



Workshop on Challenges for Digital Proximity Detection in Pandemics: Privacy, Accuracy, and Impact

Jan. 26 - 28, 2021

<https://www.nist.gov/news-events/events/2021/01/challenges-digital-proximity-detection-pandemics-privacy-accuracy-and>

Invited Speaker and Panelist Bios (Alphabetically)

Alta Charo is the Knowles Professor Emerita of Law & Bioethics, University of Wisconsin at Madison. In the past, she also has served on the faculty of the UW Masters in Biotechnology Studies program and the Dept. of Medical History and Bioethics at the School of Medicine & Public Health. For the 2019-2020 academic year, she was on leave while a Berggruen fellow at the Center for Advanced Study in Behavioral Sciences at Stanford University.

Alta Charo (B.A. biology, Harvard 1979; J.D. Columbia, 1982) is an elected member (2004) of the World Technology Network and (2005) the Wisconsin Academy of Sciences, Arts and Letters. In 2006 she was elected to membership in the National Academies' Institute of Medicine (IOM) (now known as the National Academy of Medicine). In 2013 she was awarded the Adam Yarmolinsky Medal for her service to the IOM. In 2020, she was elected to the American Association for the Advancement of Science and the American Academy of Arts & Sciences.

Professor Charo served on President Obama's transition team, where she was a member of the HHS review team, focusing her attention particularly on transition issues related to NIH, FDA, bioethics, stem cell policy, and women's reproductive health. She was on leave 2009-2011 to serve as a senior policy advisor on emerging technology issues in the Office of the Commissioner at the US Food & Drug Administration.

Professor Charo offered courses on public health law, bioethics, biotechnology law, food & drug law, reproductive rights, stem cell policy, torts, and legislative drafting. In addition, she has served on the UW Hospital clinical ethics committee, the University's Institutional Review Board for the protection of human subjects in medical research, and the University's Bioethics Advisory Committee. She has been a visiting lecturer at law and medical schools in Argentina, Australia, Canada, China, Cuba, France, Germany, and New Zealand. In 2006, she was a visiting professor of law at the University of California -- Berkeley, School of Law (Boalt Hall).

Prior to her arrival at UW in 1989, Professor Charo served as Associate Director of the Legislative Drafting Research Fund of Columbia University (1982-1985); Fulbright Junior Lecturer in American Law at the Sorbonne in Paris (1985-1986); legal analyst for the Biological Applications Program of the congressional Office of Technology Assessment (1986-88); and American Association for the Advancement of Science Diplomacy Fellow for the Policy Development Division of the Office of Population at the U.S. Agency for International Development.

Luca Ferretti, Ph.D. - Luca's research at the University of Oxford focuses on the interplay of epidemiology, genetics, evolution and within-host dynamics in HIV and other viral pathogens such as SARS-CoV-2.

His seminal work on digital contact tracing and COVID-19 epidemiology has provided the key evidence for the development of contact-tracing apps.

He is a member of the task-force against COVID-19 of the Italian Ministry of Innovation and of Test & Trace in the UK, and has actively supported the development of contact-tracing apps in Italy, England and Wales. After completing an MSc from Scuola Normale Superiore and a PhD in theoretical particle physics from SISSA, he moved to Barcelona, Cologne and Paris to focus on population genomics. In 2015, he moved to the Pirbright Institute (UK) to study the dynamics of pathogens and viral-host interactions, before joining the Big Data Institute in Oxford in 2018 to work on viral epidemiology, genetics and evolution.

Seda Gürses is currently an Associate Professor in the Department of Multi-Actor Systems at TU Delft at the Faculty of Technology Policy and Management, and an affiliate at the COSIC Group at the Department of Electrical Engineering (ESAT), KU Leuven. Previously she was an FWO post-doctoral fellow at COSIC/ESAT, a research associate at the Center for Information Technology and Policy at Princeton University, and a fellow at the Media, Culture and Communications Department at NYU Steinhardt as well as the Information Law Institute at NYU Law School. Her work focuses on privacy enhancing and protective optimization technologies (PETs and POTs), privacy engineering, as well as questions around software infrastructures, social justice and political economy as they intersect with computer science.

Dr. Louise Ivers is the Executive Director of the MGH Center for Global Health, and Professor of Medicine at Harvard Medical School. She is a practicing infectious diseases physician at MGH, and works on the design, implementation, and evaluation of large-scale public health programs in resource-limited settings with the goal of achieving health equity.

Dr. Ivers has spent her career providing care to the rural and urban poor and engaging in patient-oriented investigation that offer solutions to barriers to healthcare. She has worked on healthcare delivery in India, Southeast Asia, and Africa. She was based in Haiti and served as Clinical Director and then Chief of Mission for Partners In Health, Haiti from 2003 until 2012 while then a faculty member at Brigham and Women's Hospital. From 2015-2017 she was a member of the executive leadership team at Partners In Health, responsible for global strategic implementation. Dr. Ivers has contributed to published research articles on HIV/AIDS, food insecurity, and cholera treatment and prevention. She is an independently-funded investigator focused on the barriers to the delivery of healthcare, the impact of food insecurity on public health, and comprehensive ways to eliminate cholera. She is also involved in global policy and advocacy work to improve health equity. She has served as an Advisor to the WHO, and the Haitian Ministry of Health, and is a delegate to the Global Task Force for Cholera Control at WHO. She has collaborated with U.S. government, EU, multilateral, non-governmental organizations, and private industry partners. She mentors Haitian, American, and Irish physicians and students in global health implementation and research. She is the editor of a textbook on food insecurity and public health, and over 50 peer-reviewed published papers and chapters on global health issues.

Mike Judd is the Agency Lead for the CDC's COVID-19 Exposure Notification Initiative. He is passionate about the design and implementation of data products and initiatives at the interface of public health and computer science. Prior to his involvement in the agency's pandemic response, he focused on epidemiologic analysis, data engineering, data science, and IT modernization through his roles as a Foodborne Disease Surveillance Epidemiologist, Informatics Unit Lead, and Surveillance and Informatics Advisor. He is a graduate of the Emory University Rollins School of Public Health and a current Computer Science graduate student at Georgia Tech, focusing on Machine Learning.

Naomi Lefkovitz - Naomi Lefkovitz is the Senior Privacy Policy Advisor in the Information Technology Lab at the National Institute of Standards and Technology, U.S. Department of Commerce. She leads the privacy engineering program, which focuses on developing privacy risk management processes and integrating solutions for protecting individuals' privacy into information technologies, including digital identity services, IoT, smart cities, big data, mobile, and artificial intelligence. In addition, she leads the NIST Privacy Framework team.

The International Association of Privacy Professionals named Ms. Lefkovitz their 2020 Vanguard Award winner. She also is a 2014, 2018, and 2020 Federal 100 Awards winner. FierceGovernmentIT named her on their 2013 "Fierce15" list of the most forward-thinking people working within government information technology.

Before joining NIST, she was the Director for Privacy and Civil Liberties in the Cybersecurity Directorate of the National Security Council in the Executive Office of the President. Her portfolio included the National Strategy for Trusted Identities in Cyberspace as well as addressing the privacy and civil liberties impact of the Obama Administration's cybersecurity initiatives and programs.

Prior to her tenure in the Obama Administration, Ms. Lefkovitz was a senior attorney with the Division of Privacy and Identity Protection at the Federal Trade Commission. Her responsibilities focused primarily on policy matters, including legislation, rulemakings, and business and consumer education in the areas of identity theft, data security and privacy.

At the outset of her career, she was Assistant General Counsel at CDnow, Inc., an early online music retailer.

Ms. Lefkovitz holds a B.A. with honors in French Literature from Bryn Mawr College and a J.D. with honors from Temple University School of Law.

Po-Shen Loh is a social entrepreneur, working across the spectrum of mathematics, education, and healthcare, all around the world. He is the founder of the free personalized learning platform expii.com, a social enterprise supported by his series of online math courses that reinvent the middle school math curriculum with a focus on creative thinking. He is also a math professor at Carnegie Mellon University and the national coach of the USA International Mathematical Olympiad team. Upon the outbreak of COVID-19, he turned his mathematical attention to create NOVID, the world's first app to introduce the fundamentally different pre-exposure notification paradigm for pandemic control — the equivalent of radar to enable people to directly avoid getting infected.

As an academic, Po-Shen has earned distinctions ranging from an International Mathematical Olympiad silver medal to the United States Presidential Early Career Award for Scientists and Engineers. His scientific research considers a variety of questions that lie at the intersection of combinatorics (the study of discrete systems), probability theory, and computer science. As an educator, he was the coach of Carnegie Mellon University's math team when it achieved its first-ever #1 rank among all North American universities, and the coach of the USA Math Olympiad team when it achieved its first-ever back-to-back #1-rank victories in 2015 and 2016, and then again in 2018 and 2019. His research and educational outreach takes him to cities across the world, reaching over 10,000 people each year through public lectures and events, and he has featured in or co-created videos totaling over 10 million YouTube views.

Po-Shen received his undergraduate degree in mathematics from Caltech in 2004, graduating first in his class. He received a master's degree in mathematics from the University of Cambridge in 2005, where he was supported by a Winston Churchill Foundation Scholarship. He continued his studies at Princeton, supported by a Hertz Foundation Fellowship and a National Science Foundation Graduate Research Fellowship, where he completed his Ph.D. in mathematics at the end of 2009, and has been on the faculty at Carnegie Mellon University ever since.

Joanna Masel, D.Phil., is a Professor of Ecology & Evolutionary Biology. She has published in a range of disciplines, including biochemistry, infectious disease, evolutionary biology, economics, and education. She is also Head of Research at WeHealth PBC, where she designs risk-scoring for exposure notification. She teaches Evidence-Based Medicine and Introduction to Mathematical Modeling for Biologists. She has won many awards, including a Fellowship at the Wissenschaftskolleg zu Berlin, a Pew Scholarship in the Biomedical Sciences, an Alfred P. Sloan Research Fellowship, a Rhodes Scholarship, and a Bronze Medal at the International Mathematical Olympiad.

Meghna Patel, MHA is the Deputy Secretary for Health Resources and Services at Pennsylvania Department of Health. In her current role, she oversees Drug Surveillance and Misuse Prevention Program, Health Research Office, Bureau of Managed Care, Rural Health Re-design Center, Primary Care Office and Bureau of Health Statistics and Registries at Pennsylvania Department of Health. During COVID-19, Meghna stepped in part-time to support Governor and the Secretary of Health in the expansion of testing and contact tracing efforts. Through global and neighboring state collaborations, Meghna and her small team developed and implemented a COVID-19 Alert PA mobile app, an exposure notification system that alerts individuals if they came in close contact to someone who later tested positive. Prior to this role, she was the Director of Prescription Drug Monitoring Program (PDMP) Office at Pennsylvania Department of Health where she launched and led the implementation of the PDMP system. She also directed the implementation of fatal and non-fatal drug-related overdose surveillance program in PA. Additionally, she led the development and implementation of Evidence-Based Opioid Prescribing Education and the Patient Advocacy Program. Before joining the Pennsylvania Department of Health, she worked for Geisinger Health System managing and leading the ICD-10 (International Classification of Diseases - 10th Version) implementation for the entire health system. She earned her Master of Health Administration from University of Scranton. She is also trained in Lean and Six Sigma from Villanova University with a strong background in program management, process improvement and strategic communications. She earned her Bachelor of Commerce in Business Statistics and Advanced Accounting from Gujarat University in India. In addition, Meghna and her Pennsylvania PDMP team were the recipients of the Governor's Awards for Excellence in 2016, for building the state's PDMP from the ground up in less than five months.

Rene Peralta received a B.A. in Economics from Hamilton College in 1978. In 1980 Peralta received a M.S. in Mathematics from the State University of New York at Binghamton. In 1985 he received a Ph.D. in Computer Science from the University of California at Berkeley. For the next 20 years he held various positions in academia, mostly as a professor of cryptology, algorithmics and computational number theory. In 2005 he moved to NIST. He is currently a scientist with the Computer Security Division. His various duties at NIST include technical lead of the Privacy Enhancing Cryptology project.

Omid Sadjadi is an internationally renowned human language technologist with a demonstrated history of working in the research industry as well as various US Government (DARPA, USAF, DoD) sponsored projects. Over the past 4.5 years, he has served as Technical Lead for several NIST machine learning evaluations (NIST SRE, LRE, TC4TL). He has been a recipient of the NIST ITL Outstanding Associate of the Year Award for "outstanding contributions based on his expert knowledge of speaker recognition systems that improved the NIST Speaker Recognition Evaluation", as well as several Exceptional Performance Awards (Systems Plus, Inc) for his work at NIST. He is a Senior Member of the IEEE and has served as a voting member of the NIST OSAC speaker recognition sub-committee since 2018. Prior to joining NIST, he was a Research Staff Member at IBM T. J. Watson Research Center where he researched and developed audio analytic technologies for IBM Watson. He was a recipient of a best paper award as well as the IBM Research Travel Grant at IEEE ICASSP-2013, Vancouver, BC. He has authored/co-authored more than 60 papers in the fields machine learning and human language technology, and is the developer of the highly cited Microsoft Research Identity Toolbox for speaker recognition. He completed his PhD in Electrical Engineering at The University of Texas at Dallas, where he received a Certificate of Academic Achievement in recognition of his outstanding academic performance.

Krister Shalm is an experimental quantum physicist working at the National Institute of Standards and Technologies. His research focuses on studying the fundamental properties of light to develop new quantum technologies. When Krister isn't in the lab or sharing his love of science, he can be found swing dancing (although not during the pandemic).

Viktor von Wyl holds a PhD in Epidemiology (ETH Zurich, 2008) and a Master in Biology (University of Basel, 2002). In his professional life he has worked as a data manager for an HIV cohort in Washington, D.C. (2002–2004) and as an HIV epidemiologist at the University Hospital Zurich (2004–2010) and the University College London (2010–2011, SNF-fellowship). Between 2011 and 2014 he was a Senior Scientist for health services research at the CSS-Institute in Luzern. Viktor joined the University of Zurich in October 2014 as the Director of the Swiss Multiple Sclerosis Registry at the Epidemiology, Biostatistics and Prevention Institute (EBPI). In April 2020 he was appointed Assistant Professor (tenure track) of Digital and Mobile Health. Currently, he also serves as a member of the Swiss National COVID-19 Science Task Force Digital Epidemiology group.

Marc A. Zissman is Associate Head of the Cyber Security and Information Sciences Division at MIT Lincoln Laboratory. In this role, he shares responsibility for strategic direction and technical oversight of 300 staff in six technical groups performing system analysis, architecture engineering, technology development, prototyping, deployment, and quantitative assessment of cyber-related components and systems for Department of Defense and other national security sponsors.

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Dr. Zissman joined the Laboratory in 1983, and his initial research focused on digital speech processing, language and dialect identification, and cochlear-implant processing for the profoundly deaf. After working on-loan for one year within the Department of Defense, he expanded his research interests to include cyber security technology, communication systems and tactical networks. He has served for ten years on the Army Science Board, for which he has led studies for senior US Army leadership. He is a board member of the non-profit Boston-based Advanced Cyber Security Center, and he serves as a member of the Commonwealth of Massachusetts's state Task Force on Artificial Intelligence. Since March 2020, he has been part of the MIT / MA General Hospital team leading PACT (Private Automated Contact Tracing), a project that is enhancing contact tracing in pandemic response by designing exposure detection functions in personal digital communication devices to have maximal public health effectiveness while preserving privacy.

Dr. Zissman holds an SB degree in computer science and SB, SM, and PhD degrees in electrical engineering, all from MIT.