

HBI – Melbourne Epilepsy Symposium Speakers

Welcome & Opening Remarks – Day 1



Professor Samuel Weiss, PhD

Dr. Samuel Weiss, is a Professor in the Cumming School of Medicine's Departments of Cell Biology and Anatomy and Physiology and Pharmacology at the University of Calgary. An Alberta Heritage Foundation for Medical Research Scientist, he received his BSc in Biochemistry from McGill University and his PhD in Neurobiology from the University of Calgary. He is the inaugural and continuing director of the Hotchkiss Brain Institute at the University of Calgary whose mission is to translate innovative research and education into advances in neurological and mental health care. The Hotchkiss Brain Institute is now a world class research institute of 450 scientists and trainees, along with 300 professional staff. Dr. Weiss' own explorations into the brain have changed the fields of developmental neurobiology and neural regeneration, and have earned him one of the world's most prestigious medical science awards, a Gairdner International Award.



Professor Samuel Berkovic, AM MD FAA FRACP FRS

Samuel Berkovic is Laureate Professor in the Department of Medicine, University of Melbourne, and Director of the Epilepsy Research Centre at Austin Health. He is a clinical neurologist and clinical researcher with a special interest in establishing close research links with basic scientists. His group, together with molecular genetic collaborators in Adelaide and Germany, discovered the first gene for epilepsy in 1995 and subsequently have been involved in the discovery of many of the known epilepsy genes. This has changed the conceptualization of the causes of epilepsy and is having a major impact on epilepsy research, and on strategies for diagnosis and development of new treatments. He is currently a principal investigator of Epi4K, the NINDS Epilepsy Genetics 'Center without Walls'. He also has active research interests in surgical evaluation and outcome, new onset seizures, treatment of epilepsy and imaging in epilepsy and in Australia heads a large Program Grant integrating genetic, imaging and physiological studies in epilepsy. He was elected a Fellow of the Royal Society in 2007.



Dr. Ed McCauley, Vice-President (Research)

Dr. McCauley is an internationally-recognized scholar and researcher with a long and distinguished career as a leader in developing innovative, interdisciplinary research centres, partnerships and projects. He is one of the world's foremost researchers in Population Ecology, blending theory and experiment to understand aquatic systems and important water issues.

He was a professor at the University of Calgary in the Department of Biological Sciences from 1985 to 2009. Following his role as Director of the prestigious National Center for Ecological Analysis and Synthesis at the University of California, Santa Barbara (UCSB) and professor in the Department of Ecology, Evolution and Marine Biology at UCSB, Dr. McCauley returned to the U of C.

During his years at the University of Calgary, Ed has been actively involved in research collaborations and academic administration and is deeply committed to the community. He has served on and chaired countless boards and committees, including GFC's University Teaching and Learning Fund Committee and Academic Program Committee, the Provost's Academic Program Review Steering Committee, the Vice-President (Research) Review Committee and the Vice-President (Research) Chairs Review Committee.

Session 1 [Imaging](#)



Professor Alan Connelly, PhD

Alan Connelly is head of the Advanced MRI Development Group at the Florey Institute of Neuroscience and Mental Health in Melbourne, and is co-Head of the Florey Imaging Division. He is an MRI development physicist whose work has encompassed a range of MR methods, with current focus primarily on diffusion and perfusion MRI and their application to the investigation of clinical and neuroscience problems (in particular related to epilepsy, stroke, and cognitive function). His research group is internationally recognised as leaders in the field of diffusion MRI, and has developed novel methods to identify and characterise the complex white matter fibre connections in the brain. This group developed and freely distribute the MRtrix software package, which is widely used internationally for advanced processing of diffusion MRI data. He has published widely in magnetic resonance, general scientific, and neuroscientific journals.



Professor Graeme Jackson, MBBS MD FRACP

Professor Graeme Jackson is a Neurologist at the Austin hospital, Melbourne Australia, and a clinician researcher in advanced brain imaging and epilepsy. His research is based on using innovations in MRI technology to understand the structure and function of the brain, and applying that to the understanding of epilepsy. His focus is on translating research insights to the treatment of patients.

He is active in supporting research excellence in his and related fields. He is deputy director of The Florey Institute of Neuroscience & Mental Health, Professorial Fellow of the University of Melbourne and Clinical Research Fellow of the National Health and Medical Research Council of Australia (NHMRC). He has personally received the NHMRC excellence award for highest ranked clinical fellow and, with other chief investigators, the NHMRC excellence award for highest ranked research program. He chairs the Science Council of Neuroscience Victoria and the Academic Board of the Institute for Social Neuroscience. He has served a term as Associate Editor of *Epilepsia* (Imaging) and is currently on the Diagnostic Methods commission of the International League against Epilepsy.

Qualifications include: BSc (Honours, Psychology); MB.BS and MD (Monash University); FRACP (Fellow Royal Australasian College of Physicians). He has published over 250 peer reviewed primary data papers with over 44 citations per publication (ISI).



Dr. Richard Frayne

Dr. Richard Frayne is a Professor (with tenure) in the Departments of Radiology and Clinical Neuroscience, a member of the Hotchkiss Brain Institute (HBI) and an associate member of the Libin Cardiovascular Institute of Alberta (LCIA) at the Faculty of Medicine, University of Calgary. He is also a Scientist at the Seaman Family Centre, Foothills Medical Centre, Alberta Health Services and the Associate Director of the Biomedical Engineering Graduate Program and currently serves on the Physics and Astronomy Graduate Affairs Committee. He holds a BAsC (Electrical Engineering, 1989) from the University of Waterloo and PhD from the University of Western Ontario (Medical Biophysics, 1994).

Dr. Frayne's research interests are in the development and application of new magnetic resonance imaging techniques in humans for the study, detection and treatment of vascular disease. Current specific interests include imaging for stroke prevention and in acute stroke, small vessel disease, angiography in the lower limbs, and MR-based endovascular therapy. Dr. Frayne is also interested in advanced image reconstruction and signal processing strategies, and in the clinical vascular applications of molecular imaging and 3D ultrasound. Research interests include dementia and cognitive disorders and multiple sclerosis.



Dr. Amir Omidvarnia, MSc PhD

Amir Omidvarnia has been a postdoctoral researcher at the Epilepsy Imaging group, the Florey Institute of Neuroscience and Mental Health, since 2014. He received a BSc degree from Amirkabir University of Technology, Tehran, Iran, in 2002, an MSc degree from the University of Tehran, Tehran, Iran, in 2005, and a PhD from the University of Queensland, Brisbane, Australia, in 2014, all in biomedical engineering. His PhD was on EEG signal analysis with application to newborn brain abnormality detection. He is currently working with Prof. Graeme Jackson on the development of EEG-fMRI data fusion techniques for better understanding of epilepsy. His research interests include brain connectivity, multimodal neuroimaging and medical signal processing.



Dr. Genevieve Rayner, MPsych PhD

Genevieve Rayner is a postdoctoral research fellow in the Epilepsy Imaging team at the Florey Institute of Neuroscience and Mental Health, focusing on how alterations to cognition-related brain networks are linked to the symptoms of psychopathology and to processes of psychological adjustment in people with epilepsy. Genevieve is also an Honorary Fellow and Sessional Lecturer in the Melbourne School of Psychological Sciences at The University of Melbourne, and currently practices as a clinical neuropsychologist in a head injury/concussion rehabilitation team at Barwon Health. Genevieve is an early career researcher with growing expertise in cognitive and affective neuroscience; to date she has explored these relationships in models of network disease (epilepsy) as well as in healthy controls, using behavioural methodologies and neuroimaging. Her recent PhD described psychiatric and cognitive markers of network disease in epilepsy, including two phenotypes of depression that index cognitive networks. In recognition of her work to date, she has been awarded Young Investigator prizes by both the Epilepsy Society of Australia and the American Epilepsy Society in 2016.



Dr. Paolo Federico

Paolo Federico MD, PhD, FRCPC is an Associate Professor in the Departments of Clinical Neurosciences and Radiology at the University of Calgary. He is a neurologist and epileptologist and his research program focuses on imaging in epilepsy. His MR research studies focus on understanding the pre-ictal state, generation of interictal discharges, as well as language and motor reorganization in focal epilepsy. He also has an interest in seizure-related structural brain changes, vascular changes, as well as advanced EEG analytical techniques. He has received funding Canadian Institutes of Health Research, Alberta Heritage Foundation for Medical Research, American Epilepsy Foundation, Savoy Foundation for Epilepsy, and Epilepsy Canada.



Dr. Thijs Dhollander, MInfTech PhD

Thijs Dhollander, originally from Belgium, is a postdoctoral researcher at the Florey Institute of Neuroscience and Mental Health. He holds a Bachelor and Master in informatics (computer science), a post-graduate degree in advanced medical imaging and a PhD degree in Engineering from the University of Leuven in Belgium. His PhD was on the topic of diffusion MR image processing. He moved to Melbourne and joined the Florey Institute 2 years ago, where he works in the Imaging division with Prof. Alan Connelly, on advanced methods for modelling diffusion MR data. He is currently developing automated data-driven methods to extract tissue-specific information from more conventional (clinically feasible) diffusion MR data.



[Dr. Bradley Goodyear](#)

Bradley Goodyear, PhD, is an Associate Professor in Radiology, Clinical Neuroscience and Psychiatry, Deputy Scientific Director of the Seaman Family MR Research Centre and Leader of the HBI's Neuroimaging Research Unit. As part of his research program he is developing magnetic resonance imaging analysis techniques to better understand the dysfunction of brain structural and functional networks in the presence of neurovascular and neurological disease (including epilepsy).

Session 2 [Pathomechanisms, Mouse Models, Genetics, TBI](#)



[Dr. G. Campbell Teskey](#)

Dr. Cam Teskey is a Professor in Cell Biology and Anatomy, Education Director for the Hotchkiss Brain Institute and Co-Leader of the Hotchkiss Brain Institute (HBI) Epilepsy NeuroTeam. He is the representative from the Canadian Research Initiative to the Canadian League Against Epilepsy (CLAE) and sits on the CLAE Education Committee. His research interests include determining the relationship between epilepsy, behavioural disruption and its mechanistic underpinnings as well as methods (like deep brain stimulation) of reversing seizure-induced alterations in behaviour and brain. He has discovered that repeated seizures in the motor neocortex alter forelimb motor performance much like fine motor coordination deficits seen in people with frontal lobe epilepsy. He has also described many other alterations in motor cortex anatomy and function that are associated with the motor performance deficits and larger motor maps. His laboratory has more recently discovered that seizures result in a postictal period characterized by hypoperfusion/hypoxia which is causally related to memory and motor disturbances. The enzyme cyclooxygenase-2 and calcium channels play mechanistic roles in the expression of the postictal hypoperfusion/hypoxia. His intention is to further interrogate the phenomenon, determine the mechanisms and translate the findings to the clinic.



[Professor Steven Petrou, PhD](#)

Steven Petrou is a Professor of Translational Neuroscience in the Department of Medicine at the University of Melbourne and Deputy Director of the Florey Institute for Neuroscience and Mental Health. His research focuses on the disease biology of epilepsy and recent focus has been on unravelling the genetic, biophysical and neurophysiological consequences of de novo mutations in the epileptic encephalopathies. He leads a large team of interdisciplinary researchers that can address mutant analysis at multiple structural and functional levels needed for a complete understanding of the emergent pathomechanisms. His group also works toward the generation of disease mechanism targeted therapies and recent highlights include disease mechanism targeted strategies for Dravet Syndrome and Epilepsy of Infancy with Migrating Focal Seizures. He works closely with Industry and is scientific co-founder of EpiPM therapeutics and serves on the scientific advisory board of Pairnomix.



Dr. Jong Rho

Jong M. Rho, MD, is a Professor of Pediatrics, Clinical Neurosciences, Physiology and Pharmacology in the Cumming School of Medicine at the University of Calgary. He is also Section Chief of Pediatric Neurology at the Alberta Children's Hospital, Theme Leader of the Alberta Children's Hospital Research Institute, and the inaugural holder of the Dr. Robert Haslam Chair in Pediatric Neurology. Dr. Rho's research interests focus on mechanisms underlying the anti-seizure and neuroprotective properties of metabolism-based treatments such as the ketogenic diet, and the neuropharmacology of anticonvulsant compounds. His research activities have been sponsored by research grants from the NIH and CIHR, and a variety of intramural and extramural public and private sector sources.



Dr. Melody Li, PhD

Melody Li is a post-doctorate at the Epilepsy Division, Florey Institute of Neuroscience and Mental Health. She completed undergraduate studies from the University of Melbourne with Bachelor of Biomedical Science (Honours) in 2010. She then obtained the Australian Postgraduate Award and completed PhD studies in Florey Institute of Neuroscience and Mental Health in 2014. Her research projects involve identifying the pathological mechanisms underlying genetic epilepsies using in vitro and pre-clinical models.



Dr. Deborah Kurrasch

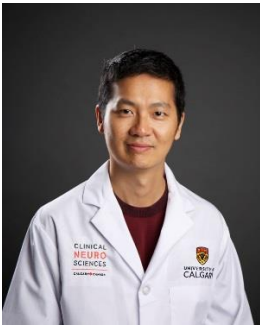
Dr. Deborah M Kurrasch is an Assistant Professor in the Department of Medical Genetics at the University of Calgary and a Scientist at the Alberta Children's Hospital Research Institute. Dr. Kurrasch's research is focused on characterizing the genetic programs that govern hypothalamic development using both mice and zebrafish as model organisms. More recently, the Kurrasch laboratory has become interested in understanding how exposure to environmental challenges (e.g. maternal obesity, inflammation, and chemicals) in utero become translated into changes in brain cytoarchitecture, especially within the hypothalamus. Her lab has also developed a novel drug screening platform that uses zebrafish seeks to uncover therapies for a variety of CNS disorders. Her work is funded by the Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, among other private foundations, and she currently is the Lead PI on a large, multi-center grant funded by Brain Canada.

Dr. Kurrasch received her PhD in Molecular Pharmacology from Purdue University and conducted two postdoctoral fellowships, one at the University of Texas – Southwestern Medical Center in Dallas and one at the University of California – San Francisco.



Associate Professor Chris Reid, PhD

Chris Reid is a Dowd Fellow and heads the Neurophysiology of excitable networks laboratory at the Florey Institute of Neuroscience and Mental Health. He has a keen interest in identifying novel therapeutic strategies in the epilepsies. This includes using mice models based on epilepsy causing mutations found in humans. Investigations in these mouse models have enabled predictions to be made about targeted therapy in the genetic epilepsy. Other avenues of research include the use of novel HCN channel blockers as anticonvulsant agents and a focus on synaptic Zn²⁺ as a potential modulator of neuronal excitability. A/Prof Reid is Deputy Director of the Australian Course of Advanced Neuroscience (ACAN) and sits on the council of the Australasian Neuroscience Society.



Dr. Minh Dang Nguyen

Minh Dang Nguyen, PhD, is an Associate Professor in Clinical Neurosciences and a member of the Hotchkiss Brain Institute. His research program focuses on the structural and signaling roles of the cytoskeleton in the nervous system. The Nguyen lab has recently generated a new animal model with postnatal defects in the cytoskeleton of CA1 pyramidal neurons. These animals display cellular, molecular, anatomical and behavioral abnormalities reminiscent of epilepsy, including seizures and cognitive dysfunction. Nguyen and colleagues are currently dissecting the postnatal mechanisms underlying epileptogenesis, and exploring potential avenues for therapeutic interventions in epilepsy.



Dr. Sandy Shultz, MSc PhD

Sandy Shultz is an NHMRC-funded Senior Research Fellow and head of the translational traumatic brain injury laboratory at the Department of Medicine, The Royal Melbourne Hospital, University of Melbourne. His research aims to understand the pathophysiological mechanisms, identify biomarkers, and develop therapeutic approaches for traumatic brain injury and related conditions, such as acquired epilepsy. His studies often incorporate a range of neuroimaging, behavioural, electrophysiological, cellular, and molecular neuroscience techniques.



Dr. Richelle Mychasiuk

Dr. Mychasiuk is an Assistant Professor in the Department of Psychology. Dr. Mychasiuk's key research interests are in the area of developmental origins of neuroplasticity. Her research focuses on the relationship between early developmental programming events and susceptibility for neurodevelopmental disorders. Her laboratory uses extensive behavioural and epigenetic techniques to examine the pathophysiological association between early experiences and neurodevelopmental plasticity. This work has been particularly rooted in the investigation of the fetal programming theory and understanding the mechanisms by which early experiences can compromise long-term neurological functioning. The phenomena known as fetal/early programming promotes stable modifications to the epigenome (the complex regulatory network of heritable modifications that regulate genetic function without altering the actual genome) that may paradoxically increase an individual's risk for disease and dysfunction later in life if there are discrepancies between early and long-term environmental exposures. One of the key goals of Dr. Mychasiuk's research is to develop safe preventative and therapeutic interventions that will address the source of the dysfunction and promote the reestablishment of typical developmental trajectories.



Dr. Michael Hildebrand, PhD

Michael Hildebrand is a mid-career molecular geneticist (PhD 2006, University of Melbourne) with expertise in next-generation sequencing and linking genes to phenotype. He has an extensive track record for his stage of career (63 papers, H-index 26) highlighted by 31 first author articles and 30 papers in the last 5 years. Key contributions in his PhD and US postdoc (University of Iowa) were discovery of 6 genes (AJHG X3, PNAS X2, Nat Comm), deafness therapies (JARO, Mol Ther, Hear Res), genotype-phenotype correlations (> 20 papers), and a total of 47 peer-reviewed publications. In the last five years (2011-2016) PI Hildebrand has transitioned his skills to epilepsy and speech disorders leading to 15 papers including discovery of 5 genes (e.g. Nat Genet X2, Am J Hum Genet, Hum Mol Genet X2). Peer recognition is evidenced by his research grant funding track record (contributed to grants worth \$7.2 million, over \$1.5 million as PI), continual success in obtaining salary support including Postdoctoral Training and Career Development Fellowships, promotion to head of the Translational Neurogenetics Laboratory in 2011, platform invitation to American Epilepsy Society Annual Meeting 2015, and demand for peer-reviews and mentoring.

Welcome to Day 2



Dr. Nathalie Jetté

Nathalie Jette, MSc, MD FRCP, is a Professor in Neurology and Community Health Sciences, Director of the Epilepsy Clinic and Seizure Monitoring Unit, Leader of the Hotchkiss Brain Institute (HBI) Epilepsy NeuroTeam and Leader of the HBI Neuro and Mental Health Research Clinic at the University of Calgary. She holds a Canada Research Chair in Neurological Health Services Research, is an elected member of the Royal Society of Canada College of Scholars, Artists and Scientists and is the current President of the Canadian League Against Epilepsy. As part of her research program she is studying appropriateness of care in epilepsy, disparities in care, comorbidities (particularly mental health) and epilepsy outcomes (with a particular interest in surgical outcomes and patient reported outcomes). She is developing online tools and using a variety of knowledge translation approaches to improve care for persons with epilepsy.

Session 3 [Neural/Silicone Interface, Mathematics](#)



Dr. Dean Freestone, PhD

Dr. Freestone's research is focused on reverse engineering the human brain. He is developing methods to create a mathematical blueprint of the brain, so engineering methods can be used to treat neurological disorders. His research is being translated to an implantable device that is designed to predict and control epileptic seizures. He also works closely IBM Australia, where the team is creating specialised computer chips that can interface with the brain and bypass broken neural circuits. Dr. Freestone has a degree in Electronic Engineering from La Trobe University, Australia. In 2012, Dr Freestone completed his PhD in the Electrical and Electronic Engineering Department at the University of Melbourne (and The University of Edinburgh on exchange), where he won the John Melvin Memorial Scholarship for the best PhD in Engineering and the University wide Chancellor's Prize for PhD Excellence. Dr Freestone was the 2014-2015 Victorian Fulbright Postdoctoral Fellow, where he worked in the Neural Statistics Lab at Columbia University in New York City, USA. He is now a junior faculty member in the Department of Medicine at St. Vincent's Hospital Melbourne, since October 2015.



Dr. Colin Dalton

Colin Dalton, MSc, PhD, is an Adjunct Professor and Facility Manager of the Advanced Micro/Nanosystems Integration Facility (AMIF) at the University of Calgary. AMIF is a microfabrication cleanroom that enables researchers and businesses to develop their ideas into functional prototypes. His collaborative research in electronic-neuron interfaces with colleagues in the Faculty of Medicine has led to a patented new design of stimulation chip that has a resolution fifteen times better than commercially available products. He also investigates 3D microelectrodes for recording activity from brain slices as well as implantable nerve regeneration devices to improve nerve injury outcomes. Other research interests include micro-needle arrays for painless transdermal fluid transfer, and electrokinetics; the movement of fluids by electric fields in microfluidic lab-on-a-chip devices.



Dr. Andre Peterson, PhD

Andre's research is at the intersection of neuroscience/physics/math and uses a multi-disciplinary approach to investigate brain dynamics with applications to understanding electrophysiology and epilepsy. This approach fuses the neuroanatomy, neurophysiology and neuropathology of multiple spatial and temporal scales, with techniques from mathematical neuroscience and theoretical biophysics. His work focusses on neural network dynamics from a theoretical perspective, particularly the relationship between network structure and network dynamics, which can be applied to understanding epileptic networks with respect to their connectivity. Currently, he is working on methods to analyse the dynamics of patient-specific brain structures from structural and functional neuroimaging data.

Dr. Andre Peterson has degrees in neuroscience (undergraduate) and theoretical physics (postgraduate) and a doctorate in theoretical neuroscience from the Centre for Neural Engineering, University of Melbourne and the Department of Neurology, St. Vincent's Hospital, Melbourne. His PhD examined the effects of different synaptic mechanisms on neural field models of epilepsy. He is currently the MAWA University of Melbourne fellow and the Sir John Eccles research fellow at the Department of Medicine, St. Vincent's hospital, University of Melbourne.



Dr. Kris Vasudevan

Kris Vasudevan Ph.D. (Chemistry), PGeoph (Professional Geophysicist), Alexander von Humboldt Fellow, Adjunct Faculty Member in Mathematics and Statistics, University of Calgary

Research fields and interests: Computational theoretical chemistry, reflection seismology, deep crustal seismology, earthquake seismology, pattern recognition and image processing, non-linear dynamical systems, mathematical modelling of epileptic seizures, EEG and BOLD fMRI data processing and interpretation, hypoxia.

Session 4 [Epidemiology](#)



Dr. Colin Josephson

Colin Josephson MD, MSc, FRCPC, CSCN (EEG) is an Assistant Professor of Neurology and clinician-scientist in the Department of Clinical Neurosciences, O'Brien Institute for Public Health, and the Hotchkiss Brain Institute. He completed his medical school and neurology residency at Dalhousie University and has completed fellowships in intracranial vascular malformations at the University of Edinburgh and epilepsy and EEG at the University of Calgary. His major research interest is the application of 'Big Data' to developing clinical decision rules and diagnostic and prognostic modeling for epilepsy. He has been the recipient of the 2010 European Stroke Conference Young Investigator of the Year Award and has received funding through the 2014 American Brain Foundation/American Academy of Neurology/American Epilepsy Society/Epilepsy Foundation Susan S. Spencer Clinical Research Training Fellowship in Epilepsy.



Dr. Ken Myers, MD PhD FRCPC

Ken Myers is a Paediatric Neurologist and Clinical-Research Epilepsy Fellow at Austin Health in Heidelberg, Victoria, and also holds an honorary fellow appointment at the Royal Children's Hospital in Parkville, Victoria. While engaged in clinical epilepsy training, he also coordinates a number of research projects, all related to the genetics of epilepsy. Current and recently completed research projects include multiple phenotyping studies, clinical drug trials, heart rate variability as a biomarker of SUDEP risk and transcriptional abnormalities in ring chromosome-associated epilepsy. He was recently named a recipient of a Taking Flight research grant from Citizens United for Research in Epilepsy (CURE).



Dr. Samuel Wiebe

Dr. Samuel Wiebe MSc, MD is Professor in the Departments of Clinical Neurosciences, Community Health Sciences, and Pediatrics for the Cumming School of Medicine, University of Calgary. He is the Associate Dean for Clinical Research and Director and founder of the faculty-wide Clinical Research Unit in the Cumming School of Medicine at The University of Calgary. He is Director of the Calgary Comprehensive Epilepsy Programme. He has had held national and international leadership roles in epilepsy, including President of the Canadian League Against Epilepsy, Chair of the North American Commission of the International League Against Epilepsy, Secretary General and then Treasurer of the International League Against Epilepsy. Dr. Wiebe is past Kinsmen Chair in Paediatric Neurosciences, and he currently holds the Hopewell Professorship in Clinical Neurosciences Research and is a Fellow of the Canadian Academy of Health Sciences. Dr. Wiebe's academic and research interests include: health research informatics and analytics, outcomes research in clinical neurosciences, randomized neurosurgical trials, quality of life, epidemiological research and evidence based medicine.



Dr. Katherine Howell, MBBS

Katherine Howell is a paediatric neurologist and epileptologist at the Royal Children's Hospital, Melbourne. She is a PhD candidate at the University of Melbourne and the Murdoch Children's Research Institute, undertaking a population-based study on the epidemiology and aetiologies of severe infant epilepsies, with a focus on identifying genetic and occult malformative causes. This data will inform changes to diagnostic pathways in clinical practice and inform priorities for future research into these conditions. She is also involved in a number of collaborative projects including the Australian Genomic Health Alliance, a nationwide initiative to integrate genomic testing into clinical practice.



(Moderator)

Dr. Jeff Buchhalter

Jeffrey Buchhalter MD, PHD is a Professor in Pediatrics and Neurology, Director of the Comprehensive Children's Epilepsy Centre at Alberta Children's Hospital, Vice-Chair of the American Academic of Neurology Epilepsy Section and former member of the International League Against Epilepsy Task Force on Terminology and Classification. His current research program involves informatics approaches to improving outcomes for children with epilepsy via structured electronic health records by which patient and population metrics are made available to the provider and researcher on a daily basis. He is developing a formalized, computable, multi-axial ontology for seizures & epilepsies that incorporates modern basic science, especially genetics, in addition, to other research projects including network analysis of childhood absence epilepsy and EEG monitoring of neonatal seizures.