



Campus Alberta
Neuroscience

Campus Alberta Neuroscience 5th Annual Symposium

Neuroscience Innovation for Improving Brain Health

October 20-21, 2016
Coast Edmonton Plaza Hotel
Edmonton, Alberta

SPEAKER BIOGRAPHIES



Katherine Aitchison
University of Alberta

Dr. Katherine J. Aitchison is a psychiatrist with a PhD in pharmacogenetics as applied to psychiatry. She now holds the positions of Alberta Centennial Addiction & Mental Health Research Chair, Professor of Psychiatry and Adjunct Professor of Medical Genetics at the University of Alberta, and is also a Consulting Psychiatrist with the Edmonton Early Psychosis Intervention Clinic. Her Chair program of work is in Mental Illness and Addictions. She successfully co-led the Genome-based Therapeutic Drugs for Depression (GENDEP) study, her molecular genetics laboratory protocols coauthored have been used widely, and she has developed novel health outcome measures (e.g., the ASEC, which has been translated into Chinese). She has received many awards (e.g., FRCPsych from the Royal College of Psychiatrists, UK), and sits on international level committees (e.g., Society of Biological Psychiatry Women's Leadership Group).



Christian Beaulieu
University of Alberta

Dr. Christian Beaulieu is a Professor of Biomedical Engineering, Scientific Director of the Peter S Allen MRI Research Centre at the University of Alberta, and an Alberta Innovates – Health Solutions Scientist. His research expertise lies in the development of new magnetic resonance imaging (MRI) methods and their application to better detect quantitative differences of the human brain with typical development and in individuals with neurological disorders. His research uses a world-class human imaging facility with advanced technical abilities, such as the unique high-field 4.7T human MRI (2nd strongest in Canada and one of two in the world) and very recently (this month) a new multi-nuclear 3T MRI. His lab is best known primarily for novel studies involving the development of diffusion MRI which is used to interrogate white matter tracts. The primary clinical MRI applications have been stroke, epilepsy, healthy development/aging, and neurodevelopmental disorders. His lab also develops MRI methods for imaging sodium in human brain (rather than imaging water like in regular MRI), which is challenging and requires the use of higher strength magnetic field MRI scanners.



Lorraine Breault
University of Alberta

Dr. Lorraine Breault is a professor in Psychiatry at the Faculty of Medicine and Dentistry of the University of Alberta. She teaches in the Medical Degree Program and Post Graduate Medical Programs and continues to provide workshops and seminars on conflict resolution, self-regulation and self-management, effective communication and problem-solving, self-esteem and resiliency in the workplace, both within the Faculty of Medicine and Dentistry and externally. She is also interested in Aboriginal Health and is currently supervising medical students who are conducting research in this area. She holds a Ph.D. in Counseling Psychology and has been working within the Faculty since 1990, initially as an adjunct professor and eventually moving into a tenure-track position. She is known nationally for her work in several Psychology organizations and is actively involved with the Association of Faculties of Medicine of Canada. She was appointed by Prime Minister Harper to the Board of the Mental Health Commission of Canada in August 2007 with a term ending in 2013.



Andrew Bulloch
University of Calgary

Professor Bulloch's interests are in psychiatric epidemiology and pharmacoepidemiology. His research focuses on the risk factors for major depression and bipolar disorder while also seeking ways to accurately chart the natural history of these disorders in real time. At the same time focusing on the documentation of drug recommendations for these disorders in an effort to understand whether or not they are under-treated. He helps run the History of Neuroscience Interest Group with teaching interests in mental disorders and their biological causes, and in the history of neuroscience/psychiatry.



Guillermo A. Cecchi
IBM Research

Dr. Guillermo A. Cecchi received an education in Physics, Biology, and Imaging in Psychiatry. Since graduate school, he has been interested in diverse aspects of theoretical biology, including Brownian transport, molecular computation, spike reliability in neurons, song production and representation in songbirds, statistics of natural images and visual perception, statistics of natural language, and brain imaging. After joining IBM Research, Dr. Cecchi began working on computational approaches to brain function, with an emphasis on mathematical models to describe high dimensional data and to identify markers of complex mental disorders. More recently, he has developed novel approaches to characterize perception and cognition analytically, utilizing the increasing availability of big data on human behavior. In particular, he spearheaded the application of computational linguistics to short speech samples for diagnosis and prognosis of conditions as diverse as schizophrenia, mania, drug and alcohol intoxication and Parkinson's disease.



Ibolja Cernak
University of Alberta

Dr. Ibolja Cernak, Professor and Chair, Military Veterans' Clinical Rehabilitation, University of Alberta. Dr. Cernak is the Chair of Military and Veterans' Clinical Rehabilitation Research at the Faculty of Rehabilitation Medicine of the University of Alberta in Edmonton, Alberta. She is world renown for her clinical and experimental research on blast injuries, including blast-induced neurotrauma, with over 25 years of experience. Her current research focuses on blast injuries, including blast-induced traumatic brain injury; ballistic injuries; stress response and resilience to occupational stress; and predictors of injury and increased susceptibility toward illnesses/injuries in military and first responder populations.



Teren Clarke
Spinal Cord Injury Alberta

Teren Clarke is CEO of Spinal Cord Injury Alberta and Executive Director of the Alberta Paraplegic Foundation. She was acknowledged as a "Difference Maker" by the Rick Hansen Foundation and was selected to participate in the Rick Hansen 25th Anniversary Many in Motion Relay across Canada, taking her relay leg in a manual wheelchair in celebration of her friends and colleagues who use a chair for mobility every day. Teren was appointed by the Federal Minister of Health to the inaugural Stem Cell Oversight committee and served for 4 years, and she also served on the Advisory Committee for the Institute of Genetics for 4 years.



Chantel T. Debert
University of Calgary

Dr. Chantel T. Debert is an academic physiatrist. She currently is a member the Department of Clinical Neurosciences at the University of Calgary and co-lead of Hotchkiss Brain Institute traumatic brain injury neuroteam. Dr. Debert's research interests include using biomarkers to determine prognosis in concussion, as well as neuroendocrine abnormalities and cognitive changes in brain injury.



Lauren Drogos

University of Calgary

Lauren Drogos is an Alberta Innovates Health Research Postdoctoral Scholar at the University of Calgary in the Department of Physiology and Pharmacology, and the Hotchkiss Brain Institute. She received a B.S in Psychology from the University of Illinois Urbana-Champaign, and a M.A. and Ph.D. in Psychology – Division of Behavioral Neuroscience from the University of Illinois Chicago. Her research across the past decade has focused on the effects of steroid hormones on cognition and mood, with a focus on women’s mental health.



Terezia Farkas

Canadian Depression Research and Intervention Network

Terezia Farkas is an international Bestselling author, regular Huffington Post contributor, and columnist. She is an advocate for depression and has been involved in connecting with the public through her “Depression Help” blog and bestselling memoir, Heart of Love Evolution. She earned her two degrees, B.Sc. Psychology Specialization and B.Ed. at the University of Alberta, and is currently serving as the CDRIN Lived Experience Alberta HUB Leader (Canadian Depression Research and Intervention Network).



Nicholas Fowler
Fundraiser

Nicholas Fowler, eleven years old, has been raising money in the fight against MS since the age of seven. He was first inspired to join the fight after seeing his mom's friend Gail featured in a commercial for the MS Walk. It was at that moment he knew he wanted to raise money to help people with MS and be part of finding a cure. In the past four years, Nicholas has raised nearly \$30,000 through his dedicated and creative efforts, which have ranged from creating and selling hand-crafted elastic bracelets and custom bandanas to special healing rocks. Nicholas is committed to doing his part to raise funds for research, and continues to envision a future free of MS.



Luciene Garneau
Research Participant

In 1933, I was born on a farm in Legal, Alberta. My father is of French ancestry, and my mother is of French Canadian and First Nations ancestry. Shortly after our marriage in 1950, my husband and I relocated to Edmonton, and had four children.

My oldest daughter is 64, has schizophrenia, and won her battles with colon cancer and liver cancer at the age of 51. My only son was brain damaged at birth due to the use of forceps during delivery, and passed away at the age of 60 from a rare type of skin cancer. My other daughter passed away at the age of 51 due to lung cancer, which metastasized to her spine and brain. My husband passed away from the complications of a stroke at the age of 83. I had my stroke 5 years later, at the age of 83, when I was given the opportunity to participate in a research study on stroke. It gives me great pleasure to participate in this important work!



Christene Gordon

*Alzheimer Society of Alberta and
Northwest Territories*

Ms. Gordon has been working in the field of dementia care for almost 25 years. Her interest in dementia stems from personal experience, first with her paternal grandmother who was diagnosed with Alzheimer disease in 1977 and later when her mother was living with vascular dementia. She believes it is critical to connect people in order to develop knowledge and understanding to improve dementia care through 1) Fostering an understanding of being person-centred and the importance of providing relationship-centred support and connection with those people living with dementia and their partners in care, 2) Supporting and disseminating new thinking on dementia and promoting innovation in care, 3) Promoting the exchange of ideas and knowledge, 4) Challenging accepted dementia care training methods, and 5) Ensuring that people living with dementia are connected in a timely manner to the services and programs they need through the Alzheimer Society's First Link® program.



Kaj Korvela

*The Organization for Bipolar Affective
Disorders Society*

Kaj Korvela is the Executive Director of the Organization for Bipolar Affective Disorders, an organization focused on providing peer support for people who have lived experience of mood disorders. Through his dedicated work and his own lived experiences of bipolar disorder he has built peer support across Alberta, promoted mental health education and awareness and worked to reduce stigma. He has also worked with the Canadian Depression Research and Intervention Network to help promote and support engaging people with lived experience of depression in research. In 2014 Kaj was awarded the Lieutenant Governor Circle's True Grit award for his commitment and work to support the mental health needs of Albertans.



Karim Fouad
University of Alberta

Professor Fouad's research interests are in spinal cord injury repair and neuroplasticity. He currently works in the Department of Physical Therapy in the Faculty of Rehabilitation Medicine and Institute for Neuroscience and Mental Health at the University of Alberta where he focuses on the promotion of functional recovery after spinal cord injuries by increasing the regenerative and plastic capabilities of the central nervous system.



Brad Goodyear
University of Calgary

Dr. Bradley Goodyear is an Associate Professor in the Departments of Radiology, Clinical Neurosciences and Psychiatry, and a member of the Hotchkiss Brain Institute (HBI) in the Faculty of Medicine, University of Calgary. He is also a Scientist at the Seaman Family Centre, Foothills Medical Centre, Alberta Health Sciences. He directs the Hotchkiss Brain Institute Neuroimaging Research Institute (NIRU). Dr. Goodyear has an active research program focusing on developing functional imaging technologies for investigating stroke, Multiple Sclerosis, and Parkinson's disease. His imaging studies include understanding how functional connections in the brain change in the presence of these neurological conditions as means to better understand these disorders as well as to assess treatment and predict patient outcomes. His research has received funding from the Heart and Stroke Foundation of Canada and the National Science and Engineering Research Council.



Michael Hill
University of Calgary

Dr. Michael Hill is a Professor for the Departments of Clinical Neurosciences, Community Health Sciences, Medicine and Radiology at the University of Calgary. He is also Director of the Stroke Unit for the Calgary Stroke Program, Alberta Health Services. Dr. Hill's research interests include stroke thrombolysis, stroke epidemiology, and surveillance and clinical trials. He is funded by the Canadian Institutes for Health Research (CIHR) and holds the Heart & Stroke Foundation of Alberta/NWT/Nunavut professorship in Stroke Research. He holds and has held operating and clinical trials grants from the CIHR, Heart & Stroke Foundation of Alberta/NWT/Nunavut and from various industry partners as well as NIH (NINDS). Dr. Hill has also received a number of awards, including the Barnett, The Pessin Award and the ARP merit award and the Performance Recognition award for his role in research and his outstanding publication record.



Olga Kovalchuk
University of Lethbridge

Dr. Kovalchuk is a tenured Full Professor and the Board of Governors' Research Chair in Radiation Biology and the CIHR Chair in Gender, Work and Health at the Department of Biological Sciences, University of Lethbridge. She is an Associate Member of the Southern Alberta Cancer Research Institute and an Honorable Professor of the R.E. Kavetsky Institute of Experimental Oncology, National Academy of Sciences of Ukraine. She is a founding member of the Alberta Epigenome Network and the Southern Alberta Group for Epigenetic Studies (SAGES). Dr. Kovalchuk is often referred to as an internationally-renowned leader and an expert in radiation biology, oncology and epigenetics. Her program is devoted to uncovering the molecular mechanisms of cancer development and new approaches to cancer prevention, diagnostics and treatment. Dr. Kovalchuk's key research interest are (i) Epigenetics of health and disease; (ii) Epigenetics of carcinogenesis; (iii) Epigenetic regulation of cancer treatment responses; (iv) Radiation epigenetics and the role of epigenetic changes in genome stability and carcinogenesis.



Jack H. Jhamandas
University of Alberta

Dr. Jhamandas is a practicing Neurologist and Neuroscientist whose research focuses on studying misfolded proteins in Alzheimer's and Prion diseases and aspects of Brain control of Cardiovascular function. He is currently Vice President of Research for the Association of Faculties of Medicine of Canada, but has previously served on the Board of Directors of the Heart and Stroke Foundation of Alberta, N.W.T and Nunavut, the inaugural Advisory Board for the CIHR Institute of Neuroscience, and as Associate Dean of Research in the Faculty of Medicine & Dentistry at the University of Alberta.



Frank MacMaster
University of Calgary

Dr. Frank MacMaster is an Associate Professor in the Departments of Psychiatry and Paediatrics at the University of Calgary, Inaugural Cuthbertson & Fischer Chair in Paediatric Mental Health, and Scientific Director of the Addictions and Mental Health Strategic Clinical Network. His research interests are focused on using a neuroimaging platform to identify mechanisms that underlie neurodevelopmental and mental disorders. By doing so, one can improve health outcomes of children and adolescents in three ways: (1) by identifying the mechanisms that underlie the development of these disorders; (2) by using that new knowledge to better diagnosis neurodevelopmental and mental disorders; and (3) by developing novel treatment targets and identifying predictors of response. Dr. MacMaster's main intervention is neurostimulation. Neurostimulation methods offer the capability to modulate brain activity that in turn modulates brain function. Given the paucity of information on neurodevelopmental and mental disorders in children and adolescents, there is an urgent need to uncover the origins of these disorders and develop effective and optimally targeted interventions.



Nikolai Malykhin
University of Alberta

Dr. Nikolai Malykhin received his M.D. and Ph.D. degrees from the Belarusian State Medical University and completed his postdoctoral fellowship in psychiatric neuroimaging in the Department of Psychiatry at the University of Alberta. He is currently an Associate Professor of Neuroscience, Psychiatry, and Biomedical Engineering at the University of Alberta. Dr. Malykhin has developed one of the most advanced magnetic resonance imaging (MRI) methods for measurement of medial temporal lobe structures and their connections and applied that technology to study changes that occur in major depression and healthy cognitive aging. His research team investigates hippocampal neuroplasticity and neurogenesis *in vivo* and in order to test preclinical models of stress in humans for the first time. Discoveries in this field should have major impacts on our understanding of depression and its treatment. In this presentation Dr. Malykhin will discuss how recent advances in high-field MRI allow researchers to further understand hippocampal neuroplasticity in major depression and how it is related to antidepressant treatment, memory function, and disease progression.



Doug Manderville
Spinal Cord Injury Alberta

I sustained a C-6 spinal cord injury after diving into the shallow end of a swimming pool in Red Deer on New year's eve 1994. After spending 6 months in therapy at the Calgary General Hospital, I lived in Calgary and attended Mount Royal College pursuing a diploma in Criminology until 1998. I moved back to Red Deer to continue education in Psychology at Red Deer College. I met my wife, Colleen in April 1998 and have been married since 2001 and have 14 year old twin boys, Nathan and Tyler. I began volunteering at Spinal Cord Injury Alberta in 1999 and became Rehabilitation Counsellor in November 2000 and have had progressed through numerous positions to my current role as Manager of Regional Programs and Services.



Roger Marple

Alzheimer Society of Canada

Roger Marple lives in Medicine Hat, Alberta and is the proud father and grandfather of 3 grown children and one grandson. He is an avid sports enthusiast, enjoys playing tennis and golf, loves to travel and knows his way around the kitchen with a real appetite for baking. Roger works for Alberta Health Services and has worked in supply management in the south zone for over 23 years.

Roger also has young onset Alzheimer's disease. Since his diagnosis in the summer of 2015, Roger has made it his mission to dispel myths about the disease and the stigma associated with dementia. He is a firm believer that you can live well with disease and is passionate about sharing his message of hope.

Recently Roger was invited to join the Alzheimer Society of Canada's new advisory group to help raise awareness of the needs of people with dementia, including the specific needs of people living with young onset and/or early stage dementia. He is looking forward to adding his voice and experiences to the cause.



Gerlinde Metz

University of Lethbridge

Professor Metz's research interests focus on the influence of experience and environment on the brain plasticity and behaviour. Her research has shown that stress affects motor system function, risk of Parkinson's disease and recovery from stroke, and has also developed models to explore transgenerational inheritance of stress responses. Her research is now leading to the discovery of new predictive and diagnostic biomarkers of disease.



Scott Patten
University of Calgary

Patten is a psychiatrist and epidemiologist with the Department of Community Health Sciences in the Faculty of Medicine at the University of Alberta. He practices practice Psychiatry through the Consultation-Liaison Service at the Peter Lougheed Centre, where his focus is on the co-occurrence of psychiatric and neurological conditions. He also serves as the Principal Investigator for the Health Professionals component of the Mental Health Commission of Canada's "Opening Minds" anti-stigma research program.



Patrycia Rzechowka
MS Society of Canada

When Patrycia was diagnosed with MS in 2012 after going blind in her left eye, she was told to avoid high impact activities and to give up on running. But from that very moment, Patrycia resolved herself not to be conquered by MS. She committed herself to cycling, fought back, and recovered. Since that time, she has chosen to fight MS in everything that she does. She has become a spokesperson for the Johnson MS Bike Tour, which she also rides in every year, and has been a fierce advocate for the MS Society. Patrycia is also an MS Ambassador and a member of the MS Society of Canada, Edmonton & Capital Region Chapter Board of Directors.



Eric Smith

University of Calgary

Professor Smith directs the Cognitive Neurosciences Clinic and is a member of the Calgary Stroke Program. His research uses neuroimaging to investigate the risk factors for, and consequences of, cerebral small vessel disease in healthy populations and in patients with mild cognitive impairment or cerebral amyloid angiopathy. He leads the Vascular Cognitive Impairment team of Canada's national research strategy for dementia, the Canadian Consortium on Neurodegeneration in Aging.



Dawn Southey Hills

Lifestyle Meditation

Dawn Southey Hills has lived experience of bipolar affective disorder, anxiety disorder and ADHD, she was diagnosed when she was 28 and checked herself into Alberta Hospital for 3 months. She is now 46 and is a facilitator for Lifestyle Meditation and teaches yoga, meditation and dance to children and adults and has created a pre-school program called "Dance Around the World" that includes dance, yoga and meditation. She is passionate about using her experiences for public speaking on Suicide Prevention and Mental Health.



Regina Sullivan

New York University School of Medicine

Dr. Sullivan's research focuses on the behavioural and neural development, with the emphasis on how early life perturbations with the caregiver impact brain development to initiate pathways to pathology. She is particularly interested in the role of learning within this process and the neurobiology of early life constraints and facilitation of learning that ensures infants bonds to the caregivers. In the past, she has served as President of the International Society for Developmental Psychobiology and the Society for Neuroscience OK Chapter.



Garry Wheeler

*MS Society of Canada
(Alberta and NWT Division)*

Dr. Wheeler is an Exercise Physiologist and Registered Psychologist in the Province of Alberta. His main topics of study are the effects of chronic exercise stress on endocrine profiles and males, and retirement in athletes with disability. He is currently President of the Alberta and Northwest Territories Division of the Multiple Sclerosis Society of Canada.



Alan Wilman
University of Alberta

Alan Wilman is a professor and associate chair in the Department of Biomedical Engineering. His background training is in MRI physics. His research is focused on development and application of brain MRI, with an emphasis on applications to multiple sclerosis. Recently his group has developed new means of performing quantitative MRI to track iron accumulation in the brain. This work has led to new insight into disease progression in multiple sclerosis. His research is funded by CIHR and NSERC, and previously by the MS Society of Canada.



V. Wee Yong
University of Calgary

Dr. V. Wee Yong is a Professor at the Hotchkiss Brain Institute and the Departments of Clinical Neurosciences and Oncology at The University of Calgary. He holds the Canada Research Chair in Neuroimmunology. Dr. Yong co-directs the Multiple Sclerosis (MS) NeuroTeam of the Hotchkiss Brain Institute, providing the basic science leadership, and he directs the Alberta MS Network. Dr. Yong's research interests lie in the area of neuroimmunology, neuroprotection and CNS regeneration, and his projects are guided by MS, spinal cord injury and brain tumors. Dr. Yong has published 260 peer-reviewed manuscripts and his research has been translated into Phase III clinical trials in MS and spinal cord injury. His work has been cited over 15,000 times by other authors in scientific publications (over 23,000 times in Google Alert). Dr. Yong is the immediate past chair of the Medical Advisory Committee of the MS Society of Canada; this and other volunteer activities resulted in him receiving the Queen's Golden Jubilee Year Medallion. Dr. Yong is on the editorial board of 7 international journals. He is the current President of the International Society of Neuroimmunology. Dr. Yong is an elected fellow of both the Canadian Academy of Health Sciences (2010) and the Royal Society of Canada (2014), which represent top honors for those working in the medical and academic sciences, respectively.