



# CAN-ACN

CANADIAN ASSOCIATION FOR NEUROSCIENCE  
ASSOCIATION CANADIENNE DES NEUROSCIENCES

# CAN Connection

The Canadian Association for Neuroscience Newsletter

## April 2016

Dear Colleagues,

There is still time to register for the 10th Annual Canadian Neuroscience Meeting, which will take place **May 29 - June 1 in Toronto**. We also have great satellite meetings, organized by our partners, lined up on May 28-29 - check out the full [online CAN 2016 Program](#).

We are excited to be giving out awards to highly deserving neuroscientists and groups this year. The nominations committee, chaired by Sam David, has chosen **Matthew Hill**, from the Hotchkiss Brain Institute at University of Calgary as the [2016 CAN Young Investigator Award](#). Learn more about the impressive achievements of Dr. Hill on the next page. The quality of nominations for this award each year highlights the strengths of neuroscience research in Canada.

The CAN Advocacy Committee has also chosen the winners of the first CAN Neuroscience Outreach and Advocacy Contest. This

competition brought to light high-quality initiatives to promote neuroscience research across Canada. Learn more about the winning groups and individuals on page 3. I wish to congratulate all the winners for their important work in promoting neuroscience research in Canada.

The CAN Advocacy committee has been very active - CAN has recently participated as a sponsor in Health Research Caucus Welcome Reception in Ottawa. We had a chance to discuss the importance of government support of health research with many elected officials, and to build relationships to open a dialogue with the government. Read more about this on page 4.

I look forward to celebrating the 10th anniversary of the CAN meeting with you in Toronto soon!

**Douglas Munoz**

President

Canadian Association for Neuroscience

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- CAN Advocacy - Parliament Hill event
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- Prizes, nominations & Awards - Congratulations!

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# Matthew Hill is the 2016 CAN Young Investigator

The Canadian Association for Neuroscience (CAN) is proud to announce that Matthew Hill, from the Hotchkiss Brain Institute at the University of Calgary, will be awarded the 2016 CAN Young Investigator Award at the upcoming 10<sup>th</sup> Annual Canadian Neuroscience Meeting in Toronto, on May 31<sup>st</sup> 2016.

Dr. Matthew Hill's research has deepened our understanding of how the brain responds and adapts, or fails to adapt, to stress. His research has helped demonstrate the important role of the endocannabinoid system in buffering stress response and regulating emotional response in the brain. His pioneering work with rodents has demonstrated that exposure to chronic stress results in a collapse of the endocannabinoid system. He also showed that enhancing the endocannabinoid system produced behavioral changes suggesting reduced anxiety and active coping responses to stress, and that conventional antidepressants use the endocannabinoid system to dampen activation of the stress response. This body of work has led to the hypothesis that deficient endocannabinoid signaling may be an underlying cause of stress-related psychiatric conditions such as depression and posttraumatic stress disorder, or PTSD.

In addition to showing that endocannabinoids regulate stress, Dr. Hill has worked to elucidate the mechanisms through which they act. In a series of highly-cited publications he showed that endocannabinoid signaling can prevent the activation of the stress response, that stress hormones recruit endocannabinoids to terminate the stress response, and that endocannabinoid signaling is required to modulate the excitability of stress circuits, thereby contributing to the ability of the brain to adapt to repeated exposure to stress. His current work focuses on understanding how chronic stress hinders endocannabinoid signalling to generate

pathological anxiety.

The insight Dr. Hill has gained through research done with animals has prompted him to collaborate with clinicians to investigate the role of endocannabinoids in humans. This work has shown that the endocannabinoid system regulates stress response in humans and that this system is defective in individuals suffering from major depression or PTSD. This research has led to the exploration of new therapeutic avenues, investigating the potential of endocannabinoids for the treatment of these psychiatric illnesses.

Matthew Hill's productivity, both in terms number and quality of scientific publications, is impressive.

He has published in top journals in the field such as the Journal of the American Medical Association (JAMA), Nature, Nature Neuroscience, Neuron, the Journal of Neuroscience and Molecular Psychiatry. Dr. Hill's leadership in research, the originality and quality of his work, and the impressive level of recognition he has gathered internationally make him stand out as an exceptional young neuroscientist. The Canadian Association for Neuroscience is very proud to present Dr. Hill with the 2016 CAN Young Investigator Award.

Read Matthew Hill's Profile on our website:

[Matthew Hill is the 2016 CAN Young Investigator Awardee](#)





## Advocacy & Outreach Prizes

The Advocacy Committee of the Canadian Association for Neuroscience is proud to announce the winners of the first CAN Advocacy and Outreach Prizes.

First prize – Best student initiative

### **McGill BrainReach Program**

*BrainReach McGill* is an impressive group of neuroscience advocates and ambassadors. The Advocacy Committee was especially impressed by the level of organization, the number of students reached every year, and the availability of the *BrainReach* program outside of big urban centres

<http://can-acn.org/can-advocacy-outreach-awards-brainreach-mcgill-first-prize>

First prize – Best local SfN Chapter

### **Queen's University Neuroscience Outreach Program**

The Advocacy Committee was especially impressed by the wide range of activities the Chapter organises, and that these activities target people of all ages and with a wide range of interests.

<http://can-acn.org/can-advocacy-outreach-awards-queens-university-neuroscience-outreach-program-first-prize>

Honorable mention - Student initiative

### **Allen Champagne Queen's University**

Allen co-launched CESAP (Concussion Education, Safety and Awareness Program) in the Neuroscience Outreach Program. The mission of CESAP is to empower athletes, parents, coaches on concussion injuries through evidence-based education and on field helmetless clinics.

<http://can-acn.org/can-advocacy-outreach-awards-allen-champagne-honorable-mention>

Honorable mention - Student initiative

### **Katherina Lebedeva U of Saskatchewan**

Katherina Lebedeva is involved in many neuroscience promotion initiatives in Saskatchewan for many years, and has been active as a co-organizer and coordinator of Brain Awareness week initiatives, Brain Blast, The Brain wave, and the Saskatchewan Brain Bee. View her full profile on our website:

<http://can-acn.org/can-advocacy-outreach-awards-katherina-lebedeva-honorable-mention>

The committee was impressed by the quality and breadth of initiatives presented, and wishes to thank all those who sent a submission.

Learn more about these initiatives and their impressive neuroscience advocates and ambassadors at the first **CAN Advocacy and Outreach session** at the 2016 Canadian Neuroscience Meeting, which will take place **May 30th, at 5:30 PM in Toronto**.

<http://can-acn.org/can-advocacy-and-public-outreach>

## CAN sponsors the Welcome reception of the new Health Research Caucus in Ottawa

The Canadian Association for Neuroscience was happy to sponsor the welcome reception of the new Health Research Caucus, which took place **March 7th 2016, on Parliament Hill in Ottawa**. It was an occasion for members of the CAN advocacy committee to meet members of parliament and talk with them about the importance of government support of scientific research. The reception was hosted by the honourable **Jane Philpott**, Minister of Health. Dr. Philpott was one of the speakers at the event.

CAN President **Doug Munoz** and members of the CAN Advocacy committee **Katalin Toth**, **Bev Orser**, **Jean-Claude Bèïque** and **Michael Hendricks** were present in Ottawa to

represent CAN and to present the point of view of researchers to elected representatives interested in health research. CAN's presence highlighted the importance of the support of the Canadian government for the vitality of neuroscience research and to scientists in particular.

The members of the Health Research Caucus were also present, and CAN representatives had a chance to directly speak to many of them: **John Oliver** - Chair of the Health Research Caucus, **Carol Hughes**, **Senator Kelvin Ogilvie**, and other MPs interested in health research including **Brenda Shanahan** and **Brigitte Sansoucy**.

Read the summary document we distributed to attendees here:

[Neuroscience research impacts all Canadians.](#)

View more [pictures of the event on the CAN website](#)



10th Annual Canadian Neuroscience Meeting  
 May 29th - June 1st 2016 - [Toronto Centre Sheraton Hotel](#)

## Trainee travel award winners

Trainee	Supervisor	Affiliation
Golnoush Alamian	Karim Jerbi	Université de Montréal, CERNEC
Daniel Almeida	Naguib Mechawar	McGill University
Maheen Ceizar	Diane Lagace	University of Ottawa
Simon Chamberland	Katalin Toth	Université Laval, CRIUSMQ
Alamjeet Chauhan	Neil S. Magoski	Queen's University
Jonathan Cunningham	Anthony Phillips	University of British Columbia
Tracey D'Cunha	Uri Shalev	Concordia University
Léa Décarie-Spain	Stephanie Fulton	Centre Hospitalier de l'Université de Montréal
Jasem Estakhr	Raad Nashmi	University of Victoria,
Emre Fertan	Richard E. Brown	Dalhousie Univeristy
Kathleen Fifield	Jacqueline Vanderluit	Memorial University of Newfoundland
Sriram Jayabal	Alanna Watt	McGill University, Dept. of Biology
Sudhir Karthikeyan	Dale Corbett	University of Ottawa, Faculty of Medicine
Sara Matovic	Wataru Inoue	University of Western Ontario, Robarts Research Institute
Troy McDiarmid	Catharine H. Rankin	University of British Columbia
Krista Mitchnick	Boyer D. Winters	University of Guelph, Department of Psychology
Steven Noble	Paul E. Zehr	University of Victoria
Adrian Noriega de la Colina	Hélène Girouard	Université de Montréal / CRIUGM
Alexandre Paré	Steve Lacroix	Université Laval, CHUL Research Center
Sandra Paschkowsky	Lisa Munter	McGill University
Andrée-Anne Poirier	Denis Soulet	Laval University
William John Redmond	Jean-François Bouchard	École d'optométrie, Université de Montréal
Sean Reed	Sean Reed	McGill University, Integrated Program in Neuroscience
Jordan Shimell	Shernaz X. Bamji	University of British Columbia
Lauren Shute	Mark Fry	University of Manitoba, Biological Sciences
Melissa Woodward	Donna Lang	University of British Columbia,
Min Zhang	Nafisa Jadavji	Carleton University

Meeting webpage: <http://can-acn.org/meeting2016>

## Graham Collingridge wins the Brain Prize

Congratulations to University of Toronto's new Chair of Physiology, Graham Collingridge, who was awarded the Brain Prize for 2016, along with colleagues Timothy Bliss and Richard Morris, for their ground-breaking research on the cellular and molecular basis of Long-Term Potentiation and the demonstration that this form of synaptic plasticity underpins spatial memory and learning.

The Brain Prize is the world's most valuable prize for brain research, worth one million euros. It is awarded by the Grete Lundbeck European Brain Research Foundation in Denmark. More:

- [Brain prize website](#)
- [University of Toronto media release](#)
- [Globe & Mail interview](#)
- [Toronto Star interview](#)



## Congratulations!

Yves Joanette, Professor at Université de Montréal and Scientific Director of the CIHR Institute of Aging, was named Chair of World Dementia Council. Dr. Joanette was also named personality of the week by La Presse newspaper. More:

[Press release from CIHR - Yves Joanette Personnalité de la semaine La Presse 27 mars 2016](#)



Ravi Menon was named Researcher of the Month of March 2016 by Canadians for Health Research. Menon has pioneered key advances in brain imaging research and helped to perfect MRI technology. More:

[Canadians for Health Research website](#)

Christopher Honey of University of Toronto Psychology wins prestigious Sloan Fellowship

[List of 2016 Sloan fellows](#)



Congratulations to all the new and renewed Canada Research Chairs!

[Canada Research Chair - February 2016 recipient list](#)

## Hot neuroscience topics: Neuron communication

Many recent studies by Canadian neuroscientists have shed light on how neurons communicate with each other, and with other cells in the brain.

**Keith Murai**, from McGill University, has published a study in the journal *Science* showing that neurons actively modify the features of astrocytes in the brain. Astrocytes, which play fundamental roles in nearly all aspects of brain function, were previously thought to be hardwired for their role during development. The discovery by Murai and colleagues that neurons can change astrocytes unveils a mechanism by which the brain adapts in response to injury and disease. This discovery could have significant implications on epilepsy, movement disorders, and psychiatric and neurodegenerative diseases.

[Press release](#) - [Research article in Science](#)

**Jean-Claude Béique**, from University of Ottawa, studied how neurons connect during development during early life. By looking at individual connections between neurons, or synapses, his team was able to show that they use calcium to communicate, which influences how brain circuits develop. It was previously thought that neurons connected more or less randomly during development, but these results show how this process could be controlled. This knowledge offer new insight into neurodevelopmental disorders such as autism and schizophrenia.

[Press release](#) - [Research article in Neuron](#)

**Roger Thompson**, from the Hotchkiss Brain Institute, reinvestigated the role of a protein called the NMDA receptor in neuron death after stroke, and his results brings a better understanding of

brain physiology and pathology. His studies show that it is the interaction of the NMDA receptor with a protein called pannexin-1 that causes neurons to die. Moreover, his team was able to develop a small peptide therapeutic that blocked the interaction between NMDAr and pannexin, and showed that rats treated with this peptide recovered better from stroke. Their results were published in the journal *Nature Neuroscience*.

[Press release](#) - [Article in Nature Neuroscience](#)

**Stephanie Borgland**, at the Hotchkiss Brain Institute, recently showed that the brains of animals allowed to eat unlimited amounts of fat and sweet food for 24h presented an increased number of connections (synapses) in one of the brain regions associated with reward-seeking called the ventral tegmental area (VTA). In addition, the behaviour of these rats also changed, as they were willing to take more risks to gain access to the same sugary high fat food. While this study was made in animals, humans have similar circuits in their brains. This rapid change could explain why some people find it more difficult to resist junk food, and could help guide strategies to reduce obesity in the general population.

[Press release](#) - [Article in PNAS](#)

Read more neuroscience press releases on the [CAN-ACN website](#)

We also share these news on [Twitter](#) and [Facebook](#)

## CAN Advocacy committee

Chair of the CAN Advocacy committee  
Katalin Toth, Université Laval

Members:

Michael Hendricks, McGill University  
Beverly Orser, University of Toronto  
Jaideep Bains, University of Calgary  
David Kaplan, University of Toronto  
Jean-Claude Béique, University of Ottawa  
Doug Zochodne, University of Alberta  
Jay Ingram, science writer, communicator  
Anastasia Voronova, University of Toronto  
(Liaison to CSMB)

<http://can-acn.org/advocacy>  
[advocacy@can-acn.org](mailto:advocacy@can-acn.org)

## 2016 Scientific Program Committee

Chair of the 2016 Program Committee:  
Kathleen Cullen, McGill University

Co-Chair of the 2016 Program Committee:  
Jaideep Bains, University of Calgary

Chair of the 2016 Local Organizing Committee:  
Melanie Woodin, University of Toronto

Committee members

John Howland, University of Saskatchewan  
Stefan Kohler, University of Western Ontario  
Catherine Rankin, University of British Columbia  
Jody Culham, University of Western Ontario  
Neil Magoski, Queen's University  
Jean-François Cloutier, McGill University  
Maurice Chacron, McGill University  
Gautam Awatramani, University of Victoria  
Sarah McFarlane, University of Calgary

## CAN Board of Directors

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