coordinated Outbreak Response and Evaluation Network, College Park, MD, USA</td>
</tr>
<tr>
<td>P3-36</td>
<td>(v) Developing an Expert Model for the Diagnosis of Foodborne Illness</td>
<td>Kara Morgan, Vanora Davila, Joan-Miquel Balada-Llasat, Barbara Kowalcyk, The Ohio State University, Columbus, OH, USA</td>
</tr>
<tr>
<td>P3-37</td>
<td>(v) Comparative Review of the Evolution of Antibiotic-Resistant Salmonella Surveillance in Different Countries</td>
<td>Gavin Fenske, MACON OVERCAST, Solenne Costard, Francisco Zagmutt, Jane Pouzou, Epix Analytics, Fort Collins, CO, USA</td>
</tr>
<tr>
<td><strong>Food Defense</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P3-38</td>
<td>(v) One Health Enteric Package v1.0: Expanded and Standardized Metadata for Enteric Genomic Epidemiology in the U.S.</td>
<td>Ruth Timme, Maria Balkey, Christopher Grim, Michael Batz, Jessica Hicks, Kimberly Cook, Jo Ann Van Kessel, James Bono, Beth Harris, Lee S. Katz, Jennifer Adams, Steven Stroika, Lavin Joseph, Michael Feldgarden, Martin Shumway, John Anderson, Heather Tate, Karen Jinneman, Paul Morin, Jefffrey Levine, Mustafa Simmons, Cesar Morales, Center for Food Safety and Applied Nutrition, U.S. Food and Drug Administration, College Park, MD, USA</td>
</tr>
<tr>
<td>P3-39</td>
<td>(v) Revisiting Our Knowledge on Listeria sensu stricto Species by Predicting Traits from Whole Genome Sequencing Data</td>
<td>Katleen Vranckx, Kyle Kingsley, Jan Deneweth, Applied Math's NV, bioMérieux, Sint-Martens-Latem, Belgium</td>
</tr>
<tr>
<td>P3-40</td>
<td>Rapid Identification and Molecular Characterization of Salmonella enterica Isolates from Pecan Orchards through Whole Genome Sequencing</td>
<td>Nicolas Lopez, Li Ma, Claudia Diaz, Guodong Zhang, Food and Drug Administration, College Park, MD, USA</td>
</tr>
<tr>
<td><strong>Food Law and Regulation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P3-41</td>
<td>Whole Genome Sequencing-based Characterization of Cronobacter sakazakii Strain Isolated from Tilapia</td>
<td>IRSHAD SULAIMAN, Nancy Miranda, Steven Simpson, U.S. Food and Drug Administration, Atlanta, GA, USA</td>
</tr>
<tr>
<td>P3-42</td>
<td>Scope and Challenges of Louisiana Retail-Foodservice Businesses That Perform Specialized Processing</td>
<td>Wenyong (Wennie) Xu, Evelyn Watts, Melissa CATER, Carolyn Bombet, Louisiana State University AgCenter, Department of Agricultural and Extension Education &amp; Evaluation, Baton Rouge, LA, USA</td>
</tr>
<tr>
<td>P3-43</td>
<td>Transfer of Indicator Escherichia coli to Romaine Lettuce Grown in Organic and Conventional Fields Amended with Animal-based Soil Fertilizers in the Southwestern Desert, 2019–2020</td>
<td>Peiman Aminabadi, Jairo N Diaz-Ramirez, Juan Buenrostro, Gilberto Magallon, Michele Jay-Russell, Western Center for Food Safety, School of Veterinary Medicine, University of California-Davis, Davis, CA, USA</td>
</tr>
<tr>
<td>P3-44</td>
<td>FSIS Siluniformes Sampling at Five Years</td>
<td>Wayne Schlosser, Gurinder Saini, Randolph Duverna, Erika Stapp-Kamotani, Stephanie Despero, USDA-FSIS, Washington, D.C., USA</td>
</tr>
<tr>
<td>P3-45</td>
<td>Noteworthy Updates and Expansion of the USDA’s Food Safety and Inspection Services Accredited Laboratory Program</td>
<td>Sarah Edw, Louis H. Bluhm, Jenny L. Scifres, United States Department of Agriculture, Food Safety and Inspection Service, Athens, GA, USA</td>
</tr>
<tr>
<td>P3-46</td>
<td>Shiga Toxin-producing Escherichia coli (STEC) Recovered from Verification Sampling of Raw Beef Products Collected by the United States Department of Agriculture Food Safety and Inspection Service</td>
<td>Stephanie Despero, USDA-FSIS, Washington, D.C., USA</td>
</tr>
<tr>
<td>P3-47</td>
<td>Analysis of Methodology Used to Classify Produce Commodities as Rarely Consumed Raw</td>
<td>Allison Howell, Maria Scott, Susan Hammons, U.S. Department of Agriculture (USDA) – FSIS, Washington, D.C., USA</td>
</tr>
<tr>
<td>P3-48</td>
<td>Annual Sampling Plan and Sampling Summary Reporting at the United States Department of Agriculture’s Food Safety and Inspection Service</td>
<td>Rebecca Fields, Seiena Kremer-Caldwell, United States Department of Agriculture, Food Safety and Inspection Service, Washington, D.C., USA</td>
</tr>
</tbody>
</table>
P3-49 (v) Evaluation of Decreased Recalls Recommended by the USDA Food Safety and Inspection Service (FSIS) in Calendar Year (CY) 2020 — Barry Rhodes, Rochelle Kopicki, Janice Walton, Monique Wiggins, BUCKLEY MCKAY, Sheryl Shaw, JenAlyse Arena, Mathew Michael, USDA Food Safety and Inspection Service, Washington, D.C., USA


P3-51 (v) **ARS Studies Addressing FSIS Research Needs** — Meryl Silverman, ISABEL WALLS, Udit Minocha, USDA Food Safety and Inspection Service, Washington, D.C., USA

### Food Processing Technologies

P3-52 (v) **UV-C Treatment of Papaya Epicarp to Inactivate Salmonella spp.**, and the Effect of Fruit Ripeness and Storage Conditions — Amandeep Singh, VEERACHANDRA YEMMIREDDY, University of Texas Rio Grande Valley, Edinburg, TX, USA

P3-53 Evaluation of Ultraviolet (UV-C) Technology for the Reduction of Aflatoxin B1 in Almond Milk — ANJALI H KURUP, Brahmaiah Pendalya, Ankit Patras, Tennessee State University, NASHVILLE, TN, USA

P3-54 Microbial Safety and Quality Assessment of Whole Milk Processed Using a Pilot-Scale Dean Flow UV System — PRANAV VASHISHT, Brahmaiah Pendalya, Ankit Patras, Vyabh Vipul Sudhir Gopisetty, Tennessee State University, Nashville, TN, USA

P3-55 Wavelength Specific Inactivation of Vegetative Bacteria and Endospores by Germicidal UV-C Light in Liquid Suspensions — BRAHMAIAH PENDYALA, Ankit Patras, Pranav Vashisht, Tennessee State University, Nashville, TN, USA

P3-56 Microbial Validation of Radio Frequency-Assisted Pasteurization of Whole Milk Powder — DAMLA DAG, Rakesh K. Singh, Fanbin Kong, University of Georgia, Athens, GA, USA

P3-57 (v) Developing a Practical Phantom Dosimeter for Ensuring the Safety and Quality of the X-Ray Irradiated Blueberries — QUINCY SUEHHR, Rufus Isacs, Sanghyup Jeong, Michigan State University, East Lansing, MI, USA

P3-58 (v) Effects of Ohmic Heating on Microorganisms Elimination and Foaming Ability of Liquid Whole Egg — ZHUO-EN TSAI, Hsin-Yun Hsu, Tunghai University, Taichung, Taiwan

P3-59 (v) Removal of Bacterial Cells, Biofilms and Catfish Processing Residue on Food Contact Surface by Pneumatic Driven Swipe of Steam and Steam-Jetted Hot Water — YUWEI WU, Sam Chang, Experimental Seafood Processing Laboratory, Coastal Research & Extension Center, Mississippi State University, Pascagoula, MS, USA

P3-60 (v) Inactivation of **Geobacillus stearothermophilus** Spore in Flour on Different Food Processing Surfaces during Superheated Steam Treatment: Influence of Heat and Moisture Transfer — HYEON WOO PARK, V. M. Balasubramaniam, Abigail B. Snyder, The Ohio State University, Columbus, OH, USA

P3-61 Inactivation of Salmonella on Mung Bean Sprouting Seeds Using Dry Heat Treatment — SHUNYANG YAO, Haiqiang Chen, University of Delaware, Newark, DE, USA

P3-62 (v) Effects of **Debaryomyces Hansenii** isolates on Microbial Flora in Dry-Aged Beef during Dry-Aging — YOONJEONG YOO, Hyemin Oh, Yohan Yoon, Sookmyung Women’s University, Seoul, South Korea

P3-63 (v) Microbial Validation of Biltong Processing to Achieve 5-Log Reduction of L. monocytogenes and E. coli O157:H7 — Peter Muriana, KAYA GAVAL, Oklahoma State University, Stillwater, OK, USA

P3-64 Effectiveness of Elevated Hydrostatic Pressure and Mild Heat Against Pressure-Stressed, Habituated, and Wild-Type Listeria monocytogenes, Listeria innocua, and Staphylococcus aureus — Niamul Kabir, Sadiye Aras, Shahid Chowdhury, ALIYAR FOULADKHAK, Public Health Microbiology Laboratory, Tennessee State University, Nashville, TN, USA

P3-65 (v) Survival of Acid-adapted, Pressure-resistant E. coli O157:H7, Salmonella spp., and L. monocytogenes during Cold Storage in HPP-treated Juices — CATHERINE ROLFE, Alvin Lee, Nathan Anderson, Glenn Black, U.S. Food and Drug Administration, Bedford Park, IL, USA

P3-66 (v) Comparison of Inactivation of Salmonella spp. by High-Pressure Processing in Ground Chicken Meat Sources Used in Raw Pet Foods — XINYAO WEI, Franklin Sumargon, Mary-Grace Danao, University of Nebraska-Lincoln, Lincoln, NE, USA

P3-67 (v) Recovery of Sub-Lethally Injured Salmonella spp. in Ground Chicken Breast by High-Pressure Processing on Different Plating Media — FRANKLIN SUMARGO, Mary Grace Danao, University of Nebraska-Lincoln, Lincoln, NE, USA

P3-68 (v) Long-Term Survival Phase Cells of Escherichia coli O121 and Salmonella Typhimurium Exhibit Increased Tolerance to Atmospheric Cold Plasma on Artificially Inoculated Wheat Grains — EMALIE THOMAS-POPO, Aubrey Mondconca, Allison Little, Verilyn Hartanto, Paulo Fortes-Da-Silva, Angela Shaw, James Dickson, Byron Brehm-Stecher, Kevin Keener, Iowa State University, Ames, IA, USA

P3-69 (v) Optimization of Nonthermal Plasma-Activated Water Processing Conditions for Inactivation of Salmonella Typhimurium — URVI SHAH, Qingyang Wang, Sophia Kathariou, Deepi Salvi, North Carolina State University, Raleigh, NC, USA

### Food Safety Systems

P3-70 Evaluation of Food Safety Interventions in Low- and Middle-Income Countries (LMICs) — ROBERT SCHARRF, The Ohio State University, Columbus, OH, USA

P3-71 Factors Affecting the Cross-Contamination of Listeria monocytogenes and Salmonella enterica on Bell Pepper during Chlorine Washing — Jyoti Aryal, Julysa Benitez, ACHYUTADHIKARI, Louisiana State University AgCenter, Baton Rouge, LA, USA

P3-72 Withdrawn

P3-73 Withdrawn

P3-74 The Last Mile, Temperature Monitoring Solutions for Direct Perishable Shipments — JEFFREY DESROSIERS, VITSAB International AB, Linhamn, Sweden

P3-75 (v) Efficacy of Dry Heat on the Inactivation of Salmonella enterica on Stainless Steel — HARLEEN KAUR DHALIWAL, Michael Günzle, M. S. Roopesh, University of Alberta, Edmonton, AB, Canada

P3-76 Cyclic Temperature Abuse of Raw Poultry during Supply Chain Can Impact Food Safety and Shelf Life — CHARLES HERRON, Amit Morey, Aftab Siddique, Auburn University, Auburn, AL, USA
WEDNESDAY

P3-77 (v) Development of Bespoke Food Safety Culture Measurement Tool for a Low-Risk Food and Drink Manufacturer — LAURA HEWITT, Elizabeth C. Redmond, ZERO2FIVE Food Industry Centre, Cardiff Metropolitan University, Northallerton, United Kingdom

P3-78 Effect of Desiccation Stress on the Cross-Contamination of Escherichia coli O157:H7 from Food-Contact Surface to Food — RYOMA HONDA, Akihiro Ando, Kento Koyama, Shigenobu Koseki, Hokkaido University, Sapporo, Japan

P3-79 (v) Online Media Attention Devoted to Flour and Flour-related Food Safety in 2017–2020 — JINHO JUNG, Nicole Widmar, Sangavi Subramani, Yohua (Betty) Feng, Korea Rural Economic Institute, Naju, South Korea

P3-80 Withdrawn

P3-81 (v) Contamination of Escherichia fergusonii and E. coli Strains Isolated from Fresh Leafy Vegetables Sold in Retail Market in Korea — BO-EUN KIM, Dawoon Kim, Kwang Kyo Oh, Jeun Jung, Seung-Mi Seo, Jae-Gee Ryu, Rural Development Administration, Wanju-gun, South Korea

P3-82 (v) IoT-Blockchain Enabled Food Safety Decision Support System for the Manufacturers and the Regulatory Authorities in the Dairy Sector in Sri Lanka — Uditha Karanathalaka, CHATHUDINA J. LIYANAGE, Department of Food Science and Technology, Sabaragamuwa University of Sri Lanka, Beilihuloya, Sri Lanka

P3-83 Efficacy of Invisishield™ Modified Atmosphere Technology on the Viability of Microsporidia and Salmonella Newport — COURTNEY LOWE, Michael Aaron, Seth Herndon, Michael Johnston, Angela Richard, Ynes Ortega, University of Georgia, Griffin, GA, USA

P3-84 (v) Quantitative and Qualitative Assessments on Enterobacteriaceae, Coliforms and Generic Escherichia coli on Fresh Vegetables Sold in Cambodian Fresh Produce Distribution Centers — APRIL MOLITOR, Carla L. Schwan, Lyda Hok, Paul Etber, Valentina Trinetta, Jessie Vipham, Kansas State, Manhattan, KS, USA

P3-85 (v) Nutritional, Physical-Chemical and Microbiological Characteristics of “Covilhete” – Pastelaria Típica Portuguesa — JOANA MOURA, Maria Fontes, José Silva, Cristina Saraiva, University of Trás-os-Montes and Alto Douro, Vila Real, Portugal

P3-86 Isolation and Characterization of an Enteropathogen Growth Stimulating Factor from Bovine Tissues — ALAN OLSTEIN, Mick Bosilevac, Andrew Richardson, Paradigm Diagnostics, Inc., St. Paul, MN, USA

P3-87 (v) Surrogates for Listeria monocytogenes for High-Pressure Processing Validation Studies — ANNA ROSE PILAPIL, Jayne Stratton, Andrea Bianchini, Bing Wang, Emily Robinson, University of Nebraska-Lincoln, Lincoln, NE, USA

P3-88 (v) Effects of Hydrodynamic Shear Stress and Equipment Surface on Escherichia coli O157:H7 Single- and Multi-Species Biofilm Formation — GRISHMA PRABHU, Hsin-Bai Yin, Charles D. Eggleton, Jitendra Patel, University of Maryland, Baltimore County, Baltimore, MD, USA

P3-89 (v) Predicting the Survival of Listeria monocytogenes on Apples and Detection Using Ultraviolet Spectroscopy — OURANIA RAFTOPOULOU, Michael Kudenev, Elliot Ryser, Randy Beaudry, Sophia Kathariou, North Carolina State University, Raleigh, NC, USA

P3-90 (v) Exploring Food Handler Perceptions and Attitudes Toward Hand Hygiene Before and During Production — EMMA J. SAMUEL, Ellen W. Evans, Elizabeth C. Redmond, ZERO2FIVE Food Industry Centre, Cardiff Metropolitan University, Cardiff, Wales, United Kingdom


P3-92 Thermal Inactivation Validation for Salmonella enterica in Chicken Feathers during Simulated Commercial Rendering — THOMAS TAYLOR, Caleb Wong de la Rosa, Rosana Moreira, Christopher Kerth, Texas A&M University, College Station, TX, USA

P3-93 (v) Food Safety Knowledge, Training and Practice Among Ohio Food Pantry Volunteers — Barbara Kowalcyk, NASANDRA WRIGHT, Kara Morgan, Brian Landers, The Ohio State University, Columbus, OH, USA

P3-94 (v) Prompting Food Safety Culture Weekly Improvement in UK Food Manufacturing Companies Using Triangulation and Real-Time Technology — SOPHIE TONGYU WU, Lone Jespersen, Carol Anne Wallace, University of Central Lancashire, Preston, United Kingdom

P3-95 Knowledge and Current Practices Related to Agricultural Water Microbial Quality Among Kansas and Missouri Produce Growers — YEQUI ZHAO, Londa Nwadike, Don Stoeckel, Manreet Bhullar, Kansas State University, Lenexa, KS, USA

P3-96 Validation of a PCR Workflow for the Detection of Campylobacter jejuni, C. coli and C. lari in Raw and Ready-to-Cook Poultry Products — Annette Hughes, David Crabtree, Nikki Faulds, MATTHEW HAHS, Daniele Sohier, Benjamin Bastin, Wesley Thompson, Erin Crowley, Thermo Fisher Scientific, Lenexa, KS, USA

P3-97 Suretect Salmonella Species PCR Assay Official Methods of Analysis™ — Ana-Maria Leonte, Evangelos J. Vandroos, David Crabtree, MATTHEW HAHS, Katharine Evans, Daniele Sohier, Benjamin Bastin, Wesley Thompson, Erin Crowley, Thermo Fisher Scientific, Lenexa, KS, USA


P3-99 Performance Evaluation of Fluorescence Resonance Energy Transfer-based Real-Time PCR for Detection of Campylobacter spp. in Poultry Rinsates — Deborah Briese, Louisiana Giovannetti, Marie Bugarel, J. Stan Bailey, VIKRANT DUTTA, bioMérieux, Inc., Hazelwood, MO, USA

P3-100 Performance Evaluation of a Residual DNA Removal Protocol with a Real-Time PCR Assay for Food Pathogen Detection in Diverse Food Matrices — Loujiane Giovannielli, Deborah Briese, J. STAN BAILEY, Vikrant Dutta, bioMérieux, Inc., Athens, GA, USA


P3-102 Comparison of Viability qPCR and Culture-based Quantification in Challenge Studies — CHARLES CONOLLY, Jasna Kovac, Catherine Cutter, The Pennsylvania State University, University Park, PA, USA

P3-103 (v) AOAC Validation of RapidChek® Select™ Salmonella Test Method for the Detection of Salmonella Species in Raw Ground Pork — LOIS FLECK, Meredith Sutzko, Romer Labs, Newark, DE, USA

Blue Text – Developing Scientist Competitor

Green Text – Undergraduate Student Competitor

(v) Virtual
P3-104 (v) AOAC Validation of RapidChek® Select™ Salmonella Test Method for the Detection of Salmonella Species in Raw Pork Trim — LOIS FLECK, Meredith Suzkto, Romer Labs, Newark, DE, USA

P3-105 Colorimetric Sensing Arrays for Identification of Salmonella Viability in Foods — GENEVIEVE FLOCK, Charles Davidson, Shannon McGraw, Michael Wiederoder, Andre Senecal, U.S. Army DEVCOM Soldier Center, Natick, MA, USA


P3-107 Microbial Type, Environmental Conditions, and Exposure Time Impact the Recovery of Microorganisms during Environmental Monitoring — Sarah Jones, KRISTEN GIBSON, University of Arkansas, Fayetteville, AR, USA

P3-108 (v) Detection of Listeria monocytogenes in 125-g Chocolate Liquor Samples Using the bioMérieux VIDAS® LIS, VIDAS® UP Listeria, GENE-UP® Listeria spp., GENE-UP® Listeria monocytogenes Assays and FDA BAM Methods — Ryan Zimmerman, LEANNE HAHN, Laurie Post, Sue Kelly, Brian Farina, Charles Deibel, Deibel Laboratories, Inc., Madison, WI, USA

P3-109 A Method Comparison Study to Evaluate Recovery of Bifidobacterium longum from Pet Food Products — Gabriel Sanglay, Brian Schafer, RYAN HARTPENCE, Kadiatou Sow, Benjamin Diep, Lisa Conboy-Schmidt, Michele Manuzon, Nestle Quality Assurance Center, Dublin, OH, USA

P3-110 Performance Evaluation Real-Time PCR Assay for Detection of SARS-CoV-2 on Stainless Steel — ADAM JOELSSON, John Newland, Melissa May, BENJAMIN KATCHMAN, Hsin-Bai Yin, Chi-Hung Chen, Ashley Boomer, Cory Newland, Melissa May, BENJAMIN KATCHMAN, Jitendra Patel, PathogenDx, Tucson, AZ, USA

P3-111 Changing the Paradigm of Bacterial Identification through Genome-based Identification System — NUR HASAN, Sunhee Hong, Jongsk Park, EzBiome, Gaithersburg, MD, USA

P3-112 Rapid Detection of Salmonella enterica in Fresh Produce by a Novel Microarray-based PathogenDx System — Hsin-Bai Yin, Chi-Hung Chen, Ashley Boomer, Cory Newland, Melissa May, BENJAMIN KATCHMAN, Jitendra Patel, PathogenDx, Tucson, AZ, USA

P3-113 (v) Performance Evaluation of Loop-Mediated Isothermal Amplification (LAMP) – BioLuminescent Assay for E. coli O157 (including H7) Detection in Chicken Products, Environmental and Primary Production Samples — WIPA KONGSUKUL, Wanida Mukkana, Saengrawee Jongvanich, Yodlak Saengprao, Scott Egan, Panida Pisaisawat, Guillaume Mesnard, François Le Nestour, JOHN MILLS, Ron Johnson, Deborah Briese, Florence Gorse, bioMérieux, Inc., Hazelwood, MO, USA

P3-114 Evaluation of the bioMérieux GENE-UP® Listeria monocytogenes (LMO 2) Real-Time PCR Assay for the Detection of Listeria monocytogenes in a Variety of Foods — CARLOS LEON-VELARDE, Saleema Saleh-Lakha, Nathan Larson, Ryan Lee, Zheng Wu, Sophie Canobio, Agriculture and Food Laboratory (AFL), University of Guelph, Guelph, ON, Canada

P3-115 Evaluation of a Loop-Mediated Isothermal Amplification (LAMP)-Bioluminescent Assay for Rapid Detection of Cronobacter in Chinese Powder Infant Formula (PIF) as Compared to the GB Method — Yan Huang, Raj Rajagopal, GABRIELA LOPEZ VELASCO, 3M, St. Paul, MN, USA


P3-118 A Multiplex High-Resolution Melt Curve Real-Time PCR Assay for the Detection of ESBL-producing E. coli O157:H7 in Foods — RAJIV DHITAL, Azlin Mustapha, University of Missouri, Columbia, MO, USA

P3-119 (v) Selectivity of Culture Media for Lactic Acid Bacteria and Staphylococci Enumeration in Raw Milk Cheeses — Milimani Andretta, Thaiza Teixeira de Almeida, Leticia Rocha Ferreira, Antonio Fernandes de Carvalho, LUIS AUGUSTO NERO, University of Vicosa, Vicosa, Minas Gerais, Brazil

P3-120 Improvement of Automated VIDAS® L M X Assay for “Next Day” Detection of Listeria monocytogenes in Foods and Environmental Samples — Peggy Nomade, Damien Côte, Guillaume Mesnard, François Le Nestour, JOHN MILLS, Ron Johnson, Deborah Briese, Florence Gorse, bioMérieux, Inc., Hazelwood, MO, USA

P3-121 (v) Development of a Recombinase Polymerase Amplification Combined with Lateral Flow Dipstick Assay for Equipment-Free Detection of Vibrio vulnificus in Oysters — SEONGBIN PARK, Sam Chang, Mississippi State University, Pascagoula, MS, USA

P3-122 AOAC PTM-Certified 112001 Solus One E. coli O157 ELISA Immunoassay as a Competitive Alternative to Molecular Platforms in the Detection of Escherichia coli O157:H7 in the Raw Beef Supply Chain — NEVIN PERERA, Simon Illingworth, Solus Scientific Solutions Ltd., Mansfield, United Kingdom

P3-123 (v) The Use of Specific Swine Detection Methods to Ensure Halal Authenticity — Jennifer Valero-Garcia, Greta Carmona-Antonanzas, Yolanda Perez-Estarelles, Marta Izquierdo-Garcia, Merche Bermejo-Villodre, Carlos Ruiz-Lafora, NICOLE PRENTICE, Thermo Fisher Scientific, Basingstoke, United Kingdom

P3-124 (v) The Use of Specific Animal DNA Detection Methods to Ensure Vegan Authenticity — Jennifer Valero-Garcia, Greta Carmona-Antonanzas, Yolanda Perez-Estarelles, Marta Izquierdo-Garcia, Merche Bermejo-Villodre, Carlos Ruiz-Lafora, NICOLE PRENTICE, Thermo Fisher Scientific, Basingstoke, United Kingdom

P3-125 (v) One Year of Next Generation Sequencing (NGS) Data Collection for Food Analysis: Overview of Meat- and Fish-based Samples — Cristina Barbosa, Franck Pandian, Mario Gadano, Amanda Manolis, NICOLE PRENTICE, Ines Santos, Thermo Fisher Scientific, Basingstoke, United Kingdom

P3-126 (v) Evaluation of the bioMérieux GENE-up® Salmonella 2 (SLM) 2 Real-Time PCR Assay for Salmonella in a Variety of Foods — SALEEMA SALEH-LAKHA, Carlos Leon-Velarde, Nathan Larson, Ryan Lee, Zheng Wu, Sophie Canobio, Agriculture and Food Laboratory (AFL), University of Guelph, Guelph, ON, Canada

P3-127 (v) Evaluation of the bioMérieux VIDAS® Listeria monocytogenes (LMX) Enzyme-based Immunoassay for the Detection of Listeria monocytogenes in a Variety of Foods — SALEEMA SALEH-LAKHA, Carlos Leon-Velarde, Nathan Larson, Ryan Lee, Jennifer Fischer-Jenssen, Sophie Canobio, Agriculture and Food Laboratory (AFL), University of Guelph, Guelph, ON, Canada
P3-128 (v) Comparison between Standard Plate Count Agar and a Ready-to-Use Aerobic Count Method Using Laboratory Pasteurized Count of Raw Milk Samples — ROBERT S. SALTER, Denisse Martinez, Gregory W. Durbin, Charm Sciences, Inc., Lawrence, MA, USA

P3-129 (v) Development of a Pretreatment Method to Improve the Detection Efficiency of Real-Time PCR for Listeria monocytogenes in Meat and Processed Meat — YEONGEUN SEO, Yujin Lee, Yohan Yoon, Sookmyung Women’s University, Seoul, South Korea

P3-130 Hygienia BAX™ System Salquant™ (SalQuant) AOAC Validation for Comminuted Chicken and Turkey — TYLER STEPHENS, April Englishbey, Nisha Corigan, Savannah Applegate, Benjamin Bastin, Kateland Koch, Corey Brann, Marcos Sanchez-Plata, Hygienia, Marion, TX, USA

P3-131 Understanding Conditions That Affect Recovery of Non-Enveloped Virus from Aqueous Solution Using Magnetic Ionic Liquids — SLOANE STOUFER, Obed Varona Ortiz, Jared Anderson, Byron Brehm-Stecher, Matthew D. Moore, University of Massachusetts, Amherst, Amherst, MA, USA

P3-132 A Productivity Analysis of the 3M™ Petrifilm™ Plate Reader Advanced — ALEC TEAGARDEN, Elliott Zell, April Schumacher, Haley Saddoris, 3M Food Safety, Maplewood, MN, USA

P3-133 (v) Evaluation of Automated Plate Reading as Compared to Human Interpretation for Enterobacteriaceae, Coliform, E. coli and Yeast and Molds in Food Matrices — VANESSA TSUHAKO, Beatriz Rosa, Georgia Barros, 3M, Sumaré/SP, Brazil

P3-134 (v) Rapid Detection of Salmonella spp. and Listeria monocytogenes in Food Dressings with Loop-Mediated Isothermal Amplification (LAMP)-Biluminescent Assays — VANESSA TSUHAKO, Thiago Santos, 3M, Sumaré/SP, Brazil

P3-135 Detection of Listeria in Sprout Irrigation Water and Environmental Surface Samples Using the Listeria Canary® Zephyr Assay — Samantha Wright, Nick Davey, J. J. Lehett, YANGYANG WANG, Andrew Flannery, Smiths Detection, Baltimore, MD, USA

P3-136 (v) Magnetic Separation and Luminescence-based Detection of Bacteria in Agricultural Samples Using Engineered Bacteriophage — Hannah Zurier, Emma Farquharson, Rachel Carson, MICHAEL WIEDEROER, Shannon McGraw, Julie Goddard, Sam Nugen, U.S. Army DEVCOM Soldier Center, Natick, MA, USA


P3-138 (v) Comparison of Selected Preenrichment Media and Rapid Screening Methods in Detection of Salmonella in Spent Sprout Irrigation Water Samples — Elizabeth Reed, Hua Wang, Anna Maounounen-Laasri, Jacob Marogi, Laila Ali, Xiaohong Deng, Christina M. Ferreira, Rebecca L. Bell, Eric Brown, Thomas Hammad, JIE ZHENG, Food and Drug Administration, Center for Food Safety and Applied Nutrition, College Park, MD, USA

P3-139 (v) Method Comparison of Clear Safety™ (CS) Listeria 3-in-1 Assay, Multiplex PCR and Whole-Genome Sequencing for Performing Speciation/Subtyping of Listeria Species — BRADLEY ZIEBELL, Balasubramanyam Kottapalli, Deann Akins-Lewenthal, Conagra Brands, Omaha, NE, USA

P3-140 (v) Detection of Listeria monocytogenes in Mixed Environmental Sponge Swab Enrichment Cultures Using Hygiene™ BAX® PCR and Real-Time PCR Assays versus USDA MLG and FDA BAM Reference Methods — RYAN ZIMMERMAN, LeAnne Hahn, Laurie Post, Sue Kelly, Brian Farina, Charles Deibel, Deibel Laboratories, Inc., Madison, WI, USA


P3-142 Validation of a PCR Workflow for the Detection and Confirmation of Escherichia coli O157:H7 and the E. coli STEC Serotypes O26, O45, O103, O111, O121 and O145 from Fresh Raw Spinach, Fresh Baby Leaves, Fresh-Cut Tomatoes, Frozen Raw Beef, Raw Beef Trim and Beef Carcass Sponges — Benjamin Bastin, Joe Benzingier, Katherine Church, David Crabtree, Katharine Evans, Nikki Faulds, MATTTHW HAHS, Kateland Koch, Dean Leak, Ana-Maria Leonte, Craig Manthe, Daniele Schioler, Jessica Williams, Thermo Fisher Scientific, Lenexa, KS, USA

Modeling and Risk Assessment

P3-143 (v) Crowdsourcing and Machine Learning Approaches for Extracting Information Indicating Potential Foodborne Outbreak from Social Media — DANDAN TAO, Dongyu Zhang, Ruohan Hu, Elke Rundensteiner, Hao Feng, University of Illinois at Urbana-Champaign, Urbana, IL, USA

P3-144 (v) Text Mining of Social Media Posts for Identifying Potential Food Safety Issues on Farmers’ Markets in Illinois — DANDAN TAO, Hao Feng, University of Illinois at Urbana-Champaign, Urbana, IL, USA

P3-145 (v) Foodborne Illness of Hepatitis A Virus by Lettuce Consumption — EUNYOUNG PARK, Yoonjeong Yoo, Miseon Sung, Changsun Choi, Yohan Yoon, Sookmyung Women’s University, Seoul, South Korea

P3-146 (v) Risk Assessment of Hepatitis A Virus Foodborne Illness by Fermented Shellfish Consumption — Hyemin Oh, YOON-JEONG YOO, Miseon Sung, Changsun Choi, Yohan Yoon, Sookmyung Women’s University, Seoul, South Korea

P3-147 (v) Quantitative Microbial Risk Assessment for Norovirus Foodborne Illness by Kimchi Consumption — YOONJEONG YOO, Miseon Sung, Changsun Choi, Yohan Yoon, Sookmyung Women’s University, Seoul, South Korea

P3-148 (v) Risk of Norovirus Foodborne Illness by Raw Radish (Raphanus sativus) Consumption in Korea — MISEON SUNG, Yoonjeong Yoo, Changsun Choi, Yohan Yoon, Sookmyung Women’s University, Seoul, South Korea

P3-149 (v) Evaluation of Microbial Quality and Safety of Sushi Sold in Ontario Using Combined Culture and Molecular Methods — Carlos Leon-Velarde, Jeanine Boulter-Bitzer, Susan Lee, Nicola Linton, Kelly Shannon, Anli Gao, Jiping Li, Saleema Saleh-Lakha, SHU CHEN, Agriculture and Food Laboratory (AFL), University of Guelph, Guelph, ON, Canada

P3-150 (v) Quantitative Risk of Staphylococcus aureus Foodborne Illness by Home Meal Replacement (HMR) Foods — YEWON LEE, Yohan Yoon, Sookmyung Women’s University, Seoul, South Korea

P3-151 Risk Model of Hand-to-Food Norovirus Transmission in School Cafeterias: Evaluating the Impact of Share Tables and Intervention Strategies on Student Exposure and Dose Response — GUSTAVO A REYES, Jessica Zagorski, Melissa Pflugh Prescott, Matthew J. Stasiewicz, University of Illinois Urbana-Champaign, Champaign, IL, USA

P3-152 (v) Development of a Novel Dose-Response Modeling Approach to Incorporate Salmonella enterica Heterogeneity Based on Gene Expression Data — SHRADDHA KARANTH, Abani Pradhan, University of Maryland, Department of Nutrition and Food Science, College Park, MD, USA
P3-153 (v) Application of Advanced Data Analytics to Analyze Effects of Salmonella Gene Expression on Changes in Stress Response — SHRADDHA KARANTH, Abani Pradhan, University of Maryland, Department of Nutrition and Food Science, College Park, MD, USA

P3-154 Withdrawn

P3-155 Quantitative Transfer of E. coli (Non-Pathogenic) from Wheat into Milling Fractions and Equipment during Lab Scale Milling — JARED RIVERA, Manoj Kumar Puliwarthi, Janak Dhakal, Charles G. Aldrich, Randall Phebus, Kaliarmesh Siliveru, Kansas State University, Manhattan, KS, USA

P3-156 Development of Risk Assessment Model to Predict the Occurrence of Late Blowing Defect in Gouda Cheese and Evaluate the Intervention Strategies — CHENHAO QIAN, Aljosa Trmcic, Martin Wiedmann, Cornell University, Ithaca, NY, USA

P3-157 Identifying the Genotypic and Phenotypic Intra Species Variability of S. enterica Isolated from Food and Human Cases in Central Region of Mexico — ANGELICA GODÍNEZ-OVIEDO, Olga B. Pérez-Covarrubias, Sofia Arvizu-Medrano, Elisa Cabrera-Diaz, John P. Bowman, Montserrat Hernandez-Iturriaga, Universidad Autonoma de Queretaro, Queretaro, QA, Mexico

P3-158 Modeling Growth of Bacillus cereus from Spores during Cooling of a Beef/Rice Combination Product — Vijay Juneja, Marangeli Osoria, Xinran Xu, Anuj Purohit, ABHINAV MISHRA, University of Georgia, Athens, GA, USA

P3-159 (v) Predictive Modeling for Food Source Attribution of Listeria monocytogenes in Fresh Fruits and Vegetables — COLLINS TANUI, Shraddha Karanth, Edmund Benefo, Abani Pradhan, University of Maryland, Department of Nutrition and Food Science, College Park, MD, USA

P3-160 (v) Hydroponic/Aquaponic Farming Food Safety Risk Identification by Food Safety Practice Survey and NGS Microbial Community Analysis — MENGYI DONG, Hao Feng, University of Illinois at Urbana-Champaign, Urbana, IL, USA

P3-161 Withdrawn

P3-162 (v) Dynamics of Listeria monocytogenes Low Population in Fresh-Cut Papaya during Storage at Different Temperatures — Winnie A. Luciano, Sholeem Saline — Mubashira Zaidi, Brahmaiah Pendyala, Laura Strawn, Michelle Danyluk, University of Technology, Akure, Nigeria

P3-163 Efficacy of Celery Powder as an Antimicrobial Against (v) Modelling the Inactivation and Determination of Fluence Hydroponic/Aquaponic Farming Food Safety Risk Dynamics of Withdrawn

P3-164 (v) Modelling the Inactivation and Determination of Fluence (UV-C Dose) Required for Incremental Inactivation of Several Strains of Cronobacter spp. Suspensions in Phosphate Buffered Saline — Mushabira Zaidi, Brahmaiah Pendyala, Laura Anvaj, Jeffrey Farber, Michael Sasges, Michelle Gabriel, Ankit Patras, SAMPATHKUMAR BALAMURUGAN, Agriculture and Agri-Food Canada, Guelph, ON, Canada

P3-165 Improved Risk Assessment Model for Determining Robust Sanitation Programs and Other Preventive Controls — AMIT M. KHERADIA, Remco: A Vikcan Company, Zionsville, IN, USA

P3-166 (v) Assessing the Growth of Listeria monocytogenes in Salmon with or without the Competition of Background Microflora — A One-Step Kinetic Analysis — ZHEN JIA, University of Massachusetts, Lowell, MA, USA

P3-167 (v) Kill Step Management Combining Real-Time Data Collection and Cloud-based Analytical Services — Virginie Pignard, Julien Platret, Pierre-Olivier Beal, Pierre-Alexandre Juan, Jérôme Defillon, LAURE PUJOL, NOVOLYZE, Daix, France

P3-168 Application of a Monte Carlo Simulation Model to Evaluate the Effectiveness of Different Interventions in Reducing the Spoilage of Pasteurized Fluid Milk Due to Post-Pasteurization Contamination — SAMANTHA LAU, Sarah I. Murphy, Michael Phillips, Nicole Martin, Aljosa Trmcic, Martin Wiedmann, Cornell University, Ithaca, NY, USA

P3-169 (v) Meta-Analysis of Almond Pasteurization Validations — IAN HILDEBRANDT, Judy Scott-McKay, Tim Birmingham, Bradley Marks, Michigan State University, East Lansing, MI, USA

P3-170 (v) Mechanistic Dose-Response Model for Campylobacter jejuni Infection Probability — HIROKI ABE, Kento Koyama, Shigenobu Koseki, Hokkaido University, Sapporo, Japan

P3-171 Growth of Shiga Toxin-producing E. coli (STEC) and Generic E. coli in Ground Pork at 10°C, 25°C, and 40°C — MANIRUL HAQUE, Soon Kiat Lau, Byron Chaves, University of Nebraska-Lincoln, Lincoln, NE, USA

Packaging

P3-172 (v) Evaluation of Invisishield™ Technology to Reduce Human Norovirus and Hepatitis A Virus on Tomatoes Using the Antimicrobial Chlorine Dioxide — JASON FRYE, Rebecca M. Goulter, Angela Richard, Michael Johnston, Lee-Ann Jaykus, North Carolina State University, Department of Food, Bioprocessing and Nutrition Sciences, Raleigh, NC, USA

P3-173 (v) Development of TiO2-Containing Antimicrobial Packaging Trigged by Pulsed Light to Reduce Microbial Contaminants — TONY JIN, USDA-ARS-Eastern Regional Research Center, Wyndmoor, PA, USA

Retail and Food Service Safety

P3-174 (v) Insights into Hand Hygiene Practices of Food Handlers in Convenience Stores — A Video Camera-based Observation Study — LILY YANG, Auja Bywater, Rolando Gonzalez, James Arbogast, Clyde Manuel, GOJO Industries, Inc., Akron, OH, USA

P3-175 (v) Automated Hand Hygiene Monitoring Systems Reveal Insights into Behaviors of Food Handlers in Two Restaurant Types — CLYDE MANUEL, Greg Robbins, Jason Slater, Diane Walker, Albert Parker, James Arbogast, GOJO Industries, Inc., Akron, OH, USA

P3-176 Street Foods in Southwest Nigeria: FOOD Safety, Culture, Health, and Governance — ADEJARE ADEGBUYI, Federal University of Technology, Akure, Nigeria

P3-177 Microbiological Survey of Cantaloupe Contact Surfaces in the Retail Environment — CAMERON BARDSLEY, Christopher Rupert, Loretta Friedrich, Laura Strawn, Michelle Danyluk, Benjamin Chapman, Virginia Tech, Blacksburg, VA, USA

P3-178 (v) Employees’ Knowledge Associated with Food Allergy Management for Independent Ethnic Restaurants — JIHEE CHOI, Queens College, City University of New York (CUNY), Flushing, NY, USA
P3-179 (v) Cross-Contamination of Kitchen Surfaces, Utensils, and Hands of Volunteers Following Meal Preparation Lacking a Hand Hygiene Intervention — REBECCA M. GOLTER, Jason Frye, Emily Kingston, Esa Punth, Catherine Sander, Brian Chesanek, Nadia Harvilla, Lisa Shelley, Blanca Escudero-Abarca, Lydia Goodson, James Arborgast, Clyde Manuel, Lee-Ann Jaykus, Benjamin Chapman, North Carolina State University, Department of Food, Bioprocessing and Nutrition Sciences, Raleigh, NC, USA

P3-180 Masks as a Potential Source of Cross-Contamination during Food Preparation — ERIKA KADAS, Peter Rubinelli, Jennifer Acuff, University of Arkansas, Fayetteville, AR, USA

P3-181 (v) An Empirically Derived Measure of Food Safety Culture Among Restaurant Food Workers — ADAM KRAMER, Rick Hoover, Centers for Disease Control and Prevention (CDC), Atlanta, GA, USA

P3-182 (v) Menu Selection on Food Safety Among Young Adult Consumers: Situational Factors and Beyond — MEGAN MEI YEE LOW, Yaohua (Betty) Feng, Purdue University, West Lafayette, IN, USA

P3-183 (v) Isolation and Characterization of the Foodborne Pathogen Vibrio parahaemolyticus Variants Protected from Laboratory and Cooking Protocols from Retail Seafood Sources — ELIZABETH SCRUGGS, Guadalupe Meza, AhKayla Walker, Hung King Tiong, University of West Alabama, Livingston, AL, USA

P3-184 (v) Food Safety Best Practices at Food Service and Retail Sector in the Face of COVID-19 — MUHAMMAD SHAHBAZ, Abdul Moiz, Shugufa Mohammad Zubair, Mohammad Ahmad Amjad, Mawarid Food Company – KSA (Pizza Hut, Taco Bell), Riyadh, Saudi Arabia

P3-185 (v) SARS-CoV-2 on High Touch Surfaces at Food Retailers — Maria Corradini, Steve Newmaster, Robert Hanner, Lawrence Goodridge, Reihaneh Abdi, Louis Colaruotolo, Katherine Petker, Alyssa Francavilla, Azin Sadat, MALEEKA SINGH, Pedram Nasr, Maryam Moraveji, Sujani Rathnayake, Deleo de Leonardis, University of Guelph, Guelph, ON, Canada

P3-186 (v) Focus Group Studies on Listeria Control at Retail – Outcomes and Next Steps — KRISTINA BARLOW, Erika Stapp-Kamotani, United States Department of Agriculture, Food Safety and Inspection Service, Washington, D.C., USA

P3-187 (v) Antimicrobial-resistant Non-Typhoidal Salmonella in Various Foods at Retail in the United States: A Rapid Systematic Review and Meta-Analysis — YIFAN WU, Bing Wang, John Schmidt, Terrance Arthur, Graduated Student, Lincoln, NE, USA
Mérieux NutriSciences

First as Silliker, now as Mérieux NutriSciences; demonstrating laboratory excellence in North America for more than 50 years; with specialty services in research, validation, auditing, consulting, labeling, and certification.

Visit Us at IAFP Booth #615

merieuxnutrisciences.com/us
info-na@mxns.com
**AFFILIATE AWARDS**

**C.B. SHOGREN MEMORIAL**
New York State Association for Food Protection

**BEST AFFILIATE OVERALL MEETING**
New York State Association for Food Protection

**AFFILIATE MEMBER EDUCATION**
New Jersey Association for Food Protection

**AFFILIATE COMMUNICATION MATERIALS**
British Columbia Food Protection Association

**AFFILIATE MEMBERSHIP ACHIEVEMENT**
New York State Association for Food Protection
**Affiliate Council Officers**

Chair  Julie Jean, Quebec City, Quebec, Canada  
Secretary  Wendy White, Greensboro, Georgia, USA

**Affiliate Council Delegates**

- Africa  Joseph Odumeru  
- Alabama  Neil Bogart  
- Alberta  Lynn McMullen  
- Argentina  Fabiana Guglielmone  
- Arizona  David Morales  
- Arkansas  William Melnyczenko  
- Australia  Gary Boniface  
- Bangladesh AFPNA  Mohammad Aminul Islam  
- Brazil  Mariza Landgraf  
- British Columbia  Justin Falardeau  
- California  David Shelep  
- Capital Area  Jenny Scott  
- Carolinas  Linda Leake  
- Chile  Michel Leporati  
- China  Zengxin Li  
- Chinese AFPNA  Janeth Luna  
- Colombia  Juliany Rivera Calo  
- Colorado  Frank Greene  
- Connecticut  Matthew Krug  
- Florida  Wendy White  
- Georgia  Terence Lau  
- Hong Kong  Jesse Anglesey  
- Hungary  Brad Suhling  
- Idaho  Harshavardhan Thippareddi  
- Illinois  Amanda Deering (no delegate)  
- Indiana  Shigenobu Koseki  
- Iowa  Yohan Yoon  
- Japan  Issmat Kassem  
- Kansas  David Peters  
- Korea  Carrie Rigdon  
- Kentucky  Debbie Sees (open)  
- Louisiana  Jason Udrija  
- Maryland  Amy Rhodes  
- Michigan  Marion Castle  
- Minnesota  Christina Ritchey Wilson  
- Missouri  Li Maria Ma/Divya Jaroni  
- Nebraska  Joseph Myatt  
- New Jersey  Peggy Good  
- New York  Julie Jean  
- New Zealand  LuAnn Ford  
- Ohio  Alvin Lee  
- Oklahoma  Cindy Anderson  
- Ontario  Samim Saner  
- Pennsylvania  Bobby Krishna  
- Portugal  David Lloyd  
- Quebec  Dan Erickson  
- South Dakota  Claudia Erickson  
- Southeast Asia  Alvin Lee  
- Spain  Claudia Coles  
- Taiwan  Erin Headley  
- Texas  David Pemetic  
- Turkey  Erin Headley  
- United Arab Emirates  John Headley  
- United Kingdom  David Pemetic  
- Upper Midwest  Dan Erickson  
- Washington  Claudia Coles  
- Wisconsin  Erin Headley
AFRICAN CONTINENTAL ASSOCIATION FOR FOOD PROTECTION

President: Joseph Odumeru
Past President: Charles Muyanja
Vice President: Peter Kennedy
Secretary: Moustapha Oke
Treasurer: Charles Muyanya
Delegate: Peter Kennedy
Contact: Peter Kennedy
Email: pkennedy@qualityflow.com

AUSTRALIAN ASSOCIATION FOR FOOD PROTECTION

President: David Myatt
Past President: Deon Mahoney
Secretary: Robin Sherlock
Delegate: Gary Boniface
Contact: Robin Sherlock
Email: rsherlock@safefood.qld.gov.au

BANGLADESH ASSOCIATION FOR FOOD PROTECTION IN NORTH AMERICA

President: Salina Parveen
President-Elect: Bijay Khajanchi
Vice President: Debabrata Biswas
Secretary: Nur Hasan
Treasurer: Bijay Khajanchi
Delegate: Mohammad Aminul Islam
Contact: Salina Parveen
Email: sparveen@umes.edu

BRAZIL ASSOCIATION FOR FOOD PROTECTION

President: Ivone Delazari
Vice President: Renata Do Nascimento
Past President: Mariza Landgraf
Secretary: Luis Nero
Treasurer: Bernadette D.G.M. Franco
Delegate: Mariza Landgraf
Contact: Mariza Landgraf
Email: landgraf@usp.br

BRITISH COLUMBIA FOOD PROTECTION ASSOCIATION

President: David Mahoney
Vice President: Stephanie Chiu
Past President: Justin Falardeau
Secretary: Shenmiao Li
Treasurer: Simon Cowell
Delegate: Justin Falardeau
Contact: Justin Falardeau
Email: justin.falardea@ubc.ca

CALIFORNIA ASSOCIATION FOR FOOD PROTECTION

President: Laurie Clotilde
Vice President: Tom Sidebottom
Secretary: Luxin Wang
Treasurer: Sherman Mah
Delegate: David Shelep
Contact: Laurie Clotilde
Email: laurie@bsuretechnologies.com

ARKANSAS ASSOCIATION FOR FOOD PROTECTION

President: Jerri Lynn Pickett
Vice President: John Handley
Past President: Barbara Smith
Secretary/Treasurer/Contact: Tammy McFate
Delegate: William Melnychenko
Email: tmcfate@ompfoods.com

CAPITAL AREA FOOD PROTECTION ASSOCIATION

President: Elizabeth Reed
Vice President: Robert Ferguson
Past President: Sanjay Gummalla
Secretary: Claire Murphy
Treasurer: Lory Reveal
Delegate: Jenny Scott
Contact: Elizabeth Reed
Email: elizabeth.reed@fda.hhs.gov

ALABAMA ASSOCIATION FOR FOOD PROTECTION

President: Wanda Cotter
Past President: Steve Adams
President-Elect: Christy Mendoza
Vice President: Luke McGlothin
Secretary/Treasurer: G.M. Gallaspy
Delegate: Neil Bogart
Contact: G. M. Gallaspy
Email: gallaspyg@bellsouth.net

ALBERTA ASSOCIATION FOR FOOD PROTECTION

President: Jennifer Poirier
Past President: Kevin Webster
Secretary: Lynn M. McMullen
Treasurer: Lynn M. McMullen
Delegate: Lynn M. McMullen
Contact: Lynn M. McMullen
Email: lynn.mcmullen@ualberta.ca

ARGENTINE FOOD SAFETY COMMISSION

President: Fabiana Guglielmone
Vice President: Fernando Gallegos Sola
Secretary: Laura Duverne
Treasurer: Diego Romulo
Delegate: Fabiana Guglielmone
Contact: Fabiana Guglielmone
Email: fabiana.guglielmone@unilever.com

ARGAZON ENVIRONMENTAL HEALTH ASSOCIATION

President: David Morales
President-Elect: Andres Martin
Past President: Cheri Dale
Secretary: Blanca Caballero
Treasurer: Jennifer Podulka
Delegate: David Morales
Contact: Blanca Caballero
Email: blanca.caballero@maricopa.gov

AUSTRALIAN ASSOCIATION FOR FOOD PROTECTION

President: David Myatt
Past President: Deon Mahoney
Secretary: Robin Sherlock
Delegate: Gary Boniface
Contact: Robin Sherlock
Email: rsherlock@safefood.qld.gov.au

BANGLADESH ASSOCIATION FOR FOOD PROTECTION IN NORTH AMERICA

President: Salina Parveen
President-Elect: Bijay Khajanchi
Vice President: Debabrata Biswas
Secretary: Nur Hasan
Treasurer: Bijay Khajanchi
Delegate: Mohammad Aminul Islam
Contact: Salina Parveen
Email: sparveen@umes.edu

BRAZIL ASSOCIATION FOR FOOD PROTECTION

President: Ivone Delazari
Vice President: Renata Do Nascimento
Past President: Mariza Landgraf
Secretary: Luis Nero
Treasurer: Bernadette D.G.M. Franco
Delegate: Mariza Landgraf
Contact: Mariza Landgraf
Email: landgraf@usp.br

BRITISH COLUMBIA FOOD PROTECTION ASSOCIATION

President: David Mahoney
Vice President: Stephanie Chiu
Past President: Justin Falardeau
Secretary: Shenmiao Li
Treasurer: Simon Cowell
Delegate: Justin Falardeau
Contact: Justin Falardeau
Email: justin.falardea@ubc.ca

CALIFORNIA ASSOCIATION FOR FOOD PROTECTION

President: Laurie Clotilde
Vice President: Tom Sidebottom
Secretary: Luxin Wang
Treasurer: Sherman Mah
Delegate: David Shelep
Contact: Laurie Clotilde
Email: laurie@bsuretechnologies.com

ARKANSAS ASSOCIATION FOR FOOD PROTECTION

President: Jerri Lynn Pickett
Vice President: John Handley
Past President: Barbara Smith
Secretary/Treasurer/Contact: Tammy McFate
Delegate: William Melnychenko
Email: tmcfate@ompfoods.com

CAPITAL AREA FOOD PROTECTION ASSOCIATION

President: Elizabeth Reed
Vice President: Robert Ferguson
Past President: Sanjay Gummalla
Secretary: Claire Murphy
Treasurer: Lory Reveal
Delegate: Jenny Scott
Contact: Elizabeth Reed
Email: elizabeth.reed@fda.hhs.gov

ALABAMA ASSOCIATION FOR FOOD PROTECTION

President: Wanda Cotter
Past President: Steve Adams
President-Elect: Christy Mendoza
Vice President: Luke McGlothin
Secretary/Treasurer: G.M. Gallaspy
Delegate: Neil Bogart
Contact: G. M. Gallaspy
Email: gallaspyg@bellsouth.net

ALBERTA ASSOCIATION FOR FOOD PROTECTION

President: Jennifer Poirier
Past President: Kevin Webster
Secretary: Lynn M. McMullen
Treasurer: Lynn M. McMullen
Delegate: Lynn M. McMullen
Contact: Lynn M. McMullen
Email: lynn.mcmullen@ualberta.ca

ARGENTINE FOOD SAFETY COMMISSION

President: Fabiana Guglielmone
Vice President: Fernando Gallegos Sola
Secretary: Laura Duverne
Treasurer: Diego Romulo
Delegate: Fabiana Guglielmone
Contact: Fabiana Guglielmone
Email: fabiana.guglielmone@unilever.com

ARGAZON ENVIRONMENTAL HEALTH ASSOCIATION

President: David Morales
President-Elect: Andres Martin
Past President: Cheri Dale
Secretary: Blanca Caballero
Treasurer: Jennifer Podulka
Delegate: David Morales
Contact: Blanca Caballero
Email: blanca.caballero@maricopa.gov

AUSTRALIAN ASSOCIATION FOR FOOD PROTECTION

President: David Myatt
Past President: Deon Mahoney
Secretary: Robin Sherlock
Delegate: Gary Boniface
Contact: Robin Sherlock
Email: rsherlock@safefood.qld.gov.au

BANGLADESH ASSOCIATION FOR FOOD PROTECTION IN NORTH AMERICA

President: Salina Parveen
President-Elect: Bijay Khajanchi
Vice President: Debabrata Biswas
Secretary: Nur Hasan
Treasurer: Bijay Khajanchi
Delegate: Mohammad Aminul Islam
Contact: Salina Parveen
Email: sparveen@umes.edu

BRAZIL ASSOCIATION FOR FOOD PROTECTION

President: Ivone Delazari
Vice President: Renata Do Nascimento
Past President: Mariza Landgraf
Secretary: Luis Nero
Treasurer: Bernadette D.G.M. Franco
Delegate: Mariza Landgraf
Contact: Mariza Landgraf
Email: landgraf@usp.br

BRITISH COLUMBIA FOOD PROTECTION ASSOCIATION

President: David Mahoney
Vice President: Stephanie Chiu
Past President: Justin Falardeau
Secretary: Shenmiao Li
Treasurer: Simon Cowell
Delegate: Justin Falardeau
Contact: Justin Falardeau
Email: justin.falardea@ubc.ca

CALIFORNIA ASSOCIATION FOR FOOD PROTECTION

President: Laurie Clotilde
Vice President: Tom Sidebottom
Secretary: Luxin Wang
Treasurer: Sherman Mah
Delegate: David Shelep
Contact: Laurie Clotilde
Email: laurie@bsuretechnologies.com

ARKANSAS ASSOCIATION FOR FOOD PROTECTION

President: Jerri Lynn Pickett
Vice President: John Handley
Past President: Barbara Smith
Secretary/Treasurer/Contact: Tammy McFate
Delegate: William Melnychenko
Email: tmcfate@ompfoods.com

CAPITAL AREA FOOD PROTECTION ASSOCIATION

President: Elizabeth Reed
Vice President: Robert Ferguson
Past President: Sanjay Gummalla
Secretary: Claire Murphy
Treasurer: Lory Reveal
Delegate: Jenny Scott
Contact: Elizabeth Reed
Email: elizabeth.reed@fda.hhs.gov
### CAROLINAS ASSOCIATION FOR FOOD PROTECTION
- **President:** Ben Chapman
- **Past President:** Angela Fraser
- **Secretary/Treasurer:** Linda Leake
- **Delegate:** Linda Leake
- **Contact:** Ben Chapman
- **Email:** benjamin_chapman@ncsu.edu

### CHILEAN CORPORATION FOR FOOD PROTECTION
- **President:** Michel Leporati
- **Vice President:** Jose Sepulveda
- **Past President:** Monica Galleguillos
- **Secretary:** Andrea Moreno Switt
- **Treasurer:** Paula Acevedo
- **Delegate:** Michel Leporati
- **Contact:** Michel Leporati
- **Email:** michel.leporati@ceresbca.cl

### CHINA ASSOCIATION FOR FOOD PROTECTION
- **President:** Xiumei Liu
- **Vice President:** Xianming Shi
- **Secretary:** Jie Wei
- **Treasurer:** Patrick Luo
- **Delegate:** Xiumei Liu
- **Contact:** Xiumei Liu
- **Email:** liuxiumei@cfsa.net.cn

### CHINESE ASSOCIATION FOR FOOD PROTECTION IN NORTH AMERICA
- **President:** Yifan Zhang
- **President-Elect:** Haiping Li
- **Past President:** Zengxin Li
- **Secretary:** Ren Yang
- **Treasurer:** Zengxin Li
- **Delegate:** Zengxin Li
- **Contact:** Yifan Zhang
- **Email:** yifanhang@wayne.edu

### COLOMBIA ASSOCIATION OF FOOD SCIENCE AND TECHNOLOGY
- **President:** Edna Liliana Peralta
- **Vice President:** Pedro Posada
- **Past President:** Adriana Coral Durango
- **Delegate:** Janeth Luna
- **Contact:** Jorge Cabrera
- **Email:** cabrerajorgea@outlook.com

### COLORADO ASSOCIATION FOR FOOD PROTECTION
- **President:** Laurel Burke
- **Past President:** Juliany Rivera Calo
- **Vice President:** Juliany Rivera Calo
- **Secretary:** Jeffrey Nauseda
- **Treasurer:** Angela Tuxhorn
- **Delegate:** Juliany Rivera Calo
- **Contact:** Juliany Rivera Calo
- **Email:** juliany.riveracalo@ardentmills.com

### CONNECTICUT ASSOCIATION FOR FOOD PROTECTION
- **President:** Barbara Bucknam
- **Secretary:** Frank Greene
- **Treasurer:** Karen Rotella
- **Delegate:** Frank Greene
- **Contact:** Frank Greene
- **Email:** frank.greenie@ct.gov

### FLORIDA ASSOCIATION FOR FOOD PROTECTION
- **President:** Jason Scheffler
- **President-Elect:** Jamie Irwin
- **Past President:** Vanessa Cranford
- **1st Vice President:** Lori Duckworth
- **Secretary:** Jo DeFrancesco
- **Treasurer:** Rick Barney
- **Delegate:** Matthew Krug
- **Contact:** Matthew Krug
- **Email:** mkrug@ufl.edu

### GEORGIA ASSOCIATION FOR FOOD PROTECTION
- **President:** Cheryl Brown
- **President-Elect:** Katie Murchison
- **Vice President:** Jessica Chen
- **Past President:** Jairo de Jesus
- **Secretary:** Ynes Ortega
- **Treasurer:** Steven Fuller
- **Delegate:** Wendy White
- **Contact:** Ynes Ortega
- **Email:** ortega@uga.edu

### HONG KONG FOOD SAFETY CONSORTIUM
- **President:** Terence Lau
- **Secretary:** Nelly Lam
- **Delegate:** Terence Lau
- **Contact:** Terence Lau
- **Email:** terence.lt.lau@polyu.edu.hk

### HUNGARIAN ASSOCIATION FOR FOOD PROTECTION
- **President:** Csilla Mohácsi-Farkas
- **Vice President:** Gabriella Kiskó
- **Secretary/Treasurer:** Tekla Engelhardt
- **Delegate:** László Varga
- **Contact:** Csilla Mohácsi-Farkas
- **Email:** farkas.csilla.etk.szie.hu

### HUNGRARIAN ASSOCIATION FOR FOOD PROTECTION
- **President:** Csilla Mohácsi-Farkas
- **Vice President:** Gabriella Kiskó
- **Secretary/Treasurer:** Tekla Engelhardt
- **Delegate:** László Varga
- **Contact:** Csilla Mohácsi-Farkas
- **Email:** farkas.csilla.etk.szie.hu

### IDAHO ENVIRONMENTAL HEALTH ASSOCIATION
- **President:** Jesse Anglesey
- **President-Elect:** Carolee Cooper
- **Past President:** Sherise Jurries
- **Delegate:** Jesse Anglesey
- **Contact:** Jesse Anglesey
- **Email:** janglesey@siph.idaho.gov
ASSOCIATED ILLINOIS MILK, FOOD AND ENVIRONMENTAL SANITARIANS

President: Brad Suhling
President-Elect: Charles Yarris
Past President: Merle Bontrager
1st Vice President: Armour Peterson
2nd Vice President: Stephanie Cline
Secretary: Steve DiVincenzo
Treasurer: Charles Mack
Delegate: Brad Suhling
Contact: Steve DiVincenzo
Email: steve.divincenzo@illinois.gov

INDIAN ASSOCIATION FOR FOOD PROTECTION IN NORTH AMERICA

President: Jitu Patel
Vice President: Govindaraj Dev Kumar
Past President: Abani Pradhan
Treasurer: Sadhana Ravishankar
Secretary: Nitin Dhowlaghar
Delegate: Harshavardhan Thippareddi
Contact: Nitin Dhowlaghar
Email: dhowlaghar.nitin@gmail.com

INDIANA ENVIRONMENTAL HEALTH ASSOCIATION

President: Jammie Bane
President-Elect: Hollie Rose
Vice President: Jennifer Heller
Past President: JoAnn Xiong-Mercado
Treasurer: Gretchen Quirk
Secretary: Lisa Chandler
Delegate: Amanda Deering
Contact: Tami Barrett
Email: tblarrett4898@sbcglobal.net

IOWA ASSOCIATION FOR FOOD PROTECTION

President: Deb Wehde
Vice President: Jurgen Ehler
Past President: Greg Rohmiller
1st Vice President: Marilyn Steffens
2nd Vice President: Curt Larson
Secretary/Treasurer: Lynne Melchert
Contact: Lynne Melchert
Email: lynne.melchert@prairiefarms.com

JAPAN ASSOCIATION FOR FOOD PROTECTION

President: Shigenobu Koseki
Vice President: Kunihiro Kubota
Secretary: Mami Furukawa
Delegate: Shigenobu Koseki
Contact: Mami Furukawa
Email: mfurukawa2@mmm.com

KANSAS ENVIRONMENTAL HEALTH ASSOCIATION

President: Terry Langer
1st Vice President: Perry Piper
Past President: Robert Torres
Secretary: Mark Bradshaw
Treasurer: Allison Blodig
Delegate: Terry Langer
Contact: Terry Langer
Email: tdlanger@cowleycounty.org

KOREA ASSOCIATION OF FOOD PROTECTION

President: Yohan Yoon
Past President: Kun-Ho Seo
Secretary: Won Bo Shim
Delegate: Yohan Yoon
Contact: Yohan Yoon
Email: bracstu3@konkuk.ac.kr

LEBANESE ASSOCIATION FOR FOOD SAFETY

President: Issmat Kassem
Vice President: Nadera Hamdar
Secretary: Maya El Moklad
Treasurer: Reem Hamzeh
Delegate: Issmat Kassem
Contact: Issmat Kassem
Email: ik12@aub.edu.16

MEXICO ASSOCIATION FOR FOOD PROTECTION

President: Raul Avila Sosa
Vice President: Maria Teresa Jimenez Munguia
Past President: Nydia Orue
Secretary: Ernesto Cantu-Soto
Treasurer: Emma Mani Lopez
Delegate: Nydia Orue
Contact: Raul Avila Sosa
Email: info@amepal.com

MICHIGAN ENVIRONMENTAL HEALTH ASSOCIATION

President: Andrew Priest
President-Elect: Paul Hauck
Past President: Greg Braun
Treasurer: John Texter
Secretary: Derek Hladki
Delegate: David Peters
Contact: David Peters
Email: dpeters@umich.edu

MINNESOTA FOOD PROTECTION ASSOCIATION

President: Gregory Danzeisen
Past President: David Baumler
Vice President: Rick Stokes
Treasurer: Polly Courtney
Delegate: Carrie Rigdon
Contact: Rick Stokes
Email: rick.stokes@ecolab.com

MISSOURI ENVIRONMENTAL HEALTH ASSOCIATION

President: Ryan Tilley
Vice President: Leah Ferris
Past President: Debbie Sees
Secretary: Karen Hunter Krueger
Treasurer: Nancy Beyer
Delegate: Debbie Sees
Contact: Debbie Sees
Email: dsees@jacksongov.org
AFFILIATE OFFICERS

NEBRASKA ASSOCIATION FOR FOOD PROTECTION
President: open
Past President: Beth Burmester
Secretary: open
Treasurer: Penny Mack
Delegate: open

NEW JERSEY ASSOCIATION FOR FOOD PROTECTION
President: Robyn Miranda
1st Vice President: Katherine Malvetti
Past President: Jessica Albrecht
Secretary: Virginia Wheatley
Treasurer: Jessica Albrecht
Delegate: Jason Udrija
Contact: Virginia Wheatley
Email: virginia.wheatley@doh.nj.gov

NEW YORK STATE ASSOCIATION FOR FOOD PROTECTION
President: Donna Walker
President-Elect: Kelly Natali
Past President: Elizabeth Bihn
Secretary: Amy Rhodes
Delegate: Amy Rhodes
Contact: Amy Rhodes
Email: amy.rhodes@hphood.com

NEW ZEALAND ASSOCIATION FOR FOOD PROTECTION
President: Marion Castle
Past President: John Fam
Secretary: David Lowry
Delegate: Marion Castle
Contact: Marion Castle
Email: marion.castle@mpi.gov.nz

OHIO ASSOCIATION FOR FOOD PROTECTION
President: Sarah Jensen
1st Vice President: Rob Acquista
2nd Vice President: Jonathan Schmidt
Past President: Adam Gilbert
Treasurer: Ebony Merritt-Lucas
Delegate: Christina Wilson
Contact: Christina Wilson
Email: christinaw@columbus.gov

OKLAHOMA ASSOCIATION FOR FOOD PROTECTION
President: Divya Jaroni
Past President: Li Maria Ma
Vice President: Ravirajsinh Jadeja
Secretary/Treasurer: Peter Murlana
Delegate: Li Maria Ma/Divya Jaroni
Contact: Divya Jaroni
Email: divya.jaroni@okstate.edu

ONTARIO FOOD PROTECTION ASSOCIATION
President: Joe Myatt
Vice President: Nadia Narine
Past President: Angela Bernoski
Treasurer: Gwynne Sitker
Delegate: Joe Myatt
Contact: Denise Horsemman
Email: info@ofpa.on.ca

PENNSYLVANIA ASSOCIATION OF MILK FOOD AND ENVIRONMENTAL SANITARIANS
President: Wyleshia Branch
President-Elect: Ashley Lansdowne
Past President: Jim Fleck
Vice President: Amanda Wolfe
Secretary: Peggy Good
Treasurer: Keith Hay
Delegate: Peggy Good
Contact: Peggy Good
Email: peggy.good@turkeyhill.com

PORTUGAL ASSOCIATION FOR FOOD PROTECTION
President: Laurentina M.R. Pedroso
Treasurer: Ricardo Assuncao
Delegate: Laurentina M.R. Pedroso
Contact: Laurentina M.R. Pedroso
Email: lrpedroso@netcabo.pt

QUEBEC FOOD PROTECTION ASSOCIATION
President: Anne-Marie Masella
Past President: Julie Jean
Vice President: Anne-Marie Beaulieu
Treasurer: Benoit Gagnon
Secretary: Anny Lainesse
Delegate: Julie Jean
Contact: Julie Jean
Email: julie.jean@fsaa.ulaval.ca

SOUTH DAKOTA ENVIRONMENTAL HEALTH ASSOCIATION
President: Scott Hipple
Past President: John Osburn
Secretary: Dominic Miller
Treasurer: Jordan Dorneman
Delegate: LuAnn Ford
Contact: Dominic Miller
Email: millerd@hardydiagnostics.com

SOUTHEAST ASIA ASSOCIATION FOR FOOD PROTECTION
President: Ratih Dewanti
Vice President: Lay Ching Chai
Past President: Hyun-Gyun Yuk
Secretary: Kitiya Vongkamjan
Delegate: Alvin Lee
Contact: Alvin Lee
Email: alee33@illt.edu

SPAIN ASSOCIATION FOR FOOD PROTECTION
President: Emiliano Quinto
President-Elect: David Rodriguez-Lazaro
Vice President: Marta Hernandez-Perez
Secretary/Treasurer: Rosa Capita
Delegate: David Rodriguez-Lazaro
Contact: Emiliano J. Quinto
Email: ejquinto@gmail.com
AFFILIATE OFFICERS

TAIWAN ASSOCIATION FOR FOOD PROTECTION
President: Lee-Yan Sheen
Past President: Chia-Yang Chen
Vice President: Ming-Fu Wang
Secretary: Kuan-Chen Cheng
Delegate: Chih-Kuan Pan
Contact: Lee-Yan Sheen
Email: lysheen@ntu.edu.tw

TEXAS ASSOCIATION FOR FOOD PROTECTION
President: Cindy Anderson
Past President: Melissa Schlabs
Vice President: Ann Bauer
Secretary: Sherrill Gelsomino
Treasurer: Elusay Dunaway
Delegate: Cindy Anderson
Contact: Cindy Anderson
Email: cindy.anderson@bordendairy.com

TURKISH FOOD SAFETY ASSOCIATION
President: Samim Saner
1st Vice President: Necdet Buzbas
2nd Vice President: Edip Sincer
Secretary: Muhteber Ersin
Delegate: Samim Saner
Contact: Muhteber Ersin
Email: muhteber.ersin@ggd.org.tr

UNITED ARAB EMIRATES ASSOCIATION FOR FOOD PROTECTION
President: Khalid Mohammed Sharif Alawadhi
President-Elect: Amina Ahmed Mohammed
Vice President: Asia Abdulwahab AlRaeesi
Secretary: Bashir Hassan Yousif
Delegate: Bobby Krishna
Contact: Bobby Krishna
Email: bobbykrishna@gmail.com

UNITED KINGDOM ASSOCIATION FOR FOOD PROTECTION
President: Ellen Evans
Past President: Helen Taylor
Vice President: Leanne Ellis
Secretary: Carol Wallace
Treasurer: John Holah
Delegate: David Lloyd
Contact: Helen Taylor
Email: hrtaylor@cardiffmet.ac.uk

UPPER MIDWEST DAIRY INDUSTRY ASSOCIATION
President: Nikki Studenski
Past President: Dawn Raymond
Vice President: Dale Heintz
Past President: Tom Berry
Treasurer: Scott Stude
Secretary: Katie Brown
Delegate/Contact: Dan Erickson
Email: djerickson2460@aol.com

WASHINGTON ASSOCIATION FOR FOOD PROTECTION
President: Diep Wisniewski
President-Elect: Nathan Decker
Past President: Daniel Wing
Treasurer: Jill Wisehart
Secretary: Stephanie Olmsted
Delegate: Claudia Coles
Contact: Stephanie Olmsted
Email: stephanie.olmsted@safeway.com

WISCONSIN ASSOCIATION FOR FOOD PROTECTION
President: Erin Headley
President Elect: Max Golden
1st Vice President: Lindsey O’Brien
2nd Vice President: Kristin Schill
Past President: Jean Finger
Secretary: Beth Button
Treasurer: Adam Brock
Delegate: Erin Headley
Contact: Beth Button
Email: button@wisc.edu
We can’t wait to introduce you to our newest science-based solutions.

Stop by Booth #403 to meet the all-new:

3M™ Petrifilm™ Plate Reader Advanced & 3M™ Environmental Scrub Sampler with 10 mL Wide Spectrum Neutralizer

Pick up a FREE SAMPLE of the Environmental Scrub Sampler and REGISTER TO WIN a Yeti® tumbler.
AWARD RECIPIENTS

BLACK PEARL
Sponsored by F&H Food Equipment Company
Mondelēz International

FELLOW
Jianghong Meng

PRESIDENT’S LIFETIME ACHIEVEMENT
Carl Custer

HONORARY LIFE MEMBERSHIP
Kenneth Anderson  Mickey Parish
Judy Greig  F. Tracy Schonrock
Edward Wellmeyer

HARRY HAVERLAND CITATION
Sponsored by Eurofins
Dale A. Grinstead

FOOD SAFETY INNOVATION
Sponsored by Walmart
Hygiena

INTERNATIONAL LEADERSHIP
Sponsored by Food Safety Net Services
Terence L. T. Lau

FOOD SAFETY
Sponsored by Consumer Brands Association (CBA)
The Center for Produce Safety

FROZEN FOOD FOUNDATION FREEZING RESEARCH
Sponsored by Frozen Food Foundation
Shyam Sablani

INSTITUT MÉRIEUX YOUNG INVESTIGATOR AWARD IN ANTIMICROBIAL RESISTANCE
Sponsored by Institut Mérieux
Laura Carroll

MAURICE WEBER LABORATORIAN
Sponsored by The Fred and Elizabeth Weber Trust
Panagiotis N. Skandamis

LARRY BEUCHAT YOUNG RESEARCHER
Sponsored by bioMérieux, Inc.
Laura K. Straw

JAMES M. JAY DIVERSITY IN FOOD SAFETY
Sponsored by 3M Food Safety
Armitra Jackson-Davis

EWEN C.D. TODD CONTROL OF FOODBORNE ILLNESS
Sponsored by Marler Clark
Craig W. Hedberg

SANITARIAN
Sponsored by Ecolab Inc.
Richard Brouillette

ELMER MARTH EDUCATOR
Sponsored by Nelson-Jameson, Inc.
Elizabeth A. Bihn

HAROLD BARNUM INDUSTRY
Sponsored by MERCK Animal Health
Melanie J. Neumann

TRAVEL AWARD FOR A FOOD SAFETY PROFESSIONAL IN A COUNTRY WITH A DEVELOPING ECONOMY
Sponsored by IAFP and the IAFP Foundation
Kubir Nath Bhattarai
Titolayo Falade
Amin Olaimat

TRAVEL AWARD FOR HEALTH OR AGRICULTURAL DEPARTMENT EMPLOYEES IN NORTH AMERICA
Sponsored by IAFP and the IAFP Foundation
Jennifer Eberly

STUDENT TRAVEL SCHOLARSHIP
Sponsored by IAFP and the IAFP Foundation
Jessica Brown
Brenda Moraa Kimang’a
Shiyu Cai
Xingchen Liu
Bienvenido Cortes
Ajay Mittal
Devin Daeschel
Owade Joshua Ombaka
Adwoa Dankwa
Solomon Rajkumar Racharla
Minh Duong
Keshnee Reega
Marina Girbal
Anna Townsend
Sarah L. Jones
Joseph Wambui
Karuna Kharel
Christina Wormald
Minji Kim
Jiyoon Yi

PEANUT PROUD STUDENT SCHOLARSHIP
Sponsored by Peanut Proud
Daniel Vega

J. MAC GOEPFERT DEVELOPING SCIENTISTS
Sponsored by the IAFP Foundation
TBD

UNDERGRADUATE STUDENT COMPETITION
Sponsored by the IAFP Foundation
TBD

SAMUEL J. CRUMBINE
Sponsored by the Conference for Food Protection, in cooperation
with American Academy of Sanitarians, American Public Health
Association, Association of Food & Drug Officials,
Food Marketing Institute, Foodservice Packaging Institute,
International Association for Food Protection, National
Association of County and City Health Officials, National
Environmental Health Association, National Restaurant
Association, NSF International, and Underwriters Laboratories
Washoe County Health District
ABOUT THE AWARD RECIPIENTS

BLACK PEARL AWARD

Mondelēz International
Chicago, Illinois

At Mondelēz International, our purpose is to empower people to snack right while ensuring the safety and quality of our products for our customers. We’re leading the future of snacking by offering the right snack, for the right moment, made the right way. That means delivering a broader range of delicious, high-quality snacks that nourish life’s moments, made with sustainable ingredients and packaging that consumers can feel good about.

Mondelēz International makes and sells primarily snacks, including biscuits (cookies, crackers, and salted snacks), chocolate, gum, and candy, as well as various cheese and grocery and powdered beverage products in more than 150 countries. We are one of the largest snack companies in the world, with 2020 net revenues of approximately $27 billion and global and local brands such as OREO, belVita, and LU biscuits; Cadbury Dairy Milk, Milka, and Toblerone chocolate; Sour Patch Kids candy, and Trident gum. With operations in more than 80 countries, Mondelēz International employs 80,000 makers and bakers in our factories, offices, research and development facilities, and distribution activities around the world.

Reflected in everything we do, our three values – Love Our Consumers and Brands; Grow Every Day; and Do What’s Right – shape how we operate and bring our purpose to life.
Dr. Jianghong Meng is the recipient of the 2021 IAFP Fellow Award. Dr. Meng is the Director of the Joint Institute for Food Safety and Applied Nutrition (JIFSAN) and the Center for Food Safety and Security Systems, and a Professor in the Department of Nutrition and Food Science at the University of Maryland in College Park. As the Director, he has built strong collaborative partnerships in expanding JIFSAN’s food safety capacity building programs, both locally and globally.

Dr. Meng has extensive experience in food safety research and education. His scientific research interests include the development of identification and characterization methods for foodborne pathogens, and the use of whole genome sequencing to answer pressing epidemiologic issues related to the source and risk factors contributing to foodborne illness.

Dr. Meng has served on numerous national and international advisory committees including the National Academy of Science’s Committees on Food Safety; the National Advisory Committee on Microbiological Criteria for Foods; and the Asia-Pacific Economic Corporation’s Food Safety Partnership Training Institute Network. He chairs the International Scientific Committee of China’s National Center for Food Safety Risk Assessment. Dr. Meng is also a Fellow of the American Academy of Microbiology.


Dr. Meng received his DVM from Sichuan Agricultural University in China, and his Master of Preventive Veterinary Medicine and Ph.D. in Comparative Pathology, both from the University of California – Davis. He conducted his post-doctoral training in Food Safety Microbiology at the University of Georgia.
Mr. Carl Custer is the recipient of the 2021 IAFP President’s Lifetime Achievement Award. This award is given at the discretion of the Association’s President to recognize an individual who has made a lasting impact on “Advancing Food Safety Worldwide” through a lifetime of professional achievements in food protection.

Mr. Custer served as a food microbiologist with more than five decades of experience in dairy, seafood, and meat microbiology in addition to regulatory and educational programs. After receiving his B.S. and M.S. from Texas A&M, he joined the U.S. Department of Agriculture’s Regulatory Agency in 1972 at the Beltsville laboratories. In 1980, he moved to the Agency’s Food Safety and Inspection Service’s (FSIS) headquarters in Washington, D.C. to develop the scientific background for regulatory programs. His experience at FSIS included developing regulations, writing directives, troubleshooting plant processes, and training federal and retail inspectors. Since his retirement in 2007, Mr. Custer has done consulting, inspector training, and motorcycle touring.

Mr. Custer joined IAFP (then IAMFES) in 1980 and served as an active member on numerous committees and Professional Development Groups (PDGs), including as Chair of the Meat and Poultry Safety and Quality PDG. He has also given numerous IAFP presentations and organized symposia and roundtables. He was a co-founder of IAFP’s Affiliate, the Capital Area Food Protection Association, serving as its Delegate and later as Affiliate Council Chair. In 2007, Mr. Custer presented the Ivan Parkin Lecture, received the Harry Haverland Citation Award, and became a member of the “Brat Hat Pack.” In 2009, Mr. Custer was honored with the IAFP Honorary Life Membership Award, and in 2011, he received the President’s Recognition Award for his service on the IAFP 100-Year Planning Committee.

Mr. Custer is a member of local and national boards, and volunteers for local projects and teaching STEM. In addition to volunteering, his current interests are entertaining his wife, kids, and grandchildren, reading, writing, rye whiskey, and craft beers.
Mr. Kenneth Anderson is a recipient of the 2021 Honorary Life Membership Award. Mr. Anderson became President of Harold Wainess & Associates in 2003 upon Mr. Wainess’ retirement. Founded in 1952, the company is one of only two firms authorized by the U.S. FDA to certify foreign dairy processors to the Grade-A Pasteurized Milk Ordinance (PMO). The company’s motto is “The Public’s Health is Our Business,” and they strive to live by that every day. Mr. Anderson travels the world to certify foreign manufacturers of dairy products and dairy packaging materials in more than 30 countries under the FDA/IMS Dairy Program.

Prior to joining Harold Wainess & Associates, Mr. Anderson worked for the Illinois Department of Public Health, Division of Food, Drugs and Dairies, where he inspected dairy farms and processing plants in Northern Illinois. As an FDA-certified Rating Officer, he also conducted surveys for the Interstate Milk Shippers Program.

Mr. Anderson joined IAFP (then IAMFES) in 1975 and has attended many Annual Meetings, giving presentations on HACCP, GMPs, and other dairy-related subjects. As a supporter and Past President of the IAFP Affiliate, the Associated Illinois Milk, Food and Environmental Sanitarians, Mr. Anderson played an active role in hosting two IAFP Annual Meetings in Illinois. He served as Chair of the Dairy Quality & Safety PDG from 2005–2007 and received the Harold Barnum Industry Award in 2000.

Mr. Anderson is a member of the Executive Board of the National Conference of Interstate Milk Shippers and serves on the Board of Directors of 3-A Sanitary Standards, Inc. He is a Certified Conformance Evaluator under the 3-A Third Party Verification Program.

Ms. Judy Greig is a recipient of the 2021 IAFP Honorary Life Membership Award. Ms. Greig retired in 2019 as an Epidemiologist with the Public Health Agency of Canada, National Microbiology Laboratory in Guelph, Ontario. Her projects included attribution of foodborne disease, systematic and scoping reviews of public health issues, and knowledge translation.

Since joining IAFP in 2000, Ms. Greig served on the Black Pearl Selection Committee; both the Food Protection Trends and the Journal of Food Protection Management Committees; the Foundation Committee, and the FPT Editorial Board. She joined the Committee on the Control of Foodborne Illness in 2000, and served as Vice-Chair from 2007–2020. During that time, the Committee authored eleven papers describing the role of the infected food handler; updated the Procedures to Investigate Foodborne Illness and Procedures to Investigate Waterborne Illness manuals; and organized multiple symposia. Ms. Greig received the IAFP Affiliate Certificate of Merit in 2005, the Harry Haverland Award in 2012, and the IAFP Fellow Award in 2017.

As a member of the IAFP Affiliate, the Ontario Food Protection Association (OFPA), from 2000–2011 Ms. Greig served on the Student Awards Committee; as Co-Editor of the OFPA award-winning newsletter (2001–2006); organized numerous technical sessions; and as Affiliate President in 2010. She received the OFPA Award of Merit in 2002.

Ms. Greig has given more than 70 oral or poster presentations and authored numerous peer-reviewed publications. She guest lectured at the University of Guelph in its Master’s in Food Safety and Quality Assurance Program and at Ryerson University in its School of Occupational and Public Health in Toronto. Ms. Greig is a registered nurse and practiced in three Canadian provinces for more than 19 years. She received her B.Sc., specializing in Microbiology, from the University of Waterloo in Ontario, and her M.Sc. in Epidemiology from the University of Guelph.
Mr. F. Tracy Schonrock is a recipient of the 2021 IAFP Honorary Life Membership Award. Mr. Schonrock is President and sole employee of Schonrock Consulting in Fairfax Station, Virginia. He graduated from the University of Connecticut in 1964 with a B.S. in Dairy Manufacturing. Following graduation, he worked several years for the Milk Division of Safeway Foods, Inc., in Landover, Maryland.

In 1967, Mr. Schonrock joined the U.S. Department of Agriculture with the Agricultural Marketing Service, Dairy Division, and spent the next 34+ years performing a wide variety of duties. These included as resident inspector at a dairy in central Wisconsin producing dry milk products and butter; a commodity fee grader; a supervisory grader; the Assistant Regional Director for the Dairy Grading Branch Chicago Region; the Assistant Branch Chief of the Dairy Standardization Branch; the National Program Coordinator for plant inspections and sanitary equipment design evaluations; and as the Branch Chief of the Dairy Grading Branch from 1987–2001. In conjunction with his duties with the USDA, Mr. Schonrock was actively involved with the 3-A Sanitary Standards Committees from 1978 until after his retirement in June 2001. He held the Chair of the 3-A Standards Third Party Evaluation Coordinating Committee from its inception until 2019, was a member of multiple 3-A Sanitary Standards Working Groups, and served as a member of the Board of Directors of 3-A Sanitary Standards Inc.

From 2001–2015, Mr. Schonrock served on the NSF International, Inc. Council of Public Health Consultants. In association with NSF International, he is also the Chair of the Task Committees for developing and maintaining three standards: Meat and Poultry Processing Equipment; Hand-Held Tools Used in the Meat and Poultry Processing Industry; and Mechanical Conveyors Used in the Meat and Poultry Processing Industry. In 2009, Mr. Schonrock became a member of the European Hygienic Engineering and Design Group (EHEDG) Executive Committee and currently serves as the Vice Chair of the Products Portfolio Sub-Committee. Based in The Netherlands with global recognition, EHEDG is a group similar to the 3-A Sanitary Standards, Inc. which develops guidelines for the food industry, provides extensive training courses and materials, and certifies equipment.

Dr. Mickey Parish is a recipient of the 2021 IAFP Honorary Life Membership Award. Dr. Parish served as the Senior Science Advisor at the U.S. Food and Drug Administration’s Center for Food Safety and Applied Nutrition (CFSAN) in College Park, Maryland until his retirement in 2020. In this role, he provided oversight of the CFSAN research portfolio including issues related to science and research policy. Prior to joining the FDA, Dr. Parish was Chair of the Department of Nutrition and Food Science at the University of Maryland, College Park (2005–2010) and was on the faculty at the University of Florida’s Citrus Research and Education Center as a food microbiologist (1986–2005). At UFL, he developed an internationally known research program on juice and beverage microbiology with notable accomplishments in juice processing technology.

Dr. Parish joined IAFP in 1984 and served as President in 2018. Throughout his Membership, he has served on numerous committees, including the European Symposium Organizing Committee, the Nominating Committee, the Developing Scientist Competition Committee, and numerous Award Selection Committees. He has served on the Editorial Board for the Journal of Food Protection since 2003 and received the IAFP Fellow Award in 2020.

Dr. Parish is a Fellow of the Institute of Food Technologists and received the 2015 IFT Myron Solberg Award for leadership in developing industry/government/academic cooperative organizations. He received a Ph.D. in Food Science from North Carolina State University, a Master’s in Food Science from the University of Florida, and B.S. in Biology from Florida State University.
HONORARY LIFE MEMBERSHIP AWARD

Mr. Edward Wellmeyer is a recipient of the 2021 Honorary Life Membership Award. Mr. Wellmeyer spent his 50-year career in dairy, edible oils, dressings, and sauces as senior management in Food Safety, Technical Services, and Quality Assurance. Throughout his career, he developed, implemented, and evaluated food safety programs and microbial assessment of food programs. He has also conducted educational seminars, audits (SQF), and consulted on food spoilage and pathogens contamination.

Mr. Wellmeyer’s services included positions as Technical Chairperson for the National Margarine Association; as a member of the Executive Technical Board for Association of Dressing and Sauces; and serving on the NSF Certification Advisory Council (ISO, GFSI). In addition, he spent 26 years as Vice President of Food Safety and Quality and as the Food Safety Officer of Ventura Foods before his retirement.

Mr. Wellmeyer has been a member of food safety committees for FPA, IFT, and the Food Industry Microbiological Roundtable. While better known for his dairy, dressing, sauces, and margarine technologies, Mr. Wellmeyer’s expertise excels in troubleshooting root cause analysis in food spoilage contamination, from heterophilic lactobacilli to osmotic fermentation yeasts.

Since joining IAFP (then IAMFES) in 1976, Mr. Wellmeyer also directed dairy food safety and quality programs in a multi-state cheese company. Throughout his membership, he served on the Membership Committee, the Food Protection Trends Management Committee, and participated in technical committees and PDG meetings.

HARRY HAVERLAND CITATION AWARD

Dr. Dale Grinstead is this year’s recipient of the Harry Haverland Citation Award. This award honors Dr. Grinstead for his many years of dedication and devotion to the Association’s ideals and objectives. He is a Senior Technology Fellow in the Diversey Research & Development (R&D) group where he provides technical input and guidance on Diversey’s food safety programs, serves on the Diversey R&D leadership team, leads the Diversey Technology Council, and participates in new product development projects.

A Food Microbiologist (who usually just introduces himself as a “Food Safety Nerd”) with 26 years of industrial R&D experience, Dr. Grinstead joined Unilever Research in 1994, where he led the group doing clinical testing for antimicrobial hand washes. While there, he also worked extensively with the U.S. FDA’s Center for Drug Evaluation and Research (CDER) on the monograph to regulate antimicrobial personal care products. In 1998, Dr. Grinstead joined Diversey R&D, developing hygiene products and systems for food processing facilities. In 2005, he began working on hygiene and food safety systems focused on the food service and food retail industries.

Dr. Grinstead has been an active Member of IAFP for more than 20 years. Throughout his Membership, he has served as Chair of the Hygiene and Sanitation PDG; was a member of the Nominating Committee and various Award Committees; and a member of the Program Committee from 2014–2017. He currently serves on the Editorial Board for Food Protection Trends. He was inducted as an IAFP Fellow in 2017. Dr. Grinstead is also active in the Conference for Food Protection, where he has served on Council III several times and as a committee member or co-chair continuously since 2008.

Dr. Grinstead received his B.S. in Microbiology and M.S. in Food Science from Iowa State University and his Ph.D. in Food Technology from Clemson University. He also conducted a post-doctoral study at the University of Tennessee in Knoxville.

Sponsored by eurofins
FOOD SAFETY INNOVATION AWARD

Hygiena is the recipient of the 2021 IAFP Food Safety Innovation Award for its development of the BAX® System SalQuant™, the first AOAC-RI approved method for enumeration of Salmonella in comminuted chicken and turkey. Hygiena continues to innovate in the area of Salmonella Quantification (SalQuant™) by developing protocols for relevant pre- and post-harvest matrices not only in the poultry industry, but beef and pork industries as well.

Other innovative tools that Hygiena has recently developed are the BAX® System Real-time PCR assay for E. coli O157:H7 Exact (single target assay with increased accuracy and shortened enrichment times); BAX® Prep Xpress (automated lysis prep); SureTrend™ Cloud (online data collection and analysis tools); EnSURE™ Touch (next-generation quality monitoring system); BAX® System SalLimits™ (detection of Salmonella spp. at a specific level, i.e., ≥ 10 CFU/g); and more.

Recently acquired by EW GROUP, Hygiena has joined forces with BioCheck Inc. and BIOTECON Diagnostics (subsidiaries of EW GROUP), which has expanded the company’s global footprint and portfolio to position Hygiena as a true farm-to-fork “One Health” organization that provides tools for regulatory agencies and broader food and beverage industries globally. Hygiena is honored and excited to receive this award for its efforts in innovation with SalQuant™ and is positioned to continue developing innovative solutions.

Sponsored by Walmart

INTERNATIONAL LEADERSHIP AWARD

The 2021 International Leadership Award goes to Dr. Terence Lok-Ting Lau for his dedication to the high ideals and objective of IAFP and his promotion of the mission of the Association in countries outside the U.S. and Canada. Dr. Lau is the Convenor of the IAFP Affiliate, the Food Safety Consortium (FSC) in Hong Kong. He has dedicated more than 20 years to technology ventures. Dr. Lau started his career in a renowned Swiss-based multinational food company before becoming involved in setting up biotechnology companies offering innovative products and services for clinical, food, and veterinary applications. He established the first accredited quantitative genetically modified food testing laboratory in Asia in the early 2000s, and has developed more than 100 products available globally, including the first molecular avian influenza test kits that received official regulatory approval from Japan.

Dr. Lau established the FSC in 2015 with the aim to facilitate collaboration on food safety and, under his leadership, the Affiliate has become the first FAO/WHO CODEX non-governmental organization (NGO) observer from China. He was previously the Interim Associate Vice President (Innovation and Technology Development) at The Hong Kong Polytechnic University, and is the founding Chairman of the DISH Global Centre for Food Safety and Quality in collaboration with three other European universities. Dr. Lau also serves as the Senior Advisor to the President and Adjunct Professor at the Hong Kong Baptist University, and serves actively as advisors to the government and industry locally and internationally, on food safety and related matters. He hosts numerous food conferences, including the most recent Asia-Pacific Symposium on Food Safety held earlier in 2021 in Hong Kong, to facilitate exchange and collaboration. He is still active in research, developing innovative technologies to advance food safety through multi-disciplinary collaboration, in particular with the areas of AI, big data, and IoT.

Dr. Lau received his B.Sc. (Hons) in Animal and Plant Biotechnology from The University of Hong Kong, M.Phil. from the Hong Kong University of Science and Technology, and Ph.D. from Peking University in China. He also received his pre-doctoral training from Indiana University (Bloomington) and Stanford University School of Medicine.

Sponsored by FSNS
The recipient of the 2021 Food Safety Award is The Center for Produce Safety (CPS) in Woodland, California. Established in 2007, the CPS brings together leaders from industry, government, and the scientific and academic communities to work together toward the common goals of identifying the most pressing research needs, funding the most promising investigations, and advancing real-world solutions.

CPS has awarded more than $33 million and funded 187 one- to two-year research projects at 44 research institutions. In addition to the annual call for research proposals, CPS addresses immediate industry needs with Rapid Response projects and Innovation Challenge Grants. CPS then transfers that knowledge and tools to industry and other stakeholders through its annual Research Symposium, website, webinars, guest columns in key trade press outlets, and other outreach.

CPS has an extensive matrix of volunteers who provide countless hours to ensure that CPS stays true to its mission, “Fund the Science, Find Solutions and Fuel the Change.” CPS is governed by a 28-member Board of Directors representing the produce supply and distribution chain, state and federal regulatory agencies, and academia. The Technical Committee of 48 members provides the necessary scrutiny and tight controls to ensure funded research projects are practical, measurable, and translatable.

**FOOD SAFETY AWARD**

The Center for Produce Safety

*Woodland, California*

Dr. Shyam Sablani is the recipient of the 2021 Frozen Food Foundation Freezing Research Award. This award honors an individual, group, or organization for pre-eminence and outstanding contributions to research that impacts food safety attributes of freezing.

Dr. Sablani is a Professor of Food Engineering at Washington State University in Pullman. His current research interests include applications of materials science principles for understanding physical and chemical changes in frozen and reduced water foods, and design of high barrier polymeric packaging for improved food safety and shelf life.

Dr. Sablani has made substantial contributions to the science and technologies related to frozen and refrigerated foods. His research exhibits that ultra violet light C can adequately penetrate clear ice and inactivate foodborne pathogens to improve the safety of frozen food. He has investigated the role of unfreezable water and state/phase transition-induced ice recrystallization on the physical and chemical quality of frozen foods. His research investigated the sensitivity of starch-, protein-, and sugar-rich frozen products to temperature fluctuations in the cold chain. His findings have provided insights for improved packaging design, storage, and transportation strategies to minimize quality changes in frozen foods.

Dr. Sablani has organized a series of workshops and training programs for industry professionals from developing economies and emerging markets, including the Philippines, Pakistan, Bolivia, Costa Rica, Peru, Nigeria, and China in the area of cold chain technologies and management practices. These trainings were sponsored by the USDA Foreign Agricultural Services through the Cochran Fellowship program.

Dr. Sablani joined IAFP in 2015. He is a recipient of 2016 Institute of Food Technologists Marcel Loncin Research Prize and currently serves as Scientific Editor of the *Journal of Food Engineering*. He received his B.E. from the National Institute of Technology in Raipur, and his M.S. in Mechanical Engineering from the Indian Institute of Technology in Madras. Dr. Sablani earned a Ph.D. in Food Engineering from McGill University in Montreal.

**FROZEN FOOD FOUNDATION FREEZING RESEARCH AWARD**

*Shyam Sablani
Pullman, Washington*
INSTITUT MÉRIEUX YOUNG INVESTIGATOR AWARD
IN ANTIMICROBIAL RESISTANCE

Dr. Laura Carroll is the recipient of the 2021 Institut Mérieux Young Investigator Award in Antimicrobial Resistance. The award recognizes an active IAFP Member who has shown outstanding ability and professional promise as a researcher in food microbiology/food safety, focusing on antimicrobial resistance.

Dr. Carroll is a Postdoctoral Fellow in the Structural and Computational Biology Unit of the European Molecular Biology Laboratory (EMBL) in Heidelberg, Germany. As a computational microbiologist and bioinformatician, her research has focused on developing bioinformatic approaches to rapidly characterize microbes in silico using next-generation sequencing (NGS) data, and using those approaches to analyze large genomic data sets derived from bacterial isolates and microbial communities. Dr. Carroll is particularly interested in developing and deploying phylogenomic and comparative genomic methods, which can leverage NGS data to improve the monitoring of foodborne pathogens and their associated antimicrobial resistance (AMR)- and virulence-conferring determinants from farm to fork. Notably, her research in this area led to the discovery of a novel plasmid-mediated AMR gene, which confers resistance to colistin, a critically important, last-resort antibiotic.

In addition to her research, Dr. Carroll is passionate about making basic bioinformatics skills accessible to all. She has led numerous NGS data analysis courses for food, veterinary, and industrial microbiologists around the world, and she continues to collaborate with experimental biologists and clinicians, providing computational and statistical support for their projects.

Dr. Carroll joined IAFP in 2013 and received first place in the Undergraduate Student Award Competition that year. She received a B.S. in Genomics and Molecular Genetics and a B.A. in History from Michigan State University and a Ph.D. in Food Science and Technology from Cornell University. She was a recipient of a National Science Foundation (NSF) Graduate Research Fellowship Program (GRFP) award, as well as an NSF Graduate Research Opportunities Worldwide (GROW) award in collaboration with ETH Zurich and the University of Zurich in Switzerland.

MAURICE WEBER LABORATORIAN AWARD

Dr. Panagiotis N. Skandamis is the recipient of the 2021 Maurice Weber Laboratorian Award. This award recognizes an IAFP Member for dedicated and exceptional contributions in the laboratory, and commitment to the development and/or application of innovative and practical analytical approaches in support of food safety.

Dr. Skandamis is Professor of Food Microbiology and Food Hygiene at the Agricultural University of Athens (AUA) in Greece and a member of the BIOHAZ panel of the European Food Safety Authority (EFSA). His research interests include predictive microbiology and quantitative microbial risk assessment; active antimicrobial and intelligent packaging of foods; control and adaptive responses of bacteria to food-related stresses; antimicrobial interventions; detection and subtyping of foodborne pathogens; and ecology of mycotoxin-producing fungi.

Dr. Skandamis has authored 190 papers in SCI journals, 30 book chapters, and co-edited one book, with 7,249 citations (h-index=38). He has secured more than 3.0 million Euros from competitive grants of the 5th–7th EU Framework Programs, HORIZON 2020, Greek Research and Technology Funding Agencies, and direct contracts with the Food Industry.

Dr. Skandamis has been Associate Editor of Food Research International (2012–2016) and served on IAFP’s Journal of Food Protection Editorial Board from 2009–2016. Since 2017, he has served as scientific co-editor of the Journal of Food Protection and is a member of the Editorial Board of Applied and Environmental Microbiology and International Journal of Food Microbiology.

An IAFP Member since 2003, Dr. Skandamis has been involved in the scientific committee of the International Conference on Predictive Microbiology in Foods since 2008; the IAFP European Symposium on Food Safety Organizing Committee since 2015; and several student award selection committees. He helped co-host IAFP’s European Symposium on Food Safety in 2017; is Co-President of FoodMicro 2022 Conference (Athens); and Chair of IAFP’s Microbial Modelling and Risk Assessment PDG. He developed the predictive modelling software GroPIN and is coordinator of the WG “Food Safety” of the National Technological Platform “Food for Life.”
Dr. Laura K. Strawn is the recipient of the 2021 Larry Beuchat Young Researcher Award, which recognizes a young researcher who has shown outstanding ability and professional promise in their career.

Dr. Strawn is an Associate Professor and Extension Specialist of Produce Safety in the Department of Food Science and Technology at Virginia Tech in Blacksburg.

Dr. Strawn’s research program focuses on the microbial safety of fresh fruits and vegetables, specifically, the ecology, evolution, and transmission of foodborne pathogens in the produce field-to-fork continuum. Additionally, Dr. Strawn works directly with produce stakeholders on various produce safety issues and teaches a cadre of food safety courses. She leads Virginia Cooperative Extension’s educational efforts on the Food Safety Modernization Act’s Produce Safety Rule, including teaching Produce Safety Alliance Grower Trainings and performing On-Farm Readiness Reviews.

Dr. Strawn is also the Lead of Applied Research for Virginia’s Fresh Produce Food Safety Team, Extension Team Leader for the Virginia Tech Food Science and Technology Department, and invited-member of the Radiation Advisory Board for the Commonwealth of Virginia. Professional service includes involvement in Phi Tau Sigma (Board of Directors), International Association for Food Protection, Institute of Food Technologists, serving as a member of the Delmarva Food Safety Task Force, and as a member of the Science and Prevention working group for the Romaine Food Safety Task Force. Dr. Strawn joined IAFP in 2007 and was a member of the IAFP’s Student Professional Development Group from 2009–2016. She received first place in the 2009 Developing Scientist Poster Competition, the 2011 President’s Recognition Award, and the 2012 Student Travel Scholarship. She currently serves on the Editorial Board for the *Journal of Food Protection*.

Dr. Strawn holds three degrees in Food Science with food microbiology emphases, as well as minors in Epidemiology and Molecular Microbiology; a Ph.D. from Cornell University; an M.S. from the University of Florida; and a B.S. from the University of California, Davis.

---

Dr. Armitra Jackson-Davis is the recipient of the inaugural 2021 James M. Jay Diversity in Food Safety Award. This award recognizes an individual who has made exceptional contributions to enhancing equity, diversity, and inclusion in the field of food safety.

Dr. Jackson-Davis is an Associate Professor in the Department of Food and Animal Sciences at Alabama A&M University in Huntsville where she oversees the research activities of several graduate and undergraduate students. At Alabama A&M University, she has served on many committees including as Chair of the Institutional Biosafety Committee; and Co-Advisor to the Minorities in Agriculture, Natural Resources and Related Sciences (MANRRS) Student Organization. She has authored journal articles and book chapters in the area of food safety. Dr. Jackson-Davis has trained 16 graduate students in the area of food safety and has mentored more than 20 high school and undergraduate students.

Dr. Jackson-Davis has been awarded funding for the training of underrepresented and underserved populations in food safety. Through this, she has prepared more than 60 students from underserved communities for careers in food safety. Dr. Jackson-Davis is a Produce Safety Rule (PSR) Trainer and a member of the Southern Center for Food Safety Training, Outreach and Technical Assistance where she is involved with training students, farmers, and regulators on the Produce Safety Rule.

An IAFP Member for 12 years, Dr. Jackson-Davis currently serves on the Editorial Board of the *Journal of Food Protection*; has presented her research results frequently at IAFP meetings in North America and globally; and has developed several symposia and roundtables for meetings in North America and worldwide. She led the effort to organize IAFP symposia/roundtable and panels for the Southern Center related to diversity in food safety. Dr. Jackson-Davis received her Ph.D. in Animal Science with an emphasis in the microbiological safety of foods of animal origin from Iowa State University.
EWEN C.D. TODD CONTROL OF FOODBORNE ILLNESS AWARD

Dr. Craig Hedberg is the recipient of the 2021 Ewen C.D. Todd Control of Foodborne Illness Award. This award recognizes an individual for dedicated and exceptional contributions to the reduction of risks of foodborne illness.

Dr. Hedberg is an Epidemiologist, Professor and Interim Head of the Division of Environmental Health Sciences at the University of Minnesota, School of Public Health (SPH) in Minneapolis. He serves as the Co-Director for the MN Integrated Food Safety Center of Excellence. He promotes public health surveillance as a prerequisite for effective food control. Prior to joining the SPH faculty in 1999, Dr. Hedberg had 15 years of applied experience conducting surveillance for foodborne, vectorborne, and zoonotic diseases at the Minnesota Department of Health, where he developed several innovative approaches to improving foodborne illness surveillance and outbreak investigation.

Dr. Hedberg’s most important contributions have been to advance methods for collaboration between public health and regulatory agencies, academic researchers, and industry to improve foodborne illness surveillance and outbreak investigations. Improving the efficiency and effectiveness of investigations enhances response activities. Better investigations produce more effective prevention measures.

Dr. Hedberg has proudly served on the Editorial Board of the Journal of Food Protection (JFP) since 2002 and has published more than 100 peer-reviewed scientific articles, including 28 in JFP. Many of Dr. Hedberg’s publications featured his students as first author. These students have gone on to leadership positions in public health and regulatory agencies and industry.

Dr. Hedberg has been a member of IAFP since 2014. In addition to his service to JFP, he has served for many years on the Selection Committee for the Travel Award for Health or Agricultural Department Employees in North America.

SANITARIAN AWARD

The 2021 Sanitarian Award goes to Mr. Richard Brouillette. The Sanitarian Award honors an IAFP Member for dedicated and exceptional service to the profession of the sanitarian serving the public and the food industry. Mr. Brouillette is Food Safety Director at Commercial Food Sanitation (CFS), an Intralox company, where he leads a team of consultants, as well as consulting for several clients.

Mr. Brouillette worked at Kraft Foods where he was responsible for developing Sanitation and Food Safety programs, procedures, and training, working with internal manufacturing locations, along with external manufacturers and suppliers. Before joining CFS, he headed an international team of corporate microbiologists at Mondelēz International. There, his responsibilities included risk assessments for new products and processes to ensure there would be no food safety issues; developing global food safety policies/programs; and ensuring implementation at manufacturing locations.

Mr. Brouillette has collaborated on various industry teams, including facilitating the Grocery Manufacturers Association team that developed the "Listeria monocytogenes Guidance on Environmental Monitoring," and led a team of experts working with the Dairy Innovation Center to develop and teach Dairy Plant Food Safety Workshops, including all dry focused sessions.

An IAFP Member since 2010, Mr. Brouillette has convened many symposia, workshops, and presented numerous times at IAFP conferences, and the IAFP European Symposium on Food Safety.

He is a member of the Sanitary Equipment and Facility Design PDG and has written Sanitation and Hygiene related articles for Food Safety Magazine, Baking & Snack Magazine, and EHEDG Connects.

Mr. Brouillette received his B.Sc. in Microbiology and Immunology from McGill University in Montreal, Canada. While he has attended a number of education courses, he always looks forward to attending the Technical Sessions at IAFP’s Annual Meeting to grow his knowledge on food safety.
Dr. Elizabeth A. Bihn is the recipient of the 2021 IAFP Elmer Marth Educator Award, which recognizes an IAFP Member for dedicated and exceptional contributions to the profession of education. Dr. Bihn is the Director of the Produce Safety Alliance and the National Good Agricultural Practices Program, and the Executive Director of the Institute for Food Safety at Cornell University in Ithaca, New York, in her position as a Senior Extension Associate at Cornell University.

Dr. Bihn received her B.S. in Zoology from The Ohio State University, an M.S. in Horticulture from the University of Florida, and a Ph.D. in Food Science from Cornell University. Her career started in plant molecular biology research with enriching experiences in neurobiology, fisheries, horticulture, and space biology research on her journey into food safety. Dr. Bihn’s diverse educational background and professional experiences allow her to engage with stakeholders, no matter their backgrounds. She facilitates focus groups and national discussions to gather stakeholder input to effectively build education and outreach programs to meet their needs.

Dr. Bihn has devoted the past 22 years to promoting public health by working with the growers, farm workers, packers, and processors to implement food safety practices that reduce microbial risks and help ensure the economic viability of farms and food businesses by meeting market and regulatory expectations. She also trains extension educators, regulatory personnel, and others to expand food safety expertise throughout the food industry and has authored several award-winning publications. Her research focuses on assessing the management and quality of surface water used during fruit and vegetable production, as well as evaluating the effectiveness of extension training programs.

Dr. Bihn joined IAFP in 2002 and has participated in the Fruit and Vegetable Safety and Quality PDG and the Water Safety and Quality PDG. She received the William V. Hickey Award (2015) and served as President of IAFP’s Affiliate, the New York State Association for Food Protection, from 2019–2020. In 2018, Dr. Bihn and her co-authors were awarded the Most Cited Peer-Reviewed Food Protection Trends Publication Award.

Ms. Melanie Neumann, J.D., M.S., is being honored for her dedication and exceptional service to IAFP, the public, and the food industry.

Ms. Neumann is Executive Vice President and General Counsel of Matrix Sciences International, Inc. in Chicago, Illinois. She has invested her 25-year career in providing the food and beverage industry with actionable and practical solutions on a variety of topics impacting the industry – from legal and regulatory compliance to operational and brand reputation risk management solutions. Among others, she has held food safety-related positions with Hormel Foods, the Schwan Food Company, RQA, Price-Waterhouse Coopers, Leavitt Partners, and the Acheson Group before joining Matrix Sciences International.

Ms. Neumann interacts with various stakeholders including regulators in response to inspection findings, enforcement actions, outbreaks, recalls, and alleged illness claims on behalf of her clients to help resolve issues, identify appropriate corrective actions, and implement other risk mitigations. She is a sought-after speaker and thought leader in areas including legal and regulatory compliance, food safety culture, and integrating food safety into corporate enterprise risk management programs.

Ms. Neumann joined IAFP in 2013, during which time she has served as Vice Chair and Chair of the IAFP Constitution and Bylaws Committee. In addition, she is a member of the Food Safety Culture, Food Law, and Food Fraud PDGs. She is also active in GFSI, playing leadership roles in various GFSI Technical Working Groups.

Ms. Neumann holds a Juris Doctorate degree from Mitchell-Hamline Law School in St. Paul, Minneapolis and a Master’s in Food Safety from Michigan State University. In her spare time, she is a competitive triathlete competing in IRONMAN® long-distance triathlons.
Mr. Kubir Nath Bhattarai is a recipient of the 2021 Travel Award. Mr. Bhattarai is Deputy Chief Food Safety Officer in the Food Safety and Quality Division of the Bhutan Agriculture and Food Regulatory Authority (BAFRA), a competent food safety authority of the Royal Government of Bhutan.

Mr. Bhattarai previously served as Officer-In-Charge at BAFRA District Offices and Plant and Animal Quarantine Offices and led the team of officials in implementing several district level programs on food safety and biosecurity as a risk manager and in quarantine services, respectively. He also worked as a Food Safety Officer and implemented food safety management systems.

Currently, Mr. Bhattarai is involved in identification, formulation, and implementation of national capacity building for food safety, quality, and standards, as well as resource mobilization where he was also involved in developing training tools and materials; conducting training to disseminate his knowledge and experiences with his subordinates and superiors; and conducting follow-up workshops/seminars, meetings, consultations, and conferences. He is also responsible for preparation and management of several small projects on strengthening capacity on plant and animal biosecurity and food safety in Bhutan.

As a focal officer for Codex (Bhutan), Mr. Bhattarai is involved in the formulation of national positions in Codex meetings and preparing responses to surveys and questionnaires related to Codex and food safety; preparing project proposals; and the coordination of Codex activities at the national level under the supervision of the National Codex Contact Point of Bhutan. He has also developed curriculum for the Bachelor of Food Science and Technology program at the College of Natural Resources, Royal University of Bhutan, and is a visiting lecturer at the university.

Mr. Bhattarai holds a master’s of Food Science from the University of Leeds in the United Kingdom and a bachelor’s of Food Technology from Marathwada Agricultural University in India.

Dr. Titilayo D.O. Falade is a recipient of the 2021 Travel Award. Dr. Falade is an Associate Scientist at the International Institute of Tropical Agriculture in Ibadan, Nigeria, where she works on food safety-related research in collaboration with researchers in multiple institutions. She is a member of the team responsible for the development of the pan-African biocontrol product, Aflasafe, used for pre-harvest control of aflatoxins. Her current research interests are in aflatoxin biocontrol, decontamination of aflatoxins using probiotic bacteria, and rapid detection of food adulterants using near infrared spectroscopy.

Dr. Falade is currently conducting research for the development of aflatoxin biocontrol in countries within the Sahel region, gendered studies on aflatoxin management in Nigeria, and is mentoring graduate students in mycotoxin and food adulteration research. She received merit scholarship awards from Shell Petroleum Development Company, and the Nigerian and Australian governments for her bachelor’s, master’s, and doctorate degrees, respectively. She has been a recipient of other awards including the African Biosciences Challenge Fund Award (2015), Queensland Alliance for Agriculture and Food Innovation Travel Award (2016), Lynsey Welsh Award (2016), and Bursary Award for International Congress on Plant Pathology (2018).

Dr. Falade holds a B.S. from the University of Ibadan, Nigeria; an M.S. from Imperial College London, United Kingdom; and a Doctor of Philosophy from the University of Queensland in Australia. She also has certifications from the UN Women Training Center on gender concepts, and certification from CITI Program as a member of an Internal Review Board for research ethics. Dr. Falade is a member of several national and international professional organizations.
Dr. Amin N. Olaimat is a recipient of the 2021 Travel Award. Dr. Olaimat is an Associate Professor of Food Safety and Hygiene at The Hashemite University in Jordan, where he serves as Chair of the Department of Clinical Nutrition and Dietetics at the Faculty of Applied Medical Sciences.

Dr. Olaimat has published more than 65 peer-reviewed papers addressing many aspects of food safety and microbiology and has published in the most renowned international journals of food microbiology and safety. He has also participated in 23 conferences and published two book chapters. His publications have been cited more than 1,900 times with an H-index of 20 and i10-index of 36 (according to Google Scholar). Dr. Olaimat’s research focuses on food safety issues of traditional foods common in the Mediterranean area, and he has utilized medicinal plants and natural preservatives to control foodborne pathogens and bacterial antibiotic resistance. In addition, he is actively involved in conducting research with investigators in Jordan, United Arab Emirates, Pakistan, Canada, the United States, and several other countries.

Among the awards and scholarships Dr. Olaimat has received are The Hashemite University Fellowship for his Ph.D. program; the University of Manitoba Graduate Fellowship; James W. Barlow Graduate Fellowship from the University of Manitoba, and the Percy Gitelman Memorial Scholarship (2014) from the Canadian Meat Science Association. He has also received several travel awards from The Hashemite University and the University of Manitoba.

Dr. Olaimat has served as Assistant Dean at The Hashemite University and is currently serving as Head or Member of several academic and national committees. He also serves as an Editorial Board Member for Frontiers in Microbiology, Frontiers in Public Health, and Frontiers in Nutrition.

Dr. Olaimat earned his Ph.D. in Food Science from the University of Manitoba and obtained both his B.Sc. and M.Sc. from the Jordan University of Science and Technology. 

Sponsored by
Dr. Jennifer Eberly is a recipient of the 2021 Travel Award. Dr. Eberly works for the State of Maine’s Agriculture, Conservation and Forestry Department in Augusta as the State Director of Maine’s Meat and Poultry Inspection (MPI) program and oversees regulation of both state-inspected facilities and facilities operating under the Cooperative Interstate Shipment (CIS) program. She was instrumental in bringing the CIS program to Maine in 2018 and more recently, for the expansion of the Maine MPI program to meet increased demand for local meat and poultry during the COVID-19 pandemic.

Dr. Eberly is a member of the National Advisory Committee on Meat and Poultry Inspection. She is a graduate of the Virginia-Maryland Regional College of Veterinary Medicine, holds a Master’s in Public Health from the University of Minnesota School of Public Health, and completed a residency in Veterinary Anatomic Pathology at the University of Illinois Urbana – Campaign College of Veterinary Medicine.
Jessica Brown recently graduated from the University of Florida in Gainesville with an M.S. in Animal Sciences, with a concentration in Meat Science and Food Safety, under the direction of Dr. Jason Scheffler. Ms. Brown earned her B.S. in Animal Sciences from the University of Florida in 2019 and plans to begin her Ph.D. in the fall of 2021 at the University of Wisconsin – Madison, under the direction of Dr. Steven Ricke.

Ms. Brown’s thesis predominantly focused on the microbial validation of a restructured beef jerky product that could be produced under the constraints of an Ethiopian butcher shop. This project consisted of a product development component, along with a series of microbial validation studies to evaluate the reduction of *Salmonella enterica*, *E. coli O157:H7*, and *Campylobacter jejuni* during drying. The goal of this research was to develop a process that could be utilized by Ethiopian producers to generate a safe, protein rich, and shelf-stable product using starting material that might otherwise be less desirable. The development of predictive models for pathogen lethality will hopefully enable producers in both Ethiopia and the U.S. to better evaluate the microbial risk associated with their product. Ultimately, this research aims to make an impact on the availability and safety of meat in Ethiopia, as well as contribute additional information related to pathogen lethality in low-water activity foods.

Ms. Brown is extremely honored to be receiving one of the IAFP Student Travel Scholarships and to take part in IAFP 2021. She hopes that her attendance at this conference will broaden her network of food safety professionals, expose her to cutting-edge research, and inspire her to contribute to the advancement of worldwide food safety.

Shiyu Cai is a Ph.D. candidate in the Department of Food Science at Cornell University in Ithaca, New York. Ms. Cai earned her B.S. from Purdue University where she gained a passion for food microbiology research. She holds an M.S. from Cornell University, where she investigated the food safety risk factors associated with fresh produce waste reduction.

Ms. Cai’s current dissertation work tackles the problem of black yeast spoilage in the beverage industry using tools from applied food processing and fungal genomics. The goal of this research is to understand the intraspecific and interspecific differences in stress resistance within the black yeast functional group, characterize spoilage risk under different processing and formulation controls, and evaluate tolerance to the physical and chemical aspects of environmental sanitation. During her time in graduate school, Ms. Cai presented numerous food safety courses to bring food safety awareness to students, food processors, and entrepreneurs at different local and regional training workshops.

Since joining IAFP in 2016, Ms. Cai has presented her research at IAFP’s Annual Meetings each year. She is honored to receive the Student Travel Scholarship to take part in IAFP 2021 and intends to utilize this opportunity to expand her professional network. She looks forward to sharing her research projects and personal experiences at IAFP 2021.
Bienvenido "Ben" W. Cortes is a Ph.D. candidate in the Interdepartmental Microbiology Graduate Program at Iowa State University in Ames working under the direction of his major professor, Dr. Stephan Schmitz-Esser. Mr. Cortes earned his B.A. at Benedictine College in Atchison, Kansas. As an undergraduate, he conducted a variety of projects researching developmental biology, tardigrade ecology, and bacterial genetics before beginning his research on the foodborne pathogen *Listeria monocytogenes* as a graduate student.

Mr. Cortes’ doctoral research focuses on the response of *L. monocytogenes* to stressors commonly encountered in food production environments. Upon joining Dr. Schmitz-Esser’s lab, he designed an experiment to analyze the transcriptomic patterns of *L. monocytogenes* following exposure to either 1% lactic acid or 0.01% hydrogen peroxide. This research demonstrated that the *L. monocytogenes* response to lactic acid involves dramatic and complex changes in gene expression, whereas the response to hydrogen peroxide is far less pronounced. Following this study, Mr. Cortes has utilized a variety of molecular techniques to enable the functional characterization of two genes which were highly upregulated following lactic acid stress. His work seeks to elucidate the genetic and molecular mechanisms underlying *L. monocytogenes* stress survival with the purpose of providing foundational knowledge for applied food safety research.

Mr. Cortes is excited to attend IAFP 2021 and learn the newest discoveries in the field of food safety. Additionally, he is looking forward to learning from fellow researchers from around the world and sharing his perspectives and knowledge with them. He is incredibly honored and extremely grateful to have been chosen for the 2021 Student Travel Scholarship.

Devin Daeschel is a Ph.D. student in Food Science with a concentration in Food Microbiology in the Department of Food Science and Technology at Cornell University in Ithaca, New York, under the direction of his advisor, Dr. Abigail B. Snyder. Mr. Daeschel earned his B.S. in Microbiology from Oregon State University where he had the chance to work in food science labs and develop a passion for the field.

Mr. Daeschel is currently working on multiple projects, all of which have pushed him to develop a diverse technical skillset and become more knowledgeable about various aspects of food safety. In his primary project, he is developing a standardized vocabulary for describing environmental swab locations in food processing plants. The goal is to convert existing swab site data into a machine-readable form such that machine learning models can be used to help predict harborage sites of *Listeria monocytogenes* in food processing plants. He is also working on analyzing existing swab data from food processors to look for genetic determinants of persistent *L. monocytogenes* in food processing plants. Additional research focuses on evaluating the accuracy of visual tests used to determine whether food processing equipment has been adequately cleaned. Toward this end, he is coordinating a sensory experiment that tests the ability of panelists to visually detect food-soiled surfaces, which will help identify a threshold at which these types of test lose their efficacy.

Mr. Daeschel is honored to accept this year’s IAFP Student Travel Scholarship and is looking forward to attending IAFP 2021. He hopes to make the most of the experience by meeting others with similar research interests and expanding his network. Above all, he is excited to see the projects his peers are working on and draw inspiration from their work.
Adwoa Dankwa is a Ph.D. candidate in the Department of Food Science and Human Nutrition at the University of Maine in Orono, under the mentorship of Dr. Jennifer J. Perry. Ms. Dankwa obtained her B.Sc. in Agriculture (Plant Protection) in 2015 at the Kwame Nkrumah University of Science and Technology in Ghana and M.S. in Plant, Soil, and Environmental Sciences in 2019 at the University of Maine.

Ms. Dankwa is currently working to optimize and standardize the microbial and chemical compositions of fermented beverages using kombucha and water kefir as test models. Her study aims to stabilize and reproduce the chemical and microbial compositions of fermented products by standardizing the production cycles and preserving their quality to maximize their health benefits. This study will potentially garner more research interest in understanding the microbial and metabolite changes of fermented beverages and open a new area of research geared towards maintaining the quality of fermented products.

Ms. Dankwa's goal is to lead food safety and quality assurance research programs at an academic institution and to contribute to the body of science by improving global food safety through research, education, communication, and extension programs. She equally looks forward to inspiring generations of students who will take up this same path. Internationally, she aims to contribute to food policy formulation in developing countries to help fight foodborne diseases and food insecurity.

Ms. Dankwa is extremely honored to be awarded the IAFP Student Travel Scholarship and participate in this year’s Annual Meeting. She intends to use this great opportunity to increase her knowledge base in food quality and safety by learning new methodologies and skills, networking to provide opportunities relevant to her future career objectives, and staying current on research studies and innovations.

Minh Duong is a Ph.D. candidate in the Department of Food Science and Technology at Virginia Tech in Blacksburg, under the direction of Dr. Renee Boyer, as well as Drs. Robert Williams, Ben Chapman, Laura Strawn, and Tiffany Drape. Mr. Duong earned his B.S. from Virginia Tech in Biological Sciences in 2016 and his M.S. from North Carolina State University under the direction of Dr. Chapman in 2018.

Mr. Duong’s research is about evaluating the accuracy, accessibility, and literacy of existing produce food safety resources for farms and farmworkers. The goal of this research is to inform the development of new educational materials that are specifically tailored for small farmers and underserved farm workers. These groups may require educational materials in different languages and literacy levels as well as the time, money, and material resources they have available. Mr. Duong plans to use his research experience to impact food safety educational efforts nationally and worldwide. His goal is to develop resources that are accessible from a literacy and cultural relevancy standpoint to historically and traditionally underserved populations in agriculture.

An IAFP Member since 2015, Mr. Duong has presented his research, co-organized symposia and roundtables, and been an active member of the Student Professional Development Group (SPDG) where he currently serves as Chair. This year, he hopes to continue to co-organize symposia and roundtable and SPDG Programs where students can create meaningful relationships with each other and with food safety professionals.

Mr. Duong is extremely honored to be selected as a recipient of the 2021 Student Travel Scholarship, where he will present findings from a recent study that assessed the impact of the COVID-19 pandemic on farmers’ markets. He is excited for this opportunity to share his research, as well as to connect and learn from professionals in the field.
Marina Girbal is an M.S. candidate in the Department of Food Science at Rutgers, The State University of New Jersey in New Brunswick. Ms. Girbal earned a B.S. in Chemical Engineering at Polytechnical University in Catalonia, Spain. It was during an internship in a soya-processing company and working in their quality control laboratory where she discovered her passion for food safety, realizing the critical impact cross-contamination can have in all steps of the food chain.

Ms. Girbal soon decided to pursue her graduate studies where she had the chance to work in Dr. Donald Schaffner’s laboratory. Her current research focuses on the effect of significant factors, i.e., temperature or mode of inoculation, on *Listeria monocytogenes* growth on fresh, uncut produce, a relevant topic due to multiple recent outbreaks. Her graduate assistantship has allowed her to participate in various other food safety-related projects, including the supervision of Rutgers’ dining halls, which entails auditing, testing, and coordinating a team of undergraduate students. During her current studies, she has received a scholarship and poster presentation award from the NYIFT and a scholarship from the IAFP Affiliate, the New Jersey Association for Food Protection, as well as publishing a research paper in the *Journal of Food Protection*.

Although this is only her second year as an IAFP Member, Ms. Girbal participated as a poster presenter during IAFP 2020 and will also be presenting her updated research in this year’s conference. She is very grateful for the opportunity to attend IAFP 2021, where she is looking forward to learning about the latest research and trends in food safety, as well as the opportunity to network with other like-minded students and frontline researchers in the field.

Sarah L. Jones is a Ph.D. candidate in the Department of Food Science at the University of Arkansas in Fayetteville, under the direction of Dr. Kristen E. Gibson. Ms. Jones earned her B.S. in Food Science and Industry from Kansas State University in 2017, where she developed an interest in food safety.

Ms. Jones is currently focused on enhancing pathogen environmental monitoring programs in the food industry. Her research involves the characterization of the environmental sampling tools, surfaces, and environmental conditions found in the food processing environments. In this research, microorganisms of interest include *Listeria monocytogenes*, non-typhoidal *Salmonella*, and Tulane virus, a human norovirus surrogate. Ms. Jones hopes her research will lead to better pathogen detection on environmental surfaces in the food industry. Outside of her dissertation research, she is the co-instructor for the undergraduate course *Introduction to Food Law* and a teaching assistant for several food safety-related courses at the University of Arkansas.

Since joining IAFP in 2016, Ms. Jones has been involved in numerous PDGs and has presented her research at several IAFP Annual Meetings. She is currently serving as the 2020–2021 Student PDG Networking Coordinator. Ms. Jones is honored to receive the IAFP Student Travel Scholarship to attend IAFP 2021. This prestigious award will enable her to connect with current colleagues and future collaborators, spanning from academic researchers to food industry leaders and regulators. In short, she is excited to enhance her development as an independent food safety researcher through the ample opportunities that this year’s Annual Meeting has to offer and looks forward to presenting her research.
Karuna Kharel is a Ph.D. candidate in the School of Nutrition and Food Sciences at Louisiana State University (LSU) in Baton Rouge, under the supervision of Dr. Achyut Adhikari. Ms. Kharel also attended Warsaw University of Life Sciences in Poland in 2019, to conduct a part of her Ph.D. research as part of a Doctoral Student Exchange award. She developed a deep interest in the area of food safety during her studies for her B.Tech (Food) in her home country of Nepal, where food safety is critical, yet a severely lagging area.

To further strengthen her knowledge base, Ms. Kharel decided to pursue her graduate studies in the U.S. in 2016 with a research focus on ensuring microbiological safety and enhancing eating quality of nuts and fresh produce. During her master’s thesis project at LSU, she developed cost-effective and easily adaptable thermal intervention treatment using hot water to mitigate the risk of microbial contamination of pecans. Recently, the outcomes of the work have been adopted by a pecan shelling company in Mexico. Ms. Kharel’s current research is on developing an edible antimicrobial coating with bioactive from pecans shells to inactivate pathogens on fresh produce without affecting the quality.

Ms. Kharel has a passion for food safety extension works and works alongside her advisor as a trainer in food safety trainings, helps in Good Agricultural Practices (GAP) mock audits, and develops food safety plans for growers/processors in Louisiana. She has also worked in a USAID-funded project to assist Guyana’s National Agriculture Research and Extension Institute (NAREI) staffs with internal capacity building in GAP. Her ultimate career goal is to become an extension faculty and researcher in strengthening food safety in developing countries.

Ms. Kharel is extremely honored to be awarded one of this year’s IAFP Student Travel Scholarships and is excited to network with food safety professionals, share her research projects, and learn about other research and upcoming challenges in the world of food safety at IAFP 2021.

Minji Kim is a doctoral candidate in the Department of Food Science at the University of Massachusetts – Amherst, under the direction of Dr. Matthew Moore. Born and raised in South Korea, Ms. Kim earned her B.S. and M.S in Food Science and Nutrition at Pusan National University.

Ms. Kim’s research focuses on the development of nanopore-based sensing technology for in-field detection of foodborne and agricultural pathogens. Currently, she is working on the human norovirus, a foodborne pathogen, as a proof-of-concept. If proven to be clinically successful, this device can be applied for agricultural purposes. Her project truly embodies the interdisciplinary nature of food science and food safety, joining clinical chemistry to an agricultural science. It is believed that this nanopore sensing method will contribute greatly to reducing economic loss and enhancing the safety of the food industry. She looks forward to presenting this research at IAFP 2021.

Ms. Kim plans to enter academia after graduation, committing herself to studies that reduce foodborne illness. In addition, she wants to serve as a consultant who can advise food companies that lack necessary technology and skills.

Ms. Kim is honored to be awarded the 2021 Student Travel Scholarship. Since joining IAFP in 2018, she has been an active Member, presenting posters and participating in PDG meetings. As a graduate student working in the field of food quality and safety, Ms. Kim has a passion for advancing her knowledge in food safety by attending meetings, expanding her professional network, and networking with colleagues.
Brenda Kimang’a is currently a master’s student in the Department of Food Science, Nutrition and Technology at the University of Nairobi in Kenya, under the direction of Dr. Catherine Kunyanga and Professor John Kimenju. Ms. Kimang’a earned her undergraduate degree from the university in 2018, where she developed a keen interest in food safety and research towards enhancing sustainable food systems.

Ms. Kimang’a is passionate about the safety of fresh produce, especially fruits and vegetables, along the value chain. Her current research focuses on the antimicrobial effect of botanical coatings on the post-harvest shelf life and quality of tomatoes as a preservation technology since much of it is lost through poor post-harvest handling in Kenya. The tomato is a widely-consumed fruit in Kenya, although it is prone to risks through microbial attacks and chemical contaminants due to inadequate implementation of Good Agricultural Practices. Her research aims to develop affordable interventions for the small-scale farmers, who are the key players in Kenya’s agriculture, to help reduce food safety risks along the tomato value chain. This will ensure consumer safety, reduce post-harvest losses, and eventually lead to exploitation of the fruit’s potential value.

Ms. Kimang’a is honored to receive this year’s Student Travel Scholarship and looks forward to taking part in IAFP 2021 to build upon her knowledge of food safety through interactions with the global community and emerging leaders in food safety. This will also be a great opportunity to expand her professional network and share experiences with the wide network of attendants from academia, industry, and research.

Xingchen Liu is a Ph.D. candidate in the Department of Plant Science and Landscape Architecture at the University of Maryland – College Park, under the direction of Dr. Shirley Micallef. Ms. Liu earned her B.E. in Viticulture and Enology Engineering and an M.E. in Food Engineering from China Agricultural University.

Ms. Liu’s dissertation focuses on the mechanisms of interactions between human pathogens and leafy greens under abiotic stresses. Her current research project, funded by a SARE Student Grant, aims to figure out the impact of plant growth-promoting rhizobacteria (PGPR) on produce yield and microbial safety. The ultimate goal is to create a helpful avenue for growers to cope with climate change and ensure the produce supply and safety in a more practical and sustainable manner.

During her current studies, Ms. Liu is passionate about translating bench science to real-world applications and communicating science to broader audiences. She has attended and presented her research to the public and science community at local, national, and international food and agricultural conferences. Ms. Liu completed internships at Mars Global Food Safety Center and Bayer Crop Science and found it extremely rewarding to practice her knowledge to tackle real-life issues. Following her graduation, she aims to explore more possibilities in the food industry.

As she approaches the final stages of her doctoral program, Ms. Liu is highly honored to receive the IAFP Student Travel Scholarship; she believes this award could not have come at a better moment! She looks forward to presenting her research, keeping up with cutting-edge scientific findings, and being well prepared for her future career.
Ajay Mittal is a master’s candidate in Food Science and Technology in the International Centre of Excellence in Seafood Science and Innovation, Faculty of Agro-Industry at Prince of Songkla University, Hat Yai, Songkhla, Thailand, under the esteemed supervision of Professor Soottawat Benjakul. Mr. Mittal was born and raised in Jalandhar, a town in North India, and obtained his B.F.Sc. (Bachelor of Fisheries Science) in 2019 from Guru Angad Dev Veterinary and Animal Sciences University in Ludhiana, India, where he gained knowledge on seafood culture and processing along with food safety research. During his undergraduate studies, he competently learned to perform many diverse procedures related to \textit{in vitro} testing of compounds against a wide range of spoilage and pathogenic bacteria and acquired knowledge, skills, and hands-on training on non-thermal preservation techniques.

Mr. Mittal’s career goals include becoming a potential researcher, where he can collaborate with other scientists across the globe in the field of food safety to address and improve food safety issues in developing and underdeveloped nations. He’s currently exploring bioactive compounds from seafood waste, especially from shrimp processing industries, and its potential application in seafood safety and functional food development. During this time, Mr. Mittal optimized conditions for chitosan extraction from shrimp shells and, in addition, prepared its water-soluble derivative, i.e., chitosan-epigallocatechin gallate conjugate. He successfully prepared bioactive composite film from the aforementioned native and derivative biopolymer. The chitosan derivative and prepared film possessed antioxidant activity and was able to inhibit foodborne pathogens and spoilage bacteria. Both could be implemented in fish processing industries for assuring safety and extending the shelf life of fish and fish products.

Mr. Mittal is holding publications in the peer-reviewed \textit{Institute for Scientific Information (ISI) indexed journals and has presented his work at international conferences. He is extremely honored to receive this year’s Student Travel Scholarship. During IAFP 2021, he will present his recent research results. He looks forward to meeting professionals from different fields of food safety and interacting with participants from diverse sources to gain knowledge and possible collaborations for future research endeavors.}

Ombaka Joshua Owade is a doctoral candidate in the Department of Food Science, Nutrition and Technology at the University in Nairobi, Kenya. Mr. Owade also holds an M.Sc. in Food Safety and Quality and a B.Sc. in Food Science and Nutrition from the same institution. His doctoral research focuses on the utilization of the lactic acid bacteria in the enhancement of value addition and quality amelioration of processed cowpea leaves under the lead supervision of Dr. George Abong.

During his M.Sc. studies, Mr. Owade worked on incorporating orange-fleshed sweet potato for enhancement and nutritional quality in bread. Other projects he has jointly pursued include risk assessment studies in the informal vending sector of meat and fresh produce and the assessment of the impact of dairy interventions on milk quality and safety. Professionally, Mr. Owade serves on four technical committees in the national standardization body in Kenya, Kenya Bureau of Standards. He is the current Assistant Organizing Secretary of the Food Safety and Technology Platform of Kenya (FoSTeP-K), the food science and safety professional body in Kenya.

Mr. Owade’s research interests are in the areas of risk assessment, value addition of orphaned crops, and food policy research as the key areas. He expresses his gratitude to IAFP for awarding him the 2021 Student Travel Scholarship and hopes that attending IAFP 2021 will provide him with the platform for networking and future collaborations to aid in his professional development in the areas of food safety and science. He looks forward to utilizing the current and future opportunities presented by IAFP in positioning himself among global research team involved in improving food safety.
Solomon Rajkumar Racharla is a doctoral candidate in the Department of Livestock Products Technology in the College of Veterinary and Animal Sciences at Kerala Veterinary and Animal Sciences University in Kerala, India, under the direction of his advisor, Dr. Renuka Nayar.

Dr. Racharla earned his bachelor’s in Veterinary and Animal Sciences (equivalent to a DVM) from Rajiv Gandhi Institute of Veterinary Education and Research in Puducherry, India, and his master’s in Veterinary Sciences from ICAR-Indian Veterinary Research Institute in Izatnagar, India. His master’s research predominantly focused on molecular characterization of *Campylobacter* spp. in poultry carcasses and decontaminating using organic antimicrobials.

Dr. Racharla’s current area of research is in the quality and safety of ethnic meat products. More specifically, his dissertation is focused on “Production, quality attributes and consumption patterns of ethnic Goan pork sausages.” The study is significant as Goan pork sausages are prestigious and highly valued products among consumers at the household level in Goa, a coastal state of India. His present study is designed to scientifically document all the attributes essential for enhancing the quality and safety of the product. It is also focused on molecular characterization of the microbial diversity of the product which would impart data on the predominant bacteria responsible for the fermentation.

Dr. Racharla is honored to receive the IAFP Student Travel Scholarship. He intends to use this opportunity for the exchange of ideas on food safety and quality to seed the links for future collaborations to accomplish the nutritional security and food safety goals of his country.

Keshnee Reega is an M.Phil./Ph.D. candidate in the Department of Agricultural and Food Science at the University of Mauritius (UoM) in Arsenal, Pamplemousses, Mauritius. Soon after obtaining her B.Sc. in Microbiology at UoM, Ms. Reega embarked as a Research Assistant in the field of food microbiology for a project funded by the Mauritius Research and Innovation Council to study the impact of climate change and climate variability on the microbiological safety of Mauritian seafood. The study had underscored the need for concerted efforts to ensure the safety of local seafood, especially during summer.

Ms. Reega’s current doctoral thesis is in the field of predictive food microbiology, for which she received the Mauritian Higher Education Commission full-time M.Phil./Ph.D. scholarship. Her dissertation, supervised by Dr. Hudaa Neetoo, Professor Elna Buys, and Mrs. Anandavallee Soobhooroyen, is aimed at developing microbial growth models that will help ascertain the safety of tuna and its by-products for human consumption and potential cosmetic application. Ms. Reega is particularly looking forward to donating microbial growth data emanating from her study to an online repository to increase the existing database and facilitate future research. Ultimately, the goal of this project is to help expedite the exposure assessment phase of microbial risk evaluation in the tuna industry to allow for faster decision-making with respect to the release of consignments of cooked tuna products and the overall acceptance of the tuna lots at the clients’ end.

Ms. Reega is honored to receive the 2021 Student Travel Scholarship Award, providing her with a unique opportunity to share her work and exchange with other students and professionals having similar research interests while keeping abreast of current information. The meeting is an esteemed platform for networking and obtaining valuable feedback about her current research from those at the forefront of food science.
Anna Townsend is a Ph.D. student in the Department of Food Science and Technology at the University of Georgia (UGA). Ms. Townsend is earning her degree under the direction of her advisor, Dr. Laurel Dunn, and her committee members, Drs. Hendrik den Bakker, Jinru Chen, and Mark Berrang. She received a B.A. in Biology from the University of Kentucky in 2017 and an M.S. in Food Science from UGA in 2019, the latter degree under Dr. Xiangyu Deng with research on concerted detection of Salmonella enterica and E. coli O157:H7 in romaine lettuce using quasimeta genomic sequencing.

After completing her M.S., Ms. Townsend decided to take a step back on the food safety continuum by increasing her knowledge in preventive food safety. Her doctoral research assesses Listeria prevalence within grocery distribution centers to address microbial risk to fresh produce. Her research will also determine if there are relationships between Listeria prevalence and factors such as facility cleaning and sanitizing operations, and environmental characteristics of distribution centers. With this research, she hopes to develop a comprehensive guide to address the need for environmental monitoring programs within distribution centers handling fresh produce.

Ms. Townsend’s career goals after graduation include serving as an officer in the Centers for Disease Control and Prevention’s Epidemic Intelligence Service and ultimately working as a food safety professional in the fresh produce industry. She has been an active IAFP Member since 2018 and is the Student Liaison for IAFP’s Affiliate, the Georgia Association for Food Protection. She is honored to receive the 2021 Student Travel Scholarship, which will provide opportunities to increase her professional network, showcase her research, and connect her with other students pursuing careers in food safety.

Joseph Wambui is a Ph.D. candidate at the Institute for Food Safety and Hygiene at the University of Zurich in Switzerland. Mr. Wambui has a background in Food Science and Technology, which complements his current research topic and career aspirations which are focused on bacteriocins production and their application in foods as bio-preservatives. He holds an M.Sc. in Food Safety and Quality and a B.Sc. in Food Science and Technology, both from the University of Nairobi in Kenya.

Mr. Wambui is currently working on two research projects. One is novel bacteriocin biosynthetic gene clusters identified through genome sequence analysis of psychrophilic and psychrotrophic spore formers that are being functionally characterized. New bacteriocins uncovered through this project might provide potential alternatives to currently existing chemical preservatives. In particular, SMEs in MLIC can benefit from these biopreservatives to inhibit growth of both pathogenic and spoilage bacteria, hence enhancing food safety and the quality of their food products.

In his second project, Mr. Wambui is working on the identification and characterization of naturally occurring genetic variations contributing to intrinsic nisin resistance in the foodborne pathogen Listeria monocytogenes. Through his research, Mr. Wambui hopes to contribute new knowledge to enhance efficacy of bacteriocin applications in food safety. Some of his work has recently been published in Frontiers in Microbiology.

Mr. Wambui is a member of the Australia-African University Network, where he is engaged in research to improve food safety management systems in SMEs along African poultry and fish value chains through collaborations with researchers from Australia and Africa.
Christina Wormald is an M.Sc. candidate in Food Science at the University of Massachusetts Amherst in Amherst under the direction of Dr. Matthew Moore and Amanda Kinchla, M.S. Ms. Wormald earned her B.S. in Food Science and Microbiology from the university in 2020 and began pursuing her master’s upon graduation.

Ms. Wormald is currently managing two very diverse projects which have allowed her to develop a plethora of skills regarding overall safety of practices in the food industry. Her primary thesis project works with small- and medium-sized food processors to improve their adoption of food safety plans and raise food safety awareness through extension-based virtual programming initiatives. This project works with food safety experts and resource economists to analyze the overall social and economic effect of implementing food safety practices as a small processor. The overall goal of this project is to provide motivating, accessible materials to support small- and medium-sized processors while they develop and implement food safety initiatives in their facilities that pertain to the Preventive Controls for Human Food Rule under the Food Safety Modernization Act (FSMA).

Supplementally, Ms. Wormald’s other research focus is geared toward developing and analyzing effective novel products for cleaning and disinfecting virus-containing food contact surfaces in the food industry. This approach will study common virus models such as human norovirus and SARS-229E to test for efficacy of natural and engineered disinfectants on metal surfaces. This work will eventually be used to develop validated challenge studies for food processors to use in their facilities to validate if their disinfection methods are indeed working as intended to stop the spread of viruses on food surfaces.

Ms. Wormald is honored to receive the Student Travel Scholarship to take part in IAFP 2021. During this experience, she intends to expand her network of government, regulatory, industry, and academic personnel, and strengthen her knowledge of food safety and defense.

Jiyoon Yi is a Ph.D. candidate in Food Science at the University of California – Davis, under the direction of Dr. Nitin Nitin. Ms. Yi earned a B.S. in Food Science and Engineering, a B.S. in Mathematics, and an M.S. in Food Science & Technology, all at Ewha Womans University in South Korea. Her research focuses on food engineering using experimental and computational approaches to enhance food safety and quality.

Ms. Yi is currently working on research projects to reduce microbial contamination of fresh produce by improving postharvest processing technologies. Her experimental research involves process design/control, microbial cross-contamination, and antimicrobial development for surface disinfection. For computational studies, she is looking into bio-based antimicrobial delivery models, heat/mass transfer in microbial inactivation, and deep learning-based foodborne pathogen detection. In addition to her research projects, Ms. Yi is developing virtual reality (VR)-based learning modules to boost the understanding of food processing or biosystems engineering in broader groups, including students, industry, and the public.

Ms. Yi is a 2020–2021 Professors for the Future Fellow of the Graduate Studies at UC Davis and a co-founder of the Society of Food Engineering Student Division. For the next steps, she plans to remain in academia and disseminate research findings to benefit society.

Since joining IAFP in 2019, Ms. Yi has presented her research at IAFP Annual Meetings and was selected as a finalist twice for the J. Mac Goepfert Developing Scientists Competition for her technical presentations. She is currently serving as the 2020–2021 International and Affiliate Board Representative of the IAFP Student Professional Development PDG and the Affiliate Council’s Student Liaison. Ms. Yi is honored to receive this year’s Student Travel Scholarship and hopes to continue a lifelong relationship with the IAFP community.
PEANUT PROUD STUDENT SCHOLARSHIP

The Peanut Proud Student Scholarship Award provides a $2,000 academic scholarship and travel funding for a U.S. student in the field of food microbiology – specifically in the area of peanuts and peanut butter food safety – to attend the Annual Meeting. Peanut Proud is a nonprofit industry organization based in Georgia.

Daniel Vega is a Ph.D. candidate in the Food Safety and Defense Lab at Kansas State University in Manhattan, under the direction of Dr. Randall Phebus. During this time, Mr. Vega has collaborated and led several bakery product thermal validation studies. For these projects, he has worked closely with the baking industry and the U.S. FDA. In his research, different commercial bakery product processes are mimicked using pathogen-inoculated ingredients to ensure the final product has a reduced risk of being contaminated with foodborne pathogens like Salmonella, E. coli, and Listeria spp. This research allows bakers to confirm their proprietary baking parameters and formulae comply with the Food Safety Modernization Act (FSMA) regulations and the consumer goods are safe for human consumption.

Mr. Vega has also worked in antimicrobial interventions in beef, poultry, and hog carcass and subprimals studies. His professional interests have always been related to ensuring food safety in different areas of food production. He graduated with a B.S. in Human Nutrition and Dietetics from the University of Costa Rica before pursuing his postgraduate studies in the United States.

Mr. Vega is extremely honored of being awarded this year’s Peanut Proud Student Scholarship and is looking forward to attending IAFP 2021 in Phoenix, Arizona, providing a great opportunity to share his research efforts to keep improving food safety of peanuts and peanut butter products.
EXHIBITOR SHOWCASE

SCHEDULE OF PRESENTATIONS

MONDAY, JULY 19

10:15 a.m. ACO, Inc.
11:30 a.m. bioMérieux, Inc.
12:00 p.m. Satorius
12:30 p.m. INFICON Inc.
3:00 p.m. 3M Food Safety
4:30 p.m. Hamilton Company

TUESDAY, JULY 20

11:30 a.m. Bayer
12:30 p.m. Mérieux NutriScience
3:00 p.m. 3M Food Safety

The exhibitor showcase is located in the Exhibit Hall.
<table>
<thead>
<tr>
<th>Exhibitors</th>
<th>Booth Numbers</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-A Sanitary Standards, Inc.</td>
<td>412</td>
<td></td>
</tr>
<tr>
<td>3M Food Safety</td>
<td>403</td>
<td></td>
</tr>
<tr>
<td>ACO, Inc.</td>
<td>424</td>
<td></td>
</tr>
<tr>
<td>AEMTEK Laboratories</td>
<td>825</td>
<td></td>
</tr>
<tr>
<td>AOAC International</td>
<td>849/Virtual</td>
<td></td>
</tr>
<tr>
<td>Applied Food Diagnostics</td>
<td>802/Virtual</td>
<td></td>
</tr>
<tr>
<td>Aptar Food + Beverage – Food Protection</td>
<td>549</td>
<td></td>
</tr>
<tr>
<td>Arizona/California Leafy Greens Marketing Agreement</td>
<td>630</td>
<td></td>
</tr>
<tr>
<td>Art’s Way Scientific</td>
<td>809</td>
<td></td>
</tr>
<tr>
<td>ASI Food Safety</td>
<td>346</td>
<td></td>
</tr>
<tr>
<td>Association of Food and Drug Officials</td>
<td>845</td>
<td></td>
</tr>
<tr>
<td>Autoscribe Informatics, Inc.</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td>Bayer</td>
<td>705</td>
<td></td>
</tr>
<tr>
<td>BCN Research Laboratories Inc.</td>
<td>814</td>
<td></td>
</tr>
<tr>
<td>Bia Diagnostics</td>
<td>526</td>
<td></td>
</tr>
<tr>
<td>BioFront Technologies</td>
<td>829</td>
<td></td>
</tr>
<tr>
<td>BIOLYPH</td>
<td>138</td>
<td></td>
</tr>
<tr>
<td>bioMérieux, Inc.</td>
<td>719</td>
<td></td>
</tr>
<tr>
<td>Bio-Rad Laboratories, Inc.</td>
<td>318</td>
<td></td>
</tr>
<tr>
<td>BIOTECON Diagnostics</td>
<td>115</td>
<td></td>
</tr>
<tr>
<td>Bioscience International</td>
<td>713</td>
<td></td>
</tr>
<tr>
<td>BootieButler®</td>
<td>111</td>
<td></td>
</tr>
<tr>
<td>Certified Laboratories</td>
<td>642</td>
<td></td>
</tr>
<tr>
<td>Charm Sciences, Inc.</td>
<td>519</td>
<td></td>
</tr>
<tr>
<td>Chihon Biotechnology</td>
<td>Virtual</td>
<td></td>
</tr>
<tr>
<td>ClorDiSys Solutions, Inc.</td>
<td>813</td>
<td></td>
</tr>
<tr>
<td>Copan Newlab</td>
<td>238</td>
<td></td>
</tr>
<tr>
<td>Corning Incorporated</td>
<td>123</td>
<td></td>
</tr>
<tr>
<td>Crystal Diagnostics</td>
<td>603</td>
<td></td>
</tr>
<tr>
<td>CultureMediaConcepts®</td>
<td>838</td>
<td></td>
</tr>
<tr>
<td>Decon7 Systems, Inc.</td>
<td>213/Virtual</td>
<td></td>
</tr>
<tr>
<td>Deibel Laboratories</td>
<td>602</td>
<td></td>
</tr>
<tr>
<td>Detectamet Detectable Products</td>
<td>329</td>
<td></td>
</tr>
<tr>
<td>Eagle Protect PBC</td>
<td>742</td>
<td></td>
</tr>
<tr>
<td>Ecolab</td>
<td>5078</td>
<td></td>
</tr>
<tr>
<td>Eurofins</td>
<td>803</td>
<td></td>
</tr>
<tr>
<td>Extreme Microbial Technologies</td>
<td>102</td>
<td></td>
</tr>
<tr>
<td>FDA/Center for Food Safety and Applied Nutrition</td>
<td>Virtual</td>
<td></td>
</tr>
<tr>
<td>FlexXray, LLC</td>
<td>208</td>
<td></td>
</tr>
<tr>
<td>Fluxergy Inc.</td>
<td>649/Virtual</td>
<td></td>
</tr>
<tr>
<td>Food Microbiological Laboratories, Inc.</td>
<td>833</td>
<td></td>
</tr>
<tr>
<td>Food Quality &amp; Safety</td>
<td>Virtual</td>
<td></td>
</tr>
<tr>
<td>Food Safety Magazine</td>
<td>Virtual</td>
<td></td>
</tr>
<tr>
<td>Food Safety Net Services</td>
<td>319</td>
<td></td>
</tr>
<tr>
<td>Food Safety News</td>
<td>249</td>
<td></td>
</tr>
<tr>
<td>Food Safety Summit</td>
<td>Virtual</td>
<td></td>
</tr>
<tr>
<td>FoodChain ID</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td>FoodChek Systems Inc.</td>
<td>132</td>
<td></td>
</tr>
<tr>
<td>FREMONTA Corp.</td>
<td>819</td>
<td></td>
</tr>
<tr>
<td>Goodway Technologies</td>
<td>308</td>
<td></td>
</tr>
<tr>
<td>Hamilton Company</td>
<td>741</td>
<td></td>
</tr>
<tr>
<td>Hardy Diagnostics</td>
<td>529</td>
<td></td>
</tr>
<tr>
<td>Hydrite Chemical Co.</td>
<td>432</td>
<td></td>
</tr>
<tr>
<td>Hygiena</td>
<td>303</td>
<td></td>
</tr>
<tr>
<td>IEH Laboratories &amp; Consulting Group</td>
<td>810</td>
<td></td>
</tr>
<tr>
<td>IFC</td>
<td>704</td>
<td></td>
</tr>
<tr>
<td>INFICON</td>
<td>510</td>
<td></td>
</tr>
<tr>
<td>InnovaPrep</td>
<td>223</td>
<td></td>
</tr>
<tr>
<td>International Association for Food Protection–Student PDG</td>
<td>103</td>
<td></td>
</tr>
<tr>
<td>International Food &amp; Meat Topics</td>
<td>Virtual</td>
<td></td>
</tr>
<tr>
<td>Interscience Laboratories, Inc.</td>
<td>610/Virtual</td>
<td></td>
</tr>
<tr>
<td>Intertek Alchemy</td>
<td>607</td>
<td></td>
</tr>
<tr>
<td>MadgeTech</td>
<td>806</td>
<td></td>
</tr>
<tr>
<td>Matrix Sciences</td>
<td>345</td>
<td></td>
</tr>
<tr>
<td>Mérieux NutriSciences</td>
<td>615/Virtual</td>
<td></td>
</tr>
<tr>
<td>Michelson Laboratories, Inc.</td>
<td>142</td>
<td></td>
</tr>
<tr>
<td>Michigan State University Online Food Safety Program</td>
<td>633</td>
<td></td>
</tr>
<tr>
<td>Microbiologics</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>Midland Scientific</td>
<td>645</td>
<td></td>
</tr>
<tr>
<td>MilliporeSigma</td>
<td>Virtual</td>
<td></td>
</tr>
<tr>
<td>National Environmental Health Association</td>
<td>315</td>
<td></td>
</tr>
<tr>
<td>Nelson-Jameson, Inc.</td>
<td>324</td>
<td></td>
</tr>
<tr>
<td>NEOGEN</td>
<td>439</td>
<td></td>
</tr>
<tr>
<td>Neutec Group, Inc.</td>
<td>342</td>
<td></td>
</tr>
<tr>
<td>NOVOLYZE</td>
<td>128/Virtual</td>
<td></td>
</tr>
<tr>
<td>NSI Lab Solutions</td>
<td>408</td>
<td></td>
</tr>
<tr>
<td>Pall Corporation</td>
<td>Virtual</td>
<td></td>
</tr>
<tr>
<td>Partnership for Food Safety Education</td>
<td>Virtual</td>
<td></td>
</tr>
<tr>
<td>PathogenDx</td>
<td>339</td>
<td></td>
</tr>
<tr>
<td>Polyskope Labs</td>
<td>545</td>
<td></td>
</tr>
<tr>
<td>Procter and Gamble Professional</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td>PureLine</td>
<td>533</td>
<td></td>
</tr>
<tr>
<td>Q Laboratories</td>
<td>446</td>
<td></td>
</tr>
<tr>
<td>QSI</td>
<td>623</td>
<td></td>
</tr>
<tr>
<td>Quality Assurance &amp; Food Safety Magazine</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Remco Products</td>
<td>413</td>
<td></td>
</tr>
<tr>
<td>Rhenox, Inc.</td>
<td>622</td>
<td></td>
</tr>
<tr>
<td>Rochester Midland Corporation–Food Safety Division</td>
<td>442</td>
<td></td>
</tr>
<tr>
<td>Romer Labs</td>
<td>Virtual</td>
<td></td>
</tr>
<tr>
<td>Sartorius</td>
<td>530</td>
<td></td>
</tr>
<tr>
<td>Seward Laboratory Systems Inc.</td>
<td>646</td>
<td></td>
</tr>
<tr>
<td>SGS</td>
<td>515/Virtual</td>
<td></td>
</tr>
<tr>
<td>Shoe Cover Magic</td>
<td>629</td>
<td></td>
</tr>
<tr>
<td>Smart Food Safe</td>
<td>Virtual</td>
<td></td>
</tr>
<tr>
<td>SnapDNA</td>
<td>429</td>
<td></td>
</tr>
<tr>
<td>Springer Nature</td>
<td>Virtual</td>
<td></td>
</tr>
<tr>
<td>Sterilex</td>
<td>239</td>
<td></td>
</tr>
<tr>
<td>Stop Foodborne Illness</td>
<td>Virtual</td>
<td></td>
</tr>
<tr>
<td>Tentamus NA</td>
<td>839</td>
<td></td>
</tr>
<tr>
<td>Thermo Fisher Scientific</td>
<td>231</td>
<td></td>
</tr>
<tr>
<td>USDA-NAL, Food Safety Research Office (FSRIO)</td>
<td>Virtual</td>
<td></td>
</tr>
<tr>
<td>Vitsab International AB</td>
<td>218/Virtual</td>
<td></td>
</tr>
<tr>
<td>Whirt-Pak®</td>
<td>349</td>
<td></td>
</tr>
<tr>
<td>World Bioproducts</td>
<td>539</td>
<td></td>
</tr>
<tr>
<td>Zee Company</td>
<td>619</td>
<td></td>
</tr>
<tr>
<td>Zymo Research Corp.</td>
<td>433</td>
<td></td>
</tr>
</tbody>
</table>
### EXHIBITORS BY BOOTH NUMBER

<table>
<thead>
<tr>
<th>Booth Number</th>
<th>Company Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>103</td>
<td>International Association for Food Protection-Student PDG</td>
</tr>
<tr>
<td>102</td>
<td>Extreme Microbial Technologies</td>
</tr>
<tr>
<td>108</td>
<td>Procter and Gamble Professional</td>
</tr>
<tr>
<td>111</td>
<td>BootieButler®</td>
</tr>
<tr>
<td>112</td>
<td>Quality Assurance &amp; Food Safety Magazine</td>
</tr>
<tr>
<td>115</td>
<td>BIOTECON Diagnostics</td>
</tr>
<tr>
<td>120</td>
<td>Microbiologics</td>
</tr>
<tr>
<td>123</td>
<td>Coming Incorporated</td>
</tr>
<tr>
<td>124</td>
<td>Autotrace Informatics, Inc.</td>
</tr>
<tr>
<td>128</td>
<td>NOVOLYZE</td>
</tr>
<tr>
<td>132</td>
<td>FoodChek Systems Inc.</td>
</tr>
<tr>
<td>138</td>
<td>BIOLYPH</td>
</tr>
<tr>
<td>142</td>
<td>Michelson Laboratories, Inc.</td>
</tr>
<tr>
<td>208</td>
<td>FlexXray, LLC</td>
</tr>
<tr>
<td>212</td>
<td>FoodChain ID</td>
</tr>
<tr>
<td>213</td>
<td>Decon7 Systems, Inc.</td>
</tr>
<tr>
<td>218</td>
<td>Vitsab International AB</td>
</tr>
<tr>
<td>223</td>
<td>InnovaPrep</td>
</tr>
<tr>
<td>231</td>
<td>Thermo Fisher Scientific</td>
</tr>
<tr>
<td>238</td>
<td>Copan Newlab</td>
</tr>
<tr>
<td>239</td>
<td>Sterilex</td>
</tr>
<tr>
<td>249</td>
<td>Food Safety News</td>
</tr>
<tr>
<td>303</td>
<td>Hygiena</td>
</tr>
<tr>
<td>308</td>
<td>Goodway Technologies</td>
</tr>
<tr>
<td>315</td>
<td>National Environmental Health Association</td>
</tr>
<tr>
<td>318</td>
<td>Bio-Rad Laboratories, Inc.</td>
</tr>
<tr>
<td>319</td>
<td>Food Safety Net Services</td>
</tr>
<tr>
<td>324</td>
<td>Nelson-Jameson, Inc.</td>
</tr>
<tr>
<td>329</td>
<td>Detectamet Detectable Products</td>
</tr>
<tr>
<td>339</td>
<td>PathogenDx</td>
</tr>
<tr>
<td>342</td>
<td>Neutec Group, Inc.</td>
</tr>
<tr>
<td>345</td>
<td>Matrix Sciences</td>
</tr>
<tr>
<td>346</td>
<td>ASI Food Safety</td>
</tr>
<tr>
<td>349</td>
<td>Whirl-Pak®</td>
</tr>
<tr>
<td>403</td>
<td>3M Food Safety</td>
</tr>
<tr>
<td>408</td>
<td>NSI Lab Solutions</td>
</tr>
<tr>
<td>412</td>
<td>3-A Sanitary Standards, Inc.</td>
</tr>
<tr>
<td>413</td>
<td>Remco Products</td>
</tr>
<tr>
<td>424</td>
<td>ACO, Inc.</td>
</tr>
<tr>
<td>429</td>
<td>SnapDNA</td>
</tr>
<tr>
<td>432</td>
<td>Hydrite Chemical Co.</td>
</tr>
<tr>
<td>433</td>
<td>Zymo Research Corp.</td>
</tr>
<tr>
<td>439</td>
<td>NEOGEN</td>
</tr>
<tr>
<td>442</td>
<td>Rochester Midland Corporation–Food Safety Division</td>
</tr>
<tr>
<td>446</td>
<td>Q Laboratories</td>
</tr>
<tr>
<td>507</td>
<td>Ecolab</td>
</tr>
<tr>
<td>510</td>
<td>INFICON</td>
</tr>
<tr>
<td>515</td>
<td>SGS</td>
</tr>
<tr>
<td>519</td>
<td>Charm Sciences, Inc.</td>
</tr>
<tr>
<td>526</td>
<td>Bia Diagnostics</td>
</tr>
<tr>
<td>529</td>
<td>Hardy Diagnostics</td>
</tr>
<tr>
<td>530</td>
<td>Sartorius</td>
</tr>
<tr>
<td>533</td>
<td>PureLine</td>
</tr>
<tr>
<td>539</td>
<td>World Bioproducts</td>
</tr>
<tr>
<td>545</td>
<td>Polyskope Labs</td>
</tr>
<tr>
<td>549</td>
<td>Aptar Food + Beverage – Food Protection</td>
</tr>
<tr>
<td>602</td>
<td>Deibel Laboratories</td>
</tr>
<tr>
<td>603</td>
<td>Crystal Diagnostics</td>
</tr>
<tr>
<td>607</td>
<td>Intertek Alchemy</td>
</tr>
<tr>
<td>610</td>
<td>Interscience Laboratories, Inc.</td>
</tr>
<tr>
<td>615</td>
<td>Mérieux NutriSciences</td>
</tr>
<tr>
<td>619</td>
<td>Zee Company</td>
</tr>
<tr>
<td>622</td>
<td>Rheonix, Inc.</td>
</tr>
<tr>
<td>623</td>
<td>QSI</td>
</tr>
<tr>
<td>629</td>
<td>Shoe Cover Magic</td>
</tr>
<tr>
<td>630</td>
<td>Arizona/California Leafy Greens Marketing Agreement</td>
</tr>
<tr>
<td>633</td>
<td>Michigan State University Online Food Safety Program</td>
</tr>
<tr>
<td>642</td>
<td>Certified Laboratories</td>
</tr>
<tr>
<td>645</td>
<td>Midland Scientific</td>
</tr>
<tr>
<td>646</td>
<td>Seward Laboratory Systems Inc.</td>
</tr>
<tr>
<td>649</td>
<td>Fluxergy Inc.</td>
</tr>
<tr>
<td>704</td>
<td>IFC</td>
</tr>
<tr>
<td>705</td>
<td>Bayer</td>
</tr>
<tr>
<td>713</td>
<td>Bioscience International, Inc.</td>
</tr>
<tr>
<td>719</td>
<td>bioMérieux, Inc.</td>
</tr>
<tr>
<td>741</td>
<td>Hamilton Company</td>
</tr>
<tr>
<td>742</td>
<td>Eagle Protect PBC</td>
</tr>
<tr>
<td>802</td>
<td>Applied Food Diagnostics</td>
</tr>
<tr>
<td>803</td>
<td>Eurofins</td>
</tr>
<tr>
<td>806</td>
<td>MadgeTech</td>
</tr>
<tr>
<td>809</td>
<td>Art’s Way Scientific</td>
</tr>
<tr>
<td>810</td>
<td>IEH Laboratories &amp; Consulting Group</td>
</tr>
<tr>
<td>813</td>
<td>ClorDiSys Solutions, Inc.</td>
</tr>
<tr>
<td>814</td>
<td>BCN Research Laboratories Inc.</td>
</tr>
<tr>
<td>819</td>
<td>FREMONTA Corp.</td>
</tr>
<tr>
<td>825</td>
<td>AEMTEK Laboratories</td>
</tr>
<tr>
<td>829</td>
<td>BioFront Technologies</td>
</tr>
<tr>
<td>833</td>
<td>Food Microbiological Laboratories, Inc.</td>
</tr>
<tr>
<td>838</td>
<td>CultureMediaConcepts®</td>
</tr>
<tr>
<td>839</td>
<td>Tentamus NA</td>
</tr>
<tr>
<td>845</td>
<td>Association of Food and Drug Officials</td>
</tr>
<tr>
<td>849</td>
<td>AOAC International</td>
</tr>
</tbody>
</table>

### VIRTUAL ONLY BOOTHS

- Chihon Biotechnology (Virtual)
- FDA/Center for Food Safety and Applied Nutrition (Virtual)
- Food Quality & Safety (Virtual)
- Food Safety Magazine (Virtual)
- Food Safety Summit (Virtual)
- International Food & Meat Topics (Virtual)
- MilliporeSigma (Virtual)
- Pall Corporation (Virtual)
- Partnership for Food Safety Education (Virtual)
- Romer Labs (Virtual)
- Smart Food Safe (Virtual)
- Springer Nature (Virtual)
- Stop Foodborne Illness (Virtual)
- USDA-NAL, Food Safety Research Office (FSRIO) (Virtual)
3-A Sanitary Standards, Inc. 688 Elm St., Suite 2D McLean, VA 22101-3829, USA Phone: +1 703.790.0295 www.3-a.org

3-A SSI is dedicated to “Promoting Food Safety Through Hygienic Design.” 3-A SSI has a long and respected record of developing criteria for the design of equipment and systems used to produce, process and package milk and dairy products, other foods, and beverages. 3-A SSI also oversees the 3-A Symbol authorization program to help identify equipment built in conformance to 3-A design criteria and evaluated through a rigorous Third-Party Verification inspection program. Today’s 3-A SSI offers comprehensive free e-learning resources on hygienic design and is a trusted worldwide partner in helping to assure food safety through hygienic design.

3M Food Safety 3M Center, Building 275-5W-05 St. Paul, MN 55144, USA Phone: +1 800.328.6553 www.3m.com/foodsafety

3M brings food safety innovation and expertise to food and beverage processors around the world. Our trusted solutions, backed by global validations, include a full line of sample collection and preparation products, quality indicator tests, pathogen tests, hygiene monitoring solutions, and allergen tests — all designed to work together to help mitigate risk, enhance productivity, and improve operations. It’s about protecting our customers’ brand, as well as their bottom line, to keep their business moving forward. Learn more: www.3m.com/foodsafety.

ACO, Inc. 825 W. Beechcraft St. Casa Grande, AZ 85122, USA Phone: +1 520.421.9988 www.acousa.com

In 1978, ACO, Inc. pioneered the concept of modular trench drains in North America. For forty years, we have been manufacturing a variety of water management products in the United States and globally for over 70 years.

The stainless-steel floor drainage products in the Building Drainage product line are designed for ultimate hygienic and corrosion-resistant performance, ensuring health and safety of workers, customers and products while still allowing clean-in-place functionality. ACO provides systems for professional surface water drainage, efficient cleaning, and the controlled discharge or reuse of water. ACO offers drainage systems designed to protect your business and the environment.

AEMTEK Laboratories 466 Kato Terrace Fremont, CA 94539, USA Phone: +1 510.979.1979 www.aemtek.com

AEMTEK, Inc. is an accredited laboratory that provides microbiological testing, research, training, and consulting services for the food, water, supplement, and pharmaceutical industries. We deliver science-based and practical solutions for clients in areas including food safety, product quality, shelf-life determination, process validation, and environmental monitoring. Please reach out to see how we can meet your analytical needs!

Applied Food Diagnostics 18 Industrial Dr. Bloomsburg, PA 17815, USA Phone: +1 570.450.7995 www.appliedfooddiagnostics.com

Applied Food Diagnostics develops and manufactures assays for the rapid detection of a multitude of pathogens and bacteria. Our no enrichment assays detect Salmonella species or Listeria species and provide results in less than 90 minutes. Additional assays for detecting Listeria species and monocytogenes, Salmonella species or the Top 7 Shiga-toxin producing E. coli were developed to be simultaneously tested in one PCR run. All assays listed are validated through the AOAC Performance Tested Methods ProgramSM. Along with these rapid detection assays, our product portfolio includes microbiological media, laboratory consumables and sample collection supplies for food science applications.

Aptar Food + Beverage – Food Protection 125 Westlake Pkwy., Suite 100 Atlanta, GA 30336, USA Phone: +1 404.344.0796 www.apтарfoodprotection.com

Aptar Food + Beverage – Food Protection leverages material science, active packaging, and equipment and processing expertise to develop advanced systems that help extend freshness and enhance safety for produce and seafood. The company’s innovative InvisiShield™ antimicrobial delivery system integrates into sealed packages to protect food products from bacteria, fungi, and viruses to mitigate risk of foodborne illness. In addition to its packaging agnostic solutions for food safety, Aptar also offers a range of trays, pouches, retail and mini containers, slicing equipment, lidding film, and tray-sealing technology.

Arizona and California Leafy Greens Marketing Agreement 1688 W Adams St. Phoenix, AZ 85007, USA Phone: +1 602.542.0945 www.lgma.org

The Arizona and California Leafy Greens Marketing Agreements are dedicated to preserving the integrity of the lettuce and leafy greens industry through rigorous food-safety handling practices, innovative training and audits conducted by government-certified inspectors. These programs incorporate science-based food safety practices and mandatory government inspections by USDA auditors. Arizona and California LGMA members are committed to protecting public health through these...
un-precedent programs and are working to provide products that are healthy and safe. Both Arizona and California LGMA program standards were recognized by the FDA in 2017 for their alignment to the Produce Safety Rule.

Art’s Way Scientific

203 Oak St.
Monona, IA 52159, USA
Phone: +1 563.539.2336
www.buildingsforscience.com

Art’s Way Scientific is a leading producer of technical turnkey research, vivarium, and diagnostic laboratories. Art’s Way designs, develops, manufactures, and installs a complete custom-engineered building for biocontainment, public health, laboratory animal research, food safety, and general laboratory space requirements. www.buildingsforscience.com.

ASI Food Safety

500 Northwest Plaza Dr., Suite 700
St. Louis, MO 63074, USA
Phone: +1 314.880.8880
www.asifood.com

ASI is a global food safety company offering Farm-to-Fork solutions for the entire food industry. Our mission is to provide innovative, reliable and trusted food safety and quality solutions to help our customers minimize risk, reduce recalls, eliminate foodborne illness, and protect their brand and the health and well-being of their customers. ASI offers accredited and non-accredited audits, training, consulting services, and everything in between with a global team of highly trained and experienced auditors and consultants. We are your one-stop shop for all things food safety!

Association of Food and Drug Officials

155 W Market St., 3rd Floor
York, PA 17401, USA
Phone: +1 717.757.2888
www.afdo.org

The Association of Food and Drug Officials (AFDO) promotes the uniform adoption and enforcement of food, drug, medical devices, cosmetics and product safety laws, rules, and regulations. Founded in 1896, AFDO is an international, non-profit professional organization consisting of state, federal and local regulatory officials as members. Industry representatives are welcomed as associate members. AFDO is a mechanism for advancing regulatory program standards that will help to advance an integrated food safety system. The organization also provides training and continuing education as well as networking opportunities that foster understanding and collaboration among all members and an appreciation for each role in the food and medical device safety system.

Autoscribe Informatics, Inc.

20 Riverside Drive, Suite 102
Lakeville, MA 2347, USA
Phone: +1 508.457.7911
www.autoscribeinformatics.com

Autoscribe Informatics provides quality management and LIMS solutions for food protection. Our solutions are used to track food samples and manage associated data. Our software ensures your testing is fully traceable from raw ingredients to final product and ensures quality control across your food production.

Instantly generate Certificates of Analysis. Use our statistical process control to provide early QC warnings. Our environmental monitoring module enables HACCP testing to manage contamination across production facilities. Our highly configurable LIMS/OMS solutions enable an exact fit to your requirements. Working in QC? Talk to Autoscribe and discover what you are missing.

Bayer

500 Centregreen Way, Suite 400
Cary, NC 27513, USA
Phone: +1 919.750.7509
www.beyondsmarterbusiness.com

The Environmental Science division of Bayer is committed to fostering healthier environments where people live, work and play. We are passionate about the role we play in protecting public health by helping our customers defend against pest-related threats to households, businesses and communities. Bayer’s digital Rodent Monitoring System exemplifies our strength in turning scientific discoveries and exploration into innovations that improve lives and drive smarter, more sustainable ways of doing business. This easy-to-use platform automates rodent monitoring, offering 24x7 alerts to enhance food safety and biosecurity, reduce business risk and protect public health.

BCN Research Laboratories Inc.

2491 Stock Creek Blvd.
Rockford, TN 37853, USA
Phone: +1 865.573.7511
www.bcnlabs.com

BCN Labs is a full-service microbiological and mycological laboratory. BCN Labs offers an extensive selection of microbiological and mycological tests, training courses, and auditing programs. BCN Labs is internationally recognized as one of the leaders in food and beverage spoilage prevention and investigation including heat-resistant molds (HRM), preservative-resistant yeast and molds, and Alicyclobacillus gilaiacol positive (ACB). It is also recognized by its expertise in pathogen contamination assessment, prevention, and elimination. BCN Labs offers other services that include challenge studies, preservative studies, shelf-life studies, and other customized studies for our customers. BCN Labs staff is proficient in bacteria, yeast and mold identifications using DNA sequencing and confirmation of the results by traditional identification techniques. BCN Labs is ISO 17025 accredited and is a WBENC certified women-owned company.

Bia Diagnostics

480 Hercules Dr.
Colchester, VT 05446, USA
Phone: +1 802.540.0148
www.biadiagnostics.com

Bia Diagnostics is a global-leading ISO 17025-accredited food and nutraceutical testing laboratory located in beautiful Colchester, Vermont. With over 40 years of diagnostics’ experience, we specialize in Food Allergen, GMO, Food Authenticity, and Cannabis/Hemp testing. Focusing on these four critical sectors, our expert scientists are dedicated to working with you to ensure the most accurate and timely results, providing same day analysis for most testing needs at no additional cost!

BioFront Technologies

3000 Commonwealth Blvd.
Tallahassee, FL 32303, USA
Phone: +1 850.727.8107
www.biofronttech.com

BioFront Technologies is an ISO 9001:2015 manufacturer of food allergen detection kits and the authorized U.S. agent for FAPAS proficiency tests and QC/reference materials. BioFront’s MonoTrace® ELISAs and AllerTrace® lateral flow assays represent a comprehensive line of monoclonal antibody-based tests that accurately detect trace amounts of food allergens on surfaces, rinse waters and complex matrices. The MonoTrace Gluten ELISA utilizes a novel non-toxic extraction for faster quantification of gluten within processed and unprocessed foods. BioFront offers over 30 unique ELISA and lateral flow assays targeting peanut, tree nuts, milk, egg, soy, lupine, sesame, mustard, buckwheat, shellfish, fish, and gluten.
BIOLYPH
4275 Norex Dr.
Chaska, MN 55318, USA
Phone: +1 952.936.0880
www.biolyph.com

BIOLYPH’s Lyophilization Services maximize the quality and value of your Food Safety assay kits by providing years of room temperature stability and minimizing user steps and sources of error. We transform your liquid reagents into LyoSpheres™, precise lyophilized aliquots, and package them inside virtually any device, including tube strips, plates, and custom devices. All components needed for the reaction can be in a single LyoSphere™, and rehydration is instantaneous and complete. Assays produced as LyoSpheres™ include Salmonella, Listeria, Campylobacter, E. coli, STEC, Vibrio, Shigella, and more. Please visit our booth to explore how BIOLYPH can add value to your products.

bioMérieux, Inc.
401 N Michigan Ave.
Chicago, IL 60611, USA
Phone: +1 224.213.1756
www.biomerieux-usa.com

With more than 55 years of pioneering diagnostics and unrelenting commitment to improve public health worldwide, bioMérieux understands the challenges you face when it comes to ensuring food safety and quality. To help you meet your demands, bioMérieux offers core lab and at-line microbiology tools that deliver rapid results for pathogen detection, quality indicator enumeration, organism identification and cost-effective, automated solutions with LEAN approaches to streamline your laboratory. bioMérieux’s state-of-the-art Predictive Diagnostics Innovation Center utilizes data science and sequencing applications, helping customers recognize insights in their operation to move from detecting and responding to events, to predicting and preventing them.

Bio-Rad Laboratories, Inc.
2000 Alfred Nobel Dr.
Hercules, CA 94547, USA
Phone: +1 510.741.4486
www.bio-rad.com

Bio-Rad Laboratories has played a leading role in the advancement of scientific discovery for over 60 years. We manufacture tests for food safety with a complete line of solutions for food pathogen testing. We offer a full menu of real-time PCR test kits for the detection of key pathogens, culture media for nutritive enrichment and RAPID chromogenic media with easy colony identification for detection of pathogens and enumeration of quality indicators. As an instrument manufacturer, Bio-Rad also provides instrument options for both low- and high-volume users, including our iQ-Check® Prep automation system.

Bioscience International, Inc.
11333 Woodglen Drive
Rockville, MD 20852, USA
Phone: +1 301.231.7400
www.biosci-intl.com

Our viable air samplers and compressed gas test units raise your Environmental Monitoring Program to a higher level of dependability, and conformance with regulatory guidance. Settle plates are no longer ample for reliable monitoring. Used by NASA, NIH, FDA and major universities, the SAS air samplers are the industry leader in accuracy and dependability, backed by two-day service. Our Pinocchio compressed gas testing system is an all-in-one unit — all you need is the gas and a petri plate to perform sampling.

BIOTECON Diagnostics
Hermannswerder 17
Potsdam, Brandenburg 14473, Germany
Phone: +49.331.2300.200
www.bc-diagnostics.com

For more than 20 years, we have imagined a world where no one gets sick from the food or drink they consume. As pioneers since 1998, we have constantly strived to put an end to foodborne diseases by providing the food and beverage industry with the very best in food safety solutions. Today, we have become a market leader in food and beverage safety excellence. Our comprehensive portfolio, consisting of the foodproof® and microproof® product lines, offers first-in-class, robust and reliable molecular solutions for DNA/RNA extraction and rapid detection systems for pathogens, spoilage organisms, GMOs and allergens based on real-time PCR. Join the leading food-producing companies, government and private laboratories all over the world who trust and rely on our high-quality food safety testing solutions.

Since joining forces with Hygiena in March 2021, a leader in food safety and environmental testing solutions, we have been even better able to serve our customers. With an extended portfolio of high-quality products and a larger global technical team, we are in an advantageous position to offer greater support than before.

BootieButler®
13720 Rider Trail North
St. Louis, MO 63045, USA
Phone: +1 800.710.9863
www.bootiebutler.com

BootieButler® Shoe Cover Systems are the faster, cleaner, and safer way to utilize shoe covers in your business. There is simply no better system for high volume applications. With our shoe cover systems and PPE, you can rest assured that your workers’ safety compliance, as well as client compliance with cleanliness regulations, will be improved. Picking the perfect system for your company’s unique needs is easy with our wide range of booties and applicators. Stop by our booth for a demonstration and visit www.bootiebutler.com to learn more.

Certified Laboratories
65 Marcus Drive
Melville, NY 11747, USA
Phone: +1 516.576.1400
www.certified-laboratories.com

There has never been a better time to visit Certified Laboratories than now! Approaching 100 years with a heritage of bridging science with service, Certified Laboratories, and the Certified Group of companies offer a total solution for the food, supplement, and cosmetic industries. With a more comprehensive breadth of analysis, as well as consulting through our sister company EAS Consulting, we can provide support from the routine environmental testing, through to your most complicated projects or regulatory hurdles. Certified Laboratories can provide the testing you need with the expertise and responsiveness you deserve.

Charm Sciences, Inc.
659 Andover St.
Lawrence, MA 01843, USA
Phone: +1 978.887.9200
www.charm.com

Charm Sciences is a world leader in food safety diagnostics. Charm’s two-pronged Sanitation Monitoring Program ensures the highest level of food safety, quality control, and audit compliance using the novALUM® II-X System and Charm Peel Plate® Microbial Tests with Colony Counter. Charm offers simplified diagnostics and data management solutions to track and trend results with integration to LIMS system. Rely on Charm Sciences for excellence in quality, innovation, and sensitivity to protect your brand!
Cyclone™ is our automated walk-away system which increases results’ accuracy and reproducibility while decreasing time and operational costs. Our R&D is always willing to support our customers with their formulation issues. Our office/warehouse is in Chicago and offers excellent customer service and timely delivery.

ClorDiSys Solutions, Inc.
50 Tannery Road, Suite 1
Branchburg, NJ 08876, USA
Phone: +1 908.236.4100
www.clordsys.com

ClorDiSys Solutions, Inc. is a worldwide leader in contamination control and decontamination. ClorDiSys provides decontamination services for contamination mitigation as well as preventive control, utilizing chlorine dioxide gas to leave your facility cleaner and safer than ever before by eliminating the persistent pathogens from the hardest-to-reach areas. Portable CD gas generators are also available for the in-house decontamination of rooms, tanks, chambers, and processing areas of all sizes.

Copan Newlab
Via A. Grandi 32
25125 Brescia Italy
Phone: +3902687211
www.copangroup.com

NewLab, established in 2012, is one of the newest Copan business units, with the mission to provide technologically advanced automated solutions for industrial microbiology. The NewLab innovative approach enables companies and laboratories to benefit from an efficient sample processing that guarantees solid quality performance.

Specifically designed in compliance with ISO standards for microbiological quality control in food, cosmetics and pharmaceutical industries, Cyclone® is our automated walk-away system which increases results’ accuracy and reproducibility while decreasing time and operational costs. PharmaLab®, our new platform capable of digital plate incubation and reading for environmental monitoring, offers reliable results though any audit trail.

We possess the broad-minded professionalism common to all the branches of Copan’s group, to deal with new requests and to tailor our products to your specific needs in today’s fast-paced technological scene. Considered as a strategic technological partner, Copan NewLab supports any of your complex projects.

Corning Incorporated
One Riverfront Plaza
Corning, NY 14831, USA
Phone: +1 607.974.9000
www.corning.com

Corning, a leading brand in Life Sciences Solutions, long recognized by scientists as the supplier of high-quality laboratory products, presents its line of sample preparation equipment and disposable labware for quality control and microbiology, optimized for food and beverage testing. Manufactured to the most rigorous standards, Corning’s beginning-to-end test solutions balance superior quality with unsurpassed value. Corning products include consumables (such as plastic vessels, specialty surfaces, cell culture media and serum), as well as general labware and equipment, that are used for advanced cell culture research, bioprocessing, genomics, drug discovery, microbiology and chemistry.

Crystal Diagnostics
510 Compton St., Suite 106
Broomfield, CO 80020, USA
Phone: +1 720.351.4855
www.crystaldiagnostics.com

Crystal Diagnostics is passionate about food safety. We recognize the impact food safety issues have on the health and wellness of people. We also understand the devastating impact food pathogen outbreaks and subsequent recalls can have on food producers. With these impacts in mind, Crystal Diagnostics moved to create the AutoXpress: a fully automated, high throughput testing platform designed for testing laboratories. We utilize liquid crystal technology within this advanced immunoassay to provide simple, accurate, fast, and economical food testing results. The AutoXpress is the final solution in foodborne pathogen testing.

CultureMediaConcepts®
970 E Orangethorpe Ave., Unit A
Anaheim, CA 92801, USA
Phone: +1 714.773.1726
www.culturemediaconcepts.com

CultureMediaConcepts® is an independent manufacturer of culture media and reagents utilized in microbiological testing. Screening for indicator organisms, environmental monitoring, or testing for foodborne pathogens require specified culture media formulations recommended by the methodology used, the manufacturer of the testing platform, or a governing agency. We specialize in formatting culture media formulations for your specific needs. Our SampleReady® line of prepared dehydrated culture media, offers a RTU format that will eliminate steps of preparing your media and save you hours to results. Our DiluteReady® Sample Dilution Bags offer pre-measured prepared culture media in sterile sample bags for your specific testing application. And, our EnviroReady® sample collection device will give you leverage on environmental monitoring.

Come by our booth and let’s talk about your specific testing needs.

Decon7 Systems, Inc.
8541 E Anderson Dr., Suite 106
Scottsdale, AZ 85255, USA
Phone: +1 480.339.2858
www.d7food.com

Decon7 Systems operates within the environment’s most dangerous pathogens, chemical, and energetic hazards and threats. Work is done everyday to develop solutions to combat these risks.

And we believe that these innovation solutions should not be kept on laboratory shelves, but that they should be made readily available to everyone in order to keep the food supply and public and private spaces and property clean and safe.

We do this by commercializing some of the world’s most innovative compounds originally engineered for use in response to terrorist attacks and the world’s most dangerous toxins.

Our compounds and foams are designed and manufactured specifically for cleaning, disinfecting, deodorizing, neutralizing, decontaminating, mitigating, and suppressing threats from toxic chemicals and materials, biological hazards (e.g., SARS-CoV-2/COVID-19), energetics, explosives, and fires. Our mission is to provide our customers with highly efficacious and versatile products that have a low environmental impact, can be used across many different industries, and are compatible with a variety of materials and equipment.

Decon7 offers the patented anti-microbial chemical D7 for cleaning, sanitizing, and disinfecting. D7’s adhesion allows for the longest contact time and was developed and formulated to be efficacious against a wide variety of organisms*. D7 is EPA registered to penetrate, kill and remove biofilms and approved for use on SARS-CoV-2/COVID-19. Experience the D7 difference.
Deibel Laboratories was founded by Dr. Robert H. Deibel, a former Dean of the Bacteriology Department at the University of Wisconsin and published author of over 80 scientific publications, over fifty years ago. Since its inception, Deibel Labs has continually grown with the ever-changing scientific community and has become an integral part of the global food safety industry. With a network of ISO 17025 Laboratories throughout the United States and Canada, Deibel Labs is able to provide exceptional service while controlling test prices in order to create the perfect combination of value and quality for any sized clientele.

Detectamet Detectable Products

5111 Glen Alden Dr., Richmond, VA 23231, USA
Phone: +1 844.820.7244
www.detectamet.com

If you're in food production, talk to us about reducing your risk of food recalls due to foreign body contamination. After inspection equipment on production lines, the next step is to use metal and X-Ray detectable products in processing areas, including pens, clipboards, mixing/handling equipment, knives, temperature probes, PPE and engineering materials. Since 2003 we’ve collected awards for our innovative products, helping businesses like yours avoid unnecessary foreign body contamination.

Our product range is made from a unique detectable polymer, manufactured from EU & FDA food contact approved materials, and plays an important contribution to successful FSMA & BRC compliance.

Eagle Protect PBC

3079 Harrison Ave. #21
South Lake Tahoe, CA 96150, USA
Phone: +1 800.384.3905
www.eagleprotect.com

Eagle Protect supplies high-quality, food-safe disposable gloves and clothing. Partnering with international food safety specialist Barry Michaels, Eagle leads the industry in scientific research of disposable gloves and their cross-contamination potential. Eagle’s unique, proprietary Fingerprint glove analysis third-party tests a range of Eagle gloves for structural integrity, safe ingredients, cross-contamination potential, dermal compatibility and pathogen contamination.

At this year’s IAFP, Michaels and Eagle are presenting their findings of viable pathogen contamination of glove surfaces, having analyzed 20 different brands, and the risk this poses to food safety.

Ecolab

1 Ecolab Place
St. Paul, MN 55102, USA
Phone: +1 800.392.3392
www.ecolab.com

A trusted partner at nearly three million customer locations, Ecolab (ECL) is the global leader in water, hygiene and energy technologies and services that protect people and vital resources. Ecolab offers innovative and customized food and beverage solutions backed by our technical experts. We partner with you to help optimize every aspect of your food and beverage operation, so you deliver measurable improvements in operational efficiency, and consistent food quality and safety. This partnership allows our customers to continue to produce profitably, responsibly and safely by targeting actions that drive the right outcomes.

Extreme Microbial Technologies

2800 E River Road, Suite A
Moraine, OH 45439, USA
Phone: +1 844.885.0098
https://extrememicrobial.com

Extreme Microbial Technologies has the solutions to reduce or eliminate harmful germs within all indoor environments up to 99.9%. Our ACTIVE technologies continually seek out and attack existing microbes and dangerous contaminants throughout the space, and decontaminate the area.

Thoroughly tested, our ACTIVE Hydrogen Peroxide Plasma technology ensures drastic reductions of numerous viruses, mold, bacteria, mildew, and VOCs. All while being environmentally safe for humans, animals, and plants.

EUROFINS 803
2200 Rittenhouse St., Suite 175
Des Moines, IA 50321, USA
Phone: +1 515.265.1461
https://www.eurofinsus.com/food

Eurofins is your partner in food safety, whether you’re a manufacturer, packer, supplier, retailer, distributor, or processor. And we know your bottom line depends on our top-of-the-line services. Eurofins offers innovation, agility, individualized service, and a commitment to the highest standards with a full portfolio of food microbiology and chemistry testing, consulting, and project services. With our network of local laboratories and expert consultants, Eurofins is your local partner in food safety, delivering fast, accurate, cost-efficient expertise to every region we serve.

FlexXray, LLC

3751 New York Ave., #130
Arlington, TX 76014, USA
Phone: +1 817.453.3539
www.flexxray.com

FlexXray is the North American leader in product x-ray inspection and recovery services dedicated to serving food companies. We specialize in inspecting your product at one of our four regional U.S. facilities for physical contamination; raw ingredients, shelf-stable goods, refrigerated fresh or frozen, we have a solution for you! We utilize custom developed medical grade x-ray technology running at slower speeds than tradition production speeds in order to detect items like metal, plastic, gasket material, rubber, glass, stone, and bone – which we can see down to 0.8 mm or smaller!

Currently, we partner with more than 1,100 customers to help salvage saleable product instead of throwing it away or reworking it internally. We save our customers millions of dollars each year and help eliminate over 97% of food landfill waste on product we inspect.

A trusted partner at nearly three million customer locations, Ecolab (ECL) is the global leader in water, hygiene and energy technologies and services that protect people and vital resources. Ecolab offers innovative and customized food and beverage solutions backed by our technical experts. We partner with you to help optimize every aspect of your food and beverage operation, so you deliver measurable improvements in operational efficiency, and consistent food quality and safety. This partnership allows our customers to continue to produce profitably, responsibly and safely by targeting actions that drive the right outcomes.

Blue Text – IAFP Sustaining Member
Fluxergy specializes in the manufacturing of Point-of-Use Diagnostic equipment. Currently, the Fluxergy platform can detect *Salmonella* spp. on-site from environmental swabs post enrichment within 1 hour with a simple workflow. Our development pipeline includes tests for food production facilities for *Listeria* spp., a dairy PCR panel, as well as the ability to develop custom assays for contaminants and markers that suit your business needs. The platform potential includes the ability to measure proteins, cells, chemicals and contaminants on a portable and scalable platform. Veterinary and custom assay development available for streamlined testing within your facilities.

**Food Microbiological Laboratories, Inc.**

10653 Progress Way
Cypress, CA 90630, USA
Phone: +1 714.657.7527
www.foodmicrolabs.com

Food testing and research services with expertise in food safety and quality. Food Microbiological Laboratories, Inc. is State of California (ELAP) and ISO 17025 accredited. Our leadership team includes Melissa Calichia, MS, CFS, Chief Science Officer and Karilyn Gonzales, MS, CFS, Laboratory Director with over 50 years of combined experience in the industry. Our expert microbiologists specialize in provision of quality data, and technical interpretation for routine food and environmental pathogen screening, shelf life and allergen testing, making us known for exceptional client satisfaction.

**Food Quality & Safety**

111 River St.
Hoboken, NJ 07030, USA
Phone: +1 224.239.0617
www.foodqualityandsafety.com

*Food Quality & Safety Magazine*, a Wiley publication, is the food/beverage industry’s go-to resource for expert-contributed, must-read content. Its award-winning editorial covers the latest news, technologies, trends, and issues happening from farm to fork to ensure a safe food supply. For over 25 years, its print and digital content has been delivering practical information to all levels of quality and safety decision makers in food processing, agriculture, distribution, food service/retail, and regulatory and research institutions.

**Food Safety Magazine**

2401 W Big Beaver Road
Troy, MI 48084, USA
Phone: +1 248.283.9569
https://www.food-safety.com

For more than 25 years, *Food Safety Magazine* has been the leading provider of content serving food safety/quality professionals worldwide. Bimonthly eMagazine features contributions from food and beverage industry leader covering: regulations, technologies, trends, and management strategies essential when applying science-based solutions to assure food safety and quality. Also, the popular podcast “Food Safety Matters” offers twice monthly episodes featuring news and trends, or another surprise segments, followed by a conversation with a food safety professional sharing their experiences and insights. Visit our website www.food-safety.com to begin your free subscription and learn more about all *Food Safety Magazine* has to offer.

*Food Safety News* is the only daily publication that reports exclusively on food safety issues. We are the first to talk with the most important people behind breaking news. We bring our readers the kind of old-fashioned, in-depth journalism that many people thought didn’t exist anymore. As a result, our readers trust our reporting and actively respond to the marketing messages they see in our publication. Our advertisers tell us that we are their #1 source of solid sales leads, month after month. Talk with us now about how an ad schedule can help you increase your sales and your brand recognition.

The Food Safety Summit is a solutions-based conference and expo designed to meet the educational and informational needs of the entire food industry including growers, processors, retailers, distributors, foodservice operators, regulators and academia. For more than 20 years, the Food Safety Summit has been the premier event, developed by the industry for the industry, where professionals learn from their peers about cutting-edge solutions to address emerging issues, become certified in the newest courses available and see the latest technological advances offered by leading vendors.

FoodChain ID is a supplier of technology-enabled solutions to support the safety, quality, integrity, and sustainability of the global food chain. Our services include food safety certification and auditing, HorizonScan® ingredient and supplier risk assessment, Food Fraud Database for intentional adulteration vulnerabilities, gComply Plus covering product-level, global contaminants analysis, FoodChain ID Academy offering on-demand and virtual training, and food and supplement subject matter experts for tailored consulting services. Certification offerings include BRCGS, SQF, GLOBALG.A.P, FSSC 22000, USDA Organic, Non-GMO Project Verification, U.S. Hemp Authority®, and Vegan/Plant-Based/Vegetarian. For efficiency in audits and certification, we provide one global customer portal: TrakCert®.

Food Safety Net Services (FSNS) is a network of 19 ISO-17025 accredited laboratories across North America, and has been a trusted partner in the food safety industry for 27 years. FSNS provides microbiological and chemical analyses of all food matrices and environmental samples, extensive research and development opportunities, and a comprehensive educational program. Additional services include NLEA labeling and an industry leading Certification and Audit program.
FoodChek Systems, Inc. specializes in developing and commercializing products to detect microbial contamination in human and pet consumables, and for pathogens within the production and manufacturing environments. Our newest product is Actero™ EZ-Media Dry Bag that significantly reduces the time to prepare enrichment media from hours to just less than 30 minutes. Additional signature product lines are: Actero™ Elite Enrichment Media with ground-breaking, patented formulations compatible with any pathogen testing system offering single-step enrichment, fast test "time-to-results" and targeted accuracy; and Actero™ Universal Enrichment Media with established ISO compliant media formulations used for standard testing protocols in today’s labs.

FREMONTA Corp. provides innovative sampling technology and is the USDA’s exclusive licensing partner in bringing to market “the new gold standard of sampling” for the detection of pathogens in beef trimmings and other protein sources. FREMONTA’s patented Continuous and Manual Sampling Devices facilitate batch sampling for microbial contaminants in foods, to improve sampling efficiency. FREMONTA’s novel and intelligent sampling instruments include the MicroTally™ Swab, mobile Continuous Sampling Device (mCSD™), and SmartSampler™. Stop by our booth #819 to see how these sampling methods can make your FSQA testing faster, easier, more cost effective, and more representative.

Goodway Technologies helps our food industry customers improve their quality and food safety programs through the introduction of innovative cleaning and sanitizing equipment technologies. We specialize in dry steam cleaning products for packaging machinery, production lines, and conveyor belts that help remove soils, allergens, and more while preparing surfaces for more efficient sanitizing.

Hamilton Company specializes in the development, manufacturing and customization of precision measurement devices, automated liquid handling workstations and sample management systems. Our products provide fully automated workflows that offer reliability, performance, and the flexibility to automate your assays, all with industry leading quality and service. Hamilton offers fully automated solutions for sample prep in food safety, etc. Hamilton Company has been a leading global manufacturer for more than 60 years, with headquarters in Reno, Nevada; Franklin, Massachusetts; and Bonaduz, Switzerland; and subsidiary offices throughout the world.

Hydrite Chemical Co. specializes in the development, manufacturing and customization of precision measurement devices, automated liquid handling workstations and sample management systems. Our products provide fully automated workflows that offer reliability, performance, and the flexibility to automate your assays, all with industry leading quality and service. Hydrite offers fully automated solutions for sample prep in food safety, etc. Hydrite Company has been a leading global manufacturer for more than 60 years, with headquarters in Reno, Nevada; Franklin, Massachusetts; and Bonaduz, Switzerland; and subsidiary offices throughout the world.

Hygiena delivers rapid microbial detection, monitoring, and identification solutions to improve food safety and environmental monitoring worldwide.

Hygiene products provide solutions for every step in your food safety and environmental monitoring programs. From raw material to final processing and packaging or environmental testing, our products ensure you facility is clean per HACCP performance standards and compliance guidelines. We know that rapid, accurate tests results are essential to maintaining this workflow. Our goal is to support you with rapid monitoring, detection and identification solutions.

Hygiene is committed to providing customers with high-quality innovative technologies that are easy-to-use, reliable and backed by excellent customer service and support. Headquartered in Camarillo, California with offices in the UK, Canada, Mexico, Spain and China, Hygiene products are sold in more than 100 countries. To learn more, visit www.hygiena.com.

IEH Laboratories & Consulting Group offers a range of services including ISO/IEC-17025-accredited laboratories provide expeditious to address quality and safety concerns. Our consulting team provides technical support to all sectors of the food industry, from regulatory and legal support to risk assessment, crisis management, and outbreak investigations. In addition, our team of experts can assist you with food safety, sanitation and environmental program evaluation and design.
In addition, through our family of brands; Microbiologique, ELISA Systems, Bio-Check UK, Roka Bio and Sample6, IEH provides options for pathogen testing, microbial indicators, allergens, mycotoxins, meat speciation, spoilage organisms, sampling supplies, laboratory disposables, media and laboratory instruments.

Come learn about how we assist with risk management and service clients with internationally recognized experts in food safety.

IFC
13420 W 99th St.
Lenexa, KS 66215, USA
Phone: +1 913.782.7600
www.indfumco.com

IFC is a national provider of pest management and sanitation solutions exclusive to the food industry. The knowledge and expertise we have gained comes from working directly with the food and commodity industries since 1937. IFC has developed a market-leading reputation for providing consistent, reliable and high-quality service to our clients. We maintain this reputation by focusing our efforts on sustaining the highest standards of quality, safety, honesty and integrity in all areas of our business.

INFICON
2 Technology Place
East Syracuse, NY 13057, USA
Phone: +1 315.434.1126
https://www.inficon.com

INFICON, one of the world’s leading innovators in leak-testing technology has leveraged their expertise to create the Contura S-series leak detector for the food and packaging industries. Contura provides non-destructive testing for large and micro leaks simply and quantitatively, facilitating advancements in MAP, compostable and flexible package testing.

InnovaPrep
132 E Main St.
Drexel, MO 64701, USA
Phone: +1 816.619.3375
www.innovaprep.com

InnovaPrep provides air, surface and liquid biomonitoring tools to help dramatically improve limit of detection for contamination monitoring in food production facilities. Sample-to-answer can be achieved in a single shift when paired with rapid molecular analysis methods for a faster, easier and better monitoring program. InnovaPrep’s Concentrating Pipette Select™ provides rapid concentration of pathogens, spoilage organisms, and particulate contamination from liquid food samples and beverages. Please visit our booth for a demonstration.

International Association for Food Protection
2900 100th St., Suite 309
Des Moines, IA 50322-3855, USA
Phone: +1.515.276.3344
www.foodprotection.org

IAFP provides food safety professionals worldwide with a forum to exchange information on protecting the food supply. This is achieved through two monthly journals; the Journal of Food Protection and Food Protection Trends, an online newsletter titled the IAFP Report and through an Annual Meeting in North America where research topics on food safety issues are presented. IAFP also holds a three-day symposium in Europe each year and a separate, annual international symposium in addition to supporting food safety events in Dubai and China. Membership information can be obtained at our booth or visit our website at www.foodprotection.org.

International Association for Food Protection — Student PDG
103 2900 100th St., Suite 309
Des Moines, IA 50322-3855, USA
Phone: +1.515.276.3344
www.foodprotection.org

Welcome, students, to IAFP 2021! If you wish to take control of your career and enrich your IAFP experience by interacting with other students and networking with professionals, get involved with the IAFP Student Group. We are an organization of undergraduate and graduate students who wish to enhance food safety through active participation in IAFP. Stop by our booth to meet your colleagues, exchange ideas, and become involved in future student group activities.

International Food & Meat Topics
Virtual
PO. Box 4
Driffield, East Yorkshire YO25 9DJ, United Kingdom
Phone: +44.1377.241724
www.positivеaction.co.uk

International Food & Meat Topics is a global magazine that focuses on all aspects of food and meat safety in production and processing. It carries regular features on laboratory testing and relevant research. Its editorial covers subjects as diverse as Campylobacter, HACCP, food safety, labelling and shelf life, and foreign body detection. Its targeted readership is QA/QC managers in food and meat production and processing plants, food testing laboratories, and responsible food safety professionals.

Interscience Laboratories, Inc.
610/Virtual
32 Cummings Park
Woburn, MA 01801, USA
Phone: +1 781.937.0007
www.interscience.com

Interscience is a family-owned company with a dynamic R&D department that has more than 30 patents filed worldwide. The company has been a key player in microbiology control since 1979. Designer and manufacturer, the company equips laboratories in the food, pharmaceutical, cosmetic and research industries in more than 130 countries, to enable them to guarantee healthy products for consumers. Our product range covers equipment from sample preparation to bacterial analysis, and includes gravimetric dilutors, lab blenders, peristaltic dispensing pumps, automatic spiral platers and colony counters.

Intertek Alchemy
607
5301 Riata Park, Building F
Austin, TX 78727, USA
Phone: +1 866.463.5117
www.alchemysystems.com

Intertek Alchemy helps companies of all sizes power their workforce. Join over 1,000 food manufacturers that leverage our industry-leading training solutions to ensure the everyday decisions made by frontline employees have a positive impact on your culture and operations. In addition, our experienced consulting team can help maximize your food safety and quality systems for GFSI, HACCP, and FSMA compliance. Learn more about how we can help you drive safety, quality, and productivity by visiting us in booth 607.

MadgeTech
806
6 Warner Road
Warner, NH 03278, USA
Phone: +1 603.456.2011
www.madgetech.com

From cooking and cooling to shipping and storage, ensure food quality while protecting your bottom line. MadgeTech data loggers are essential to any HACCP plan — keeping auditors happy, customers healthy and business profitable. Real-time monitoring, alarms and notifications give users the power to manage critical control points before deviation occurs. Maintaining records is a breeze, MadgeTech 4 Software automatically generates reports for compliance and analysis.
Matrix Sciences delivers accurate, timely and insightful information so that customers have what they need to bring safe, quality food to market. Matrix partners with customers offering a market-leading combination of services and technology to provide the support, expertise and resources food manufacturers need to make informed decisions with confidence.

Mérieux NutriSciences is a leading global food safety and quality partner — offering chemistry and microbiology testing, labeling, auditing, consulting, sensory testing, customized training, research services, and digital solutions to the food and nutrition industry. Focused on customer excellence, we protect consumers' health through nutritional research, scientific excellence, and innovation. We customize our services to meet the needs of individual manufacturers, food processors, caterers, restaurants, and retailers. Headquartered in Chicago, Mérieux NutriSciences has grown from a single laboratory to have a global presence. Present in 27 countries, Mérieux NutriSciences employs over 7,500 people worldwide working in over 100 laboratories.

Michelson Laboratories, Inc.
6280 Chalet Dr.
Los Angeles, CA 90040, USA
Phone: +1 562.928.0553
www.michelsonlab.com

Since 1970, Michelson Laboratories, Inc. has provided complete chemical and microbiological analyses to the food industry. We are an ISO/IEC 17025 Accredited Laboratory offering rapid turnaround time, accurate, reliable results and excellent customer service. We can assist you with your environmental monitoring program and offer pathogen analysis, indicator organism testing, validation and shelf-life studies. In addition, we provide testing services for antibiotic and pesticide residues, melanine by LC/MS, heavy metals by ICP/MS, nutritional labeling and more. We are also highly experienced in sampling and analysis of products on FDA detention. Contact us to see how we can help you.

Michigan State University Online Food Safety Program
1129 Farm Lane, Room B51
East Lansing, MI 48824, USA
Phone: +1 517.884.2078
www.foodsafety.msu.edu

Michigan State University’s Online Food Safety Program strives to educate professionals on how to make global food systems safe and supports individuals as they advance in food safety-related careers. The program consists of an online Master of Science in Food Safety degree, non-credit continuing education courses and an on-campus executive education program. Be more effective, efficient, and confident in an ever-changing workplace. Who will keep food safe? Spartans Will.

Microbiologics
200 Cooper Ave. N
St. Cloud, MN 56303, USA
Phone: +1 320.217.6606
www.microbiologics.com

Microbiologics is the leading provider of ready-to-use QC microorganisms for quality control testing in food laboratories. With over 900 strains available, we offer the largest and most diverse line of QC microorganisms including qualitative, quantitative, CRM, inactivated pathogens, and more. Visit booth 120 to learn how our QC microorganism products can save your laboratory time and money.

Midland Scientific
10651 Chandler Road, Suite 102
La Vista, NE 68128, USA
Phone: +1 800.642.5263
www.midlandsSci.com

Midland Scientific is a full-line distributor of laboratory supplies including chemicals, equipment, and consumables. Our customer service and distribution centers, along with our sales force, span the entire United States to ensure timely delivery of your products. We pride ourselves in offering superior service to the customer through a helpful and friendly staff, quality products, competitive pricing, and extensive product options.

MilliporeSigma
Virtual
400 Summit Dr.
Burlington, MA 01803, USA
Phone: +1 978.944.2081
www.milliporeSigma.com

MilliporeSigma, the U.S. life science business of Merck KGaA, Darmstadt, Germany, partners with food safety teams to enable you to improve lab testing efficiencies with reliable products and services that meet ever changing regulations. It is through our collaborations that we can advance the safety and analysis of foods and beverages using trusted brands like Millipore® with microbiology solutions for hygiene, environmental monitoring and pathogen detection, Supelco® analytical solutions for analysis of food contamination and authenticity, Milli-Q® lab water solutions and Sigma Aldrich lab and production materials, including chemicals, inorganics and solvents throughout the supply chain, manufacturing and distribution.

National Environmental Health Association
720 S Colorado Blvd., Suite 1000-N
Denver, CO 80246, USA
Phone: +1 303.756.9090
www.neha.org

The mission of the National Environmental Health Association (NEHA) is to "advance the environmental health professional for the purpose of providing a healthful environment for all." NEHA represents 5,000 members from the U.S. and abroad who work at federal/state/local agencies, academia, industry, and the armed forces. NEHA offers credentialing, education, and resources related to the broad spectrum of environmental health topics including air quality, food safety, hazardous materials, preparedness, sustainability, vector control, and water quality.

Nelson-Jameson, Inc.
3200 S Central Ave., P.O. Box 647
Marshfield, WI 54449, USA
Phone: +1 800.826.8302
www.nelsonjameson.com

Since 1947, Nelson-Jameson has been a trusted source of food processing supplies. We represent over 850 vendors and distribute over 55,000 products in the broad categories of: Processing & Flow Control, Safety, Sanitation & Janitorial, Production & Material Handling, Building & Facility Maintenance, Laboratory & QA/QC, and Packaging & Ingredients. Our products are backed by expert staff who can provide you with the direction you need when choosing safe, quality products for your processing plant.
We will highlight our equipment solutions for measuring Water Activity technologies for QC and R&D laboratories. At the IAFP Annual Meeting, we will showcase how our solutions can improve the workflow in the lab with technologies like sterilizers, media preparators, agar fillers, XY tube fillers, spiral platers and automated colony counters to name a few.

Neutec Group, Inc.
1 Lenox Ave.
Farmingdale, NY 11735, USA
Phone: +1 516.870.0877
https://neutecgroup.com

Neutec Group is a market leader in implementation of innovative technologies for QC and R&D laboratories. At the IAFP Annual Meeting, we will highlight our equipment solutions for measuring Water Activity (aW). Improve the workflow in the lab with technologies like sterilizers, media preparators, agar fillers, XY tube fillers, spiral platers and automated colony counters to name a few.

NOVOLYZE
50 rue de Dijon
Daix, 21121, France
Phone: +33.9.83.69.42.13
www.novolyze.com

NOVOLYZE offers a comprehensive, tech-enabled solution to help the food industry manufacture safer and better food, while ensuring strong compliance with international food safety and quality standards. Our innovative approach to Food Safety and Quality relies on cutting-edge microbiology solutions, combined with the latest developments in digital, IoT and machine learning, serving a vibrant community.

NSI Lab Solutions
7212 ACC Blvd.
Raleigh, NC 27617-7212, USA
Phone: +1 919.789.3000
www.nsilabsolutions.com


Pall Corporation
25 Harbor Park Dr.
Port Washington, NY 11050, USA
Phone: +1 866.905.7255
www.pall.com

Pall Corporation is a global filtration, separation and purification leader providing solutions to meet the critical fluid management needs of customers across the broad spectrum of life sciences and industry. We work with our customers to advance health, safety and environmentally responsible technologies.

Pall Food and Beverage provides products and services to ensure product quality and maintain process reliability in beverage and food production. Our solutions also assist in consumer protection, the reduction of operating costs and waste minimization.
Need a clean break? Have you tried chlorine dioxide or been quoted a price for a treatment and thought it was too expensive? PureLine prides itself on offering a full-line of chlorine dioxide products and services at a cost-effective solution and guarantees a 6-log kill! For over 20 years PureLine has been providing both gas and liquid chlorine dioxide sanitation products and services that are customized to their customers’ needs.

Q Laboratories 1930 Radcliff Dr. Cincinnati, OH 45204-1823, USA Phone: +1 513.471.1300 www.qlaboratories.com

Q Laboratories has served the food and beverage industries since 1966, offering exceptional microbiology, chemistry, and research and development laboratory services. An ISO/IEC 17025 Accredited, GMP/GLP compliant laboratory. Q Laboratories can provide services to meet all your testing and quality assurance needs. Capabilities include pathogen detection, microbial identification (MALDI-TOF), nutritional analysis, allergen screening, challenge studies, shelf-life studies, environmental monitoring programs, and method validation/verification studies to help test kit manufacturers demonstrate proficiency of proprietary methods.

Quality Assurance & Food Safety Magazine 5811 Canal Road Valley View, OH 44125, USA Phone: +1 216.383.0300 www.qualityassurancemag.com

QA Magazine, a bi-monthly publication from GIE Media, provides digital and print publications for the food and beverage processing industry with a specific focus on food safety, quality, and defense across the global supply chain. Through practical insights and analysis of plant processes, practices, regulation, and current issues, the QA Media family—including our print publication, Website and e-newsletters—addresses the growing market need for targeted information in these key areas. www.qualityassurancemag.com.

QSI 412 Georgia Ave., Suite 300 Chattanooga, TN 37403, USA Phone: +1 423.708.7417 www.vincitgroup.com

QSI is the premier contract sanitation option for food processing in America. Our Human Safety and Food Safety divisions are continually innovating, discovering new ways to sanitize our clients’ facilities effectively and efficiently.

For us, Food Protection isn’t of secondary concern—it’s our business model. We thrive on an ethic of excellence, offering every partner the assurance that every unit is in the best it can be. With QSI, your customers and brand have never been safer.

Remco Products 4735 W 106th St. Zionsville, IN 46077, USA Phone: +1 317.876.9856 www.remcoproducts.com

The cleaning and material handling tools Remco has provided to food processors have played a critical role in food safety for over 30 years. As a part of the Viking family, we provide hygienic, innovative, durable, and efficient tools in up to 12 colors. From shovels and squeegees to brushes and brooms, we have what food manufacturers need.

As Viking’s dedicated presence in North America, Remco delivers superior support to customers through our combined industry knowledge and dedicated customer service staff. We strive to provide lasting value for our customers while we help them improve their own food safety efforts.

Rheonix, Inc. 10 Brown Road, Suite 103 Ithaca, NY 14850, USA Phone: +1 303.287.1306 https://www.rheonix.com

The Rheonix Encompass Optimum™ workstation is a fully automated system that provides rapid, highly multiplexed sample-to-answer molecular testing for food and beverage. With one pipette step per sample, the system offers true walkaway simplicity. Rheonix’s Listenia PatternAlert™ assay enables food producers to quickly identify recurring Listeria patterns in their facilities direct from enrichments, with no need to isolate strains in pure culture. Rheonix’s portfolio of multiplexed testing solutions also includes the Beer SpoilerAlert™ assay, the most comprehensive beer spoilage panel available. With Rheonix, getting more information from your sample has never been easier.

Rochester Midland Corporation – Food Safety Division 155 Paragon Dr. Rochester, NY 14624, USA Phone: +1 800.836.1627 www.rochestermidland.com

Rochester Midland Corporation’s BrandGuard® program is a HACCP and GMP-based food safety and sanitation program designed to support SQF, BRC and other GFSI standards. We partner with food and beverage manufacturers looking for a comprehensive and quality sanitation program that is focused on innovative chemical cleaning options, process improvements, training, technical support, sustainable solutions, and safety.

Romer Labs 130 Sandy Dr. Newark, DE 19711, USA Phone: +1 302.423.0462 www.romerlabs.com

Romer Labs® is a leading provider of diagnostic test solutions for the food industry. We specialize in analytical services and rapid test kits for the detection of food pathogens, food allergens, mycotoxins, drug residues, and GMOs. Our broad range of innovative tests and services play a pivotal role in integrated food safety management programs. Our fundamental objective at Romer Labs® is to provide cost-effective, validated products and services for “Making the World’s Food Safer.”


Sartorius has several decades of experience in the food and beverage market and has developed a range of specific products, addressing the clarification, filtration and microbiological control steps along the differing beverage industry process chains, offering solutions from raw material to final finished product. We help you meet the industry’s growing challenges with ever-increasing levels of safety, process optimization and quality control as well as legislation demands. Easy-to-use, up-to-date, ready-to-go: We keep your business flowing.
Seward Laboratory Systems Inc. 646
155 Keyland Court
Bohemia, NY 11716, USA
Phone: +1 631.337.1808
www.sewardusa.com

Seward Inc. manufactures the leading range of Stomacher® paddle blenders used in sample preparation for microbiological analysis. Focusing on transparency, accuracy and traceability, the Stomacher range helps to produce accurate, repeatable and robust results. With continuous development of the product range, the Stomacher® remains one of the most highly referenced brand names in food safety and life science sample preparation in scientific publications.

Come and visit us on our stand to find out more about the new products we have recently developed and how they can help further streamline your laboratory processes.

SGS 515/Virtual
201 Route 17 North
Rutherford, NJ 07070, USA
Phone: +1 201.508.3000
www.foodsafety.sgs.com

SGS is a world-leading inspection, verification, testing, and certification company. Recognized as the global benchmark for quality and integrity, we provide competitive advantage, drive sustainability, and deliver trust. With more than 89,000 employees, we operate a network of more than 2,600 offices and laboratories around the world. SGS offers a wide range of solutions covering the entire food supply chain from primary production and manufacturing, to retail and foodservice. With a comprehensive range of independent inspection, testing, training, certification, and technical services specific for the food sector, we help companies worldwide to monitor and validate safety, quality, and sustainability.

Shoe Cover Magic 629
161 Compass Point Court
St. Charles, MO 63301, USA
Phone: +1 606.393.0949
www.shoecovermagic.com

The innovative Shoe Cover Magic Automatic Shoe Cover system addresses four critical areas associated with the use of shoe covers: 1) SAFETY - reducing slip/fall accidents associated with applying shoe covers 2) COMPLIANCE - increasing employee compliance by making the process easier. 3) INCREASED PRODUCTIVITY - improving throughput by eliminating wasted minutes and 4) REDUCE CROSS-CONTAMINATION - reducing cross-contamination by using a hands-free approach.

Shoe Cover Magic is committed to providing a unique PPE solution that will fit your facilities specific needs. We offer the hands free Kinetic automatic shoe cover dispenser, shoe cover remover, and variety of shoe covers to accommodate your needs.

Smart Food Safe Virtual
5055 rue Fisher
Saint Laurent, QC H4T 1J8, Canada
Phone: +1 514.446.4400
www.smartfoodsafe.com

Smart Food Safe is a Food Safety, Regulatory and Quality Management software built with food safety functional expertise along with smart technologies. The software digitalizes the documentation and record keepings needed to manage any global food safety systems.

Our software solves the farm to fork traceability challenges, brings real time visualization of the happenings on the floor for better decision makings and saves on the cost of food safety program implementation and maintenance.

Be audit-ready with Smart Food Safe’s digital food safety system and stay compliant with Food safety program, standards, and requirements.

SnapDNA 429
897 Independence Ave., #2C
Mountain View, CA 9404-2356, USA
Phone: +1 443.625.8166
www.snapdna.com

SnapDNA has the fastest pathogen test in the industry. Sample-to-answer in 20 minutes, the SnapDNA system eliminates the need to culture or enrich bacteria enabling on-site or in-field analysis of environmental and food samples. Our RNA/DNA-based platform is the first True Rapid™ test to meet or exceed every critical industry metric to replace lab tests. The SnapDNA system detects and analyzes ONLY live cells, processes industry established sample sizes, and delivers quantitative results with near-zero false positive accuracy. SnapDNA is poised to deliver next-gen pathogen testing and analytical tools with tipping point technology.

Springer Nature Virtual
One New York Plaza, Suite 4600
New York, NY 10004, USA
Phone: +1 212.726.9232
https://www.springernature.com

The largest international publisher of scientific books, Springer is co-publisher with IAFP of the revised 6th edition of Procedures to Investigate Foodborne Illness, the 3rd edition of Procedures to Investigate Waterborne Illness, and the Food Microbiology and Food Safety book series. Stop by our booth to meet the Food Science editor, Susan Safren and discover an authoritative range of books and our journal program in food science. All IAFP Members now receive a 25% discount on our books.

Sterilex 239
111 Lake Front Dr.
Hunt Valley, MD 21030, USA
Phone: +1 443.541.8800
www.sterilex.com

Sterilex develops proprietary, sanitization technologies designed to remove biofilm and kill biofilm bacteria, provide high level disinfection, and enhance sanitation. Sterilex award-winning products are considered a best practice for the control of harmful organisms such as Listeria, E. coli and Salmonella on a wide variety of food contact and environmental surfaces. Sterilex products are used in a variety of sanitation applications including foaming and soaking programs, drain treatment, spiral freezer sanitization, and microbial threat detection. Sterilex technologies have proven to eliminate environmental sanitation challenges and increase shelf life, resulting in an enhanced sanitation program. Visit us to learn more about innovative solutions for microbial control.

Stop Foodborne Illness Virtual
4809 N Ravenswood, Suite 214
Chicago, IL 60640, USA
Phone: +1 773.269.6555
www.stopfoodborneillness.org

The mission of Stop Foodborne Illness is to support and engage people directly impacted by foodborne illness and mobilize them to help prevent illness and death by driving change through advocacy, collaboration and innovation.

Tentamus NA 839
860 Greenview Dr.
Grand Prairie, TX 75050, USA
Phone: +1 972.336.0336
www.tentamus.com

The Tentamus Group serves the Food, Feed, Agriculture, Cosmetics, Hemp/CBD, Restaurant, and Dietary Supplement industries. Represented by Analytical Food Laboratories, Columbia Laboratories, Symbiotic Research and Tentamus North America Virginia, we support our customers with complete analytics and innovative solutions that meet or exceed national requirements for quality and safety control.
Combining our expertise in Microbiology, Chemistry, Regulatory Affairs and Consulting Services, Tentamus North America is your partner and one-stop-shop for standard and tailored product safety solutions. From your first conceptual product to the shelves of the largest retailers, we are there with you to support your growing business.

Thermo Fisher Scientific 231
12076 Santa Fe Trail Dr.
Lenexa, KS 66215, USA
Phone: +1 800.255.6730
www.thermofisher.com

Thermo Fisher Scientific is the world leader in serving science. Our mission is to enable our customers to make the world healthier, cleaner and safer. We believe we are uniquely positioned to help the food industry effectively protect consumers, brand and reputation by delivering simpler, faster and smarter solutions. Positioned to meet your changing needs, we can help you to remain adaptive, responsive, and competitive.

To find out more visit thermofisher.com/foodandbeverage or join our blog at www.thermofisher.com/examiningfood, a forum for information, discussion and analysis of some of the issues faced in the food industry today.

USDA-NAL, Food Safety Research Information Office (FSRIO) Virtual 10301 Baltimore Ave.
Beltsville, MD 20705, USA
Phone: +1 240.351.1165
www.nal.usda.gov/fsrio

The Food Safety Research Information Office (FSRIO) supports the research community by collecting, organizing, and disseminating food safety information in accordance with the AREERA legislation. FSRIO’s mission is to provide the food safety research community with information on publicly and privately funded food safety research. The office works to assist the federal government and private entities on the assessment of research needs and priorities, and to prevent the unintended duplication of food safety research.

FSRIO’s key information products include the Research Projects Database, Research Publications Feed, and the Meet the Experts web-pages.

Vitsab International AB 218/Virtual
16 Randall Road
Winslow, ME 04901, USA
Phone: +1 207.210.1753
www.vitsab.com

Vitsab International AB is a Swedish-based research and development company who works with global regulators, researchers, and industry to custom engineer Freshtag™ TTIs (time temperature indicators). Founded in the 1970s, a group of resourceful and committed researchers started developing Vitsab’s advanced TTI technology. Today, Freshtag™ labels are calibrated to mirror bacteria growth or match user defined temperature profiles. Monitoring “The last mile” of home deliveries is their latest innovation. Using “Stoplight Technology,” Freshtag™ labels stay green for most of their life, then change to yellow then red, like a stop light, if temperature abuse per formulation is detected.

Whirl-Pak® 349
4916 East Broadway
Madison, WI 53716, USA
Phone: +1 920.944.8618
www.whirl-pak.com

At Whirl-Pak®, we are committed to making the world a safer place by providing better products that produce better integrity in the results. For 60 years, Whirl-Pak® has held itself to a higher standard. As an ISO 9001 certified facility, we have been a trusted partner to the lab sampling and testing industry by providing solutions for the critical requirements of our customers. From post-manufacturing sterilization to puncture-proof tabs, Whirl-Pak® has a long history of providing value through our commitment in developing leading-edge products that set a new standard in reliability. Whirl-Pak®, results you can trust.

World Bioproducts 539
P.O. Box 947
Bothell, WA 98041, USA
Phone: +1 425.242.4153
www.worldbioproducts.com

World Bioproducts provides innovative environmental sample collection devices and convenient prefilled dilution blanks and media. The EZ Reach™ Sponge Sampler, SampleRight™ Sponge Sampler, and PUR-Blue™ Swab Sampler are designed to address the specific challenges of recovering microorganisms from the food processing environment. All are available with our proprietary HiCap™ Neutralizing Broth, proven to more effectively neutralize residual sanitizers than other collection solutions, allowing for better recovery and detection of microorganisms from surfaces.

Zee Company 619
412 Georgia Ave., Suite 300
Chattanooga, TN 37403, USA
Phone: +1 423.708.7417
www.vinctgroup.com

Zee Company leads the industry in intervention chemical programs—the most important procedure for ensuring food protection. Furthermore, our entire catalog of over 1,200 unique chemical products is tailored to provide the strongest chemical food safety resource in the country.

Our products are administered by a highly trained sales team that specializes in active involvement in our partners’ businesses, offering safety and process improvements on a regular basis, comprising the most effective chemical option on the market.

Zymo Research Corp. 433
17062 Murphy Ave.
Irvine, CA 92614, USA
Phone: +1 949.679.1190
www.zymoresearch.com

Zymo Research is a globally established biotechnology company and industry leader in the fields of epigenetics, microbiomics, and the emerging Next-Gen Sequencing space. With international facilities and a global distribution network, Zymo Research enables researchers in academia and the biomedical field to make cutting-edge discoveries all over the world. While the company provides some of the most technologically advanced products in the industry, everything is driven by the fundamental belief that “the beauty of science is to make things simple.”
IAFP’s mentoring program, “Mentor Match,” is officially underway, and we invite you to participate! This valuable program was created to support our Members’ professional development and help you connect and share your experiences with other IAFP Members.

**Potential mentees** have this great opportunity to connect with a knowledgeable mentor who can offer their insight and advice while helping you navigate the next stages of your career.

**For potential mentors**, this is your way to give back, become a stronger leader, and refine your personal skills and networks.

Visit the IAFP Connect link on our website at [www.foodprotection.org](http://www.foodprotection.org) to learn more and to enroll in the Mentor/Mentee Match Program.

---

**R&F Products**
Chromogenic media for the isolation and identification of food pathogens

**Extensive Government Testing**
Government tested plating media listed in the FDA, USDA and/or FERN manuals

**Innovative & Unique**
R&F® chromogenic plating media are covered by 13 US and International patents and patent applications.

**Versatility & Adaptability**
R&F® media have been tested and are used extensively by a large array of food and industrial industries as well as public health agencies.

- Flexible shelf life
- Made to order
- Full service supply

**Save Time, Money & Labor Costs**
R&F® media enhances laboratory efficiency, accuracy, sensitivity, and specificity by greatly reducing false negative & false positive reactions with faster results.

**Identify Threat of Bioterrorism**
R&F® Anthracis and Yersinia pestis chromogenic plating media extensively tested and co-developed by the FDA.

**Extensive Experience**
Over 26 years of experience developing a variety of chromogenic plating media for detecting food/clinical pathogens.

We would love to answer any question you have!
2725 Curtiss Street | Downers Grove, IL 60515
T: (630) 969-5300 | F: (630) 969-5303
rf@rf-products.net
The Black Pearl Award is presented annually to a company for its efforts in advancing food safety and quality through consumer program, employee relations, educational activities, adherence to standards and support of the goals and objectives of the International Association for Food Protection. We invite you to nominate your company for this prestigious recognition. Contact the Association office for nomination information.

Presented by
The International Association for Food Protection

Proudly sponsored by
F&H Food Equipment Company

Black Pearl Recipients

2021  Mondelēz International
     Chicago, Illinois

2020  Ajinomoto Foods North America, Inc.
     Ontario, California

2019  General Mills
     Minneapolis, Minnesota

2018  Eurofins Scientific, Inc.
     Des Moines, Iowa

2017  Panda Restaurant Group, Inc.
     Rosemead, California

2016  Meijer
     Grand Rapids, Michigan

2015  Tyson Foods, Inc.
     Springdale, Arkansas

2014  Sodexo, Inc.
     Gaithersburg, Maryland

2013  Publix Super Markets, Inc.
     Lakeland, Florida

2012  Ajinomoto Foods North America, Inc.
     Cincinnati, Ohio

2011  bioMérieux, Inc.
     Hazelwood, Missouri

2010  Fresh Express, Inc.
     Salinas, California

2009  Schnuck Markets, Inc.
     St. Louis, Missouri

2008  3M Microbiology
     St. Paul, Minnesota

2007  Beef Products, Inc.
     Dakota Dunes, South Dakota

2006  Ecolab Inc.
     St. Paul, Minnesota

2005  DuPont
     Wilmington, Delaware

2004  Jack in the Box Inc.
     San Diego, California

2003  Wegmans Food Markets Inc.
     Rochester, New York

2002  Darden Restaurants
     Orlando, Florida

2001  Walt Disney World Company
     Lake Buena Vista, Florida

2000  Zep Manufacturing Company
     Atlanta, Georgia

1999  Caravelle Foods
     Brampton, Ontario, Canada

1998  Kraft Foods, Inc.
     Northfield, Illinois

1997  Papetti’s of Iowa Food Products, Inc.
     Lenox, Iowa

1996  Silliker, Inc.
     Homewood, Illinois

1995  Albertson’s Inc.
     Boise, Idaho

1994  H-E-B Grocery Company
     San Antonio, Texas
1. INTRODUCTION

No printed media, technical sessions, symposia, posters, seminars, short courses, and/or other related types of forums and discussions offered under the auspices of the International Association for Food Protection (hereafter referred to as Association forums) are to be used as platforms for commercial sales or presentations by authors and/or presenters (hereafter referred to as authors) without the express permission of the staff or Executive Board. The Association enforces this policy in order to restrict commercialism in technical manuscripts, graphics, oral presentations, poster presentations, panel discussions, symposia papers, and all other type submissions and presentations (hereafter referred to as submissions and presentations), so that scientific merit is not diluted by proprietary secrecy.

Excessive use of brand names, product names or logos, failure to substantiate performance claims, and failure to objectively discuss alternative methods, processes, and equipment are indicators of sales pitches. Restricting commercialism benefits both the authors and recipients of submissions and presentations.

This policy has been written to serve as the basis for identifying commercialism in submissions and presentations prepared for the Association forums.

2. TECHNICAL CONTENT OF SUBMISSIONS AND PRESENTATIONS

2.1 Original Work

The presentation of new technical information is to be encouraged. In addition to the commercialism evaluation, all submissions and presentations will be individually evaluated by the Program Committee chairperson, technical reviewers selected by the Program Committee chairperson, session convenor, and/or staff on the basis of originality before inclusion in the program.

2.2 Substantiating Data

Submissions and presentations should present technical conclusions derived from technical data. If products or services are described, all reported capabilities, features or benefits, and performance parameters must be substantiated by data or by an acceptable explanation as to why the data are unavailable (e.g., incomplete, not collected, etc.) and, if it will become available, when. The explanation for unavailable data will be considered by the Program Committee chairperson and/or technical reviewers selected by the Program Committee chairperson to ascertain if the presentation is acceptable without the data. Serious consideration should be given to withholding submissions and presentations until the data are available, as only those conclusions that might be reasonably drawn from the data may be presented. Claims of benefit and/or technical conclusions not supported by the presented data are prohibited.

2.3 Trade Names

Excessive use of brand names, product names, trade names, and/or trademarks is forbidden. A general guideline is to use proprietary names once and thereafter to use generic descriptors or neutral designations. Where this would make the submission or presentation significantly more difficult to understand, the Program Committee chairperson, technical reviewers selected by the Program Committee chairperson, session convenor, and/or staff, will judge whether the use of trade names, etc., is necessary and acceptable.

2.4 “Industry Practice” Statements

It may be useful to report the extent of application of technologies, products, or services; however, such statements should review the extent of application of all generically similar technologies, products, or services in the field. Specific commercial installations may be cited to the extent that their data are discussed in the submission or presentation.

2.5 Ranking

Although general comparisons of products and services are prohibited, specific generic comparisons that are substantiated by the reported data are allowed.

2.6 Proprietary Information (See also 2.2.)

Some information about products or services may not be publishable because it is proprietary to the author’s agency or company or to the user. However, the scientific principles and validation of performance parameters must be described for such products or services. Conclusions and/or comparisons may be made only on the basis of reported data.

2.7 Capabilities

Discussion of corporate capabilities or experiences are prohibited unless they pertain to the specific presented data.
3. GRAPHICS

3.1 Purpose

Slides, photographs, videos, illustrations, art work, and any other type visual aids appearing with the printed text in submissions or used in presentations (hereafter referred to as graphics) should be included only to clarify technical points. Graphics which primarily promote a product or service will not be allowed. (See also 4.6.)

3.2 Source

Graphics should relate specifically to the technical presentation. General graphics regularly shown in, or intended for, sales presentations cannot be used.

3.3 Company Identification

Names or logos of agencies or companies supplying goods or services must not be the focal point of the slide. Names or logos may be shown on each slide so long as they are not distracting from the overall presentation.

3.4 Copies

Graphics that are not included in the preprint may be shown during the presentation only if they have been reviewed in advance by the Program Committee chairperson, session convenor, and/or staff, and have been determined to comply with this policy. Copies of these additional graphics must be available from the author on request by individual attendees. It is the responsibility of the session convenor to verify that all graphics to be shown have been cleared by Program Committee chairperson, session convenor, staff, or other reviewers designated by the Program Committee chairperson.

4. INTERPRETATION AND ENFORCEMENT

4.1 Distribution

This policy will be sent to all authors of submissions and presentations in the Association forums.

4.2 Assessment Process

Reviewers of submissions and presentations will accept only those that comply with this policy. Drafts of submissions and presentations will be reviewed for commercialism concurrently by both staff and technical reviewers selected by the Program Committee chairperson. All reviewer comments shall be sent to and coordinated by either the Program Committee chairperson or the designated staff. If any submissions are found to violate this policy, authors will be informed and invited to resubmit their materials in revised form before the designated deadline.

4.3 Author Awareness

In addition to receiving a printed copy of this policy, all authors presenting in a forum will be reminded of this policy by the Program Committee chairperson, their session convenor, or the staff, whichever is appropriate.

4.4 Monitoring

Session convenors are responsible for ensuring that presentations comply with this policy. If it is determined by the session convenor that a violation or violations have occurred or are occurring, he or she will publicly request that the author immediately discontinue any and all presentations (oral, visual, audio, etc.) and will notify the Program Committee chairperson and staff of the action taken.

4.5 Enforcement

While technical reviewers, session convenors, and/or staff may all check submissions and presentations for commercialism, ultimately it is the responsibility of the Program Committee chairperson to enforce this policy through the session convenors and staff.

4.6 Penalties

If the author of a submission or presentation violates this policy, the Program Committee chairperson will notify the author and the author’s agency or company of the violation in writing. If an additional violation or violations occur after a written warning has been issued to an author and his agency or company, the Association reserves the right to ban the author and the author’s agency or company from making presentations in the Association forums for a period of up to two (2) years following the violation or violations.
Start Where You Are!

Make a difference! Unite with other food safety professionals by joining or forming an IAFP Affiliate in your area. IAFP currently has fifty-seven Affiliates on six continents whose objectives are consistent with those of our Association. If you are an IAFP Member or an IAFP Annual Meeting attendee, your knowledge of and dedication to food safety will contribute toward the many opportunities your local Affiliate can offer.

Start now by getting involved today!

Find IAFP Affiliate opportunities and contacts at www.foodprotection.org

We Keep Food Manufacturers Equipped for Today, and Prepared for the Future.

Stop by booth #324 to see why Nelson-Jameson is so much more than a supplier.
Congratulations to the Recipients of the 2021 Journal of Food Protection® Awards

2021 John N. Sofos Most-cited JFP Research and Review Publication Awards

These awards were established to recognize top researchers and high-quality research publications and reviews that contribute to the impact of JFP and the field of food safety. The awards are based upon the number of citations of a work by others for papers published five years prior.

Most-cited Research Publication Award

1st Place
Modeling the Effect of Temperature and Water Activity on the Thermal Resistance of Salmonella Enteritidis PT 30 in Wheat Flour
Danielle F. Smith, Ian M. Hildebrandt, Kaitlyn E. Casulli, Kirk D. Dolan, and Bradley P. Marks
Published December 2016

2nd Place
Prevalence and Characteristics of Salmonella Serotypes Isolated from Fresh Produce Marketed in the United States
Shanker P. Reddy, Hua Wang, Jennifer K. Adams, and Peter C. H. Feng
Published January 2016

3rd Place
Antimicrobial Resistance of Escherichia coli, Enterococci, Pseudomonas aeruginosa, and Staphylococcus aureus from Raw Fish and Seafood Imported into Switzerland
Renate Boss, Gudrun Overesch, and Andreas Baumgartner
Published July 2016

Most-cited Review Publication Award

1st Place
Fresh Produce-associated Listeriosis Outbreaks, Sources of Concern, Teachable Moments, and Insights
Danisha Garner and Sophia Kathariou
Published February 2016

2021 Journal of Food Protection Most-downloaded Publication Award

This award recognizes the JFP publication that was the most-downloaded in 2020 and published within the last 10 years based upon data from the Journal of Food Protection website.

1st Place
A Conceptual Framework for Developing Recommendations for No-Harvest Buffers around In-Field Feces
Daniel L. Weller, Jasna Kovac, David J. Kent, Sherry Roof, Jeffrey I. Tokman, Erika Mudrak, and Martin Wiedmann
Published June 2019

Due to COVID 19 social distancing restrictions this year at IAFP 2021, the awards will be held for presentation at the IAFP 2022 Editorial Board Reception in Pittsburgh, PA.
Congratulations to the Recipients of the 2021 *Food Protection Trends* Publication Awards

**Most-cited Peer-reviewed Research Publication Award**

This award was established to recognize research teams whose original findings are significantly contributing to the impact of *FPT* and global food safety. The award is based upon the number of citations of a work by others for research articles published five years prior to the year of the IAFP Annual Meeting.

*Food Allergy Risk Communication in Restaurants*

Han Wen and Junehee Kwon

*Published September–October 2016*

**Most-viewed Peer-reviewed Research Publication Award**

This award was established to recognize highly viewed, peer-reviewed research and review papers in addition to general interest papers which are significantly contributing to the impact of *FPT* and global food safety. The award is based upon the number of times a publication that was published over the last two calendar years was viewed.

*Microbial Contamination of Grocery Shopping Trolleys and Baskets in West Texas*

Alexandra Calle, Brayan D. Montoya, Andrea English and Mindy Brashears

*Published January–February 2020*

**Most-viewed General Interest Publication Award**

*Predictive Models for Food Code Violations*

Jim Hartman

*Published January–February 2020*

**2021 Food Protection Trends Most-downloaded Publication Award**

*Developing a Citizen Science Method to Collect Whole Turkey Thermometer-Usage Behaviors*

Minh Duong, John B. Luchansky, Anna C. S. Porto-Fett, Caitlin Warren and Benjamin Chapman

*Published September–October 2019*

Due to COVID 19 social distancing restrictions this year at IAFP 2021, the awards will be held for presentation at the IAFP 2022 Editorial Board Reception in Pittsburgh, PA.
If your name is not listed on the 20-, 30-, 40-, or 50-year membership list, please be sure to contact the IAFP office.
PAST PRESIDENTS

1912 — Charles J. Steffen
1913 — Charles J. Steffen
1914 — Charles J. Steffen
1915 — A. N. Henderson
1916 — Claude F. Bessio
1917 — Wm. H. Price
1918 — Alfred W. Lombard
1919 — James O. Jordan
1920 — Ernest Kelly
1921 — C. L. Roadhouse
1922 — Herbert E. Bowman
1923 — George E. Bolling
1924 — J. B. Hollingsworth
1925 — Thomas J. Strauch
1926 — George C. Supplee
1927 — W. A. Shoults
1928 — Ira V. Hiscock
1929 — Howard R. Estes
1930 — Ralph E. Irwin
1931 — A. R. B. Richmond
1932 — William B. Palmer
1933 — Horato N. Parker
1934 — Paul F. Krueger
1935 — C. K. Johns
1936 — George W. Grim
1937 — John C. Hardenbergh
1938 — Alexander R. Tolland
1939 — Victor M. Ehlers
1940 — Paul D. Brooks
1941 — Leslie C. Frank
1942 — Frederick W. Fabian
1943 — Charles A. Abele
1944 — Charles A. Abele
1945 — Russell R. Palmer
1946 — Russell R. Palmer
1947 — R. G. Ross
1948 — Walter D. Tiedeman
1949 — Abraham W. Fuchs
1950 — Milton R. Fisher
1951 — Ken G. Weckel
1952 — H. L. “Red” Thomasson
1953 — Harold J. Barnum
1954 — John D. Faulkner
1955 — Ivan E. Parkin
1956 — Harold S. Adams
1957 — Paul Corash
1958 — Harold Robinson
1959 — Franklin Barber
1960 — William V. Hickey
1961 — John Sheuring
1962 — Charles E. Walton
1963 — Ray Belknap
1964 — John H. Fritz
1965 — Wallace C. Lawton
1966 — Fred E. Uetz
1967 — Paul R. Eliker
1968 — Al N. Myhr
1969 — Samuel O. Noles
1970 — Milton E. Held
1971 — Dick B. Whitehead
1972 — Orloue M. Osten
1973 — Walter F. Wilson
1974 — Earl O. Wright
1975 — P. J. Skulborstad
1976 — H. E. Thompson, Jr.
1977 — Henry V. Atherton
1978 — David D. Fry
1979 — Howard Hutchings
1980 — Bill Kempa
1981 — William Arledge
1982 — Harry Haverland
1983 — Robert Marshall
1984 — A. Richard Brazis
1985 — Archie Holliday
1986 — Sid Barnard
1987 — Roy Ginn
1988 — Leon Townsend
1989 — Robert Gravani
1990 — Ronald Case
1991 — Bob Sanders
1992 — Damien A. Gabis
1993 — Michael P. Doyle
1994 — Harold Bengsch
1995 — C. Dee Clingman
1996 — F. Ann Draughon
1997 — Michael H. Brodsky
1998 — Gale Prince
1999 — Robert E. Brackett
2000 — Jack Guzewich
2001 — Jenny Scott
2002 — James S. Dickson
2003 — Anna M. Lammerding
2004 — Paul A. Hall
2005 — Kathleen A. Glass
2006 — Jeffrey M. Farber
2007 — Frank Yiannas
2008 — Gary R. Acuff
2009 — J. Stan Bailey
2010 — Vickie Lewandowski
2011 — Lee-Ann Jaykus
2012 — Isabel Walls
2013 — Katherine M.J. Swanson
2014 — Donald W. Schaffner
2015 — Donald L. Zink
2016 — Alejandro Mazzotta
2017 — Linda J. Harris
2018 — Mickey E. Parish
2019 — Timothy Jackson
2020 — Kalmia Kniel
PAST ANNUAL MEETINGS AND LOCATIONS

1912 Milwaukee, WI
1913 Chicago, IL
1914 Chicago, IL
1915 Washington, D.C.
1916 Springfield, MA
1917 Washington, D.C.
1918 Chicago, IL
1919 New York, NY
1920 Chicago, IL
1921 New York, NY
1922 St. Paul, MN
1923 Washington, D.C.
1924 Detroit, MI
1925 Indianapolis, IN
1926 Philadelphia, PA
1927 Toronto, Ontario
1928 Chicago, IL
1929 Memphis, TN
1930 Cleveland, OH
1931 Montreal, Quebec
1932 Detroit, MI
1933 Indianapolis, IN
1934 Boston, MA
1935 Milwaukee, WI
1936 Atlantic City, NJ
1937 Louisville, KY
1938 Cleveland, OH
1939 Jacksonville, FL
1940 New York, NY
1941 Tulsa, OK
1942 St. Louis, MO
1943 Cancelled
1944 Chicago, IL
1945 Cancelled
1946 Atlantic City, NJ
1947 Milwaukee, WI
1948 Philadelphia, PA
1949 Columbus, OH
1950 Atlantic City, NJ
1951 Glenwood Springs, CO
1952 Milwaukee, WI
1953 East Lansing, MI
1954 Atlantic City, NJ
1955 Augusta, GA
1956 Seattle, WA
1957 Louisville, KY
1958 New York, NY
1959 Glenwood Springs, CO
1960 Chicago, IL
1961 Des Moines, IA
1962 Philadelphia, PA
1963 Toronto, Ontario
1964 Portland, OR
1965 Hartford, CT
1966 Minneapolis, MN
1967 Miami Beach, FL
1968 St. Louis, MO
1969 Louisville, KY
1970 Cedar Rapids, IA
1971 San Diego, CA
1972 Milwaukee, WI
1973 Rochester, NY
1974 St. Petersburg, FL
1975 Toronto, Ontario
1976 Arlington Heights, IL
1977 Sioux City, IA
1978 Kansas City, MO
1979 Orlando, FL
1980 Milwaukee, WI
1981 Spokane, WA
1982 Louisville, KY
1983 St. Louis, MO
1984 Edmonton, Alberta
1985 Nashville, TN
1986 Minneapolis, MN
1987 Anaheim, CA
1988 Tampa, FL
1989 Kansas City, MO
1990 Arlington Heights, IL
1991 Louisville, KY
1992 Toronto, Ontario
1993 Atlanta, GA
1994 San Antonio, TX
1995 Pittsburgh, PA
1996 Seattle, WA
1997 Orlando, FL
1998 Nashville, TN
1999 Dearborn, MI
2000 Atlanta, GA
2001 Minneapolis, MN
2002 San Diego, CA
2003 New Orleans, LA
2004 Phoenix, AZ
2005 Baltimore, MD
2006 Calgary, Alberta
2007 Lake Buena Vista, FL
2008 Columbus, OH
2009 Grapevine, TX
2010 Anaheim, CA
2011 Milwaukee, WI
2012 Providence, RI
2013 Charlotte, NC
2014 Indianapolis, IN
2015 Portland, OR
2016 St. Louis, MO
2017 Tampa, FL
2018 Salt Lake City, UT
2019 Louisville, KY
2020 Virtual

FUTURE ANNUAL MEETINGS

July 31–August 3, 2022
David L. Lawrence Convention Center
Pittsburgh, Pennsylvania

July 16–19, 2023
Metro Toronto Convention Centre
Toronto, Ontario, Canada

July 14–17, 2024
Long Beach Convention Center
Long Beach, California
October 5, 2021 – Symposium Roundtable and Workshop Submissions
January 18, 2022 – Technical and Poster Abstract Submissions

Questions regarding submissions can be directed to Tamara Ford
Phone: +1 515.276.3344
Email: tford@foodprotection.org

IAFP’s European Symposium on Food Safety

October 5, 2021 – Symposium Roundtable and Workshop Submissions
January 18, 2022 – Technical and Poster Abstract Submissions

Questions regarding submissions can be directed to Tamara Ford
Phone: +1 515.276.3344
Email: tford@foodprotection.org
15th DUBAI INTERNATIONAL FOOD SAFETY CONFERENCE
15-17 November 2021

SUBMIT YOUR ABSTRACTS NOW
Visit our website www.foodsafetydubai.com for further details!
Let’s Make Food Safer Together

NEW DATES
October 27 – 28, 2021
Beijing

Come join 500+ food safety leaders to learn, share, discuss and discover the most recent developments in….

- Anti Microbial Resistance
- Risk Management in Supply Chain
- Standards Harmonization
- Emerging Pathogens & New Detection Methods
- Food Allergen & Mycotoxin
- Food Analysis
- Testing & Risk Assessment of Combined Exposure to Multiple Chemicals
- Future of Audits
- Food Safety Culture
- Risk Communications
- Consumer Communications
- Safety Evaluation of Substances Used for Both Food & Drug (TCM) in China
- Food Formulated for Special Medical Purposes
- Quality & Safety Reuse of Water in F&B
- EU-China Safe Project & Collaboration
- Food Integrity
- Hot Topics & Industry Seminars
- Enhancing Food Safety with AI, Analytics, Block Chain & Other Innovations

www.chinafoodsafty.com
AUTHOR AND PRESENTER INDEX

*Presenter

Aaron, Michael, University of Georgia (P3-83)
Abbott, Carter, National Center for Toxicological Research, U. S. Food and Drug Administration (T1-12)
Abbott, Jason, U.S. Food and Drug Administration—Center for Veterinary Medicine (P1-181)
Abdal-Raouf, Angelica, Mississippi State University (P1-16, P1-21)
Abdellatif, Ahmed, The Ohio State University (P1-112*, P1-132)
Abd, Rehan, University of Guelph (P3-185, P3-20)
Abdullah, Shakur, EzBiome Inc (T4-05)
Abe, Hiroki, Hokkaido University (P3-170*)
Abudunrin, Adetoye, New Mexico State University (P3-18)
Acheamfour, Chanelle, University of Maryland Eastern Shore (P2-190, P2-189*)
Acheson, David, The Acheson Group (S52*, RT27*)
Acuff, Gary, Acuff Consulting LLC (OS*)
Acuff, Jennifer, University of Arkansas (P1-105, P3-180, P1-106)
Acuna-Maldonado, Laura, Cornell University (P3-05)
Adams, Jacquelyn, Tyson Foods, Inc. (S35*)
Adams, Jennifer, Association of Public Health Laboratories (P3-38)
Adegbuyi, Adejale, Federal University of Technology (P3-176*)
Adell, Aiko, Universidad Andres Bello (P1-143)
Adem, Damilare Emmanuel, Kyungpook National University (T6-12)
Adhikari, Achyut, Louisiana State University AgCenter (P3-03, P3-71*, T13-03*, P2-145*, P2-120)
Aditya, Arpita, University of Maryland (T12-03*, P2-96, P2-94*)
Adkins, John, Auburn University (T4-10)
Adrouji, Younous, Biofortis Mérieux NutriSciences (T9-04)
Aduah, Martin, University for Development Studies (P2-31)
Adzitey, Frederick, University for Development Studies (P2-31*)
Aguilar, Karina, Qualicon Diagnostics LLC, A Hygiena Company (P2-116, P2-117, P2-45)
Aguilar, Viviana, Institute for Food Safety and Health, Illinois Institute of Technology (P2-75, T10-03)
Ahmad, Akhlaq, The University of Punjab (P3-91)
Ahmad, Imran, Florida International University (P1-187)
Ahmad, Mohammad, QSI Certifications (P3-91*, P3-184)
Ahrnruh, Gianna, U.S. Army DEVCOM Soldier Center (S37)
Ahuja, Manveen Kaur, North Carolina State University (P1-59*)
Ajanaku, Kolawole, Covenant University (P2-32)
Akinduti, Paul, Covenant University (P1-18*, P2-32)
Akins-Lewenthal, Deann, Conagra Brands (RT23**, RT9**, RT19**, P2-18, P3-139, S29*)
Akomea-Frempong, Samuel, University of Maine (P1-184*)
Al-Ani, Maadh F., Southern Illinois University Carbondale (P2-151)
Al-Mondhry, Rend, Amin Talati Wasserman (S40*)
Alanko, Jarno, Dalhousie University (T9-03)
Alasadi, Mohamad, Wayne State University (P2-155, P3-72)
Alderton, Jack, Campden BRI (P1-169)
Aldrich, Charles G., Kansas State University (P1-22, P1-37, P2-13, P3-155)
Alfar, Camila, Facultad de Ciencias de la Vida, Universidad Andres Bello (P1-143)
Alfieri, Jocelyn, Mérieux NutriSciences (RT23**)
Ali, Laila, U.S. Food and Drug Administration, Center for Food Safety & Applied Nutrition (P3-138)
Aljahdali, Nesreen, U.S. Food and Drug Administration (T1-12)
Aljasir, Sulaiman, University of Connecticut (T6-04*)
Allard, Sarah, Maryland Institute for Applied Environmental Health, University of Maryland, P2-189, P2-190)
Allen, Arthur, University of Maryland Eastern Shore (P2-110)
Allen, Jodie, University of Connecticut (T6-10)
Almeida, Priscila, University of Sao Paulo (P2-16*)
Almeria, Sonia, U.S. Food and Drug Administration, CFSAN (P2-174*)
Almuaideb, Esam, University of Maryland Eastern Shore (P1-186*)
Alolcija, Evangelyn, Michigan State University (T11-07)
Alvarado, Stephanie, Oregon State University (P3-12, P3-01*)
Alvarado-Martinez, Zabdiel, University of Maryland (P2-96*, T12-05*, T3-01)
Alvarez, Verónica Ortiz, Federal University of Minas Gerais (T13-06)
Amalraj, Mary Anne, University of Connecticut (P2-146)
Amarasekara, Nirosha Ruwan, Wayne State University (P2-155, P3-72*)
Amrou, Kebede, Addis Ababa University (RT12*, RT6*)
Amers, Robert, Corbion (P1-33, P1-127, P1-99)
Aminabadi, Peiman, University of California-Davis (P3-43*, T6-02)
Amouzou, Yao, Biofortis Mérieux NutriSciences (P1-173)
Amyot, Janie, Laval University (T1-04*)
Ananth, Vidya, NOVOLYZE INC. (USA) (P1-65*)
Anany, Hany, Agriculture and Agri-Food Canada, Guelph Research and Development Center (S66*, P1-120)
Anderson, Jared, Iowa State University (P3-131)
Anderson, John, National Center for Biotechnology Information, National Library of Medicine, National Institutes of Health (P3-38)
Anderson, Joy, Mississippi State University (P3-03)
Anderson, Kimberly, ISU, Extension of Agriculture and CIRAS (P3-07)
Anderson, Kory, Washington State University (T5-06*)
Anderson-Coughlin, Brienna, University of Delaware (T1-06*, P2-190)
Ando, Akihiro, Hokkaido University (P3-78, T6-03*)
Andretta, Millimani, University of Vigo - UFe (P3-119)
Anelech, Lucia, Anelich Consulting (RT6*)
Angel, Alex, Eurofins Microbiology Laboratories (P2-175, P2-72)
Annor, Samuel, Texas A&M University (P2-46*)
Anschlouar, Emily, Body Armor (P2-49)
Applegate, Savannah, Qualicon Diagnostics LLC, A Hygiena Company, Hygiena (P2-36, P3-193, P1-133, P3-32, P1-123*)
Aras, Sadiey, Public Health Microbiology Laboratory, Tennessee State University (P3-64)
Arbogast, James, GOJO Industries, Inc. (P3-174, P3-175, P1-49, P2-179, P3-179)
Archila Godinez, Juan, Purdue University, Zamora University (P3-16, P3-29, P3-11*)
Ardagh, Stephen, Eagle Protect BPC (T9-10)
Arellano, Stephanie, University of Arizona (P1-15*)
Arena, JenAlyse, USDA Food Safety and Inspection Service (P3-49)
Armstrong, Joshua, U.S. Food and Drug Administration–Office of Regulatory Affairs (P1-181)
Army, Todd, DOD MRCID (T8-08)
Arnold, Nicole, East Carolina University (P3-21)
Arredondo, fernanda, Universidad Andres Bello (P1-54)
Arv, TERRANCE, USDA/ARS (P3-187, S8)
Arvaj, Laura, Agricultural and Agri-Food Canada (T7-10, P3-164)
Arvaniteli, Marianna, Agricultural University of Athens (T9-05*)
Arvizu-Medrano, Sofia, Universidad Autonoma de Queretaro (P1-119, P3-157)
Arya, Richa, University of Maine (P1-185*)
Aryal, Jyoti, Louisiana State University (P3-71)
Asher, Kyla, Mississippi State University (P1-12)
Asi, Muhammad Rafique, NIAP (P1-79)
Asigau, Samoa, bioMérieux, Inc. (P3-117, P2-52)
Asmus, Aaron, Hormel Foods (RT20*)
Atkinson, Kathleen, University of Connecticut (P1-24)
Austholt, Erika, University of Arizona (S50, S50*)
Austin, Cynthia, University of Wisconsin-Madison (P1-121*)
Avellon, Constanza, University of Nebraska-Lincoln (P2-187*)
Azevedo, Everton Cruz de, Universidade Federal de Víncia (P1-171)
Babb, Monipet, Washington State University (P1-17, P2-28, P1-102, P2-15)
Babekir, Amani, Ecolab Inc. (T2-09*)
Babu, Uma, U.S. Food and Drug Administration - CFSAN (P2-47)
Badour, Jessica, Georgia Department of Agriculture (RT1*)
AUTHOR AND PRESENTER INDEX

Bae, Dongryeoul, Konkuk University (P1-118*)
Bai, Yalong, Shanghai Academy of Agricultural Sciences (T1-01)
Baia, Jiuli, LANALI (P2-71)
Baik, Jessica, USDA, ARS, Eastern Regional Research Center (P1-100)
Bailey, Matthew, Auburn University (T7-01, T4-10*, T7-02)
Baker, Christopher (Adam), University of Florida, University of Arkansas (P2-147, P2-131, P2-183*)
Baker, Kimberly, Clemson University (P3-03)
Baker, Robert, Mars Global Food Safety Center (P1-178, P1-179)
Baker, Sean, Corbin (P1-127)
Bakshi, Gursharan, Hygiena (P1-82)
Balada-Llasat, Joan-Miquel, The Ohio State University (P3-36, P3-31)
Balamurugan, Sampathkumar, Agriculture and Agri-Food Canada (P3-164*, S9, T7-10*)
Balan, Kannan, U.S. Food and Drug Administration - CFSAN (P2-47*)
Balasubramaniam, VM, The Ohio State University (S3*, P3-60)
Balasubramaniam, Brindhalakshmi, University of Connecticut (T6-10*)
Balasubramaniam, Ramkrishnan, Florida Orange Growers (P3-03)
Balkey, Maria, U.S. Food and Drug Administration, Center for Food Safety and Applied Nutrition (P1-146*, P3-38)
Ballom, Kenneth, Washington State University (P1-101)
Banner, Nate, Neogen Corporation (P1-74)
Bansal, Mohit, Mississippi State University (P2-04, P2-07)
Bao, Haona, Tennessee State University (T7-05*)
Barajas, Rafael, Hygiena (P2-48*)
Barbosa, Cristina, SGS Molecular (P3-125)
Barboza, Natalia, University of Costa Rica (P1-56)
Barut, Shai, University of Guelph (T7-10)
Bardsley, Cameron, Virginia Tech (P2-138, P3-177*)
Barkley, James, The Ohio State University (P3-31*)
Barlow, Kristina, U.S. Department of Agriculture, Food Safety and Inspection Service (S59*, P3-186*, P1-139)
Barnes, Christina, 3M (P3-101*)
Baroudi, AI, The Cheesecake Factory (S33*)
Barrera, Jose, SAIC, Plum Island Animal Disease Center (T8-06)
Barrett, Ann, U.S. Army DEVCOM Soldier Center (S37)
Barringer, Amy, U.S. Food and Drug Administration – Center for Food Safety and Applied Nutrition (P1-165)
Barrón, Rocío, Universidad de Concepción (P2-12*, P1-54)
Barros, Georgia, 3M (P3-133)
Barrow, Nicole, Body Armor (P2-49*)
Barry, Kia, Iowa State University (P1-38)
Bass, Glenn, U.S. Food & Drug Administration (S10*)
Bastin, Benjamin, Q Laboratories, Inc. (P3-142, P2-40, P3-130, P3-96, P2-43, P3-97, P2-61, P2-41)
Battin, Andrew, U.S. Food and Drug Administration, Center for Food Safety & Applied Nutrition (T10-12)
Batz, Michael, Center for Food Safety and Applied Nutrition, U.S. Food and Drug Administration (P3-38, P1-146)
Bauchet, Jonathan, Purdue University (P1-114)
Bau, Mitzi, STOP Foodborne illness (RT1*)
Baumert, Joseph, University of Nebraska-Lincoln (P1-83, P1-77)
Baumler, David J., University of Minnesota Twin Cities (T9-07)
Bautista, Derrick, Del Monte Foods, Inc. (S36*, RT20*)
Bautista, Laura, Kraft Heinz Company (P1-68, P1-69)
Bazaco, Michael, U.S. Food and Drug Administration (S52*)
Beacorn, Frankie, USDA Food Safety and Inspection Service (FSIS) (T12-08)
Beal, Pierre-Olivier, NOVOLOYZE (P1-65, P3-167, P2-165)
Beaudry, Randy, Michigan State University (P3-89, P2-123)
Beauseau, Rob, Venturo Foods (P2-29)
Beczkwiezec, Aaron, The Ohio State University (P3-32*)
Bedada, Tesfaye, EPHI (T10-09)
Bedford, Binaifer, U.S. Food and Drug Administration (P1-78)
Begyn, Katrien, Ghent University (P1-161)
Behal, Sara, U.S. Department of Agriculture – ARS, Environmental Microbial and Food Safety Laboratory (P2-190)
Belem, Thiago Sakamoto, University of Georgia (P1-126, P1-130)
Bell, Rebecca L., U.S. Food and Drug Administration, Center for Food Safety & Applied Nutrition (P3-138, T5-09, P2-128, P1-162)
Ben Embarek, Peter, World Health Organization (RT4*, RT12*)
Ben-Ghaly, Labeed, USDA Food Safety & Inspection Service (T7-12, T12-08, P3-50)
Benedict, Chris, Whatcom County Extension, Washington State University (P1-176)
Benoit, Edmund, University of Maryland, Department of Nutrition and Food Science (T2-05, P3-159)
Bentiez, Jullysa, LSU (P3-71)
Benjakul, Soottawat, International Center of Excellence in Seafood Science and Innovation, Prince of Songkla University (T4-04)
Benjamin, Toni-Ann, Florida International University (P1-187*)
Benner, Ronald, U.S. Food and Drug Administration, Gulf Coast Seafood Laboratory (T10-07)
Benzinger, Joe, Q Laboratories, Inc. (P3-142, P2-43)
Berger, Thomas, Agroscope (T9-06)
Bergeron, Eric, Neogen Corporation (T4-01)
Berghof-Jäger, Kornelia, BIOTECON Diagnostics (P1-75, T1-140)
Bergholz, Teresa, Michigan State University (P1-94, P2-109)
Berhanu, Tameru, USDA Food Safety & Inspection Service (P3-50)
Bermejo-Viladrot, Mercé, Instituto de Medicina Genómica (Imegen) (P3-123, P3-124)
Bernard, Dale, Bold Bear Food Safety (S34*)
Bernard, Muriel, ADRIA Food Technology Institute (P3-141)
Bernez, Cécile, ADRIA Food Technology Institute (P3-141)
Bersot, Luciano dos Santos, Universidade Federal do Paraná (P1-62, P1-137)
Bertke, Andrea, Virginia Tech University (T1-09, T1-08)
Bertoldi, Bruna, University of Florida (P2-147*)
Betancourt, Walter, University of Arizona (P2-191)
Beyene, Yosel, EPHI (T10-09)
Beyer, Nancy, Missouri Department of Health and Senior Services (RT1*)
Bhandare, Sudhakar, University of Nottingham (P1-55)
Bhargava, Kanika, University of Central Oklahoma (P1-13*, P2-144*, P2-104*)
Bhullar, Manreet, Kansas State University (P3-95)
Bianchini, Andrea, University of Nebraska-Lincoln (P3-87)
Bickell, Traci, U.S. Food and Drug Administration-Office of Regulatory Affairs (P1-181)
Bidawid, Sabah, Health Canada (RT13*)
Bihm, Elizabeth, Cornell University (RT2**, P3-05, T10-10, T5-01)
Bilal, Muhammad, Jiao Tong University (P3-91)
Bird, Patrick, PMB BioTek Consulting (RT19**, P2-50*, P3-117, P2-63)
Birmingham, Tim, Almond Board of California (P3-169)
Bisha, Bledar, University of Wisconsin-Madison (P1-64, P2-141, P2-51)
Biswas, Debabrata, University of Maryland (P2-96, T12-05, T12-03, T4-08, T3-01, P2-94)
Biswas, Preetha, Neogen Corporation (S2*)
Black, Glenn, U.S. Food and Drug Administration (P3-65)
Blackburn, Tajah, Environmental Protection Agency (RT28*)
Blond, Rebecca, Oregon State University (P1-60*, P1-147, T9-09*)
Blase, Ralf, Agroscope (T13-05)
Blassini, Davis, Cornell University (P3-05)
Bluhm, Louis H., United States Department of Agriculture, Food Safety and Inspection Service (P3-45)
Bodie, Aaron, University of Wisconsin-Madison (P2-37*, P2-38*)
Boelts, John, Desert Premium (RT22*)
Bogart, Neil, Ecolab (S22*, S45*)
Bolder-Tiller, Olga, Tuskegee University (RT18*)
Bollinger, Chris, University of Maryland (T12-07, P2-122, P2-126)
Author and Presenter Index

*Presenter

Bolet, Samantha. Cornell University (T3-02*)

Bombet, Carolyn. Louisiana Department of Health (P3-42)

Bonnilla, Stéphane. Pall GenoDisc Technologies (P2-61)

Bono, James. USDA, ARS, U.S. Meat Animal Research Center (P3-38)

Bontempo, Nancy. Mondelez International (P2-27)

Book, William Gregory. ESOX engineering (P2-176)

Boomer, Ashley. USDA-ARS (P3-112)

Borger, Adam. University of Wisconsin-Madison (S36*)

Borges, Grace de la Silva Campelo. Federal University of Pelotas (P2-23)

Bosilevac, Joseph. USDA/ARS (P2-17*, S8, P2-81, P1-142*, T7-11*, P3-34)

Bosilevac, Mick. U.S. Department of Agriculture-ARS (P3-86)

Bostian, Melissa. Applied Research Associates, Inc. (S37*)

Botelho, Clarisse Vieira. Universidade Federal de Viçosa (P1-62)

Boucher, Christina. University of Florida (P1-151, T9-03)

Boughton, Raoul. University of Florida (T9-08)

Boulter-Bitzer, Jeanne. Ontario Ministry of Agriculture, Food and Rural Affairs (P3-149)

Bourassa, Dianna. Auburn University (T4-10, P1-129, T7-01, T7-02)

Bourke, Paula. University College Dublin (S57*)

Bowden, Steven. University of Minnesota (P2-10, P2-20)

Bowman, Alexander. University of Tennessee (P1-01)

Bowman, John P. University of Tasmania (T2-06, P3-157)

Boye, John. J.M. Boyle Consulting, LLC (RT21*)

Boyer, Marc. FDA (T4-02)

Boyer, Renee. Virginia Tech (P3-26)

Boyle, Dan. Kansas State University (P2-06)

Boynton, Tye. USDA-FFIS (T8-10*)

Brack, Eric. U.S. Army DEVCOM Soldier Center (S37)

Brake, David. BioQuest Associates, LLC. Plum Island Animal Disease Center (T8-06)

Brandt, Alex. Food Safety Net Services (S23*)

Brann, Corey. Q Laboratories, Inc. (P3-130)

Brashears, Mindy. Texas Tech University (S8*, T3-08)

Brassill, Natalie. University of Arizona Maricopa Agricultural Research Center, University of Arizona, Dept. of Environmental Science, Maricopa Agricultural Center (P2-127*, P2-19, T2-02, P2-108)

Brehm-Stecher, Byron. Iowa State University (P3-68, P3-131)

Breidt, Fred. USDA/ARS (S31*)

Bremer, Phil. University of Otago (T2-07)

Brennan, Matthew. BODYARMOR Sports Nutrition (P2-49)

Bresnahan, David. Bresnahan TPC, Inc (S31*)

Brevett, Carol. DHS & CSAC/Leidos (T8-08)

Brierley, Paul. Yuma Center of Excellence for Desert Agriculture (P2-26, P3-161)

Briese, Deborah. bioMérieux, Inc. (P3-98, P3-117, P3-99, P3-120, P3-100, P1-142)

Brightwell, Gale. Food System Integrity, Hopkirk Research Institute, AGRresearch (T2-07)

Britton, Brianna. Purdue University (P1-114*)

Bromley, Alexandria. University of Maine (P1-66*)

Brodnsted, Lone. University of Copenhagen (S56*)

Brooks-McLaughlin, Jenna. Practical Informatics LLC (T9-10)

Brophy, Jenna. RTI International (P3-17*)

Brotten, Codi Jo. University of Wyoming (P2-51*)

Brown, Celicia. U.S. Food and Drug Administration-Office of Regulatory Affairs (P1-181)


Brown, Jessica. University of Florida (P1-138)


Brown, Megan. Eurofins Microbiology Laboratories, Inc., Eurofins Microbiology Laboratories (RT19**, W5S, P2-68, P2-72)

Brown, Mokeela. Winthrop University (P3-21)

Brown, Stephanie. Oregon State University, Oregon State University, Food Innovation Center (P1-147*, T6-11, P3-12*, T9-09, P3-01)

Brunelle, Sharon. Brunelle Biotech Consulting (S23*)

Bucha, Sasima. Laboratory Kanchanaburi, Thaifoods Group Public Company Limited (P3-113)

Buchanan, Robert. University of Maryland-College Park (RT27*)

Buckley, David. Diversey (S8*, RT28*)

Buehler, Ariel. Cornell University (P1-149)

Buen-Bigornia, Marie. U.S. Food and Drug Administration-Office of Regulatory Affairs (P1-181)

Buena, Lopez, Rossy. Texas Tech University (P1-133)

Buendroseto, Juan. University of California Agriculture and Natural Resources, Desert Research and Extension Center, Hotville, CA 92250 (P3-43)

Bugarel, Marie. bioMérieux, Inc. (P2-52, P3-99, P1-142)

Bulut, Ece. Cornell University (T2-01, T2-02*)

Burall, Laurel. CFSAU, U.S. Food and Drug Administration (P1-148*)

Burbick, Stephen. The Kraft Heinz Company (S30*)

Burgess, Catherine M.. Teagasc Food Research Centre, Ashstown (P1-72)

Burgoyne, Daniel. Canadian Food Inspection Agency (S10*)


Burriss, Kellie. U.S. Food and Drug Administration, Center for Food Safety & Applied Nutrition (P2-128*, T5-09*)

Burroughs, Samantha. Oregon State University (P1-40*, P1-39*)

Butler, Kristin. U.S. Food and Drug Administration, Gulf Coast Seafood Laboratory (T10-07*)

Butot, Sophie. Nestlé Research Center (RT13*)

Buys, Elena. University of Pretoria (P2-88)


Bywater, Aja. The Acheson Group (P3-174)

Cabrera-Diaz, Elisa. CUCBA, Universidad de Guadalajara (T2-06, P3-157)

Cahill, Sarah. Joint FAO/WHO Food Standards Programme (S25*)

Cai, Shiyu. Cornell University (P2-86*)

Calderon, Delia. Hygiene (P1-76*, P2-53*)

Call, Douglas. Washington State University (P1-63, P1-62)

Callahan, Mary Theresa. University of Maryland (P2-189, P2-190, T12-07)

Callaway, Todd. University of Georgia (RT14*)

Camacho, Juan. U.S. Food and Drug Administration--ORISE (P2-178*)

Camejo, Pamela. Pontificia Universidad Catolica (P1-54)

Campfield, Emily. University of Tennessee (P2-160*, P1-01*)

Camilli, Kenneth. Centre for Biomedical Cybernetics, University of Malta (T4-06)

Cancio, Leslie Pearl. University of Nebraska-Lincoln (T7-09*)

Candia-Sanchez, Judith. Grupo Alimentos y Nutricion (P2-157)

Cano, Carl. University of Nebraska-Lincoln (P2-14*, T6-08, T7-08*, P1-125*)

Canobbio, Sophie. bioMérieux, Inc. (P3-126, P3-114, P3-127)

Cardona, Carol. University of Minnesota (T4-09)

Carlin, Catharine. Merieux NutriSciences (T11-01*)

Carlton, Ashlyn. National Center for Toxicological Research, U. S. Food and Drug Administration and University of Arkansas at Pine Bluff (T1-12)

Carmona-Antonanzas, Greta. Instituto de Miocologia Genomica (Imegen) (P3-123, P3-124)

Carr, Joanna. University of Wyoming (P2-141)

Carriço, Joao. bioMérieux, Inc. (P1-142)

Carrion, Pablo. Nestle Purina (RT9**)}

Carroll, Laura. European Molecular Biology Laboratory (P1-149*)

Carson, Jared. U.S. Army DEVCOM Soldier Center (S37)

Carson, Rachel. Cornell University (P3-138)

Carter, Chad. Clemson University (P3-03)

Carter, Michelle. USDA, ARS, WRRC (P1-172*)

Casas, Diego. Texas Tech University (T3-08*, P1-47)

Castillo, Alejandro. Texas A&M University (P3-03)

Castro-Nallar, Eduardo. Universidad Andres Bello (P1-54)
**AUTHOR AND PRESENTER INDEX**

*Presenter

**Casulli, Kaitlyn**, Michigan State University (T2-03*)

**Catalena, Rebecca**, University of West Florida (P3-13*)

**Cater, Melissa**, Louisiana State University (P3-42*, P3-07)

**Cates, Sheryl**, RTI International (P3-17)

**Cavallo, Ashley**, University of Florida (P1-138*)

**Ceylan, Ergodan**, Méritecs Sciences (S19*, S31*, P1-103*)

**Chablain, Patrice**, bioMérieux, Inc. (P1-142)

**Chae, HyoBin**, Rural Development Administration (P2-102)

**Chaggar, Gurpreet Kaur**, Purdue University (P3-163*, T3-06)

**Chakraborty, Monisha P**, Taylor Farms Pacific (RT20*)

**Chalita, Mauricio**, Chulaborn (T4-05)

**Chalmera, Rachel**, Public Health Wales, Microbiology and Health Protection, Singleton Hospital (S11*)

**Chamberlin, Barbara**, New Mexico State University (RT7*)

**Champ, Cassandra**, U.S. Food and Drug Administration (P1-166)

**Chandler, Carolyn**, University of California-Davis (T6-02)

**Chang, Sam**, Coastal Research & Extension Center, Mississippi State University (P3-59, P3-121)

**Channahal, Lakshmikantha**, AIB International (P1-102, P2-15, P3-177, P3-179, P2-154, P3-26, P3-27)

**Charles, Anto Pradeep Raja**, Tennessee State University (T6-06*)

**Chase, Hannah**, U.S. Food and Drug Administration (P1-170, P1-160)

**Chasteen, Kaicie**, Auburn University (T7-02, T4-10)

**Chatterjee, Purvi**, WTI Inc. (P1-29*, P1-28*, P1-26*, P1-27*)

**Chaudhari, Roshaniben**, University of Central Oklahoma (P2-104)

**Chaves, Byron**, University of Nebraska-Lincoln (P3-34, P2-14, T7-09, P3-171, T6-08, T7-08, P1-125)

**Chaves Macédo, Elivira de Lourdes**, Federal University of Paraíba (P2-24)

**Chavez-Martinez, America**, Universidad Autonoma de Chihuahua (P2-157)

**Chembezi, Duncan**, Alabama A&M University (P3-03)

**Chen, Cai**, Purdue University (P3-15)

**Chen, Chi-Hung**, USDA-ARS (P2-103, P3-112)

**Chen, Fur Chi**, Tennessee State University (T6-06)

**Chen, Haiqiang**, University of Toronto (P3-61)

**Chen, Hai**, Purdue University (P3-16*, P3-14*, P3-15*)

**Chen, Jinru**, The University of Georgia (P2-115, P2-143, P1-02)

**Chen, Judy**, Ventura Foods (P2-29)

**Chen, Long**, Cornell University (P1-96, T6-07*)

**Chen, Min**, University of Massachusetts Amherst (P2-67)

**Chen, Ruixi**, Cornell University (T6-03*)

**Chen, Shao-Lan**, National Kaohsiung University of Science and Technology (P1-80)

**Chen, Shu**, Agriculture and Food Laboratory (AFL), University of Guelph (P3-149*)

**Chen, Wu San**, United States Department of Agriculture, Food Safety and Inspection Service (T1-10)

**Chen, Xi Qing**, Washington State University (P2-30, P2-05)

**Chen, Yi**, U.S. Food and Drug Administration – Center for Food Safety and Applied Nutrition, U.S. Food and Drug Administration (P1-180, P1-165, S2*, P2-84)

**Chen, Yuhuan**, University of Massachusetts Amherst (P2-158*)

**Cheng, Christle**, Kerry (P2-87*)

**Cheng, Gloria**, Purdue University (P3-15)

**Cheng, Joyce**, Outbreak Management Division, Centre for Food-Borne, Environmental and Zoonotic Infectious Diseases, Public Health Agency of Canada (S1*)

**Cheng, Rachel**, Cornell University (P1-149, P1-150*, T8-03)

**Cheng, Wen-Hsing**, Mississippi State University (P2-07, P2-04)

**Cheong, Sejin**, University of California-Davis (T6-02*)

**Cherion, Luc**, chr. Hansen (P1-190)

**Chesaneck, Brian**, North Carolina State University (P3-179)

**Chevez, Zolia**, Auburn University (P2-158*)

**Chin, Amanda L.**, University of Massachusetts (P3-20)

**Chin, lee Jiuian**, Romer Labs Singapore Pte. Ltd. (P1-86, P2-01, P1-85)

**Chimsicle, Anastasia E. M.**, University of Delaware (P2-113)

**Cho, Yong Sun**, Korea Food Research Institute (P1-71)

**Choi, Changsun**, Chung-Ang University (P2-181, P2-180, P3-146, P3-147, P2-182, P3-145, P3-148)

**Choi, In Young**, Kyungpook National University (P2-54*)

**Choi, Jihee**, Queens College, City University of New York (CUNY) (P3-178*)

**Choi, Jungmin**, Oregon State University (P2-73)

**Choi, Kyung-Hee**, Wonkwang University (P1-180, P2-85, T9-12)

**Choi, Min Woo**, Chung-Ang University (P1-52)

**Choi, Song-yi**, Rural Development Administration (P2-102)

**Choi, Suyoun**, Sookmyung Women’s University (P1-180)

**Choi, Yukyung**, Sookmyung Women’s University (T9-12, P1-180)

**Choiniere, Conrad**, U.S. Food and Drug Administration (S5*)

**Choudhari, Roshaniben**, University of Central Oklahoma (P2-144)

**Choudhary, Rupul**, Southern Illinois University Carbondale (P2-151)

**Chowdhury, Shahid**, Tennessee State University (P3-64)

**Christian, Candice**, North Carolina State University (P3-27*)

**Chu, HyeonJin**, Rural Development Administration (P2-107*)

**Chun, JongSik**, Seoul National University (P3-111, T4-05)

**Church, Katherine**, Thermo Fisher Scientific (P3-142)

**Cipriani, Andrea**, Méritecs Sciences (RT26**)

**Ciriaco, Maria**, University of Trás-os-Montes e Alto Douro (UTAD) (P1-32)

**Clark, Stephanie**, Iowa State University (P1-38)

**Clavero-Grabarek, Rocelle**, Treehouse Foods (S17*)

**Clements, Donna**, Cornell University (P3-05, S13*)

**Cloutier, Ashley**, Agri-Neo Inc. (T3-02, T3-07, T3-08)

**Cody, Irina**, Texas Department of Health and Human Services (S18*)

**Coe, Corey**, West Virginia University (P2-148*)

**Colarutolo, Louis**, University of Guelph (P3-185)

**Coleman, Shannon**, Iowa State University (P3-07*)

**Collaro, Thomas**, U.S. Department of Agriculture – FSIS (S59*, P1-139)

**Collick, Amy**, University of Maryland Eastern Shore (P2-110)

**Collins, James J.**, Wyss Institute for Biologically Inspired Engineering at Harvard University (P3-137)

**Collins, Sarah**, University of Wyoming (P1-64)

**Combrisson, Jerome**, Mars Global Services (S47*)

**Cowboy-Schmidt, Lisa**, Nestle Purina R&D Center (P3-109)

**Cong, Jian**, Washington State University (P2-139)

**Connolly, Brian**, MilliporeSigma (T11-04)

**Connolly, Charles**, The Pennsylvania State University (P3-102*)

**Conrad, Amanda**, Centers for Disease Control and Prevention (CDC) (S1*)

**Cook, Adrian Bartholomew**, ESOX Engineering (P2-176)

**Cook, Kimberly**, Agricultural Research Service, U.S. Department of Agriculture (P3-38)

**Cook, Peter**, Center for Disease Control (P1-175)

**Cook, Roger**, New Zealand Food Safety (OS*, RT10*)

**Cooksey, Kay**, Clemson University (P1-136)

**Cooper, Derrick**, Emory University (T2-12, T2-11*)

**Corbett, Kyle**, Centre for Food Safety, Stellenbosch University (P2-161*)

**Cordovana, Miriam**, Bruker Daltonics GmbH & Co. KG (P2-57)

**Corradini, Maria**, University of Guelph (P3-185, P3-20)

**Corrigan, Nisha**, Hygiena (P3-107*)

**Corrigan, Nisha**, Hygiena (P3-130, P2-43, P2-55*)

**Corsino II, Robert**, LSU AgCenter, Louisiana State University (P1-31, P1-05, P1-06)

**Cortes, Bienvenido**, Iowa State University Interdepartmental Microbiology Program (T12-02*)

**Costard, Solenne**, EpiX Analytics (P3-37, T2-10)

**Cote, Andrea**, United States Department of Agriculture Food Safety Inspection Service (USDA – FSIS) (S1*)

**Côte, Damien**, bioMérieux, Inc. (P3-120)

**Coughlin, Kelly**, Cornell University (T10-10)

**Cox, Jessica**, DHS CSAC (T8-08*)
AUTHOR AND PRESENTER INDEX

*Presenter

Crabtree, David, Thermo Fisher Scientific (P2-184, P2-40, P3-97, P3-142, P2-42, P2-41, P3-96)

Craighead, Shani, University of Delaware (P2-190, P2-173)

Cremers, David, Creative LIBS Solutions (S37)

Crittter, Faith, Washington State University (T5-05, T5-12, P2-106, T5-11, P1-156, P2-187)

Crowley, Erin, Q Laboratories, Inc. (P3-96, P3-97, P2-61)

Cui, Yan, Shanghai Jiao Tong University (T1-01*)

Culp, Rebekah, Winthrop University (P3-21)

Cumbers, Sarah, Lloyd’s Register Foundation (T8-02*)

Cummings, Kevin, Cornell University (P1-149)

Cutborth, Nicole, Mériaux NutriSciences (P1-103)

Cutler, Jennifer, Outbreak Management Division, Centre for Food-Borne, Environmental and Zoonotic Infectious Diseases, Public Health Agency of Canada (T7-03)

Cutter, Catherine, The Pennsylvania State University (P3-102)

D’Amico, Dennis, University of Connecticut (T8-04, P1-23, P1-24)

D’Souza, Doris, University of Tennessee (P2-190, P1-01, P2-171)

da Silva, Alexandre, U.S. Food and Drug Administration – CFSAN, Office of Applied Research and Safety Assessment (S11*)

da Silva, Ruthchelli Tavares, Federal University of Paraíba (T13-06, T1-11)

Dag, Daniela, University of Georgia (P3-56*)

Dagher, Fadi, University of Georgia (P3-49*)

Dantas, Aline Macedo, University of Florida CREC, Federal University of Paraíba, University of Nebraska-Lincoln (P2-23)

Dang, Sinh, Federal University of Paraíba (P2-107, P3-03, T2-01, P2-149, P3-177)

Dagher, Fadi, Agri-Neo Inc. (T13-07, T13-08, T1-02)

Dallman, Timothy J., Public Health England (P1-157)

Danao, Mary Grace, University of Nebraska-Lincoln (P3-67, T7-09, P3-66, P3-87)

Dang, Sinh, CGIAR (RT12*)

Dankwa, Adwoa, University of Maine (P1-67*)

Dantas, Aline Macedo, Federal University of Paraíba (P2-23)

Danylyuk, Michelle, University of Florida CREC (RT18*, T5-01, T2-02, T5-04, P2-107, P3-03, T2-01, P2-149, P3-177)

Darby, Duncan, Clemson University (P1-136)

Das, Sharmi, U.S. Food and Drug Administration (S49)

Daube, Georges, University of Liège (P2-25, P2-101)

Davey, Nick, Smith Detection (P3-135)

David, John, 3M (S42*)

Davidson, Charles, U.S. Army DEVCOM Chemical Biological Center (P3-105)

Davila, Vanora, The Ohio State University (P3-31, P3-36)

Dawson, Paul, Clemson University (P1-136)

Day, Michael, USDA-FSIS (T8-12*, T8-11)

De, Jaysankar, University of Florida (P2-112, P2-147, P1-42)

de Albuquerque, Thayane Mariano Rodrigues, Federal University of Paraíba (T13-05)

de Almeida, Thaíza Teixeira, University of Viçosa – UFV (P3-119)

de Assis, Bianca Beatriz Torres, Federal University of Paraíba (P2-23)

de Carvalho, Antonio Fernandes, University of Viçosa – UFV (P3-119)

de Leonardi, Deleo, Purity-QO (P3-185)

De Luna-Bugallo, Andres, Centro de Investigación y Estudios Avanzados, IPN (T10-08)

de Puig Guixe, Helena, The Wyss Institute for Biologically Inspired Engineering (P3-137)

de Souza, Evandro L., Federal University of Paraíba (T13-06)

De Souza, James, Agriculture and Agri-Food Canada (T7-10)

de Souza Grilo, Maria Mayara, Federal University of Paraíba (T11-11, T13-06)

de Souza Pedrosa, Geany Targino, Federal University of Paraíba (T11-11, P3-162, T3-06)

Deaver, Wesley, University of Maryland (P2-122, P2-136*)

Deering, Amanda J., Purdue University (T4-11)

Defibaugh-Chavez, Stephanie, United States Department of Agriculture, Food Safety and Inspection Service (T8-09)

Defillon, Jérôme, Novolyza (P3-167)

Degen, Olaf, BrukerDaltonics GmbH & Co. KG (P2-56*, P2-57*)

Deibel, Charles, Deibel Laboratories, Inc. (P3-108, P3-140)

Delbrück, Alessia L, ETH Zurich (T10-04*)

Deliephan, Aiswariya, Kansas State University (P1-37*)

DeMarco, Daniel, Eurofins Microbiological Laboratories (P2-72, P2-176*)

Demircioglu, Goze, Agri-Neo Inc. (T13-02*, T13-07, T1-08)

den Bakker, Meghan, University of Georgia Center for Food Safety (P1-115*)

Den Besten, Heidy, Wageningen University and Research (S29*, S36*)

Den-Bakker, Hendrik, University of Georgia, Center for Food Safety (RT30*)

Denes, Thomas G., University of Tennessee (S56*)

Deneweth, Jan, Applied Maths NV, bioMérieux (P3-39)

Deng, Ta, MilliporeSigma (T11-04)

Deng, Wenjun, University of Arkansas (P2-131*)

Deng, Xiangyu, University of Georgia, Center for Food Safety (P1-178, P1-179)

Deng, Xiaohong, U.S. Food and Drug Administration, Center for Food Safety & Applied Nutrition (P3-138, P2-58*)

Dera, Firehiwot Abera, EPHI (T10-09)

Dery, Jessica L., University of Arizona, Dept. of Environmental Science, Maricopa Agricultural Center (P2-19*, T5-02, P1-127, P2-108)

Despero, Stephanie, USDA-FSIS (P3-44*)

Desrosiers, Jeffrey, Vitasib International AB (P3-74*)

Dessai, Uday, USDA Food Safety & Inspection Service (RT17*, T7-12, P3-50)

Desta, Adey Feleke, Addis Ababa University (T10-09)

Dewathananachaijal, Yuwalak, Laboratory Kanchanaburi, Thaifoods Group Public Company Limited (P3-113)

Dev Kumar, Govindaraj, University of Georgia Center for Food Safety (P2-153, P1-14, P2-150*, P1-115, T5-03*, P1-117, P1-116)

DeWaal, Caroline Smith, Global Alliance for Improved Nutrition (RT11*)

Dewi, Grace, University of Minnesota (T4-09*)

Dhakal, Janak, Virginia Tech University (T1-09, T1-08*, P2-13*, P3-155, P1-22*)

Dhakal, Janak, Kansas State University (P1-37)

Dhaliwal, Harleen Kaur, University of Alberta (P3-75*)

Dhital, Rajiv, Virginia Tech University (P3-115)

Dhital, Rajiv, Virginia Tech University (P2-24)

Diaz, Claudia, National Institute for Microbial Forensics & Food and Agricultural Biosecurity, Oklahoma State University (T11-05, P3-40*)

DiCaprio, Erin, University of California-Davis (T1-07)

Dickson, James, Iowa State University (S19*, P3-68, S42*)

Diep, Benjamin, Nestlé Research (P3-109)

Díez-González, Francisco, University of Georgia Center for Food Safety (P1-115, P1-09, P1-10)

Ding, Tong, University of Minnesota Twin Cities (T9-07)

Dittoo, Dana, University of Wisconsin-Madison (P2-37, P2-36)

do Prado Artiz, Isabelle, University of Houston (P3-08, P2-130)

Dobhal, Shefali, University of Hawaii at Manoa (P2-69)

Dolan, Kirk, Michigan State University (T2-03)

Domesie, Alexander, U.S. Department of Agriculture, Food Safety and Inspection Service (P3-33*, P1-81)

Domesie, Kelly, U.S. Food and Drug Administration - Center for Veterinary Medicine (P1-181)

Donahg, John, Nestlé S.A. (RT9*)

Dong, Lianger, University of Hawaii at Manoa (P2-133*, P1-11)

Dong, Mengyi, University of Illinois at Urbana-Champaign (P3-160*)

Dorick, Jennifer, University of Georgia (P2-153*)

Doster, Enrique, University of Minnesota, Department of Veterinary Population Medicine (P1-152)

Drape, Tiffany, Virginia Tech (P3-26)

Drew, Christopher, U.S. Army DEVCOM Soldier Center (S37)

Dreiling, Erin, Qualicon Diagnostics LLC, A Hygiene Company (P2-38, P2-44)

Driver, Joseph, University of Florida (P1-151)

Drosinos, Eleftherios, Agricultural University of Athens (P1-50, P1-73)

Drummond, Camila Camargo, LANALI Food Laboratory (P2-71)

Duarte, Yanay, Universidad Andres Bello (P1-143)

Ducharme, Diane, U.S. Food and Drug Administration – CFSAN- Produce Safety Network (S1*)

Dudley, Edward G., The Pennsylvania State University (P1-158)

Duebecke, Arne, Quality Services International GmbH (T4-03*)

Dueñas, Fernando, Universidad Andres Bello (P2-12, P1-143)
AUTHOR AND PRESENTER INDEX

Dumitrescu, Silvia, IFIC (S58*)
Dumoulin, Danielle, Outbreak Management Division, Centre for Food-Borne, Environmental and Zoonotic Infectious Diseases, Public Health Agency of Canada (T7-03)
Duncan, Rico, University of Maryland Eastern Shore (P2-189)
Dunham, Adrienne, USDA Animal and Plant Health Inspection Service (P3-50)
Dunn, Laurel, University of Georgia (P2-153, P2-154, P3-03, P2-150, T5-03)
Duong, Minh, Virginia Tech (S28*, P3-26*)
Durbin, Gregory W., Charm Sciences Inc. (P3-128)
Durigan, Mauricio, U.S. Food and Drug Administration – CFSAN, Office of Applied Research and Safety Assessment (SS5*, S11*)
Dutta, Vikrant, bioMérieux, Inc. (P1-142, P2-49, P3-110, P2-60, P3-98*, P3-117, P2-80, P2-52*, P3-99*, P3-100)
Duvenage, Stacey, University of Pretoria (P2-121)
Duverna, Randolph, USDA (P3-44)
Duverna, Randolph, United States Department of Agriculture, Food Safety and Inspection Service (P3-33)
Dvoracek-Driksana, Dana, Neogen Corporation (S51*)
D’Lima, Carol, U.S. Food and Drug Administration (P3-17)
Eakin, Chris, Neogen Corporation (T4-01)
East, Cheryl, U.S. Department of Agriculture – ARS, Environmental Microbial and Food Safety Laboratory (P2-189, P2-190*)
Easter, Martin, Hygiene (P1-82)
Ebel, Eric, United States Department of Agriculture, Food Safety and Inspection Service (T8-09)
Eberly, Jennifer, Maine Department of Agriculture, Conservation, and Forestry (S59*)
Eber, Paul, Purdue University (P3-84)
Echeverry, Alejandro, Texas Tech University (T3-08, P1-47)
Edelen, Jeff, Whole Foods Market (RT28*)
Edicho, Redwan, EPHI (T10-09)
Edinger, Ben, ESOX engineering (P2-176)
Edwards, Lauren, Michigan Department of Agriculture and Rural Development (S18*)
Edwards, Sarah R., United States Department of Agriculture, Food Safety and Inspection Service (P3-45*)
Egan, Scott, 3M Thailand Limited (P3-113)
Eggleton, Charles D., University of Maryland, Baltimore County (P3-88)
Ejiede, Oluseun, MacPherson university (P1-18)
Ekli, Rejoice, Office for Development Studies (P2-31)
El-Sayed, Najib, Center for Bioinformatics and Computational Biology, University of Maryland Institute for Advanced Computer Studies, University of Maryland (P1-170)
Elbakush, Ahmed, University of Wyoming (P2-141)
Elegbeleye, James, University of Pretoria (P2-88*)
Eleimat (Olaimat), Amin, The Hashemite University (S15*)
Elgaali, Hesham, Certified Laboratories, Inc. (P2-38)
Elia, Xavier, Iowa State University (P3-07)
Ellouze, Mariem, Nestle Research (S48*)
Elston, Korinne, Institute for Food Safety and Health, Illinois Institute of Technology (T10-03)
Elzo, Mauricio, University of Florida (P1-151)
Englebey, April, Hygiene, Qualicon Diagnostics LLC, A Hygiene Company (P1-123, T11-03*, P1-123, P1-124, S35*, P3-130)
Engstrom, Sarah, Food Research Institute, University of Wisconsin-Madison (P1-70*)
Erickson, David L, Joint Institute for Food Safety and Applied Nutrition, Center for Food Safety and Security Systems, University of Maryland (P1-157)
Erickson, Jennifer, U.S. Food and Drug Administration (S12*)
Escudero-Abarca, Blanca, North Carolina State University (P2-179*, P3-179)
Esoe, Hope, LSU AgCenter (P1-31*, P1-05, P1-06)
Eshaghi Gorji, Mohamad, National University of Singapore (T1-05)
Eshwar, Athumanya, Institute for Food Safety and Hygiene, University of Zurich (P2-09, P1-170, P1-160)
Eskin, Sandra, United States Department of Agriculture (*)
Espinolda, Andres, Oklahoma State University (P2-69)
Espinoza, Luis, Ventura Foods (P2-29)
Esteban, J. Emilio, United States Department of Agriculture, Food Safety and Inspection Service (RT14*, P1-81)
Esteves, Alexandra, Veterinary and Animal Research Center (CECAV), University of Trás-os-Montes e Alto Douro (UTAD) (P1-32)
Estrada, Erika, University of California Davis, (P1-110*, P2-137, P1-113*)
Etaka, Cyril, University of Nebraska-Lincoln (T6-08*, T7-08)
Etter, Andrea, The University of Vermont (P1-41, P2-08)
Eusse, Jose A., Mississippi State University (P1-21, P1-16)
Evans, Ellen W., ZERO2FIVE Food Industry Centre, Cardiff Metropolitan University (P3-25*, P3-90)
Evans, Katharine, Thermo Fisher Scientific (P3-97, P3-142)
Evans, Katie, Mississippi State University (P1-12*)
Evans, Peter, USDA (S47*)
Fafetine, José M., Universidade Eduardo Mondlane (T7-06)
Faircloth, Jeremy, North Carolina State University, (P1-49*)
Fakier, Kathryn, Franciscan Missionaries of Our Lady University (P3-22*)
Falcão, Lucía, LALALI (P2-71)
Falzon, Owen, Centre for Biomedical Cybernetics, University of Malta (T4-06)
Fan, Peixin, University of Florida (T9-08, P1-151*)
Fan, Xuetoing, USDA, ARS, Eastern Regional Research Center (P1-100*)
Fanning, Séamus, University College Dublin (RT9**, P1-160, P1-170)
Faour-Klingbeil, Dina, University of Plymouth (S15*)
Faour-Klingbein, Dina, DFK for Safe Food Environment (S24*, RT11*)
Farber, Jeffrey, Canadian Research Institute for Food Safety (CRIFS), University of Guelph (P3-164, T3-10)
Farina, Brian, Deibel Laboratories, Inc. (P3-108, P3-140)
Farmer, Doris, U.S. Food and Drug Administration-Office of Regulatory Affairs (P1-181)
Farquharson, Emma, Cornell University (P3-136)
Fatima, Anam, University of Central Oklahoma (P2-104, P2-144)
Faulds, Nikki, Thermo Fisher Scientific (P3-96, P3-142)
Fay, Megan, U.S. Food and Drug Administration (P2-33, P2-22)
Federici, Brian, University of California Riverside (S48*)
Fedio, Willis, New Mexico State University (P1-168, P2-59*)
Feist, Shelley, Partnership for Food Safety Education (S49*)
Feldgarden, Michael, National Center for Biotechnology Information, National Library of Medicine, National Institutes of Health (P3-38)
Felix, Monique, University of Arkansas at Pine Bluff (T1-12)
Feng, Hao, University of Illinois at Urbana-Champaign (P3-160, P3-144, P3-143)
Feng, Jingzhang, The Pennsylvania State University (T6-09*)
Feng, Sofia, Microbes (P1-188*, P1-191)
Feng, Yaohua (Betty), Purdue University (RT21*, P3-15, P3-11, P3-79, P3-182, P3-29, P3-16, P3-30, P3-28, P3-14)
Fenoff, Roy, The Citadel (RT8*)
Fenske, Gavin, EpiX Analytics (P3-37*, T2-10)
Ferelli, Angela Marie C., University of Maryland (P2-100)
Ferm, Peter, University of Minnesota, Department of Veterinary Population Medicine (P1-122*)
Fernando, Samodha, University of Nebraska-Lincoln (P3-87)
Ferreira, Christina M., U.S. Food and Drug Administration, Center for Food Safety & Applied Nutrition (T5-09, P3-138, P2-128)
Ferreira, Leticia Rocha, University of Vigo - UBV (P3-119)
Fève, Eric, University of Liverpool (T7-06)
Fields, Rebecca, United States Department of Agriculture, Food Safety and Inspection Service (P3-48)
Finkelstein, Samantha, U.S. Food and Drug Administration (P1-170, P1-160)
Fischer, Jana, International Flavors and Fragrances Inc. (IFF) (P1-03)
Fischer-Jenssen, Jennifer, Agriculture and Food Laboratory (AFL), University of Guelph (P3-127)
Fisher, Derek J., Southern Illinois University Carbondale (P2-151)
Fisk, Connie, Cornell University (P3-05*)
Fitzsimmons, Jill, University of Massachusetts Amherst (P3-10, P3-02)
Flannery, Andrew, Smiths Detection (P3-135)
AUTHOR AND PRESENTER INDEX

*Presenter

Fleck, Lois, *Romer Labs* (P3-103*, P3-104*)
Fleck, Mark, *Universal Pure* (T10-03)
Flock, Genevieve, U.S. Army DEVCOM Soldier Center (P3-105*, S37)
Flores, Nancy, *New Mexico State University* (P3-18*)
Flores Calle, Andrea, *University of Hawaii at Manoa* (P1-11*)
Foley, Steven, *Food and Drug Administration and National Center for Toxicological Research* (T1-12)
Folster, Jason, *Centers for Disease Control and Prevention* (RT17*, T12-08)
Fontenot, Kathryn, *Louisiana State University AgCenter* (P3-03, P2-120*)
Fontes, Maria, *Veterinary and Animal Research Centre* (CECNAV) (P3-85)
Forauer, Emily, *The University of Vermont* (P1-41*)
Forrest, Russell, *Outbreak Management Division, Centre for Food-Borne, Environmental and Zoonotic Infectious Diseases, Public Health Agency of Canada* (T1-03)
Forsman, Cynthia, *Microbiologics* (P2-72)
Fortenberry, Gamola, *USDA Food Safety & Inspection Service* (P3-50, T7-12)
Fortes-Da-Silva, Paulo, *Iowa State University* (P3-68)
Forward, Elise, *Forward Foods Solutions, LLC* (RT8*)
Fouldakhah, Aliyar, *Public Health Microbiology Laboratory, Tennessee State University* (RT18*, T10-05, P1-61*, P3-03, T10-02*, P3-64*)
Foust, Derek, *University of Maryland Eastern Shore* (P2-189)
Foxall, Alice, *Camden BRI* (P2-184, P1-169)
Francavilla, Alyssa, *University of Guelph* (P3-20, P3-185)
Franco-Frias, Eduardo, *Facultad de Ciencias Biológicas, Universidad Autónoma de Nuevo León* (P2-93*)
Fraser, Angela, *Clemson University* (RT28*, P2-156, S6*)
Freeman, Matthew C., *Rollins School of Public Health, Emory University* (T7-06)
Friedrich, Loretta, *University of Florida* (T5-04, P2-149*, P3-177)
Froio-Blumssack, Danielle, *U.S. Army DEVCOM Soldier Center* (S37*)
Frye, Jason, *North Carolina State University* (P3-172*, P2-162*, P3-179)
Frye, Jonathan, *USDA ARS* (T12-08)
Gabbert, Lindsay, *SAIC, Plum Island Animal Disease Center* (T8-06*)
Gabre, Samson, *Addis Ababa University* (T10-09*)
Gabriel, Michelle, *Talen Technologies Inc.* (P3-164)
Gadano, Mario, *Thermo Fisher Scientific* (P3-125, P1-153*, P3-106*)
Gadola, Mary, *Neogen Corporation* (T4-01)
Gage, Travis, *Dalhousie University* (T9-03)
Gallottini, Claudio, *ITA Corporation* (P3-09*, T6-01)
Galvan, Kara, *The Ohio State University* (P3-31)
Gandhi, Sakshi, *The Ohio State University* (P3-09*, T6-01)
Garber, Eric, *U.S. Food and Drug Administration* (T4-02)
Garcés-Vega, Francisco, *Independent Consultant* (T2-06)
Garcia, Alexandra, *Charm Sciences, Inc* (P2-78)
Garcia, Andrea, *Kraft Heinz Company* (P1-68*)
Garcia, Lorena Natalino Haber, *Universidade Federal de Viçosa* (P1-171)
Garcia, Rodrigo, *Universidad Católica de Valparaíso* (P2-12)
Garcia, Santos, *Universidad Autónoma de Nuevo León* (P2-93)
Garcia Fuentes, Eduardo, *IBIMA* (P2-25)
Garcia-Heredia, Alum, *University of Massachusetts* (P2-93)
Garman, Katie, *Texas A&M University and Health* (S18*)
Garner, Laura, *Auburn University* (P1-131, P2-80*)
Garre, Alberto, *Wageningen University* (S29*)
Garren, Donna, *American Frozen Food Institute* (RT10*)
Garsow, Ariel, *The Ohio State University* (T8-04*)
Gartley, Samantha, *University of Delaware* (P2-190)
Gatima Mahoro, Grace, *University of Nebraska-Lincoln* (P2-14)
Gaudin, Amelie, *University of California-Davis* (T6-02)

Gauthier, Jeff, *Univeriste* (P1-55)
Gavai, Kavya, *Oklahoma State University* (P3-63*)
Ge, Belie, *U.S. Food and Drug Administration - Center for Veterinary Medicine* (P1-181)
Ge, Chongtao, *Mars Global Food Safety Center* (P1-179, P1-178)
Gebhardt, Jordan, *Kansas State University, DMP* (P2-118)
Gedas, Astrid, *University of Warmia and Mazury in Olsztyn* (P1-10)
Gelda, Krishna, *Ottawa Laboratory - Fallowfield, Canadian Food Inspection Agency* (P2-62)
Gensler, Catherine, *CALS, NCSU* (P2-111, P2-119*)
Gerba, Charles, *University of Arizona* (P2-191)
Gerdes, Megan, *University of Maryland College Park* (P2-189)
Gezzin, Mine, *Neogen Corporation* (T4-01)
Ghanem, Mostafa, *Department of Veterinary Medicine, University of Maryland* (P1-157)
Ghorbani Tajani, Anahita, *University of Wyoming* (P2-141*)
Giannakopoulou, Artemis, *Agricultural University of Athens* (T9-05)
Gibson, Kristen, *University of Arkansas* (P3-107*, P2-131, P2-130, P2-183, P2-156)
Giese, Matthias, *BIOTECON Diagnostics* (P1-75)
Gilbert, Kathrine, *Iowa State University* (P3-07)
Gilgour, Mitch, *Sysco (RT29*)
Gill, Alexander, *Health Canada* (S38*)
Gilman, Abby, *Drexel University* (P3-06)
Ginn, Amber, *University of Florida* (T9-07)
Giovannetti, Louisiane, *bioMérieux, Inc.* (P2-52, P3-117)
Giovannetti, Louisiane, *bioMérieux, Inc.* (P3-98, P3-99, P3-100)
Girbal, Marina, *Rutgers, The State University of New Jersey* (P2-138*)
Glass, Kathleen, *University of Wisconsin-Madison* (P1-70, S52*, P1-121)
Godard, Julie, *Cornell University* (P3-136)
Goddik, Lisbeth, *Oregon State University* (P1-71)
Godefroy, Samuel, *Université Laval* (S46*)
Godínez-Oviedo, Angélica, *Universidad Autonoma de Queretaro* (T2-06*, P3-157*, P1-119)
Golden, Max, *Food Research Institute, University of Wisconsin-Madison* (P1-121)
Gomelsky, Mark, *University of Wyoming* (P2-141)
Gonzalez, Hugo, *Hygienna* (P2-55)
Gonzalez, Rolando, *The Acheson Group, LLC* (P3-174)
Gonzalez-Escalona, Narjol, *U.S. Food and Drug Administration, Center for Food Safety & Applied Nutrition* (P1-167, P1-154*)
Gonzalez-Nilo, Fernando, *Center for Bioinformatics and Integrative Biology, Universidad Andres Bello* (P1-143)
Good, Lesley, *United States Department of Agriculture, Food Safety and Inspection Service* (T7-04*)
Goodrich, Renee, *University of Florida* (P3-03)
Goodridge, Lawrence, *University of Guelph, Canadian Research Institute for Food Safety* (RT21*, P3-185, S41*, P1-177, P2-83, P1-55, T3-10)
Goodson, Lydia, *North Carolina State University* (P3-179)
Gopisetty, Vyabh Vipul Sudhir, *Tennessee State University* (P3-54)
Gorman, Michele, *Chobani, LLC* (S22*)
Gorris, Leon, *Food Safety Expert, Food Safety Futures* (S24*)
Gorse, Florence, *bioMérieux, Inc.* (P3-120)
Gosal, Gurinder, *University of British Columbia* (P1-146)
Goseland, Jessie, *WBA Analytical Laboratories* (P3-101)
Gouguet, Lizaig, *ADRIA Food Technology Institute* (P2-55)
Goulet, Rebecca M., *Louisiana State University* (P2-162, P3-172, P2-179, P1-49, P3-179*)
Gouws, Pieter, *Centre for Food Safety, Stellenbosch University* (P2-161)
Govender, Austin, *Durban University of Technology* (P1-04)
Graher, Hans-Ulrich, *Agroscope* (T9-06)

PROGRAM BOOK 147
AUTHOR AND PRESENTER INDEX

Herron, Charles, Auburn University (P3-76*, P2-60, P1-131)
Hewitt, Laura, ZERO2FIVE Food Industry Centre, Cardiff Metropolitan University (P3-77*)
Heydenreich, Rosa, ETH Zurich (T10-04)
Hicks, Jessica, National Veterinary Services Laboratories, Animal and Plant Health Inspection Service, U.S. Department of Agriculture, (P3-38)
Hidalgo Sindoni, M. Gabriela, Mississippi State University (P1-21*, P1-16)
Hidri, Besnik, Chr. Hansen (P1-190)
Hiett, Kelli, U.S. Food and Drug Administration - CFSAN (P2-47)
Higby, Richard, Eurofins Microbiology Laboratories, Inc. (P2-72)
Higgs, Joseph, Ventura Foods (P2-29)
Highbarger, Lane, U.S. Food and Drug Administration (RT25*)
Hildebrandt, Ian, Michigan State University (P1-95, S7*, P3-169*)
Hill, Amanda, Dairy Food Safety Victoria (S9*)
Hinz, Leslie, U.S. Food and Drug Administration (RT24*)
Hoelzer, Karin, Maximus (S32*)
Hoffmann, Dirk, Ch. Hansen (P1-190*)
Hoffmann, Maria, Food and Drug Administration, Center for Food Safety & Applied Nutrition, Food and Drug Administration, Center for Food Safety and Applied Nutrition (P1-162, P1-155, P1-48)
Hoffmann, Sandra, USDA, Economic Research Service (S50*, S50)
Hogan, Michael, PathogenDx (T11-02)
Hok, Lyda, Royal University of Agriculture (P3-84)
Honda, Ryoma, Hokkaido University (T6-03)
Honda, Ryoma, Hokkaido University (P3-78*)
Hong, Sunhee, EzBieme Inc (P3-111)
Hoover, Rick, Centers for Disease Control and Prevention (CDC) (P3-181)
Howard, Laura, U.S. Food and Drug Administration (P1-164, P1-183, P1-182)
Howell, Allison, The Ohio State University (P3-47*)
Hu, Chih-Hao, U.S. Food and Drug Administration - Center for Veterinary Medicine (P1-181)
Hu, Chiun-Kang, U.S. FDA, CFSA, OARSA (P2-174, T5-10)
Hu, Hsin-Yun, Tunghai University (P3-58)
Hu, Lillian, U.S. Food and Drug Administration-CFSAN (S10*)
Hu, Jiaoyan, Institute for Food Safety and Health, Illinois Institute of Technology (P2-22)
Hu, Phyllis, Mérieux NutriSciences China (P1-173)
Hu, Ruofan, Worcester Polytechnic Institute (P3-143)
Hu, Wensi, Gyeongsung National University (P2-167)
Hua, Zi, Washington State University (P1-101*, P2-140, P2-164*)
Huang, En, University of Arkansas for Medical Sciences (T5-07*)
Huang, Hongsheng, Ottawa Laboratory - Fallowfield, Canadian Food Inspection Agency (P2-62*)
Huang, Xinyang, Department of Nutrition and Food Science, University of Maryland (P1-157*)
Huang, Yan, 3M Food Safety, 3M Medical Devices and Materials Manufacturing (Shanghai) Co., Ltd. (P3-115)
Huang, Yu-Ru, National Ilan University (P1-80)
Huerta-Escobedo, Andrea, Facultad de Ciencias Biológicas, Universidad Autónoma de Nuevo León (P2-93)
Hughes, Annette, Thermo Fisher Scientific (P3-96)
Hultberg, Annalisa, University of Minnesota (RT24*)
Humphrey, Jessica, University of Nebraska-Lincoln (P1-77*)
Hurtle, William, U.S. Department of Homeland Security Science & Technology Directorate, Plum Island Animal Disease Center (T6-06)
Huynh, Thu, Hygienia (P1-82)
Hwang, InJun, Rural Development Administration (P2-102)
Hwang, Jung-eun, Soomkyung Women’s University (P2-65, P2-66)
Hyldgaard, Morten, International Flavors and Fragrances Inc. (IFF) (P1-03*)
Hyton, Rebecca Karen, Agri-Neo Inc. (T13-08, T13-07)
Ibnab, Habiba, Jazzhore University of Science and Technology (P1-122)
Igo, Matthew J., Rutgers, The State University of New Jersey (P1-158*, T2-04*)
Ijabadeniyi, Oluwatosin Ademola, Durban University of Technology (P1-04)
Illingworth, Simon, Solus Scientific Solutions Ltd. (P3-122)
Inkster, Aubrey, University of Delaware (P2-113)
Iqbal, Shahzad Zafar, Government College University Faisalabad (P1-79*)
Iraola, Pascal, U.S. Food and Drug Administration, Center for Food Safety & Applied Nutrition (T10-12)
Irma, Sibel, University of Nebraska-Lincoln (P1-105, P1-106)
Irvin, Kari, U.S. Food and Drug Administration (S1*)
Irving, D.J., Tennessee Department of Health (S18*)
Isaacs, Rufus, Michigan State University (P3-57)
Ivanek, Renata, Cornell University (T2-01, T2-02)
Ivusic Polic, Ives, Canadian Research Institute for Food Safety (CRIFS),University of Guelph (P1-177, P2-83)
Izquierdo-Garcia, Marta, Instituto de Medicina Genomica (Imegen) (P3-123, P3-124)
Jabbour, Rabih, DHS (T8-07*)
Jackson, Alexandra, Auburn University (P1-129)
Jackson, Charlene, Bacterial Epidemiology and Antimicrobial Resistance Research Unit, U.S. Department of Agriculture Agricultural Research Service (P1-192)
Jackson, Lauren, U.S. Food and Drug Administration (P1-78)
Jackson, Timothy, Droscol’s of the Americas (S28*, S53*)
Jackson-Davis, Armitra, Alabama A&M University (RT16*, RT2*, S16*P3-03)
Jacob, Megan E., Department of Population Health and Pathobiology, CVM, NC State (P2-111, P2-119)
Jacobson, Andrew, U.S. Food and Drug Administration, Center for Food Safety & Applied Nutrition (P3-116)
Jadeja, Ravirasjim, Oklahoma State University (P3-03)
Jahid, Ibqal, Jessore University of Science and Technology (P1-122)
Jain, Riddhi, Illinois Institute of Technology (P1-78)
Jallow, Abdoull, Food Safety & Quality Authority of the Gambia (RT6*)
James, Michael, Michigan State University (P1-95)
Jang, Hyein, U.S. Food and Drug Administration (P1-170, P1-160*)
Jaroni, Divya, Oklahoma State University (P3-03)
Jarvis, Karen, U.S. Food and Drug Administration, CFSA, (WS5, P1-164, P1-183, P1-182)
Jay-Russell, Michele, Western Center for Food Safety, University of California-Davis (T6-02, S13*, P3-43)
Jayasena, Shyamali, University of Nebraska-Lincoln (P1-77, P1-83)
Jayawardhana, Dilhani, Clemson University (P2-156*)
Jayeola, Victor, Food and Drug Administration, Center for Food Safety and Applied Nutrition (P1-48*)
Jaykus, Lee-Ann, North Carolina State University (RT27*, RT13*, P3-179, T2-12, P2-92, T3-09, P3-172, P2-128, S11*, P1-49, P2-179)
Jean, Julie, Institut sur la nutrition et les aliments fonctionnels, Université Laval (P2-177, T1-03, T1-04)
Jeon, Yu-Bin, Kyungpook National University (T6-12)
Jeong, KwangCheol Casey, University of Florida (T9-08, P1-151, T9-07, T9-11)
Jeong, SangHyup, Michigan State University (P3-57)
Jespersen, Lone, Cultivate (S45*, P3-94, RT7*)
Jesser, Kelsey, University of Washington (T7-06)
Jia, Mo, Virginia Tech University (T1-09*, T1-08)
Jia, Zhen, University of Massachusetts (P3-166*)
Jiang, Wentao, West Virginia University (P2-155, P3-72, P1-128*)
Jin, Tony, USDA-ARS (T6-06)
Jin, Tony, USDA-ARS-Eastern Regional Research Center (P3-173*)
Jinneman, Karen, U.S. Food and Drug Administration, Office of Regulatory Affairs, Office of Regulatory Science (P2-84, P3-38)
Jinno, Cynthia, University of California, Davis (T9-01)
Jolleson, Adam, Invisible Sentinel (P2-80, P3-110*, P2-49, P2-60)
Johnson, Lisa, MilliporeSigma (T11-04)
Johnson, Courtney, USDA-FSIS (T8-10)
Johnson, Gordon, University of Delaware (T4-12)
Johnson, Lynn, Cornell University (P1-96)
Johnson, Ron, Mérieux NutriSciences China (P3-118, P2-60)
Johnson, Stephanie, Onondaga Environmental Institute (P2-186)
Johnson, Timothy, University of Minnesota (T4-09)
AUTHOR AND PRESENTER INDEX

*Presenter

Knutson, Kathy, Kornacki Microbiology Solutions (S20*)
Ko, Katie, U.S. Food and Drug Administration (P1-160, P1-170)
Koch, Kateland, Q Laboratories, Inc. (P2-40, P3-130, P3-142, P2-41)
Kocurek, Brandon, U.S. Food and Drug Administration (P1-164*, P1-183, P1-182)
Kode, Divya, Mississippi State University (P2-04*, P2-07*)
Kollanoor Johny, Anup, University of Minnesota (T4-09)
Kong, Fanbin, University of Georgia (P3-56)
Kongtrakul, Wipa, 3M Thailand Limited (P3-113*)
Kongwattana, Haley, California Polytechnic State University (P1-45)
Koo, Ok Kyung, 3M Thailand Limited (P3-113*)
Kopyt, Robert, University of Guelph (P1-160, P1-170)
Korsak, Nicolas, University of Liège (P2-25, P2-101)
Korsch, Lise, DSI-NRF Centre of Excellence in Food Security, University of Pretoria (P2-121)
Kosuki, Shigenobu, Hokkaido University (T6-03, P3-170, P3-78)
Kostin, Alex, Neogen Corporation (T4-01)
Kotturi, Hari, Conagra Brands (P1-90*)
Kowalcyk, Barbora, The Ohio State University (P3-106*)
Kouthoos, Ronald, USDA Food Safety and Inspection Service (P3-49)
Kowalcyk, Barbara, The Ohio State University (RT6*, RT25*, T8-04, P3-36, P3-93, P3-31, S10*, P3-47, P3-32)
Koyama, Kento, Hokkaido University (P3-78, P3-170, T6-03)
Kraeuter, Karl Otto, Bruker Daltonics GmbH & Co. KG (P2-56)
Kraft, Autumn, North Dakota State University, Department of Microbiological Sciences (P2-106*)
Kramer, Adam, Centers for Disease Control and Prevention (CDC) (P3-181*)
Krehling, James, Auburn University (T4-10, T7-02)
Kremer-Caldwell, Selena, United States Department of Agriculture, Food Safety and Inspection Service (T7-04, P3-48*)
Krishna, Bobby, Dubai Municipality (RT11*)
Krishnan, Anjali, Washington State University-IAREC (P2-106*)
Kroeger, Kevin, Carill, Inc. (P1-46)
Kroft, Brenda, University of Maryland (P2-129*)
Krug, Matthew, University of Florida (P3-03)
Krug, Chad, Center for Sustaining Agriculture and Natural Resources, Washington State University (P1-176)
Kudenchuk, Michael, North Carolina State University (P3-89)
Kung, Hsien-Feng, Tajen University (P1-80)
Kurup, Pradeep, University of Massachusetts Lowell (S37*)
Kuttappan, Deepa Ashwarya, University of Connecticut (P2-146)
Kwon, Hee Jin, United States Department of Agriculture, Food Safety and Applied Nutrition (P1-165*, P2-84)
Labbe, Nicole, University of Tennessee (P1-01)
LaBorde, Luke, The Pennsylvania State University (T6-09)
Lacher, David W., U.S. Food and Drug Administration (P1-164, P1-174, P1-166*, P1-170, P1-168*)
Ladner, Taylor, Mississippi State University (P1-12)
LaFevers, Heath, bioMérieux, Inc. (P2-60)
Lamar, Frederic, Rollins School of Public Health, Emory University (T7-06)
Lambert, Zoe, Campden BRI (P1-169)
Lambertini, Elisabetta, GAIN – Global Alliance for Improved Nutrition (RT4*)
Lamichhane, Archana, RTI International (T8-04)
Landers, Brian, The Ohio State University (P3-93)
Lando, Amy, U.S. Food and Drug Administration (P3-17, P1-93)
Laniyan, Aderotimi, Charm Sciences, Inc (P2-78)
LaPointe, Gisèle, University of Guelph, CRIF(S)(P1-177)
Larrick, Brienna, Institute for the Advancement of Food and Nutrition Sciences (S57*, S4*)
Larson, Nathan, Agriculture and Food Laboratory (AFL), University of Guelph (P3-114, P3-127, P3-128)
Lary, Yele, Holmes Smokehouse - RR Brand Foods (S20*)
Laster, Ebony, U.S. Food and Drug Administration-Office of Regulatory Affairs (P1-181)
LaSuer, Sara, Corbion (P1-33*, P1-127, P1-99)
Lau, Alexanderia, ToxStrategies, Inc. (S25*)
Lau, Samantha, Cornell University (P3-168*)
Lau, Soon Kiat, University of Nebraska-Lincoln (P3-171)
Lau, Tsun Yin Alex, Agriculture and Agri-Food Canada (T7-10)
Lavallee, Aaron, USDA FSIS OPACE (RT21*)
Law, Bibiana, University of Arizona (P1-15)
Le Nestour, François, Microsoft (P3-120)
Leak, Dean, Thermo Fisher Scientific (P3-142)
Ledenbach, Loralya, Kraft Heinz Company (S36*)
Lee, Alvin, Institute for Food Safety and Health, Illinois Institute of Technology (P3-65, T10-03*, S27*)
Lee, Alyssa, Ottawa Laboratory - Fallowfield, Canadian Food Inspection Agency (P2-62)
Lee, Belvick, Romer Labs Singapore Pte. Ltd. (P2-02)
Lee, Heejeong, Kyungpook National University (P2-99)
Lee, Heeyoun, Korean Food Research Institute (P1-163)
Lee, Jessie, Romer Labs Singapore Pte. Ltd. (P1-85, P2-01)
Lee, Ryan, Agriculture and Food Laboratory (AFL), University of Guelph (P3-126, P3-114, P3-127)
Lee, Seulgi, The University of Georgia (P2-115*)
Lee, Shinyoung, University of Florida (T9-08, P1-151)
Lee, Susan, Agriculture and Food Laboratory (AFL), University of Guelph (P3-149)
Lee, Taehyung, Korea University (P1-07*)
Lee, Yeowon, Sookmyung Women’s University (P3-150*, P2-182*)
Lee, Yi-Chen, National Kaohsiung University of Science and Technology (P1-80*)
Lee, Yujin, Sookmyung Women’s University (P3-129)
Leff, Adam, Kent State University (P1-30)
Leff, Laura, Kent State University (P1-30)
Legan, J. David, Eurofins Microbiology Laboratories, Inc. (P2-68*, P2-72, S32*, P2-176)
Lehett, J.J., Smiths Detection (P3-135)
Lehmusto, Hanna, Thermo Fisher Scientific (P1-153)
Lehner, Angelika, Institute for Food Safety and Hygiene, University of Zurich (P1-170, P1-160)
Lenov, Ivan, U.S. Department of Agriculture, Food Safety and Inspection Service (P1-81*)
Leon, Juan S., Emory University (T2-11, T2-12, P2-93)
Leon-Valderas, Carlos, Agriculture and Food Laboratory (AFL), University of Guelph (P3-149, P3-127, P3-126, P3-114*)
Leone, Cortney, University of Georgia (P1-126, P1-130)
Leonte, Ana-Maria, Thermo Fisher Scientific (P3-97, P3-141, P3-142)
Leopard, Jacinda, Mississippi State University (P1-20*)
Leslie, Rachel, GOJO Industries, Inc. (P1-49, P2-179)
Leuliet, Sébastien, Biofortis Mérieux NutriSciences (P1-173)
Lévesque, Anthony, Institut sur la nutrition et les aliments fonctionnels, Université Laval (P2-177*)
Levesque, Roger, IBIS, Laval University (P1-55)
Levine, Jeffrey, U.S. Department of Agriculture-FSIS (P3-38, T1-10*)
Levy, Karen, University of Washington (T7-06)
Lewis, Glenda, Food & Drug Administration, CFSAN (S33*)
Li, Dan, United States Department of Agriculture, Food Safety and Inspection Service (P3-56)
Li, Dan, University of Guelph (P3-149)
Li, Hui, University of Minnesota (P3-196, P3-197)
Li, Hui, University of Minnesota (P3-196, P3-197)
Li, Ka Wang, West Virginia University (P2-155, P3-72)
AUTHOR AND PRESENTER INDEX

*Presenter

Li, Shaoting, University of Georgia, Center for Food Safety (P1-179, P1-178)
Li, Sherita, California Polytechnic State University (P1-45*)
Li, Tengfei, University of Nebraska-Lincoln (P1-83*)
Li, Xi, Korea University (P1-44*)
Li, Xinhui, University of Wisconsin-La Crosse (T5-07)
Li, Xu, University of Nebraska-Lincoln (P2-187)
Li, Yanbin, Department of Biological and Agricultural Engineering, University of Arkansas (P2-82)
Li, Yong, University of Hawaii at Manoa (T3-05, P2-133, T3-09, P1-11)
Li, Yue, University of Maryland (P2-136)
Liang, Jennifer, Outbreak Management Division, Centre for Food-Borne, Environmental and Zoonotic Infectious Diseases, Public Health Agency of Canada (T7-03*)
Liau, Yong Wee, Romers Labs Singapore Pte. Ltd., (P2-02, P1-87, P1-86)
Lichtenwald, Marina, ORISE (P2-124, P2-142*)
Lieberman, Vanessa, University of California-Davis, Food Science and Technology (P2-137, P1-113)
Liggans, Girvin, U.S. Food and Drug Administration (P2-22)
Lightbown, Ashlyn, University of California-Davis (T1-07*)
Lim, Jihwan, Univerisyt of Dankang (P2-166)
Lima, Marcos dos Santos, Institute Federal of Petrolina (P2-23)
Limburn, Rob, Campden BR (P1-169)
Lin, Yawei, Michigan State University (P3-21*)
Lindhardt, Charlotte, Merck KGAA (T11-04)
Lingareddygari, Pravalkina, Institute for Food Safety and Health, Illinois Institute of Technology (P2-22*)
Lingle, Cari, 3M (S26*)
Linton, Nicola, Agriculture and Food Laboratory (AFL), University of Guelph (P3-149)
Lipp, Erin, University of Georgia (P1-148)
Litt, Pushpinder Kaur, Hygienia (S44*)
Litt, Pushpinder Kaur, Hygienia (T4-12*)
Little, Allison, Iowa State University (P1-38, P3-68)
Lin, (Christine) Xiaojie, Agriculture and Agri-Food Canada (S9*)
Lin, Brooke, AEMTEK, Inc. (WS4)
Lin, Shuxiang, Sichuan Agricultural University (T13-01*)
Lin, Ting, University of Florida (T9-08*)
Liu, Xiaohan, University of Hawaii At Manoa (T3-05)
Liu, Xingchen, University of Maryland (P2-126*, P2-122*, T5-10*)
Liu, Xiyan, Illinois Institute of Technology, Institute of Food Safety and Health (P1-91*)
Liu, Yanhong, University of California, Davis (T9-01)
Lively, Julie, LSU AgCenter (P1-05)
Liyanage, Chathudina J., University of Sri Lanka (P3-82*)
Lodico, Jessica, Eurofins Microbiology Laboratories, Inc. (P2-68)
Loftis, Mercedes, U.S. Food and Drug Administration-Office of Regulatory Affairs (P1-181)
Loh, Sharon, Romers Labs Singapore Pte. Ltd. (P2-01)
Lokshitanov, Daniel, Computer Science Department, University of California Santa Barbara (T9-03)
Lombardo, Steve, McCormick & Company (S3*)
Lonergan, Guy, Texas Tech University (T12-01)
Loomis, Larry, New Horizons Diagnostics, Inc. (P2-77)
Lopez, Karla Y, New Mexico State University (P3-18)
Lopez, Nicolas, Oklahoma State University (T11-05, P3-40)
Lopez, Teresa, Arizona LGMA (RT22*)
Lopez Velasco, Gabriela, 3M (P3-115*, P1-84*)
Lourenco, Antonio, Teagasc Food Research Centre (P1-72*)
Love, Tanzy, University of Rochester (P2-186, P2-185, P2-100)

Lovel, Mallorye, U.S. Food and Drug Administration – Center for Food Safety and Applied Nutrition (P1-165)
Low, Megan Mei Yee, Purdue University (P3-182*)
Lowe, Courtney, University of Georgia (P3-83*)
Lu, Si, University of Connecticut (P2-146*)
Lu, Yu Tong Linda, University of British Columbia (T10-06*)
Lucero-Mejia, Jose Eduardo, Universidad Autonoma de Queretaro (P1-119, T10-08*)
Luciano, Winnie A., Federal University of Paraiba (P3-162)
Luo, Hao, Mars Global Food Safety Center (P1-178, P1-179)
Luo, Xin, Rutgers, The State University of New Jersey (P2-152*)
Luo, Yaguang, USDA-ARS, EMFSL, USDA-ARS, EMFSL (P2-129, P1-35, P2-124, P2-142, S21*, P1-34)
Lv, Siqi, Sichuan Agricultural University (T13-01)
Lynn, Dan, Biosecurity Technology (T3-08)
Ma, Li, Oklahoma State University (T11-05, P3-40, P2-69*)
Ma, Zhengxin, University of Florida (T9-07, P1-151)
Macarins, Dumitrul, U.S. Food and Drug Administration-Center for Food Safety and Applied Nutrition (P2-150, T5-03)
Mach, Patrick, 3M (P1-84)
Machado, Miguel, bioMerieux, Inc. (P1-142)
Mackey-Quick, Caitlin, Nestle Quality Assurance Center (P2-70*)
Macklin, Kenneth, Auburn University (T4-10, T7-02, T7-01)
Madad, Asma, U.S. Food and Drug Administration (S1*, S28*)
Maffei, Daniele F., University of Sao Paulo (P2-16)
Magalion, Gilberto, University of California Agriculture and Natural Resources, Desert Research and Extension Center (P3-43)
Maggio, Stephanie, North Carolina State University (S14*)
Magnani, Marciane, Federal University of Paraiba (T11-11*, P2-23*, P2-24*, T3-06*, P3-162*)
Magnone, Joshua, U.S. Army DEVCOM Soldier Center (S37)
Maguire, Meghan, U.S. Food and Drug Administration, Center for Food Safety & Applied Nutrition (P1-167*, P1-154)
Maher, Joshua, Kansas State University (P1-134)
Mahoney, Deon, DeonMahoneyConsulting (S27*)
Maier, Thomas, Bruker Daltonik GmbH & Co. KG (P2-57, P2-56)
Mains, David, 3M Food Safety (P1-84)
Maks, Nicole, Institute for Food Safety and Health, Illinois Institute of Technology (T10-03)
Maktdong, Nattarit, Laboratory Kanchanaburi, Thafoods Group Public Company Limited (P3-113)
Malekian, Fatemeh, Southern University Agriculture Research and Ext. (P3-03)
Maloney, Jenny, ARS, USDA (S55*)
Mamber, Stephen W., U.S. Department of Agriculture – FSIS (P1-139*, P3-46*)
Mammel, Mark, U.S. Food and Drug Administration, Center for Food Safety & Applied Nutrition (P1-166, P1-183, P1-174, P1-164, P1-182, P1-170, P1-168, T11-08, P1-154)
Mandernach, Steven, Association of Food and Drug Officials (S18*, RT10*)
Manis, Leslie, USDA Food Safety & Inspection Service (T7-12)
Manjankattil, Shijinaraj, University of Minnesota (T4-09)
Mannarino, Fabio, ITA Group Canada Inc. (T6-01, P3-09)
Manolis, Amanda, Thermo Fisher Scientific (P3-106, P3-125)
Manthe, Craig, Thermo Fisher Scientific (P3-142)
Manuel, Clyde, GOJO Industries, Inc. (P3-174, P3-175*, P1-49, P2-179, P3-179)
Manuzon, Michele, Nestle Purina PetCare Product Technology Center (P3-109)
Marville, Erin, Kansas State University – Food Science Institute (P2-06*)
Maunonouen-Laars, Anna, U.S. Food and Drug Administration – CFSA (P3-116*, P3-138)
Marecek, Samantha, California Polytechnic State University (P1-45)
Marek, Patrick, U.S. Army DEVCOM Soldier Center (S37)
Marks, Bradley, Michigan State University (P1-95, P3-169)
Marler, Bill, Marler Clark, The Food Safety Law Firm (RT14*)
Marogi, Jacob, U.S. Food and Drug Administration, Center for Food Safety & Applied Nutrition (P2-21, P3-138)
Marschand, Ellis, MilliporeSigma (T11-04)
Marsh, Lurline, University of Maryland Eastern Shore (P2-110)
Marshall, Douglas, Eurofins Scientific Inc. (S55*, P2-176)
Marshall, Katherine, USDA: Animal and Health Inspection Service (P2-119, P2-111)
Martignonette, Lauren, SAIC, Plum Island Animal Disease Center (T8-06)
Martin, Ariel, The University of Vermont (P2-08*)
Martin, Nicole, Cornell University (S26*, P3-168, S22*)
Martin-Quijada, Narciso, Austrian Competence Centre for Feed and Food Quality, Safety and Innovation - FFFoQS GmbH (P1-72)
Martinez, Bismarck, University of Nebraska-Lincoln (T6-08)
Martinez, Denisse, Charm Sciences Inc. (P3-128)
Martinez-Soto, Carlos, University of Guelph (P1-120*)
Martini, Daiane, John B. Sanfilippo & Son, Inc. (RT24*)
Masters, Barbara, Tyson Foods (*)
Masters, Yvonne, John B. Sanfilippo & Son, Inc. (RT24*)
Mataragas, Marios, Department of Dairy Research, Institute of Technology of Agricultural Products, Hellenic Agricultural Organization “DEMETER”, Ethi Enikis Anitastaseos (P1-50, P1-73)
Mathia, Olivier, IGS groupe Alpa (P2-63)
Mathys, Alexander, ETH Zurich (T10-04)
Mativi Elliott, Yimare, Université Paris Dauphine-Cnrs (S34*)
Matthews, Karl, Rutgers University, Rutgers, The State University of New Jersey (P2-152, P1-19*)
Matute, Jorge, Centro De Investigación en Nutrición y Salud (T8-04)
May, Eric, University of Maryland Eastern Shore (P2-190, P2-189, P2-191)
May, Melissa, PathogenDx (P3-112, T11-02)
May, Sarah, U.S. Food and Drug Administration, Gulf Coast Seafood Laboratory (T10-07)
Mayer, Christine, Wilson College (P2-103)
McAuliffe, Olivia, Teagasc Food Research Centre (P1-72)
McCordell, Patrick, U.S. Food and Drug Administration – Center for Veterinary Medicine (P1-181)
McDonald, Drew, Taylor Farms (S21*, RT15*)
McEntire, Jennifer, United Fresh Produce Association (S28*)
McFarlane, John, University of Minnesota (P2-10*)
McGaryve, Amy, U.S. Department of Agriculture (P1-88)
Mccullough, KatieRose, North American Meat Institute (RT10*)
Mccoy, Garrett, Carson (P1-33, P1-127)
Mclamecc, Tyler, USDA: Animal and Health Inspection Service (P3-136)
McIntyre, Lorraine, BC Centre for Disease Control (P1-147, T9-09)
McKay, Buckley, USDA Food Safety and Inspection Service (P3-49*)
McKenzie-Reynolds, Petrina, University of Maryland Eastern Shore (P2-110*)
McLaughlin, Ryan, Practical Informatics LLC (T9-10)
McMahon, Wendy, Mérieux NutriSciences (S30*)
McMillan, Aubrey, USDA: Animal and Health Inspection Service (P2-119, P2-111)
McMillan, Elizabeth, USDA Agricultural Research Service (ARS) (T12-08)
McMillan, Sarah, United States Department of Agriculture, Food Safety and Inspection Service (T7-04)
McNamara, Christopher, Ocean Spray Cranberries, Inc. (P1-30*)
McReynolds, Roland, Carolina Farm Stewardship Association (P3-03)
Mehta, Barry, BRCGS (S54*)
Meier-Wiedenbach, Ivo, BIOTECON Diagnostics (P1-140)
Megen, Paul, Hygiena (P1-76, P2-48, P2-168, P2-53)
Melendez, Meredith, Rutgers NJAES Cooperative Extension (T5-01*)
Mellata, Melha, Iowa State University (S55*)
Mendes Candido de Oliveira, Gabriella, USDA-ARS, EMFLS (P1-34*, P1-35*)
Mendez, Ellen, KSU Food Science Institute (P2-06)
Mendonca, Aubrey, Iowa State University (P1-38, P3-68)
Mendoza, Janny, Louisiana State University (P2-145)
Mendoza, Manoella, Washington Tree Fruit Research Commission (T5-12, P2-140)
Meneses, Yulie, University of Nebraska-Lincoln (P2-187)
Menezes, Clare, McCormick UK Ltd. (RT5*)
Meng, Jianghong, University of Maryland, Joint Institute for Food Safety and Applied Nutrition, Center for Food Safety and Security Systems (P1-157, P2-84, T12-07, P1-165)
Menten, John, Kerry (P2-87)
Merad, Myriam, Université Paris Dauphine-Cnrs (S34*)
Merino-Mascorro, Angel, Facultad de Ciencias Biológicas, Universidad Autónoma de Nuevo Leon (P2-93)
Mesnard, Guillaume, Microsoft (P3-120)
Meyer, Joseph, Kerry (S17*)
Meyers, Guadalupe, The University of Alabama at Birmingham (P3-183)
Micallef, Shirley A., University of Maryland (T10-11, P2-121*, T5-08*, P2-126, P2-129, T12-07*, P2-122, P2-189, P1-148, P2-191, P2-142, P2-190, T5-10, P2-136)
Michael, Mathew, USDA Food Safety and Inspection Service (P3-49)
Michael, Minto, Washington State University (P2-05, P2-28, P1-17*, P2-15, P1-102, P2-30)
Michaels, Barry, B. Michaels Group Inc. (T9-10*)
Michalenko, Edward, Onondaga Environmental Institute (P2-186)
Michel, Lisa, U.S. Food and Drug Administration-Office of Regulatory Affairs (P1-181)
Mijar, Sanjaya, University of Maryland (P2-96)
Miller, Erica, Eurofins Microbiology Laboratories (P2-176, P2-72*)
Miller, Jesse, Neogen Corporation (WSS, S40*)
Miller, Mark, Texas Tech University (T3-08, P1-47)
Miller, Morgan, Kansas State University (P1-134)
Millner, Patricia, USDA-ARS, EMFLS (P2-129, S13*, P2-110)
Milis, John, bioMérieux, Inc. (P2-50, P3-117*, P2-60, P3-98, P3-120*, P2-63*, P2-52, P2-34)
Minka, Paige, Hygiena, Qualicon Diagnostics LLC, A Hygiena Company (P2-43, P2-116)
Minocha, Udith, USDA FSIS, U.S. Department of Agriculture (USDA) – FSIS (RT25*, P3-51)
Minor, Martha, New Mexico State University (P3-18)
Miranda, Nancy, U.S. Food and Drug Administration (P3-41)
Miranda, Rosimeire, LSG Sky Chefs (RT28*)
Mis Soliva, Kevin, University of Georgia (P1-14, P1-02)
Misfeldt, Cynthia, National Microbiology Laboratory, Public Health Agency of Canada (T7-03)
Mishra, Abhinav, University of Georgia (P1-116, T5-03, P3-158*, T2-08, P1-117, P1-14, P2-150)
Misra, Gina M., Blue Marble Space Institute of Science (P2-131)
Mistou, Michel-Yves, Université Paris-Saclay, INRAE, MaIAGE (T9-06)
Mitchell, Billy, Local Food Safety Collaborative (S16*)
Mitias, Samira, U.S. Food and Drug Administration – Center for Food Safety and Applied Nutrition (P2-84)
Mittal, Ajay, International Center of Excellence in Seafood Science and Innovation, Prince of Songkla University (T4-04*)
Moeller, Thomas, Qualicon Diagnostics LLC, A Hygiena Company (P2-55)
Mohammad, Zahra, University of Houston (P3-08, T6-05*)
Moiz, Abdul, SAOR Italia SRL (P3-91, P3-184)
Molitor, April, Kansas State (P3-84*)
Moller, Amanda, University of Georgia (P1-130, P1-126*)
Moncho, Alessandra, Micreos Food Safety B.V. (P1-188, P1-191)
AUTHOR AND PRESENTER INDEX

Mondlane-Milisse, Amélia, Universidade Eduardo Mondlane (T7-06)
Montero-Zamora, Jessica, Cenibiot (P1-56)
Monu, Emefa, Auburn University (P2-158, P1-25)
Moon, Sun Hee, University of Arkansas for Medical Sciences (T5-07)
Moore, Eric, Testo Solutions USA, Inc. (RT10*)
Moore, Matthew D., University of Massachusetts, Amherst (P2-175, P2-67, S6*, P3-10, P3-131)
Moorman, Eric, Butteball (RT30*)
Moorman, Mark, U.S. Food and Drug Administration (S39*, RT7*)
Mora-Villalobos, Aníbal, Cenibiot (P1-56)
Morales, Cesar, U.S. Department of Agriculture – FSIS (P3-38)
Moraveji, Maryam, University of Guelph (P3-185)
Moreira, Juan, Louisiana State University (P2-120)
Moreira, Rosana, Texas A&M University (P3-92)
Moreno-Switt, Andrea, Pontificia Universidad Católica (P1-54*, P2-12, P1-143)
Morgan, Mark, Auburn University (P1-131, P2-60, P1-25, P3-76)
Morgan, Kevin, Department of Homeland Security, Countering Weapons of Mass Destruction- Food, Agriculture, and Veterinary Defense Division (T8-05)
Morgan, Mark, University of Tennessee (P3-03)
Morin, Paul, U.S. Food and Drug Administration, ORA/NFFL, U.S. Food and Drug Administration, ORS (P3-38, P1-164, P1-183, P1-182)
Morris, John, University of Florida (T9-11)
Morris, Maggie, Louisiana State University (P2-90)
Morrissey, Travis, U.S. Food and Drug Administration (P2-75)
Morrow, Ryan, Primus Labs (P2-39)
Motham, Manita, Laboratory Kanchanaburi, Thaifoods Group Public Company Limited (P3-113)
Moura, Joana, University of Trás-os-Montes and Alto Douro (P3-85*)
Moura-Alves, Mário, University of Trás-os-Montes e Alto Douro (UTAD) (P1-32*)
Mowery, Joseph, U.S Department of Agriculture (USDA) (P2-142)
Moyne, Anne-Laure, University of California (P1-110)
Mucache, Hermógenes, Universidade Eduardo Mondlane (T7-06*)
Muchaamba, Francis, Institute for Food Safety and Hygiene, University of Zurich (P2-09*, T13-05*, T3-03)
Mugendi, Joshua, Washington State University (P2-139)
Mukkana, Wanida, Author (P3-113)
Multari, Rosalie, Creative LIBS Solutions (S37*)
Mulvihill, Ashley, Canadian Food Inspection Agency (P2-62)
Munoz, Luis, Auburn University (T7-02, T4-10)
Muriana, Peter, Oklahoma State University (P3-63, P1-89)
Murphy, Claire, Virginia Tech – Eastern Shore AREC, Virginia Tech (P2-138, P2-154, P2-98*, P2-186, P2-97*)
Murphy, Cliona, PepsiCo (RT29*)
Murphy, Donald L., University of Maryland (T12-07)
Murphy, Sarah L., Cornell University (T2-01*, P3-168, S14*, S22*, T2-02)
Murray, John, MB labs (P1-142)
Murray, Rianna, Maryland Institute for Applied Environmental Health, University of Maryland (P2-190)
Musser, Steven, U.S. Food and Drug Administration, Center for Food Safety & Applied Nutrition (P1-154, P1-187)
Mustapha, Azlin, University of Missouri (P3-118*)
Myles, Elizabeth, Alcorn State University (P3-03)
N Diaz-Ramirez, Jairo, University of California Agriculture and Natural Resources, Desert Research and Extension Center (P3-43)
Nagendran, Rajalingam, Rural Development Administration (P2-102*)
Nagpal, Ravinder, Florida State University (P1-192)
Nahashon, Samuel, Tennessee State University (P1-51)
Nahuet, Christelle, Pail GeneDisc Technologies (P2-61)
Najar-Villarreal, Francisco, Kansas State University (P1-135)
Najar, Devora, The Wyss Institute for Biologically Inspired Engineering (P3-137)
Nakamoto, Stuart, University of Hawaii at Manoa (T3-05)
Nakamura-Tengan, Lynn, University of Hawaii at Manoa (T3-09)
Nam, Jun Haeng, Oregon State University (P2-73*, T12-06*, P1-71*, P1-159)
Nam, Sujin, Gyeongsang National University (P2-167*)
Nannapaneni, Ramakrishna, Mississippi State University (P2-04, P2-07)
Nanni, Paolo, Functional Genomics Center Zurich (T10-04)
Nasr, Pedram, University of Guelph (P3-185)
Naushad, Sohail, Ottawa Laboratory - Fallowfield, Canadian Food Inspection Agency (P2-62)
Nayak, Rounaq, Harper Adams University (S5*)
Ndlaye, Moussa, NOVOLYZE (P2-165)
Negrete, Flavia, U.S. Food and Drug Administration (P1-170*, P1-160)
Neilan, John, U.S. Department of Homeland Security Science & Technology Directorate, Plum Island Animal Disease Center (T5-06)
Nelson, Ann, Creative LIBS Solutions (S37)
Nelson, Corwin, University of Florida (P1-151)
Nelson, Kasey, Michigan State University (P1-95*)
Nelson, Laura, Alchemy Systems (S5*)
Nelson, Maria, AOAC Research Institute (P2-50, P2-63)
Nero, Luis Augusto, Universidade Federal de Viçosa, University of Viçosa (P1-171*, P1-82*, P1-137, P1-63*, S3-119*)
Neubauer, Viktoria, Austrian Competence Centre for Feed and Food Quality, Safety and Innovation - FFoQSI GmbH (P1-72)
Newland, Cory, PathogenDx (P3-112, T11-02)
Newman, Melissa, University of Kentucky, Dept. of Animal and Food Sciences (P3-03)
Newmaster, Steve, University of Guelph (P3-185)
ng, Chole, Romer Labs Singapore Pte. Ltd. (P1-85)
Nguyen, Angela, Mérieux NutriSciences (P1-173, S47*)
Nguyen, Anh, University of Houston (P2-130)
Nguyen, Mai, Louisiana State University (P3-29)
Nguyen, Stephanie, Conagra Brands (P2-18)
Nguyen, Yen, University of Hawaii at Manoa (T3-09*)
Nia, Yacine, Université Paris-Est, ANSES (T9-06)
Nickodem, Colette, Texas A&M University College of Veterinary Medicine & Biomedical Sciences (T4-07*)
Niemira, Brendan A., USDA-ARS (S67*)
Nieto-Montenegro, Sergio, Food Safety Consulting & Training Solutions, LLC (P2-157*)
Nikooei, Delaram, Hygiene (P2-168*)
Nindo, Caleb, University of Maryland Eastern Shore (T3-07)
Nitin, Nitin, University of California, Davis (T3-12)
Njage, Patrick Murigu Kamau, National Food Institute, Denmark Technical University (T3-04)
Nkemngong, Carine, Purdue University (T3-06*)
Noll, Sally, University of Minnesota (T4-09)
Nomade, Peggy, bioMérieux, Inc. (P3-120)
Noonan, Roger, New England Farmers Union (RT15*)
Norby, Bo, Michigan State University (T12-01)
Nordhagen, Stella, GAIN – Global Alliance for Improved Nutrition (RT4*)
Norman, Keri, College of Veterinary Medicine and Biomedical Sciences, Texas A&M University (RT5*, T4-07, T12-01)
Norcutt, Julie, Clemson University (P3-03)
Nov, Xiangwu, USDA-ARS, EMFSL (P1-34, P1-35, P2-129, P2-122, P2-124, P2-142)
Noyes, Noelle, University of Minnesota (RT5*, P1-152, T9-03)
Nugen, Sam, Cornell University (P3-136, S37*)
Nugent, Mark, Ventura Foods (P2-29)
Nunnery, Danielle, Appalachian State University (P3-21)
Nwadike, Londa, Kansas State University and University of Missouri (P3-95)
O’Donnell, Kathleen, Wegmans Food Markets, Inc. (RT25*)
O’Neill, Edward, EEO’N Food Consulting, LLC (T10-03)
O’Quinn, Travis, Kansas State University (P1-135)
Obadina, Adewale Olusegun, Federal University of Agriculture Abeokuta (RT11*, RT6*)
AUTHOR AND PRESENTER INDEX

Phillips, Michael, Cornell University (P3-168)
Phillips, Ron, AHI (RT17*)
Philyaw Perez, Amanda, University of Arkansas System, Division of Agriculture (P3-03)
Phukhao, Atthaphon, 3M Thailand Limited (P3-113)
Phung, Anna, University of Maryland (P2-96)
Pickett, Jerri Lynn, WBA Analytical Laboratories (P3-101)
Pierantonii, Marco, AUSL Parma, Regione Emilia Romagna Italy (T6-01*)
Pierquet, Jennifer, Association of Food & Drug Officials (RT1*)
Pignard, Virginie, NOVOLYZE (P1-65, P3-167, P2-165)
Pillapai, Anna Rose, University of Nebraska-Lincoln (P3-87*)
Piller, Priscilla, NOVOLYZE (P1-656x, P2-165)
Pineda-Bermudez, Laura, Cornell University (T10-10*)
Pino-Gallagher, Jen, M3 Insurance (S32*)
Pinto, Isabel, Auburn University (P1-32)
Pires, Elsa, University of California-Davis (S13*, T6-02)
Pisaisawat, Panita, 3M Thailand Limited (P3-113)
Piszczor, Karolina, Institute for Food Safety and Health, Illinois Institute of Technology (P1-03)
Pittet, Jean-Louis, bioMérieux, Inc. (P2-50, P2-63)
Pitts, Katie B., bioMérieux, Inc. (P2-63, P3-08*)
Pitkow, Linda, University of Wisconsin-Madison (P2-191*)
Pivarnik, Lori, University of RI (P3-19)
Platret, Julien, Novolyze (P3-167)
Plaza, Maria, UPR-RUM (P3-03)
Podleite, Hugo, Sociedad Agricola La Rosa Surocco (RT15*)
Pogreba-Brown, Kristen, University of Arizona (SS0*)
Pohkare, Siroj, California Polytechnic State University (P1-45)
Poltrok-Germain, Kelly, Mondelz International (P2-27)
Pond, Ann, Pilgrim’s Pride (S12*)
Ponder, Monica, Virginia Tech (P1-106, P1-105)
Pop, Mihai, University of Maryland (P2-191)
Popoola, Howard, The Kroger Company (RT16*)
Porchas, Martin, Yuma Center of Excellence for Desert Agriculture (P3-161, P2-26)
Possebon, Fabio Sossai, Universidade Estadual Paulista (P1-171)
Post, Laurie, Deibel Laboratories, Inc. (P3-140, P3-108)
Postollec, Florence, ADRIA Food Technology Institute - UMT ACTIA 19.03 ALTERIX, France (S49*)
Potkamp, Simoe, Nicatel (P2-89)
Pouzou, Jane, Epit Analytics (T2-10*, P3-37)
Pozuelo, Katia, Kansas State University (P1-36, P1-135*)
Prabhu, Krishna, University of Maryland, Baltimore County (P3-88)
Pradhan, Abani, University of Maryland, Department of Nutrition and Food Science (T2-05, P3-153, P3-152, P3-159)
Prentice, Nicole, Thermo Fisher Scientific (P3-106, P3-124*, P3-123*, P3-125*)
Prescott, Melissa Pfugh, University of Illinois Urbana-Champaign (P3-151)
Pretercum, Spencer, USDA Food Safety & Inspection Service (P3-50)
Priller, Florian, BIOTECNO Diagnosis (P1-75)
Primavera, Victoria, SAIC, Plum Island Animal Disease Center (T8-06)
Pruit, Robert E., Purdue University (T4-11)
Puckette, Michael, U.S. Department of Homeland Security Science & Technology Directorate, Plum Island Animal Disease Center (T8-06)
Pujol, Laure, NOVOLYZE (P3-167*)
Pullivarthi, Manoj Kumar, Kansas State University (P3-155)
Punchihewage Don, Anuradha, University of Maryland Eastern Shore (P2-74*, T3-07*)
Punsh, Esa, North Carolina State University (P3-179)
Purohit, Anuj, Aepel Sciencess (P3-158)
Qian, Chenhao, Cornell University (P3-156*)
Qin, Shijie, Auburn University (P1-25*, P2-158)
Quentin, Marie-Claude, The Consumer Goods Forum, GFSI (RT29*)
Quere, Christophe, ADRIA Food Technology Institute (P3-141)
Quero, Florian, ADRIA Food Technology Institute (P2-55)
Quinlan, Jennifer, Drexel University (P3-23, P3-06, T8-01)
Quintanilla Portillo, Jorge, University of Illinois at Urbana-Champaign (P2-95*)
Raengpradub, Sarita, Méreux NutriSciences (P1-173*, T9-04)
Raftopoulos, Ourania, North Carolina State University (P2-123, P3-89*)
Rahman, Md. Asfakur, University of Texas Rio Grande Valley (P2-172, P2-169, P1-92*)
Rahmany, Fatemeh, Agi-Neo Inc. (T13-07, T13-08, T13-02)
Rajagopal, Raj, 3M (P3-115, P3-101)
Rajashkara, Gireesh, The Ohio State University (P1-148, P1-166)
Rakovits, Andrea, Ghent University (P1-161)
Ramachandran, Padmini, U.S. Food and Drug Administration, Center for Food Safety & Applied Nutrition (T11-08, P1-182*, P1-164, P2-21, P1-154, P1-183*)
Ramirez-Rivas, Ivette, Food Safety CTS, LLC (P2-157)
Ramsby, Jordan, Eurofins Microbiology Laboratories, Inc. (P2-68)
Rana, Shivrajnish, Kraft Heinz Company (P1-68, P1-69*)
Rana, Yadwinder Singh, Cornell University (P1-96*, T6-07)
Rand, Hugh, U.S. Food and Drug Administration, CFSAN (P1-164, P1-182)
Randazzo, Emile, Nebraska Beef Ltd. (T3-08)
Rangolph, Delia Grace, Natural Resources Institute, University of Greenwich and International Livestock Research Institute (RT4*)
Rankin, Kimberly, University of Connecticut (T6-10)
Rankin, Scott A., University of Wisconsin-Madison (P2-170)
Rannou, Maryse, ADRIA Food Technology Institute (P2-55, P2-50, P3-141)
Rantsiou, Kalliopi, University of Turin (RT9**) Raptop, Franco, ESI Srl - Partner IFA Group (P3-09, T6-01)
Raschke, Isabella, University of Houston (P3-08*)
Rasco, Barbara, Washington State University (P2-164)
Rashed, Shah, Cosmosol (P2-74, P1-186)
Rasmussen, David, KraftHeinz (RT23**) Rathnayake, Sujani, University of Guelph (P3-185)
Ravaliya, Kruti, U.S. Food and Drug Administration (RT15*)
Ravishankar, Sathana, University of Arizona (P2-26, P2-188, P3-161, P1-15, P2-191*)
Redan, Benjamin, U.S. Food and Drug Administration (P2-75*)
Reddy, N. Rukma, U.S. Food and Drug Administration (P2-75)
Redmond, Elizabeth C., ZERO2FIVE Food Industry Centre, Cardiff Metropolitan University (P3-77, P3-90)
Redondo-Solano, Mauricio, University of Costa Rica (P1-56)
Reed, Elizabeth, U.S. Food and Drug Administration, Center for Food Safety & Applied Nutrition (P2-128, P1-183, P2-21*, P3-138, T11-08, T5-09)
Regenstein, Joe Mac, Cornell University (RT11*)
Reibman, Amy, Purdue University (RT21*)
Reich, Felix, University of Veterinary Medicine Hannover (P1-160)
Remington, Benjamin, University of Nebraska (S46*)
Rensing, Susan, Kansas State University, GWSS (P2-118)
Renteria-Monterrubio, Ana Luisa, Universidad Autonoma de Chihuahua (P2-157)
Reuben, Rine Christopher, Jashore University of Science and Technology (P1-122*)
Reyes, Gabriela, New Mexico State University (P3-18)
Reyes, Gustavo A., University of Illinois Urbana-Champaign (P3-151*, P2-95)
Reyes, Teresa, University of Arizona, Dept. of Environmental Science, Yuma Agricultural Center (T5-02)
Rhine, Kaitly, K-State (P2-06)
Rhodes, Barry, USDA Food Safety and Inspection Service (P3-49)
Rice, Nathaniel, DOD MRICO (T8-08)
Richard, Angela, Aptar CSP Technologies (P3-83, P3-172)
Richard, Nicole, University of Rhode Island (P3-19)
Richardson, Andrew, Paradigm Diagnostics, Inc. (P3-86)
Richardson, Michelle, U.S. Army NSDEC (S37)
Richter, Taylor K. S., Office of Applied Research and Safety Assessment, Center for Food Safety and Applied Nutrition, U.S. Food and Drug Administration (P1-166, P1-174*)
Ricke, Steven, University of Wisconsin-Madison (P1-121)
AUTHOR AND PRESENTER INDEX

*Presenter

Ricke, Steven, University of Wisconsin-Madison (P2-36, P2-37)
Ricker-Gilbert, Jacob, Purdue University (P1-114)
Rico-Munoz, Emilia, BCN Research Laboratories (P2-86)
Riemann, Shelly, Cargill, Inc. (P1-46)
Riley, Ronald, Department of Environmental Health Science (T8-04)
Rip, Diane, Stetsonbelloch University (P2-161)
Rivera, Dacil, Universidad Andres Bello, Universidad de Chile (P2-12, P1-143*, P1-64)
Rivera, Jared, Kansas State University (P3-155*)
Rivera, Rafael, U.S. Poultry and Egg Association (RT14*)
Rivera Calo, Juliana, Ardent Mills (S7*, S38*)
Rivero Pena, Wendy, North Carolina State University (P2-105*)
Robach, Michael, GFSI (RT5*)
Robbins, Greg, GOJO Industries (P3-175)
Roberson, Michael, Publix Super Markets, Inc. (S33*, S49, S49*)
Roberts, Kiara, Iowa State University (P3-07)
Roberts, Tanya, Center for Foodborne Illness Research & Prevention (RT14*)
Robinson, Emily, University of Nebraska-Lincoln (T7-09, P3-87)
Roblin, Steven, Biofortis Mérieux NutriSciences (P1-173)
Robyn, Misha, Centers for Disease Control and Prevention (CDC) (RT25*)
Rock, Channah, University of Arizona, Maricopa Agricultural Center (RT15*, RT22*, P2-127, P2-19, T5-02, P2-108)
Rockwell, Catherine, USDA Food Safety & Inspection Service (P3-50*)
Rodriguez Diaz, Cristina, University of Liege, FARAH, IBIMA (P2-101*, P2-25*)
Rogers, Elena, Purdue University (P3-128*)
Rogers, Elena, Purdue University (P3-128*)
Rogers, Kathleen, University of Maryland Eastern Shore (P2-189)
Rogers, Stephanie, University of California, Davis (P3-127*, P3-126*, P3-114, P3-149)
Rodriguez, Ana, University of Arizona, Dept. of Environmental Science, Yuma Agricultural Center (T5-02*, P2-127)
Sadat, Azin, University of Guelph (P3-185)
Saddoris, Haley, 3M Food Safety (P3-132)
Saeprprao, Yodlak, 3M Thailand Limited (P3-113)
Saha, Joyjit, Tampa Maid Foods (T5-04*, P2-107)
Sahoo, Nirakar, University of Texas Rio Grande Valley (P2-169*)
Saidi, Joaquim Angelo Osvaldo, Universidade Eduardo Mondlane (T7-06)
Saini, Gurinder, U.S. Department of Agriculture – FSIS (P3-44)
Saini, Jasdeep, WTI, Inc. (P1-27, P1-14, P1-29, P1-28, P1-26)
Sajewski, Elizabeth, Emory University (T2-12, T2-11)
Salavirta, Heikki, Thermo Fisher Scientific (P1-153)
Salazar, Joelle K., U.S. Food and Drug Administration (P2-33, P2-22)
Saleh-Lakha, Saleema, Agriculture and Food Laboratory (AFL), University of Guelph (P3-127*, P3-128*, P3-114, P3-149)
Salt, Robert S., Charm Sciences, Inc (P2-79, P2-78, P3-128*)
Salvi, Deepit, North Carolina State University (P3-69, P1-59, P2-105)
Sampayo, Fernando, University of Minnesota, College of Veterinary Medicine (T2-06)
Sanchez-Plata, Marcos X., Texas Tech University (P1-123, P3-130, T3-08, P1-133, P1-47)
Sander, Catherine, North Carolina State University (P3-179)
Sandoval, Katherine, Exact Scientific Services (T9-10)
Sanglay, Gabriel, Nestle Quality Assurance Center (P3-109)
Sansom, Annette, Campden BRI (P1-169*)
Santiago-Connelly, Lilia M., Kellogg Company (RT23*)
Santillana-Farakos, Sofia, U.S. Food and Drug Administration–CFSAN (S29*)
Santin, Monica, ARS, USDA (S55*)
Santos, Sylnei, SGS Molecualr (P3-125)
Santos, Syline, 3M (P2-71*)
Santos, Thiago, 3M (P3-134)
Santos, Thiago S., University of Sao Paulo (P2-16)
Sapkota, Amy R., Maryland Institute for Applied Environmental Health, University of Maryland (P2-191, T10-11, P1-148, P2-190, P2-189)
Saravia, Cristina, Veterinary and Animal Research Center (CECAV), University of Trás-os-Montes e Alto Douro (UTAD) (P1-32, P3-85)
Sarjeant, Keawin, University of Minnesota, College of Veterinary Medicine (P2-190, P2-189)
Schaffner, Donald W., U.S. Department of Agriculture – ARS (P3-122)
Sarwar, Ronald, Neogen Corporation (P1-74, T4-01*)
Sasges, Michael, TrojanUV (P3-164)
Sastre, Lauren, East Carolina University (S43*, P3-21)
Sauer, David, University of Arizona, Dept. of Environmental Science, Yuma Agricultural Center (T5-02*, P2-127)
Sauder, Thomas, Cornell University (P3-05)
Sayles, Michele, Diamond Pet Food (S20*)
Scheaffer, Brian, Nestle Quality Assurance Center (P3-109)
Schaffner, Donald W., Rutgers, The State University of New Jersey (RT10*, T2-03, T1-11, P1-158, P2-138, T13-06, T2-04)
Scharf, Robert, The Ohio State University (P3-30*, P3-70*, P3-31)
Scheffler, Jason, University of Florida (P1-138)
Schill, Kristin, Food Research Institute, University of Wisconsin-Madison (S19*)
Schlichte, Thao, Iowa Department of Inspections and Appeals (S18*)
Schlosser, Wayne, U.S. Department of Agriculture, Food Safety and Inspection Service (T6-08, P3-44)
Schmidt, John, U.S. Department of Agriculture — ARS (P3-187, P2-17, S8*)
Schmitz-Esser, Stephan, Iowa State University (T12-02)
Schneider, Keith, University of Florida (P2-112, P2-147, P3-03, P1-42)
Scholfield, Matthew, Department of Statistics, University of Otago (T2-07)
Schonberger, H. Lester, Virginia Tech (S43*)
Schumacher, April, 3M Food Safety (P3-132)
Schwab, Kellogg, Johns Hopkins Bloomberg School of Public Health (T1-02)
Schwan, Carla L., Kansas State University (P3-84, P1-175*)
AUTHOR AND PRESENTER INDEX

*Presenter

Schwan, Rosane Freitas, Federal University of Lavras (P2-24)

Schwarz, Jurgen, University of Maryland Eastern Shore (T3-07)

Schwendimann, Livia, Agroscope (T9-06*)

Scifres, Jenny L., U.S. Department of Agriculture, Food Safety and Inspection Service (P3-45)

Scott, H. Morgan, Texas A&M University (T12-01)

Scott, Jenny, U.S. Food and Drug Administration – CFSAN (S25*, RT3*)

Scott, Maria, USDA-FSIS-OPHS (T8-12, P3-46, T7-11, T6-11)

Scott, Zoe, University of Arizona (P2-19, P2-108*)

Scott-McKay, Judy, Almond Board of California (P3-169)

Scruggs, Elizabeth, University of West Alabama (P3-183*)

Seabolt, Ed, IBM Research, Almaden (P1-152)

Seaman, Charles, Hy-Vee (RT7*)

Seggerman, Faith, Iowa State University (P1-116)

Sekhon, Amninder Singh, Washington State University (P2-05*, P2-28, P1-17, P1-102, P2-15, P2-30)

Senecal, Andre, U.S. Army DEVCOM Soldier Center (P3-105, S37)

Seo, Koon-Ho, Konkuk University (P1-118)

Seo, Seung-Mi, National Institute of Agricultural Science, Rural Development Administration (P3-81)

Seo, Yeongeun, Sooyoung Women’s University (P3-129*)

Sepehri, Sadra, CFSAN, U.S. Food and Drug Administration (P1-148)

Sereno, Mallu Jagnow, Universidade Federal de Viçosa (P1-137)

Serrano, Maria Jesus, Universidad de Chile (P1-54)

Setu, Md Ali Ahasan, Jashore University of Science and Technology (P1-122)

Seymour, Natalie, Ecolab, Inc. (S58*, P3-27)

Shah, Khayti, MilliporeSigma (T11-04)

Shah, Urvi, North Carolina State University (P3-69*)

Shahbazi, Muhammad, Maward Food Company – KSA (Pizza Hut, Taco Bell) (P3-91, P3-184*)

Shannon, Kelly, Agriculture and Food Laboratory (AFL), University of Guelph (P3-149)

Sharfstein, David, Hogan Lovells (RT27*)

Sharifat, Nikki W., University of Georgia (P1-144, T12-01*)

Sharief, Saad Asadullah, Michigan State University (T11-07*)

Sharma, Chander Shekhar, Mississippi State University (P2-04, P2-07)

Sharma, Dimple, Michigan State University (P2-109*)

Sharma, Laxmi, Florida State University (P1-192)

Sharma, Manan, U.S. Department of Agriculture – ARS, Environmental Microbial and Food Safety Laboratory (P2-189, T10-11, T4-12, P2-190, P2-19, P2-191, S41*, P1-148)

Sharma, Rajat, University of Texas Rio Grande Valley (P1-92, P1-98)

Sharp, Jared, Colorado State University (P1-136)

Sharp, Marie, Oklahoma State University (P2-69)

Shaw, Angela, Iowa State University (P3-68, P3-24*)

Shaw, Sheryl, USDA Food Safety and Inspection Service (P3-49, P3-50, T7-12)

Shaw, William, USDA Food Safety & Inspection Service (T7-12, T12-08, T8-12, T8-11)

Shearer, Adrienne, University of Delaware (S58*)

Sheehan, Tracie, Mérieux NutriSciences (S54*, RT23**, RT29*)

Shelley, Lisa, North Carolina State University (P3-179)

Shelver, William, U.S. Department of Agriculture (P1-88)

Shen, Cangliang, West Virginia University (P2-148, P2-155, P3-72, P1-128)

Shen, Xiaoye, Washington State University (P1-97*, P2-140*, P1-176*, P2-139*)

Sheng, Lina, University of California, Davis (P2-140)

Shieh, Y. Carol, U.S. Food and Drug Administration (P2-178)

Shipley, Alicia, U.S. Food and Drug Administration, CFSAN, Office of Applied Research and Safety Assessment (P2-174)

Shrestha, Subash, Cargill, Inc. (P1-46*)

Shumway, Martin, National Center for Biotechnology Information, National Library of Medicine, National Institutes of Health (P3-38)

Shyng, Sion, BC Centre for Disease Control (P1-147, T9-09)

Siceloff, Amy, University of Georgia (T12-01)

Siciliano, Nicholas, Invisible Sentinel (P3-110)

Siddique, Aftab, Auburn University (P3-76, P1-131*, P2-60)

Siddhu, Gaganpreet, University of Georgia (P1-130)

Siemens, Angie, Cargill, Inc. (S39*)

Siler, Julie, Cornell University (P1-149)

Silveru, Kaliramesh, Kansas State University (P3-155)

Silva, Jose, Veterinary and Animal Research Centre (CECAV) (P3-85)

Silva, Juan, Mississippi State University (P1-16*, P1-21, P1-03)

Silva, Rui, University of Trás-os-Montes e Alto Douro (UTAD) (P1-32)

Silverman, Meryl, USDA FSIS (P3-51, S23*)

Sim, Watakla Bobana, EPHI (T10-09)

Simeone, Ariana, U.S. Food and Drug Administration - CFSAN (P2-47)

Simmons, Mustafa, United States Department of Agriculture, Food Safety and Inspection Service (T12-08, T8-11, P3-38, T8-12, T8-12*)

Simmons III, Otto D., North Carolina State University (P3-03, T5-09, P2-128)

Simon, Ceylon, Canadian Research Institute for Food Safety (CRIFS), University of Guelph (P1-177*)

Simonne, Amarath (Amy), University of Florida (RT11*)

Simpson, Steven, U.S. Food and Drug Administration (P3-41)

Simek, Senay, Department of Plant Sciences, North Dakota State University (P1-94)

Sinclair, Priscilla, The Pennsylvania State University (T6-09)

Sindelar, Jeffrey, University of Wisconsin-Madison (P1-121, P2-170)

Singh, Amandeep, University of Texas Rio Grande Valley (P1-98, P2-132*, P3-52, P1-92)

Singh, Anju, University of Georgia (P1-126)

Singh, Arshdeep, Washington State University (P2-28, P1-17, P1-102*, P2-15)

Singh, Amandeep, University of Texas Rio Grande Valley (P1-98, P2-132*, P3-52, P1-92)

Singh, Niranjan, University of Georgia (P1-130, P1-126, S42*)

Singh, Prashant, Florida State University (P2-81, P1-192*)

Singh, Rakesh K., University of Georgia (P3-56)

Sipple, Judith, Qualicon Diagnostics LLC, A Hygiena Company (P2-117)

Siragusa, Gregory, Scout Microbiology LLC (W55, P2-77*, S41*)

Sirdesai, Sonali, Microbes Food Safety B.V. (P1-188, P1-191)

Sirsat, Sujata, Conrad N. Hilton College of Hotel & Restaurant Mgmt. University of Houston (P3-08, T6-05)

Sirsat, Sujata A., University of Houston (P2-130)

Sivey, Carol, Nestle Quality Assurance Center (P2-70)

Skandamis, Panagiotis, Agricultural University (P1-50, T9-05, P1-73)

Skeens, Jordan, Cornell University (T3-02)

Skinny, Guy, USFDA (P2-75)

Skonberg, Denise, University of Maine (P1-189, P1-184)

Slater, Jason, GOJO Industries (P3-175)

Slayne, Martin, Slayne Consulting LLC (S25*)

Slizovskiy, Ilya, Food-Centric Corridor, Infectious Disease Laboratory, Department of Veterinary Population Medicine, College of Veterinary Medicine, University of Minnesota (T9-03*)

Sloniker, Natasha, Michigan State University (P2-123*)

Smieszek, Daniel, Nestle (RT28**)  

Smith, Brett, University of Maryland Eastern Shore (P2-110)

Smith, Hunter, Body Armor (P2-49)

Smith, Nicholas, University of Wisconsin-Madison, (P2-170*)

Snowberger, Sebastian, New Horizons Diagnostics, Inc. (P2-77)

Snyder, Abigail, Cornell University (P2-86)

Snyder, Abigail B., Cornell University (P1-96, S3*, P3-60, T6-07, S44*)

Sobolik, Julia, Emory University (T2-12*, T2-11)

Sohier, Daniele, Thermo Fisher Scientific (P2-41, P3-142, P3-96, P2-42, P3-97, P2-40, P3-141)

Solaiman, Sultana, University of Maryland (T12-07)

Song, Kwang-Young, Konkuk University (P1-118)

Song, Xia, Washington State University (P1-97)

Songy, Hunter, LSU AgCenter (P1-31, P1-05*, P1-06)

Soonneedi, Anand, University of Massachusetts Amherst (P2-175*)

Sopovski, Danielle, U.S. Food and Drug Administration (T1-12)
AUTHOR AND PRESENTER INDEX

*Presenter

Sovinski, Angela, Universidade Federal do Paraná (P1-62)
Sow, Kadiatou, Nestle Quality Assurance Center (P3-109)
Springer, Lindsay, Cornell University (T10-10)
Stapp-Kamotani, Erika, U.S. Department of Agriculture, Food Safety and Inspection Service (P3-44, P3-186)
Starobin, Anna, Ecolab Inc. (T2-09)
Stasiewicz, Matthew J., University of Illinois Urbana-Champaign (P3-151, P2-95, S4*)
Stasinopoulou, Panagiota, (T2-09),
Stapp-Kamotani, Erika, (T2-09),
Steinbrunner, Philip, U.S. Food and Drug Administration (P1-104*)
Stellwag, Alison, East Carolina University (P3-21)
Stephan, Roger, Institute for Food Safety and Hygiene, Vetsuisse Faculty, University of Zurich (T3-03, P2-09, P1-170, T13-05, P1-160)
Stephens, Tyler, Hygiena (P1-123, P2-36, P1-133, P2-37, S8*, P2-117, P3-130*)
Stephenson, Patrick, Thermo Fisher Scientific (P2-42)
Stevens, Kelly, General Mills (S10*, RT19**)
Stevens, Marc J.A., Institute for Food Safety and Hygiene, Vetsuisse Faculty, University of Zurich (P2-09, T3-04)
Stevenson, Abigail, Mars Global Food Safety Center (P1-179, P1-178)
Stewart, Diana, U.S. Food and Drug Administration (P2-33)
Stobierski, Shelly, University of Montana (T8-07)
Stoeckel, Don, California Department of Food and Agriculture (P3-05, S24*, P3-95, T10-10)
Stoffers, Helena, Agroscope (T13-05)
Stone, Warren, Zone One Consulting LLC (S17*)
Stouffer, Sloane, University of Massachusetts, Amherst (P3-131*)
Strain, Errol, U.S. Food and Drug Administration – Center for Veterinary Medicine (P1-182, P1-165, P1-164, P1-181, P1-183)
Strange, Philip, Agriculture and Agri-Food Canada (T7-10)
Stranksy, Bonnie, Federal Bureau of Investigation (RTB*)
Stratton, Jayne, University of Nebraska-Lincoln (P3-87)
Tant, Silin, Mars Global Food Safety Center (P1-178, P1-179)
Tankenson, Jeanetta, USDA-FSIS (T7-11)
Tanner, Justin, Méreux NutriSciences (P1-173)
Tanui, Collins, University of Maryland (P3-158*, T2-05*)
Tao, Dandan, University of Illinois at Urbana-Champaign (P3-144*, P3-143*)
Tasara, Taurai, Institute for Food Safety and Hygiene, University of Zurich (T3-03*, P2-09, T13-05, T3-04)
Tatarvathy, Aparna, U.S. Food and Drug Administration (P1-93, S7*, S38*)
Tate, Heather, U.S. Food and Drug Administration - Center for Veterinary Medicine (P1-181, P3-38, P1-146)
Tateoka, Olivia, ARL, LLC (P2-80*)
Tautges, Nicole, Agricultural Sustainability Institute University of California-Davis (T6-02)
Tavares, Rafaela de Melo, Universidade Federal de Víposa (P1-137*)
Tay, Abdullah, PepsiCo (P1-103)
Taylor, Bradley, Brigham Young University (S19*)
Taylor, Brian, AirROS by SAGE Industrial (S20*)
Taylor, Helen, ZERO2FIVE Food Industry Centre, Cardiff Metropolitan University (P3-25)
Taylor, Mike, Former Deputy Commissioner, U.S. Food and Drug Administration (S10*)
Taylor, Nikki, bioMérieux, Inc. (P2-52, P3-117)
Taylor, Steve L., University of Nebraska-Lincoln (S54*, P1-77)
Taylor, Thomas, Texas A&M University (S12*, P3-03, S42*, P3-92*, P2-46)
Taylor, Tonya, USDA Food Safety & Inspection Service (P3-50)
Teagarden, ALEC, 3M Food Safety (P3-132*)
Tecathuvanan, Chayapa, Ocean Spray Cranberries, Inc. (P1-30)
Tegayadi, Susy, Nature’s Variety, Inc (T10-03)
Teng, Lin, University of Florida (P1-151, T9-07)
Tesfai, Adiam, FDA Coordinated Outbreak Response and Evaluation Network (P3-35)
Thalaiya, Joyce, Ministry of Agriculture (RTB*)
Thakur, Siddhartha, Department of Population Health and Pathobiology, CVM, NCSU (RT30*)
Thigutier, Sarah, Austrian Competence Centre for Feed and Food Quality, Safety and Innovation - FFoQSI GmbH (P1-72)
Thao, Kong, WBA Analytical Laboratories (P3-101)
Theofel, Chris, University of California-Davis (P2-137*)
AUTHOR AND PRESENTER INDEX

*Presenter

Thibodeau, Alyssa, Oregon State University (T12-06)

Thipparapad, Harshavardhan, University of Georgia (P1-130, P1-126)

Thomas, Merlyn, Purdue University (P3-29*, P3-28*)

Thomas Shumaker, Eleni, RTI International (S43*)

Thomas-Popo, Emalie, Iowa State University (P1-38*, P3-68*)

Thompson, Melody, Cargill Meat Solutions (S35*, T11-03, P1-124)

Thompson, Wesley, Q Laboratories, Inc. (P2-40, P3-96, P2-61, P4-31, P3-97)

Tikekar, Rohan, University of Maryland-College Park (P1-155)

Tikkonen, Milja, Thermo Fisher Scientific (P3-106, P1-153)

Tillman, Glenn, United States Department of Agriculture, Food Safety and Inspection Service (T12-08*, T8-12, T7-12, T8-11)

Timke, Markus, Bruker Daltonics GmbH & Co. KG (P2-57, P2-56)

Timme, Ruth, Center for Food Safety and Applied Nutrition: U.S. Food and Drug Administration (P3-38*, P1-146, P1-164, P1-183, P1-182)

Tiong, Hung King, University of West Alabama (P3-183)

To, Celina, Qualicon Diagnostics LLC, A Hygiene Company (P1-108, P2-134)

Tocco, Phillip, Michigan State University Extension (T5-01)

Todd, Ewen, Ewen Todd Consulting (S15*, S51*, RT27*)

Todd-Searle, Jennifer, Mondelez International (P3-162, P3-165)

Toke, Frances, Instituto de Medicina Genomica (Imegen) (P3-156, P3-158)

Torres, Anna, University of Georgia (P2-171, P1-63)

Torres, Olga, Laboratorio Diagnóstico Molecular (T8-04)

Touza, Juan, Louisiana State University (P2-90*)

Townsend, Anna, University of Georgia (P2-154*)

Tran, Francs, Agriculture and Agri-Food Canada (P1-145)

Trayak, Dr. Sivitlana, Ghent, Belgium (P1-161)

Trinetta, Valentina, KSU – Food Science Institute, Kansas State University, USDA Food Safety and Inspection Service (P2-06, P2-118, P3-84, P1-135)

Triplett, Jenny, Ch. Hansen (P1-190)

Trmcic, Aljosa, Cornell University (P3-156, P3-168)

Trombetti, Noemi, UK ITA Group Ltd (P3-09, T6-01)

Truel-Ferland, Mathilde, Universite Laval (T1-03*, T1-04)

Trudil, David, New Horizons Diagnostics, Inc. (P2-77)

Trujillo, Sherri, JBS USA Food Company Regional Beef Technical Services (S35*, S59*)

Tsai, Hsien-Chin, Washington State University (P1-97, P1-101)

Tsai, Yung-Hsiang, National Kaohsiung University of Science and Technology (P1-80)

Tsai, Zhuo-En, Washington State University (P3-38*, P3-68*)

Takahashi, Vanesssa, 3M (P3-133*, P3-134*)

Tyson, Gregory, U.S. Food and Drug Administration - Center for Veterinary Medicine (P1-181, T12-08)

Unger, Phoebe, Washington State University (P2-28, P1-17, P1-102, P2-15*, P2-30*, P2-06)

Unruh, Daniel, Cordion (P1-127*, P1-99*, P1-33)

Upadhyay, Abhinav, University of Connecticut (T6-10)

Urie, Natalie, USDA: Animal and Health Inspection Service (P2-119, P2-111)

Urrutia Giron, Andrea, University of Arkansas (P1-129*)

Vadu, Sasikala, University of Georgia (P1-126, P1-130*)

Vadier, Cécile, Barry-Callebaut France (RT26*)

Valdradimis, Valdis P., University of Malta (P3-162, T4-06)

Valero-Garcia, Jennifer, Instituto de Medicina Genomica (Imegen) (P3-124, P3-123)

Vallotton, Amber, Virginia Tech (P3-03)

van de Ligt, Jennifer, Food Protection and Defense Institute (RT8*)

Van Kessel, Jo Ann, Agricultural Research Service, U.S. Department of Agriculture (P3-38)

van Mierlo, Joëlle, Microes Food Safety, Microes Food Safety B.V. (S58*, P1-188, P1-191)

Vandoros, Evangelos J., Thermo Fisher Scientific (P3-141, P3-97)

Vargas Arroyo, David, Texas Tech University (T3-08, P1-47*)

Varona Ortiz, Obed, Iowa State University (P3-131)

Vashisht, Pranav, Tennessee State University (P3-54*, P3-55)

Vasser, Michael, CDC (S1*)

Vatral, Christopher, Drexel University (P3-06*, T8-01*)

Vaughan, Barrett, Tuskegee University (P3-03)

Vauhn, Ayla, Neogen Corporation (P1-74*)

Vega, Daniel, Kansas State University (P1-36*, P1-135)

Velez, Frank, Florida State University (P2-81*)

Vengatesan, Aishwarya, Rutgers University (P1-19)

Ventura, Nayla Kellen de Oliveira, Universidade Federal de Viçosa (P1-171)

Verma, Tushar, University of Nebraska-Lincoln (P1-109, P1-105*)

Verrill, Linda, U.S. Food and Drug Administration (P3-17, P1-93*)

Versteylen, Sayandro, Dakota Provisions (P2-117)

Viana, Cibeli, Universidade Federal de Viçosa (P1-171, P1-63)

Viazis, Stelios, U.S. Food and Drug Administration (S52)

Victor, Courtneay, Rollins School of Public Health, Emory University (T7-06)

Vijayakumar, Paul Priyesh, University of Kentucky (P3-03)

Villegas, Eric, WECD, CEMM, ORD, EPA (S55*)

Vimini, Bob, Perdue Farms, Inc. (T3-07)

Vinjé, Jan, Centers for Disease Control and Prevention (RT13*)

Vphum, Jessie, Kansas State University (P3-84, P1-175)

Vitt, Jacob, University of Minnesota (P2-20)

Viveiros, Brendalee, Rhode Island Department of Health (S18*)

Von Achen, Christopher, UMass (P3-19)

von Ah, Ueli, Agroscope (P2-09, T13-05)

Vranckx, Katleen, Applied Maths NV, bioMérieux (P3-39*)

Wadood, Sabrina, Public Health Microbiology Laboratory, Tennessee State University (T10-05*)

Wages, Jennifer, Tyson Foods (S8*, P1-133)

Wagner, Eva M., Austrian Competence Centre for Feed and Food Quality, Safety and Innovation - FFOQSI GmbH (P1-72)

Wagner, Martin, University of Veterinary Medicine (P1-72)

Wagner, Steven, BIOTECON Diagnostics (P1-140*, P1-75*)

Waite-Cusic, Joy, Oregon State University (P1-40, T6-11, P3-12, P1-39, P1-60, P3-01)

Walerstein, Lindsay, U.S. Food and Drug Administration (S1*, P3-04*)

Walker, Ah Kayla, University of West Alabama (P3-183)

Walker, Diane, MSU Center for Biobim Engineering (RT30*, P3-175)

Walker, Stephen, U.S. Food and Drug Administration (S27*)

Wall, Gretchen, Cornell University (P3-05)

Wall, Marisa, USDA-ARS (P1-11)

Wallace, Carol Anne, Oregon State University (P1-140*, P1-75*)

Wals, Isabel, USDA Food Safety and Inspection Service (P3-51*)

Walton, Janice, USDA Food Safety and Inspection Service (P3-49)

Wambui, Joseph, Institute for Food Safety and Hygiene, Vetsuisse Faculty University of Zurich (T3-04*)

Wang, Bing, University of Nebraska-Lincoln (P3-187, P2-187, P3-87)

Wang, Hua, U.S. Food and Drug Administration, Center for Food Safety & Applied Nutrition (P3-116, P3-138, P2-21)

Wang, Peien, University of Nebraska-Lincoln (P3-04*)

Wang, Siyun, University of British Columbia (P1-173)

Wang, Yue, Canadian Research Institute for Food Safety (CRIFS), University of Guelph (P2-83*)

Waqas, Muhammad, Government College University Faisalabad (P1-79)
AUTHOR AND PRESENTER INDEX

*Presenter

Zabala, Virgilia, University of Florida (P3-16)
Zaches, Robyn, Washington State University, School of Food Science (T5-11)
Zagmutt, Francisco, EpiX Analytics (P3-37, T2-10)
Zagorski, Jessica, University of Illinois Urbana-Champaign (P3-151)
Zaidi, Mubashira, University of Guelph (P3-164)
Zammit, Katie, Cargill, Inc. (RT8*)
Zamora, Armando, U.S. Food and Drug Administration (RT1*)
Zapata, Ruben, New Mexico State University (P1-168)
Zarzycki, Joseph, CSAC (T8-07)
Zell, Elliott, 3M Food Safety (P3-132)
Zeng, Hui, Illinois Institute of Technology, Institute for Food Safety and Health (P2-33*)
Zerghyi, Huruy, University of Arizona (P2-191)
Zhai, Yuting, University of Florida (T9-11*)
Zhang, Boce, University of Massachusetts, Lowell (S37*)
Zhang, Dongyu, Worcester Polytechnic Institute (P3-143)
Zhang, Guangtao, Mars Global Food Safety Center (P1-179, P1-178)
Zhang, Peipei, Agriculture and Agri-Food Canada (P1-145, T9-02*)
Zhang, Shuang, Washington State University (P1-107)
Zhang, Wei, Department of Plant, Soil and Microbial Sciences, Michigan State University (T5-05)
Zhang, Yalan, Sichuan Agricultural University (T13-01)

Zhang, Yifan, Wayne State University (P2-155, P3-72)
Zhang, Ziyoue, Purdue University (P3-15)
Zhao, Shaohua, FDA Center for Veterinary Medicine (T1-12)
Zhao, Yeqi, Kansas State University (P3-95*)
Zheng, Jie, Mérieux NutriSciences (T9-04*, P1-173)
Zheng, Jing, U.S. Food and Drug Administration, Center for Food Safety and Applied Nutrition (P2-128, P2-21, P1-48, P3-136*, T5-09, P1-162)
Zhou, Kang, Food and Agriculture Organization of the United Nations (S24*)
Zhu, Libin, University of Arizona (P2-188, P2-191)
Zhu, Meijun, Washington State University (P1-176, P2-139, P2-140, P2-164, P1-101, P1-97)
Zhu, Mengtian, University of Connecticut (P1-24)
Ziebell, Bradley, Conagra Brands (RT26**, P3-139*)
Zimeri, Anne Marie, University of Georgia (P1-148)
Zimmerman, Ryan, Deibel Laboratories, Inc. (P3-140*, P3-108)
Zingsheim, Kathleen, Maricopa County Arizona Environmental Services Department (RT16*)
Zografos, Antonios, SafeTraces (P1-35)
Zozaya, Stevi, University of Arizona, Dept. of Environmental Science, Maricopa Agricultural Center (T5-02)
Zubair, Shugufta Mohammad, Dubai Municipality (P3-91, P3-184)
Zuchel, Joyce, Virginia Tech – Eastern Shore AREC (P2-138)
Zuliani, Veronica, Chr. Hansen (P1-190)
Zurier, Hannah, Cornell University (P3-136)
Zurita, Mariceny, SAIC, Plum Island Animal Disease Center (T8-06)
DEVELOPING SCIENTIST COMPETITORS

Abe, Hiroki, Hokkaido University (P3-170)
Acheamfour, Chanelle, University of Maryland Eastern Shore (P2-189)
Adhikari, Achyut, Louisiana State University AgCenter (P3-71, T13-03, P2-145)
Aditya, Arpita, University of Maryland (T12-03, P2-94)
Ahuja, Manveen Kaur, North Carolina State University (P1-59)
Akomea-Frempong, Samuel, University of Maine (P1-184)
Alijas, Sulaiman, University of Connecticut (T6-04)
Almuhaideb, Esam, University of Maryland Eastern Shore (P1-186)
Alvarado, Stephanie, Oregon State University (P3-01)
Alvarado-Martinez, Zabdiel, University of Maryland (T12-05, P2-96)
Amarasekara, Nirosha Ruwani, Wayne State University (P3-72)
Anderson, Kory, Washington State University (T5-06)
Anderson-Coughlin, Brienna, University of Delaware (T1-06)
Ando, Akihiro, Hokkaido University (T6-03)
Annor, Samuel, Texas A&M University (P2-46)
Archara Godinez, Juan, Purdue University (P3-11)
Arellano, Stephanie, University of Arizona (P1-15)
Arvaniti, Marianna, Laboratory of Food Quality Control and Hygiene, Department of Food Science and Human Nutrition, Agricultural University of Athens (T9-05)
Arya, Richa, University of Maine (P1-185)
Avello, Constanza, Department of Animal Science, University of Connecticut (T6-10)
Beczkiewicz, Aaron, The Ohio State University (P3-32)
Bland, Rebecca, Oregon State University (T9-09)
Bodie, Aaron, Meat Science & Animal Biologies Discovery, University of Wisconsin Madison (P2-36, P2-37)
Britton, Brianna, Purdue University (P1-114)
Broome, Alexandria, University of Maine (P1-66)
Byun, Kye-Hwan, Advanced Food Safety Research Group, Brain Korea 21 Plus, Chung-Ang University (P1-52, P1-53)
Cai, Shiyu, Cornell University (P2-86)
Campfield, Emily, University of Tennessee (P2-160, P1-01)
Cancio, Leslie Pearl, University of Nebraska-Lincoln (T7-09)
Casas, Diego, Texas Tech University (T3-08)
Casulli, Kaitlyn, Michigan State University (T2-03)
Charles, Anto Pradeep Raja, Tennessee State University (T6-06)
Chen, Han, Purdue University (P3-14, P3-15, P3-16)
Chen, Long, Cornell University (T6-07)
Chen, Ruixi, Cornell University (T8-03)
Chevez, Zoila, Auburn University (P2-158)
Cho, In Young, Kyungpook National University (P2-54)
Chukwuaja, Blessing, University of Florida (P2-107)
Coe, Corey, West Virginia University (P2-148)
Connolly, Charles, The Pennsylvania State University (P3-102)
Cooper, Derrick, Emory University (T2-11)
Corbett, Kyle, Centre for Food Safety, Department of Food Science, Stellenbosch University (P2-161)
Cortes, Bienvenido, Iowa State University Interdepartmental Microbiology Program (T12-02)
Dag, Danila, University of Georgia (P3-56)
Dankwa, Adwoa, University of Maine (P1-67)
Delbrück, Alessia I., ETH Zurich (T10-04)
Deliyahan, Aswariya, Kansas State University (P1-37)
Deng, Wenjun, University of Arkansas (P2-131)
Dery, Jessica L., University of Arizona, Dept. of Environmental Science, Maricopa Agricultural Center (P2-19)
Dewi, Grace, University of Minnesota (T4-09)
Diaz, Claudia, Oklahoma State University (P3-40)
Dong, Lianger, University of Hawaii at Manoa (P2-133)
Dong, Mengyl, University of Illinois at Urbana-Champaign (P3-160)
Duong, Minh, Virginia Tech (P3-26)
Egelbeleye, James, University of Pretoria (P2-88)
Engstrom, Sarah, Food Research Institute, University of Wisconsin-Madison (P1-70)
Estrada, Erika, University of California Davis, Department of Food Science and Technology (P1-110)
Fan, Peixin, University of Florida (P1-151)
Fontenot, Kathryn, Louisiana State University AgCenter (P2-120)
Forauer, Emily, The University of Vermont (P1-41)
Gabre, Samson, Addis Ababa University (T10-09)
Garsow, Ariel, The Ohio State University (T9-04)
Gavai, Kavya, Oklahoma State University (P3-63)
Gensler, Catherine, Department of Agricultural and Human Sciences, CALS, NCSU (P2-119)
Ghorbani Tajani, Anahita, University of Wyoming (P2-141)
Girbal, Marina, Rutgers, The State University of New Jersey (P2-138)
Godinez-Oviedo, Angelica, Universidad Autonoma de Queretaro (T2-06)
Greiner, Delaney, University of Maine (P1-189)
Gunathilaka, Gayathri, Department of Food Science and Human Nutrition, Michigan State University (T5-05)
Gutierrez, Alan, University of Florida (P2-112)
H Kurup, Anjali, Tennessee State University (P3-53)
Haendiges, Julie, Food and Drug Administration, Center for Food Safety & Applied Nutrition (P1-155)
Hamilton, Alexis, Washington State University, School of Food Science (P1-156, T5-12)
Han, Ji Min, Kyungpook National University (P2-99)
Haque, Manirul, University of Nebraska-Lincoln (P3-171, P3-34)
Harrison, Olivia, Kansas State University, ASI (P2-118)
Hayman, Kaylan, University of Georgia (P1-14, P1-116)
Hempstead, Stephanie, Department of Population Health and Pathobiology, CVM, NCSU (P2-111)
Herron, Charles, Auburn University (P3-76)
Hidalgo Sindoni, M. Gabriela, Mississippi State University (P1-21)
Hildebrandt, Ian, Michigan State University (P3-169)
Honda, Ryoma, Hokkaido University (P3-78)
Hua, Zi, Washington State University (P2-164)
Huang, Xinyang, Department of Nutrition and Food Science, University of Maryland (P1-157)
Humphrey, Jessica, University of Nebraska-Lincoln (P1-77)
Igo, Matthew J., Rutgers, The State University of New Jersey (P1-158, T2-04)
Jiang, Wentao, West Virginia University (P1-128)
Karanth, Shradha, University of Maryland, Department of Nutrition and Food Science (P3-152, P3-153)
Karolenko, Caitlin, Oklahoma State University (P1-89)
Kaur, Harneel, University of Wyoming (P1-64)
Kavanaugh, Melissa, Drexel University (P3-23)
Ke, Alfred, Canadian Research Institute for Food Safety (CRIFS), Department of Food Science, University of Guelph (T3-10)
Kelly, Alyssa, University of Delaware (P2-173)
Kim, DoHyun, Korea University (P1-57)
Kim, Kwangwook, University of California, Davis (T9-01)
Kim, Min Ji, University of Massachusetts Amherst (P2-67)
Kim, Sejong, Risk Analysis Research Center, Sookmyung Women's University (P1-163)
Kim, Su-Hyeon, Kyungpook National University (T6-12)
Kim, Yujeong, Korea University (P1-58)
Lee, Seulgi, Department of Food Science and Technology, The University of Georgia (P2-115)
Lee, Taehyung, Korea University (P1-07)
Lee, Yewon, Sookmyung Women's University (P3-150, P2-182)
Li, Tengfei, University of Nebraska-Lincoln (P1-83)
Li, Xi, Korea University (P1-44)
Lin, Yawei, Department of Food Science and Human Nutrition, Michigan State University (P1-94)
Lingareddygari, Pravalika, Institute for Food Safety and Health, Illinois Institute of Technology (P2-22)
Liu, Ting, University of Florida (T9-08)
Liu, Xingchen, University of Maryland (P2-126, T5-10)
Lu, Si, Department of Animal Science, University of Connecticut (P2-146)
Lucero-Mejia, Jose Eduardo, Universidad Autonoma de Queretaro (T10-08)
Martinez-Soto, Carlos, University of Guelph (P1-120)
Matthews, Karl, Rutgers, The State University of New Jersey (P1-19)
Mendes Candido de Oliveira, Gabriella, USDA-ARS, EMFLS (P1-34, P1-35)
Mittal, Ajay, International Center of Excellence in Seafood Science and Innovation, Prince of Songkla University (T4-04)
Molitor, April, Kansas State (P3-84)
Mucache, Hermógenes, Universidade Eduardo Mondlane (T7-06)
Muchaamba, Francis, Institute for Food Safety and Hygiene, Vetsuisse Faculty, University of Zurich (P2-09, T1-05)
Murphy, Claire, Virginia Tech (P2-98, P2-97)
Murphy, Sarah L., Cornell University (T2-01)
Mustapha, Azlin, University of Missouri (P3-118)
Nam, Jun Haeng, Oregon State University (P2-73, P1-71, T1-06)
Negrete, Flavia, U.S. Food and Drug Administration (P1-170)
Nero, Luis Augusto, Universidade Federal de Viçosa (P1-171)
Nguyen, Yen, University of Hawaii at Manoa (T3-09)
Nkgemngong, Carine, Purdue University (T3-06)
Obafemi, Yemisi, Covenant University (P2-32)
Omar, Alexis, Johns Hopkins Bloomberg School of Public Health (T1-02)
Pahariya, Prachi, School of Agricultural Sciences, Southern Illinois University Carbondale (P2-151)
Pat, Armit, Auburn University (T7-01)
Parraga, Katheryn, LSU AgCenter (P1-06)
Paudel, Sumit, Wayne State University (P2-155)
Pouzou, Jane, Epix Analytics (T2-10)
Pozuelo, Katia, Kansas State University (P1-135)
Punchihewage, Don, Anuradha, University of Maryland Eastern Shore (T3-07)
Qian, Chenhao, Cornell University (P3-156)
Quintera Portillo, Jorge, University of Illinois at Urbana-Champaign (P2-95)
Rana, Yadwinder Singh, Cornell University (P1-96)
Reyes, Gustavo A, University of Illinois Urbana-Champaign (P3-151)
Rivero, Wendy, North Carolina State University (P2-105)
Rolfe, Catherine, U.S. Food and Drug Administration (P3-65)
Romero, Ana, Clemson University (P1-136)
Ruiz-Llacsaahuanga, Bianca, Washington State University, School of Food Science (T5-11)
Sariazuniqa, Diana Vanessa, Purdue University (T4-11)
Schwimmann, Livia, Agroscope (T9-06)
Scott, Zoe, University of Arizona, Dept. of Environmental Science, Maricopa Agricultural Center (P2-108)
Sekhon, Aminder Singh, Washington State University (P2-05)
Shah, Urvi, North Carolina State University (P3-69)
Sharief, Saad Asadullah, Michigan State University (T1-07)
Sharma, Dimple, Department of Food Science and Human Nutrition, Michigan State University (P2-109)
Shaw, Angela, Iowa State University (P3-24)
Shen, Xiaoye, Washington State University (P2-139, P2-140, P1-176)
Siddique, Aftab, Auburn University (P1-131)
Singh, Amandeep, University of Texas Rio Grande Valley (P2-132)
Singh, Arshdeep, Washington State University (P1-102)
Slizovskiy, Ilya, Food-Centric Corridor, Infectious Disease Laboratory, Department of Veterinary Population Medicine, College of Veterinary Medicine, University of Minnesota (T9-03)
Sloik, Natasha, Michigan State University (P2-123)
Sobolik, Julia, Emory University (T2-12)
Soormeed, Anand, University of Massachusetts Amherst (P2-175)
Stoltenberg, Stacy, Hygiene (P1-133)
Stoufer, Sloane, University of Massachusetts, Amherst (P3-131)
Subbiah, Jayam, University of Arkansas (P1-111)
Sueur, Quincy, Michigan State University (P3-57)
Sun, Lang, University of Connecticut (P1-23, P1-24)
Tabashnam, Zajeba, University of Maryland (T3-01)
Talarico, Aidan, Auburn University (T7-02)
Thomas, Merlyn, Purdue University (P3-28, P3-29)
Thomas-Popo, Emaile, Iowa State University (P3-68, P1-38)
Townsend, Anna, University of Georgia (P2-154)
Trudel-Ferland, Mathilde, Institut sur la nutrition et les aliments fonctionnels, Université Laval (T1-03)
Unger, Phoebe, Washington State University (P2-30, P2-15)
Urrutia Giron, Andrea, Auburn University (P1-129)
Vashisht, Pranav, Tennessee State University (P3-54)
Vratil, Christopher, Drexel University (T8-01)
Verma, Tushar, University of Nebraska-Lincoln (P1-105)
Wadood, Sabrina, Public Health Microbiology Laboratory, Tennessee State University (T10-05)
Wambui, Joseph, Institute for Food Safety and Hygiene, Vetsuisse Faculty University of Zurich (T3-04)
Wang, Peien, Department of Food Science and Technology, The University of Georgia (P2-143)
Wei, Xinyao, University of Nebraska-Lincoln (P3-66, P1-106)
Wilson, Dianna, Mississippi State University (P2-91)
Wong, Catherine, Food, Nutrition and Health, University of British Columbia (P2-11)
Wormald, Christina, University of Massachusetts Amherst (P3-10)
Wu, Biyu, University of Hawaii at Manoa (T3-05)
Wu, Weifan, University of Georgia (P1-02)
Wu, Yifan, Graduated Student (P3-187)
Xie, Bridget, University of Guelph, Department of Food Science (P1-55)
Xie, Yumen, Washington State University (P1-107)
Xu, Xinran, University of Georgia (T2-08)
Xu, Yumin, The Ohio State University (P1-132)
Yang, Hyewoon, Korea University (P1-08)
Yang, Yae, Seoul, Washington State University (P2-28)
Yao, Shunyang, University of Delaware (P3-61)
Yeom, Woorim, Korea University (P1-43)
Yi, Jiyoung, University of California, Davis (T3-12)
Yoo, Yoonjeong, Sookmyung Women’s University (P3-146, P3-62)
Yoon, Yohan, Sookmyung Women’s University (P1-180, T7-07)
Zeng, Hui, Illinois Institute of Technology, Institute for Food Safety and Health (P2-33)
Zhai, Yuting, University of Florida (T9-11)
Zhang, Guodong, Food and Drug Administration (T11-05)
Zhao, Yeqi, Kansas State University (P3-95)

UNDERGRADUATE STUDENT AWARD COMPETITORS

Barrón, Rocío, Universidad de Concepción (P2-12)
Cavallo, Ashley, University of Florida (P1-138)
Evans, Katie, Mississippi State University (P1-12)
Manville, Erin, Kansas State University – Food Science Institute (P2-06)
Nelson, Kasey, Michigan State University (P1-95)
Pegueros-Valencia, Claudia Alejandra, Universidad Autonoma de Queretaro (P1-119)

Raschke, Isabella, University of Houston (P3-08)
Rivera, Daivil, Universidad Andres Bello (P1-143)
Rojas-Vargas, María Daniela, University of Costa Rica (P1-56)
Scruggs, Elizabeth, University of West Alabama (P3-183)
Touza, Juan, Louisiana State University (P2-90)
Warner, Sarah, University of Tennessee (P2-171)
Yoon, Yohan, Sookmyung Women’s University (T9-12)
IAFP WORKSHOPS

Developing Environmental Monitoring Programs for Small and Midsize Processors
2 Days – Friday, July 16 and Saturday, July 17 (8:00 a.m. – 5:00 p.m.)

Mold Contamination in Foods and Food Production Facilities – Monitoring, Sampling, Testing, and Identification Techniques
1 Day – Saturday, July 17 (8:00 a.m. – 5:00 p.m.)

Genomics 101 Food Safety
1 Day – Saturday, July 17 (8:00 a.m. – 5:00 p.m.)

Wireless Continuous Temperature Monitoring

Visit Us at Booth #806

(603) 456-2011 | madgetech.com
Guaranteeing safe products and regulatory compliance requires constant vigilance. And in a dynamic food production environment, constant vigilance requires capable tools. From cutting-edge diagnostic instruments to expert consultation and validation services, bioMérieux equips your organization with the tools you need to deliver safe, high-quality products more efficiently—safeguarding both your brand reputation and your bottom line.

Learn more at biomerieux-usa.com

Go to Great Heights at IAFP 2022!

Cross the Many Bridges to Food Safety!

Connect with thousands of food safety professionals for four days in Pittsburgh at the leading food safety conference to extend your knowledge and build on ideas through hundreds of informative symposia, roundtables, and technical presentations.
SmartSampler™

The new fully integrated smart sampling and data trending solution for FSQA professionals

**WIZARD**
One-click data trending simplifies thousands of data points to track results and generate insights

**WAND**
An ergonomically designed handheld sampler for efficient sample collection and easy integration with the Wizard

**VIAL**
Easily and safely send samples to the lab with the barcoded Vial

The future of food safety innovation for the FDA’s New Era of Smarter Food Safety

The latest technology from FREMONTA

Visit Booth 819
Learn more at www.smart-sampler.com