

November 8th 2019

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Keynote Dr. Donald Redelmeier

WELCOME

Welcome to the eleventh annual Leaders in Medicine Research Symposium, an event dedicated to student research and collaboration!

This year we are excited to present Dr. Donald Redelmeier as symposium keynote, showcase student research, and promote the personal and professional development of students from across the University of Calgary campuses.

Thank you for joining us and for making this year's symposium a success!

Sincerely,

Ben EWANCHUK
Courtney SCHUBERT

Robert MOORE
Jessica TJONG

[Symposium Planning Committee]

A message from our student co-chairs:



Laura is a joint MD/PhD student who is currently in her first year of medical school. Laura completed a BSc in Neuroscience (honours) at the University of Calgary in 2012, and went on to do a PhD in Neuroscience in the laboratory of Dr. Roger Thompson at the Cumming School of Medicine, which she successfully defended in May 2019. Her PhD work looked at the role of the amyloid beta protein during stroke. Laura is currently planning to go into the field of neurology, with the goal of becoming a clinician scientist.

"I have been a student in the Leaders in Medicine program for a long time, and I am thrilled to have had the opportunity to take on the role of student chair for the past couple years. The chair is responsible for overseeing and shaping much of the content of the LiM program, and I've had the pleasure to work with a lot of talented and enthusiastic students over the years. This program is largely student driven, and the creativity and hard work of the student body is what drives amazing events such as the LiM symposium!"



Melody completed her Bachelor of Science Honours degree in 2015, at the University of Lethbridge. She continued to pursue her passion for neurosciences and research at the University of Calgary, completing a Master of Science in 2017. Melody is currently enrolled in the Leaders in Medicine program at the University of Calgary and is working towards her medical and doctoral degrees. She aspires to become a successful clinician-scientist in the field of child neurodevelopment and paediatric palliative care.

"In my role as LiM co-chair, I feel fortunate to be involved in the creative process of manifesting the kind of environment that we want to work and live in as clinician-scientists."

Schedule

08:00–08:30

HRIC Atrium

Registration, Breakfast & Poster set-up

08:30–08:40

HRIC Atrium

Opening Remarks

Dr. J. Meddings & Dr. C. Naugler

08:40–08:45

HRIC Atrium

Welcome

Dr. Doreen Rabi

08:45–09:30

HRIC Atrium

Poster Session I

09:45–10:45

Theatre 4

Keynote

Dr. Donald A. Redelmeier

10:45–11:00

HSC Atrium

Coffee Break

11:00–12:15

Theatre 4

Student Oral Presentations

12:15–12:30

HRIC Atrium

Lunch

12:30–13:30

HRIC Atrium

Mentorship Panel

13:30–14:15

HRIC Atrium

Poster Session II

14:30–15:00

HRIC Atrium

Awards and Closing Remarks

KEYNOTE



Donald A. Redelmeier is a Professor at the University of Toronto and Director of Evaluative Clinical Sciences at the Sunnybrook Health Sciences Centre. He serves as the Canada Research Chair in Medical Decision Sciences, as well as a Staff Physician in the Division of General Internal Medicine at the Sunnybrook Health Sciences Centre and a Senior Scientist at the Institute for Clinical Evaluative Studies in Ontario. He is active in clinical care for patients with multiple medical illnesses.

Dr. Redelmeier's research focuses on medical decision science, exploring how people reason, formulate judgments and make decisions. The rationale for this field is that medical care requires judgment, judgment raises the risk of error and error provides an opportunity for improvement. His research spans a variety of areas, emphasizing the psychology of medical decision-making and the epidemiology of motor vehicle trauma.

Award



The LIM program is honoured to present Dr. Jane Shearer with the Leaders in Medicine Mentorship Award!

Dr. Jane Shearer (PhD) is a Professor at the Alberta Children's Hospital Research Institute, the Cumming School of Medicine and the Faculty of Kinesiology. The central focus of her research is metabolic physiology. Her laboratory mission statement is to "Employ knowledge of metabolism to predict, prevent and treat chronic disease states". Her current research interests lie in understanding communication between the brain-gut axis, energy disturbances in pathological disease states and in dietary therapies for neurological disorders including autism spectrum disorder and epilepsy. According to Dr. Shearer, the best part of working with LIM students is their passion for learning, creativity and novel research perspectives. She looks forward to supervising many LIM students in the future.

AWARD



Andrea Kuczynski is the winner of the inaugural Cochrane Leaders in Medicine Award. The award was created in memory of Dr. William A. Cochrane, the medical school's founding Dean. It is awarded to a student who has demonstrated excellence in academic productivity while in the undergraduate medical program.

Andrea is a MD/PhD student at the University of Calgary and recipient of the Alberta Innovates – Health Solutions MD/PhD studentship. Prior to starting medical school in 2017, Andrea used novel robotic and neuroimaging techniques to study sensory-motor deficits and neuroplasticity in children with perinatal ischemic stroke under the supervision of Dr. Adam Kirton and Dr. Sean Dukelow. Apart from continuing her graduate research, Andrea has been contributing to studies with the Calgary Stroke Program. Just days before starting clerkship in 2019, she presented a podium presentation at the International Stroke Conference on her work in hypothermia in acute ischemic stroke.

Alumni



Dr. Michelle Buresi is a clinical Gastroenterologist at the South Health Campus in Calgary, where she has been practicing since 2012. She completed an MD/Ph.D. in Intestinal Physiology in Calgary in 2006. Her Internal Medicine and Gastroenterology fellowships were completed at the University of British Columbia. She has since undergone further training in gastrointestinal motility, capsule endoscopy and double balloon enteroscopy. She is a founding member of the Calgary Gut Motility Centre and the current medical lead for capsule endoscopy in Calgary.



Dr. Mary Dunbar graduated from the LIM program in 2012 (Blobfish), with a Master of Science in Neuroscience from the lab of Dr. Patrick Whelan. Mary then completed residency in pediatric neurology at UBC, developing clinical and research interests in neonatal neurology. She is now a UBC Clinician Investigator Program fellow conducting research in neonatal stroke as well as clinical work in neonatal and pediatric neurocritical care at Alberta Children's Hospital with Dr. Adam Kirton. In addition, she is completing another Master of Science, this time in Clinical Epidemiology, co-supervised by Dr. Michael Hill.



Dr. Mark Gillrie graduated from the LIM program in 2012, having done his MD-PhD training with Dr. May Ho investigating host-pathogen interactions in severe malaria. After completing his internal medicine and infectious diseases subspecialty training in Calgary, he travelled to Cambridge, MA to work with Dr. Roger Kamm at Massachusetts Institute of Technology (MIT) in 2017. His recent research involves developing 3D tissue models of the human brain and lung to study cancer metastasis and infectious diseases such as malaria and bacterial pneumonia. Currently, Dr. Gillrie is an Infectious Diseases Physician in the Dept. of Medicine, University of Calgary and Visiting Scientist in the Dept. of Biological Engineering, MIT.

CONNECT



Dr. Stelfox is a Professor and Department Head of Critical Care Medicine at the University of Calgary. He received his M.D. from the University of Alberta, Internal Medicine Residency at the University of Toronto, Ph.D. in Health Care Policy at Harvard University and Critical Care Fellowship at the Massachusetts General Hospital. His research program focuses on health services research for critically ill patients. His research activities include developing quality indicators; developing strategies to improve continuity of patient care across the care continuum; and improving the translation of scientific evidence into clinical practice.



Dr. Cooke is an Associate Professor of Neurology and Associate Dean of Continuing Medical Education and Professional Development at the University of Calgary. Dr. Cooke received her MD from the University of Calgary, and continued in Calgary to complete residency training in neurology and a fellowship in headache medicine. Dr. Cooke also holds a MSc in Neurophysiology from the University of Western Ontario, and a MSc in Medical Education from the University of Calgary. Dr. Cooke has received numerous teaching awards and is a leader in medical education across Canada. Her research interests include enhancing the self-efficacy of teachers, understanding how medical students learn about professionalism, and using physician administrative data to inform physician learning.



Dr. McDonald is an Assistant Professor and attending intensivist in the Department of Critical Care Medicine at the University of Calgary. Dr. McDonald received his MD and PhD in Immunology from the University of Calgary, internal medicine residency training at the University of British Columbia, and his adult Critical Care Medicine Fellowship and postdoctoral fellowship at the University of Calgary. He has recently joined the Snyder Institute for Chronic Diseases and International Microbiome Centre as a clinician-scientist, leading a translational and basic science research program on microbiome-immune interactions in infection and critical illness. His research interests include critical care medicine, translational research, immunology, microbiology and microbiome research.

Talks

11:00-11:15

Pediatric transcranial static magnetic field stimulation modulates motor learning
[Asha Hollis]

11:15-11:30

Loss of regulator of G-protein signaling 2 (RGS2) in the mouse uterus results in increased uterine contractility – implications for quiescence in human pregnancy
[Daniela Urrego]

11:30-11:45

The Lung Immune Prognostic Index discriminates survival outcomes in patients with solid tumors treated with immune checkpoint inhibitors
[Daniel Meyers]

11:45-12:00

Microglial pannexin-1 underlies conditioned place aversion to morphine withdrawal
[Nicole Burma]

12:00-12:15

Molecular Dissection of Tissue Regeneration and Scarring using Single-cell Sequencing: Implications for Precision Medicine
[Sarthak Sinha]

POSTERS

BIG DATA

- 1 Quantifying species selection
[Brian Rankin]
- 2 Optimizing the physical and social environment within hospitals to improve care for hospitalized patients with dementia: a systematic review
[Caitlan Reich]
- 3 Reanalysis of whole exome sequencing data in a cohort of undiagnosed individuals with neurodevelopmental disorders
[Danielle Lynch]
- 4 Primary cutaneous CD4+ small/medium-sized pleomorphic T-cell lymphoproliferative disorder: the Alberta perspective and review of the literature
[Sean Doherty]
- 5 Subjective cognitive decline and mild behavioral impairment together predict incident cognitive decline at 3 years better than either syndrome alone
[Sophie Hu]
- 6 Bronchoalveolar lavage fluid lymphocytosis in chronic hypersensitivity pneumonitis: systematic review and meta-analysis
[Nicola Adderley]
- 7 A review of fifteen years of pediatric infectious disease admissions to two referral hospitals from rural communities of northern British Columbia and the Yukon
[Celia Walker]

CANCER BIOLOGY

- 8 Preventing the emergence of temozolomide resistance in glioblastoma by PARP-1 inhibition
[Alice Yuan]
- 9 Sting activation as an immunotherapeutic strategy for soft tissue sarcoma
[Kayla Marrit]
- 10 Investigating infection of the tumour microenvironment following intravenous treatment with oncolytic vesicular stomatitis virus
[Madison Turk]
- 11 A review of gene expression profiling in early-stage ER+/HER2- breast cancer with a focus on the PAM50 risk of recurrence assay
[Malek Hannouf]
- 12 The combination of the PARP inhibitor olaparib and the ATR inhibitor VE-821 selectively targets ATM-deficient lung cancer cells
[Nicholas Jette]
- 13 Proteinase activated receptor (PAR) 1 is self-activated by high grade urothelial carcinoma cells to drive migration
[Stacy de Lima]

CELL BIOLOGY

- 14** Mitigating post-cardiac surgical adhesion formation
[Ali Hassanabad]
- 15** The role of phosphorylation in the regulation of yeast glycerophosphate acyltransferase Gpt2
[Anabel Cardenas Rivas]
- 16** Induced extracellular matrix degeneration in human aortic myofibroblasts: a mechanism of fluoroquinolone-associated aortopathy
[David Guzzardi]
- 17** Characterization of dihydroxyacetone phosphate acyltransferase (DHAPAT)
[Jingjie Duanmu]
- 18** Retinal pigment epithelium microtissues exhibit increased release of PEDF and enhance photoreceptor survival
[Abudullah Alani]
- 19** Senescence of mesenchymal progenitors drives age-associated hair follicle degeneration
[Wisoo Shin]

HEALTH PROMOTION

- 20 A study of the facilitating and hindering factors in the comprehension and use of information about children and toddlers' oral health by parents and caregivers
[Annita Moreira]
- 21 Depression, anxiety, and posttraumatic stress symptoms in mothers with preeclampsia and their partner
[Courtney Schubert]
- 22 Evaluation of a health promotion workshop intervention for socially vulnerable adults in Calgary
[Erin Kelly]
- 23 Taking the next step: a case study in decision-making, value-space, and autonomy of one's body
[Ian MacNarin]
- 24 Population estimates of driving under the influence of marijuana in the eras of pre- and post-legalization
[Laura Rivera]
- 25 Recommendations for cannabis use in pregnancy among sources of cannabis sales in Alberta
[Mirna Matta]
- 26 Neighbourhood upgrading in Tunisia: connecting informal housing with basic services
[Wendy Yao]

INFECTION & IMMUNOLOGY

- 27 Hypervirulent *Cryptococcus gattii* blocks human DC costimulation via F-actin cage mediated phagosomal arrest
[Khusraw Jamil]
- 28 The functional interplay between the intestinal microbiota, T-cells, and immunoglobulins
[Mia Koegler]
- 29 Is worm therapy an effective treatment for Crohn's disease? a study of gut pathology and eosinophil populations
[Namratha Badawadagi]
- 30 The Crohn's disease pathobiont adherent-invasive *E. coli* induces mitochondrial fission leading to loss of barrier function and wound repair capacity of the epithelium
[Nicole Mancini]
- 31 A role for the lysosomal thiol reductase GILT in osteoclastic bone resorption
[Ben Ewanchuk]
- 32 Planktonic and biofilm forming *Pseudomonas aeruginosa* elicits differential and sex specific neutrophilic responses during pulmonary infection
[Elise Granton]

INTERNAL MEDICINE

- 33** Risk for type 2 diabetes and cardiovascular health in children treated with second-generation antipsychotics
[Amanda Henderson]
- 34** Peak systolic load predicts outcomes and correlates to regional MRI strain pattern in hypertrophic cardiomyopathy
[Fadi Ibrahim]
- 35** Nutrition, gut health, and inflammation in anorexia nervosa and obsessive-compulsive disorder: a proposed investigation
[Emily Mcphail]
- 36** Fever and neck mass in a returning traveller diagnosed as systemic lupus erythematosus
[Naman Siddique]
- 37** Effect of vilanterol trifenate/fluticasone furoate on parasternal intercostal muscle raw EMG activity in severe COPD: turns and centroid frequency analysis
[Michael Ji]
- 38** Is caregiver-detected delirium associated with symptoms of depression and anxiety in caregivers of the critically ill?
[Brianna Rosgen]
- 39** Addressing process improvement in Advance Care Planning: a pre-post intervention study in the cardiac setting
[Marta Shaw]

MEDICAL EDUCATION

- 40** Development, implementation, and interim evaluation of a physician audit and feedback report to reduce injury to the kidneys during cardiac catheterization
[Bryan Ma]
- 41** Trauma informed care: an evaluation of interdisciplinary education
[Claire Lothian, Lauren Campbell, Kari McFee]
- 42** Investigating the impact of co-debriefing on team performance outcomes among pre-licensure healthcare students
[Gemma Percival]
- 43** Evaluating and enhancing the preparation of families before pediatric surgery
[Chris Newell]
- 44** What works? for whom? and under what circumstance? a realist review of interprofessional education interventions in obstetrics and gynecology
[Nicole Delayloye]
- 45** Hospice physician's experiences with patient requests for medical assistance in dying in a Canadian context
[Srishti Shrivastav]

NEUROIMAGING

- 46 White matter tract developmental trajectories of axonal density in early childhood
[Dennis Dimond]
- 47 Perfusion quantification derived from CT angiography to predict final infarct volume obviates the need for cine CT perfusion acquisition in acute ischemic stroke – the simple perfusion reconstruction algorithm (spiral)
[Leona Chan]
- 48 Localization of the epileptogenic zone using intracranial EEG-fMRI
[William Wilson]
- 49 Global structural connectivity of the contralesional hemisphere is associated with clinical function in hemiparetic children with perinatal stroke
[Brandon Craig]
- 50 Comparing the progression of upper motor neuron degeneration between amyotrophic lateral sclerosis patients with and without executive dysfunction
[Emily Mostofi]
- 51 Tracking white matter neuroplasticity using BOLD fMRI
[Lukas Grajauskas]
- 52 Using a novel enhanced non-contrast CT scan to detect ischemia in acute stroke patients
[Moiz Hafeez]

NEUROSCIENCE

- 53** A surprising neuroprotective role for amyloid beta during ischemic stroke
[Laura Palmer]
- 54** From swamp to bedside – hopping across the evolutionary highway
[Mufaddal Baghdadwala]
- 55** Local network processing in CRH^{PVN} neurons
[Neil Rasiah]
- 56** Investigating the radiosensitivities of different neural cell types
[Nelson Daniel Berger]
- 57** Reduced cerebral blood flow measured in the EAE mouse model of multiple sclerosis using perfusion MRI
[Andrew Max Hamilton]

NEUROTECHNOLOGY

- 58 Understanding stroke rehabilitation progression in a robotic rehabilitation trial
[Alexa Keeling]
- 59 GABA and GLX changes in during motor learning in children receiving transcranial direct current stimulation
[Chidera Nwaroh]
- 60 Repetitive transcranial magnetic stimulation as a treatment for Tourette's syndrome in children: A pilot study
[Cynthia Kahl]
- 61 Establishing a pediatric brain computer interface program for children with quadriplegia
[Zeanna Jadavji]
- 62 The linear oblique craniectomy for subdural grid insertion
[Calvin Howard]
- 63 When a neurosurgeon should care about pneumonia: the case for *Pneumocystis jirovecii* pneumonia prophylaxis in neurosurgical patients
[Mannat Dhillon]
- 64 Sensorimotor assessment of children with perinatal stroke and hemiparesis following intensive motor learning therapy
[Lauran Cole]

THANK YOU

SPECIAL GUESTS AND JUDGES

Dr. Donald Redelmeier	Dr. Aaron Johnston
Dr. Andrew Beaudin	Dr. Bingbing Cheng
Dr. Christina Hirota	Dr. Christopher Mody
Dr. Christopher Naugler	Dr. Cristie Noschang
Dr. David Park	Dr. Ellen Burgess
Dr. Eric Smith	Dr. Gary Dobson
Dr. Ian Walker	Dr. Jon Meddings
Dr. Kirsten Fiest	Dr. Lindsay McLaren
Dr. Margaret Russell	Dr. Mark Anselmo
Dr. Mark Gillrie	Dr. Mary Dunbar
Dr. Michelle Buresi	Dr. Paul Beck
Dr. Pierre-Yves von der Weid	Dr. Rachel Ellaway
Dr. Renata Kruger	Dr. Richard Leigh
Dr. Sean Grondin	Dr. Shannon Ruzycki
Dr. Ted Verhey	Dr. Todd Anderson
Dr. Valerie Taylor	Dr. Veronica Guadagni
Dr. Xiaoqin Zhan	

LIM SYMPOSIUM SUB-COMMITTEE MEMBERS

Abdullah Al-Ani	Ann Subota	Brandon Craig
Brian Rankin	Brianna Rosgen	Carlie Montpetit
Elise Granton	Emily Mcphail	Erin Stephenson
Karamjot Kaur Sidhu	Kayla Marritt	Laura Rivera
Madison Turk	Mufaddal Baghdadwala	Neil Rasiah
Nicole Mancini	Ryan Chan	Sophie Hu
Stacy de Lima	Zaheed Damani	Zeanna Jadavji

LIM Executive

Abdullah Al-Ani	Asha Hollis	Ben Ewanchuk
Chris Newell	Courtney Schubert	Cynthia Kahl
Dan Berger	Danielle Lynch	Daniyil Svystonyuk
David Guzzardi	Dennis Dimond	Emily Macphail
Erin Degelman	Jessica Tjong	Khusraw Jamil
Laura Palmer	Lauran Cole	Melody Grohs
Michael Ji	Mufaddal Baghdadwala	Nicholas Jette
Nicole Burma	Rob Moore	Runze Yang
Stacy de Lima	Will Wilson	Wisoo Shin

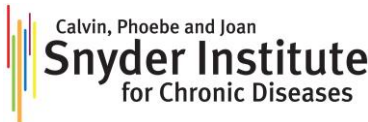


Department of Medicine



UNIVERSITY OF CALGARY CUMMING SCHOOL OF MEDICINE

Community Health Sciences Graduate Program
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Department of Physiology and Pharmacology
Department of Psychiatry
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We would like to acknowledge the traditional territories of the peoples of Treaty 7, which includes the Blackfoot Confederacy, comprising the Siksika, Piikani, and Kainai First Nations, the Tsuut'ina First Nation, the Stoney Nakoda First Nations, including the Chiniki, Bearspaw, and Wesley First Nations. The City of Calgary is also home to Métis Nation of Alberta, Region III.