Brain-to-Society Decision and Behavior Seminar
McGill Centre for the Convergence of Health and Economics

Perceived social isolation and its impact of the human social brain

by Dr. Danilo Bzdok

Thursday, June 25, 2020 | 11 AM to 1 PM EST (2 hours in duration)

For *Remote Participation*, please click HERE

Seminar Abstract: Social skills probably emerge from the interaction between different neural processing levels. However, social neuroscience is fragmented into highly specialized, rarely cross-referenced topics. Our research attempts a systematic reconciliation by deriving a social brain definition from neural activity meta-analyses on social-cognitive capacities. The social brain was characterized by meta-analytic and population-neuroscience approaches evaluating co-activation in task-focused brain states and physiological fluctuations evaluating correlations in task-free brain states. Network clustering proposed a functional segregation into (1) lower sensory, (2) limbic, (3) intermediate, and (4) high associative neural circuits that together mediate various social phenomena. Functional profiling suggested that no brain region or network is exclusively devoted to social processes. Finally, nodes of the putative mirror-neuron system were coherently cross-connected during tasks and more tightly coupled to embodied simulation systems rather than abstract emulation systems. These first steps may help reintegrate the specialized research agendas in the social and affective sciences.

Panel Discussion: A multi-disciplinary panel will follow the presentation to advance convergence science on the multiscale brain and society mechanisms and individual differences underlying social isolation experience and the behavioral and health response to digital and/or physical interventions over the lifecourse. Insights for behavioral change and ecosystem transformation at scale for lifelong wellness and resilience will be discussed. The moderator is **Prof. Laurette Dube,** Chair and Scientific Director, McGill Centre for the Convergence of Health and Economics (MCCHE).

Presenter: Dr. Danilo Bzdok is an Associate Professor, Department of Biomedical Engineering, McGill University. He has studied medicine between 2006 and 2012 at RWTH Aachen University, Université de Lausanne, and Harvard Medical School. From 2013 to 2015 he then pursued a PhD in computer science on machine learning working at INRIA Saclay & Neurospin near Paris and Heinrich-Heine University Düsseldorf. From 2015 to 2019 Dr. Bzdok headed the section for "Social and Affective Neuroscience" at the Department of Psychiatry, RWTH Aachen University, as an Assistant Professor. In his research, Dr. Bzdok explores, formalizes, and predicts brain phenotypes of hidden population variation by capitalising on heterogeneous data sources to tackle open questions in systems neuroscience in a way that also paves new ways for precision medicine in brain health.

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