



UNIVERSITY OF
CALGARY

Hotchkiss Brain Institute Summer Student Symposium 2026

Brought to you by the Hotchkiss Brain Institute Trainee
Organization (HBITO)

August 26th, 2026
Health Sciences Centre | University of Calgary
Check-in at Libin Theatre



Schedule:

Wednesday August 26th, 2026

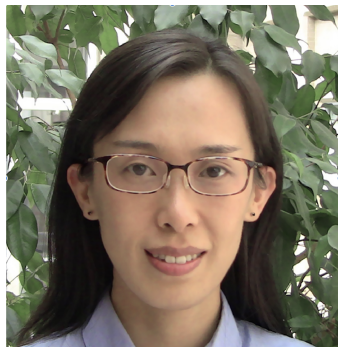
8:30-9:00 a.m.	Check-in and Breakfast	HMRB Atrium
9:00-9:05 a.m.	Welcome and Land Acknowledgement	Libin Theatre
9:05-9:15 a.m.	Elder Blessing – Dr. Kerrie Moore	Libin Theatre
9:15-9:20 a.m.	Welcome Address – Dr. Todd Anderson	Libin Theatre
9:20-9:25 a.m.	Welcome Address – Dr. David Park	Libin Theatre
9:25-10:15 a.m.	Keynote Speakers – Dr. Jiami Guo and Dr. Aravind Ganesh	Libin Theatre
10:15-10:30 a.m.	Coffee Break	HMRB Atrium
10:30-11:45 a.m.	Oral Presentations Session 1	Libin Theatre
11:45 a.m.-12:45 p.m.	Lunch Break	HRIC/Azrieli Atrium
12:45-1:45 p.m.	Poster Presentations Session 1	HRIC/Azrieli Atrium
1:50-2:50 p.m.	Poster Presentations Session 2	HRIC/Azrieli Atrium
3:00-4:15 p.m.	Oral Presentations Session 2	Libin Theatre
4:15-4:30 p.m.	Closing Remarks – Dr. Sara McFarlane Awards	Libin Theatre

Keynote Speakers:

9:25-10:15 a.m. | Libin Theatre

Dr. Jiami Guo Ph.D.

Professor, Hotchkiss Brain Institute



Dr. Jiami Guo is an associate professor at the Department of Cell Biology and Anatomy. She completed her Bachelor of Science degree from Jilin University (China) and pursued her PhD degree in Developmental Biology at Kent State University (US). Prior to joining the University of Calgary as an assistant professor, she received her postdoctoral training from Dr. Eva Anton's laboratory at the University of North Carolina at Chapel Hill (US).

Dr. Jiami Guo's research is dedicated to uncovering the basic principles underlying the construction of neural circuits in development and disease. Towards this goal, her research is focused on primary cilia, tiny cellular structures of many cell types in the brain. The brain is particularly vulnerable to ciliary dysfunction. Patients with ciliary defects show neurological and cognitive deficits and are diagnosed with intellectual disability, autism spectrum disorders, schizophrenia, bipolar disorder, depression and anxiety. Nevertheless, how primary cilia can exert such a profound impact on the brain remains a long-standing mystery. Dr. Guo's lab is incorporating interdisciplinary techniques based in molecular genetics, biochemistry, cellular, molecular, and behavioral neuroscience to peel back the layers of this mystery. These efforts will uncover an underappreciated mechanism fundamental for brain development and neurodevelopmental disorders.

Dr. Aravind Ganesh MD DPhil (Oxon) FRCPC

Professor, Hotchkiss Brain Institute



Aravind Ganesh is a Vascular and Cognitive Neurologist, Associate Professor, and Vice Chair (EDIA) of the Department of Clinical Neurosciences at the University of Calgary, as well as a member of the Hotchkiss Brain Institute, the Mathison Centre for Mental Health Research and Education, and the O'Brien Institute for Public Health. He completed his MD at the University of Calgary, followed by a DPhil in Clinical Neurosciences at the University of Oxford as a Rhodes scholar. He completed his neurology residency in Calgary, followed by a combined fellowship in stroke and cognitive neurology. His clinical research is focused on understanding the natural history, risk stratification, prevention, and treatment of stroke and cognitive impairment using multidisciplinary methods including neuroimaging, clinical epidemiology, artificial intelligence, mixed-methods research, and clinical trials. His lab also leads the development and testing of innovative applications and devices for the diagnosis and treatment of stroke and dementia. He has received New Investigator Awards from the Heart and Stroke Foundation of Canada and the Alzheimer Society of Canada, as well as the Henry J.M. Barnett Scholarship and the Brain Canada Future Leaders in Brain Research award for outstanding contributions as a researcher in the field of stroke and dementia.

Oral Presentation Speakers:

Session 1

10:30-11:45 a.m. | Libin Theatre

1. **Saboor Zeeshan** | 10:30 am – 10:45 am
Beyond the Sleep Lab: Validating Wearable Sleep Staging for Concussion Research
2. **Gabriel Ciupa** | 10:45 am – 11:00 am
Engineering peptide aptamers to improve their anti-prion activity
3. **Shahrzad Shargan** | 11:00 am – 11:15 am
Sensing the Pressure: A Role for Acid-Sensing Ion Channels (ASICs) as the Spinal Barosensor
4. **Cooper Choi** | 11:15 am – 11:30 am
Investigating Anesthetic-Induced Neurotoxicity Using Multi-Electrode Arrays
5. **Muhammad Faez Ansari** | 11:30 am – 11:45 am
Impact of Split-Belt Walking Speed on Post-Stroke Gait Asymmetry and Adaptation

Session 2

3:00-4:15 p.m. | Libin Theatre

1. **Abdurahman Bura** | 3:00 p.m. – 3:15 p.m.
Synaptic Modulation Through Retrograde Neurovascular Coupling
2. **Eric Thomas Scott Wilson** | 3:15 p.m. – 3:30 p.m.
Characterizing region-specific microglia in the developing arcuate nucleus
3. **Jugtoj Singh Sidhu** | 3:30 p.m. – 3:45 p.m.
Developing a Boundary Blur Defacing Method for Neuroimaging Scans
4. **Zoe Watson** | 3:45 p.m. – 4:00 p.m.
Tracking Brain Lipid Alterations Across Development After Prenatal Alcohol Exposure
5. **Ayesha Jawad** | 4:00 pm – 4:15 p.m.
A Scoping Review Protocol Paper on Help-Seeking in Integrated Youth Services

Poster Presentation Speakers:

Session 1

12:45-1:45 p.m. | HRIC/Azrieli Atrium

1. Laeeque Ahmed

Relative EEG Power Differences in Very Preterm and Full-Term Children

2. Chloe Davidson

A clinical trial to evaluate the safety and tolerability of Fecal Microbiota Transplantation in a population with obsessive-compulsive disorder

3. Ariana Chondronikolis

A mobile health platform for monitoring real-world physiology in neurological conditions

4. Ogechi Ayomide Umozurike

A National Scan of Wellness Resources for Equity-deserving Trainees Across the 18 Canadian Medical Schools

5. Joyce Zakhari

A novel genetic tool to monitor mitochondrial protein import efficiency in live cells with split-fluorescent proteins

6. Sukhmanpreet Waraich

A Reprogrammable Electrochemical Biosensing Platform for Modular Detection of Alzheimer's Disease Biomarkers

7. Omar Baig

Assessing Anxiety-Like Behaviour Through Environmental Novelty and Innate Stress Using a Group-Housed Novelty-Induced Hypophagia Paradigm

8. Amna Amir

Assessing Hydration Status and Acute Mountain Sickness in a High Altitude Expedition to Bolivia

9. Sanvi Langay

Associations between later-life sleep disturbance burden and cognitive and behavioural outcomes in postmenopausal females

10.Jingyi Xiang

Astrocytic Primary Cilia Regulates Injury-Induced Astrocyte State Transitions Following Repetitive Mild Traumatic Brain Injury

11.Assad Popal

Auditory Nerve Hyperresponsiveness in a Mouse Model of Fragile X Syndrome

12.Shourya Baranwal

Beyond Fixed Benchmarks: Rewarding Individual Improvement in Robotic Motor Learning

13.Mia Ridao

Biomarker-Guided Research in Major Depressive Disorder: An Overview of CAN-BIND

14.Annabel Parry

Characterizing Subthalamic Oscillatory Dynamics During Emotional and Non-Emotional Go/No-Go Tasks Using Chronic Deep Brain Stimulation Recordings

15.Jocelyn Stone

Characterizing Autonomic Drivers of Cerebral Hyperoxia in Kainic Acid–Induced Status Epilepticus Using Metoprolol

16.Rachel Mallard

Characterizing Structural Connectivity and TMS Electric Field Propagation in Multiple Sclerosis: Establishing the Safety of Neuromodulation of Depression and Fatigue

17.Rayane Bayoud

Design and Construction of gRNA-producing AAVs for Targeted Knockout of Autism-Risk Genes in Astrocytes Using CRISPR/Cas9

18.Sage Hanna

Determining the Safety and Feasibility of Non-Invasive Brain Stimulation for Adolescents with Epilepsy

19.Julia Mikhailov

Distribution of collagen types I and III in adult human glioblastomas

20.Abigail Abera

DTI-ALPS as a biomarker in Motor Neuron Disorders

21.Gayatri Dronamraju

Educational, Vocational and Social Outcomes in Adults with Pediatric-Onset Multiple Sclerosis

22.Samuel Gerlach

Effect of Individual and Combined Cytochrome P450 Activity Scores on Symptom Improvement and Side Effects in Youth Treated With Sertraline

23.Natalie Zabrowski

Effects of Cagrilintide Obesity Treatments on Reproductive Health

24.Sayuni Gunasekera

Electric Field Modelling of Transcranial Magnetic Stimulation on the Primary Motor Region of Patients with Relapsing-Remitting Multiple Sclerosis

25.Julie Chen

Establishing Sex-Dependent Effects on Cannabis Vapour Self-Administration in Sprague-Dawley Rats

26.Ben Hahn

Examining the effect of prior THC exposure on repetitive mild traumatic brain injury induced acute motor and behavioral dysfunction in male adolescent rats

27.Sophie Jensen

Expression and significance of PRPF4B in the developing mouse thalamus

28.Katie Zoobkoff

Extended Training Produces Robust Long-Term Object-Place Memory in Mice

29.Ziya Bhayani

FDG-PET Patterns in behavioural variant frontotemporal dementia and its mimics

30.Mariam Kinawi

From Blood to Brain: Exploring the Association Between Blood Biomarkers and Brain Connectivity in the Default Mode Network Following Adolescent Sport-Related Concussion

31.Sasha Willow Holub

From childhood adversity to dementia risk: investigating the association between adverse childhood experiences, anxiety and later life functional impairment in dementia-free community-dwelling older adults

32.Benjamin Tim Kleile

Generation of Vascularized Hypothalamic Brain Organoids from Human iPSCs

Session 2

1:50-2:50 p.m. | HRIC/Azrieli Atrium

1. Hind Messouar

Gut Microbial Shifts Following Repetitive Transcranial Magnetic Stimulation in Depressed Patients

2. Praveen Perera

High-resolution spatial profiling of glioblastoma glymphatics with Visium HD

3. Aamna Ahmed

Impact of individual and combined cytochrome P450 activity scores on symptom improvement and side effects in children treated with Fluoxetine

4. Joseph Floer Garrido

Implementing a multiphase extended field of view CT angiogram protocol for patients with acute ischemic stroke

5. Sehaj Singh Kang

Improving the Detection and Validation of Brain-Specific Genetic Variants Using SEEG Electrodes

6. Maya Webster

Informing a cultural adaptation of an existing perinatal depression intervention: A qualitative inquiry into the lived experiences of parents and care-providers with PD in the Cayman Islands

7. Tristan To

Investigating the effects of ivabradine on hyperoxia in a kainic acid-induced status epilepticus mouse model

8. Trung Nhan (Brandon) Do

Investigating the Effects of Systemic Inflammation Following Ependymal Cell Dysfunction

9. Claire Pasenau

Investigation of Apolipoprotein C1 in Multiple Sclerosis

10. Mattin Arvand

Mechanisms, Clinical Spectrum, and Visual Outcomes of Soccer-Related Ocular Injury: A Systematic Review and Meta-Analysis

11. Valenie Cheung

More Than Meets the Eye: Investigating How PRPF4B May Contribute to Retinal Diseases

12. Tyler Pickard

Multi-Task Learning in Recurrent Neural Networks

13. Courtney Dunkley

*Neuroimmune Crosstalk Shapes Pulmonary Defense Against *Aspergillus fumigatus**

14. Ramih Haque

*Neurotransmitter Regulation of Melanosome Dynamics in *Xenopus laevis* Melanophores*

15. Lauren Kate Middleton

Pain sensory neuron innervation modulates inflammation in pleural adipose tissue

16. Matthew Murray

Patient Informational Preferences in Degenerative Cervical Myelopathy: Informing the Development of a Personalized Precision Medicine Report

17. Ashmeen Kaur Mann

Physician Perspectives on Psychiatric Comorbidities in Children and Adolescents with Epilepsy

18. Yansing Huang

Quantifying Cerebral Hypoperfusion Using Mean Transit Time in Temporal Lobe Epilepsy Patients

19. Sophie Juchymenko

Robotic Assessment of Reinforcement Learning in the Upper Limb After Stroke

20. Tiffany Lee

Robotic Rehabilitation of Proprioceptive Impairments for Chronic Stroke Survivors

21. Carina Li

Sex Differences in Physical Performance Profile of Healthy Active Recovery in Mental Health & Obesity; Network for Youth, Facilitated Lifestyle Changes and Exercise (HARMONY FLEx) Participants

22. Udayveer Harikay

Sex-Specific White Matter Trajectories Across the Menopausal Transition: A Brain-Wide Longitudinal Diffusion Magnetic Resonance Study

23. Rayan Ahmed

Speech-Induced Cardiovascular Collapse in People with Spinal Cord Injury

24. John Salamh

The Development of Emotional Processing: A Longitudinal approach using fMRI and EmoCodes

25. Natalie Hehr

The Dynamics of Astrocytes in the Developing Zebrafish Larval Brain

26. Paarth Vohra

The Effect of Muscle Coactivation on Feedback Control in a Novel, Unstable Environment

27. Gabrielle Beswick

The effect of orbitofrontal cortex disinhibition on feeding behaviour and weight gain

28. Mya Udowicz

The impact of acute stress on behavioural adaptability in healthy humans

29. Mira Morgan

The Neurodevelopmental Mechanism Underlying PWS Hypothalamic Physiological Disruption

30. Cynthia Tan

The Relationship Between Brain Endothelial Calcium Activity and Capillary Stalls Following Endothelial CD2AP Knockdown