Workshop Faculty:

Texas Tech University (TTU):
Dr. Kendra Nightingale, Dr. Marie Bugarel, Dr. Guy Loneragan Dr. Mindy Brashears, Samantha Stewart, Peter Cook, Miles Harris

Cornell University:
Dr. Martin Wiedmann

Purdue University:
Dr. Haley Oliver

NEXIDIA/bioAdvantage:
Dr. Patrice Arbault

Keynote Speaker:
Dr. Eric Brown, Director Division of Food Microbiology U.S. FDA

Industry Advisory Board:
Cargill, ConAgra, General Mills, Maple Leaf Foods, Kellogg's, PepsiCo, Hillshire, Nestle, Food Safety Net Services, Silliker, North American Meat Association, National Cattleman's Beef Association, Elanco

2013 Sponsors/Exhibitors:
3M, Bio-Rad, Dupont, Food Safety Net Services, Life Technologies, Merieux NutriSciences, Neogen, Pall GeneDisc, Qiagen, Roka BioScience

Goal of Workshop:

The overall goal of the "Molecular Methods in Food Microbiology" Workshop is to address and fill-in knowledge gaps regarding molecular detection and subtyping of foodborne pathogens and spoilage organisms for food industry professionals and graduate students being trained to work in the food industry along with current and future food safety professionals in regulatory agencies and academia. In order to realize this goal, we have assembled an advisory board to address the challenges the industry faces today with respect to molecular methods.

FOR DETAILS & ONLINE REGISTRATION, PLEASE VISIT OUR WEBSITE
(http://www.depts.ttu.edu/afs/MMFMConference.php)

TEXAS TECH UNIVERSITY

The Sixth

Molecular Methods in Food Microbiology Workshop

TEXAS TECH UNIVERSITY

Cornell University

PURDUE UNIVERSITY

October 6TH - October 10TH, 2014

Texas Tech University Lubbock, TX

Workshop Schedule*

Monday, October 6th

Lecture Series Day 1
Texas Tech Club, West Stadium, Level 4

8:00 a.m. - Registration, check-in, set-up of table-top exhibits, and complete workshop pre-evaluations
9:00 a.m. – Welcome and introduction
9:15 a.m. – Overview of rapid methods in food microbiology, uses and application of rapid methods, phenotypic methods vs. molecular methods
10:00 a.m. – Fundamentals of nucleic acids, DNA replication, transcription, translation and application to molecular detection
10:30 a.m. – Coffee break and exhibits
10:45 a.m. – Fundamentals of bacterial genetics and concepts in microbial evolution, taxonomy and diversity; implications for detection, identification and subtyping
12:00 p.m. – Lunch provided
1:00 p.m. –Fundamentals of molecular detection, conventional polymerase chain reaction (PCR), real-time PCR (RT-PCR) and variations, isothermal and other non-PCR methods
2:00 p.m. – Concepts of primer and probe design and hands-on activity
3:30 p.m. – Coffee break and exhibits
3:45 p.m. – Fundamentals of next generation sequencing, applications in detection, subtyping and outbreak investigation
4:30 p.m. – Wrap-up/open forum discussion session
5:00 p.m.- Overton Hotel and Conference Center – Opening reception at the Overton Hotel (5:00 to 6:30 p.m.); keynote address by **Dr. Eric Brown, Director, Division of Food Microbiology, U.S. FDA** (6:30 to 7:15 p.m.); followed by dinner (beginning at 7:15 p.m.)

Tuesday, October 7th

Lecture Series Day 2,
Texas Tech Club, West Stadium, Level 4

9:00 a.m. – The steps before PCR: sampling, enrichment, concentration, compositing, pooling
9:45 a.m. – Assay performance and agreement, sensitivity, specificity, and predictive values
10:30 a.m. – Coffee break and exhibits
10:45 a.m. – Test Kit Company presentations
12:00 p.m. – Lunch provided
1:00 p.m. – Test Kit Company presentations
2:00 p.m. – Food industry roundtable "What does the food industry need for rapid detection in 2020"
3:30 p.m. – Coffee break and exhibits
3:45 p.m. – Case studies on confirmation of potential and presumptive positives, implications for making decisions to accept/reject product, recalls and outbreaks
4:45 p.m. – Evaluations and certificates
5:00 p.m. – Happy hour and exhibits
6:30 p.m. – Break for day, dinner on your own

Wednesday, October 8th

Hands-On Laboratory Session Day 1,
Experimental Sciences Building, 353

9:00 a.m. – Design and order primers for custom PCR to detect foodborne pathogen of interest
11:00 a.m. – Prepare DNA templates
11:30 a.m. – Set-up conventional PCR and MicroSeq® 500 PCR; begin thermal cycling
12:00 p.m. – Lunch on your own
1:30 p.m. – Confirm/purify MicroSeq® 500 PCR products
2:30 p.m. – Load PCR products and run gel
3:00 p.m. – Prepare cycle sequencing reactions and submit to core facility for sequencing
3:30 p.m. – Lecture on GLPs and quality
4:45 p.m. – Interpret PCR gel, troubleshooting
5:00 p.m. – Break for day, dinner on your own

Thursday, October 9th

Hands-On Laboratory Session Day 2,
Experimental Sciences Building, 353

9:00 a.m. – Run commercial RTi-PCR assays/stations
12:00 p.m. – Lunch on your own
1:30 p.m. – Reconstitute primers and make working stocks for custom PCR
2:00 p.m. – Design PCR master mix and reaction conditions for custom PCR
2:30 p.m. – Set-up custom PCR and begin thermal cycling
3:00 p.m. – Run commercial RTi-PCR assays/stations
5:00 p.m. – Break for day
6:30 p.m. – Workshop closing dinner (Café J 2605 19th Street)

Friday, October 10th

Hands-On Laboratory Session Day 3,
Experimental Sciences Building, 353

9:00 a.m. – Run commercial non-PCR assays
11:00 a.m. – View results from custom PCR, including troubleshooting and optimization,
11:30 a.m. - Perform sequence assembly, proofreading, and BLAST search
11:45 a.m. – Hands-on laboratory session evaluations
12:00 p.m. – Workshop adjourn

**All times Central Daylight Time*

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