



The Convergent Innovation Webinar Series:

Inventing “One-World” Solutions for Lifelong Wellness and Sustainable Economic Growth

Can rising uncertainty between biology and food signaling to the human brain be a key pathway to obesity? Insights for health, food and economic research, innovation and policy.



Mark Schatzker is an award-winning writer based in Toronto. He is a writer-in-residence at the Modern Diet and Physiology Research Center at McGill University. His written work has been published in The New York Times Magazine, Condé Nast Traveler, Best American Travel Writing, Appetite, Physiology and Behavior and Annual Review of Psychology. He is the author of The End of Craving, The Dorito Effect and Steak.

November 16, 2023

11:00 am EST
(2 hrs in length)

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Chair: Laurette Dubé (Scientific Director of MCCHE)

Co-Chair & Moderator: John G. Keogh (Professor of Practice, MCCHE; Founder, Shantalla Inc.)

ABSTRACT: For more than half a century, the rates of overweight and obesity has been steadily increasing. As a confused and alarmed general public embraces pseudo-scientific theories and fad diets, scientists have been similarly unable to discern the cause of what has become our most pressing public health concern. Here, journalist and author Mark Schatzker puts forth a markedly different model for obesity. Complementary research in behavioural economics and experimental psychology show that humans respond to uncertain cues or prospects with enhanced motivation. Recent findings in both human and animal studies suggest that taste and flavour are sensory indications of expected nutrition. As innovations and food technology that include artificial sweeteners, fat replacers and synthetic flavours create flavour and taste sensations that no longer correspond to ingested nutrition, signals that for millennia have been certain have become uncertain. A growing body of brain imaging confirms what would be expected, which is that obesity is characterized by an increase in motivation for food but not the pleasure of eating. The panel will be discussing insights for behavioral health, food and economic research, innovation and policy.

PANEL DISCUSSION: A panel with scientists, business and policy leaders will discuss how scientific and technological developments and ontologies bridging farm, food and human behavior, can accelerate the design and long-term performance of convergence platforms ecosystems targeting achievable and time-bound real-world solutions placing human and environmental health at the core. This will advance the design of integrative digital architecture and governance framework to scale up how real-world data generated by individuals and institutions within and across disciplines and sectors can contribute to a World reset on convergence economy, building upon the challenges and possibilities reviewed above. Capitalizing on digital transformation of science and society, convergence economy takes a person-centered approach to bridging organizations and systems across sectors and jurisdictions, fully acknowledging that developed and developing worlds share the same planet, for world-scale transformation toward sustainable prosperity and affordable nutrition and health.

ABOUT THE SERIES: The Convergent Innovation Webinar Series features cutting edge science, technology and innovation in agriculture, food, environment, education, medicine and other domains of everyday life where grand challenges lie at the convergence of health and economics. Powered by data science, artificial intelligence, and other digital technologies, this disciplinary knowledge bridges with behavioural, social, humanities, business, economics, social, engineering, and complexity sciences to accelerate real-world solution at scale, be it in digital or physical contexts. Initiated in the agri-food domain, the series is now encompassing other grand challenges facing modern and traditional economies and societies, such as ensuring lifelong wellness and resilience at both the individual and population levels.

Global Pulse Innovation Platform:



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Chairs:



Chair: Larette 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.



Moderator: John G. Keogh brings over 30 years of hands-on experience in executive leadership roles, mainly in supply chain management, IT, and consulting. Known for his practical, evidence-based insights, John provides strategic advisory and research to government bodies, NGO's and businesses around the world. He's also a frequent speaker and media analyst. At present, John is the founder and CEO at Shantalla Inc., a niche advisory and research firm based in Toronto and Los Angeles. He is a Professor of Practice at the McGill Center for the Convergence of Health and Economics (MCCHE). In addition, John serves on the board of the Canadian Institute of Food Science and Technology, highlighting his ongoing commitment to the field. His current research focuses on the digital transformation of agrifood supply chains, with an emphasis on issues like transparency, trust, and opportunism.

Panellists:



Riccardo Accolla is a food tech entrepreneur with two decades' experience in Innovation, Product and Business Development at both large companies and startups. Neuroscientist by training, with focus on Taste and Reward systems, he believes a deep understanding of sensory perception and human emotions is critical to achieve lasting positive changes in the food system. His current endeavors include supporting a startup in the design and promotion of its neuroscience-based tool to improve food product development and quality, and helping an early-stage venture develop an innovative digital wellness product. Prior to this, he led Innovation and Product at ripe.io, a digital food technology software provider, he was Chief Science Officer at Viva Nutrition, a functional food startup, and Director of Taste Discovery at Firmenich, a leading flavor house. Riccardo obtained a PhD in Neuroscience from the Swiss Polytechnic Federal Institute (EPFL) in Lausanne, Switzerland, and a MEng magna cum laude in Biomedical Engineering from the Polytechnic School of Milan, Italy.



Dr. **Mikael Fogelholm** is the Professor in Public Health Nutrition at the University of Helsinki. His research activities has long been on the inter-relationships between diet, physical activity and obesity. During the recent years, he has mostly done research on the use of grocery purchase data in analyses of food selection and nutrition policies, and on lifestyle and obesity in Sub-Saharan Africa. Mikael has also been in the project groups of the 2004 and 2012 Nordic Nutrition Recommendations. He has more than 220 original publications listed in PubMed. Mikael spends his free time mostly in the forests with his mountain bike.



Dr. **Rachel Lippert** received her PhD from Vanderbilt University in Nashville, TN in 2014 in Molecular Physiology and Biophysics under the supervisor of Drs. Roger Cone and Kate Ellacott with her thesis work: Studies on the physiological function of the melanocortin 3 receptor (MC3R). She completed her postdoctoral training under the direction of Prof Jens Brüning at the Max Planck Institute for Metabolic Research in Köln where she advanced projects focusing on maternal overnutrition and the dopaminergic system. In 2020 she was selected as a Junior Research Group Leader within the NeuroCure Cluster of Excellence at the Charité - Universitätsmedizin Berlin and opened her lab at the German Institute of Human Nutrition Potsdam-Rehbrücke. There she leads the Neurocircuit Development and Function department and her team uses animal models to study the complex interaction of the early nutritional and metabolic environment and the development of neural circuits in the brain and overall general effects of energy state on brain function. In 2021 she was named as one of the Leibniz Associations 'Best Minds' as well as being actively supported through the German Center for Diabetes Research.



Dr. **Ahmed El-Sohemy** is a Full Professor at the University of Toronto and held a Canada Research Chair in Nutrigenomics. He earned his PhD in Nutritional Sciences from the University of Toronto and a postdoctoral fellowship at Harvard. The goal of his research is to understand how genetic differences modify response to diet for optimal health and performance. Dr. El-Sohemy has published over 175 peer-reviewed articles, given over 200 invited talks and received a number of awards for excellence in research by the Canadian Nutrition Society and the American College of Nutrition. He is the founder of Nutrigenomix Inc.



Dr. **Beena Rai** received her Ph.D. in Chemical Sciences from National Chemical Laboratory (NCL), University of Pune, India, in 1995. She joined TCS in 1997, and now leads the physical sciences research team at TCS Research. In 2017, NCL honored Dr. Rai with the Distinguished Alumni award. Her research in computational material science and engineering, leveraging physics-based models and data analytics tools led to 150 research papers, with about 100 patent applications and grants. For her contribution to the field, Dr. Rai was conferred the Indian Institute of Mineral Engineers (IIME) Mineral/Coal Beneficiation Award – R&D/Academic in 2017. She has also received accolades and recognitions for her efforts as an active mentor for women scientists and engineers.



Andrea Borghini is Associate Professor in the Philosophy Department at the University of Milan and, since 2018, the director of Culinary Mind, the leading international network devoted to a philosophical study of food from a theoretical angle. His research develops theoretical tools to rethink perspectives and policies concerning food systems, food cultures, food justice, and dietary health. Andrea holds a PhD in Philosophy from Columbia University (2007) and his initial areas of specialization included metaphysics and ontology as well as philosophy of the life sciences. His work on food appeared in mainstream scholarly journals, including *American Philosophical Quarterly*, *Applied Ontology*, *Ethical Theory and Moral Practice*, *Food Culture and Society*, *Food Ethics*, *Human Ecology*, *The Journal of Aesthetics and Art Criticism*, *Philosophical Quarterly*, *Studies in History and Philosophy of Science*, *Synthese*, and *World Development Sustainability*. He also edited several special issues of journals (including *Topoi* and *Food Ethics*) and the volume *Framing Recipes* (Bloomsbury, 2022).