

NEUROSCIENCE NEWSLETTER

PROGRAM NEWS

PIN OFFICE NEWS:

As many of you know or suspected, Pat Reed has been away on extended sick leave for the past few months (hence absence of newsletters). I am pleased to report that Pat is now back! I would like to thank everyone for their patience for any delays over the past few months and apologize for any further delays over the next few weeks while Pat is catching up with the backlog.

Jonathan Dostrovsky, PIN Director

NEW PIN STUDENTS:

We would like to welcome the following students to the Neuroscience Program:

Student's Name	Degree	Supervisor	Department
Stephanie Green	PhD	Michelle Keightley	Rehab. Science
Jonathan Lipszyc	MSc	Russell Schachar	IMS
Graeme Schwindt	PhD	Sandra Black	IMS

GRADUATING STUDENTS:

We would like to congratulate the following PIN graduates:

Student's Name	Degree	Supervisor	Department
Alison Burgess	PhD	Isabelle Aubert	Lab. Med. Path.
<u>Thesis title:</u> "The Role of Polysialic Acid in Neuronal Development"			
Allen Chan	PhD	Elise Stanley	Physiology
<u>Thesis title:</u> "Mechanisms of Presynaptic Cav2.2 (N-type) Modulation"			
Jeffrey Dason	PhD	Atwood/Charlton	Physiology
<u>Thesis title:</u> "Role of Frequentin1 and Frequentin2 in Regulating Neurotransmitter Release and Nerve Terminal Growth at the Drosophila Neuromuscular Junction"			

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Program Committee Members

J.O. Dostrovsky / PHYSIOLOGY (Dir.)	J. Roder / MOL. MED. GENETICS
W.M. Burnham / PHARMACOLOGY	B.J. Sessle / DENTISTRY
P. Carlen / INST. MED. SCIENCE	M. Shoichet / INST. BIOMAT. & BIOMED. ENG.
L.F. De Nil / SPEECH LANG. PATHOL.	B. Stefanovic / MEDICAL BIOPHYSICS
Z. Jia / PHYSIOLOGY	W. Trimble / BIOCHEMISTRY
M. Lewis / HUMAN DEVELOPMENT AND APPLIED PSYCHOLOGY	J.W. Wells / PHARMACY
S. Nag / LAB. MED. PATHOBIOL.	J.S. Yeomans / PSYCHOLOGY
J. Peever / CELL AND SYSTEMS BIOLOGY.	K. Zabjek / REHAB. SCI.

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e-mail: p.neuroscience@utoronto.ca.

<http://www.utoronto.ca/neurosci>

Office Hours: Mondays to Thursdays – 11:00am-4:00pm

Zainab Fatima	MSc	Randy McIntosh	IMS
<u>Thesis title:</u> "Investigating the Neural Correlates of Crossmodal Facilitation as a Result of Attentional Cueing: An Event-related fMRI Study"			

Jamie Fong	MSc	Linda Mills	Physiology
<u>Thesis title:</u> "Chronic Depolarization Upregulates Mitochondrial Protein Import in Differentiated PC12 Cells"			

David Gelinas	PhD	JoAnne McLaurin	Lab Med Path
<u>Thesis title:</u> "Modulation of inflammatory mediators during aging and amyloid-beta pathology"			

Joanna Glazer	MSc	Robin Green	Rehab. Sci.
<u>Thesis title:</u> "Neural Correlates of Severity and Recovery of Memory Function Following Traumatic Brain Injury"			

Sarah Harrison	PhD	Jose Nobrega	Psychology
<u>Thesis title:</u> "Examination of the Role of Dopamine D3 Receptors in Behavioural Sensitization to Ethanol"			

John Kim	MSc	Howard Mount	Physiology
<u>Thesis title:</u> "Distinct behavioural and neurochemical effects of wild type and mutant forms of human alpha-synuclein in mice"			

David Lam PhD Hu/Sessle Dentistry
Thesis title: "Neural Mechanisms of Temporomandibular Joint and Masticatory Muscle Pain"

Ewa Niechwiej-Szwedo PhD Verrier/Steinbach Rehab. Sci.
Thesis title: "Manipulation of Afferent Feedback from Extraocular Muscles via Jendrassik Maneuver in Binocularly Intact Observers and Deafferented Patients: Effects on Vergence, Version and Higher Order Perceptual Judgements"

Natalya Shulyakova MSc Linda Mills Physiology
Thesis title: "Proteasome inhibition and mitochondrial protein import: their role in mitochondrial homeostasis"

UPCOMING PIN DISTINGUISHED LECTURES

Please check <http://www.utoronto.ca/neurosci>. The 2008-2009 schedule will be posted there when it becomes available.

FACULTY NEWS

We are pleased to announce that **Dr. Russell Schachar** from the Department of Human Development and Applied Psychology and the Institute of Medical Sciences and **Dr. Bojana Stefanovic** of the Department of Medical Biophysics have joined the PIN faculty.

Dr. Schachar's research interests:

Dr. Schachar studies the genetic and neural basis of disorder behaviour and cognition in various child psychopathologies with particular focus on attention deficit hyperactivity disorder (ADHD). Along with his students and colleagues, Dr. Schachar focuses on identifying the cognitive deficits in ADHD (for example deficits in response inhibition and performance monitoring), on discovering those parts of the brain that are affected in ADHD using function magnetic resonance imaging, and on identifying the genes that contribute to ADHD through family, twin and molecular genetic studies. In order to identify the specific brain regions involved in ADHD, the team also studies children who have suffered a traumatic brain injury and tracks the link between their brain damage and the development of "secondary" ADHD and cognitive deficits that are found in both primary and secondary ADHD.

Russell J. Schachar (MD) is a Senior Scientist at SickKids, Professor of Psychiatry, University of Toronto, and Director of Research and Fellowship Training in the Division of Child and Adolescent Psychiatry, University of Toronto.

Dr. Schachar can be reached at: The Hospital for Sick Children, Psychiatry Research, 555 University Ave., Toronto, ON M5G 1X8 Tel: 416-813-6564; Fax: 416-813-6565; E-mail: russell.schachar@sickkids.ca.

Dr. Stefanovic's research interests:

The broad aim of our research is the understanding of human brain function. Over the past few decades, new techniques have been developed that, for the first time, have allowed completely

noninvasive examination of the working human brain in real time and with exquisite spatial detail. Functional magnetic resonance imaging (fMRI), in particular, has become the dominant method of studying human brain function. Despite its widespread use by neuroscientists and clinicians in healthy subjects and patients, the full potential of fMRI is yet to be realized and is arguably predicated on our arriving at a detailed understanding of the physical and physiological processes behind fMRI.

Like a number of other modalities, fMRI provides an indirect measure of neuronal activity, fMRI signal being dictated by the changes in brain vasculature during subject's stimulation. Accordingly, we are particularly interested in the coupling between local neuronal activity and the state of the surrounding vasculature. On one hand, we are working on the development of novel, quantitative magnetic resonance imaging based techniques for human brain function imaging. On the other, we are using in vivo multiphoton microscopy in combination with various fluorescent markers and pharmacological agents for very detailed characterization of the neuronal and vascular response to brain stimulation in animals. In both human and animal studies, we also employ electrophysiological recordings for a more direct assessment of the local neuronal activity. Finally, we're developing new theoretical models to incorporate these multimodality data, all aimed at furthering our understanding of the biophysics of brain functioning and facilitating the translation of basic science research to various clinical applications, such as stroke, epilepsy, and Alzheimer's.

Dr. Stefanovic can be reached at: Sunnybrook Health Sciences Center, 2075 Bayview Avenue Rm S6 50, Toronto, ON M4N 3M5 Canada; Tel: 416-480-4104; Fax: 416-480-5714; E-mail: bojana@sri.utoronto.ca.

PIN COMMITTEE NEWS

We are pleased to welcome Dr. Bojana Stefanovic to the PIN committee as the representative for the Department of Medical Biophysics. Dr. Stefanovic will be replacing Dr. Noor Kabani. PIN would like to thank Dr. Kabani very much for her service on the committee.

NOTICE TO GRADUATING STUDENTS

Please notify the PIN office upon your graduation to ensure that you will receive the notation "completed Collaborative Program in Neuroscience" on your degree transcript as well as a separate certificate suitable for framing from the PIN office to indicate that you have completed the program's requirements. Please let the office know the address you wish your certificate sent to and please also send us your thesis title. If you have transferred from a Master's degree to a Ph.D., please notify the PIN office.

U of T NEUROSCIENCE NEWS

Department of Psychology University of Toronto EBBINGHAUS EMPIRE MEETINGS

CALL FOR SPEAKERS FOR THE COMING YEAR 2008-2009

The Ebbinghaus schedule for autumn/winter terms 2008/2009 is being organized. If you or a visitor to Toronto would like to be on the speaker schedule, please let Lynn Hasher know at hasher@psych.utoronto.ca

SACEC/UTERP Science Day Advances in Epilepsy Care

August 16th, 2008
Hart House - Debates Room
A Conference Sponsored by SACEC and UTERP

8:30 Registration and Coffee

Clinical Topics (20 minute talks, 10 minute questions) Chaired by Frank Wang

9:00 Dr. Sonia Sarkissian: Epilepsy and Quality of Life
9:30 Dr. Paul Hwang: Advances in Anticonvulsant Therapy
10:00 Taufik Valiante: Advances in Seizure Surgery
10:30 Coffee Break
10:45 Dr. Kirk Nysten: Dietary Control of Seizures
11:15 Dr. Mac Burnham: Comprehensive Care: Will We Ever Have It in Toronto?
11:30 Breakout Groups (different groups led by each of the morning's speakers)
12:15 Lunch

Developments in Research (20 Minutes, 10 minutes questions)
Chaired by Dr. Mac Burnham

1:00 Dr. Peter Carlen: Seizure Recognition and Brain Stimulation for Seizure Control
1:30 Dr. Mac Burnham: How the Ketogenic Diet Works
2:00 Dr. James Eubanks: Gene Therapy for Rett's Syndrome
2:30 Coffee Break
3:00 Dr. Mary Pat McAndrews - Memory Problems in Epilepsy
3:30 Dr. Deborah Lonsdale: A Possible New Drug to Control Complex Partial Seizures
4:00 Mr. Ameer Taha: A New Anticonvulsant Diet

Society for Autonomous Neurodynamics (SAND) Meeting

The 5th annual meeting of the Society for Autonomous Neurodynamics (SAND) will take place on August 24th, 25th and 26th, 2008 at Stichting Epilepsie Instellingen Nederland (SEIN), Heemstede, The Netherlands. UTERP is a major sponsor of this meeting and many researchers and students from U of T will be participating. For further information and to register please see: <http://www.utoronto.ca/sand/PAND2008/index.html>

OTHER NEUROSCIENCE NEWS

Faculty Research Visit Grants in Germany for Canadian Researchers

About the Grant

German Academic Exchange Program (DAAD) offers grants for one to three months in all academic disciplines to scholars at US and Canadian institutions of higher education to pursue research at universities, libraries, archives, institutes or laboratories in Germany.

Key features

- Monthly award value ranges from 1,840 euros to 2,240 euros depending on academic status;
- Applicants should possess adequate knowledge of the German language to carry out the proposed research;
- Available to Canadian citizens, permanent residents and German nationals affiliated with a Canadian institution in full-time employment for at least six consecutive years; and
- Letter of invitation from the German institution(s).

Application Process

The application should be typewritten or word processed and submitted in triplicate (one original, two photocopies). For more information about the program, please visit: <http://www.daad.org/?p=researchvisit>

Deadline

November 15, 2008 and May 15, 2009 (postmark).

Please apply at least four months before your projected research stay in Germany and not much more than a year ahead.

INMHA New Funding Opportunity

INMHA is pleased to announce a major new funding opportunity in the area of co-morbidities of mental illness, addiction, brain, nerve & sensory disorders. The funding tool will be Emerging Team grants, and funding will be up to \$300K for 5 years. The deadline for Letters of Intent is October 15th 2008. Full applications, for those who are successful at the LOI stage, will be due May 1st 2009. Funding will begin October 1st 2009. We are very pleased to have the participation of a number of partner organizations. All of these have specific areas of interest that are described in the section entitled "Specific Research Foci".

For full details please go to:

<http://www.researchnet-recherchenet.ca/rnr16/viewOpportunityDetails.do?prog=472&&vie w=currentOpps&org=CIHR&type=AND&resultCount=25&sort=program&all=1&masterList=true>

The link is located on the CIHR website under Funding Health Research --> Current Funding Opportunities --> Emerging Team Grant. Please check the CIHR website for the most recent version of the RFA as some important revisions have been made since the original posting in June. Researchers should continue to monitor the website as new partners with additional specific interests are expected to join the initiative in the future.

POSITIONS AVAILABLE

OVERSEAS

PROFESSORS

Ruhr University Bochum invites applications for the positions of three young Professors to constitute a Mercator Research Group on the "Structure of Memory" in the areas of: 1. The Functional Architecture of Memory; 2. The Neurobiology of Memory; 3. The Theory of Memory. Application deadline: September 15, 2008. Further details can be found at www.rub.de/mrg.