Neurosciences

Year-In-Review
2017-2018
Seminar Series Stats
The experts

- Proudly hosted 14 External and 9 Internal Speakers

- Chris Harvey, PhD | Harvard Medical School
- Rosemary C. Bagot, PhD | McGill University
- Johnny Ngsee, PhD | OHRI
- Blake Richards, PhD | University of Toronto
- Benjamin de Bivort, PhD | Harvard University
- Stuart Trenholm, PhD | McGill University
- Rita Horvath, MD, PhD | Institute of Genetic Medicine, UK*
- Kerstin Ure, PhD | Behavioral Core, uOttawa
- Georg Northoff, PhD | The Royal
- Louis-Eric Trudeau, PhD | Université de Montréal
- Catherine Tsilfidis, PhD | OHRI
- Adam Kirton, MD, PhD | University of Calgary, Alberta Children’s Hospital*
- Jennifer Chandler | Faculty of Law, uOttawa
- Sean Dukelow, MD, PhD | Hotchkiss Brain Institute*
- Rashmi Kothary, PhD | OHRI
- Katalin Toth, PhD | Université Laval
- Simón Chen, PhD | CMM, uOttawa
- Katherine Duncan, PhD | University of Toronto*
- Paul Frankland, PhD | Neurosciences & Mental Health, Hospital for Sick Children
- Karl Fernandes, PhD | University of Montreal
- Hiroyuki Kato, PhD | University of North Carolina
- Greg Cron, PhD | uOttawa, OHRI
- Adam Shuhendler, PhD, uOttawa

*Hosted four Neurology Resident Education Seminars as part of their Resident ½ Day Education series*
Seminar Series Stats
The research...

- "Neuronal Population Dynamics in the Mouse Cortex during Navigation-based Decisions"
- "Neural Circuit Mechanisms Of Susceptibility To Chronic Stress"
- "A Worm Model of Amyotrophic Lateral Sclerosis (ALS)"
- "Deep Learning With Pyramidal Neurons"
- "The Neurobiology of Individuality"
- "From Neurons To Networks: Functionalized Circuit Tracing Strategies For Understanding Brain Networks"
- "Genes, Modifiers and Other Oddities in Reversible COX Deficiency Myopathy"
- "Disease as Teacher: Using Rett Syndrome to Understand Behavior and Cognition"
- "What Can the Brain's Spontaneous Activity Tell Us About Psychiatric Symptoms - Spatiotemporal Psychopathology"
- "On the Intriguing Connectivity and Vulnerability of Monoamine Neurons"
Seminar Series Stats
The research...cont.

- "Gene Therapy for the Treatment of Leber’s Hereditary Optic Neuropathy"
- "Perinatal Stroke: A Model For Human Developmental Plasticity and Translational Research Pipelines"
- "What Does the Law Say About Deep Brain Stimulation?"
- "Using Robotics and Neuroimaging to better Understand Stroke Recovery"
- "Recent Advances in Spinal Muscular Atrophy Pathogenesis and Therapeutics"
- "Information Coding and Calcium Dynamics in Hippocampal Mossy Fibre Terminals"
- "Dissecting Neural Circuits Underlying Motor Learning in Normal and Disease Mouse Models"
- "Memory States in the Human Brain and Behaviour"
- "Hippocampal Neurogenesis and Forgetting"
- "Waking Dormant Stem Cells In The Adult Brain"
- "Inhibitory Circuits Underlying Sensory Tuning Of Cortical Neurons"
- "Preclinical Imaging Core – Techniques and Applications"
The PRC proudly hosted six presentations focused on Parkinson’s disease research in the last academic year.
42 students from our neuroscience research community presented their work in progress. Monthly examples included...

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<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Location</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>November 28, 2017</td>
<td>11:00-12:00pm</td>
<td>uOttawa, Roger Gordon Hall, 401 SouthWest Building</td>
<td>Investigating the relationship between the IEP, CV, and TEOA</td>
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<tr>
<td>December 4, 2017</td>
<td>11:00-12:00pm</td>
<td>uOttawa, Roger Gordon Hall, 401 SouthWest Building</td>
<td>Using neuroimaging to identify the connectivity of the brain</td>
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<tr>
<td>January 15, 2018</td>
<td>11:00-12:00pm</td>
<td>uOttawa, Roger Gordon Hall, 401 SouthWest Building</td>
<td>Examining the role of FGF18 in the development of the brain</td>
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<tr>
<td>February 5, 2018</td>
<td>11:00-12:00pm</td>
<td>uOttawa, Roger Gordon Hall, 401 SouthWest Building</td>
<td>Understanding the role of axons in the development of the brain</td>
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</tbody>
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[Image of a poster with speaker information and titles]
Neuroscience in the News!

- **May 2018**
  - The Ottawa Hospital opens one-of-a-kind neuromuscular research centre

- **April 2018**
  - Could a molecule triggered by running help treat MS?

- **March 2018**
  - Antidepressants and exercise in stroke recovery: surprising results from new mouse study

- **January 2018**
  - The Ottawa Hospital awarded $12.7M for research, double the national CIHR success rate

- **December 2017**
  - Researchers to test patient-centered approach to Parkinson’s care
  - Stroke repair: study shows single pathway crucial for generating new stem cells, neurons and blood vessels

- **October 2017**
  - Award-winning scientist challenges medical dogma in quest to prevent, treat neurodegenerative disease
  - New worm model sheds light on ALS

- **September 2017**
  - Ottawa neuromuscular researchers show global leadership
  - Extra maternal care prevents brain inflammation and reduces anxiety in mice
  - Ottawa scientist wins Canada’s top stem cell prize for multiple sclerosis trial
Neuroscience in the News!

July 2017
- Research suggests new anti-inflammatory approach for treating stroke
- Dr. Paul Albert recognized for ground-breaking discoveries in mental health

June 2017
- Researchers get $558K boost from Heart and Stroke Foundation
- Parkinson’s-related protein also protects against infections
- Research on repairing MS damage gets $300,000 grant

May 2017
- The Ottawa Hospital awarded 18 research grants from the Canadian Institutes of Health Research, worth $10.7 million

April 2017
- Worm study reveals the secrets of early spinal cord development

March 2017
- Prestigious Canada Gairdner Award honours Dr. Antoine Hakim’s championing of stroke prevention and treatment
- Nerve cells in our brains work together in harmony to store and retrieve short-term memory
- Ottawa man tests new technology for stroke recovery

January 2017:
- Innovative computer tablet could help stroke patients recovery
- Grant helps researchers better study important young-onset Parkinson’s protein
Highlight of the Year!

- Our very own Dr. Antoine Hakim was awarded the Prestigious Canada Gairdner Wightman Award for championing of stroke prevention and treatment.

- Each year, the awards honour the world’s most significant biomedical and global health researchers. In 2017, Gairdner awarded Dr. Hakim, Emeritus Senior Scientist and Senior Neurologist at The Ottawa Hospital and Professor of Medicine (Neurology) at the University of Ottawa, the Canada Gairdner Wightman Award for “outstanding research into stroke and its consequences and championing stroke prevention and treatment in Canada and beyond.”
Saying Farewell!

- Our Neuroscience community said farewell to Dr. David Park as he moved on to become the Director of the Hotchkiss Brain Institute in Calgary. Among his many accomplishments his most recent was the Director of the uOttawa Brain and Mind Research Institute.

- Over the past few years he was successful in bringing together the Neuroscience community under the umbrella of the uOBMRI. With close to 250 members across Ottawa, he championed the opportunity for collaboration and was successful in bringing together the various hospitals, research institutions and University of Ottawa faculties. Under his leadership the uOBMRI has thrived and will continue to do so.

- We wish David all the best!
Celebrating our Trainees and Students
Brain Health Research Day Awardees | May 2018

Oral Presenters Awardees:
- Ahmad Galuta from Dr. Eve Tsai’s lab | TOH/OHRI, uOBMRI
- Michael Lynn from Dr. Jean-Claude Beique’s lab | uOttawa, uOBMRI

Poster Awardees:
- Undergraduate: Dominique Vasudev from Dr. Jennifer Phillips’s lab | Carleton
- Masters Year 1: Carinna Moyes from Dr. Hongyu Sun’s lab | Carleton
- Masters Year 2: Danny Jomaa from Dr. Ian Lorimer’s lab | TOH/OHRI, uOBMRI
- Masters Year 2: Hadir Mahmoud from Dr. Michael Hildebrand’s lab | Carleton
- Junior PhD: Annemarie Dedek from Dr. Michael Hildebrand’s lab | Carleton
- Senior PhD: Marissa Lithopoulos from Dr. Bernard Thébaud’s lab | TOH/OHRI, uOBMRI
- Postdoctoral Fellow/Research Associate: Bojan Shutinoski from Dr. Michael Schlossmacher’s lab | TOH/OHRI, uOBMRI

Image Contest
- Ahmad Galuta from Dr. Eve Tsai’s lab | TOH/OHRI, uOBMRI
Celebrating our Trainees and Students
Parkinson Research Consortium Fellowship Awardees | BHAW October 2017

Crabtree Family Fellowship | Richard Harris (post-doctoral fellow)
- "Manipulating Mitochondrial Dynamics to Rescue Neural Stem Cell Depletion in Parkinson's Disease"
  Mentor: Dr. Ruth Slack

Toth Family Fellowship | Olanta Negeri (graduate student)
- "The Role of the Rna-binding Protein Hud In Lrrk2-dependent Parkinson's Disease Models"
  Mentor: Dr. Derrick Gibbings

Audrey Grant Parkinson’s Research Fellowship | Daniel El Kodsi (graduate student)
- "Parkin Protein: From its Function in the Brain to a New Model and its Characterization"
  Mentor: Dr. Michael Schlossmacher

Bonnie & Don Poole Parkinson’s Research Fellowship | Katelyn Ventura (graduate student)
- "Alpha-synuclein Binding Aptamers as Novel Therapeutics in Murine Model of Parkinson’s Disease"
  Mentor: Dr. Matthew Holahan

Shelby Hayter Fellowship | Zachary Dwyer (graduate student) 2-year Fellowships (in their 2nd year)
- "Inhibition of the CSF-1 Receptor in LRRK2 G2019S Mice to Investigate the CX3CR1 Pathway in an Environmental Toxin Model of Parkinson’s disease"
  Mentor: Dr. Shawn Hayley

Larry Haffner Fellowship | Chao-Chia (David) Lu (graduate student) 2-year Fellowships (in their 2nd year)
- "Real-time Identification of Subcortical Structures During Deep Brain Stimulation Surgery"
  Mentor: Dr. Adam Sachs
Celebrating our Trainees and Students
Annual Achievement Awards | December 2017

Outstanding Research Conducted By a Trainee:

- **Best Honours Award | Quinton Hake-Volling**
  "Exploring the Effects of LRRK2 Kinase Activity on LRRK2 Immune Function"

- **Best Honours Award | Jasmin Khan**
  "Characterization of the Metabolism of Wild-type Parkin in Normal, Adult Human Brain"

- **Best PhD Award | Anisha Lynch-Godrei**
  "The Role of Neuronal Dystonin in Intracellular Trafficking"

- **Best Master's Award | Sudhir Karthik**
  "Characterization of Spontaneous Motor Recovery and Changes in Plasticity-Limiting Perineuronal Nets Following Cortical and Subcortical Stroke"

- **Best Research Associate Award | Julianna Tomlinson**
  "Holocranohistochemistry Enables the Visualization of a-synuclein Expression in the Murine Olfactory System and Discovery of its Systemic Anti-microbial effects"

- **Most Valuable Player! (MVP) | Anthony Carter**
  - The most helpful, cheerful and diligent
  - Who goes above and beyond!
  - Voted by your peers.
Neurosciences

Proudly led by:
- Paul Albert, PhD
- Richard Bergeron, MD, PhD
- Jean-Claude Bricique, PhD
- Steve Byrnes, PhD
- Hide-Huei Chen, PhD
- Simon Chen, PhD
- Antonio Colicelli, PhD
- Dale Corbett, PhD
- Stephen Ferguson, PhD

Proudly led by:
- Daphnie Lacoste, PhD
- Diane Legros, PhD
- Johnny Ngwe, PhD
- David Park, PhD
- Michael Schlossmacher, MD
- Ruth Slack, PhD
- Mario Tiboni, PhD
- Jing Wang, PhD

uOttawa
Institut de recherche
sur le cerveau
Brain and Mind
Research Institute

The Ottawa Hospital
L'Hôpital d'Ottawa

Research Institute

2017