Collaborative Program in Neuroscience (CPIN) University of Toronto

Newsletter – Vol. 33, No. 1 – September 2016

Featured In This Issue

Welcome New CPIN Students Please see page 5 for details.

News – CPIN Faculty Members We would like to welcome **Dr. Maithe Arruda-Carvalho** (Psychology) and **Dr. Benjamin Dunkley** (Medical Imaging) as new faculty members to the CPIN community. Researcher in Focus: **Dr. Gillian Einstein's** (Psychology and Public Health) research on how hormones effect the central nervous system. Congratulations to CPIN faculty members **Dr. Sheena Josselyn** (Physiology, Psychology and IMS) and **Dr. Paul Frankland** (Physiology, Psychology and IMS) on their recent co-authored publication in the journal *Science.* Please see pages 2 and 3 for details.

News – CPIN Students Congratulations to CPIN student member **Lily Qiu** (IMS, Lerch & Palmert labs) on recently completing the CPIN requirements and graduating from her MSc program. Congratulations also to CPIN alumna **Melanie Sekeres** (Physiology, PhD Supervisor Dr. Sheena Josselyn; Rotman Research Institute at Baycrest, Postdoctoral Supervisors Dr. Cheryl Grady and Dr. Morris Moscovitch) on recently beginning her faculty position at Baylor University in Waco, Texas. Please see pages 3 and 4 for details.

New student publication from the Rehabilitation Sciences Institute: rehabINK Please see page 4 for details.

Neuroscience Opportunities Please see page 6 for details

2016-17 CPIN Distinguished Lectureship Series

http://www.neuroscience.utoronto.ca/events/lectureship.htm

Speaker **| Dr. Hermona Soreq**, Professor of molecular neuroscience, The Edmond and Lily Safra Center for Brain Science and the Institute of Life Sciences, The Hebrew University of Jerusalem
Title | *From mice to men: microRNA regulators of cholinergic signaling in health and disease*
Date and Time | **Thursday, August 11, 2016, 4:00 pm**
Location | Rm. 2172, Medical Sciences Building, 1 King's College Circle, U of T
Host | Dr. Marla B. Sokolowski, University Professor, Department of Ecology and Evolutionary Biology, U of T
Co-sponsor | Canadian Institute for Advanced Research (CIFAR), Child and Brain Development Programme

Speaker | **Dr. Howard Hu**, Dean and Professor, Environmental Health, Epidemiology and Global Health, Dalla Lana School of Public Health, a Faculty of U of T; Professor, Medicine, Faculty of Medicine, U of T
Title | *The Impact on Intelligence, Behaviour, and Society of Lead Exposure: A Case Study of a Global Pollutant and On-going Research*
Date and Time | **Tuesday, September 20, 2016, 4:00pm**
Location | Auditorium 1101, Sandford Fleming Building, 10 King's College Road, UofT
Co-sponsor | Collaborative Doctoral Program in Global Health (CDPGH), U of T

Speaker | **Dr. Diane M. Beck**, Associate Professor, Department of Psychology and the Neuroscience Program, Beckman Institute Cognitive Neuroscience, University of Illinois at Urbana-Champaign
Title | *Neural representations of objects and scenes*
Date and Time | **Wednesday, September 28, 2016, 12:15pm**
Location | Rm. 3130, Sidney Smith Hall, 100 St. George Street, U of T (Please note that this lecture room location will only accommodate up to 60 people)
Hosts | 1) Dr. Amy Finn , Assistant Professor, Department of Psychology, U of T; 2) Dr. Dirk Bernhardt-Walther, Assistant Professor, Department of Psychology, U of T
Co-sponsor | Department of Psychology Ebbinghaus Empire Series, U of T

CPIN Newsletter

Zhong-Ping Feng
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CPIN
Graduate Studies

Suhail Asrar
Administrator
CPIN Office

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Lead Faculty
Faculty of Medicine

CPIN Participating Units
Applied Psychology & Human Development
Biochemistry
Biomaterials & Biomedical Engineering
Cell & Systems Biology
Computer Science
Dentistry
Laboratory Medicine & Pathobiology
Medical Biophysics
Medical Science
Music
Pharmaceutical Sciences
Pharmacology & Toxicology
Physiology
Psychology
Public Health
Rehabilitation Science

Contributors:
Heart & Stroke/Richard Lewar Centre of Excellence in Cardiovascular Research

Human Biology Program

Krembil Research Institute

St. Michael's Neuroscience Research Program

Collaborative Program in Neuroscience (CPIN)
University of Toronto
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News - CPIN Faculty Members

http://www.neuroscience.utoronto.ca/communications/news_cpin_faculty_members.htm

We would like to welcome **Dr. Maithe Arruda-Carvalho** (Assistant Professor, Psychology) as a new faculty member to the CPIN community.

Dr. Arruda-Carvalho's research examines the relationship between the maturation of brain circuits, behaviour and stress in mice, and how these contribute to the onset of mental illness. She did her BSc in biomedicine and her MSc in cellular neurobiology at the Federal University of Rio de Janeiro, Brazil. She obtained her PhD from UofT at SickKids Hospital with Dr. Paul Frankland, where she studied how neurons born in the adult brain contribute to memory formation and expression. During her Postdoc with Dr. Roger Clem at Mount Sinai Hospital in NY, USA, she studied synaptic plasticity within selective brain microcircuits supporting emotional memory. She started her lab in 2016.

We would like to welcome **Dr. Benjamin Dunkley** (Assistant Professor, Medical Imaging) as a new faculty member to the CPIN community.

His research involves studying the role of brain oscillations in cognition and perception in clinical populations. He is particularly interested in how psychiatric and neurological conditions, such as PTSD and mTBI for example, are related to changes in interregional communication mediated by neural synchronisation. He studied at Cardiff University, UK, where he completed his PhD on the role of cortical oscillations in oculomotor control and vision motion perception using MEG. This was followed by a postdoc at York University, Toronto, where he used fMRI and TMS to study transaccadic integration and spatiotopic representation in the dorsal visual stream with Dr. Doug Crawford. A second postdoc at SickKids with Drs. Margot Taylor and Elizabeth Pang involved using MEG to characterise aberrant spectral connectivity in psychological (PTSD) and physical (mTBI) trauma. He now works at SickKids as a Clinical Associate, using MEG to study the spectral markers of neurological and psychiatric conditions.

Dr. Gillian Einstein is Associate Professor of Psychology and of Public Health at U of T.

Dr. Einstein received her AB from Harvard University where she graduated cum laude in Art History and her PhD from the University of Pennsylvania where she studied visual neuroanatomy. She did a postdoctoral fellowship in retinal physiology as well as in cortical organization. She has published in vision, Alzheimer disease, sex differences, and hormones, mood, cognition, and sleep. Her current research is on the effects of estrogens and culture on women's biologies and she is funded to study cognitive and brain changes in young women who have had their ovaries removed before natural menopause. The overarching question of her research is how do hormones effect the central nervous system. She has edited and annotated a book for MIT Press on foundational papers in Hormones and Behaviour, Sex and the Brain. She is founder and current director of the Collaborative Graduate Program in Women's Health and a founding member of the Organization for the Study of Sex Differences. She has consulted on Female Genital Circumcision/Mutilation/Cutting (FGC) for the World Health Organization and is past-Chair of the Advisory Board for the Institute of Gender and Health of the Canadian Institutes of Health Research. In 2010 she was Visiting Professor in Women, Gender, and Sexuality Studies at Harvard University. She is also Guest Professor of Neuroscience and Gender Medicine at Linköping University in Linköping, Sweden.

Dr. Gillian Einstein Research Links:
The Einstein lab website: http://einsteinlab.ca/
TEDMED talk: https://www.youtube.com/watch?v=_GFm7YP4NGQ
OBI talk: https://www.youtube.com/watch?v=BFLnQX8Pq-M
NIH interview: https://www.youtube.com/watch?v=cUW_RqRXzpw
Publications: Einstein Lab Select Publications Link

News - CPIN Faculty Members (contd.)

http://www.neuroscience.utoronto.ca/communications/news_cpin_faculty_members.htm

Congratulations to CPIN faculty members **Dr. Sheena Josselyn** (Associate Professor, Physiology, Psychology and the Institute of Medical Science; Senior Scientist, Neurosciences & Mental Health, SickKids) and **Dr. Paul Frankland** (Associate Professor, Physiology, Psychology and the Institute of Medical Science; Senior Scientist, Neurosciences & Mental Health, SickKids) on their recent co-authored publication entitled "*Competition between engrams influences fear memory formation and recall*" in the July issue of the journal *Science*. CPIN trainee **Chen Yan** (PhD student, Institute of Medical Science; Josselyn lab) was also involved in this study.

Link to the article: http://science.sciencemag.org/content/353/6297/383.long
Link to publication press release

Dr. Sheena Josselyn profile: Sheena Josselyn holds a Canada Research Chair in Molecular and Cellular Cognition and is an EJLB Scholar. Her undergraduate degrees and a Masters degree in Clinical Psychology were granted by Queen's University in Kingston (Canada). Her mentor was Dr. Richard Beninger. Sheena received a PhD in Neuroscience/Psychology from the University of Toronto with Dr. Franco Vaccarino as her supervisor. She conducted post-doctoral work with Dr. Mike Davis (Yale University) and Dr. Alcino Silva (UCLA). Her program of research is dedicated to understanding the neural basis of cognitive function and dysfunction. To unravel the molecular, cellular and circuit processes that underlie memory, her lab uses a multidisciplinary approach that focuses on mice and attempts to translate these basic findings into humans. Dr. Josselyn received the Innovations in Psychopharmacology Award from the Canadian College of Neuropsychopharmacology (CCNP) and the Effron Award from the American College of Neuropsychopharmacology (ACNP).

Dr. Paul Frankland profile: Paul Frankland holds a Canada Research Chair in Cognitive Neurobiology, and is appointed as an Associate Professor in the Department of Psychology, Department of Physiology and Institute of Medical Science at the University of Toronto. His research focuses on modeling cognitive function and dysfunction in genetically-engineered mice. In these studies he hopes to characterize the roles of different proteins in neuronal plasticity, how different brain regions contribute to distinct cognitive processes, and how these are altered in disease states.

News - CPIN Students

http://www.neuroscience.utoronto.ca/communications/news_cpin_students.htm

Congratulations to CPIN student member **Lily Qiu** (Institute of Medical Science, Supervisors Dr. Jason Lerch & Dr. Mark Palmert) on recently completing the CPIN requirements and graduating from her MSc program.

Lily Qiu investigated the development of sex differences in neuroanatomy using mouse models and a novel imaging method called manganese enhanced magnetic resonance imaging to longitudinally scan brains. Lily contributed to one accepted journal article, with two more papers currently in preparation. She also won several scholarships and awards, including the Trainee Start-Up Fund, and the Graduate Studentship Program from The Hospital for Sick Children, as well as various travel grants. During her master's, Lily was extremely involved in leadership and extracurricular activities. She was a Junior Fellow at Massey College, and was 2015-2016 co-chair of Massey Grand Rounds, organizing a symposium on "Addressing Personalized Medicine Through Big Data." She volunteers as a mentor at the Scadding Court Mentorship Program, as a research assistant with the Pediatric Research Academic Initiative in SickKids Emergency, and serves on the student advisory group for diversity at the Faculty of Medicine at the University of Toronto. She also tutors high school students in math and science. Following her MSc, Lily will continue conducting research at the Hospital for Sick Children as a research assistant.

Select Publications:

Qiu LR, Germann J, Spring S, Alm C, Vousden DA, Palmert MR, Lerch JP. Hippocampal volumes differ across the mouse estrous cycle, can change within 24hours, and associate with cognitive strategies. *Neuroimage* 2013, 83:593-598.

Corre C, Friedel M, Vousden DA, Metcalf A, Spring S, **Qiu LR**, Lerch JPL, Palmert MR. Separate effects of sex hormones and sex chromosomes on brain structure and function revealed by high-resolution magnetic resonance imaging and spatial navigation assessment of the Four Core Genotype mouse model. *Brain Structure and Function* 2014: 1-20.

News - CPIN Students (contd.)

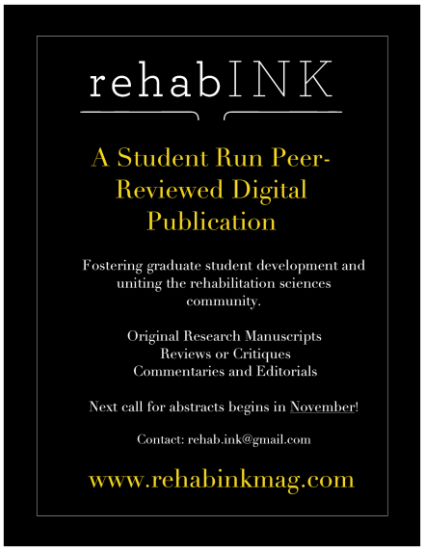
http://www.neuroscience.utoronto.ca/communications/news_cpin_students.htm

Congratulations to CPIN alumna **Melanie Sekeres** (Physiology, PhD Supervisor Dr. Sheena Josselyn; Rotman Research Institute at Baycrest, Postdoctoral Supervisors Dr. Cheryl Grady and Dr. Morris Moscovitch) on recently beginning her faculty position as Assistant Professor in the Department of Psychology & Neuroscience at Baylor University in Waco, Texas.

Melanie Sekeres earned her PhD in 2012 in the Department of Physiology at the University of Toronto under the supervision of Dr. Sheena Josselyn. Her research focuses on cellular and systems-level changes in the brain that support memory consolidation processes over time. Melanie conducted her graduate research at Sick Kids where she was awarded the Exceptional Trainee Award in the Program in Neurosciences & Mental Health. Her thesis, which investigated the molecular mechanisms underlying memory consolidation processes in the mouse brain, was awarded the Jacob Kraicer Doctoral Award in the Department of Physiology, and she was nominated for a Governor General's Academic Gold Medal Award for her graduate work in 2012. Melanie next went on to complete a post-doctoral fellowship at the Rotman Research Institute at Baycrest under the supervision of Drs. Cheryl Grady and Morris Moscovitch. There, she turned her focus towards using functional magnetic resonance imaging (fMRI) in healthy young adults to investigate how the passage of time affects the quality and neural representation of episodic memory in humans. Throughout her training, Melanie's research was supported by prestigious fellowship awards, including CIHR's Frederick Banting and Charles Best Canada Graduate Scholarship Masters and Doctoral awards, and a CIHR post-doctoral fellowship. Melanie recently began a faculty position as Assistant Professor in the Department of Psychology & Neuroscience at Baylor University in Waco, Texas. She plans to extend her memory research program to study factors that promote memory retention and healthy aging in the brain.

rehabINK: Rehabilitation Sciences Institute student publication

Website: www.rehabinkmag.com
rehabINK is an online peer-reviewed digital publication that was founded in September 2015 by a group of graduate students studying at U of T's Rehabilitation Sciences Institute (RSI). The editorial team also includes CPIN students **Tian Renton** (Editor-In-Chief; Reed lab) and **Denise DuBois** (Editor; Nalder & Polatajko labs). Through this platform, rehabINK aims to unite the rehabilitation science community, increase awareness of rehabilitation science and promote student work. The publication allows all graduate and undergraduate students (from within and outside the U of T community) to showcase their original research work, gain publication experience, and grow their CVs. Published articles seek to reflect the vast diversity of research that is conducted within the rehabilitation sciences sector. In addition to publishing abbreviated original manuscripts, rehabINK also publishes reviews, critiques, and opinion pieces. The next issue of rehabINK will be published in early October at www.rehabinkmag.com
Interested in publishing with rehabINK?
A call for abstracts for publication in the third issue of rehabINK will be distributed in November. Contact us! We are looking forward to hearing from you.
Email: rehab.ink@gmail.com



Upcoming Events

U of T Neuroscience Seminars
http://neuroscience.utoronto.ca/events/seminar.htm

Conferences and Meetings
http://neuroscience.utoronto.ca/events/Conf_M.htm

Welcome New CPIN Students

Surname	First Name	Home Unit	Degree	Supervisor (s)
Abdallah	Salsabil	CSB	MSc	Adriano Senatore
Wong	Yuen Yan	CSB	MSc	Adriano Senatore
Lopez Gross	Jacqueline	DEN	MSc	Limor Avivi-Arber
Eftekhari	Daniel	IBBME	MASc	Richard Aviv
Kamaleddin Ezabadi	Seyed Mohammad Amin	IBBME	PhD	Steven Prescott
Mokhberi	Maryam	IBBME	MASc	Tom Chau
Beldick	Stephanie	IMS	MSc	Michael Fehlings
Boutet	Alexandre	IMS	PhD	Andres Lozano
Chen	ChengCheng	IMS	MSc	James Kennedy
Derkach	Daniel	IMS	MSc	Cindi Morshead
Harmsen	Irene	IMS	PhD	Andres Lozano
Ji	Xiang (Patrick)	IMS	MSc	Carol Westall
Kim	Julia	IMS	MSc	Ariel Graff
Lee	Yena	IMS	MSc	Roger S McIntyre
Meng	Ying	IMS	PhD	Sheena Josselyn
Osborne	Natalie	IMS	PhD	Karen Davis
Patel	Ronak	IMS	MSc	Benjamin Goldstein
Pinchefsky	Elana	IMS	MSc	Emily Tam and Steven Miller
Rinchon	Vinz-erl Cricia	IMS	MSc	Robert Chen
Sandor	Mark	IMS	MSc	Karen Gordon
Saravanamuttu	James	IMS	MSc	Robert Chen
Tohyama	Sarasa	IMS	MSc	Mojgan Hodaie
Valli	Mikaeel	IMS	MSc	Antonio Strafella
Varriano	Brenda	IMS	MSc	Carmela Tartaglia
de Snoo	Mitchell	LMP	MSc	Suneil Kalia
Friesen	Erik	LMP	MSc	Suneil Kalia
Ghodrati	Farinaz	LMP	MSc	Gerold Schmitt-Ulms
Rzadki	Kate	LMP	MSc	Sunit Das
Solarski	Michael	LMP	MSc	Gerold Schmitt-Ulms
Zhang	Ashley	LMP	MSc	Janice Robertson

Neuroscience Opportunities

http://www.neuroscience.utoronto.ca/communications/Positions_Available.htm

Postdoctoral Fellow Positions

University of Oxford, Oxford, United Kingdom
Description: Dr Michael Kohl's group (Department of Physiology, Anatomy and Genetics, University of Oxford) is currently looking for two enthusiastic post-docs with experience in behavioural neuroscience and/or two-photon imaging. The projects focus on neural coding strategies employed in somatosensory perception and make use of novel methods developed in our lab, including spatially multiplexed two-photon imaging and holographic two-photon stimulation. Both posts are for one year in the first instance, with the possibility for renewal for up to three years.
For further information, please see the following link: https://www.dpag.ox.ac.uk/vacancies/current-vacancies

Faculty Positions

University of Colorado, Denver, CO, USA
Description: The Department of Physiology and Biophysics at the University of Colorado School of Medicine is seeking to fill two tenure-track Assistant Professor positions in the areas of Neuroscience/Physiology. The positions include one each in:
• Systems Neuroscience/Physiology, Posting number 06393
• Computational Neuroscience/Physiology, Posting number 06445
For further information, please visit our website: http://www.neuroscience.utoronto.ca/communications/Positions_Available.htm

University of Toronto Mississauga, Mississauga, ON, Canada
Description: The Department of Biology at the University of Toronto Mississauga (UTM) invites applications for a tenure-stream appointment in Neuroscience at the rank of Assistant Professor. The position start date is July 1, 2017. We are searching for an outstanding neurobiologist who addresses fundamental mechanisms of physiology and development. The department is particularly interested in an individual who brings complementary research with preferred areas of research: circuit formation; the control of behavior; neurogenesis; or synaptic physiology.
For further information, please see the link: http://can-acn.org/assistant-professor-neuroscience-university-of-toronto-mississauga

McGill University, Montreal, Quebec, Canada
Description: The McGill University Department of Neurology and Neurosurgery and the Centre for Research in Neuroscience (CRN) at McGill University invites applications for a tenure-track faculty position in the field of neurodevelopmental disorders at the rank of Assistant or Associate Professor. The CRN is a vibrant research centre that encompasses basic and translational neuroscience research with highly interactive research groups. The CRN is located at the Montreal General Hospital and is supported by the Research Institute of the McGill University Health Centre. The centre is located in Montreal, a cosmopolitan city with an attractive and affordable lifestyle. The successful candidate will be expected to establish and maintain a highly innovative, independent, and externally-funded research program and contribute to teaching and the supervision of graduate students at the University.
For further information, please see the link: http://can-acn.org/assistantassociate-professor-in-neurodevelopmental-disorders-mcgill-university

Reminders

Submissions for News Updates The CPIN Office requests trainee and faculty members to submit updates in research discoveries, events, and other achievements involving CPIN members. Please send your submissions to p.neuroscience@utoronto.ca

Faculty Profile Update The CPIN Office is looking to update the CPIN faculty member profiles on the website: http://www.neuroscience.utoronto.ca/faculty/list.htm If you wish to add or update your profile on the CPIN website, please contact the CPIN Office at p.neuroscience@utoronto.ca .