

Advanced Molecular Analytics PDG

Attendees: Mohammed Alhejaili, Sufian Alkhalidi, Maria Almeria, Jianfa Bai, Pratik Banerjee, David Bauer, Junia Beaubrun, Scott Benko, Reginald Bennett, Bledar Bisha, John Bodner, Samantha Bolten, Ismail Boyaci, Laurenda Carter, Jeffrey Chandler, Sandra Chaves, Hediye Cinar, Anna Colavecchio, Angel Conde, Nisha Corrigan, Cecilia Crowley, Gregory Danzeisen, Daniel Demarco, Xiangyu Deng, Govindaraj Dev Kumar, Vikrant Dutta, Linsay Edinger, Martha Escoto Sabillon, Laura Ewing, Patrick Fach, Jeff Farber, Khashayar Farrokhzad, Peyman Fatemi, Emily Feldpausch, Bill Folkerts, Michael Freer, Jose Fuentes, Mario Gadanho, Xin Gao, Alejandro Garrido-Maestu, Mirijam Garske, April Garza, Ted Gatesy, Beilei Ge, Zachery Geurin, Bret Glembocki, Facundo Gomez Vera, Gustavo González, Lawrence Goodridge, Gopal Gopinath, Michele Gorman, Dale Grinstead, Anyi Gutierrez, Rasas Haji, Mohammed Hakeem, Yingshu He, Joe Heinzelmann, Sunee Himathongkham, Maria Hoffmann, Dave Horowitz, Edan Hosking, Ji-Yeon Hyeon, Atef Idriss, Kari Irvin, Matle Itumeleng, Tim Jackson, Whitney Jaillet, Karen Jarvis, Amy Jones, Jessica Jones, Dallas Kantoci, Ramin Khaksar, Margaret Kirchner, Yasu Komoto, Shira Kramer, Mary Krogull, Nicholas Krohn, Pongpan Laksanalamai, Keith Lampel, Justin Lee, David Legan, Panos Lekkas, Susan Leonard, Xinhui Li, Eunseob Lim, Pushpinder Litt, Qin Liu, Beata Mackenroth, Matthew Markiewicz, Douglas Marshall, Lynn McMullen, Mohammad Melebari, Joseph Meyer, Shirley Micallef, Jesse Miller, Eric Moorman, Tetsuya Mori, Paul Morin, Anne-Laure Moyne, Chad Nelson, Scott Nguyen, Per Nielsen, Xiangwu Nou, Taylor Oberg, Andrea Ottesen, Indira Padmalayam, Xinyi Pang, Monica Pava-Ripoll, Alma Perez-Mendez, Sophie Pierre, Suresh Pillai, Stephanie Pollard, Christopher Popham, Zhang Qi, Mira Rakic Martinez, Lakshmanan Ramamoorthi, Damanna Rao, David Rasmussen, Helen Roberts, Deana Rolheiser, Sara Rowland, Holger Schoenenbruecher, Shima Shayanfar, Gregory Siragusa, Dana Sizing, Daniel Smieszek, Sultana Solaiman, Aswathi Soni, Irshad Sulaiman, Taurai Tasara, Januana Teixeira, Anna Theil-Gangl, Hung King Tiong, Jean-Philippe Tourniaire, Eric Tovar, Cynthia Villacorta, Morgan Wallace, Isabel Walls, Jason Wan, Chun Wang, Ronghui Wang, Tamara Wood, Robert Yarsulik, Edith Zambrana, Guodong Zhang, Peipei Zhang, Shaokang Zhang, Shaohua Zhao, and Ye Htut Zwe. **Number of Attendees:** 149.

Meeting Called to Order: 9:06 a.m., Sunday, July 9, 2017.

Minutes Recording Secretary: Karen Jarvis.

- Chairman's statements: This PDG will emphasize professional development with scientific updates, jobs forum, discussions, and planning.

Order of Business:

- Call to order and welcome by Greg Siragusa (Chair) and Karen Jarvis (Vice Chair).
- Karen Jarvis was introduced as the new Vice Chair.
- Members were reminded make sure their badges were scanned.
- Gave instructions on update PDG affiliations. Go to: <https://www.foodprotection.org/members/dashboard/>
- Karen reported on symposia of interest at this meeting.

State-of-the-Science 10-min "thunder" talks:

- Junia Jean Gilles-Beaubrun, FDA: Spice metagenomics: best practices to extract DNA from complex matrices such as spices.
- Jesse Miller, NSF: Utilization of NGS to detect adulterants in food.
- Nur Hasan, U. Maryland & CosmosID: Antimicrobial resistance gene screening in the food supply chain.

5-minute "lightning" talks:

- Zachery Geurin, NSF: DNA sequencing to ID pathogens.
- Mario Gadanho, ThermoFisher: The food DNA analyzer: How to make NGS a routine method for food species ID.
- Anna Colavecchio, McGill: NGS identifies an emerging class of bacteriophages that encode antibiotic and heavy metal resistance genes.
- Meg Kirchner, NCSU: Changes in turkey microbiota associated with gastrointestinal syndromes and antibiotics.
- Maria Hoffmann, FDA: The rise of WGS for food safety.

Jobs Forum: Karen Jarvis

- SEEKERS – Current and Up-and-Coming Scientists
- EMPLOYERS – With Open Positions: NSF International and Eurofins Microbiology Labs

Discussion: Ideas and New Business:

- Symposia, Roundtable, Workshop Ideas for Proposals for IAAP 2018 are due October 3, 2017.
- Questions and items of discuss from the membership: The PDG members requested that the app have sessions linked to the sponsoring PDGs.
- Session proposals to be honed:
 1. Regulations Based on Sequences? (L. Goodridge, G. Siragusa – roundtable)
 2. What are WGS Analytical and Regulatory Applications Beyond Database Building? (Keith Lampel, Goodridge, Jarvis, and Buchanan – roundtable – possible co-sponsor with Regulatory PDG)
 3. How Can New Non-NGS Food Safety Methods Benefit from Information that WGS Provides? (Keith Lampel – symposium).
 4. Bioinformatic Bias in Whole Genome Sequencing Analysis. (Keith Lampel – symposium).
 5. Enrichments Meet Metagenomics. (Karen Jarvis and Bob Buchanan – symposium – possible co-sponsor with Advanced Laboratory Methods PDG).
 6. NGS for Food Authenticity. (Amanda Manolis and M. Gadanho – symposium).
 7. Mol Methods for Food Authenticity and Adulteration. (J. Miller – symposium – possible co-sponsor with Student PDG).
 8. Food Parasitology: *Cyclospora* Sequencing. (Gopal – symposium).
 9. Case Studies Beyond Outbreaks. (J. Heinzelman – symposium).
 10. Bring Bioinformatics Into the Undergrad Classroom. (Kirchner and Baumler – symposium).

11. Hand Sanitation Food Hygiene and Facility. (Grinstead and Saylor – symposium).
12. Apps of NGS Beyond Outbreaks. (J. Henzelmann – symposium).
13. NGS for Food Quality with Respect to Nutrition (or Spoilage). (Shayanfar, Shima – symposium).
14. Sequencing across Kingdoms for Identity. (J. Miller, Z. Guerin, and M. Gadanho – symposium 1.5 h).
15. Molecular Serology. (Ed Dudley and Hoffman – symposium 1.5 h).
16. Moving Beyond Targeted Microbiomes: The Rise of Metagenomes. (N. Hasan – workshop).
17. Hands-on Sequencing Analysis. (J. Miller – workshop).
18. Teaching a Biologist to Use Bioinformatics Data. (part of sequencing workshop).
19. Microbiome Data Analysis. (Hasan and Hoffman – workshop).
20. Technique Plethora (no bio). (Hasan – workshop).
21. Environmental Gene Transfer (Impact on Food Processing, Using Genomic Tools). (Gopal-workshop).

Recommendations to the Executive Board:

1. Several people in the group recommended that the app be changed to include link to each PDG's sponsored or co-sponsored sessions.
2. Several requests for doubling or tripling the numbers of chairs and tables in the commons area for people to have more places to interact as well as laptop work.

Next Meeting: July 8, 2018, Salt Lake City, UT.

Meeting Adjourned: 11:00 a.m.

Chairperson: Greg Siragusa.