The 5th IFSH High-Throughput Sequencing (HTS) Symposium
Food Safety & HTS: Latest News and Views
Perspectives from the Industry, Governmental Agencies,
Tech Companies, Consulting/Analytical Enterprises and Academia

May 20 – 21, 2020
Chicago Marriott Southwest at Burr Ridge
Burr Ridge, Illinois
Synopsis: High-Throughput or Next Generation Sequencing (HTS/NGS) continues to advance and generate profound impacts on many scientific fields. Newer, cheaper and more portable and powerful sequencers with better reagents are being introduced one after another, producing higher throughput, longer reads and better quality. More applications of HTS are being discovered, tested and used. The embrace of HTS by the governmental agencies in the US and beyond has resulted in an upgrade in our knowledge, experience, infrastructure and personnel as well as a safer food safety system for the public. The exploration of other HTS applications has already begun most notably in environmental monitoring where the food is produced, processed, packaged and distributed.

Another important development is an obvious growth in the number of new and existing companies that provide HTS-based services. Consequently, new investigative, diagnostic, analytical and predictive tools, methods and services are being rapidly developed to better harness the power of this new technology. While HTS has experienced a wide acceptance and spread in many fields and sectors, the food industry, in large, remains skeptical about its necessity, utility and profitability.

In our 5th symposium on Food Safety & HTS, speakers from the FDA, CDC and FSIS/USDA will present the latest results of their scientific research and investigations along with new regulatory information about this new technology. Experts from the food industry, tech and analytical/consulting companies, and researchers from academia will present the news and their views.

What to expect: The attendees will have the opportunity to see and hear about the latest relevant inventions, products and research, the value of the HTS Big Data in generating predictive and/or modeling services for food industry. Examples of topics to be discussed include new, safe and secure HTS Big Data sharing schemes, and the latest updates on the use of HTS by the industry, and the opportunities and challenges it engenders for the industry. The HTS current state of affairs, including existing obstacles and possible solutions for the widespread use and implementation of the HTS technology, will be among the topics of interest. A panel of experts from the federal agencies, food industry and academia will discuss new technologies, the opportunities and challenges they create, and how each player can help utilize it to its fullest potential. The attendees will have the opportunity to pose their questions to the panel and participate in this discussion as well.

Who should attend: This symposium is designed to meet the needs of food safety professionals from industry, academia and government in food processing, food safety, quality assurance, regulatory functions, public health administration, and those involved in developing or using pathogen detection equipment and methods. Students in food science and food safety are strongly encouraged to attend this symposium.

Location: Chicago Marriott Southwest Hotel in Burr Ridge, Illinois.


Contact: Cindy Koschetz at ckoschet@iit.edu or 708.563.8152 for additional information

Registration: https://www.eventbrite.com/e/86076462015
09:30 - 12:30 Registration, Early Arrival and Exhibitor Networking
11:30 – 12:30 lunch
12:30 - 12:40 Welcome!
Robert Brackett, IFSH Director
Institute for Food Safety and Health, Illinois Institute of Technology
12:40 - 13:00 What Is New?
Behzad Imanian, Research Assistant Professor, IFSH HTS Initiative
Institute for Food Safety and Health, Illinois Institute of Technology

**Food and Drug Administration (FDA)**
13:00 - 13:20 Recent technological advances in whole genome sequencing and the many emerging applications of a WGS data in the food safety arena
Marc Allard, Senior Biomedical Research Services Officer, Office of Regulatory Science, Division of Microbiology
13:20 – 13:40 Recent international scientific and policy developments surrounding the application of whole genome sequencing for food safety
Eric Stevens, Staff Fellow, Office of Regulatory Science
13:40 – 14:00 FDAs GenomeTrakr whole genome sequencing network: a current update on what’s new?
Ruth Timme, Research Microbiologist
14:00 – 14:15 break
14:15 – 14:35 Third and fourth generation whole genome sequencing and the unique headspace around long-read sequencing for food safety
Narjol Gonzalez-Escalona, Research Microbiologist, Division of Microbiology
14:35 – 14:55 The use of whole genome sequencing in FDA’s Compliance Programs: a fully integrated view in 2020
Leslie Hintz, Compliance Officer
14:55 – 15:15 Whole genome sequencing, GenomeTrakr, and food safety microbiology: What low hanging fruit remains?
Eric Brown, Director, Division Of Microbiology

**Centers for Disease Control and Prevention (CDC)**
15:15 – 15:35 The use of whole genome sequencing in the PulseNet network
Heather Carleton, Bioinformatics and Metagenomics (Biome) Team Lead
Enteric Diseases Laboratory Branch DFWED/NCEZID/CDC
15:35 – 15:50 break

**US Department of Agriculture, Food Safety and Inspection Service (USDA/FSIS)**
15:50 – 16:20 Whole genome sequencing at FSIS: Laboratory capacity, capability and bioinformatic Analysis
Peter Evans, Consumer Safety Officer, Risk Management and Innovations Staff Office of Policy and Program Development
Glenn Tillman, Chief, Microbiology Characterization Branch, Office of Public Health
Panel of Experts: Discussion & QA Session
16:20 – 17:30 Governmental agencies, WGS, metagenomics and food safety
Panel of Experts from the Governmental Agencies
17:45 - 20:15 Reception and Networking (@ Eddie Merlot)

THURSDAY, MAY 21, 2020

8:00 - 8:30 Continental Breakfast
8:30 - 8:40 Agenda & logistics
Behzad Imanian, Research Assistant Professor, IFSH HTS Initiative
Institute for Food Safety and Health, Illinois Institute of Technology

Food Industry

Abbott Nutrition
8:40 – 9:00 Industry perspective
Emily Butler, Research Scientist in Global Analytical & Food Safety
Yingying Hong, Senior R&D Scientist, Microbiology in Global Analytical & Food SafETY

Nestle Purina
9:00 – 9:20 The use of metabarcoding to identify surfaces at high risk of microbial growth in a low moisture food manufacturing setting
Pablo Carrión, Senior Research Scientist

Mars
9:20 – 9:40 Validation and benchmarking of genomics pipelines and standards for implementation to food safety
Robert Baker, Corporate Food Safety Science and Capability Director

Driscoll’s of the Americas
9:40 - 10:00 How whole genome sequencing can help to address unanswered questions
Tim Jackson, Vice President, Food Safety, Regulatory Compliance, Worker Welfare

10:00 – 10:15 break

Nestle
10:15 – 10:35 WGS and source tracking investigations: Addressing critical knowledge gaps for improved data interpretation
Leen Baert, Microbial & Molecular Analytics, Nestlé Research Center

Mars
10:35 – 10:55 Advances in genomics and metagenomics research and their applications for food safety at Mars
Bala Ganesan, Senior Research Scientist
Mars Global Food Safety Center

AFFI
10:55 – 11:15 Moving Industry to WGS Applications
Sanjay Gummalla, Vice President Scientific and Regulatory Affairs
Academia
Cornell University
11:15 – 11:35 An academic perspective on a path forward on WGS use by industry: data sharing and beyond
Martin Wiedmann, Gellert Family Professor in Food Safety
Department of Food Science, College of Agriculture and Life Sciences

Agencies
CDC
11:35 – 11:55 Beyond isolates: using culture-independent approaches including metagenomics for foodborne disease outbreak detection
Heather Carleton, Bioinformatics And Metagenomics (Biome) Team Lead
Enteric Diseases Laboratory Branch DFWED/NCEZID/CDC

11:55 – 13:00 lunch

Tech Companies, Labs and Analytical/Consulting Enterprises
Clear Labs
13:00 – 13:20 Getting to the source: Real-time pathogen monitoring using next generation sequencing
Ramin Khaksar, Vice President of Research & Development

CosmosID
13:20 – 13:40 Seeing beyond culture, Next generation sequencing for food safety and environmental monitoring
Manoj Dadlani, CEO

IEH Laboratories & Consulting Group
13:40 – 14:00 The application of next generation sequencing in metagenomics
Sam Myoda, Executive Vice President

Creme Global
14:00 – 14:20 Modelling the microbiome: Keeping foods SAFE
Scott Nguyen, Bioinformatician and Molecular Microbiologist

14:20 – 15:00 Technology Showcase & Exhibits

Illumina
15:00 – 15:20 Illumina Technology Updates
Kelly Hoon, Executive Sales Specialist, Microbial and Infectious Disease

Thermo Fisher Scientific
15:20 – 15:40 Making In-house NGS screening for food authenticity a reality
Yihua Che, Senior Field Application Scientist

Eppendorf
15:40 – 16:00 Streamlined processing of sample-to-sequencer workflows on a single instrument through automated liquid handling
Kanhav Khanna, Application Specialist for Automated Liquid Handling

QA Session & Open Discussion
16:00 - 17:00 Food industry, HTS, WGS, metagenomics and food safety
Panel of Experts from the industry