CAN Connection

The Canadian Association for Neuroscience Newsletter

Spring 2017

CAN-ACN

Dear Colleagues,

The CAN meeting is fast approaching - I look forward to welcoming you in May in Montreal. The CAN meeting has grown significantly over the past decade and attending not only ensures that you hear the latest and greatest in Canadian neuroscience, but also allows you to network with all of our Canadian colleagues. It is an important event that strengthens ties in our community, promotes collaboration and enhances neuroscience research in the country. Use these links to View the 2017 program and to Register today.

There are a number of notable recent events I would like to highlight for you. First, I am very pleased to announce the results of the CAN Board member nomination process, which led to the election by acclamation of Katalin Toth as our new Vice-President-elect, and Alyson Fournier as our next Secretary-elect. Congratulations to both new Directors who will, without a doubt, help to maintain CAN's forward momentum.

I would also like to highlight for you a Neuroscience luncheon in Parliament in Ottawa in February that was hosted by CAN. We were very pleased by the event itself, and by the very positive feedback we received from the many Members of Parliament who attended the event. I think this was an important opportunity for us to raise political awareness of the importance of neuroscience research in Canada, and I would particularly like to thank the Chair of the CAN Advocacy Committee, Katalin Toth, for organizing this event together with Research Canada. I would also like to thank our two speakers, Beverley Orser and Charles Bourque, for delivering engaging and accessible science talks, and all of the other Canadian neuroscientists who attended and sponsored this important event. You can find out more on page 6.

I also wish to personally congratulate the two winners of the CAN 2017 Young Investigator Awards: Tuan Trang from the Hotchkiss Brain Institute at University of Calgary and Mike Sapieha, from Université de Montréal. In this regard, the nominations committee would like to emphasize the very high quality of the individuals who were nominated this year, as evidenced by the two equally impressive and deserving winners, who are profiled on pages 3 and 4.

I would also like to congratulate the winners of the CAN 2017 Advocacy Awards, Midori Nediger (individual prize) and the Manitoba Neuroscience Network (best SfN Chapter award), led by Sari Hannila and Chris Anderson. Read more on page 5.

Things are changing with regard to the neuroscience funding landscape in Canada, and with this in mind, I would like to invite you to participate in a discussion about the development of a Canadian Brain Research Strategy at the CAN meeting, on Monday, May 29th at 7PM. We will be providing more details on this in the near future, but I encourage you to take full advantage of this opportunity to help to shape the future.

CAN is all about connections. During my mandate as President, I have worked to build a network of neuroscience advocates across the country and strengthen our links to partner organizations, both nationally and internationally. I worked with the CAN team to continue our ongoing efforts to position CAN as the go-to organisation for Canadian neuroscience and as the voice of Canadian neuroscientists, trusted by government officials, funding agencies, the public and our national and international partners. CAN has an important role to play for our community, and your input and involvement is important to us. Stay connected!

Freda Miller, President
Canadian Association for Neuroscience

CAN-ACN Elections

We are proud to announce the newly elected CAN-ACN Executives.

NEW CAN Vice-President elect:

Katalin Toth,

Université Laval

Taking office as VP in June 2018, and as President in June 2019

NEW CAN Secretary -Elect:

Alyson Fournier,

McGill University

Taking office June 2017

Current CAN Board of Directors

Executives:

President: **Freda Miller**, U of Toronto (term ends June 2017)

Vice-President: **Lynn Raymond**, U of British Columbia (becomes President June 2017)

Vice-President-elect: **Jaideep Bains**, U Calgary (becomes VP June 2017)

Secretary: **Edward Ruthazer**, McGill U

Treasurer: **Ellis Cooper**, McGill U (term ends June 2017)

Treasurer-Elect: **Derek Bowie**, McGill U (becomes treasurer June 2017)

Past-President: **Doug Munoz**, Queen's U (term ends June 2017)

Chair of the Advocacy Committee: **Katalin Toth**, U Laval

Board Members:

Shernaz Bamji, U of British Columbia

Jean-Claude Béïque, U Ottawa

Stephanie Borgland, U of Calgary

Charles Bourque, McGill U

William Colmers, U of Alberta

Martin Paré, Queen's U

Roger Thompson, U of Calgary

Melanie Woodin, U of Toronto

Alanna Watt, McGill U

Profiles of 2017 CAN Young Investigator Award winners:

Tuan Trang - A leader in chronic pain and opioid research

Assistant Professor at University of Calgary, Member of the Hotchkiss Brain Institute

Dr. Tuan Trang's research has led to a better understanding of the fundamental molecules and processes involved in chronic pain and opioid response, and of the role that immune cells of the central nervous system called microglia play in this. Chronic Pain affects one in five adults in Canada – Finding new treatments and preventative approaches to the chronic pain epidemic is extremely timely and important.

Dr. Trang's work has taken the opioid field in exciting new directions. Opioids such as morphine are amongst the most effective medication for pain, but are associated with debilitating withdrawal symptoms for chronic users. In an elegant recent study, Dr. Trang and his team have identified a previously unexpected mechanism by defining the activation of a channel called pannexin-1 (panx-1) on microglia as a novel spinal determinant of opioid retrieval. This was the first demonstration of the involvement of panx-1 in opioid action or withdrawal and therefore opens new avenues of treatment for opioid withdrawal. Moreover, Trang's team was able to demonstrate potent amelioration of opioid withdrawal symptoms in mice and rats with existing medications: probenecid, an anti-gout drug, and mefloquine, an antimalarial drug, both of which are inhibitors of panx-1. The team also demonstrated that panx-1 inhibitors did not inhibit the pain relieving properties of opioids, making these specific inhibitors of withdrawal symptoms.

Dr. Trang is now leading collaborations with the Calgary Pain Clinic and the Toronto General Hospital to bring these finding to the patients undergoing opioid therapy withdrawal.

In other studies, Dr. Trang had shown that variability in pain sensitivity in both mice and humans could be linked to specific genetic variations in a receptor called P2X7. This knowledge was then used to design molecules targeting P2X7 in humans as a novel way to personalised treatment of chronic pain.

Opioids have many side-effects that can limit their usefulness. One is that they can paradoxically increase pain sensitivity in some patients, a phenomenon called hyperalgesia, and another is that tolerance can develop, in which case the pain relieving effects are reduced. Dr. Trang is co-first author of a study that showed that hyperalgesia, but not tolerance, is mediated by microglia to neuron signaling, thereby showing that the two side effects occur through separate mechanisms, that can be targeted independently.

Dr. Trang's publication track record is impressive, and includes first and corresponding publications in Nature Medicine, Nature Neuroscience, the Journal of Neuroscience, Pain and the British Journal of Pharmacology. As further evidence of his high level of research achievement, Dr. Trang has received a CIHR Young Investigator Award, and a Rita Allen Foundation award in Pain, among other awards. The fact that many of Dr. Trang's discoveries have led to the granting of patents shows the strong potential of his research to find applications in clinical setting to treat pain in animals and humans.

View a list of Dr. Trang's most influential papers on the CAN website:

http://can-acn.org/tuan-trang-will-receive-a-2017-can-young-investigator-award

Profiles of 2017 CAN Young Investigator Award winners:

Przemyslaw (Mike) Sapieha - A leader in the fight against blindness

Associate Professor at Université de Montréal, Researcher at the Maisonneuve-Rosemont Hospital Research Centre

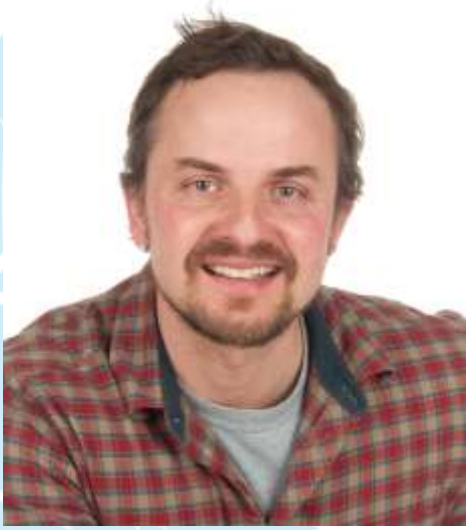
Przemyslaw (Mike) Sapieha has made impactful discoveries about the mechanisms underlying age and diabetes related loss of vision. His studies have shed light on the working of the eye, and specifically how age and conditions like diabetes affect blood vessels in the retina. Vascular defects in the retina, both age and diabetes related, are the leading cause of vision loss in developed countries. Dr Sapieha's research is especially timely in Canada as loss of vision is increasing exponentially with the rapidly aging population, and the increased prevalence of diabetes.

Both age-related cell deterioration (senescence) and high glucose levels in the blood (as seen in uncontrolled diabetes) can lead to degeneration of the small blood vessels of the retina leading to ischemic injury, in which part of the retina suffers from a lack of nutrients and oxygen. In an elegant series of studies, Dr. Sapieha has deciphered many of the factors leading from this injury to loss of vision. His work has shown that stressed neurons can influence immune response in the retina by generating a series of classical neuron guidance cues, and lead to a deleterious inflammatory response.

The identification of the different molecular players, and of the sequence of events leading to vision loss, has allowed Dr. Sapieha to identify intervention strategies to prevent, or at least slow down the progression of diabetic retinopathy. The demonstration by Sapieha's team that a specific neuronal guidance protein called semaphoring 3A can increase the permeability of blood vessel thereby contributing to diabetic macular edema have led to the filing of five patents and the launch of a biotech company named SemaThera, of which Sapieha is Chief Scientific Officer.

More recently, Dr. Sapieha has published a study that has gathered much public interest showing that microbes of the gut (the microbiota) influences pathological blood vessel formation in obesity driven retinal degeneration. As epidemiological studies show that abdominal obesity is the second most important risk factor for the progression of late age-related macular degeneration for men, this finding suggests that modifying the microbiota could be a minimally intrusive and cost-effective prevention strategy.

Dr. Sapieha has distinguished himself by his scientific productivity, with over 70 peer-reviewed publications in very prestigious journals such as Cell metabolism, Nature Medicine, Science Translational Medicine and the Journal of Clinical Investigation.



Dr. Sapieha's very important contributions to the understanding of the mechanisms underlying retinal disease, that have led to new avenue of treatment to prevent blindness, have made him a leader in his field, and an exceptional young neuroscientist.

Learn more about the prizes, awards and funding that he has received, and view a list of Dr. Sapieha's most influential publications on the CAN website:

http://can-acn.org/przemyslaw-mike-sapieha-will-receive-a-2017-can-young-investigator-award

CAN Advocacy & Outreach news

http://can-acn.org/advocacy

Join us for the Advocacy session, which will take place

Monday May 29th at 5:30PM at the Bonaventure Hotel in Montreal.

Organised by **Douglas Allan** (UBC), **Josephine Nalbantoglu** (McGill University), **Beverley Orser** (University of Toronto), with **Katalin Toth** (CAN Advocacy Committee Chair) this special session will once again highlight the best neuroscience advocacy initiatives in Canada, including the CAN 2017 Advocacy prize winners, listed below.

CAN asked Canadian SfN Chapters to nominate a trainee advocate to receive a travel award to attend the session.

We are pleased to announce the advocacy travel award winners:

Crystal Acosta, U of Manitoba

Mirela Ambeskovic, U of Lethbridge

Nicole Burma, U of Calgary

Allan Champagne, Queen's U

Caroline Dallaire-Théroux, U Laval

Ornela Kljakic, Western U

Wendie Marks, U of Saskatchewan

2017 CAN Neuroscience Advocacy & Outreach Award winners:

First prize – Best local SfN Chapter

Manitoba Neuroscience Network

The CAN-ACN advocacy committee is proud to announce the Manitoba Neuroscience Network is the winner of the 2017 Best SfN Chapter award. The committee was impressed by the groups dynamism, the breadth of the activities they have organised, and their outreach to the general public, including youth and the francophone community. Highlights of their activities can be seen here:

http://can-acn.org/manitoba-neuroscience-network-wins-2017-can-advocacy-award-for-best-sfn-chapter-group

First prize – Best individual initiative

Midori Nediger for the POND 3D brain project

The CAN-ACN advocacy committee is proud to announce that Midori Nediger is the winner of a 2017 Neuroscience Advocacy Award for her project to develop an online interactive brain model to improve public understanding of neurodevelopmental disorders, with support from the Province of Ontario Neurodevelopmental Disorders (POND) Network, called POND 3D brain. Learn more about Midori Nediger and her project here:

http://can-acn.org/midori-nediger-wins-can-2017-advocacy-award-individual-category

CAN Advocacy & Outreach news (continued)

Neuroscience luncheon in Parliament – February 13 2017

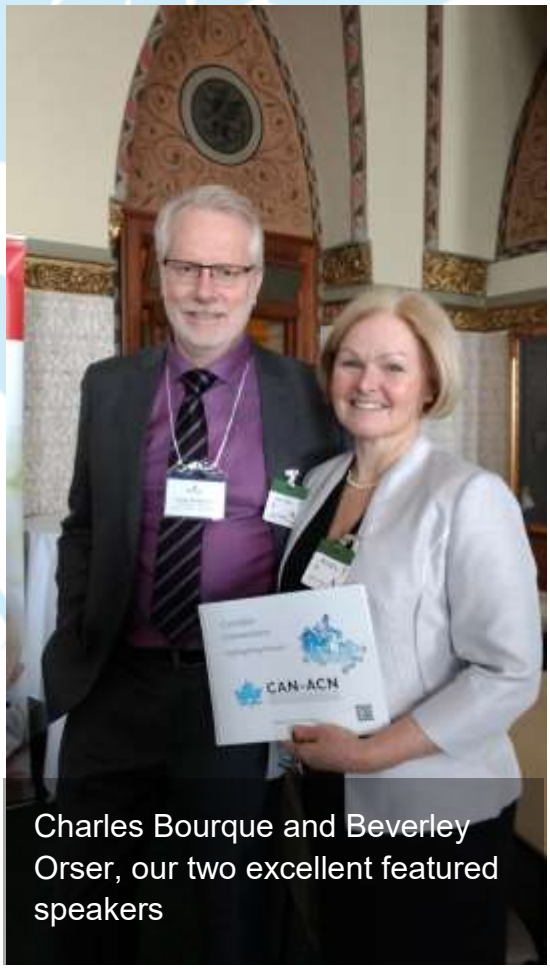
The Canadian Association for Neuroscience had a great opportunity to feature neuroscience research in Canada to members of Parliament during a luncheon held in Ottawa on February 13th 2017.

The CAN delegation included the **Chair of the CAN Advocacy Committee and event organizer Katalin Toth**, (Université Laval), **CAN President Freda Miller** (University of Toronto), **CAN Vice-President-Elect, Jaideep Bains** (University of Calgary), **featured speakers Beverley Orser** (University of Toronto) and **Charles Bourque** (McGill University). They were accompanied by CAN Advocacy officer Jason Tetro and CAN Chief Operating Officer Julie Poupart.

The event, organised by Research Canada and CAN, was held for the tri-partite Health Research Caucus, and members of Parliament from across Canada. Attendees were welcomed by John **Oliver, Chair of the Health research council**, and **Carol Hughes, member of the Caucus**. Both Mr. Oliver and Mrs. Hughes highlighted the importance of brain and neuroscience research for all Canadians. Many members of Parliament were also present.

See pictures in the CAN Flickr gallery

CAN was also proud to distribute a collection of impact stories about Canadian neuroscience research written by **CAN Advocacy Officer Jason Tetro**, collected in a booklet titled "Canadian Connections". You can download a copy of this publication, available on our website



Charles Bourque and Beverley Orser, our two excellent featured speakers

11th Annual Canadian Neuroscience Meeting

May 28 - 31 2017 | Montreal - Hotel Bonaventure

CAN Meeting Registration

There is still time to register for the meeting!

You can add registration for the following satellite meetings during the CAN registration process. Please note that the number of attendees for satellite meetings is limited, so please register as soon as possible. Click on the event title to learn more and for instructions to register.

- CAP-net CPS Satellite: "Perception, Action and their interaction: Data, Models and Dysfunction" - Saturday, May 27, 8am -4:30pm
- 5th Annual Canadian Neurometabolic Meeting - Keynote Lecture Saturday May 27 at 6pm / Short talks + poster session with lunch Sunday May 28, 8:30am - 4:30pm
- Canadian Neurophotonics Platform - Sunday May 28, 9am - 4pm
- Science Communication satellite Saturday May 27, 2 - 5pm
- Neural Signal and Image Processing: Quantitative Analysis of Neural Activity - Saturday May 27, 8am - 6:30pm

Register now

http://can-acn.org/meeting-2017

Art & Neuroscience

CAN has developed partnerships with several groups of artists and neuroscientists that showcase and explain neuroscience research through art. Some art pieces will be featured at the meeting, and there will be many occasions to meet artists and their scientist collaborators at the meeting. Check out the list of artist exhibitors also!

Convergence Public events and Exhibits

www.convergenceinitiative.org

CAN is proud to support Convergence, Perceptions of Neuroscience. This initiative, led by Cristian Zaelzer is a wonderful opportunity for neuroscience trainees from McGill University to collaborate with art students from Concordia to inspire art that bridges both disciplines.

You can view the art and meet the artists and neuroscientists involved in the project in Montreal:

Two different exhibits at Visual Voice Gallery,

- April 22 - May 6 2017 Convergence - Material
- May 10 - May 20, Convergence - Dynamic

And at the **CAN Public lectures:**

May 27th at the Auditorium of the Grande Bibliothèque

14h Public lecture by Sonia Lupien, Director and founder of the Centre for studies on human stress

15h to 16h30 Convergence Material Exhibit

Note that **doors open at 13h** - you can view the Material exhibit setup and video projections of the Dynamics exhibition

Neurocraft Exhibit and Opening reception

Neurocraft is an exhibition of neuroscience-themed art pieces that have been produced through a collaboration between the Manitoba Neuroscience Network and the Manitoba Craft Council. Neurocraft will be on view at **Montreal's Visual Voice Gallery** from May **27th to June 24th, 2017**.

To celebrate the opening of **Neurocraft**, CAN members are invited to an exclusive reception and viewing, which will be held Tuesday**, May 30th, from 7:30-10 pm at the Visual Voice Gallery**

Selected art pieces will also be featured in the CAN meeting exhibit Hall - look for them!

The **Visual Voice Gallery** is located in the Belgo Building, Space 421, 372 Rue Sainte-Catherine Ouest, Montreal, a short distance from the Hotel Bonaventure.

www.visualvoicegallery.com

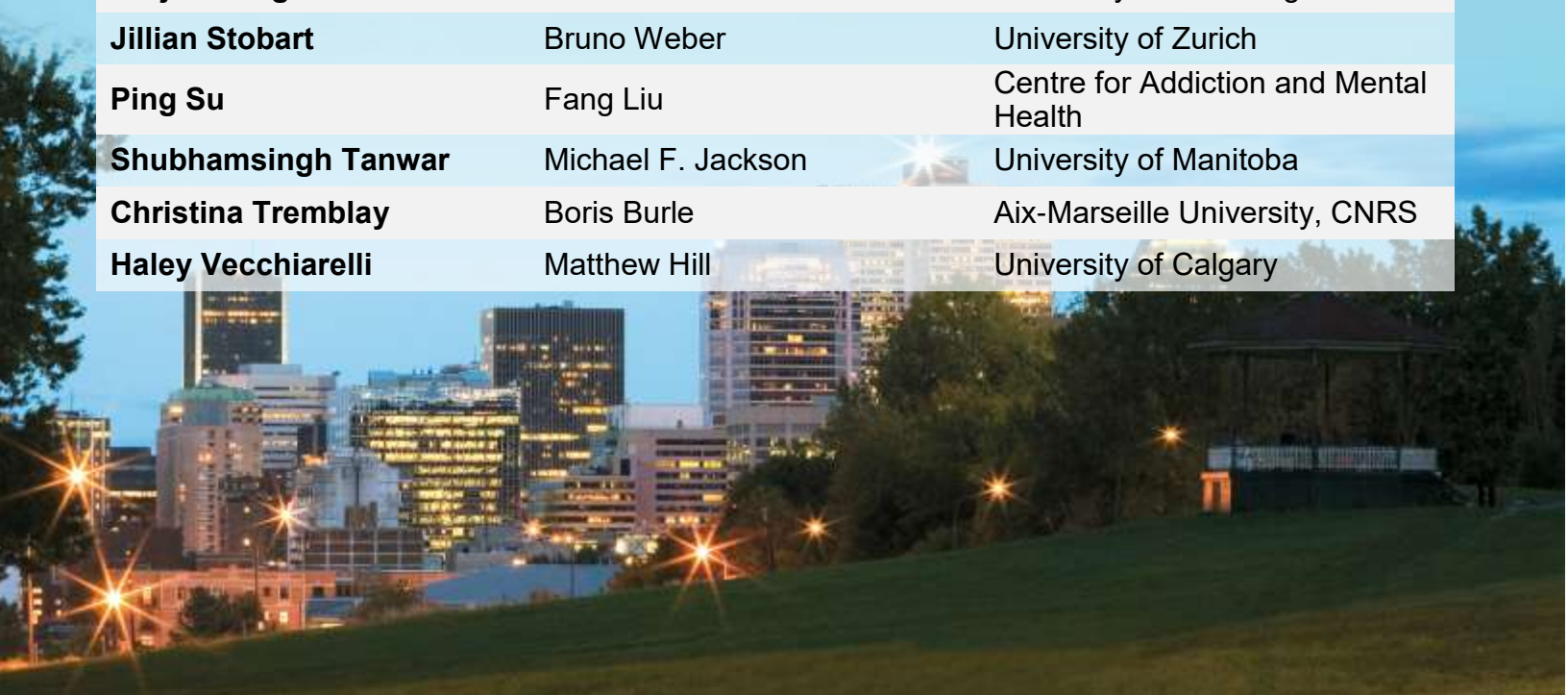
Interstellate vol. 1 available at CAN meeting

CAN and the Canadian Neurophotonics Platform are sponsoring the publication of Interstellate vol.1 , a publication of neuroscience and education through art, curated by Caitlin Vander Weele (More on her website). Grab your copy in Montreal!

2017 IBRO Travel Awards

CAN is happy to announce it has partnered with the International Brain Research Organization (IBRO) to offer international trainee travel awards, funded by IBRO. Congratulations to the winners:

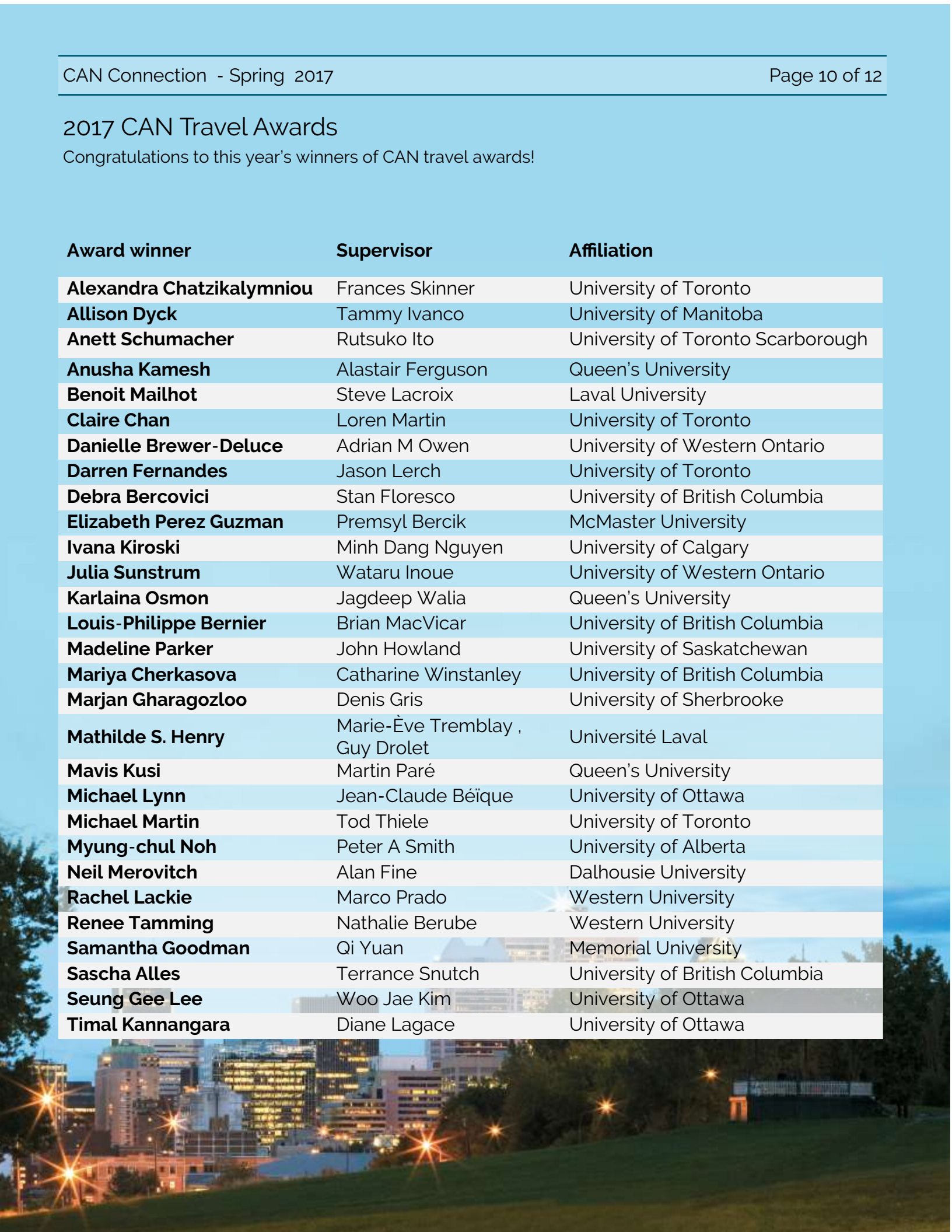
Award winner	Supervisor	Laboratory location
Mohamad-Reza Aghanoori	Paul Fernyhough	University of Manitoba
Rafaella Araujo Goncalves da Silva	Douglas P. Munoz	Queen's University
Marie Blanchette	Richard Daneman	University of California, San Diego
Katherine Bonnycastle	Michael Cousin	University of Edinburgh
Manel Dahmene	Abid Oueslati	Laval University
Camila de Avila Dal'Bo	Elena Timofeeva	Laval University
Jelena Dordevic	Benedict Albensi	University of Manitoba
Kelvin Hui	Motomasa Tanaka	RIKEN Brain Science Institute
Javad Karimi	Majid Mohajerani	University of Lethbridge
Feiya Li	Hong-Shuo Sun	University of Toronto
Shuai Liu	Stephanie Borgland	University of Calgary
Jimena Perez Sanchez	Yves De Koninck	Université Laval
Martina Pinto	Denis Soulet	Université Laval
Olga Shevtsova	J. M. Wojtowicz	University of Toronto
Surjeet Singh	Robert J Sutherland	University of Lethbridge
Jillian Stobart	Bruno Weber	University of Zurich
Ping Su	Fang Liu	Centre for Addiction and Mental Health
Shubhamsingh Tanwar	Michael F. Jackson	University of Manitoba
Christina Tremblay	Boris Burle	Aix-Marseille University, CNRS
Haley Vecchiarelli	Matthew Hill	University of Calgary



2017 CAN Travel Awards

Congratulations to this year's winners of CAN travel awards!

Award winner	Supervisor	Affiliation
Alexandra Chatzikalymniou	Frances Skinner	University of Toronto
Allison Dyck	Tammy Ivanco	University of Manitoba
Anett Schumacher	Rutsuko Ito	University of Toronto Scarborough
Anusha Kamesh	Alastair Ferguson	Queen's University
Benoit Mailhot	Steve Lacroix	Laval University
Claire Chan	Loren Martin	University of Toronto
Danielle Brewer-Deluce	Adrian M Owen	University of Western Ontario
Darren Fernandes	Jason Lerch	University of Toronto
Debra Bercovici	Stan Floresco	University of British Columbia
Elizabeth Perez Guzman	Premsyl Bercik	McMaster University
Ivana Kiroski	Minh Dang Nguyen	University of Calgary
Julia Sunstrum	Wataru Inoue	University of Western Ontario
Karlaina Osmon	Jagdeep Walia	Queen's University
Louis-Philippe Bernier	Brian MacVicar	University of British Columbia
Madeline Parker	John Howland	University of Saskatchewan
Mariya Cherkasova	Catharine Winstanley	University of British Columbia
Marjan Gharagozloo	Denis Gris	University of Sherbrooke
Mathilde S. Henry	Marie-Ève Tremblay , Guy Drolet	Université Laval
Mavis Kusi	Martin Paré	Queen's University
Michael Lynn	Jean-Claude Béïque	University of Ottawa
Michael Martin	Tod Thiele	University of Toronto
Myung-chul Noh	Peter A Smith	University of Alberta
Neil Merovitch	Alan Fine	Dalhousie University
Rachel Lackie	Marco Prado	Western University
Renee Tamming	Nathalie Berube	Western University
Samantha Goodman	Qi Yuan	Memorial University
Sascha Alles	Terrance Snutch	University of British Columbia
Seung Gee Lee	Woo Jae Kim	University of Ottawa
Timal Kannangara	Diane Lagace	University of Ottawa

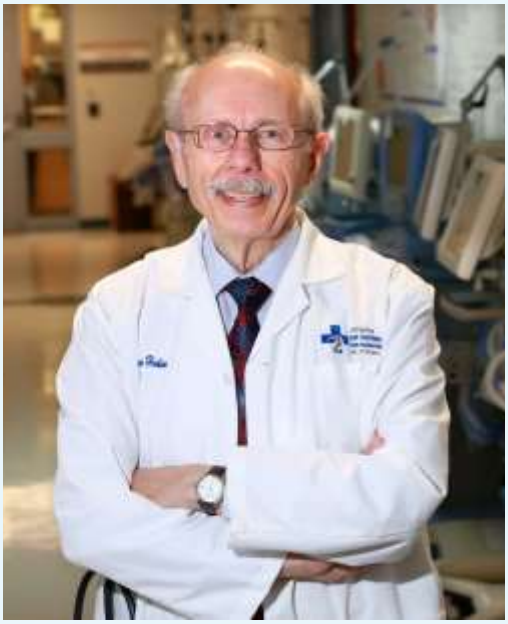


Congratulations!

Congratulations to Dr. **Antoine Hakim**, renowned Ottawa neuroscientist, whose work has helped turn strokes from devastating to treatable and preventable. He has been awarded the prestigious 2017 **Canada Gairdner Wightman Award.**

Dr. Antoine Hakim received the award for

"*Outstanding research into stroke and its consequences and championing stroke prevention and treatment in Canada and beyond."*



Dr Antoine Hakim. Photo: John Major Photography - from University of Ottawa

The **government of Canada** and the **Brain Canada Foundation** recently announced important funding for 18 new brain research projects. Learn more on Brain Canada website. Congratulation to the project and platform leaders and their teams!

Graham Collingridge, Mount Sinai Hospital

Daniel Blumberger, CAMH

Douglas Munoz, Queen's U

Ruth Slack, U Ottawa

Marie-Hélène Milot, U Sherbrooke

Eric Smith, Hotchkiss Brain Institute

Sébastien Jacquemont,
Centre de recherche de l'Hôpital Ste-Justine

Art Petronis, CAMH

Mark Bayley, Toronto Rehabilitation Institute

Faith Davis, University of Alberta

Steven Beyea IWK Health Centre

Sylvain Baillet McGill University

Ravi Menon Western University

Gabrielle deVeber The Hospital for Sick Children

Morris Freedman The Rotman Research Institute

Lonnie Zwaigenbaum University of Alberta

Alan Evans Montreal Neurological Institute

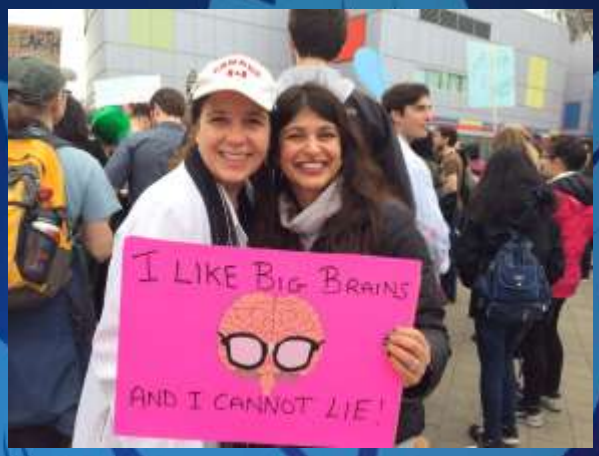
Jason Lerch The Hospital for Sick Children

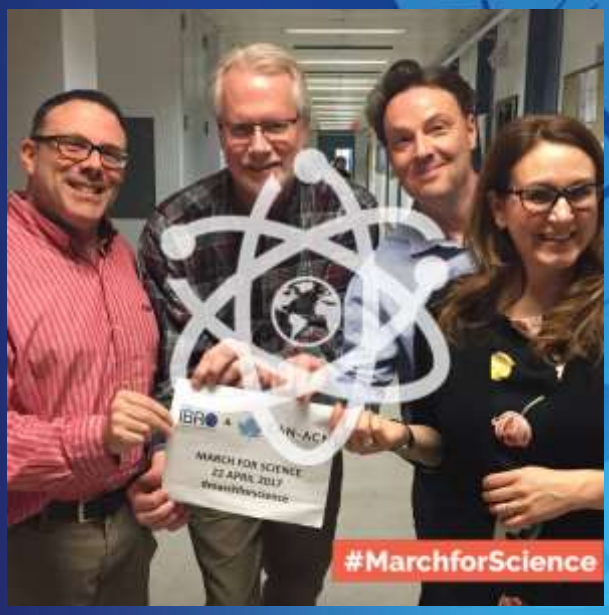
"Brain-related illnesses have a profound impact on patients and their families as well as health care professionals. Research in the field of brain health is critical to the well-being of many Canadians. I applaud the scientists who are making real strides in neuroscience in this country. Their research brings hope to the millions of Canadians affected by brain diseases and disorders, as well as to their loved ones."

Jane Philpott, Minister of Health, quoted in the new funding announcement.

March for Science

A few pictures of the Canadian March for Science, which took place last Earth Day, April 22 2017. It was wonderful to see you all out there. Let's stay mobilised for this important cause.





Pictures above: In Montreal: Ed Ruthazer, Charles Bourque, Derek Bowie and Alanna Watt; In BC: Liisa Galea and Shernaz Bamji; Also spotted marching in Montreal, Eric Nestler, current SfN President.

Keep in touch!

General inquiries:
info@can-acn.org

Advocacy committee:
advocacy@can-acn.org

Meeting & Membership secretariat:
secretariat@can-acn.org

Share your neuroscience news:
news@can-acn.org

Follow us

CAN ACN

http://can-acn.org
http://can-acn.org/membership
http://can-acn.org/meeting-2017

https://twitter.com/**can_acn**

https://www.facebook.com/**can.acn**