

Precision Convergence Webinar Series

Shaping Education Priorities of the Future: A proposal based on Convergence and Complexity

By Dr. Paul P. Maglio

University of California, Merced

With High-Level Panel of Leaders in Science, Technology, On-the-Ground Action, and Policy

Wednesday, September 22, 2021 | 11 AM to 1 PM EST (2 hours in duration)

For Remote Participation, please register [HERE](#)

ABSTRACT: The anchor presentation of this webinar will address critical education and knowledge gaps limiting our ability to understand and effectively manage the human-centered complex systems that are central to a sustainable future. Plans to establish the Ernest & Julio Gallo School of Management at UC Merced are taken as a real-world context for presentation and panel discussion. With an emphasis on convergence education and research, the proposed Gallo School is planned to represent the future of management, bringing cognition, economics, complexity, data science, sustainability, and management together in one school whose cross-cutting programs will represent a unique mix of disciplinary and interdisciplinary faculty and students. Graduates of its undergraduate, professional, and doctoral research programs will address challenges of the complex systems of everyday life, in public and private sectors, from health care to climate solutions, from education to resource management, and more. The proposed Gallo School is to be a world leader in the science, design, technology, and management of human-centered complex systems, creating fundamental and applied knowledge and developing ethical and excellent leaders who drive sustainable prosperity, locally and globally. Drawing from a wide array of disciplines, the Gallo School will provide a well-rounded education that incorporates multiple perspectives for solving real-world problems. A panel of academic and action leaders will reflect more broadly on the education priorities that we are, as a society, to move toward a better future at scale. They will provide insights and next step design, implementation, and adaptive learning strategy required to prepare students for careers in science, engineering, sustainability, and management, including business management, environmental and natural resource management, public policy, educational leadership, data analytics, technology management, and more.



PRESENTER: Paul P. Maglio is a Professor of Management and Cognitive Science at the University of California, Merced. He is currently Chair of the Master of Management Professional Degree Program and Director of the Division of Management and Information in the School of Engineering at UC Merced. He holds a bachelor's degree in computer science and engineering from MIT and an M.S. and a Ph.D. in cognitive science from the University of California at San Diego. One of the founders of the field of service science, Dr. Maglio was Editor-in-Chief of Service Science (INFORMS) from 2013-2018, serves on the editorial board of the Journal of Service Research (Sage), and is lead editor of the Handbook of Service Science, Volumes I and II (Springer). Dr. Maglio has published more than 125 scientific papers in computer science, cognitive science, and service science. His current research focuses on the nature of value creation in service settings, particularly given "smart" or "autonomous" technologies. His current administrative activities are aimed at creating the new E. & J. Gallo School of Management at UC Merced.

About the series: The [precision convergence series](#) is launched to catalyze unique synergy between, on the one hand, novel partnerships across sciences, sectors and jurisdictions around targeted domains of real-world solutions, and on the other hand, a next generation convergence of AI with advanced research computing and other data and digital architectures such as [PSC's Bridges-2](#), and supporting data sharing frameworks such as [HuRMAP](#), informing in a real time as possible the design, deployment and monitoring of solutions for adaptive real-world behavior and context.

The McGill Centre for the Convergence of Health and Economics (MCCHE) is a virtual world network of scientist, action and policy leaders promoting the weaving of digital-powered interdisciplinary science into person-centered domain-specific solutions at scale to global challenges faced by traditional and modern economy and society worldwide. The MCCHE stimulates lasting collaborations that bridge the many divides in the market, economy, and society that are at the root of these most pressing modern challenges through collaborative of modular convergence innovation platforms.

The Pittsburgh Supercomputing Center is a joint computational research center between Carnegie Mellon University and the University of Pittsburgh. Established in 1986, PSC is supported by several federal agencies, the Commonwealth of Pennsylvania and private industry. PSC provides university, government, and industrial researchers with access to several of the most powerful systems for high-performance computing, communications, and data-handling available to scientists and engineers nationwide for unclassified research. PSC advances the state-of-the-art in high-performance computing, communications and informatics and offers a flexible environment for solving the largest and most challenging problems in computational science.

Co-Chairs:



Laurette Dubé, PhD is the founding Chair and Scientific Director of the McGill Centre for the Convergence of Health Economics. She holds the James McGill Chair of Consumer and Lifestyle Psychology and Marketing. Her work has been published in top disciplinary journals in Psychology, Management and Medicine as well as in multidisciplinary journals. She holds an MBA in finance, and a PhD in behavioural decision making and consumer psychology. During her 2020-2021 sabbatical, she is a visiting scholar at the National Research Council of Canada and at the Pittsburgh Supercomputing Center, Carnegie Mellon, USA. <https://thefutureeconomy.ca/interviews/laurette-dube>



Shawn Brown, PhD is Vice Chancellor for Research Computing at the University of Pittsburgh and the Director of Pittsburgh Supercomputing Center at the Carnegie Mellon University/University of Pittsburgh and. Prior to his appointment, Dr. Brown served as the Associate Director of Research Software Development at the McGill Centre of Integrative Neuroscience at the McGill Neurological Institute. Dr. Brown is an expert on high - performance computing and computational simulation. He has over 25 years of experience in developing software to support the use of high-performance computing for research in areas such as chemistry, bioinformatics, and public health. his research interests are ALSO in how agent-based modeling and other computational techniques can be used to provide decision support in public health and chronic disease.

Panelists:



Alexandra Medina-Borja has been at NSF since 2012 serving in multiple roles. As program director in the Directorate for Engineering until 2017, she became responsible for the entire portfolio of the Partnerships for Innovation in Smart Service Systems program, she is also one of the inaugural program officers in the Future of Work at the Human-Technology Frontier core research program. This initiative aims to advance the frontiers of Human-Technology interactions so that new smart technologies partner with human workers in work environments. In 2019 Alexandra acted as the Deputy Division Director of the Division of Graduate Education. She coordinated EHR's STEM Education of the Future visioning report oversees the STEM Education 2026 and Beyond initiative. Alexandra earned her Ph.D. and master's degrees from the Virginia Tech's Grado Department of Industrial and Systems Engineering Department, and a Production Engineering Degree with a Materials concentration from the Federal University of São Carlos in São Paulo, Brazil.



Richard J. Barohn, M.D. joined the University of Missouri as executive vice chancellor for health affairs in May 2020. As EVC, he oversees development and implementation of a comprehensive strategy affirming MU as a nationally recognized leader in patient care, education, and research including an emphasis on transdisciplinary team science. He leads the University of Missouri Health Care system, a mid-size, comprehensive health care network where he is encouraging AI, remote/telehealth technologies and other cutting-edge opportunities using electronic medical record data to improve care delivery. Barohn is the executive director for the University of Missouri system's four campus initiative called NextGen Precision Health. Anchored by the newly opened Roy Blunt NextGen Precision Health building, with a full complement of state-of-the-art equipment and transdisciplinary researchers conducting precision health research. Barohn serves as a professor in the Department of Neurology and is a practicing neurologist with a focus in neurological and neuromuscular diseases such as muscular dystrophy and ALS. He holds a medical degree from the University of Missouri-Kansas City and completed his residency at the Wilford Hall U.S. Air Force Medical Center alongside a fellowship in neuromuscular diseases at The Ohio State University. He has completed over 100 clinical trials and served as the vice chancellor for research and principal investigator leading intersectional, multidisciplinary research that encompasses basic, clinical and applied, population and patient-centered foci.



Dr. Lawrence Carin is the Provost at Kaust. He provides strategic and administrative leadership in all matters pertaining to faculty, students and education programs, including recruitment, retention, promotion, and talent development, as well as curriculum, dual/joint degrees, online and continuing education, and new academic programs. Prior to joining KAUST, Carin was the Vice President for Research at Duke University, where he also held a number of distinguished positions including the James L. Meriam and William H. Younger Distinguished Professorships of Engineering, Chair of the Electrical and Computer Engineering Department and Vice Provost for Research. Prior to his tenure at Duke, Carin held assistant and associate professor positions at the Polytechnic University in Brooklyn (now New York University Tandon School of Engineering), New York. He received his doctoral, master's and bachelor's degrees in Electrical Engineering at the University of Maryland, College Park. Carin is a world-class researcher in the areas of AI & Machine Learning. He is a Fellow of the Institute for Electrical and Electronics Engineers (IEEE) since 2001, and has co-authored over 450 academic papers.



Mark Daley is the Vice-President, Research at CIFAR and a Professor in the Departments of Computer Science, Statistics & Actuarial Science, Electrical & Computer Engineering, Mathematics, Epidemiology & Biostatistics, and Biology at Western University. Mark has served as Associate Vice-President (Research) and Special Advisor to the President on Data Strategy at Western. Mark's research focuses on natural computing, computational and mathematical modelling of biological systems, artificial intelligence, and theoretical computer science. He is a faculty affiliate of the Vector Institute for Artificial Intelligence and an Associate Scientist at the Lawson Health Research Institute. He has served in a number of governance roles including chairing the board of Compute Ontario and serving on the boards of ICES and TRIUMF. He is a founding leader of the CanCOVID platform, serving on both the management and governance committees. In 2018, he was elected a Fellow of the Royal Society of the Arts (UK). In the past five years, Mark has obtained funding of over \$3.85 million (CAD) from NSERC, SSHRC, CIHR, and Industry, Science and Innovation Canada. Mark was the institutional administrative lead for the successful Canada First Research Excellent Fund proposal “BrainSCAN: Healthy Canadian Brains for Life”. \$66M. He has published over 100 research articles and has been awarded U.S., European, and Chinese patents for metabolomics profiling of concussion and has US patents pending for COVID-19 diagnostics.



Nicholas Dirks is the President and CEO of the New York Academy of Sciences. He is an internationally renowned historian, anthropologist, and during the past year, has been spearheading the effort to provide the most cutting-edge data about COVID-19 to the science and business communities as well as to the public at large. Under his leadership, the Academy has produced more than 30 virtual conferences on all facets of the virus' research and vaccine development, featuring the world's leading health and infectious disease experts. As the former Chancellor at UC Berkeley, Dirks is a strong advocate for academic collaboration across disciplines and borders to solve global problems. Dirks was awarded a Ph.D. from the University of Chicago, and has taught at the California Institute of Technology, the University of Michigan, and Columbia University. At Columbia he chaired the anthropology department, later becoming executive vice president for the arts and sciences and dean of the faculty. He then served as tenth chancellor of the University of California, Berkeley. Dirks has published four major books, including *Castes of Mind*, about changes to the caste system in India under British colonial rule. The book won several major awards, including the Lionel Trilling Award, and is widely taught in graduate curricula in the U.S. and India.