

Brain-to-Society Decision and Behavior Seminar

McGill Centre for the Convergence of Health and Economics

The neural correlates of ongoing conscious thought and experience

by *Dr. Jonathan Smallwood*

Wednesday, July 21, 2021 | 11 AM to 1 PM EST (2 hours in duration)

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

Seminar Abstract: A core goal in cognitive neuroscience is identifying the physical substrates of the patterns of thought that occupy our daily lives. Contemporary views suggest that the landscape of ongoing experience is heterogeneous and can be influenced by features of both the person and the context. This talk considers recent work that explicitly accounts for both the heterogeneity of the experience and context-dependence of patterns of ongoing thought. These studies reveal systems linked to attention and control are important for organising experience in response to changing environmental demands. These studies also establish a role of the default mode network beyond task-negative or purely episodic content, for example, implicating it in the level of vivid detail in experience in both task contexts and in spontaneous self-generated experiential states. Together this work demonstrates the landscape of ongoing thought is reflected in the activity of multiple neural systems and it is important to distinguish between processes contributing to how the experience unfolds from those linked to how these experiences are regulated.

Panel Discussion: A panel will follow the presentation to advance precision convergence science (place link to this doc) in discussing how real-time and context-sensitive neuroscience experiments combined with computational models contribute to a formal mechanistic understanding of the multiscale processes operating within and across brain and society system in impacting mental health and wellbeing. Discussion will address how such knowledge can inform better targeted and more impactful professional practice/ innovation/interventions for lifelong socio-emotional wellness and resilience in both health and disease. The webinar is chaired by **Prof. Laurette Dube**, James McGill Chair of Consumer and Lifestyle Psychology and Marketing and Chair and Scientific Director, McGill Centre for the Convergence of Health and Economic (MCCHE), and co-chaired by **Dr. Gillian Bartlett**, Associate Dean for Population Health and Outcomes Research at the School of Medicine at the University of Missouri.



Presenter: Professor Smallwood's work is focused on understanding the underlying mechanisms that underpin different types of higher order cognition. He joined Queen's University in July 2020 after 7 years on the Faculty at The University of York, England. His ongoing work focuses on the relationship between different patterns of ongoing experience and both positive and negative features of health and well-being and relating these to the structure of neural function in the cortex. He has published more than 150 peer reviewed papers, many in high impact journals including The Proceedings of the National Academy of Sciences, Nature Communications, Psychological Bulletin, Psychological Science and Science Advances.



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Chair: Laurette Dubé, initially trained as a nutritionist, also holds degrees in finances (MBA), marketing (MPS), and behavioral decision-making/consumer psychology (PhD). Dr. Dubé is Full Professor at the Desautels Faculty of Management, McGill University. Her research focuses on the study of affects, behavioral economics, and neurobehavioral processes underlying consumption, lifestyle, and health behavior. Her translational research examines how such knowledge can inspire effective interventions. She is also the founder and scientific director of the McGill Centre for the Convergence of Health and Economics, a unique initiative to push the boundaries of science to tackle societal and economic challenges and foster individual and collective health and wealth.



Co-chair: Dr. Gillian Bartlett is the Associate Dean for Population Health and Outcomes Research at the School of Medicine at the University of Missouri (Mizzou) where she is also a tenured Professor of Family & Community Medicine. She received her PhD in epidemiology from McGill in 2001 and her MSc in 1996. In 2014, she was awarded the Carrie M. Derick Award for Excellence in Graduate Teaching and Supervision for McGill University and the Faculty of Medicine Honour List for Educational Excellence. Dr. Bartlett specializes in primary care research and knowledge translation. Her current concentration is on knowledge translation and stakeholder engagement around health care utilization and outcomes for vulnerable populations; implementation of precision medicine using patient-oriented strategies; and the use of education innovations to advance the discipline of family medicine and primary care. Dr. Bartlett was elected the Vice-President of the North American Primary Care Research Group in 2019. She is currently the Executive Director for the Network Coordinating Office of the Primary and Integrated Health Care Innovations (PIHCI) network. As of 2020, Dr. Bartlett is also the President of NAPCRG.



Dr. David Beversdorf is a practicing neurologist who specializes in neurology and neuropsychiatry. Dr. Beversdorf graduated from Indiana University and completed Neurology residency at Dartmouth. After his fellowship in Behavioral Neurology at University of Florida, he joined the Ohio State University faculty. He has published on memory disorders, autism, cognitive neuroscience, fMRI, neuropsychopharmacology and drug addiction. He joined the University of Missouri (Radiology, Neurology, Psychology and the Thompson Center) to focus on autism, with particular interest in pharmacofMRI as a potential treatment marker, and gene/stress interactions in autism. In his memory disorders clinic, he treats patients with disorders such as Alzheimer's disease. Dr. Beversdorf aims to understand approaches that will decrease the risk of developing the disease. He performs neuropsychological testing, which is an in-depth assessment of skills and abilities linked to brain function. Dr. Beversdorf also sees children and adult patients at the Thompson Center for Autism and Neurodevelopmental Disorders. Dr. Beversdorf was also the founder and past president for the Society for the Neuroscience of Creativity, with his work on the effects of stress on cognition. He has also designed and led biomarker stratified clinical trials in autism spectrum disorder.



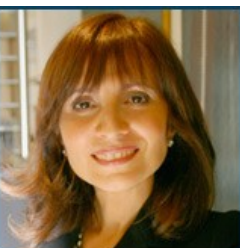
Dr. Morag Park is a Professor in the Departments of Oncology and Biochemistry and joined McGill in 1989. She is a Fellow of the Royal Society of Canada, Fellow of the Canadian Academy of Health Sciences, James McGill Professor and holds the Diane and Sal Guerrero Chair in Cancer Genetics at McGill University. Dr. Park received a B.Sc. with first class honors from the University of Glasgow, a Ph.D. in Viral carcinogenesis at the Medical Research Council Virology Institute in Scotland and completed post-doctoral training at the National Institutes for Cancer Research in Washington DC, US. She joined McGill University in 1989. She was the Director of the Molecular Oncology Group at the McGill University Hospital Centre (2006-8), Scientific Director of the Institute of Cancer Research for the CIHR (2008-13), co-chair of the Canadian Cancer Research Alliance (2008-2010) and is now Director of the Goodman Cancer Research Centre (2013-present). She is a recipient of a Canadian Cancer Research Alliance Award (2015) for Exceptional Leadership in Cancer Research, and also a recipient of the Canadian Society for Molecular Biosciences Arthur Wynne Gold Medal Prize (2016) for having made major contributions to biochemistry, molecular and cell biology in Canada. Most recently she is a recipient of the Canadian Cancer Society's 2017 *Robert L. Noble Prize*. Dr. Park is a research leader in the field of receptor tyrosine kinases (RTK) and mechanisms of oncogenic activation of RTKs in human cancers. She cloned the Met RTK, which is now a key therapeutic target in oncology. She established the Breast Cancer Functional Genomics Group at McGill. She has pioneered studies of the breast tumour and immune microenvironment in triple negative breast cancer (TNBC). She has established animal models as well as patient derived xenografts to study heterogeneity, tumor progression and drug response in TNBC. She was the elected chair of the Tumour Microenvironment Network of the American Association for Cancer Research (2015-2017). She has more than 200 publications.



Dr. Poline received his PhD in 1993 in the field of medical imaging analysis. Since 1990, Dr Poline has worked on the development of methods for the analysis of functional imaging data (mostly fMRI), and more specifically in the statistical modeling and inference aspects. In the years 2000, Dr Poline activities turned into neuroinformatics as a fundamental part of neuroimaging, and he chairs the neuroimaging data sharing task force of the International Neuroinformatics Coordinating Facility. He has recently been elected the chair of the INCF Council for Training Science and Infrastructure. He joined the University of California Berkeley in 2012, developing methods for resting-state fMRI and imaging genetic data using clustering techniques, teaching neuroimaging data analysis in Python, and working to better understand and propose solutions to the neuroimaging reproducibility issues. Dr Poline joined the Montreal Neurological Institute at McGill University as an associate professor in 2017 to work on neuroinformatics, open science and brain imaging or imaging genetic methods. He is currently the co-chair of the Canadian Open Neuroscience Platform Technical Steering committee and the co-lead of NeuroHub, the neuroinformatics infrastructure of the McGill Healthy Brains for Healthy Lives initiative, and the co-director for the Brain Imaging Centre Neuroinformatics. In 2020, he was elected chair of the Council for Training, Science and Infrastructure of the International Neuroinformatics Coordinating Facility.



Dr. Karim Keshavjee trained as a Family Physician and is the CEO of InfoClin, a company that provides health informatics consulting to a variety of organizations across North America. He has over 25 years of experience in health informatics. Karim was the Project-Director for the COMPETE research program at McMaster University which studied the impact of clinical decision support on the care of patients with diabetes and vascular disease. He has been a consultant to Canada Health Infoway for their pan-Canadian electronic prescribing project (CeRx) and their inter-operable electronic health record (iEHR) project. Karim was the Clinical Data Architect and EMR Consultant for CPCSSN, Canada's primary care chronic disease surveillance network. CPCSSN is a network of over 1200 physicians which provides access data on 1.7 million patients for research and surveillance. Over the last decade, Karim has been working on researching how to improve mhealth apps and designing enabling environments for their use in the healthcare system. Karim has published several articles on mhealth apps in a variety of disease areas. He recently published a paper on how technology can support patient empowerment. Karim's current research is focused on how to use artificial intelligence and machine learning in the service of diabetes prevention through the PREVENT program. Karim is an Assistant Professor, Teaching Stream and Program Director for the Health Informatics program at the University of Toronto and a Visiting Scholar at Ryerson University. For more information, visit his [LinkedIn](#) or [PubMed](#) profiles.



Joanna Castellano is an international business and behavioral research leader who has worked in senior management positions across various functional areas including: business and marketing strategy; new business development; behavioral research and data analytics; brand positioning and communication strategies. Her 30 plus years experience spans over a wide range of industries, including financial services, healthcare, food and beverages and packaged goods. She has conducted work for leading Fortune 500 companies both in North America and Europe and Asia. Joanna is the founder of Q:Quest Inc., an organization whose primary focus is to offer innovative solutions to critical business issues, through a comprehensive understanding of the client and the marketplace. These objectives are accomplished through the use of a unique combination of leading edge neuro-linguistic modelling techniques, behavioral economics and cultural archetypes. These methodologies, as qualitative and quasi quantitative tools have delivered significant innovative insights that have been validated repeatedly through large statistical random sampling and real life test and control experiments and KPI trackers. In addition, Q:Quest has integrated AI to further expand our multi-disciplined convergent innovation approach. Q:Quest's strength lies in its ability to translate and help activate insights into winning strategies and tactics. Specialties: behavioral modelling, neuro-linguistics patterning, development of multi-disciplined paradigms using AI, Jobs To Be Done research, product and services innovation, business strategy, brand strategy and positioning.



Dr. Jessica Andrews-Hanna is an Assistant Professor at the University of Arizona with dual appointments in the Department of Psychology and the Cognitive Science Program. A Cognitive Neuroscientist by training, she completed her Masters in Neuroscience at Washington University in St. Louis and her Ph.D. in Psychology at Harvard University. At the University of Arizona, Dr. Andrews-Hanna directs the Neuroscience of Emotion and Thought (NET) Laboratory, where her research is centered on understanding the mystery of human imagination – the thoughts, ideas, memories, and emotions that make use unique as individuals. She is passionate about characterizing how the imaginative brain changes across the lifespan and in mental illness, with an ultimate goal of developing interventions to help people harness the beneficial aspects of imagination and live happier, healthier lives. Dr. Andrews-Hanna has authored over 60 research publications in the field's top journals, including *Nature Reviews Neuroscience*, *Neuron*, *Annals of the New York Academy of Science*, and *JAMA Psychiatry*. She has active research grants from the National Institute of Aging, the National Institute of Mental Health, the Canadian Institute of Health Research, and the Arizona Alzheimer's Consortium.