



# Brain To Society Decision and Behavior Seminar Series

## Dynamic Health Policy Modeling in the Age of Big Data

*presented by Nathaniel Osgood*

Wednesday, May 15, 2019 • 4 PM to 6 PM EST

Room 255, Armstrong Building, McGill - 3420 rue McTavish, Montreal

Or Online via [Webex](#)

**Seminar Abstract:** Traditional health science methods have secured great advances in the duration and quality of life. Unfortunately, a troubling crop of complex health challenges confront Canada and the world, and threaten to stop – and even reverse – the rise in length and quality of life that many take for granted. Within this talk, I provide a glimpse of the promise afforded by combining Data Science, Systems Science and Computational Science, particularly by using machine learning to cross-link dynamic decision-oriented models with “big data” offering high volume, velocity, variety and veracity. **We particularly highlight the increasing accessibility of insights secured from mobile devices to study health behavior of consenting individuals via cross-linked sensor data and on-device self-reporting, absent the need for custom programming.** Machine learning techniques can be used to link such high-velocity data with decision-oriented models in a fashion that permits recurrent model regrouping, thereby allowing the models to knit together an evolving holistic portrait of even latent areas of the system, project forward likely system evolution, and to be used for grounded investigation of tradeoffs between intervention strategies.

**Presenter:** **Dr. Nathaniel D. Osgood** is a Professor in the Department of Computer Science and Associate Faculty in the Department of Community Health & Epidemiology at the University of Saskatchewan. His research is focused on providing cross-linked simulation, ubiquitous sensing, and machine learning tools to inform understanding of population health trends and health policy tradeoffs.



**Convergent Innovation Panel Discussion:** Following Osgood’s seminar, there will be a panel of Interdisciplinary Scientists and Action Partners. Panelists will be asked to present a short brief on their respective academic work and discuss how it is affected by Big Data.



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