

3rd Annual Rapid Detection for Food Safety Conference 2016

Held at the 2nd Annual Biodefense World Summit 2016

Baltimore, Maryland, USA
27 - 28 June 2016

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The Knowledge Foundation's 3rd Annual
Rapid Detection for Food Safety
June 27-28, 2016

Monday, June 27

7:00 am **Registration and Morning Coffee**

8:25 **Chairperson's Opening Remarks**
Arun Bhunia, Ph.D., Professor of Food Microbiology, Department of Food Science, Purdue University

8:30 **KEYNOTE PRESENTATION: The Changing Landscape of Food Safety in Public Health – Genomics and Metagenomics.....1**
Peter Gerner-Smidt, M.D., DMS, Chief, Enteric Disease Laboratory Branch, Division of Foodborne, Waterborne and Environmental Diseases, United States Centers for Disease Control (CDC)

METHODS OVERVIEW

9:00 **Rapid Methods - Where They Come from and How They Have Impacted Food Testing.....18**
Peter Feng, Ph.D., Research Microbiologist, Center for Food Safety and Applied Nutrition, U.S. Food and Drug Administration

9:30 **Culture-Independent Methods for Food Safety in 'Real Time'.....26**
Bart Weimer, Ph.D., Professor, Director, Population Health and Reproduction, University of California, Davis

10:00 **Coffee Break in the Ballroom Foyer**

10:30 **Recent Developments in Rapid, Immunoassay-Based Methods for Shiga Toxin-Producing E. coli and Shiga Toxin.....43**
Andrew Gehring, Ph.D., Research Chemist, Lead Scientist at USDA, Agricultural Research Service, Eastern Regional Research Center, United States Department of Agriculture (USDA)

11:00 **Paper-Based Analytical Devices for Detection of Foodborne Bacteria.....72**
Bledar Bisha, Ph.D., Assistant Professor, Food Microbiology, University of Wyoming

11:30 **Enjoy Lunch on Your Own**

OPTICAL METHODS & SPECTROSCOPY FOR FOOD SAFETY

- 1:55 Chairperson's Opening Remarks**
Gary R. Acuff, Ph.D., Professor and Texas A&M AgriLife Research Faculty Fellow; Director, Center for Food Safety, Texas A&M University
- 2:00 Advances in Flow Cytometry for Rapid Detection of Foodborne Pathogens.....89**
Byron Brehm-Stecher, Ph.D., Associate Professor, Rapid Microbial Detection & Control Laboratory, Iowa State University
- 2:30 Optical Scattering Sensor for Label-Free Rapid Detection of Pathogen and Indicator Bacterial Colonies on Petri-plate.....113**
Arun Bhunia, Ph.D., Professor of Food Microbiology, Department of Food Science, Purdue University
- 3:00 Rapid and Reagent-Free Identification of Antibiotic-Resistant Nosocomial Bacteria by Attenuated Total Reflectance Fourier Transform Infrared Spectroscopy.....N/A**
Jacqueline Sedman, Ph.D., Assistant Professor, Food Science and Agricultural Chemistry, McGill University
- 3:30 Refreshment Break in the Exhibit Hall with Poster Viewing**
- 4:15 PANEL DISCUSSION: Rapid Detection Methods for Food Safety: Overcoming Barriers to Implementation...N/A**
Moderators:
Arun Bhunia, Ph.D., Professor of Food Microbiology, Department of Food Science, Purdue University
Byron Brehm-Stecher, Ph.D., Associate Professor, Rapid Microbial Detection & Control Laboratory, Iowa State University
Panelists:
Gary R. Acuff, Ph.D., Professor and Texas A&M AgriLife Research Faculty Fellow; Director, Center for Food Safety, Texas A&M University
Bart Weimer, Ph.D., Professor, Director, Population Health and Reproduction, University of California, Davis
- 5:15 Welcome Reception in the Exhibit Hall with Poster Viewing**
- 6:15 End of Day**

Tuesday, June 28

OPTICAL METHODS & SPECTROSCOPY FOR FOOD SAFETY (Cont.)

8:25 Chairperson's Opening Remarks
Byron Brehm-Stecher, Ph.D., Associate Professor, Rapid Microbial Detection & Control Laboratory, Iowa State University

8:30 KEYNOTE PRESENTATION: How to Validate Process Control When You Can't Find Pathogens: Using Indicators and Surrogates.....145
Gary R. Acuff, Ph.D., Professor and Texas A&M AgriLife Research Faculty Fellow; Director, Center for Food Safety, Texas A&M University

NANOTECHNOLOGICAL AND BACTERIOPHAGE-BASED APPROACHES FOR PATHOGEN DETECTION

9:00 New Advanced Colorimetric Assay Performed during the Enrichment Process for the Detection of Foodborne Pathogens.....165
Bruce Applegate, Ph.D., Professor, Center for Food Safety Engineering, Purdue University

9:30 Cassette PCR for Rapid Detection of Pathogenic *Escherichia coli* in Meat.....187
Dammika P. Manage, Research Associate, University of Alberta

10:00 Coffee Break in the Exhibit Hall with Poster Viewing

10:45 Magnetophoretic Chromatography for the Detection of Pathogenic Bacteria with the Naked Eye.....197
Sangmin Jeon, Ph.D., Professor, Chemical Engineering, Pohang University of Science and Technology, Korea

11:15 A Disposable Cartridge for Automated Universal Sample Preparation System.....213
Michael Connolly, Ph.D., President & CEO, Integrated Nano-Technologies, LLC

11:45 Engineering Bacteriophage for the Ultrasensitive Detection of Foodborne Pathogens.....224
Troy Hinkley, Department of Food Science, University of Massachusetts

12:15 pm Close of Conference

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Sandra M. Gaston, Ph.D., Tufts Medical Center

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N.J. Lin, S.M. Da Silva, D.L. Rygmyr, and B.P. Marsh, National Institute of Standards and Technology

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