

Workshop for Food Safety Experts and Policymakers
*How WGS has revolutionized food safety:
from environmental sampling to foodborne disease prevention, response, and mitigation*

Speaker & Moderator Information



Steven M. Musser, Ph.D.

Dr. Musser is the Deputy Center Director for Scientific Operations at the U.S. Food and Drug Administration's (FDA) Center for Food Safety and Applied Nutrition (CFSAN). In addition to managing the Center's scientific operations, he oversees the Center's activities in cosmetics safety, color certification, pre-market review of food additives, food contact notifications and foods derived from bioengineered plants. He has directed the Center's research in precedent setting areas of food and cosmetic safety research, which include food allergen detection, methods for detecting chemical contaminants, dietary supplement analysis, and the use of whole genome sequencing during foodborne illness outbreak investigations. He has authored or co-authored more than 100 articles in the peer reviewed scientific literature and regularly speaks on CFSAN's research at national and international scientific meetings.

Dr. Musser received his B.S. degree in Biology from Millersville University and his Ph.D. in Medicinal Chemistry from the University of Maryland-Baltimore. He then completed a post-doctoral research fellowship at the National Institutes of Health, National Cancer Institute. He started his career at FDA in 1991 as a research chemist and became the Branch Chief of the Instrumentation and Biophysics Branch six years later. Prior to his current appointment, Dr. Musser was the Director of the Office of Regulatory Science at CFSAN.



Eric L. Stevens PhD

Eric L. Stevens PhD is a Staff Fellow in the Office of Regulatory Science at the Center for Food Safety and Applied Nutrition. He received his Ph.D. in Human Genetics and Molecular Biology from The Johns Hopkins School of Medicine with an emphasis on human population genetics and estimating genetic relatedness. From 2013 – 2014 he completed a Postdoctoral Fellowship analyzing RNA sequencing data to find differentially expressed genes and isoforms related to schizophrenia.

In 2014 he became an FDA Commissioner's Fellow at the Center for Food Safety and Applied Nutrition (CFSAN), applying the use of whole-genome sequence data in linking foodborne outbreaks. Dr Stevens worked in engaging other federal and international stakeholders in applying WGS methodologies to track foodborne outbreaks through CFSAN's GenomeTrakr. In his current position as an International Policy Analyst with CFSAN's International Affairs Staff, Dr. Stevens continue to work closely with FDA's international sequencing partners in addition to monitoring other international science interests for CFSAN, including work with Codex Alimentarius, WHO, FAO, and EFSA.



Magaly Toro, PhD

Dr. Magaly Toro is a veterinarian and holds a master's in food and nutrition from the University of Chile. She obtained her PhD in Nutrition and Food Science from the University of Maryland, College Park in 2014. Then, she was a postdoctoral ORISE fellow at the Center for Food Safety and Applied Nutrition at the Food and Drug Administration of the United States. In 2015, she joined the University of Chile as an Assistant professor where she works until now. Her research focuses are "food safety" and "genomics of foodborne pathogens". She has authored 30 scientific manuscripts, has guided undergraduate and graduate students, and has directed and collaborated in local and international research projects. She is also the director of a postgraduate Diploma in HACCP at the University of Chile, and she has been part of national committees to decide public policy in food safety in Chile.



Pilailuk Akkapaiboon Okada, Ph.D

Pilailuk Akkapaiboon Okada, Ph.D, Medical Technologist (Senior Professional Level), National Institute of Health, Department of Medical Sciences, Ministry of Public Health, Thailand Pilailuk Akkapaiboon Okada is currently Head at the Medical Bacteriology section; she has experiences in laboratory of molecular microbiology for more than 15 years. Pilailuk worked as a part of a team on strategic planning and implementation for National AMR strategic Plan to combat AMR, and strengthening National Laboratory System in respond to Emerging Infectious Diseases. She is responsible for establishment of NGS lab at National Institute of Health, focusing on detection and characterization of the emerging AMR organisms existing in or importing to Thailand which could be isolated from human, environment and animal including food product. She holds a PhD in Molecular Medicines from Osaka University.

Nigel French, Ph.D. FRSNZ

Nigel is Chief Scientist for the New Zealand Food Safety Science and Research Centre and Distinguished Professor of Food Safety and Veterinary Public Health at Massey University, New Zealand. He is founder and Executive Director of Massey University's Infectious Disease Research Centre, specializing in research and training in

molecular and genomic epidemiology, food safety and the control of infectious diseases. Nigel is a Fellow of the Royal Society of New Zealand and a Fellow of Food Standards Australia and New Zealand. He holds an honorary professorship at the University of Otago Medical School in New Zealand.

Professor Sheng Chen
Hong Kong City University

Brent Gilpin, Ph.D.
Senior Science Leader, Health & Environment
Water & Waste Team Manager
Health & Environment Research & Development Manager
Institute of Environmental Science and Research Limited (ESR)

Paul B Young, PhD

Paul began his career as a food safety scientist working for the Department of Agriculture in Ireland ensuring compliance with EU food safety controls. He spent much of his time on capacity building missions running laboratory training courses and advising on food safety regulation in numerous countries around the world, on behalf of the EU.

In 2007 he joined US-based Waters Corporation to lead their global food safety marketing organization and in that role continued government and development organization out-reach, contributing language to FSMA and played a key role in the establishment and operations of the World Bank led Global Food Safety Partnership, sitting on the Governing Council of this PPP until recently. In 2016 he established and led Waters' Government Affairs function, formalizing the government engagement activities.

Last year he left Waters to establish an independent consulting practice offering advice and implementation support to companies on engagement strategies that demonstrate leadership on issues of world importance. In this role he continues to engage with organizations such as African Development Bank, World Bank and others.



Professor Martyn Kirk, BAppSci MAppEpid PhD

Martyn Kirk is a Professor of epidemiology and National Health and Medical Research Council Career Development Fellow at the Australian National University in Canberra, Australia. Previously, he was director of the Australian Field Epidemiology Training Program and the OzFoodNet surveillance system in Australia. Prof Kirk has extensive experience investigating infectious disease outbreaks and other human health threats. Prof Kirk is a member of several national and international advisory bodies, including the WHO Foodborne Disease Epidemiology Reference Group and is a Scientific Fellow of Food Standards Australia New Zealand.



Catherine Carrillo, Ph.D.

Cathy Carrillo completed a Ph.D. in molecular biology at the University of Ottawa in 2000. She began working on food pathogen genomics in 2001, as a visiting fellow at the National Research Council (Canada). From 2006 to 2012, Cathy led the *Campylobacter* laboratory in Health Canada's food microbiology group, where she worked on the implementation of a *Campylobacter* genomics program. She began her current position at the Canadian Food Inspection Agency in January 2013, focusing on the application of whole-genome sequencing (WGS) technologies for the detection, identification and characterization of foodborne bacterial pathogens. In the past few years, Dr. Carrillo's laboratory has sequenced several thousand bacterial genomes, and this work has led to the implementation of methods for real-time WGS of bacterial pathogens isolated in CFIA's food-testing programs. Her current research interests include the development of tools for bacterial phenotype prediction based on WGS data (e.g. serotype, antimicrobial resistance), and the application of novel technologies (e.g. metagenomics) to improve methods for detection of bacterial pathogens in foods. Dr. Carrillo currently leads the sequencing component of the Shared Priorities Genomics Research and Development Initiative project on antimicrobial resistance (GRDI AMR).



Eli Mrkusich, PhD

Eli Mrkusich is committed to accelerating the adoption of genomics in microbiology research, infectious disease testing and the microbiome. Eli manages a team of segment marketing managers across Asia Pacific and Japan. Eli joined Illumina in 2015 and is responsible for market development and outbound marketing activities for the Precision Health business across Asia Pacific. Eli completed his PhD in neuroscience and molecular biology in 2005 and had six years post-doctoral experience at the University of Melbourne before joining the biotech industry. Eli is based in Melbourne, Australia

Emma Griffiths, Ph.D.

Dr. Emma Griffiths is a research associate in the Centre for infectious Disease Genomics and One Health at Simon Fraser University in Vancouver, Canada. She is also the Chair of the Data Structures working group within the Public Health Alliance for Genomic Epidemiology, also known as PHA4GE (*pronounced "phage"*). Her work focuses on developing and implementing data standards and tools to better enable analyses and the interpretation of pathogen genomics datasets.

James Pettengill, Ph.D.

Dr. James Pettengill joined the FDA's Center for Food Safety and Applied Nutrition (CFSAN) in 2011. He has been integral in the development of an analytical workflow for the analysis of whole-genome sequence data from foodborne pathogens that supports regulatory and outbreak response activities. He also supports metagenomic efforts through workflow development on high-performance computing resources. He is currently the Director of the Biostatistics and Bioinformatics Staff within the Office of Analytics and Outreach at CFSAN.

Ruth Timme, PhD

GenomeTrakr Program Lead
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Lee Learn-Han, Ph.D.

Associate Professor Dr Lee Learn-Han is a molecular microbiologist and the Head of the Microbiome and Bioresource Research Strength, Jeffrey Cheah School of Medicine and Health Sciences at Monash University Malaysia. He is recognized as the best Medical Science researcher in Malaysia, as the Malaysia's Research Star Award (MRSA) Winner 2018. Also, He received the prestigious award of Professional Registers as Chartered Biologist (CBiol) from the Royal Society of Biology, UK, in 2017. To date, Dr Lee has registered 2 patents, published 7 academic books, 16 book chapters, and 198 articles with cumulative citations of 6862, H-index of 45 and i10-index of 125. In addition, he served as PI and co-PI for 24 grants totaling ~RM3.83 million. Also, he has supervised 11 PhD students to completion and currently supervising 7 PhD students.



Marc W. Allard, Ph.D.

Marc W. Allard received his Ph.D. in biology in 1990 from Harvard University. Dr. Allard was the Louis Weintraub Associate Professor of Biology (and Genetics) at George Washington University (Washington, DC) for 14 years. Dr. Allard joined the, US Food and Drug Administration, Office of Regulatory Science, Division of Microbiology in 2008. He assists in building FDA's GenomeTrakr WGS network for source tracking of foodborne pathogens to rapidly identify outbreaks. Also, he supports publicly available tools and resources such as GalaxyTrakr and protocols.io to support the laboratories that collaborate in the GenomeTrakr network. Marc Allard, PhD, Research Microbiologist, Food and Drug Administration, Office of Regulatory Science, Division of Microbiology.