UNIVERSITY OF TORONTO
Collaborative Program In Neuroscience

ANNUAL REPORT
2013 - 2014

COLLABORATIVE GRADUATE EDUCATION

NEUROSCIENCE

Collaborative Program in Neuroscience (CPIN)
University of Toronto

http://www.neuroscience.utoronto.ca/
p.neuroscience@utoronto

Director
Zhong-Ping Feng, M.D., Ph.D

Business Officer
Paula Smellie

Administrators
Suhail Asrar, M.D., Ph.D
Elissa Caccavella, B.A.Sc., M.Eng.

Administrative Office
Rm. 3306
Medical Sciences Building
1 King’s College
University of Toronto
Toronto, ON, M5S 1A8
Phone: 416 978 8637
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Executive Summary (2013 – 2014)

Date of the Report: July 1, 2013 to June 30, 2014

About CPIN
- 15 participating academic units from 6 faculties
- Lead faculty: Faculty of Medicine; Administration: Department of Physiology
- CPIN Board of Directors (17 members)
  - Signs Memorandum of Agreement and oversees the general direction of the program
- CPIN Academic Program Committee (18 members)
  - Reviews admission and program requirements, program curriculum and completion, and program activities
- CPIN Executive Committee (17 members)
  - Reviews and leads the program activities
- CPIN Graduate Executive Committee (9 members)
- 353 faculty members affiliated with 55 different departments/divisions/institutes, including 297 members from 15 participating units
- 239 graduate students were enrolled in CPIN during the 2013-2014 academic year
  - 102 Masters students
  - 137 Ph.D. students
- 31 students completed the CPIN program
  - 19 Masters students graduated this past academic year
  - 12 Ph.D. students graduated this past academic year

Academic Program
- Admission requirements
- Program requirements (Master’s and Doctoral Levels)
- Courses

Distinguished Lectureship Series
- Eight CPIN Distinguished lectures
- Sacker Distinguished Lecture in April 2014
- 2 CPIN Special Lectures
- 12 event sponsors

CPIN Research Day
- April 8, 2014, MSB, attended by over 240 trainees and faculty members
- 82 CPIN graduate students and postdoctoral fellows presented their posters; 25 judges; 13 Presentation Awards; 3 Student’s Choice Awards
- Dr. Graham Collingridge, Professor of Neuroscience in Anatomy in the School of Physiology & Pharmacology at the University of Bristol, delivered the 2014 Raymond and Beverly Sackler Distinguished Lecture, in partnership with the International Symposium on Synaptic Plasticity and Brain Disorders (over ~250 attendees)
- 22 event sponsors in addition to the 15 MoA CPIN Participating Academic Units

CPIN Neurotalk
- Round-table setting for neuroscience discussions between students and faculty
- 11 Speakers during 7 neuroscience talks in 2013-2014. Topics ranged from technical concepts of optogenetics and non-invasive neurostimulation to more broad ideas such as the neural code, memory, and neuroscience of food addiction

CPIN Cortex Club
- Informal neuroscience discussion led by visiting CPIN Distinguished Lectureship speakers with CPIN trainee and faculty member participants
- 3 Cortex Club discussions in 2013-2014.
CPIN Workshops
- CPIN Workshop – Developing one’s own novel tools enables the generation of unique scientific observations (February 2014)
- CPIN Career Workshop - From Postdoc to PI: seldom spoken truths about making the transition (February 2014)

Toronto Brain Bee
- March 28, 2014, Lash Miller Laboratories, University of Toronto
- 7 faculty members, 19 graduate student volunteers and other trainee volunteers involved
- 55 student participants from 15 local high schools
- Following three rounds of questions, the top three winners were: Michael Liu (first place), Catherine Hu (second place) and Andrea Zukowski (third place).
- As the first place winner, Michael Liu represented Toronto at the 7th Annual CIHR Canadian National Brain Bee competition at McMaster University in Hamilton on May 31, 2014.

Neuroscience Enrichment Program: A Lecture Series for High School Students
- Introductory Neuroscience Course taught by Graduate Students and faculty members
- 10 presentation sessions provided a teaching opportunity for graduate students and served as the preparation course for Toronto Brain Bee 2014

Neuroscience Seminars
- Seminars hosted at U of T and affiliated research institutes are posted at www.neuroscience.utoronto.ca/events/seminar.htm

Neuroscience Conferences & Meetings
- Neuroscience-related conferences and meetings are posted at www.neuroscience.utoronto.ca/events/seminar.htm

Communications and Program Promotion
- Website: www.neuroscience.utoronto.ca, updated on a regular basis
- Annual Report: A summary of the major activities and events in the program for each academic year
- Email: Over 1050 subscribers from across the university and affiliated institutions
- Newsletters: 10 monthly newsletters produced in 2013-2014
- Career Opportunities: Regularly updated postings of neuroscience opportunities on the website and newsletter
- Facebook: Over 300 likes

Student Achievements
- Awards
- Publications
Message from the Director

This CPIN 2013-2014 Report summarizes the major activities and progress achieved during the past academic year that adheres with our general principles: Conceive, Collaborate, and Consolidate. The core vision of CPIN is to attain international recognition and leadership in neuroscience graduate education, and thus research. We believe that the conception of neuroscience innovation can only be accomplished through meaningful collaboration, leading to the unparalleled consolidation of developments and accomplishments in the field of neuroscience. We are presently supported by 15 academic departments from 6 faculties (Faculty of Arts and Science, Faculty of Dentistry, Faculty of Medicine, Faculty of Music, Leslie Dan Faculty of Pharmacy, and Ontario Institute for Studies in Education of the University of Toronto) as per the Memorandum of Agreement, as well as St. Michael's Hospital Research Institute (Neuroscience Program). The scope for collaboration is virtually limitless and we aim to encourage greater heights of academic and research success for CPIN members and the University as a whole.

In accomplishing our annual goals, the CPIN Academic and Executive Committees have strived to ensure that the education programs and collaborative events hosted by CPIN continue to achieve high standards of excellence. The Graduate Student Executive Committee has exercised its leadership skills and added immeasurable value to the CPIN program. The events that provided platforms for knowledge exchange included the CPIN Distinguished Lectureship Series, Neurotalk, Cortex Club, workshops, outreach neuroscience educational programs, and were highlighted by our annual Research Day. The Research Day provided an invaluable opportunity for us to award CPIN students for their research efforts as well as provide expert feedback on their work from faculty members during the Poster Presentation session. We also recognized the work of the CPIN postdoctoral fellows in our research community for the first time via Poster Presentation Awards. Additionally, in collaboration with the Lunenfeld-Tanenbaum Research Institute, we celebrated the lifetime educational and research achievements of our CPIN faculty member Professor John Roder and hosted the Sackler Distinguished Visiting Neuroscientist Lecture. These activities were generously supported by the CPIN contributors and sponsors.

During the 2013-2014 year, we introduced new initiatives to develop and streamline the collaborative program. This included refining the CPIN student curriculum and introducing new courses for both masters and doctoral students. We have also introduced various administrative measures to improve and promote the program. With the strong support of the CPIN Board of Directors, we aim to continuously strengthen our program, attract the best graduate students and postdoctoral fellows to the UofT neuroscience community, and provide adequate opportunities to support our trainees in their career development and achievements through robust contribution to basic/translational neuroscience research and education.

At the forefront of CPIN’s success, the 2013-2014 year has been graciously supported by our faculty and trainee members, as well as the CPIN contributors and sponsors. We would like to acknowledge their perseverance and diligence in ensuring the widespread acclaim that the program has continued to receive. I look forward in the coming year to serving and working with all the CPIN members to strengthen and continue to evolve the program to greater heights of success.

Zhong-Ping Feng, M.D., Ph.D.
Director, Collaborative Program In Neuroscience
About CPIN

The Collaborative Program in Neuroscience (CPIN) is a graduate program offering masters and doctoral degree specialization through the School of Graduate Studies at the University of Toronto (Note: this is not a degree in neuroscience but rather a specialization. Students who fulfill all CPIN requirements receive a notation on their transcript and an official document of program completion).

CPIN is the largest collaborative neuroscience graduate program in Canada. There are over 300 faculty members and over 200 graduate students and postdoctoral fellows, from fifteen academic departments across six faculties at the University of Toronto participating in the program. The CPIN faculty members and trainees are located at the University of Toronto and its affiliated teaching hospitals/research institutes. Such a large and versatile community provides a strong basis to cultivate a successful training program supporting excellence, collaboration, innovation, and translational and trans-disciplinary research activities.

CPIN is funded by fifteen Academic Departments across six Faculties at the University of Toronto. The lead faculty of the program is the Faculty of Medicine. CPIN reports to the Vice Dean Graduate Affairs in the Faculty of Medicine, and is reviewed by the School of Graduate Studies and the Ontario Council of Graduate Studies. The administration of CPIN is managed under the Department of Physiology.

The purposes of the Collaborative Program in Neuroscience are to:

1. Foster a proactive collaborative neuroscience graduate/trainee program at the University of Toronto
2. Recognize and promote excellence, and enhance visibility of the graduate students and postdoctoral fellows in the neuroscience program at the University of Toronto
3. Create an environment increasing the versatility of the graduate students and postdoctoral fellows for their career development
4. Enhance the national and international recognition of the University of Toronto neuroscience educational program
5. Attract excellent graduate students and postdoctoral fellows to the University of Toronto
CPIN Board of Directors and Committees

CPIN Board of Directors

The CPIN Board of Directors reviews and signs the Memorandum of Agreement (MoA) and oversees the general direction of the program. The Board of Directors is composed of:

- Lee Bartel (Music)
- Katherine Berg (Rehabilitation Science)
- Heather Boon (Pharmaceutical Sciences)
- Peter Burns (Medical Biophysics)
- Sven Dickinson (Computer Science)
- Harry Elsholtz (Laboratory Medicine and Pathobiology)
- Zhong-Ping Feng (Chair, CPIN Director; Physiology)
- Avrum Gotlieb (Lead Faculty: Faculty of Medicine)
- Allan Kaplan (Institute of Medical Science)
- Ernest Lam (Dentistry)
- Stephen Matthews (Physiology)
- Morris Moscovitch (Psychology)
- Justin Nodwell (Biochemistry)
- Ruth Ross (Pharmacology)
- Lana Stermac (Applied Psychology and Human Development)
- Ulrich Tepass (Cell and Systems Biology)
- Christopher Yip (Institute of Biomaterials and Biomedical Engineering)

CPIN Academic Program Committee

The CPIN Academic Committee reviews admission and program requirements, program curriculum and completion, and program activities as per the MoA. The Academic Committee is composed of:

- Julie Audet (Institute of Biomaterials and Biomedical Engineering)
- Lee Bartel (Music)
- Robert Chen (Institute of Medical Science)
- Jonathan O. Dostrovsky (Honorary member: Physiology)
- Zhong-Ping Feng (Chair)
- David R. Hampson (Honorary member: Pharmaceutical Sciences)
- Jeffrey Henderson (Pharmaceutical Sciences)
- Ernest Lam (Dentistry)
- Kang Lee (Applied Psychology and Human Development)
- Angus McQuibban (Biochemistry)
- John Peever (Cell and Systems Biology)
- Amy J. Ramsey (Pharmacology and Toxicology)
- Janice Robertson (Laboratory Medicine and Pathobiology)
- Bojana Stefanovic (Medical Biophysics)
- Martin Wojtowicz (Physiology)
- John S. Yeomans (Psychology)
- Karl Zabjek (Rehabilitation Science)
- Richard Zemel (Computer Science)
CPIN Executive Committee

The CPIN Executive Committee reviews and leads the program activities as per the MoA, including distinguished lecture selection, Research Day, high school outreach program, sponsorships and faculty-student interactive events. The Executive Committee is composed of:

- Lee Bartel (Music)
- Oliver Ernst (Biochemistry)
- Zhong-Ping Feng (Chair)
- Lili-Naz Hazrati (Laboratory Medicine and Pathobiology)
- Jeffrey Henderson (Pharmaceutical Sciences)
- Ernest Lam (Dentistry)
- Kang Lee (Applied Psychology and Human Development)
- Ofer Levi (Institute of Biomaterials and Biomedical Engineering)
- John Peever (Cell and Systems Biology)
- Ruth Ross (Pharmacology & Toxicology)
- Bojana Stefanovic (Medical Biophysics)
- Lu-Yang Wang (Physiology)
- Albert Wong (Institute of Medical Science)
- John S. Yeomans (Psychology)
- Karl Zabjek (Rehabilitation Science)
- Richard Zemel (Computer Science)
- CPIN Graduate Executives representative

CPIN Graduate Executives

The CPIN Graduate Student Executive Committee is composed of:

- Andrew Barszczcyk (Outreach Program; Feng Lab)
- Ceilidh Cunningham (Member in large; Trimble & Wang Lab)
- Katie Ferguson (Communications; Newsletters, Facebook; Skinner Lab)
- Vivek Mahadevan (Cortex Club; Woodin Lab)
- Denis Osipov (Communications: Photographer; Salter Lab)
- Vladislav Sekulic (Communications; Skinner Lab)
- Bhanu Sharma (Member in large; Green Lab)
- Luka Srejic (Neurotalks; Hutchison Lab)
- Sonia Sugumar (Special Events; Carlen Lab)
- Zhong-Ping Feng (Advisor)
Participating Academic Units

Faculty of Arts and Science
- Cell & System Biology
- Computer Science
- Psychology

Faculty of Dentistry
- Graduate Department of Dentistry

Faculty of Medicine
- Biochemistry
- Biomaterials & Biomedical Engineering (Institute of)
- Laboratory Medicine & Pathobiology
- Medical Biophysics
- Medical Science (Institute of)
- Pharmacology & Toxicology
- Physiology
- Rehabilitation Science

Faculty of Music
- Graduate Department of Music

Faculty of Pharmacy
- Graduate Department of Pharmaceutical Sciences

Ontario Institute for Studies in Education
- Applied Psychology & Human Development

Faculty Members

University of Toronto faculty members with an interest in neuroscience may join CPIN to receive notifications of upcoming neuroscience events and seminars and be listed as member on our faculty page. Faculty members with an SGS appointment may have their students join CPIN.

There are currently 353 members of the CPIN faculty and 297 have graduate appointments in 15 CPIN Participating Academic Units.

The distribution of the faculty members is shown on the following page according to their department of primary appointment. Some members have cross appointments with one or more other graduate departments. (http://www.neuroscience.utoronto.ca/faculty/list.htm)

A list of faculty members from the MoA Participating Academic Units can be found in Appendix 1. A list of faculty members from the Non-MoA Units can be found in Appendix 2.
CPIN Faculty Member Distribution

The table and figure below show the distribution of 297 CPIN faculty members in each of the MoA participating units. Note: the members who have graduate appointments in more than one unit are only listed in one unit, thus the data may be slightly different from the records in individual units. A list of faculty members from the MoA Participating Academic Units can be found in Appendix 1.

<table>
<thead>
<tr>
<th>Academic Unit</th>
<th>Number of Faculty Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biochemistry</td>
<td>5</td>
</tr>
<tr>
<td>Cell &amp; Systems Biology</td>
<td>19</td>
</tr>
<tr>
<td>Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>Dentistry</td>
<td>4</td>
</tr>
<tr>
<td>Institute of Biomaterials &amp; Biomedical Engineering</td>
<td>11</td>
</tr>
<tr>
<td>Institute of Medical Science</td>
<td>104</td>
</tr>
<tr>
<td>Laboratory Medicine &amp; Pathobiology</td>
<td>14</td>
</tr>
<tr>
<td>Medical Biophysics</td>
<td>11</td>
</tr>
<tr>
<td>Music</td>
<td>1</td>
</tr>
<tr>
<td>OISE</td>
<td>2</td>
</tr>
<tr>
<td>Pharmacology &amp; Toxicology</td>
<td>15</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>7</td>
</tr>
<tr>
<td>Physiology</td>
<td>33</td>
</tr>
<tr>
<td>Psychology</td>
<td>48</td>
</tr>
<tr>
<td>Rehabilitation Science</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>297</strong></td>
</tr>
</tbody>
</table>

MoA Faculty Member Distribution

![MoA Faculty Member Distribution Chart](chart.png)
The table and figure below show the distribution of the 56 CPIN faculty members who are from the non-MoA participating units. A list of faculty members from the Non-MoA Units can be found in Appendix 2.

<table>
<thead>
<tr>
<th>Academic Unit</th>
<th>Number of Faculty Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaesthesia</td>
<td>1</td>
</tr>
<tr>
<td>Dalla Lana School of Public Health</td>
<td>1</td>
</tr>
<tr>
<td>English</td>
<td>1</td>
</tr>
<tr>
<td>Exercise Science</td>
<td>3</td>
</tr>
<tr>
<td>Human Biology</td>
<td>1</td>
</tr>
<tr>
<td>Medical Imaging</td>
<td>3</td>
</tr>
<tr>
<td>Medicine, Division of Neurology</td>
<td>11</td>
</tr>
<tr>
<td>Molecular Genetics</td>
<td>3</td>
</tr>
<tr>
<td>Neuroscience and Mental Health, SickKids</td>
<td>1</td>
</tr>
<tr>
<td>Nutritional Sciences</td>
<td>1</td>
</tr>
<tr>
<td>Ophtalmology &amp; Vision Sciences</td>
<td>2</td>
</tr>
<tr>
<td>Paediatrics</td>
<td>6</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>16</td>
</tr>
<tr>
<td>Surgery</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>56</strong></td>
</tr>
</tbody>
</table>

Non-MoA Faculty Member Distribution
Student Information

Enrolled Students

There were 239 graduate students enrolled in CPIN during the 2013-2014 academic year. Appendix 3 includes a list of current CPIN students, including their departmental affiliation.

Number of Students from Each Participating Department or Faculty (2013-2014)

<table>
<thead>
<tr>
<th>Department or Faculty</th>
<th>Masters</th>
<th>Ph.D.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Psychology &amp; Human Development (APD)</td>
<td>0</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Biochemistry (BCM)</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Cell &amp; Systems Biology (CSB)</td>
<td>8</td>
<td>7</td>
<td>15</td>
</tr>
<tr>
<td>Computer Science (CSC)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Dentistry (DEN)</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Institute of Biomaterials and Biomedical Engineering (BME)</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Institute of Medical Science (IMS)</td>
<td>43</td>
<td>39</td>
<td>82</td>
</tr>
<tr>
<td>Laboratory Medicine and Pathobiology (LMP)</td>
<td>4</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Medical Biophysics (MBP)</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Molecular Genetics &amp; Microbiology (MMG)</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Music (MUS)</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Pharmaceutical Sciences (PHM)</td>
<td>2</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Pharmacology &amp; Toxicology (PCL)</td>
<td>1</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Physiology (PSL)</td>
<td>21</td>
<td>22</td>
<td>43</td>
</tr>
<tr>
<td>Psychology (PSY)</td>
<td>12</td>
<td>31</td>
<td>43</td>
</tr>
<tr>
<td>Rehabilitation Science (REH)</td>
<td>5</td>
<td>8</td>
<td>13</td>
</tr>
<tr>
<td>Speech-Language Pathology (SLP)</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>102</strong></td>
<td><strong>137</strong></td>
<td><strong>239</strong></td>
</tr>
</tbody>
</table>

The figure below shows the distribution of graduate students across participating units.
Graduating Students

A total of 31 students have graduated with the CPIN specialization in the 2013-2014 academic year. Appendix 4 includes a list of CPIN graduating students, including their departmental affiliation, supervisor, and thesis topic.

Number of Graduating Students from Each Participating Department or Faculty

<table>
<thead>
<tr>
<th>Department or Faculty</th>
<th>Masters</th>
<th>Ph.D.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Psychology &amp; Human Development</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Biochemistry</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cell &amp; Systems Biology</td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Computer Science</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Dentistry</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Institute of Biomaterials and Biomedical Engineering</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Institute of Medical Science</td>
<td>8</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>Laboratory Medicine and Pathobiology</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Medical Biophysics</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Molecular Genetics &amp; Microbiology</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Music</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pharmaceutical Sciences</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Pharmacology &amp; Toxicology</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Physiology</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Psychology</td>
<td>5</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Rehabilitation Science</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Speech-Language Pathology</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>19</strong></td>
<td><strong>12</strong></td>
<td><strong>31</strong></td>
</tr>
</tbody>
</table>

The figure below shows the distribution of graduating students in the participating units.
CPIN Academic Programs

The Academic Program Committee has discussed and revised the program requirements. The Admission requirements remain unchanged from the previous year. The CPIN also added a temporary student membership for visiting graduate students to the University of Toronto.

Admission Requirements

- Applicants who wish to enrol in the collaborative program (at either Master's or Doctoral level) must apply to and be admitted to both the collaborative program and a graduate degree program in one of the collaborating units.

Program Requirements

Master's Level

- The thesis topic must be in the neuroscience area.
- The student's supervisor must be a faculty member of CPIN.
- The student must complete at least 0.5 full-course (or two 0.25 half-course) equivalent (FCE) for the master's degree chosen from the list of courses approved by the Collaborative Program in Neuroscience.
- The student must attend the Annual Research Day & present his/her work at least once.
- The student must attend at least 75% (or a minimum of 7) of the CPIN Distinguished Lectureship Series for a minimum of one year in consecutive sessions during their studies.

Doctoral Level

- The thesis topic must be in the neuroscience area.
- The student's supervisor must be a faculty member of CPIN.
- All Ph.D. students must complete at least 1.0 FCE course, such as JNR 1444Y Fundamentals of Neuroscience: Cellular and Molecular, or JNS 1000Y Fundamentals of Neuroscience: Systems and Behaviour, or one of several additional courses in cognitive psychology or imaging, or neuroscience related course to be determined by the CPIN Program Committee and posted on the CPIN website.
- The student must attend the Annual PIN Research Day and present his/her work at least twice.
- The student must attend at least 75% (or a minimum of 7) of the CPIN Distinguished Lectureship Series for a minimum of three consecutive years during their studies.
- After completing the M.Sc. or M.A., students who wish to continue on to a Ph.D. degree in Neuroscience must register again and fulfil all the program requirements.

Course List

Neuroscience courses offered by CPIN and the participating units are listed in Appendix 5.
Neuroscience Events

Distinguished Lectureship Series

CPIN organized eight lectures in the Distinguished Lectureship Series for the 2013-2014 year. Many of these were co-sponsored with member departments and institutes. All students in the program are required to attend at least 75% (or 7, including the Sackler Lecture) of these lectures. A survey evaluation of the lectures has been conducted. The results are presented in Appendix 6.

Speakers (2013 - 2014)

Speaker | Josep Rizo, PhD, Professor, Departments of Biophysics, Biochemistry and Pharmacology, University of Texas, Southwestern Medical Center at Dallas
Title | Reconstituting basic steps of synaptic vesicle fusion
Date | Thursday, September 19, 2013
Location | Room 131, Banting Institute (100 College St.)
Host | Shuzo Sugita, PhD, Associate Professor, Department of Physiology
Co-Sponsors | BRAIN Platform & Department of Physiology

Speaker | Dean Buonanno, PhD, Departments of Neurobiology and Psychology, University of California, Los Angeles
Title | Time and the Brain
Date | Friday, October 4, 2013
Location | Room 108, Koffler House (569 Spadina Crescent)
Host | Sheena Josselyn, PhD, Associate Professor, Departments of Physiology, Institute of Medical Science & Psychology
Co-Sponsor | Psychology Brian & Behaviour Seminar Series

Speaker | Dr. Cecilia Giulivi, Professor of Biochemistry, Department of Molecular Biosciences, University of California at Davis, CA
Title | Role of environmental exposures in mitochondrial dysfunction and autism
Date | Friday, November 1, 2013
Location | Room PB150, Pharmacy Building, 144 College St., Leslie Dan Faculty of Pharmacy
Host | David R. Hampson, Professor, Department of Pharmaceutical Sciences
Co-Sponsor | Department of Pharmaceutical Sciences

Speaker | Dr. Gottfried Schlaug, M.D. Ph.D; Director, Music and Neuroimaging Laboratory, Stroke Recovery Laboratory, and Division Chief, Cerebrovascular Diseases; Associate Professor of Neurology, Beth Israel Deaconess Medical Center and Harvard Medical School
Title | Singing Out of Tune: A Neuroscience Perspective
Date | Thursday, January 16, 2014
Location | Walter Hall, Edward Johnson Building, Faculty of Music (80 Queens Park Crescent)
Host | Dr. Lee Bartel, PhD; Professor and Associate Dean - Research, Faculty of Music, University of Toronto
Co-Sponsor | Faculty of Music

Speaker | Dr. Akira Sawa, MD, PhD; Professor, Psychiatry & Behavioural Sciences, Johns Hopkins Medicine; Director, Johns Hopkins Schizophrenia Center; Director, Silvio O. Conte Center for Schizophrenia Research at Johns Hopkins; Director, Molecular Psychiatry Program
Title | Potential of human stem cell approach: Linking molecular cellular signatures to clinical phenotypes in major mental illness
Date | Thursday, March 27, 2014
Location | Room 610, Health Sciences Building (155 College St.)
Host | Dr. James Kennedy, MD; Professor, Department of Psychiatry & Institute of Medical
Science, University of Toronto; Director, Neuroscience Research Department & Head of Psychiatric Neurogenetics Section, Centre for Addiction & Mental Health (CAMH)
Co-Sponsor | Centre for Addiction & Mental Health (CAMH)

Speaker | **Dr. Ana Martinez**, Research Professor, Spanish Council for Research
Title | *From the lab to bedside targeting GSK-3 and PDE7*
Date | Tuesday, April 8, 2014
Location | 18th Floor Auditorium, Mount Sinai Hospital, 600 University Ave.
Host | Dr. John Roder, PhD, FRSC; Senior Investigator, Lunenfeld-Tanenbaum Research Institute; Professor, Department of Molecular Genetics, University of Toronto
Sponsor | Lunenfeld-Tanenbaum Research Institute

Speaker | **Dr. Adrien Owen**, Canada Excellence Research Chair in Cognitive Neuroscience and Imaging, The Brain and Mind Institute, Western University
Title | *Cognition after serious brain injury: What has neuroimaging told us?*
Date | Friday, April 25, 2014
Location | Allan Waters Family Auditorium, 2nd floor, Li Ka Shing Knowledge Institute (209 Victoria St.)
Host | Dr. Tom Schweizer, Director, Neuroscience Research Program, St. Michael's Hospital; Assistant Professor, Faculty of Medicine (Neurosurgery) & IBBME, University of Toronto
Sponsor | St. Michael's Hospital Neuroscience Research Program

Speaker | **Dr. Jeffrey D. Macklis**, Professor of Stem Cell & Regenerative Biology, Harvard University; Professor of Neurology, Harvard Medical School; Centre for Brain Science, Harvard University
Title | *Molecular Logic of Cerebral Cortex Projection Neuron Development, Diversity, Degeneration and Regeneration*
Date | **Thursday, May 8, 2014**
Location | Room 1105, Sandford Fleming Building (10 King's College Road)
Host | Dr. James Eubanks, Associate Professor, Department of Surgery & IMS, University of Toronto; Senior Scientist & Scientific Division Head, Division of Genetics & Development, TWRI

**CPIN Special Lectures**

Speaker | **Dr. Donald T. Stuss**, President, Ontario Brain Institute
Title | *Neuroscience with Impact: Basic to Clinical Science through the Ontario Brain Institute*
Date | Tuesday, October 15, 2013
Location | Room 103, FitzGerald Building (150 College St.)
Host | Dr. Zhong-Ping Feng, Director, CPIN; Associate Professor, Department of Physiology

Speaker | **Marcus Brandao** MD, PhD, Professor and Director of the Institute of Neurosciences and Behavior, Rebeirao Preto, Brazil
Institution | Research Support Center on the Neurobiology of Emotions at the University of Sao Paulo and the Institute of Neurosciences and Behavior, Rebeirao Preto, Brazil
Title | *The Neurobiology of Fear, Stress and Anxiety*
Date | Monday, March 31, 2014
Location | Medical Sciences Building, Room 2172, Faculty of Medicine, University of Toronto
Host | Dr. Wes Shera, Professor & Dean Emeritus, Director of Post-Master's Diploma in Social Service Administration, Factor-Inwentash Faculty of Social Work
Sponsors | Association of Universities and Colleges of Canada (AUCC) and International Development Research Centre (IDRC)
CPIN Research Day

The 2014 University of Toronto CPIN Research Day & the International Symposium on Synaptic Plasticity and Brain Disorders was held in collaboration with the Lunenfeld-Tanenbaum Research Institute in honour of Professor John C. Roder on April 8, 2014. Dr. Graham Collingridge, Professor of Neuroscience in Anatomy in the School of Physiology & Pharmacology at the University of Bristol, United Kingdom & Fellow of the Royal Society, delivered the 2014 Raymond and Beverly Sackler Distinguished Lecture. Over 250 graduate students, postdoctoral fellows, faculty members & friends attended the CPIN Research Day.

2014 CPIN Research Day Program Booklet:

2014 CPIN Research Day Report:

The CPIN Research Day began with a welcome by Prof. Zhong-Ping Feng, the CPIN Director, at 9:30 a.m. at the Stone Lobby of the Medical Sciences Building. Prof. Feng also acknowledged the Research Day sponsors and the CPIN participating departments/units from 6 Faculties at the University of Toronto. Prof. Jeff Henderson, the Chair of the CPIN Poster Award committee, acknowledged the faculty judges and announced the evaluation process for Student and Postdoctoral Fellow Poster Presentations and the Student's Choice Poster Presentation Awards.

Poster Presentations and Evaluations

82 poster presentations were given by the CPIN trainees at the MSB Stone Lobby from 9:30 to 11:30 am. The presentations were evaluated by 25 poster judges based on visual presentation, project content, oral presentation and the ability to answer questions. 11 Outstanding Graduate Student Poster Presentations and 2 Outstanding Postdoctoral Fellow Poster Presentations were recognized by the faculty judges. The CPIN students also voted for their favored posters, resulting in 3 Student Choice Poster Presentation Awards. This inter-faculty and inter-department
interactive event was a tremendous success. The CPIN Executive Committee would like thank all participants, the poster judges, and graduate student volunteers.

**CPIN Research Day Sponsorship**

The 2014 CPIN Research Day Organizing Committee wish to acknowledge the following sponsors: the Faculty of Medicine (Graduate and Life Sciences Education; Research and International Relations), Lunenfeld-Tanenbaum Research Institute (Mount Sinai Hospital), St. Michael’s Neuroscience Research Program, the Brain Sciences Research Program at the Sunnybrook Research Institute, Parkinson Society Canada, the Raymond and Beverly Sackler Foundation, and the 15 CPIN participating Departments and their faculties: Departments of Cell & System Biology, Psychology, and Computer Science from Faculty of Arts and Science; Graduate Department of Dentistry from Faculty of Dentistry; Departments of Biochemistry, Laboratory Medicine & Pathobiology, Medical Biophysics, Pharmacology, Physiology, Rehabilitation Science, Institute of Biomaterials & Biomedical Engineering, and Institute of Medical Science from Faculty of Medicine; Graduate Department of Pharmaceutical Sciences from Faculty of Pharmacy; Department of Applied Psychology & Human Development from Ontario Institute For Studies in Education; and the Graduate Department of Music from Faculty of Music. ([http://neuroscience.utoronto.ca/events/CPIN_Research_Day.htm](http://neuroscience.utoronto.ca/events/CPIN_Research_Day.htm))

A very special thank you to those who volunteered to judge the poster presentations:

- Limor Avivi-Arber
- Jeff Dason
- Zhong-Ping Feng
- Jeff Henderson
- Zhengping Jia
- Bill Ju
- Rebecca Laposa
- Julie L. Lefebvre
- John Peever
- Stephen Perry
- Graham Pitcher
- Blake Richards
- Shuzo Sugita
- Hong-Shuo Sun
- Kaori Takehara
- Arun Tiwari
- Jane Topolovec-Vranic
- Douglas Tweed
- Frances Skinner
- Kaviraj Udupa
- Amy Yang
- John Yeomans
- Jose Zariffa
- Karl Zabjek

The International Symposium on Synaptic Plasticity and Brain Disorders was held in the afternoon at the 18th floor auditorium of the Mount Sinai Hospital, in honour of Dr. John C. Roder and was the featured event for the 2014 Research Day. The symposium was supported by the Lunenfeld-Tanenbaum Research Institute (Mount Sinai Hospital) in collaboration with the CPIN. The opening remarks were made by Dr. Jim Woodgett (Director, Lunenfeld-Tanenbaum Research Institute), Dr. Peter Lewis (Associate Vice-President, Research and Innovation, Univ. Toronto), Dr. Avrum Gotlieb (Interim Vice Dean, Graduate Education, Univ. Toronto) and Dr. Stephen Matthews (Chair, Department of Physiology, Univ. Toronto). Professor John C. Roder is a neurobiologist and Senior Investigator at the Lunenfeld-Tanenbaum Research Institute of Mount Sinai Hospital. He has been a Professor in the Department of Molecular and Medical Genetics at the University of Toronto since 1987 and is cross-appointed to the Department of
Physiology. Dr. Roder continues to identify pharmacogenetic methods for reversing the symptoms and effects of several devastating disorders including schizophrenia, depression, bipolar disease, ataxia, neurodegenerative disease, and epilepsy. He is also an accomplished mentor and has trained over 128 students and fellows, many of whom are also exceptional researchers and educators who were the guest speakers at the symposium.

The first session of the symposium was chaired by Prof. Lu-Yang Wang (Professor, Dept. of Physiology). The notable speakers included Dr. Jeff Henderson (Associate Professor, Dept. of Pharmaceutical Sciences), Dr. Robert Gerlai (Professor, Dept. of Psychology), Dr. Donglin Bai (Associate Professor, Dept. of Physiology and Pharmacology, UWO), and Dr. Ana Martinez (Professor, Medicinal Chemistry Institute of Spanish National Council for Research) who delivered the CPIN Distinguished Lecture. Prof. Zhengping Jia (Professor, Dept. of Physiology) chaired the second session and introduced the notable speakers, Dr. Albert Wong (Associate Professor, Dept. of Pharmacology), Dr. Michael Tymianski (Professor, Depts. of Surgery and Physiology), and Dr. Michael Salter (Professor, Depts. Of Physiology and IMS). Prof. Zhong-Ping Feng introduced the Raymond and Beverly Sackler Distinguished Visiting Neuroscientist at the University of Toronto Lecture Series and acknowledged the sponsorships. Prof. Michael Salter introduced the 2014 Sackler Lecturer/Symposium keynote lecturer, Dr. Graham Collingridge. Dr. Collingridge is a Professor of Neuroscience in Anatomy in the School of Physiology & Pharmacology at the University of Bristol, UK and a Fellow of The Royal Society since 2001. Dr. Collingridge is also a former Director of the MRC Centre for Synaptic Plasticity and former president of the British Neuroscience Association.
Raymond & Beverley Sackler Distinguished Visiting Neuroscientist

The Raymond and Beverly Sackler Distinguished Visiting Neuroscientist at the University of Toronto Lecture Series was established in 1999. This endowment was created in tribute to the Nobel Laureate, Julius Axelrod, Ph.D., for his pioneering and fundamental contributions to the neurosciences.

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

Date | Tuesday, April 8, 2014
Time | 5:00-6:00 pm
Location | 18th Floor Auditorium, Mount Sinai Hospital, 600 University Ave.
Speaker | Dr. Graham Collingridge, School of Physiology and Pharmacology, The University of Bristol, Bristol, UK
Title | Memory Mechanisms in Health & Disease
Host | Zhengping Jia, PhD; Senior Scientist, Neurosciences and Mental Health, The Hospital For Sick Children; Professor, Department of Physiology, Faculty of Medicine, University of Toronto

Dr. Graham Collingridge, Professor of Neuroscience in Anatomy in the School of Physiology & Pharmacology at the University of Bristol, UK, delivered our 2014 CPIN Raymond and Beverly Sackler Distinguished Lecture, which was also the keynote lecture of the CPIN Research Day and the International Symposium on Synaptic Plasticity and Brain Disorders. Dr. Collingridge delivered a world-class lecture on memory mechanisms in health and disease, and highlighted the roles of different forms of synaptic plasticity in these states. The lecture was educational, informative and inspirational.

Congratulations to Awardees

Following the Sackler/Keynote Lecture, Prof. Jeff Henderson announced the winners of the Graduate Student and the Postdoctoral Fellow Outstanding Poster Presentation Awards, and the Student’s Choice Poster Presentation Winners. Prof. Zhong-Ping Feng presented the Lifetime-Achievement Award to Professor John C. Roder.

Graduate Student Outstanding Poster Presentation Awards

Marie K. Bermejo (Pharmacology; Supervisor: Ali Salahpour)
Marielle Deurloo (Physiology; Supervisor: Zhong-Ping Feng)
Katie Ferguson (Physiology; Supervisor: Frances Skinner)
Sean Haffey (Physiology; Supervisor: Beverley Orser)
Celeste Leung (Physiology; Supervisor: Zhengping Jia)
Lia Mesbah-Oskui (Physiology; Supervisor: John C. Roder)
Hyemin Oh (IMS; Supervisor: Lucy Osborne)
Rageen Rajendram (IMS; Supervisor: Paul Arnold)
Morrison Steel (IMS; Supervisor: Karen Gordon)
Nikolaus Wolter (IMS; Supervisor: Karen Gordon)
Agnieszka Zurek (Physiology; Supervisor: Beverley Orser)
Postdoctoral Fellow Outstanding Poster Presentation Awards

**Benjamin Dunkley** (Sick Kids; Supervisor: Margot J. Taylor)
**Jacqueline Gleave** (CSB; Supervisor: Joanne Nash)

Student’s Choice Poster Presentation Winners

**Aaron Kucyi** (IMS; Supervisor: Karen Davis)
**Steven Tran** (CSB; Supervisor: Robert Gerlai)
**Axel Guskjolen** (Physiology; Supervisor: Paul Frankland)

CPIN Research Day/Symposium Organizers

**CPIN Research Day Organizing Committee**
Robert Chen  
Zhong-Ping Feng (Chair)  
Lili-Naz Hazrati  
Jeff Henderson  
Zhengping Jia  
Sonia Sugumar  
John Yeomans  
Lu-Yang Wang  
Suhail Asrar (CPIN Office)

**CPN Graduate Student Executives**
Andrew Barszczyk  
Ceilidh Cunningham  
Katie Ferguson  
Vivek Mahadevan  
Denis Osipov  
Vladislav Sekulic  
Bhanu Sharma  
Luka Srejic  
Sonia Sugumar (Liaison)

**Symposium Organizing Committee**
Joe Culotti  
Zhong-Ping Feng  
John Georgiou  
Zhengping Jia  
Jeff Henderson

**Event Program Design**
Suhail Asrar  
John Georgiou

**Symposium Organizing Committee**
Zhong-Ping Feng  
John Georgiou  
Zhengping Jia

**Registration Desk**
CPIN Graduate Student Executives  
Suhail Asrar  
Chantal Lackan

**Sponsorships**
Joe Culotti  
Zhong-Ping Feng  
John Georgiou  
Lili-Naz Hazrati  
Zhengping Jia

**Photographers**
Suhail Asrar  
Isabelle Aubert  
Denis Osipov  
Hong-Shuo Sun

**Sackler Lecturer Invitation**
Zhengping Jia

**Poster Site Coordinators**
Sonia Sugumar  
Suhail Asrar

**Poster Presentation Awards**
Zhong-Ping Feng  
Jeff Henderson (Chair)  
John Yeomans

**Refreshments and Receptions**
Suhail Asrar  
Chantal Lackan

**Student’s Choice Poster Awards**
Zhong-Ping Feng  
Lili-Naz Hazrati (Chair)

**Administration**
Suhail Asrar  
Chantal Lackan
CPIN Neurotalk
http://www.neuroscience.utoronto.ca/events/Neurotalk.htm
CPIN Graduate Executives have created and introduced a new format of learning into an academic environment steeped in the tradition of large lecture halls. Coordinated by Luka Srejic, Neurotalk offered an informal round-table setting for active neuroscience discussions. Both students and faculty members from a variety of disciplines were invited to participate. Seven Neurotalk sessions were hosted in 2013-2014 with a total of 11 speakers. The topics covered in the Neurotalks included technical concepts of optogenetics and non-invasive neurostimulation to more broad ideas such as the neural code, memory, and neuroscience of food addiction. Among the participants were students and post-docs in psychology, physiology, medical science, engineering, and cognitive science, in addition to faculty members from rehabilitation science, psychiatry, and aerospace engineering. In 2013-2014, the CPIN Neurotalk was organized by Luka Srejic (IMS; Hutchison Lab).

CPIN Cortex Club
http://www.neuroscience.utoronto.ca/events/cortexclub.htm
The CPIN Cortex Club is a unique seminar series dealing with cutting-edge topics and significant, challenging issues in neuroscience. It is organized and run by graduate students, and provides an informal and egalitarian environment designed to encourage cross talk and innovation. At each Cortex Club event, the visiting Distinguished Lectureship Series speakers present a mixture of novel, technical, speculative, and possibly even controversial work or ideas. Attendees are encouraged to ask questions, make comments, and discuss with each other during the invited speaker's presentation. The direction of the discussion is allowed to evolve organically, whether that be down towards the nitty-gritty technical details of a new methodology, or up towards lofty ideas about the nature of the brain and the future of neuroscience. In 2013-2014 academic year, 3 Cortex Club sessions were conducted. The topics discussed in these meetings included the biophysical and biochemical perspective of neurotransmitter release, time-perception, conscious and sub-conscious memory encoding, and the physiological and physiological mechanisms of synaptic plasticity. In 2013-2014, the CPIN Cortex Club was organized by Vivek Mahadevan (CSB; Woodin Lab).

CPIN Workshops
http://www.neuroscience.utoronto.ca/events/2014workshop/workshoparchive.htm

CPIN Workshop – Developing one’s own novel tools enables the generation of unique scientific observations
Date and Time | 3:00 pm, Wednesday, February 5, 2014
Location | Room 2172, Medical Sciences Building
Speaker | Joseph A. Fisher, M.D. FRCP(C); Department of Anesthesiology, University Health Network; Professor, Faculty of Medicine, University of Toronto; Senior Scientist, Division of Advanced Diagnostics, Cardiovascular, Toronto General Research Institute; Chief Scientist, Thornhill Research Inc.
Sponsor | Thornhill Research Inc., Toronto
Host | Dr. Zhong-Ping Feng, Director, CPIN; Associate Professor, Department of Physiology

CPIN Career Workshop - From Postdoc to PI: seldom spoken truths about making the transition
Date and Time | 4:00 pm, Wednesday, February 5, 2014
Location | Room 2172, Medical Sciences Building
Speaker | Blake Richards, Assistant Professor, Department of Biological Sciences, University of Toronto at Scarborough
Host | Dr. Zhong-Ping Feng, Director, CPIN; Associate Professor, Department of Physiology
The 16th Annual Toronto Brain Bee competition took place at the Lash Miller Chemical Laboratories at the University of Toronto on March 28, 2014. 55 students from 15 high schools in the Toronto area participated in the competition.

The students were welcomed by Professor Zhong-Ping Feng (Coordinator of Toronto Brain Bee, Department of Physiology) and Ms. Sharon Zillmer (Program Manager, Firefly Foundation). The Brain Bee competition was hosted by Andrew Barszczyk (Graduate student, Physiology) and Maddie Lynch (Graduate student, LMP). Brain Bee contestants visited the Anatomy Museum at the Division of Anatomy and attended three short research presentations given by graduate students, Sean Haffey (Physiology, Orser lab), Ekaterina Turlova (Physiology, Sun lab), and Laura Vecchio (Pharmacology, Salahpour/Grant labs).

The top three winners of the competition were: Michael Liu (first place, University of Toronto Schools), Catherine Hu (second place, University of Toronto Schools) and Andrea Zukowski (third place, Cardinal Carter Academy for the Arts). As the first place winner of the event, Michael Liu represented Toronto at the 7th Annual CIHR Canadian National Brain Bee competition (www.brainbee.ca) at McMaster University in Hamilton on May 31, 2014 and achieved a close second place in the National competition, and attended the International Brain Bee event. Catherine and Andrea were provided summer research placements at the laboratories of Dr. Shuzo Sugita (Physiology) and Dr. Zhong-Ping Feng (Physiology), respectively.
Toronto Brain Bee Organizers:

Faculty Judges
Jonathan Dostrovsky (Professor Emeritus Physiology)
Zhong-Ping Feng (Physiology)
William Ju (Human Biology)
Fang Liu (IMS/Psychiatry)
Amy Ramsey (Pharmacology)
Ali Salahpour (Pharmacology)
Hong-Shuo Sun (IMS/Surgery-Anatomy).

Graduate students and trainee volunteers
Andrew Barszczyk (Physiology; Feng lab; MC)
Yuxiao Chen (Pharmacology; Ramsey/Nobrega labs)
Marielle Deurloo (Physiology; Feng lab)
David Endell (Med. Sch.; Feng lab)
Kasey Hemington (IMS, Davis lab)
Terence Kai Ying Lai (IMS; Fang Liu lab)
Vincent Lam (Pharmacology; Salahpour/J Mitchell lab)
James Li (Surgery-Anatomy)
Maddie Lynch (LMP; Aubert lab; Co-MC)
Catharine Mielnik (Pharmacology; Ramset/Grant lab)
Tatyana Mollayeva (Physiology; Sun Lab)
Denis Osipov (Physiology; Salter lab; Photographer)
Mao Otake (Med. Sch.; Sun lab)
Shannon Roberts (Surgery-Anatomy; Agur lab)
Ekaterina Turlova (Physiology; Sun lab)
Laura Vecchio (Pharmacology; Salahpour lab)
Dulcie Vousden (MBP; Lerch lab)
Jessica Zung (Neuroscience Undergrad; Former Toronto Brain Bee Winner).

The Organizing Committee of the 2014 Toronto Brain Bee
Suhail Asrar (CPIN Office)
Isabelle Aubert (Laboratory Medicine and Pathobiology)
Morgan Barense (Psychology)
Andrew Barszczyk (Graduate student, Physiology)
Jonathan Dostrovsky (Professor Emeritus Physiology; Advisor)
Zhong-Ping Feng (Physiology; Committee Chair)
Kasey Hemington (Graduate Student, IMS)
William Ju (Human Biology)
Fang Liu (IMS/Psychiatry)
Amy Ramsey (Pharmacology)
Ali Salahpour (Pharmacology)
Hong-Shuo Sun (IMS/Surgery-Anatomy)
2014 Toronto Brain Bee Awards

Top 5 Toronto Brain Bee winners
1st place  Michael Liu (University of Toronto Schools)  
2nd place  Catherine Hu (University of Toronto Schools)  
3rd place  Andrea Zukowski (Cardinal Carter Academy for the Arts)  
4th place  Olivia Ly (University of Toronto Schools)  
5th place  Spencer Zhao (University of Toronto Schools)  

Novice Award winner
Spencer Zhao (University of Toronto Schools)

Top ranking participants according to school
Diana Varyvoda (Bishop Allen Academy)  
Evelyn Wang (Branksome Hall)  
Andrea Zukowski (Cardinal Carter Academy for the Arts)  
Aadil Sheikh (Glenforest Secondary School)  
Anuhea Sridharan (Northern Secondary School)  
Michael Liu (University of Toronto Schools)  
Hawa Latuke (York Memorial Collegiate Institute)  

Teacher Recognition Awards
Michelle Blais (Cardinal Carter Academy for the Arts)  
Mark Harding (York Memorial Collegiate Institute)  
Anand Mahadevan (University of Toronto Schools)  

Graduate Student Leadership Award in Outreach Program
Andrew Barszczynk (Department of Physiology, University of Toronto)  

Brain Bee Sponsors
The Collaborative Program in Neuroscience, the Department of Physiology and the Division of Anatomy of the Department of Surgery at the University of Toronto, and the Firefly Foundation.
Neuroscience Enrichment Program: A Lecture Series for High School Students
http://www.neuroscience.utoronto.ca/events/course.htm

The CPIN Graduate Executives Outreach Program coordinator Andrew Barszczyk (Physiology/Zhong-Ping Feng Lab) together with Kasey Hemington (IMS/Karen Davis Lab) organized the Introduction to Neuroscience Course for high school students in the GTA area. The 2013-2014 lecture series was administered by CPIN faculty and graduate student members as well as previous CPIN graduates. The course not only provided a teaching opportunity for graduate students, but also served as the preparation course for high school students participating in the 2014 Toronto Brain Bee contest.

<table>
<thead>
<tr>
<th>Date</th>
<th>Lecture</th>
<th>Time</th>
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<tbody>
<tr>
<td>Monday Dec 02 2013</td>
<td>The Nervous System; The Developing Nervous System</td>
<td>5-6 pm</td>
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<tr>
<td>Monday Dec 09 2013</td>
<td>Neurons and Action Potential; Touch and Pain</td>
<td>5-6 pm</td>
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<tr>
<td>Monday Dec 16 2013</td>
<td>Vision, Movement</td>
<td>5-6 pm</td>
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<td><strong>CHRISTMAS BREAK</strong></td>
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<tr>
<td>Monday Jan 6 2014</td>
<td>Chemical Messengers, Drugs and the Brain;</td>
<td>5-6 pm</td>
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<tr>
<td>Monday Jan 13 2014</td>
<td>Plasticity; Learning and Memory</td>
<td>5-6 pm</td>
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<tr>
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<td><strong>EXAM BREAK</strong></td>
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<tr>
<td>Monday Feb 03 2014</td>
<td>Sleep, Dyslexia, If time open question period for review of first half</td>
<td>5-6 pm</td>
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<tr>
<td>Monday Feb 10 2014</td>
<td>Stress; The Immune System</td>
<td>5-6 pm</td>
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<tr>
<td>Monday Feb 24 2014</td>
<td>When things go wrong</td>
<td>5-6 pm</td>
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<tr>
<td>Monday Mar 03 2014</td>
<td>Brain Imaging; Neural Networks &amp; Artificial Brains</td>
<td>5-6 pm</td>
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<td><strong>MARCH BREAK</strong></td>
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<tr>
<td>Monday Mar 24 2014</td>
<td>Review All Lectures</td>
<td>5-6 pm</td>
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</tbody>
</table>

Neuroscience Enrichment Program Lecturers
Jason Charish (PSL/Philippe Monnier Lab)
Zoey Cheng (IMS/Shun Wong Lab)
Kasey Hemington (IMS/Karen Davis Lab)
William Ju (HMB/Faculty Member)
Aaron Kucyi (IMS/Karen Davis Lab)
Chelsea Lowther (IMS/Anne S. Bassett Lab)
Sofia Raitsin (IMS/Jeffrey Meyer Lab)
Dulcie Vousden (MBP/Jason Lerch Lab)

Neuroscience Seminars
http://www.neuroscience.utoronto.ca/events/seminar.htm

Neuroscience seminars hosted on the U of T campuses and at affiliated research institutes have been posted on the CPIN website and are updated on a weekly basis. Over 80 seminars have been posted.

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

Neuroscience-related conferences have been posted on the CPIN website and are updated on a bi-weekly basis. Over 20 local, national, and international conferences have been posted.
Communications and Program Promotion

Website
www.neuroscience.utoronto.ca

Updated regularly, the website is the communication hub of the CPIN program. Current and prospective students, faculty members, and other interested parties can use the website to access detailed information about the program including educational activities, membership, community outreach programs, and upcoming seminars, meetings and conferences. Additionally, the website provides links to the monthly newsletter, faculty members and research groups, and offers CPIN application forms for students, postdoctoral fellows, and faculty members.

Annual Report
http://www.neuroscience.utoronto.ca/communications/annualreports.htm

CPIN produces and releases an annual report each academic year to summarize the major activities and events in the program. The current and previous annual reports can be found on our website.

Email
p.neuroscience@utoronto.ca

The CPIN distribution list includes over 1050 subscribers, including faculty members, graduate students, postdoctoral fellows, and University of Toronto Academic Unit leaders. The list is used to share information regarding upcoming academic events, CPIN updates, and the monthly newsletter. The CPIN office also responded to inquiries related to the CPIN graduate, postdoctoral and faculty membership as well as outreach programs and neuroscience events on a routine basis.

Newsletters
http://www.neuroscience.utoronto.ca/communications/2014newsletter.htm

The CPIN newsletter is distributed via email to the members of the CPIN distribution list, and is posted on the CPIN website. CPIN has produced 10 issues of the newsletter in the 2013-2014 academic year. The newsletter highlights upcoming events, program news, new faculty members and students, graduating students, and other neuroscience-related activities from across the University and affiliated institutions. Current and past issues of the newsletter can be accessed on the CPIN website. The 2014 newsletters were created and edited by Suhail Asrar, Elissa Caccavella and Zhong-Ping Feng. We also thank CPIN faculty and student members for their continual advice and suggestions in its development.

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

The CPIN website and newsletter also offer regular postings on neuroscience opportunities for current students and recent graduates. Most of the opportunities listed are from research groups/laboratories that are directly affiliated with CPIN.

Facebook

The CPIN Facebook page is used as an alternate forum for communicating information about upcoming events and activities to current graduate students. Students who have liked the Facebook page are invited attend to future academic and social events with their fellow CPIN members. Like the website, the CPIN Facebook page is updated regularly and operated by Katie Ferguson (PSL/ Frances Skinner Lab). The CPIN Facebook page has currently over 300 likes.
CPIN Students’ Achievements

Trainee Awards

CPIN attracts and fosters students with outstanding academic achievements. Many CPIN students received and held scholarship and awards in 2013-2014.

Examples of student awards are shown in Appendix 8.

Trainee Publications

CPIN facilitates and promotes research collaboration. Many CPIN students have published peer-reviewed original and/or review articles in peer-reviewed journals during 2013-2014.

Examples of student publications are shown in Appendix 9.

Funding (2013 – 2014)

Program Funders

CPIN administration was supported by 15 participating departments from 6 faculties at U of T and 1 Institutional Contributor over the 2013-2014 year.

MoA Contributions

- Department of Applied Psychology & Human Development
- Department of Biochemistry
- Institute of Biomaterials & Biomedical Engineering
- Department of Cell & System Biology
- Department of Computer Science
- Graduate Department of Dentistry
- Department of Laboratory Medicine & Pathobiology
- Department of Medical Biophysics
- Institute of Medical Science
- Graduate Department of Music
- Department of Pharmacology
- Graduate Department of Pharmaceutical Sciences
- Department of Physiology
- Department of Psychology
- Department of Rehabilitation Science

Institutional Contribution

- St. Michael’s Hospital Neuroscience Research Program

Event Sponsors

Major CPIN activities were funded by additional contributions from the MoA participating departments, the Institutional Contributor and external sponsors.
Distinguished Lectures

- Centre for Addition and Mental Health (CAMH)
- Lunenfeld-Tanenbaum Research Institute
- Faculty of Music
- Department of Pharmaceutical Sciences
- Department of Physiology BRAIN Platform
- Department of Physiology
- Department of Psychology
- Raymond and Beverly Sackler Distinguished Lecture
- St. Michael's Hospital Neuroscience Research Program
- Toronto Western Research Institute (TWRI)

Special Lectures

- Association of Universities and Colleges of Canada (AUCC)
- International Development Research Centre (IDRC)

Workshops

- Thornhill Research Inc., Toronto

Research Day

- Lunenfeld-Tanenbaum Research Institute (co-organizer)
- Faculty of Medicine (Graduate and Life Sciences Education)
- Faculty of Medicine (Research and International Relations)
- Brain Sciences Research Program at the Sunnybrook Research Institute
- Parkinson Society Canada
- Raymond and Beverly Sackler Foundation
- St. Michael's Hospital Neuroscience Research Program

The 15 MoA CPIN Participating Academic Units

- Department of Applied Psychology & Human Development
- Department of Biochemistry
- Institute of Biomaterials & Biomedical Engineering
- Department of Cell & System Biology
- Department of Computer Science
- Graduate Department of Dentistry
- Department of Laboratory Medicine & Pathobiology
- Department of Medical Biophysics
- Institute of Medical Science
- Graduate Department of Music
- Department of Pharmacology
- Graduate Department of Pharmaceutical Sciences
- Department of Physiology
- Department of Psychology
- Department of Rehabilitation Science

Toronto Brain Bee

- Department of Physiology
- Division of Anatomy, Department of Surgery
- Firefly Foundation
Appendix 1: Current CPIN Faculty Members (MoA Units)

Biochemistry
John Callahan, Oliver Ernst, James Gurd, David MacLennan and Angus McQuibban.

Cell & Systems Biology

Computer Science

Dentistry
Limor Avivi-Arber, James Hu, Ze'ev Seltzer and Barry Sessle.

Music
Lee Bartel.

Pharmacy
Usoa Busto, David R. Hampson, Jeffrey Henderson, Peter O’Brien, Peter Pennefather, James Wells and Peter Wells.

Institute of Biomaterial & Biomedical Engineering
Julie Audet, Berj Bardakjian, Tom Chau, Sasha John, Mary K. Nagai, Milos Popovic, Tom Schweizer, Molly Shoichet, Ofer Levi, Jose Zariffa and Willy Wong.

Institute of Medical Science
Institute of Medical Science/Physiology
James Eubanks, William Hutchison, Freda Miller, Hong-Shuo Sun, and Mei Zhen.

Laboratory Medicine & Pathobiology
Isabelle Aubert, Catherine Bergeron, Joan Boggs, Rod Bremner, Lili-Naz Hazrati, Miles Johnston, Rasmus Kiehl, Clifford Lingwood, Don Mahuran, JoAnne McLaurin, Mario Moscarello, Janice Robertson, Gerold Schmitt-Ulms, and Yeni Yucel.

Medical Biophysics
Paul Fraser, Simon Graham, Mark Henkelman, Kullervo Hynynen, Jason Lerch, Lothar Lilge, John Sled, Greg Stanisz, Bojana Stefanovic, Stephen Strother and Shun Wong.

OISE
Hazel McBride and Kang Lee.

Pharmacology & Toxicology

Physiology

Psychology

Rehabilitation Science
Tim Bressmann, Joyce Chen, Angela Colantino, Deirdre Dawson, Luc De Nil, Robin Green, Judith Hunter, Michelle Keightley, Sally Lindsay, Rosemary Martino, William McIlroy, George Mochizuki, Stephen Perry, Helene Polatajko, Elizabeth Rochon, Nancy Salbach, Pascal van Lieshout, Molly Verrier, Jane Topolovec-Vranic and Karl Zabjek.

Note: The list was generated according to the records at the CPIN office by June, 2014.
Appendix 2: Current CPIN Faculty Members (Non-MoA Units)

**Anaesthesia**
Arsenio Avila.

**Dalla Lana School of Public Health**
Izzeldin Abuelaish.

**English**
Ian Lancashire.

**Exercise Science**
Guy Faulkner, Lynda Mainwaring and Luc Tremblay.

**Human Biology**
Bill Ju.

**Medical Imaging**
Allan Fox, Sandra Moses and Sean Symons.

**Medicine, Division of Neurology**
Danielle Andrade, Elizabeth Donner, Sherali Esmail, Susan Fox, Richard M. Gladstone, Brian Murray, James Perry, Demetrios Sahlas, John Wherrett, Catherine Zahn and Cathy Craven.

**Molecular Genetics**
Ben Blencowe, Joseph Culotti and Peter Roy.

**Neuroscience and Mental Health, SickKids**
Julie Lefebvre.

**Nutritional Sciences**
Carol Greenwood.

**Ophtalmology & Vision Sciences**
Rand Simpson and Jeremy Sivak.

**Paediatrics**
Susanne Benseler, Darcy Fehlings, Elizabeth Lee Ford-Jones, David Mabbott, Irena Nulman and Hilary Whyte.

**Psychiatry**
Adam Anderson, Ana Cristina Andrezza, James Cantor, Eva Chow, Bruce Christensen, Kim Edelstein, W.L. Alan Fung, Benjamin Goldstein, David Kreindler, Krista Lanctôt, Peter Li, Jose Nobrega, Mark Rapoport, Chanth Seyone, Kenneth Shulman and Aristotle Voineskos.

**Surgery**
Mark Bernstein, Fred Gentili, David Houlden, Eric Massicotte, Richard Perrin and Ranil Sonnadara.

**Note:** The list was generated according to the records at the CPIN office by June, 2014.
### Appendix 3: Current CPIN Students

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<td>Qui</td>
<td>Lily</td>
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**Biochemistry**
- Baloo Aidin, MSc
- Ou Wei-Lin, PhD

**Cell & Systems Biology**
- Chowdhury Aaron, MSc
- de Lannoy Louise, MSc
- Garand Danielle, MSc
- Hawrysh Peter John, PhD
- Mahabir Samantha, PhD
- Mahadevan Vivek, PhD
- Pressey Jessica, PhD
- Ratnam Melanie R, PhD
- Shams Soaleha, PhD
- Tran Huy Ngoc Steven, MSc
- Yalnizyan-Carson Annik, MSc

**Dentistry**
- Awamleh Laith, M.Sc.
- Pun Henry, M.Sc.

**Institute of Biomaterials & Biomedical Engineering**
- Mitrousis Nikolaos, Ph.D.
- Tuladhar Anup, Ph.D.
- Zeyl Timothy, Ph.D.
- Carraro Mattia, M.A.

**Institute of Medical Science**
- Abi-Jaoude Elia, PhD
- Aihadid Kenda, MSc
- Behdinan Tina, MSc
- Butcher Nancy Jean, PhD
- Caravaggio Fernando, PhD
- Cha Danielle Soh-Young, MSc
- Chang Michael, MSc
- Chen David Qixiang, PhD
- Cheng Joshua, MSc
- McLachlan Elisa, MSc
- McDonald Chloe, MSc
- Miles Amy, MSc
- Ng Enoch, PhD
- Oh Hyemin, MSc
- Piltman Eric, MSc
- Polonenko Melissa, PhD
- Poon Alan, MSc
- Qui Lily, MSc
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**Music**

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**Pharmacology**

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<td>Wu</td>
<td>Qiu Jing (Jane)</td>
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<td>Xia</td>
<td>Frances</td>
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**Psychology**

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<td>Bakir</td>
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<td>Browne</td>
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<td>Diamond</td>
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<td>Douglas</td>
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**Rehabilitation Science**

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<td>D'Souza</td>
<td>Samantha</td>
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<td>Green</td>
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<td>Hilderley</td>
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<td>Mollayeva</td>
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**Speech-Language Pathology**

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<td>Heather Leslie Irene</td>
<td>PhD</td>
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<tr>
<td>Shellikeri</td>
<td>Sanjana</td>
<td>MSc</td>
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Note: The list was generated according to the records at the CPIN office by June, 2014.
## Appendix 4: CPIN Graduates 2013-2014

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<td><strong>Applied Psychology &amp; Human Development</strong></td>
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<tr>
<td>Saliba</td>
<td>Kim</td>
<td>PhD</td>
<td>Rosemary Tannock</td>
<td>Attention and ADHD: Measurement and Medication</td>
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<td><strong>Cell &amp; Systems Biology</strong></td>
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<tr>
<td>Dukoff</td>
<td>David James</td>
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<td>Leslie Buck</td>
<td>The impact of ROS scavenging on NMDA and AMPA receptor whole cell currents in pyramidal neurons of the anoxia tolerant western painted turtle</td>
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<td>Bond</td>
<td>Hilary Clare</td>
<td>MSc</td>
<td>Leslie Buck</td>
<td>Photoperiod Dependent Plasticity of GABA-mediated Effects on Neuronal Activity in the Pond Snail Lymnaea stagnalis</td>
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<tr>
<td>Augustinavicius</td>
<td>Jura Lydia</td>
<td>MSc</td>
<td>Colin Shapiro</td>
<td>Sleep and Circadian Markers for Depression in Adolescence</td>
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<td>Sarkus</td>
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<tr>
<td>Acton</td>
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<td>Mechanisms of Inhibitory Synaptic Plasticity: The Regulation of KCC2</td>
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<td><strong>Institute of Medical Science</strong></td>
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<td>Wang</td>
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<td>Karen Davis</td>
<td>Sex Differences in the Connectivity of the Subgenual Anterior Cingulate Cortex: Implications for Pain Habitation</td>
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<td>Howell</td>
<td>Nicholas</td>
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<td>William Hutchison</td>
<td>Evidence for Reward Modulated Activity of Human Globus Pallidus Interna and Subthalamic Nucleus Neurons</td>
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<td>Araki</td>
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<td>Elahipanah</td>
<td>Ava</td>
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<td>Bruce Christensen</td>
<td>Visual Attention among Patients with Schizophrenia: A Study of Visual Span and Selectivity in Visual Search</td>
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<td>Husain</td>
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<td>Cathy Barr</td>
<td>Investigation of the Genetic Factors Associated with Attention/deficit Hyperactivity Disorder (ADHD), Reading Disability (RD) and Language Ability</td>
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<td>Abbasalipour</td>
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<td>Karen Gordon</td>
<td>Improvement of binaural hearing in long sequential bilateral cochlear implantation</td>
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<td>Yilmaz</td>
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<td>Allan S. Kaplan, James L. Kennedy</td>
<td>Genetics Factors Contributing to Body Weight in Anorexia Nervosa and Bulimia Nervosa</td>
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<td>Kostelecki</td>
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<td>Jose-Luis Perez-Velazquez</td>
<td>Applications of Granger Causality to Magnetoencephalography Research, Short Trial Time Series Analysis, and the Study of Decision Making</td>
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<tr>
<td>Oh</td>
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<td>Lucy Osborne</td>
<td>Effects of Altered Gtf2i and Gtf2ird1 Expression on the Growth of Neural Progenitors and Organization of the Mouse Cortex</td>
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<td>Park</td>
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<td>Properties, Dimensions, and Heritability of Obsessive Compulsive Symptoms in a Community Sample of Children and Adolescents</td>
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<td>Beverley Orser</td>
<td>The role of δ subunit-containing γ-aminobutyric acid type A receptors in memory and synaptic plasticity</td>
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<td>Kumarappah</td>
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<td>Carol Westall</td>
<td>Association Between Electroretinogram-identified Vigabatrin Toxicity and Subsequent Visual Field Reduction</td>
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<td>McCormick</td>
<td>Cornelia</td>
<td>PhD</td>
<td>Mary Pat McAndrews</td>
<td>Hippocampal-Neocortical Networks underlying Episodic Memory and their Clinical Relevance in Medial Temporal Lobe Epilepsy</td>
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**Laboratory Medicine and Pathobiology**

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<tr>
<td>Jordao</td>
<td>Jessica Figueira</td>
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<td>Isabelle Aubert</td>
<td>Applications of Focused Ultrasound for Reducing Amyloid-β Pathology in a Mouse Model of Alzheimer’s Disease</td>
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**Pharmaceutical Sciences**

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<tr>
<td>Xuan</td>
<td>Cong Yang (Ingrid)</td>
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<td>David R. Hampson</td>
<td>Inflammation and gliosis in rodent models of Fragile X syndrome and autism</td>
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**Physiology**

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<td>Vladislav</td>
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<td>Frances Skinner</td>
<td>Development of a methodology for the examination of conductance densities and distributions of hippocampal oriens-lacunosum/moleculare interneurons using ensemble modelling</td>
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<td>Francis</td>
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<td>Howard Mount</td>
<td>Noradrenergic deficits contribute to impairment in the TgCRND8 mouse model of Alzheimer’s Disease</td>
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<td>Hutchings</td>
<td>Sarah Alexandra</td>
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<td>Lyanne Schlichter</td>
<td>Recombinant IL-4 Injection into the Brain Alters the Inflammatory Response and Grey Matter Injury in a Rat Model of Ischemic Stroke</td>
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<td>Alim</td>
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<td>Michael Tymianski</td>
<td>Modulation of N-Methyl-D-Aspartate Receptor by Transient Receptor Potential Melastatin Type-2 Regulates Neuronal Vulnerability to Ischemic Cell Death</td>
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**Psychology**

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<tr>
<td>Jasinska</td>
<td>Kaja</td>
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<td>Untangling the Temporal Dynamics of Bilateral Neural Activation in the Bilingual Brain</td>
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<td>Shaw</td>
<td>Mark</td>
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<td>Susanne Ferber</td>
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<td>Vincent Yen</td>
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<td>Kyra</td>
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<td>Morris Moscovitch</td>
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<td>Young</td>
<td>Julia</td>
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<td>Margot Taylor</td>
<td>Deep Grey Matter Growth and Neurodevelopmental Outcomes in Very Preterm Children</td>
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<td>Sugumar</td>
<td>Sonia</td>
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**Rehabilitation Sciences**

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<tr>
<td>Hunt</td>
<td>Anne</td>
<td>PhD</td>
<td>Deirdre Dawson</td>
<td>An Exploration Of Goal Setting In Brain Injury Rehabilitation</td>
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Note: The list was generated according to the records at the CPIN office by June, 2014.
### Appendix 5: Neuroscience Course List

Neuroscience courses offered by the participating units are listed below. Not all courses are offered each year.

- **DEN 1060H** Oral Physiology: Sensory and Neuromuscular Function
- **HDP 1238H** Special Topics in Human Development & Applied Psychology: *Neuroscience & Education: Bridging the Gap*
- **HDP 3286H** Developmental Neurobiology
- **JEB 1444H** Neural Engineering
- **JEB 1451H** Neural Bioelectricity
- **JNR 1444Y** Fundamentals of Neuroscience: Cellular and Molecular
- **JNS 1000Y** Fundamentals of Neuroscience: Systems and Behaviour
- **JPM 1005Y** Behavioural Pharmacology
- **JPY 1007Y** Neuropharmacology of Neurotransmitter Receptors
- **JYG 1555H** Topics in Cellular and Molecular Neurobiology
- **MSC 1006H** Advanced Neuroanatomy
- **MSC 1081H** Studies in Schizophrenia
- **MSC 1085H** Molecular Approaches to Mental Health and Addictions
- **MSC 1086H** Integrative perspectives in Consciousness and Self-Awareness
- **MSC 1087H** Neuroimaging Methods Using Magnetic Resonance Imaging
- **MSC 1088H** Brain Positron Emission Tomography
- **MSC 6000H** Special Topics in Anatomy
- **PCL 1012H** Cognitive Neuropharmacology
- **PSL 1024H** Advanced Topics: Endocrinology and Neuroendocrinology
- **PSL 1026H** Advanced Topics: Experimental Cell Physiology
- **PSL 1047H** Advanced Topics: Somatosensory and Pain Neuroscience
- **PSL 1050H** Advanced Topics: The Hippocampus from Cell to Behaviour
- **PSL 1053H** Advanced Topics: Critical Assessment of Ion Channel Function
- **PSL 1068H** Advanced Topics: Molecular Basis of Behaviour
- **PSL 1071H** Advanced Topics: Computational Neuroscience
- **PSL 1075H** Biology In Time
- **PSL 1441H** Systems Level Neuroplasticity
- **PSL 1445H** Mechanistic Molecular & Cellular Neuroscience
- **PSL 1446H** Molecular & Cellular Aspects of Neural Disorders
- **PSL 1452H** Fundamentals of Ion Channel Function
- **PSY 4706H** Human Brain Neuroanatomy
- **PSY 5101H** Mechanisms of Behaviour
- **PSY 5103H** Learning and Plasticity
- **PSY 5104H** Neuropsychology
- **PSY 5110H** Advanced Topics in Behavioural Neuroscience I
- **PSY 5111H** Advanced Topics in Behavioural Neuroscience II
- **PSY 5112H** Advanced Topics in Behavioural Neuroscience III
- **PSY 5120H** Advanced Topics in Animal Behaviour and Motivation I
- **PSY 5121H** Advanced Topics in Animal Behaviour and Motivation II
- **PSY 5130H** Advanced Topics in Neuropsychology I
PSY 5131H Advanced Topics in Neuropsychology II
PSY 5132H Advanced Topics in Neuropsychology III
PSY 5201H Audition
PSY 5202H Vision
PSY 5203H Higher Cognition
PSY 5204H Attention
PSY 5205H Memory
PSY 5210H Advanced Topics in Perception I
PSY 5211H Advanced Topics in Perception II
PSY 5212H Advanced Topics in Perception III
PSY 5220H Advanced Topics in Cognition I
PSY 5221H Advanced Topics in Cognition II
PSY 5222H Advanced Topics in Cognition III
PSY 5310H Advanced Topics in Development I
PSY 5311H Advanced Topics in Developmental Neuroscience II
REH 1510H Disordered Restorative Motor Control
REH 5100H Introduction to Cognitive Rehabilitation Neuroscience I: Basic Science to Clinical Applications
REH 5102H Cognitive Rehabilitation Neuroscience II

Other Courses
Courses not specifically in neuroscience, that do not fulfill the program requirements as neuroscience courses, but might be useful for neuroscience students, are listed below.

JBL 1507H Biochemistry of Inherited Disease
JDB 1025Y Developmental Biology
JNP 1017H The Molecular and Biochemical Basis of Toxicology
JNP 1018H Current Topics in Molecular and Biochemical Toxicology
PHM 1122H Fundamentals of Drug Discovery
PSY 5102H Motivational Processes
SLP 1522Y Speech Physiology and Acoustics
SLP 1533Y Aphasia
SLP 1534Y Motor Speech Disorders
SLP 3001H Theoretical Foundations of Communication Sciences

+ Extended course. For academic reasons, coursework is extended into session following academic session in which course is offered.
Appendix 6: Distinguished Lectureship Survey Statistics

Student Feedback

What I have Learned from Lecture X

What I have Learned from Lecture Y

What I have Learned from Lecture Z
Feedback from students for all 8 Distinguished Lectures

Lectures were Applicable to My Research

- Applicable to my Research: 40%
- Neutral: 26%
- Not Directly Related: 34%

Lectures were clearly delivered

- Clearly Delivered: 76%
- Neutral: 21%
- Disagree: 3%

Lectures were Inspirational

- Inspirational: 56%
- Neutral: 41%
- Disagree: 3%
Appendix 7: Sackler Lecture Survey Statistics

What I have Learned from the Sackler Lecture

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<th>Students (%)</th>
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<tr>
<td>New Concept</td>
<td>54.2</td>
</tr>
<tr>
<td>New Discovery</td>
<td>45.8</td>
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<tr>
<td>New Method/Technique</td>
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<tr>
<td>New Application</td>
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Lecture was Applicable to My Research

- Applicable to my Research: 44%
- Neutral: 26%
- Not Directly Related: 30%

Lecture was clearly delivered

- Clearly Delivered: 93%
- Neutral: 2%
- Disagree: 5%

Lecture was Inspirational

- Inspirational: 74%
- Neutral: 24%
- Disagree: 2%
### Appendix 8: Trainee Awards 2013-2014

<table>
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<tr>
<th>First Name</th>
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<th>Supervisor</th>
<th>Awards</th>
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| Jessica    | Arsenault | Bradley Buchsbaum | Faculty of Arts & Science Conference Travel Grant  
School of Graduate Studies Conference Grant  
Jack & Rita Catherall Fund Travel Award |
| Zsuzsa     | Buchwald  | Jason Lerch | SGS Conference Grant |
| Monique    | Budani    | Clifford Lingwood | 1st Place Poster Presentation Award, 17th Annual Laboratory Medicine and Pathobiology Graduate Research Conference, University of Toronto |
| Christie   | Burton    | Paul Arnold | CIHR Institute Community Support Travel Award  
Early Career Investigator Travel Award  
CIHR Strategic Training for Advanced Genetic Epidemiology  
CIHR Fellowship Award |
| Chesarahmia| Dojo Soeandy | Jeffrey Henderson | Alexander Graham Bell Canada Graduate Scholarship-Master’s (CGS M) |
| Sean       | Haffey    | Beverley Orser | Canadian Graduate Scholarship - Masters |
| Erika      | Harding   | Michael Salter | UTCSP Pain Scientist Trainee Award  
UTCSP IASP World Congress Travel Award  
IASP World Congress Travel Award |
| Alicia     | Hilderley | Alicia Hilderley | Kimel Family Graduate Student Scholarship in Paediatric Rehabilitation |
| Stefanie   | Hutka     | Claude Alain, Sylvain Moreno | Ontario Graduate Scholarship (OGS)  
Wiseman Graduate Studentship  
National Sciences and Engineering Research Council of Canada (NSERC)-Create: Training in Auditory Cognitive Neuroscience  
Faculty of Arts and Science’s Graduate Student Conference Travel Grant  
Neurosciences and Music V Conference: Full Scholarship  
Jack and Rita Catherall Fund Award |
| Reina      | Isayama   | Robert Chen | Fellowship-Priority Announcement:Dystonia (SHOPP) |
| Aaron      | Kucyi     | Karen Davis | IASP Congress Travel Award University of Toronto – Centre for the Study of Pain  
CIHR Doctoral Award Canadian Institutes of Health Research |
<p>| Susy       | Lam       | Robert Chen | Department of Medicine Graduate Student Award |</p>
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<thead>
<tr>
<th>First Name</th>
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<th>Supervisor</th>
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<tr>
<td>Chelsea</td>
<td>Lowther</td>
<td>Anne Bassett</td>
<td>Open Fellowship, University of Toronto Conference Grant, School of Graduate Studies</td>
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<td>Vivek</td>
<td>Mahadevan</td>
<td>Melanie A. Woodin</td>
<td>CIHR Graduate Student Training Grant on Sleep and Biological Rhythms Toronto Society for Neuroscience Travel Grant for the Federation of European Neuroscience societies Forum</td>
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<td>Vincent</td>
<td>Man</td>
<td>William Cunningham</td>
<td>Joseph-Armand Bombardier CGS Doctoral Award</td>
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<td>Josiane</td>
<td>Mapplebeck</td>
<td>Michael Salter</td>
<td>Canada Graduate Scholarships-Master’s</td>
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<td>Christina</td>
<td>Nona</td>
<td>Jose Nobrega</td>
<td>NSERC Vanier Canada Graduate Scholarship</td>
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<tr>
<td>Melissa</td>
<td>Paniccia</td>
<td>Michelle Keightley</td>
<td>Ontario Graduate Scholarship SGS Conference Grant, University of Toronto</td>
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<tr>
<td>Michael</td>
<td>Tso</td>
<td>R. Loch MacDonald</td>
<td>Vanier Canada Graduate Scholarship Neurosurgery Research &amp; Education Foundation Cerebrovascular Section Research Fellow</td>
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<td>Sherri</td>
<td>Thiele</td>
<td>Andres Lozano</td>
<td>Weston Postdoctoral Fellowship Principals award for Teaching Excellence Senior Graduate Student Fellowship</td>
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<tr>
<td>Anup</td>
<td>Tuladhar</td>
<td>Molly Shoichet</td>
<td>CIHR Training Program in Regenerative Medicine Scholarship University of Toronto SGS travel award to TERMIS-AM Ontario Graduate Scholarship Stem Cell Network travel award to the Till &amp; McCulloch Meeting Heart and Stroke Foundation: Centre for Stroke Recovery Trainee Grant</td>
</tr>
<tr>
<td>Frances</td>
<td>Xia</td>
<td>Paul Frankland</td>
<td>Research Training Centre Trainee Travel Award, Hospital for Sick Children Best BRAIN Day Poster Presentation Award, University of Toronto CIHR Sleep and Biological Rhythms Program Toronto Scholarship, University of Toronto Ontario Graduate Scholarship, University of Toronto Hospital for Sick Children Foundation Student Scholarship (Restracomp), Hospital for Sick Children</td>
</tr>
<tr>
<td>John</td>
<td>Zawadzki</td>
<td>Albert HC Wong</td>
<td>University of Toronto, Institute of Medical Science Open Fellowship Award</td>
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(Note: The list was generated based on the information in the current records at the CPIN office)
### Appendix 9: Trainee Publications 2013-2014

<table>
<thead>
<tr>
<th>First Name</th>
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<th>List of Publications 2013-2014</th>
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| Anup       | Tuladhar  | 1. **Tuladhar A.**, Mitrousis N., Fuhrmann T., Shoichet M.S. "Clinical aspects of regenerative medicine in the central nervous system". Book chapter for Translational Regenerative Medicine by Dr. Anthony Atala and Dr. Julie Allickson  

**Note:** The list was generated based on the information in the current records at the CPIN office.

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UNIVERSITY OF TORONTO

IMS
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UNIVERSITY OF TORONTO

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Faculty of Dentistry

Medical Biophysics
UNIVERSITY OF TORONTO

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