

Sunday, May 20, 2012

- 3:00-4:00 PM:** **CAN Public Lecture 2012 *Boosting Brain Power: New Insights*** Dr. Max Cynader (UBC Professor and Director, Brain Research Centre) and Dr. Howard Feldman (University of British Columbia Professor and Executive Associate Dean of Research) **UBC Life Sciences Centre, Lecture Halls 1 & 2**
- 5:00 - 5:15 PM** **Opening and Awards Presentation** (Yves De Koninck, Université Laval, President CAN) **The Sheraton Wall Centre, Grand Ballroom AB**
- 5:15 – 6:15 PM** **Presidential Lecture:** Tomas Paus (University of Toronto)
How environment and genes shape the adolescent brain
Grand Ballroom AB
- 6:15 – 6:45 PM** Anthony Phillips (Director, CIHR Institute of Neurosciences, Mental Health and Addiction)
Grand Ballroom AB
- 6:45 – 8:15 PM** **Opening Reception** (sponsored by CIHR Institute of Neurosciences, Mental Health and Addiction)
Junior Ballroom Foyer

Monday, May 21, 2012

- 8:30 – 10:15** **Plenary symposium • Grand Ballroom AB**
Chair: Lynn Raymond, (University of British Columbia)
- Speaker 1:** Francesca Cicchetti (Université Laval)
What we have learned from post-mortem studies in grafted patients with Huntington's disease: Impact on pathology and future therapeutic interventions
- Speaker 2:** Ted Fon (McGill University)
Function of Parkin and PINK1 in Mitochondrial Quality Control
- Speaker3:** Matt Farrer (University of British Columbia)
Parkinson's disease, population and pedigree genetics – mapping the path to neuroprotection?
- 10:15 – 10:45** **Coffee Break • Junior Ballroom Foyer**
- 10:45 – 11:00** **2011 Brainstar Awardee - Vivek Swarup (Université Laval)**
Deregulation of TDP-43 in amyotrophic lateral sclerosis triggers nuclear factor- κ B-mediated pathogenic pathways
Grand Ballroom AB
- 11:00 – 12:00** **Plenary speaker:** James Surmeier (Northwestern University)
Remodeling striatal microcircuits in Parkinson's and Huntington's diseases
Grand Ballroom AB
- 12:00 – 1:30** **Lunch**
- 12:00 – 1:30** **Alternatives to a career in the lab: a trainee/mentor session focused on presenting non-traditional career choices in science.** (Nathalie Gendron and Elizabeth Theriault, CIHR Institute of Neurosciences, Mental Health and Addiction)
Grand Ballroom AB
Seating Limited – please email diane.parsons@ubc.ca to register.

1:30 – 3:30 PM

Parallel Symposia

Symposium 1: Grand Ballroom AB

Chairs: Majid Mohajerani and Allen Chan

Session Title: **Revealing Brain Dynamics Using Multi-Modal Brain Imaging Techniques**

Mei Zhen: *Real-time motor circuit imaging in C. elegans*

Timothy Murphy: *Probing mouse cortical circuits using light*

Amir Shmuel: *Hemodynamic and neurophysiological measurements of cortical spontaneous activity*

Ravi Menon: *Resting state dynamic brain networks in human and non-human primates using fMRI*

Symposium 2: Grand Ballroom C

Chair: Matthew Hill

Session Title: **Stress and the Brain**

Jaideep Bains: *Responding and adapting to stress: A Synaptic Perspective*

Liisa Galea: *Stress and stress hormone modulation of hippocampal neurogenesis in males and females*

Victor Viau: *Afferent Mediators of Sex Steroid Hormone Status on the Paraventricular Nucleus of the Hypothalamus and Neuroendocrine Responses to Stress*

Matthew Hill: *Endocannabinoid Signalling in the Amygdala and the Regulation of the Stress Response*

Symposium 3: Grand Ballroom D

Chair: Miriam Spering

Session Title: **Seeing and moving: psychophysical, computational and clinical aspects of pursuit eye movements**

Miriam Spering: *On the functional significance of pursuit eye movements for perception*

Gunnar Blohm: *Velocity memory codes and velocity transformations for pursuit eye movements*

Dinesh Pai: *Computational models of pursuit eye movements*

Gillian O'Driscoll: *Pursuit deficits in schizophrenia: characterization and neural substrates*

Symposium 4: Junior Ballroom CD

Chair: John MacDonald

Session Title: **Novel Discoveries in Neurological Disorders: Pannexins and ASICs**

Roger Thompson: *Ligand binding and not channel conductance is sufficient for the NMDA receptor to activate pannexin-1*

Georg Zoidl: *Evidence for impaired hippocampal synaptic plasticity in a Panx1 KO mouse model*

Michael Jackson: *Pannexin-1 channels are coupled to ER stress through STIM proteins*

Zhigang Ziong: *Acid-sensing ion channels as novel targets for neurological disorders*

3:30 – 5:30 PM

Posters & Exhibits • Junior Ballroom AB and Foyer & Pavilion Ballroom AB

5:30 – 6:30 PM

Presidential Forum: Chaired by Yves De Koninck (President CAN and Co-Chair of the Science Advisory Committee, Brain Canada))

Speaker: Inez Jababurwala (President, Brain Canada)

Discussants: Tony Phillips (Director, CIHR Institute of Neurosciences, Mental Health and Addiction), Dan Goldowitz (Director, NeuroDevNet), David Kaplan (Director, Brain Canada and Co-Chair Science, Brain Canada)

7:00 – 9:30 PM

Student Social: Relish Gastropub, 888 Nelson Street, Vancouver

This social is generously supported by the **University of Victoria** Neuroscience Program and the **University of British Columbia Brain Research Centre**

Tuesday May 22, 2012

- 8:30 – 10:15:** **Plenary symposium** Grand Ballroom AB
Chair: Jane Roskams, University of British Columbia
Speaker 1: Alyson Fournier (McGill University)
Spatial and temporal regulation of cytoskeletal dynamics and axon guidance
Speaker 2: Ed Ruthazer (McGill University) 2011 CAN Young Investigator
Activity-dependent selection of synaptic partners in a developing visual circuit
Speaker 3: Tom Boyce (University of British Columbia) *The Biology of Misfortune: How Social Stratification, Sensitivity and Stress Diminish Child Health and Brain Development*
- 10:15 – 10:45** **Coffee Break • Junior Ballroom Foyer**
- 10:45 – 11:00** **2011 Brainstar Awardee** - Bahareh Ajami (University of British Columbia)
Infiltrating monocytes trigger EAE progression, but do not contribute to the resident microglia pool **Grand Ballroom AB**
- 11:00 – 12:00** **Plenary speaker:** Dan Geschwind, (University California, Los Angeles)
How autism genetics informs our understanding of autism pathophysiology and treatment
Grand Ballroom AB
- 12:00 – 1:00** **Lunch**
CAN Membership Annual General Meeting • Grand Ballroom AB
- 1:00 – 3:00 PM** **Parallel Symposia**
- Symposium 5:** Grand Ballroom C
Chair: Leigh Anne Swayne
Session Title: **Neurogenesis for Restorative Brain Therapy: from basic science to translational research**
Leigh Anne Swayne: *Pannexins in neural stem cells as potential targets for brain repair*
Diane Lagace: *Why some dividing cells in the adult brain survive?*
Sam Weiss: *Adult neurogenesis and the formation of social memories*
Molly Shoichet: *Endogenous stimulation of neural stem/progenitor cells using a minimally-invasive bioengineered hydrogel for local therapeutic delivery after stroke*
- Symposium 6:** Grand Ballroom D
Chair: Stefan Everling
Session Title: **Primate Prefrontal Cortex and Executive Control**
Michael Petrides: *Anatomy of the primate lateral prefrontal cortex with functional commentary*
Julio Martinez-Trujillo: *Attentional filtering of behaviourally relevant information in primate prefrontal neurons*
Thilo Womelsdorf: *Neuronal control processes guiding the attentional focus in medial and lateral prefrontal cortex*
Stefan Everling: *Principal sulcus deactivation in macaques impairs rule memory*

Symposium 7: Grand Ballroom AB

Chair: Katalin Toth

Session Title: **Dynamic Changes in Synaptic Organization**

Ann Marie Craig – *Synaptic organizing genes for excitatory and inhibitory synapse development*

Katalin Toth – *Activity-dependent changes in presynaptic Vesicle Pools*

Kenneth Pelkey – *Development and plasticity of excitatory synaptic inputs to parvalbumin expressing basket cells*

Jean-Claude Beique – *Synapse-specific mechanisms of homeostatic plasticity*

Symposium 8: Junior Ballroom CD

Chair: Hakima Moukhles

Session Title: **Glial Cells in Development and Disease**

Shalina Ousman: *The alphaBC of Schwann cells*

Vanessa Auld: *Integrin function within glia during optic nerve development*

Keith Murai: *Glial cells in neural circuit plasticity and homeostasis*

Hakima Moukhles: *Astrocytes and aquaporin 4 as targets for the prevention of brain edema*

- 3:00 – 5:00 PM** **Posters & Exhibits • Junior Ballroom AB and Foyer & Pavilion Ballroom AB**
- 5:00 – 6:00 PM** **2012 Young Investigator Award Lecture - Grand Ballroom AB**
- 6:00 – 7:00 PM** **Keynote Lecture - Grand Ballroom AB:**
David Lewis (University of Pittsburgh)
Cortical excitatory/inhibitory balance and cognitive dysfunction in schizophrenia

Wednesday, May 23, 2012

- 8:30 – 10:15 AM** **Plenary symposium • Grand Ballroom AB**
Chair: Ingrid Johnsrude (Queen's University)
- Speaker 1:** Kalina Christoff (University of British Columbia): *Using real-time fMRI to investigate spontaneous thought*
- Speaker 2:** Judy Illes (University of British Columbia) *Neuroimaging and vegetative states: towards evidenced-based ethics guidance*
- Speaker 3:** John F Connolly (McMaster University) *Event-Related Potential-based Assessment of Suspected Disorders of Consciousness*
- 10:15 – 10:45 AM** **Coffee Break • Junior Ballroom Foyer**
- 10:45 – 11:00** **2011 Brainstar Awardee – Grand Ballroom AB**
Simon Girard (Université de Montréal)
Increased de novo mutation rate in probands affected with schizophrenia
- 11 – 12** **Plenary speaker:** Adrian Owen (Western University)
When thoughts become actions: Imaging disorders of consciousness
Grand Ballroom AB
- 12 – 12:30 Lunch**
- 12:30 – 2:30 PM** **Posters & Exhibits • Junior Ballroom AB and Foyer & Pavilion Ballroom AB**

3 – 5 PM

Parallel Symposia

Symposium 9 • Grand Ballroom A

Chair: Martin Pare

Session Title: **Neural Basis of Working Memory**

Jeremy Seamans: *Neural mechanisms of persistent activity in the rodent medial frontal cortex*

Martin Pare: *Neural substrate and capacity limits of visual working memory in the macaque monkey*

Clayton Curtis: *Functional imaging evidence of prefrontal and posterior parietal cortex contribution to human spatial working memory*

Susanne Ferber: *Electrophysiological evidence of working memory in human visual behavior*

Symposium 10 • Grand Ballroom B

Chair: Steven Prescott

Session Title: **Impact of Cellular and Circuit Properties on Neural Coding**

Steven Prescott: *Relationship between cellular properties and network coding strategies*

Fernando Fernandez: *Gain and spike rate modulation through correlations in excitatory and inhibitory synaptic conductance activity*

Maurice Chacron: *Neural Circuits that Adaptively and Efficiently Respond to Natural Stimuli*

Ian Davison: *Synaptic architecture for Sensory Processing in Olfactory Cortical Circuits*

Symposium 11 • Grand Ballroom C

Chair: Judy Illes

Session Title: **Children, Ethics and Brain**

Timothy Caulfield: *Direct-to-consumer genetic testing and children: the need for regulation?*

Tim Oberlander: *Ethical implications of prenatal exposure to antidepressant medications*

Freda Miller: *Ethical challenges in using neuronal stem cells*

Nina Di Pietro: *Incidental findings in pediatric neuroimaging research: A child's right to know.*

Symposium 12 • Grand Ballroom D

Chair: Shernaz Bamji

Session Title: **Development and Plasticity of Neural Circuits**

Brian Chen: *Mechanisms of Synaptic Specificity in Hard-Wired Neural Circuits*

Graziella Di Cristo: *Mechanisms underlying activity-dependent maturation of GABAergic circuits*

Kurt Haas: *Molecular Mechanisms of Metaplasticity During Early Brain Circuit Formation*

Sheena Josselyn: *Molecular, cellular and circuit mechanisms underlying memory formation*

5:00 PM

End of Meeting