Panel title: Societal efforts in combating Covid-19

Organizer

Dr. Jinjun Xiong, IBM Research

Panelists:

- Prof. Arlene E. Chung, University of North Carolina at Chapel Hill, "Leveraging Emerging Technologies & Informatics Tools to Address the COVID-19 Pandemic"
- Prof. Sanjay Patel, UIUC, "A Technology Driven-Approach to Re-opening a Campus Community"
- Dr. Neil Sarkar, Rhode Island Quality Institute (RIQI), "Building a Learning Health System in Real Time: A COVID-19 Tale"
- Prof. Dongxiao Zhu, Wayne State University, "COVID-MobileXpert: On-Device COVID-19 Patient Triage and Follow-up using Chest X-rays"

Abstracts:

Dr. Neil Sarkar, Rhode Island Quality Institute (RIQI), "Building a Learning Health System in Real Time: A COVID-19 Tale"

The near ubiquitous availability of health data has promised to enable augmented intelligence for health. Amidst the significant national investments in the digitization of health data and establishment of infrastructure to support their exchange for supporting clinical practice, the use of clinical data to support biomedical research – what is often termed a "learning health system" – has largely remained an unfulfilled. This presentation will explore the promises and challenges in leveraging extant health information exchange infrastructure to support the rapid development of a learning health system to support the emergent public health and clinical needs of the SARS-CoV-2 pandemic.

Organizer bio

Jinjun Xiong

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Dr. Jinjun Xiong is currently Researcher and Program Director for Cognitive Computing Systems Research at the IBM Thomas J. Watson Research Center. He co-founded and co-directs the IBM-Illinois Center for Cognitive Computing Systems Research (C3SR.com), where AI innovations are developed to address some of the most important societal issues,

including scaling AI and automation, AI-augmented personal learning, and the recent digital contact tracing solution, Safer Illinois App, for COVID-19 exposure notification.

Speaker bios

Arlene E. Chung
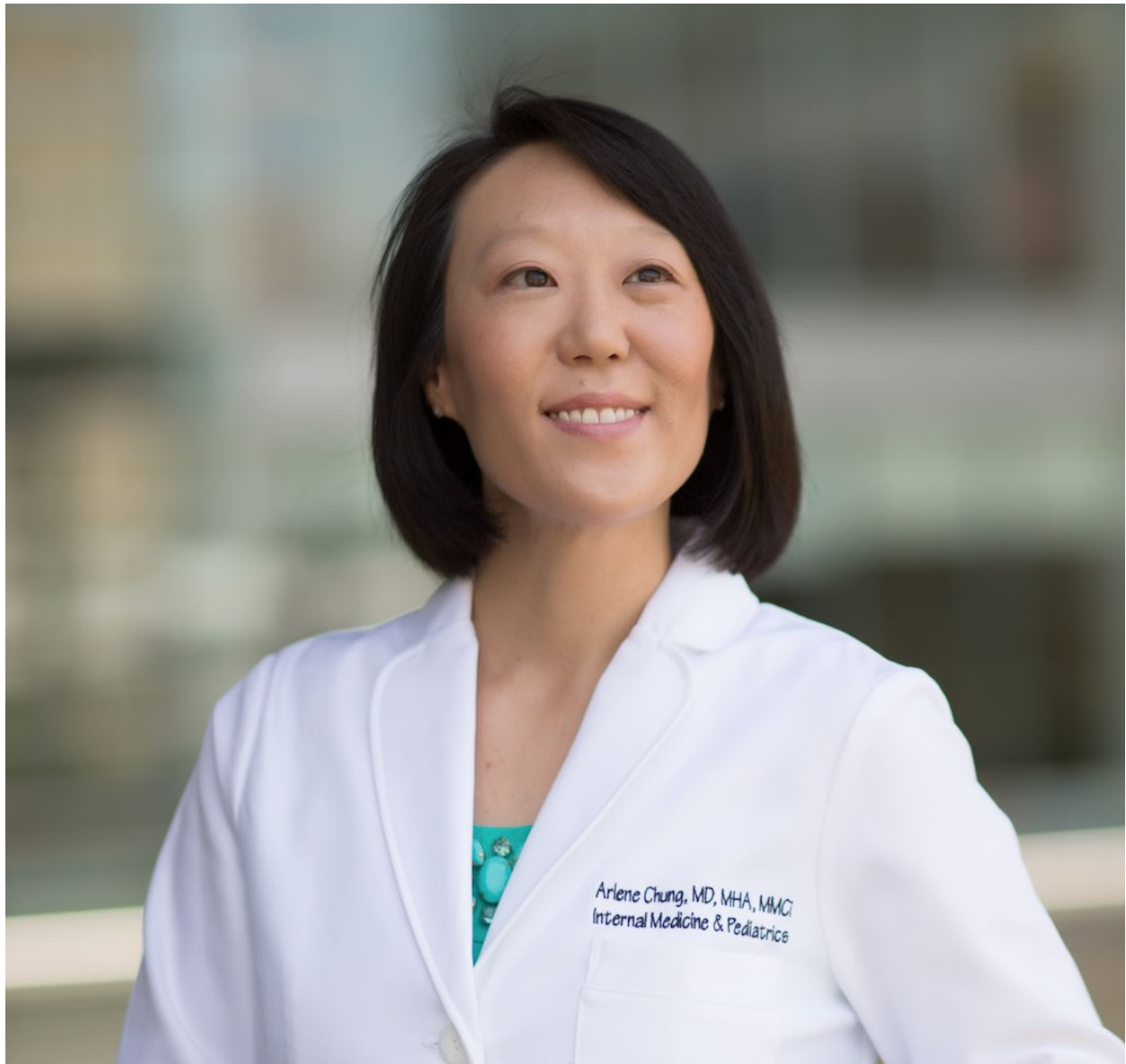
Arlene E. Chung, MD, MHA, MMCi is an Assistant Professor of Medicine and Pediatrics and the Associate Director of the Program on Health and Clinical Informatics at the University of North Carolina at Chapel Hill School of Medicine. She is a triple board certified physician scientist in the medical specialties of clinical informatics, general pediatrics, and general internal medicine. She serves as the Medical Informatics Director of Digital Health Innovation and Patient

Engagement at UNC Health, where she leads digital health innovation projects to advance patient-centered care across a system of 12 hospitals and over 850+ clinics across North Carolina. She led the UNC Health collaboration with Apple for the beta launch of Apple Health Records and has led numerous projects in digital health innovations implemented into clinical care.

She also serves as the Medical Director of Population Health Informatics for the UNC Health Alliance, a clinically integrated network and accountable care organization. She is the founding director of the ACGME-accredited UNC Clinical Informatics Subspecialty Fellowship Program and an inaugural member of the NIH All of Us Research Program's Institutional Review Board.

Dr. Chung has extensive experience with the design, development, implementation, and evaluation of user-centered technologies, including chatbots, voice-assistant apps, and the highly successful PCORI-funded Crohn's and Colitis Foundation of America Partners Patient-Powered Research Network patient portal that integrates patient-reported outcomes, social media, electronic health records, and wearable device data. Her research focuses on bringing the patient's experience into the care context through the integration of patient-generated health data into the EHR and patient portal. Her research also focuses on the design and implementation of interactive data visualizations and machine learning algorithms into clinical care. Her recent research demonstrated that patient-authored free-text narratives of symptomatic adverse events could be mapped to standard lexicons and important provides insights beyond trial-specific assessments of the symptom experience.

Sanjay Patel

Sanjay Patel is a world-renowned technologist, entrepreneur, and author. He is a Professor in the Department of Electrical and Computer Engineering at the University of Illinois at Urbana-Champaign. Prof. Patel has done extensive work in the area of computer systems, chip architecture, computer vision, and machine learning. He has helped start several companies including AGEIA Technologies (acquired by Nvidia) and Personify, Inc (acquired by Foxconn). He is co-director of the IBM-Illinois Center on Cognitive Computing Systems Research, and a senior technology advisor for the Rokwire Project where he has been leading the effort around digital contact tracing for COVID-19 exposure in Safer Illinois App.

Neil Sarkar

Neil Sarkar PhD, MLIS, FACMI is the President and Chief Executive Officer of the Rhode Island Quality Institute (RIQI), which serves as Rhode Island's Regional Health Information Organization. He is also an Associate Professor of Medical Science and Associate Professor of Health Services, Policy & Practice at Brown University. Prior to his current role at RIQI, he was the founding director of the Brown Center for Biomedical Informatics. The underlying hypothesis in Dr. Sarkar's research is that the integration of unlinked data leads to new information that can be used to inform knowledge about underpinning phenomena in biology and health. Dr. Sarkar's work has been funded by sources such as the National Science Foundation, the Ellison Medical Foundation, the Medical Library Association, the Centers for Disease Control and Prevention, the US Department of Veterans Affairs, and the National Institutes of Health. He is an elected Fellow of the American College of Medical Informatics, a member of the Board of Directors of the American Medical Informatics Association, and the Founding Editor-and-Chief of JAMIA Open. He has been an author on over 125 peer-reviewed articles, which span topics from comparative genomics using phylogenetic approaches to population-level trend detection and predictive modeling in clinical and public health contexts, as well as the editor of a textbook (Methods in Biomedical Informatics: A Pragmatic Approach).

Dongxiao Zhu

Dongxiao Zhu is currently an Associate Professor at Department of Computer Science, Wayne State University. He received Ph.D. from University of Michigan (2006). Dongxiao Zhu's recent research interests are in Machine Learning and Applications in health informatics, natural language processing, medical imaging, recommender systems and other data rich domains. Dr. Zhu is the Director of Machine Learning and Predictive Analytics (MLPA) Lab at Wayne State University. He has published over 70 peer-reviewed publications and served on technical committees of flagship AI conferences (NuerIPS, AAAI, IJCAI, ACL, EMNLP, AMIA, MICCAI) and of premier biomedical informatics journals (Bioinformatics, Nucleic Acids Research, TCBB, Scientific Reports, BMC Genomics, Plos One and Frontiers in Genetics). Dr. Zhu's research has been supported by NIH, NSF and private agencies. Dr. Zhu has advised numerous students at undergraduate, graduate, and postdoctoral levels and his teaching interest lies in programming language, data structures and algorithms, machine learning and data science.
https://dongxiaozhu.github.io/