

# Precision Convergence Webinar Series

## Expertise Collaboration for Grand Challenges: Insights from Management Sciences and Lessons from Healthcare

By *Samer Faraj*

*Canada Research Chair in Technology, Innovation & Organizing  
McGill University*

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

March 27, 2024, Wednesday | 11 AM to 1 PM EST (2 hours in duration)

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

**ABSTRACT:** The challenge of coordination is especially acute in healthcare organizations because they must ensure that critically ill patients receive the appropriate treatment at the right time, by the right specialists, in the most cost-effective manner possible. Necessary knowledge is siloed, resources are limited, yet the consequence of collaboration failure unacceptable. I will offer lessons learned from investigating collaboration and coordination in a variety of settings including trauma care, ED, NICU, or hospital level responses to crises such as Covid. I will conclude with an evaluation of the possibilities offered by technology, including AI or the “hospital of the future” to improve complex collaboration.



**PRESENTER: Samer Faraj** (Canada Research Chair in Technology, Innovation and Organizing) is head of the Research Group on Complex Collaboration at the Desautels Faculty of Management at McGill University. He is an internationally known management scholar recognized for his contributions to the study of expertise coordination in teams, online knowledge communities, complex collaboration in the workplace, and the transformative effects of emerging technologies on existing and novel forms of organizing. Currently, he is investigating collaboration and organizing within the Canadian healthcare sector, particularly exploring the potential of emerging technologies to enhance healthcare provision. He is Associate Editor at *Organization Theory* and has served as senior Editor at both *Organization Science* and *Information Systems Research*. He is Fellow of the Royal Society of Canada and a Research Fellow at the Judge Business School at the University of Cambridge.

**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 [HuBMAP](#), 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



**Sergiu Sanielevici**, Ph.D. is Director of Support for Scientific Applications at the Pittsburgh Supercomputing Center, a joint project of Carnegie Mellon University and the University of Pittsburgh. He has served as the Deputy Director of the Extended Collaborative Support Service of the US NSF XSEDE project and as the manager of its Novel and Innovative Projects program, fostering non- traditional and interdisciplinary applications of advanced computing and data resources since 2011. He is currently the Principal Investigator of the Bridges-2 project and co-Principal Investigator of the Neocortex project at PSC. Dr. Sanielevici is a proud alumnus of McGill University (Ph.D., Physics, 1986).

## Panelists:



**Mohammad H. Rezazade Mehrizi** is an Associate Professor in Knowledge, Information and Networks research group, at Vrije Universiteit Amsterdam. He has a PhD in Science and Technology Policy from Sharif University of Technology (in collaboration with SPRU), Iran, and a second PhD in Management Sciences from ESADE Business School, Barcelona. His interest is to understand and help organizations and their associated communities to unlock their historical chains that prevent them from making a better future. His research concerns how organizations unlearn their outmoded experiences, discontinue their obsolete information systems, learn and unlearn from their failures and incidents, and renovate their established business models to be able to tap the opportunities of new technologies such as big-data analytics. His recent work revolves around the interaction between algorithmic technologies (AI) and knowledge work and expertise in domains such as healthcare, micro-tasking, and cyber resilience.



Professor (Dr) **Narendra Kumar Arora** (MD –Pediatrics, MMSc – Clinical Epidemiology), associated with The INCLIN Trust International, New Delhi, India (since 2005) as Executive Director. Prof Arora previously served as Professor of Pediatrics (Pediatric Gastroenterology, Hepatology, & Nutrition) of All India Institute of Medical Sciences, New Delhi between 1983 and 2007. In 2018, he was appointed as President of AIIMS Patna & Deoghar. He served as member for various National scientific, research, and academic committees under the MoHFW, DBT, BIRAC, DST, ICMR, and UGC for Maternal and Child Health in India. He is currently serving as a Chair – Covid-19 Working Group of National Technical Advisory Group on Immunization (NTAGI India) and Chair on various COVID-19 vaccine, drugs and diagnostic activities in India. On International front, Dr Arora served as a Vice-Chair/Member of the WHO- Strategic Advisory Group of Experts on Immunization (SAGE) from 2010 to 2016 and South-East Asia Regional Immunization Technical Advisory Group (SEAR-ITAG). Currently, Prof Arora serving as a member of the WHO's Global Advisory Committee on Vaccine Safety (GACVS) and WHO's Scientific and Technical Advisory Group for Maternal, New-born, Child and Adolescent health and Nutrition (STAGE) and Co-chair of STAGE Working Group on Anemia.



**Linda Argote** is an American academic specializing in industrial and organizational psychology. She is Thomas Lord Professor of Organizational Behavior and Theory in the Tepper School of Business at Carnegie Mellon University, where she directs the Center of Organizational Learning, Innovation and Knowledge. Argote became the Senior Associate Dean for Faculty and Research at the Tepper School in 2020. Argote graduated in 1975 with magna cum laude honors from Tulane University, majoring in psychology. She completed her Ph.D. in organizational psychology at the University of Michigan in 1979, and in the same year joined the Carnegie Mellon University faculty. Argote publishes extensively in the field of organizational learning and knowledge transfer. Her research involves how groups and organizations learn, how they retain the knowledge that they acquire and how they transfer it within and between organizational units.



**Raghu Machiraju** is a Professor of Biomedical Informatics, Computer Science and Engineering (CSE), and Pathology at the Ohio State University (OSU). He founded the \$170M, 55-faculty strong, Translational Data Analytics Institute dedicated to the adoption of data science and analytics on the campus of Ohio State. Currently, he is the Associate Chair for Growth in the Department of Computer Science and Engineering and an essential member of a leadership team overseeing tremendous growth in size and reputation. As an independent researcher, he has contributed to developing machine learning methods to characterize unsteady flow, model state transitions of a functioning brain, integrate multiple omics data to predict patient outcomes with both semi-supervised and unsupervised tools, create weakly supervised models that rely on weak labels and enable robust grading of large whole slide histopathology images, and develop tools of GenAI to convert text describing branching processes to flow graphs.



**Jennifer Gutberg** is an Embedded Scientist within the CIUSSS Centre Ouest de l'île de Montréal, where she leads research on the implementation, scale, and spread of complex digital health interventions, with an emphasis on health system stakeholders' experiences. This work includes evaluating the adoption of a network-level command centre, as well as exploring integration of AI into clinical decision-making. Jennifer holds a MSc in Administration from the John Molson School of Business at Concordia University, and is completing her PhD at the Institute of Health Policy, Management, and Evaluation at the University of Toronto. Her research broadly examines leadership as a critical mechanism for health system transformation, having studied across numerous contexts including crisis, organizational change, and in response to new policy adoption. In addition to her research, Jennifer has also served as a consultant and facilitator for several Canadian healthcare and government entities. Her research has been supported or recognized by fellowships and awards from the Fonds de recherche du Québec – Santé (FRSQ), Canadian Institute for Health Research (CIHR), and MEDTEQ+, among others.



**Patrick Cohendet** is Full Professor in the Department of International Affairs at HEC Montréal. He is also co-director of Mosaic-HEC Montréal and co-editor of the journal *Management International*. Holding a Ph.D. in Economics from Louis Pasteur University, his research interests focus on the economy and management of innovation, knowledge and creativity.