



Celebrating
50 Years of CNS

OUR BRAINS, OUR FUTURE

SCIENTIFIC SYMPOSIUM

OCTOBER 18, 2019

RBC Place London



Roche Canada is a proud
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the Our Brains, Our Future:
50 Years of CNS.



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Driven by **science.**

A WELCOME MESSAGE FROM DR. DAVID STEVEN

RICHARD AND BERYL IVEY CHAIR



Dear Guests,

On behalf of The Department of Clinical Neurological Sciences, I would like to welcome you to Our Brains, Our Future: 50 Years of CNS Scientific Symposium. We are pleased to celebrate such a significant anniversary and look forward to the future.

Founded in 1969 by Drs. Charles G. Drake and Henry J.M. Barnett, ours remains one of the few departments in Canada that is shared by neurology and neurosurgery. The interdisciplinary and collaborative nature of CNS has been key to its success in the past and will remain its main source of strength in the future. Our Department has been rooted in world class neuroscience research, been a leader in education in neurology and neurosurgery while delivering excellent, evidenced based expert medical care. Today we are celebrating these accomplishments while looking forward to the next 50 years of CNS.

Our planning committee, speakers and staff have worked tirelessly to create a program that is both engaging and informative. Our Brains, Our Future: 50 Years of CNS features a wide array of internal and external speakers on Neuroimaging, Neuropathophysiology: Prevention and Repair, Medical Education and Translational Research. Each speaker was invited as an expert in their respective fields and asked to present on emerging topics within the theme. A highlight of the symposium will be the keynote address by Dr. J. Gregory Cairncross, formerly from Western and former Head of the Department of Clinical Neurosciences at the University of Calgary.

I would like to thank you for your attendance and participation in this outstanding event and hope that you enjoy our Symposium. In addition, I would like to thank our event sponsors, speakers and planners for their contributions, without which this day would not be possible.

Let's have a wonderful day!

Sincerely,

David A. Steven, MD, MPH, FRCSC, FACS
Professor of Neurosurgery
Richard and Beryl Ivey Chair
Department of Clinical Neurological Sciences
Western University

Dr. David Steven received his Bachelor of Science at the University of Manitoba. After completing his MD at the University of Manitoba, Dr. Steven completed his residency in neurosurgery at Western University. During his residency, Dr. Steven obtained his Master's of Public Health with a concentration in biostatistics at Yale University in New Haven, Connecticut. Following residency, Dr. Steven completed a clinical fellowship in epilepsy surgery at the Montreal Neurological Hospital and Institute. Dr. Steven is the Co-Director of the Epilepsy Program and devotes most of his clinical practice to the surgical treatment of epilepsy.

THE PLANNING COMMITTEE

DR. JORGE BURNEO MD, MSPH, FAAN, FAES, FRCPC



Dr. Jorge Burneo is a Professor of Neurology and Epidemiology in the Department of Clinical Neurological Sciences at Western University. He completed his Neurology residency at The Henry Ford Health Hospital and a fellowship in Epilepsy and Clinical Neurophysiology at the University of Alabama at Birmingham, where he also worked for a year while obtaining a Masters in Public Health with specialization in Epidemiology. Dr. Burneo is a Co-Director of the Epilepsy Program at Western University and the London Health Sciences Center. In addition, Dr. Burneo is the past-President of the Canadian League Against Epilepsy (CLAE), and the Vice-Chair of the communications council at the American Epilepsy Society. He is the Co-Leader of EpLink and a member of the Provincial Epilepsy Strategy. His research interests include Epidemiology of Epilepsy (He has been recently named an ICES Scientist) and neuroimaging assessment of epileptic malformations of cortical development in collaboration with the Neuroimaging group at the Robarts Research Institute.

DR. ELIZABETH FINGER MD, FAAN, FRCPC



Dr. Elizabeth Finger is an Associate Professor in the Division of Neurology at Western University, specializing in cognitive neurology. Dr. Finger completed her medical degree at Cornell University, and neurology residency training at Harvard at the Massachusetts General Hospital and Brigham and Women's Hospitals, followed by a research fellowship at the National Institutes of Health. She joined the Department of Clinical Neurological Sciences in 2007. Dr. Finger's research focuses on understanding the cognitive, neural, and genetic substrates of abnormal decision-making, emotion, and social behavior. Her research interests include Dementia, Behavioural Disorders, Cognitive Disorders, Psychopathy, and Empathy.

DR. JOSEPH MEGYESI MD, PhD, FRCSC



Dr. Joseph Megyesi is a Professor in the Division of Neurosurgery at Western University, specializing in neuro-oncology. He completed medical school at Western University in London, Ontario and did his neurosurgical training at the University of Alberta Hospital in Edmonton, Alberta. During and following his residency, Dr. Megyesi completed a PhD at the University of Alberta and a research fellowship at Harvard University. Dr. Megyesi coordinates many of the teaching elements in Western's neurosurgical residency program and he is a core member of the CME Accreditation Committee of the RCPSC. He represents the LIHN with Cancer Care Ontario. He is the past Chairman of the Brain Tumour Foundation of Canada and his work there lead to the creation of the Brain Tumour Registry of Canada, the first national resource of its kind in the country. Dr. Megyesi's research interests include the epidemiology of brain tumours, brain tumour invasion and angiogenesis, and advanced neuroimaging techniques in brain tumour neurosurgery.

DR. SHANNON VENANCE MD, PhD, FRCPC



Dr. Shannon Venance received her PhD from Queen's University and completed medical school and Neurology residency at the Faculty of Medicine, University of Ottawa. Dr Venance is an Associate Professor in the Department of Clinical Neurological Sciences, Schulich School of Medicine & Dentistry, Western University. Her clinical expertise is in disorders of muscle. Dr. Venance is actively involved in education across the learning continuum. She brings a collaborative approach and expertise in change management with a quality improvement lens to her recent roles as the Faculty Lead, MD Curriculum Implementation, Director, Postgraduate Medical Education, CBME Implementation and Assistant Secretary to the Committee on Accreditation of Canadian Medical Schools. Her contributions to medical education have been recognized with the Schulich Award of Excellence Distinguished Leader – Undergraduate Medical Education, the Douglas Bocking Award for Excellence in Medical Teaching and the Angelika F Hahn Award for Excellence in Clinical Teaching.

SYMPOSIUM AGENDA

8:00 - 8:30 a.m.

Continental Breakfast & Registration

8:30 - 8:35 a.m.

Opening Remarks

David Steven, MD, MPH, FRCSC, FACS

8:35 - 8:40 a.m.

Schulich Remarks

Davy Cheng, MSc, MD, FRCPC, FCAHS, CCPE

8:40 - 9:40 a.m.

Neuroimaging Presentation

Moderated by Joseph Megyesi, MD, PhD, FRCSC

*Ultra-high field MRI for clinical research.
Imaging leadership in London*

Ravi Menon, PhD

*The Future of Neurological Metabolic
Imaging*

Robert Bartha, PhD

*Neuroimaging of Epilepsy in the Era of
Artificial Intelligence*

Andrea Bernasconi, MD

Discussion to Follow

9:40 - 10:00 a.m.

Refreshment Break

10:00 - 11:00 a.m.

Neuropathophysiology: Prevention and Repair Presentation

Moderated by Elizabeth Finger, MD, FAAN, FRCPC

*Targeting cellular garbage removal to
understand and treat neurodegenerative
disease*

Stephen Pasternak, MD, CM, PhD

SYMPOSIUM AGENDA CONTINUED

Stroke-induced heart disease: new opportunities for preventing major adverse cardiovascular events?

Luciano Sposato, MD, MBA, FRCPC

Concussion to chronic traumatic encephalopathy: a clinical conundrum

Carmela Tartaglia, MD, FRCPC

Discussion to Follow

11:00 - 11:20 a.m.

Refreshment Break

11:20 - 12:20 p.m.

Medical Education Presentation

Moderated by Shannon Venance, MD, PhD, FRCPC

How residency education is changing – and why

Jolanta Karpinski, MD, MMed, FRCPC

Direct observation in medical education: promises and peril

Chris Watling, MD, FRCPC, MMed

CNS Education: past, present and future

Anita Florendo-Cumbermack,
MBBS, CSCN(EMG), MHPE, FRCPC

Discussion to Follow

12:20 - 1:25 p.m.

Lunch

1:25 - 2:15 p.m.

Keynote Address

Brain Cancer: The Modern Era Started Here!

Greg Cairncross, MD, FRCPC

SYMPOSIUM AGENDA CONTINUED

2:15 - 2:30 p.m.

Refreshment Break

2:30 - 3:30 p.m.

Translational Research Presentation

Moderated by Jorge Burneo, MD, MSPH, FAAN, FAES, FRCPC

50 years of presurgical language mapping

Ingrid Johnsrude, PhD

Harnessing neurosurgical privilege for translational research in neurological disease

Matthew Hebb, MD, PhD, FRCSC

Assessing fitness to drive in persons with MS: from bedside to bench to bedside

Sarah Morrow, MD, FRCPC, MS

Discussion to Follow

3:35 - 3:55 p.m.

Research Spotlight

Neurotherapeutics in a molecular era

Michael Strong, MD, FRCP, FCAHS, FAAN

3:55 - 4:00 p.m.

Closing Remarks

David Steven, MD, MPH, FRCSC, FACS

NEUROIMAGING PANEL

Moderated By: Joseph Megyesi MD, PhD, FRCSC



Dr. Ravi Menon is a Scientist at the Robarts Research Institute and a Professor in Medical Biophysics, Medical Imaging, Psychiatry and Physics at Western University. Dr. Menon earned a Bachelor's degree in Physics at the University of British Columbia and Masters in Medical Physics at McGill University before completing a Ph.D. in Medicine at the University of Alberta. His research specializes in the development of technology for ultra-high field functional magnetic resonance imaging (MRI) and using those methods to understand brain function in humans and animal models. Dr. Menon is a Fellow of the Canadian Academy of Health Sciences and the International Society of Magnetic Resonance in Medicine, and will be inducted as a Fellow of the Royal Society of Canada this November.



Dr. Robert Bartha is Director of the Imaging Research Laboratories at the Robarts Research Institute and Professor of Medical Biophysics at Western University. He specializes in the development of high-field magnetic resonance imaging (MRI) and spectroscopy techniques to examine brain metabolism for early diagnosis of disease and monitoring of treatment response. He completed his doctoral degree in Medical Biophysics at the Western University in London, Ontario. Since joining the Robarts Research Institute in 2001, he has worked closely with numerous members of the CNS department on collaborative projects including in epilepsy, brain cancer, neurodegenerative diseases, and cervical myelopathy. He has received continuous peer reviewed research funding from CIHR, NIH, NSERC and contributed to more than 140 papers examining metabolic changes in the brain associated with diverse neurological conditions in humans and animal models of disease.



Dr Andrea Bernasconi obtained his MD degree from the University of Basel and completed his neurology training at the University of Lausanne, Switzerland. In 2002, he joined as Faculty the Department of Neurology and Neurosurgery at the Montreal Neurological Institute (MNI) of McGill University, where is full Professor (with Tenure). With his wife Neda Bernasconi MD PhD, he directs the Neuroimaging of Epilepsy Laboratory at the McConnell Brain Imaging Centre. He leads the MNI Epilepsy Group as clinician-scientist. His research focuses on the use of computational neuroimaging to study the structure and function of the epileptic brain. His group has pioneered the design of several MR image post-processing methods for automatic detection of epileptogenic lesions and led machine learning applications in various epileptic syndromes. He has been the Chair of the Neuroimaging Task Force of the International League Against Epilepsy (2013-2017). He is Director of the ILAE-endorsed International Training Course on Neuroimaging of Epilepsy.

NEUROPATHOPHYSIOLOGY: PREVENTION AND REPAIR PANEL

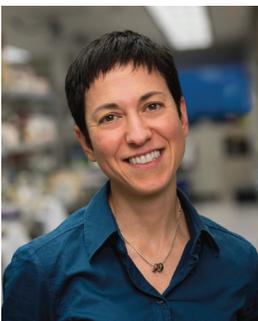
Moderated By: Elizabeth Finger MD, FRCPC, FAAN



Dr. Stephen Pasternak is an Associate Professor in the Division of Neurology at Western University and a Scientist in the Molecular Medicine Research Group at the Robarts Research Institute. He completed the MD/PhD program at McGill University, Montreal. Dr. Pasternak is the head of the Cognitive Neurology and Alzheimer's Disease Research Centre at Parkwood Institute. There, he sees patients with Neurodegenerative disease including Alzheimer's disease, Parkinson's disease and Lewy Body dementia. He also participates in academic and industry-sponsored clinical trials including his own Phase 2 trial of Ambroxol as a disease modifying treatment for Parkinson's Disease Dementia. His Laboratory at the Robarts Research Institute is focused on understanding the basic biology of Alzheimer's disease along with developing techniques to diagnose and treat Neurodegenerative disease.



Dr. Luciano Sposato is a stroke neurologist, Associate Professor at the Department of Clinical Neurological Sciences, London Health Sciences Centre (LHSC), and Scientist at Lawson Health Research Institute and Associate scientist at Robarts Research Institute. Dr. Sposato completed his medical degree at University of Buenos Aires, Argentina, followed by training in Internal Medicine and Neurology at Hospital de Clinicas, University of Buenos Aires, Argentina, and a Stroke fellowship at UWO. Dr. Sposato leads the LHSC/Western University Stroke Program and holds the Kathleen and Dr. Henry Barnett Chair in Stroke Research. Dr. Sposato's has established the Heart & Brain Lab at Western University and his research focuses on the heart and brain connection, including, stroke, atrial fibrillation and dementia; and on stroke epidemiology, to investigate how brain damage affects the heart and vice-versa through experimental, clinical and population-based research.



Dr. Carmela Tartaglia is an associate professor at the University of Toronto. She received her medical degree from McGill University, completed her residency at the University of Western Ontario and three years of clinical/research fellowship in Cognitive/Behavioral neurology at the University of California, San Francisco Memory and Aging Center. In Toronto she holds the Marion and Gerald Soloway Chair in Brain Injury and Concussion Research. Dr. Tartaglia's clinical work at the UHN memory clinic and research focus on on Frontotemporal lobar degeneration-related syndromes and on the relationship betweenconcussions and risk of developing a neurodegenerative disease. Dr. Targlia's research program uses a multi-modal approach that includes imaging and biofluid biomarkers to better understand, diagnose and treat frontotemporal lobar degeneration and post-concussion syndrome.

MEDICAL EDUCATION PANEL

Moderated By: Shannon Venance MD, PhD, FRCPC



Jolanta Karpinski is the Associate Director, Specialties Unit at the Royal College, a nephrologist at the Ottawa Hospital, working mostly in renal transplantation, and a clinician educator with experience in postgraduate medical education and CPD. Dr. Karpinski graduated from medical school at the University of Saskatchewan, and received her RCSPC certification in Internal Medicine and Nephrology after training at Queens and McGill Universities. She has also completed a renal transplant fellowship at the University of Toronto and a Masters in Medical Education at the University of Dundee. Her academic interest is in medical education. At the University of Ottawa, she served as program director in Nephrology, the Director of the Office of Faculty Development, the Director of PGME Evaluation and Accreditation, and as acting Vice-Dean PGME. She completed a 6 year term as Chair of the Royal College specialty committee in Nephrology, and has been a clinical educator in the Specialties Unit since 2011. In the role of Associate Director, she has oversight of 67 specialty and subspecialty committees as well as 20 AFC committees, and a leadership role in their implementation of Competence by Design.



Dr. Chris Watling is Professor in the Departments of Clinical Neurological Sciences, Oncology, and Family Medicine, Associate Dean for Postgraduate Medical Education, and a Scientist at Schulich's Centre for Education Research and Innovation. Dr. Chris Watling received his MD from Dalhousie University, completed residency training in neurology at Western University, and a fellowship at the University of Texas M.D. Anderson Cancer Centre in Houston. He completed a Masters in Medical Education from the University of Dundee (2009), and a PhD in Health Professions Education from Maastricht University (2014). His research explores how and why feedback influences learning, how direct observation and coaching play out in clinical settings, and how medicine's professional culture shapes its educational practices. His favorite professional activity, however, is teaching (and writing about) writing.



Dr. Anita Florendo-Cumbermack is an Assistant Professor of Neurology in the Department of Clinical Neurological Sciences at Western University. She completed residency and fellowship training the Department of CNS at Western University. Dr. Florendo-Cumbermack has a Master's degree in Health Professions Education (MHPE) from Maastricht University in collaboration with the Centre for Education Research and Innovation (CERI), Western University and the Centre for Health Education Scholarship (CHES), University of British Columbia. Her degree was focused on adult and workplace based learning, management of postgraduate medical education programs and programs of assessment. Dr. Florendo-Cumbermack is a recipient of the Angelika F. Hahn Award for Excellence in Clinical Teaching. She is the Chair of the Neurology Competence Committee.

KEYNOTE ADDRESS

DR. GREGORY CAIRNCROSS

Introduced By: David Steven MD, MPH, FRCSC, FACS



Dr. Gregory Cairncross is the Director of the Charbonneau Cancer Institute and former Head of the Department of Clinical Neurosciences at the University of Calgary. After graduating from Western, he trained in Medicine and Neurology in Toronto and New York, before joining the Departments of Oncology and Clinical Neurological Sciences at Western, where he remained until 2002.

Dr. Cairncross is best known for his contributions to the understanding of a brain cancer called oligodendroglioma. He and Dr. David Macdonald observed their unique sensitive to chemotherapy and he and Dr. David Louis demonstrated that co-deletion of chromosomes 1p and 19q is a molecular marker of chemosensitivity and long survival in this cancer. With the RTOG, he led the North American randomized controlled clinical trial that confirmed these findings. Co-deletion of 1p/19q is now a cornerstone of the molecular classification of the adult gliomas and testing for this biomarker is used worldwide to diagnose and manage patients with oligodendroglioma. He has written extensively on the biology and therapy of gliomas and is a member of the Royal Society of Canada.

TRANSLATIONAL RESEARCH PANEL

Moderated By: Jorge Burneo MD, MSPH, FAAN, FAES, FRCPC



Dr. Ingrid Johnsrude is a Western Research Chair in Cognitive Neuroscience, Professor in the Department of Psychology and in the School of Communication Sciences and Disorders, and Director of the Brain and Mind Institute. She received her BSc in Psychology from Queen's University, and then trained at the Montreal Neurological Institute and McGill University with pioneering neuropsychologist Brenda Milner, receiving her PhD in clinical psychology. Dr. Johnsrude completed a postdoctoral fellowship at the Wellcome Trust Centre for Neuroimaging in London UK. She was then recruited to the Medical Research Council Cognition and Brain Sciences Unit, Cambridge, UK. She eventually returned to Queen's University, where she held a Canada Research Chair. She was recruited to Western University in 2014, as the first Western Research Chair.



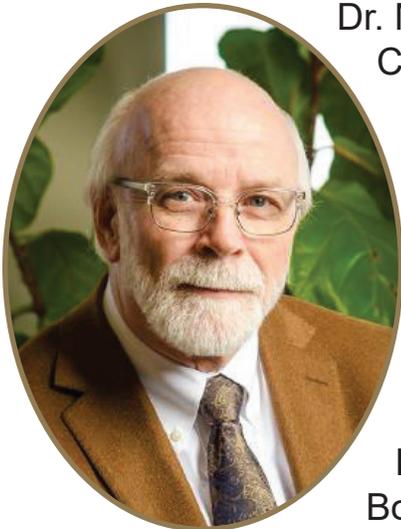
Dr. Matthew Hebb is an Associate Professor of Neurosurgery in the Department of Clinical Neurological Sciences at Western University. He holds BSc degrees in Biology and Mathematics from Dalhousie University. Dr. Hebb attained his PhD in Pharmacology and Neuroscience at Dalhousie. He went on to complete the MD program at the University of Toronto before his Neurosurgery residency at Dalhousie University and fellowship in skullbase and cerebrovascular surgery at Barrow Neurological Institute in Phoenix, Arizona. In addition to his current position with CNS, Dr. Hebb is cross-appointed in Neuroscience, Anatomy and Cell Biology, Otolaryngology and Oncology at Western. Dr. Hebb's clinical practice focuses on complex cranial surgery and surgical Neuro-oncology. Dr. Hebb also directs the Laboratory of Neuro-oncology and Molecular Neurosciences, a state-of-the-art research facility at University Hospital which explores the pathophysiology and experimental therapeutics for presently incurable neurological cancers and neurodegenerative disease.



Dr. Sarah Morrow is an Associate Professor for the Division of Neurology in the Department of Clinical Neurological Sciences at Western University and Director of the London (ON) MS Clinic. She received her Medical Degree from the University of Calgary and completed her residency training in neurology at Western University. This was followed by a clinical fellowship in MS at the London MS clinic at Western University and a research fellowship on Cognition and MS at the Jacobs Neurologic Institute in Buffalo, New York with Dr. Ralph Benedict, Neuropsychologist. Dr. Morrow has also completed a Master's of Science in Epidemiology at the State University of New York at Buffalo. In addition to her clinical work in the London MS clinic, she established the first Multiple Sclerosis Cognitive clinic in Canada located at Parkwood Institute. Dr. Morrow serves on the boards of the Consortium of MS Centers International Multiple Sclerosis Cognition Society (IMSCOGS).

RESEARCH SPOTLIGHT

DR. MICHAEL STRONG

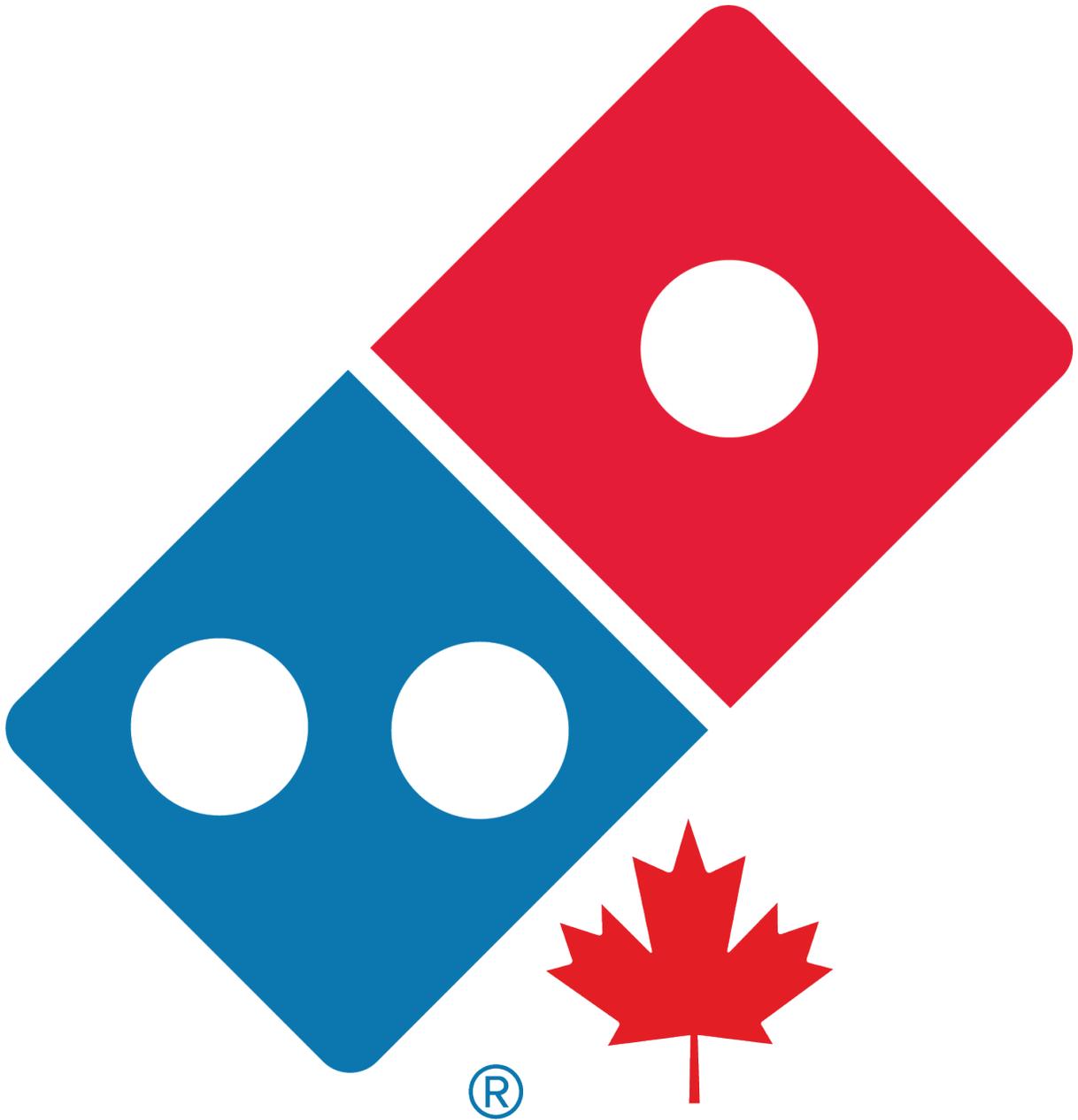


Dr. Michael Strong was appointed President of the Canadian Institutes of Health Research (CIHR), effective October 1, 2018. Prior to joining CIHR, Dr. Strong was Dean of the Schulich School of Medicine & Dentistry and a Distinguished University Professor at Western University. From 2000 to 2010, he served as the Chief of Neurology and Co-Chair of the Department of Clinical Neurological Sciences at the London Health Sciences Centre and Western University. He has also served as Co-chair of the Canadian ALS Research Consortium and is a former member of the Board of Directors of the ALS Society of Canada.

Dr. Strong's clinical research has focused on understanding the neurodegenerative disease amyotrophic lateral sclerosis (ALS), also known as Lou Gehrig's disease. He is particularly interested in the occurrence of non-motor manifestations of the disease including the cognitive, behavioural, and emotional syndromes associated with ALS. His lab has focused on defining the role of alterations in tau protein metabolism in the frontotemporal syndromes of ALS and, increasingly, in traumatic brain injury.

Dr. Strong has published over 190 peer-reviewed articles and 29 chapters, edited four textbooks, and been invited to give over 160 lectures on ALS research, throughout Canada and around the world. He is a recipient of both the Sheila Essey Award and the Forbes Norris Award, the only Canadian to have received both awards for ALS research. He was also awarded the Queen Elizabeth II Diamond Jubilee Medal, in 2012, for his contributions to ALS research and care.

Dr. Strong earned his degree in medicine at Queen's University, undertook neurology training at Western University, and completed postgraduate studies at the Laboratory of Central Nervous System Studies at the National Institutes of Health in Bethesda, Maryland.



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At Roche, we are working on understanding how diseases differ down to the molecular level, so we can develop new tests and medicines that prevent, diagnose and treat these diseases. With our combined strengths in diagnostics and pharmaceuticals, our personalized healthcare strategy aims to fit the right treatment to the right patient.

As the world's largest biotech company, we develop breakthrough medicines, improving the standard of care across oncology, immunology, infectious diseases, ophthalmology and neuroscience. Our track record has allowed us to build lasting and meaningful partnerships across the world with research academia and public healthcare institutions. Going forward, our ability to capture and understand unprecedented amounts of data from multiple sources will allow for a higher resolution and a more in-depth view of each patient, thus putting the promise of truly personalized healthcare within reach. With a strong and diverse portfolio covering the most common to the rarest neurological conditions, Roche is approaching neuroscience and rare disease with curiosity, passion and rigour. Our mission is rooted in our formula: follow the science to improve the lives of people.



Inspired by **patients.**
Driven by **science.**

At UCB Canada Inc., patients are at the heart of everything we do. Since UCB Canada Inc. was established in 2006, we have continuously maintained invaluable programs for patients and healthcare professionals. Many of the

programs we support are noted for their innovation and pioneering work in health care. We are proud supporters of Canadian researchers and to date, more than 6,000 Canadians have participated in over 20 global clinical trials through leading centres across the country.

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#OurBrainsOurFuture



Celebrating
50 Years of CNS

OUR BRAINS, OUR FUTURE