Meeting of the

President's Council of Advisors on Science and Technology (PCAST)

May 18-19, 2023

Invited Speaker Biographies
(in order of presentations)

Future of Food

DARIUSH MOZAFFARIAN, MD, DRPH

Dariush Mozaffarian is a cardiologist, Jean Mayer Professor at the Friedman School of Nutrition Science and Policy at Tufts University, Professor of Medicine at Tufts School of Medicine, and an attending physician at Tufts Medical Center. His work aims to create the science and translation for a food system that is nutritious, equitable, and sustainable. Dr. Mozaffarian has authored more than 500 scientific publications on dietary priorities for obesity, diabetes, and cardiovascular diseases, and on evidence-based policy approaches and innovations to reduce diet-related diseases and improve health equity in the US and globally. Areas of focus include defining healthy diets, nutritional biomarkers, Food is Medicine interventions in healthcare, business innovation and entrepreneurship, and food policy. He is one of the top cited researchers in medicine globally, he has served in numerous advisory roles, and his work has been featured in an array of media outlets. Thomson Reuters has named him as one of the World's Most Influential Scientific Minds In 2023, Dr. Mozaffarian was nominated by President Biden to serve on the President's Council on Sports, Fitness, and Nutrition (PCSFN), a federal advisory committee that aims to promote healthy eating and physical activity for all Americans.

Dr. Mozaffarian received his B.S. in biological sciences from Stanford University, M.D. from Columbia University, and Doctorate in Public Health from Harvard University; and additional clinical training in internal medicine at Stanford University and in cardiology at the University of Washington. He is married, has three children, and actively trains as a Fourth Degree Black Belt in Taekwondo.

MARTHA BELURY, PHD, RD

Martha Belury is the Carol S. Kennedy Professor and Program Chair of Human Nutrition at The Ohio State University. Her specialty is conducting translational research on dietary components that impact skeletal and cardiac muscles and energy metabolism, with explicit interest in investigating the mechanisms of bioactive lipids in regulating insulin sensitivity in liver, adipose and muscle; and the role of energy balance in cancer prevention.

Dr. Belury's research has been published in numerous peer-reviewed publications, and she also interprets research findings to non-scientists, clinicians, and other healthcare professionals. She has been a member of the American Society for Nutrition (ASN) since 1989, serving as Vice President and Nutritional Sciences Council Chair, and as President for the 2022-2023 year. In 2014, ASN awarded her the Robert H. Herman Memorial Award for Outstanding Research. She is an Elected Fellow of the American Association for the Advancement of Science (AAAS).

Dr. Belury's agenda for ASN centers around ensuring public trust in nutrition science and prioritizing increased resources for under-represented scholars and expanding partnerships with industry, government, and other professional societies. Dr. Belury's plans to engage with members and the nutrition science community around the world will continue ASN's progress towards a healthier world through evidence-based nutrition while protecting, sustaining, and enhancing resources for the future.

AI Enabling Science

ANIMA ANANDKUMAR, BTECH, PHD

Anima Anandkumar saw the potential for AI to revolutionize scientific domains and focused her research on this area. Her AI algorithms enable and accelerate a wide range of scientific applications, including weather forecasting, autonomous drone flight, and drug design. To enable these applications, she proposed neural operators which learn in function spaces and can simulate complex multi-scale processes such as fluid dynamics and material properties, orders of magnitude faster. She also did seminal work on tensor methods for unsupervised learning of latent-variable probabilistic models to capture structures in text and social networks.

Anima is a fellow of IEEE and ACM, and is part of the World Economic Forum's Expert Network. She has received several awards including the Guggenheim and Alfred P. Sloan fellowships, the NSF Career award, and best paper awards at venues such as Neural Information Processing and the ACM Gordon Bell Special Prize for HPC-Based COVID-19 Research.

She received her B. Tech from the Indian Institute of Technology Madras and her Ph.D. from Cornell University and did her postdoctoral research at MIT. She was principal scientist at Amazon Web Services, and is now senior director of AI research at NVIDIA and Bren named professor at Caltech.

DEMIS HASSABIS, PHD

Demis Hassabis is the CEO of Google DeepMind, one of the world's leading AI research groups. Demis co-founded DeepMind, which has produced landmark research breakthroughs such as AlphaGo, the first program to beat the world champion at the game of Go, and AlphaFold, which was heralded as a solution to the 50-year grand challenge of protein folding.

Demis is a chess and programming prodigy, renowned computer scientist, neuroscientist and game designer. He is a Fellow of the Royal Society and Royal Academy of Engineering, and in 2018 was awarded a CBE.

FEI-FEI LI, PHD

Dr. Fei-Fei Li is the inaugural Sequoia Professor in the Computer Science Department at Stanford University, and Co-Director of Stanford's Human-Centered AI Institute. She served as the Director of Stanford's AI Lab from 2013 to 2018. And during her sabbatical from Stanford from January 2017 to September 2018, she was Vice President at Google and served as Chief Scientist of AI/ML at Google Cloud. Dr. Fei-Fei Li obtained her BA degree in physics from Princeton in 1999 with High Honors, and her PhD degree in electrical engineering from California Institute of Technology (Caltech) in 2005. She also holds a Doctorate Degree (Honorary) from Harvey Mudd College. Dr. Li joined Stanford in 2009 as an assistant professor. Prior to that, she was on faculty at Princeton University (2007-2009) and University of Illinois Urbana-Champaign (2005-2006).

Dr. Fei-Fei Li's current research interests include cognitively inspired AI, machine learning, deep learning, computer vision and AI+healthcare especially ambient intelligent systems for healthcare delivery. In the past she has also worked on cognitive and computational neuroscience. Dr. Li has published more than 300 scientific articles in top-tier journals and conferences, including Nature, PNAS, Journal of Neuroscience, CVPR, ICCV, NIPS, ECCV, ICRA, IROS, RSS, IJCV, IEEE-PAMI, New England Journal of Medicine, Nature Digital Medicine, etc. Dr. Li is the inventor of ImageNet and the ImageNet Challenge, a critical large-scale dataset and benchmarking effort that has contributed to the latest developments in deep learning and AI. In addition to her technical contributions, she is a national leading voice for advocating diversity in STEM and AI. She is co-founder and chairperson of the national non-profit AI4ALL aimed at increasing inclusion and diversity in AI education.

AI Impacts on Society

SENDHIL MULLAINATHAN

Sendhil Mullainathan is the Roman Family University Professor of Computation and Behavioral Science at Chicago Booth, where he is also the inaugural Faculty Director of the Center for Applied Artificial Intelligence. His current research uses machine learning to understand complex problems in human behavior, social policy, and especially medicine, where computational techniques have the potential to uncover biomedical insights from large-scale health data. He currently teaches a course on Artificial Intelligence.

In past work he has combined insights from economics and behavioral science with causal inference tools—lab, field, and natural experiments—to study social problems such as discrimination and poverty. Papers include: the impact of poverty on mental bandwidth; how algorithms can improve on judicial

decision-making; whether CEO pay is excessive; using fictitious resumes to measure discrimination; showing that higher cigarette taxes makes smokers happier; and modeling how competition affects media bias.

Mullainathan helped co-found a non-profit to apply behavioral science (ideas42), co-founded a center to promote the use of randomized control trials in development (the Abdul Latif Jameel Poverty Action Lab), serves on the board of the MacArthur Foundation, has worked in government in various roles, is affiliated with the NBER and BREAD, and is a member of the American Academy of Arts and Sciences.

DARON ACEMOGLU

Daron Acemoglu an Institute Professor at MIT and an elected fellow of the National Academy of Sciences, American Philosophical Society, the British Academy of Sciences, the Turkish Academy of Sciences, the American Academy of Arts and Sciences, the Econometric Society, the European Economic Association, and the Society of Labor Economists. He is also a member of the Group of Thirty.

He is the author of five books, including New York Times bestseller Why Nations Fail: Power, Prosperity, and Poverty (joint with James A. Robinson), Introduction to Modern Economic Growth, and The Narrow Corridor: States, Societies, and the Fate of Liberty (with James A. Robinson).

His new book, Power and Progress: Our Thousand-Year Struggle Over Technology and Prosperity (joint with Simon Johnson), will be published May 2023.

His academic work covers a wide range of areas, including political economy, economic development, economic growth, technological change, inequality, labor economics and economics of networks.

SARAH KREPS, MSC, PHD

Sarah Kreps is the John L. Wetherill Professor of Government, Adjunct Professor of Law, and Director of the Tech Policy Institute at Cornell University. She is also a Non-Resident Senior Fellow at the Brookings Institution and a life member of the Council on Foreign Relations. Her work lies at the intersection of technology, politics, and national security, and is the subject of five books and a range of publications published in academic journals such as the New England Journal of Medicine, Science Advances, Vaccine, Journal of the American Medical Association (JAMA) Network Open, American Political Science Review, and Journal of Cybersecurity, policy journals such as Foreign Affairs, and media outlets such as CNN, the BBC, New York Times, and Washington Post. She has a BA from Harvard University, MSc from Oxford, and PhD from Georgetown. Between 1999-2003, she served as an active-duty officer in the United States Air Force.