

Standing Committee on Evidence Synthesis and
Communications in Diet and Chronic Disease Relationships

**Workshop on Maximizing Agriculture to Enhance Nutrient Composition to Better
Fulfill Dietary Recommendations**

January 30, 2024

SPEAKER BIOS

SESSION 1

Selena Ahmed, Ph.D, MSc, is the Global Director of the Periodic Table of Food Initiative (PTFI) at the American Heart Association. For the past 20 years, she has carried out community-engaged food systems research including in Indigenous communities. She joined the PTFI from Montana State University where she was an Associate Professor of Sustainable Food Systems and Director of the Translational Biomarkers Core. Her research focuses on food quality, wild and cultivated food environments, and sustainable diet interventions. The ultimate translational goal of her research and outreach is to inform food system solutions to improve human and planetary health. Selena has postdoctoral training in chemical ecology and human clinical nutrition, a PhD in biology, a Master of Science in ethnobotany / cultural anthropology, and a BA in economics.

Payam Vahmani, Ph.D, MS, is an Assistant Professor in the Department of Animal Science at University of California-Davis (UC Davis). His research focus is on using animal nutrition and management to improve the nutritional value of animal sourced foods, with emphasis on enrichment of bioactive fatty acids and testing their health effects in rodent models for obesity and type-2 diabetes. Dr. Vahmani completed his Ph.D. in Animal Nutrition at Dalhousie University, Canada. He joined the faculty at UC Davis in 2019 after completing a Natural Sciences and Engineering Research Council of Canada (NSERC) postdoctoral fellowship studying the enrichment of bioactive fatty acids in red meat at Agriculture and Agri-food Canada (USDA equivalent). He is an editorial board member for Meat Science and has published 40+ papers, many in the field of enhancement of fatty acid composition in beef and dairy products.

Christopher Golden, Ph.D, MPH, Dr. Christopher Golden is an Associate Professor of Planetary Health and Nutrition at the Harvard T.H. Chan School of Public Health. As an ecologist and epidemiologist, his research investigates the human health impacts of global environmental change, with a focus on food systems. He received his BA from Harvard College and two graduate degrees from UC Berkeley: an MPH in Epidemiology with a focus in Nutrition, and a PhD in Environmental Science, Policy and Management. Golden has been conducting research in Madagascar for the past 24 years and founded the non-profit Madagascar Health and Environmental Research (MAHERY). He is the Director of the Program in Nutrition and Planetary Health at HSPH and sits on the faculty board for the Center for Climate, Health and the Global Environment and the Center for Research on Computation and Society. His current research focuses on 1) the role of climate-smart fisheries management to improve human nutrition; and 2) creating systems of climate-smart public health through climate and environmental monitoring and disease surveillance.

Cathie Martin, FRS, MBE, is a professor at John Innes Center and a Fellow of the Royal Society. She researches into the relationship between diet and health and how crops can be fortified to improve diets

and address the global challenge of escalating chronic disease. This work has involved linking leading clinical and epidemiological researchers with plant breeders and metabolic engineers to develop scientific understanding of how diet can help to maintain health, promote healthy ageing and reduce the risk of chronic disease. She has recently initiated collaborative research in China to research on Chinese Medicinal Plants, particularly those producing anti-cancer metabolites used for complementary therapies. Cathie was Editor-in-Chief of *The Plant Cell* (2008-2014) and is now an Associate Editor for *Molecular Horticulture*. She is a member of EMBO, AAAS, a Fellow of the Royal Society, in 2014 she was awarded an MBE for services to Plant Biotechnology, in 2019 she was elected Janniki Ammal Chair of the Indian Academy of Sciences for outstanding women in science and in 2022 she was awarded the Rank Prize for outstanding contributions to research on nutrition.

SESSION 2

Erick Boy, MD, Ph.D., is Chief Nutritionist and Head of Research and Development of the HarvestPlus biofortification program at IFPRI. He completed medical studies at the University of San Carlos and his MSc and Ph.D. in human nutrition at the University of California Davis. His research and publications have focused on the bioavailability of nutrients in and efficacy of biofortified staple crops, food fortification, zinc status biomarkers and the association between zinc deficiency and cardiometabolic disorders. Dr. Boy's career spans over 30 years conducting and managing food and nutrition research at global agencies tackling hidden hunger (at the Institute of Nutrition of Central America and Panama, the Micronutrient Initiative, and HarvestPlus) in high burden countries in Sub Saharan Africa, South Asia and Latin America and the Caribbean. He has served as technical committee member of the International Council for the Control of Iodine Deficiency Disorders, and the calcium task force at the NYAS, editorial board member of the *Food and Nutrition Bulletin*, steering committee member of the BRINDA project, board member of Semilla Nueva, the scientific committee of the Micronutrient Forum and reviewer for multiple nutrition journals..

Katie Fiorella, Ph.D., MPH, is an environmental scientist and epidemiologist, and her research aims to understand the interactions among environmental change and livelihood, food, and nutrition security. Her work is focused on global fisheries and the households that are reliant on the environment to access food and income. She uses interdisciplinary methods and her work aims to foster a deeper understanding of how ecological and social systems interact, the ways communities and households adapt to and mitigate environmental change, and the links between human well being and ecological sustainability. Her work has been funded by NSF, USAID, National Geographic and more, and she has published more than 45 peer-reviewed journal articles. She is a co-editor of the book, *Foundations of Socio-Environmental Research: Legacy Readings with Commentaries*, which is an anthology of 53 foundational readings tracing the history of socio-environmental research from the late 1700s onward. Dr. Fiorella is an Assistant Professor in the Department of Public and Ecosystem Health at Cornell University, and she leads the Food Systems and Health Concentration area of the Master of Public Health Program. She is a Faculty Fellow of the Atkinson Center for a Sustainable Future and the Center for Health Equity, and a core faculty member of the Southeast Asia Program. She holds a PhD in Environmental Science, Policy & Management and a Master of Public Health from the University of California, Berkeley, and an AB in Ecology and Evolutionary Biology from Princeton University.

Yiping Qi, Ph.D., is a professor at University of Maryland. His lab has developed many genome engineering tools for gene editing and transcriptional regulation in plants. These tools have been widely used in the plant research community for both basic and translational research. Dr. Qi's lab is also

applying the genome engineering tools for metabolic engineering to improve nutrition in plant-based food. Dr. Qi earned a M.S. in Biochemistry and Molecular Biology from Shanghai Jiao Tong University and a Ph.D. in Plant Biological Sciences from University of Minnesota-Twin cities. He performed his post-doctoral fellowship at the University of Minnesota.

Christine Diepenbrock, Ph.D., is an Assistant Professor in Plant Sciences at the University of California, Davis. She and her research group are focused on improving crop nutritional quality and tolerance to drought and high temperatures in staple and specialty crops. Christine has also taken on the bean breeding program at UC Davis. Prior to her current position, Christine worked in the Predictive Agriculture division at Corteva Agriscience™. She conducted her Ph.D. in Plant Breeding and Genetics at Cornell University and her B.A. in Biology (with a concentration in Molecular Biology and Biochemistry) at Washington University in St. Louis.

SESSION 3

Daniel Mason-D'Croz, M.A., is a Senior Research Associate with Cornell Food Systems & Global Change. He is a development economist by background and has been working in anticipatory governance of the food system for more than 10 years. His research revolves around assessing the impacts of climate change, the health and environmental consequences of current and future diets, and efforts to identify vulnerabilities in food systems. He applies mixed qualitative and quantitative approaches to better understand the complexity of global and regional food systems, leveraging a range of integrated assessment tools to identify key food system challenges and opportunities. He has co-authored more than 60 peer reviewed articles and has actively contributed to global assessments including IPBES, several IPCC reports (1.5/2C and Climate Change and Land), AgMIP (Agricultural Model Intercomparison and Improvement Project), FABLE (Food, Agriculture, Biodiversity, Land-use and Energy consortium), and the EAT-Lancet Commission on Healthy Diets from Sustainable Food Systems. He has also contributed to informing policymaking in the form of priority setting exercises for the CGIAR, DFAT (Australian Department of Foreign Affairs and Trade), CSIRO, and in regional policymaking in Latin America, sub-Saharan Africa, and South and Southeast Asia. Recent work has included exploring the potential disruptions of extreme events like the outbreak of African Swine Fever in China, the potential consequences of large-scale adoption of novel plant-based alternatives to beef and developing novel approaches to responsible and mission-oriented food system innovation to promote more sustainable food systems.

Chris Barrett, Ph.D., Chris Barrett is an agricultural and development economist at Cornell University. He is the Stephen B. and Janice G. Ashley Professor of Applied Economics and Management, and an International Professor of Agriculture at the Charles H. Dyson School of Applied Economics and Management, as well as a Professor in the Jeb E. Brooks School of Public Policy, Director of the Cornell Collaboration on International Development Economics Research, a Senior Faculty Fellow of the Cornell Atkinson Center for Sustainability, and a Faculty Fellow at the Cornell Institute for Food Systems. He is co-editor-in-chief of the journal Food Policy, edits the Palgrave Macmillan book series Agricultural Economics and Food Policy, and is an Editorial Board member for the Proceedings of the National Academy of Sciences. He is an elected Member of the National Academy of Sciences, and an elected Fellow of the American Association for the Advancement of Science, the Agricultural and Applied Economics Association, and the African Association of Agricultural Economists. He has won numerous university, national and international awards for teaching, research and policy outreach and public service. His more than 375 publications have been cited more than 59,000 times, placing him among the top five

scholars globally in the agricultural economics, development economics, food security, poverty, and resource economics fields, according to Google Scholar, well within the top 1 percent of all economists worldwide according to RePEc/IDEAS, and in the top 50 economics and finance scholars globally per research.com. He has served as a principal investigator on roughly \$60 million in extramural research grants from various corporate, foundation, government agency and nongovernmental organization sponsors. He has supervised more than 100 graduate students and post-docs, many of whom now serve on faculty and staff at leading universities and research institutes worldwide. He has held senior leadership roles at Cornell, including as the Deputy Dean and Dean of Academic Affairs of the SC Johnson College of Business, and as the David J. Nolan Director of the Dyson School of Applied Economics and Management, as well as externally as President of the Association of Christian Economists, and on a variety of boards and panels. He was previously on faculty at Utah State University and has been a visiting faculty member at Harvard, Melbourne, Monash, Notre Dame, Stanford, and UC-San Diego.

Ramya Ambikapathi, Ph.D., MHS, is a Senior Research Associate in the Cornell University College of Agriculture and Life Sciences, Department of Global Development. Her research broadly focuses on how environmental and ecological factors translate to poor nutrition outcomes, and efforts to mitigate these negative impacts. This research has led her to explore gender equity, men's engagement, family food choices, food environment, informal economy, food systems, and consequently, metrics and methods to measure these complex factors as they relate to nutrition outcomes. Her research vision and approaches are grounded in epidemiology and planetary health, which encompasses both the health of human societies and natural systems. Because of rapidly transitioning food systems and the variable effects of climate change, there is a need for innovative, multiple-methods approaches in researching and evaluating this impact on human nutrition. Therefore, she commonly employs mixed-methods study designs using quantitative methods such as spatial statistics, latent-class modeling, factor analysis, longitudinal analysis, and qualitative methods such as direct observations, interviews, pile-sorting, and more recently, tele-group interviews and qualitative evidence synthesis to study disparities in nutrition outcomes. Dr. Ambikapathi received both her Ph.D. in human nutrition and her MHS in global disease epidemiology from Johns Hopkins School of Public Health.

Kari Nadeau, M.D., Ph.D., is the Chair of the Department of Environmental Health at Harvard School of Public Health. She practices Allergy, Asthma, and Immunology in children and adults. She has published over 400+ papers, many in the field of climate change and health, and allergies and asthma. Dr. Nadeau is a member of the National Academy of Medicine and the U.S. EPA Children's Health Protection Committee. For more than 30 years, she has devoted herself to understanding how environmental and epigenetic factors affect the risk of developing immune dysfunction. Her laboratory has been studying exposomics and solutions-facing research with policy oriented outcomes to track climate change mitigation and adaptation as these solutions pertain to quantifying health outcomes. She started 4 biotech companies, works in climate and health inequity, co started a sustainability seed grant program, and works with the WHO and UN on several projects in global health. She works with the Salata Institute at Harvard and oversees the Harvard Center for Climate Health and the Global Environment. Dr. Nadeau was appointed as a member of the U.S. Federal Wildfire Commission in 2022. Dr. Nadeau earned her MD/PhD from Harvard Medical School in 1995, completing her doctoral work in biochemistry and immunology, followed by a pediatric residency, and fellowship in Allergy, Asthma, and Immunology Program, joined the Stanford faculty where she was the Naddisy Professor of Medicine and Pediatrics until 2022, and then joined Harvard where is now the John Rock Professor of Climate and Population Studies.