

Bringing Neuroscience to the World



WELCOME PACKAGE

Montreal, May 10, 2017

Dear Student,

Welcome to Montreal and to the 11th Canadian IBRO-USCRC School of Neuroscience. We hope your travels went smoothly. The School starts on Thursday, May 11 at 9 A.M. in the McIntyre Medical Sciences Building. A schedule and map are included in this package. Should you have any questions or need assistance we have included contact information below.

Note that **breakfast** tomorrow and on upcoming days will be provided at a nearby McGill residence hall, Carrefour Sherbrooke (475 Sherbrooke Street West; 514.398.4412). Tickets for breakfast will be given to you by the staff at the Royal Victoria College (RVC) when you register and receive your room key. If they do not give you these tickets, please ask them to provide them. The RVC staff can also give you directions and let you know the hours during which the breakfast is served.

On Wednesday, May 10, 2017 **dinner will be served in your residence at 18 h.** Dr. Ante L. Padjen will meet you and the other students that will be in town by that time at 17:45 h in the lobby of Royal Victoria College Residence.

On Thursday, May 11, 2017. A local student will come to meet you at the entrance of RVC at 8:30 am and walk you to the McIntyre Building. Please be sure to have had breakfast by this time.

We look forward to meeting you soon.

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Contacts:

Dr. Albert J. Aguayo, <u>albert.aguayo@mcgill.ca</u> Dr. Ellis Cooper, <u>ellis.cooper@mcgill.ca</u> Dr. Ante L. Padjen, <u>ante.padjen@mcgill.ca</u> (Cell : 514.806.5372; local call from the Residence: 3603) Dr. David Ragsdale, <u>david.ragsdale@mcgill.ca</u> Dr. Melissa Vollrath, <u>melissa.vollrath@mcgill.ca</u> (Cell : 514.967.9353) Royal Victoria College Residence: Phone: (514.398.4412)

For late arrivals:

Nearby restaurants opened 24 h/day: A&W, 655 Avenue du Président-Kennedy, Montréal, QC H3A 1K1 Tim Hortons, 674 Sherbrooke St W, Montreal, QC H3A 1E7

This Welcome Package contains the following:

- Welcoming letter
- Information about the School
- Maps (campus, MNI)
- Schedule
- List of participants (faculty, students)
- Lab assignments
- Poster assignments at CAN Meeting
- Extended stay in the labs
- Internet access (separate sheet with individual username/password)



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WELCOME PACKAGE Canadian IBRO-USCRC Schools of Neuroscience

Since its creation in 1961, by an act of Canadian Parliament, International Brain Research Organization (IBRO) has engaged in promotion of international collaborations amongst neuroscientists and in extensive educational programs directed primarily to students from countries in developing areas. Unlike the other IBRO schools of neuroscience, in which tutors travel to the students' countries, in the Canadian school 10 - 14 students from Africa and Latin America are brought to Canada for a stay of 2-3 weeks. They are selected for their academic achievements and for their potential to change their environments. In the past ten years 125 students (70 women, 55 men) from 21 countries, ranging in age from 24-43 years (average 29.6 y) have attended the school.

Schools are organized by the Organizing committee and supported by IBRO US-Canada Regional Committee; Society for Neuroscience; Canadian Association for Neuroscience; CIHR – INMHA and other institutions.

	Year	Site	Topic	Coordinator(s)
1	2007	Toronto	Epilepsy	Ante L. Padjen (McGill University) and Peter L Carlen (University of
	(May 27 – June 1)			Toronto)
2	2008	Montreal	Pain	Ellis Cooper (McGill University)
	(May 25 – June 4)			
3	2009	Vancouver	Neural Degeneration & Regeneration	A. Jane Roskams (University of British Columbia)
	(May 24 – June 3)			
4	2010	Ottawa	Neurogenesis & Cell Death	Cathy Morris (University of Ottawa)
	(May 15 – 24)			
5	2011	Quebec	Neurodegenerative Disorders and Brain	Guy Drolet (Université Laval) & Ellis Cooper (McGill University)
	(May 23 – June 3)	City and	Trauma	
		Montreal		
6	2012	Vancouver	Neuroplasticity in development, learning	Cathy Rankin and Brian MacVicar (University of British Columbia)
	(May 12 – 23)		and disease	
7	2013	Toronto &	Neuropathic Pain	Jonathan Dostrovsky (University of Toronto) & Ellis Cooper (McGill
	(May 13 – 26)	Montreal		University)
8	2014	Montreal	Development and Plasticity	Ellis Cooper (McGill University)
	(May 14 – 28)			
9	2015	Vancouver	Development and Disease	Doug Allan (University of British Columbia), Ante L. Padjen (McGill
	(May 13 – 26)			University), Jason Snyder (University of British Columbia)
10	2016	Montreal &	Cell and Molecular Mechanisms of	Ellis Cooper, Albert J Aguayo, Ante L Padjen, David Ragsdale,
	(May 18 – June 1)	Toronto	Neurological Diseases	Melissa Vollrath (all at McGill University)
11	2017	Montreal	Development, Plasticity, and Repair of	Ellis Cooper, Albert J Aguayo, Ante L Padjen, David Ragsdale,
	(May 11 – 31)		Neural Circuit	Melissa Vollrath (all at McGill University)



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11th Canadian IBRO-USCRC School of Neuroscience: Development, Plasticity, and Repair of Neural Circuits

Montreal, QC, May 11 - 31, 2017

This school focuses on the development and plasticity of neural circuits, and on mechanisms to repair circuits that are damaged or that develop abnormally.

Organizing committee of Canadian IBRO-USCRC Schools of Neuroscience:

Dr. Ellis Cooper (Chair), Dr. Albert J. Aguayo, Dr. Ante L. Padjen (Communication), Dr. Melissa Vollrath and Dr. David Ragsdale (Program Coordinators).

(All members of McGill University)

Aims and Scope of the School:

This IBRO Neuroscience School Program offers an advanced neuroscience course for young investigators from Africa and Latin America. The focus of this School is on the development, plasticity, and repair of neural circuits. This opportunity is made possible by the support of the IBRO North American Regional Committee and several Canadian institutions. The School is intended for 12-14 promising young trainees who have clear leadership potential in the scientific community of their home countries. A unique feature of the School is that students attend and present a poster of their work at the Canadian Association for Neuroscience's annual meeting, a meeting that brings together over 1000 researchers, mostly from across Canada and the United States **Educational Objectives:**

- To deepen participants' understanding of mechanisms related to development, plasticity, and repair of neural circuits.
- To acquaint the participants with a variety of experimental approaches and analytical tools.
- To foster long-lasting links with Canadian neuroscientists.
- To forge new contacts between investigators in Canada, Africa, and Latin America.

Description:

The focus of this School is on the development and plasticity of neural circuits, and on mechanisms to repair circuits that are damaged or that develop abnormally. Students are taught through a series of interactive sessions, hands-on labs, and, and visits to various state-of-the art laboratories. The Faculty consists of prominent neuroscientists at McGill University, Montreal Neurological Institute, Centre for Research in Neuroscience, and the Douglas Mental Health Institute. The school program coordinators are Drs. Melissa Vollrath and David Ragsdale.

In this school, students will participate in interactive seminars and lab sessions covering a wide range of topics, including: i) Axonal guidance and signals that regulate axon regeneration; ii) Neuronal diversification of astrocytes, and astrocyte growth; iii) Degeneration and repair of the retina; iv) Structural plasticity; v) Neural map formation and sensory coding in the olfactory system and the visual system; vi) Computation models of synaptic integration on dendrites; vii) Use of model organisms (zebrafish, xenopus, C. elegans, drosophila) to investigate the development of neural circuits, as well as neurodegenerative diseases; viii) Crispr/Cas9 and gene editing techniques. ix) Talking about science and ethics.

In addition to these interactive sessions, demonstrations, and special lectures, students will have the opportunity to conduct a shortterm research project on a topic relevant to their own research.

What costs will be covered for selected applicants?

Return airfare (home - Montreal and back), local lodging and meals, local transportation Please feel free to send all your queries to <u>canadian.schools@ibro.org</u>

Co-sponsors:

IBRO US-Canada Regional Committee; Society for Neuroscience; Canadian Association for Neuroscience; CIHR - INMHA; Montreal Neurological Institute, McGill University; Department of Neurology and Neurosurgery, McGill University;





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Map of McGill University Campus 1





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Map of McGill University Campus 2 – with the Montreal Neurological Institute



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11th Canadian IBRO School of Neuroscience SCHEDULE OF ACTIVITIES

Unless otherwise indicated, sessions are at the McIntyre Medical Building, Rm 1101. Other locations are as follows:

Allan = Allan Memorial Institute; Stewart = Stewart Biology Building; Douglas = Douglas Mental Health University Institute; Neuro = Montreal Neurological Institute; MGH = Montreal General Hospital; TH = Thomson House

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Time	May 11	May 12	May 13	May 14	May 15	May 16	May 17	May 18	May 19	May 20		
	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday		
9:00 - 10:25 10:35 - 12:00	- Introduction	Michael Hendricks Jon Sakata	Intro to Ephys (Melissa V., Dave R.)	Circuitry of the Human Brain (Dave R.)	Michael Hendricks (lab; Stewart)	Florian Storch, Mark	Florian <u>Storch</u> , Mark	Florian Storch, Mark	Effective Writing Ed Ruthazer (10 11:30 h)		JF Cloutier (Neuro) Alyson Fournier (Neuro)	Ante P. 9:30-11:30 h
12:00 – 13:30	Thompson House Lunch	Lunch TH	Lunch	Lunch	Lunch TH	Brandon and <u>Mallar</u> Chakravarty	MGH seminar: Alex Wade (12:00 noon)	Jesper Sjostrum, Dave Stellwagon,	Lunch TH	Ante P. Lunch		
13:30 – 14:55	Anne McKinney	Alan Peterson	Spiker Box		Chris Pack	(Douglas)	Lunch MGH with Prof. Wade	Brian Chen (lab; MGH)	Claude <u>Lepage</u> (Big Brain; Neuro)			
15:05 – 16:25	Reza Sharif	(lab; Allan)	Lab		Alanna Watt	Karpati Lecture: Kevin	Arjun Krishnaswamy		Tim Kennedy (Neuro)			
16:30 – 18 h	"How to Give a Talk"	Angelica IBRO Alumna Talk			Student Talks	Campbell 16:00 - 18:00 (Neuro)	Student Talks	Student Talks	Student Talks			
18 h -	Dinner 18 h McIntyre	Dinner 18 h McIntyre			Dinner 18 h McIntyre	Dinner 18 h McIntyre	Dinner 18 h McIntyre	Dinner18 h McIntyre	Dinner 18 h McIntyre			





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Time	May 21	May 22	May 23	May 24	May 25	May 26	May 27	May 28	May 29	May 30	May 31
	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesd
											ay
9:30 – 10:25 h	Research Ethics		LAB EXPERIENCE	LAB EXPERIENCE	LAB EXPERIENCE	LAB EXPERIENCE		CAN - photonics	CAN Annual	CAN Annual	CAN Annual
10:30 – 12:00 h	Gil Bub							Workshop (8:30 –15:50 h)	Meeting	Meeting	Meeting
12:00 – 13:30 h	Lunch										
13:30 – 15:45 h		FREE DAY					FREE DAY	Hotel Bonaventure			
16:00 – 17:30 h			Killam Seminar (16 - 17 h) Neuro		AGUAYO LECTURE (4:00 PM) Neuro	-		Opening of CAN Meeting (17:00 h)			
18:30 – 22:00 h						18:30 h Final Party (Faculty Club					

Students

Ahmed Soliman – Egypt <u>ahmedo.soliman@yahoo.com</u>

Promoting Oligodentrocytes Precursor cells proliferation and survival in Multiple Sclerosis

Sana El Hajji – Morocco <u>elhajjisana@yahoo.com</u>

Antioxidant activity of SelenoproteinT in Parkinson's disease and its interaction with Parkin, DJ-1 and PINK-1 in transgenic mice

Nadia Said, PhD – Moroccos.nadia.10@hotmail.fr

Stress and vulnerability to addiction

Samuel Dare – Uganda (Nigeria) <u>sammygreatness@yahoo.com</u>

Characterization of the traditional medicine A. senegalensis as anticonvulsant

Simo Zulu – South Africa <u>207506590@stu.ukzn.ac.za</u>

Chronic exposure to antiretroviral drugs effects on amyloid processing and cognitive function

Nathalie Agudelo Dueñas – Columbia n.agudelo1768@uniandes.edu.co

Roles of F-spondin in the development of visual circuits in zebrafish using light sheet fluorescence microscopy

Daniel Beckman, PhD – Brazil <u>daniellebeckman@gmail.com</u>

Monoaminergic signaling in depression associated with Alzheimer's disease

María Elena Bringas Tobón, PhD – Mexico <u>ma.elena.bringas@hotmail.com</u>

Effect of Cerebrolysin on remodeling of neuronal morphology in the limbic system and improving behavioral deficits in rat model of autism. The neurotrophic factors role



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Eliana Mailen Fernandez – Argentinaemfernandez1492@gmail.comAnalysis of nmgp-1 Function in C. elegans

Luis Santos, PhD – Brazil <u>Isantos@biof.ufrj.br</u>

Oxidative protein modifications in ABO-based Alzheimer models

Isabel Vieira de Assis Lima – Brazil <u>bel.vieira@yahoo.com.br</u>

Evaluation of anticonvulsant effect of Cannabidiol: Possible involvement of the enzyme phosphatydilinositol 3-kinase (PI3K)

Maria Florencia Zappa Villar – Argentina florz87@gmail.com

Neuroprotective gene therapy and cell therapy in a sporadic Alzheimer's rat model



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WELCOME PACKAGE Course Coordinators and Faculty

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Florian Storch, PhD Dept. of Psychiatry, McGill University, Douglas Institute <u>florian.storch@mcgill.ca</u>

Alanna Watt, PhD Dept. of Biology, McGill University alanna.watt@mcgill.ca

Laboratory Experience: 2017-05-23 to 26

First Name	Last Name	Laboratory assignment	Comments
Nathalie	Agudelo Dueñas	Frederic Charron	
Danielle	Beckman	David Stellwagen	
María Elena	Bringas Tobón	M Szyf - David Cheishvili	
Samuel	Dare	Anne McKinney	
Sana	El Hajji	Sam David	
Eliana Mailen	Fernandez	Michael Hendricks	
Nadia	Said	Cecilia Flores	
Luís	Santos	Claudio Cuello	
Ahmed	Soliman	Tim Kennedy	
Isabel	Vieira de Assis Lima	Alyson Fournier / Jesper Sjostrom	
Maria Florencia	Zappa Villar	Thomas Durcan	
Simo	Zulu	Edith Hamel	





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11th Canadian IBRO-USCRC School of Neuroscience 11th Annual Meeting of Canadian Association for Neuroscience

Meeting Room of the School at the Meeting: Longueuil Room

POSTERS

Monday, May 29

1-IBRO-242	Nadia	SAID
1-IBRO-243	Ahmed	Soliman
1-IBRO-244	Nathalie	Agudelo-Dueñas
1-IBRO-245	Ante	Padjen

Tuesday, May 30

2-IBRO-240	Eliana	Fernandez
2-IBRO-241	Danielle	Beckman
2-IBRO-242	Isabel	Vieira de Assis Lima
2-IBRO-243	Maria Florencia	Zappa Villar

Wednesday, May 31

3-IBRO-239	María	Bringas Tobón
3-IBRO-240	Samuel	Dare
3-IBRO-241	Simo	Zulu
3-IBRO-242	Luis	Santos



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Appendix 2017-07-09

Extended stay in laboratories – after the School ended

Nathalie Agudelo Dueñas (returned 2017-06-10)

1) Charron Lab—Institute de Recherche Clinique de Montréal (IRCM). No. days spent: 4 Techniques shown: Spinal cord dissection from rat embryos, primary cell culture, intravitreal injections in adult mice, brain dissection and slicing, confocal microscopy.

*My visit coincided with the research day at the IRCM, so I spent the last day of this experience visiting posters and attending talks. **The PI, Dr. Frédéric Charron encouraged me to apply for the master's degree at the IRCM.

2) Ed Ruthazer Lab, Montreal Neurological Institute, No. days spent: 1I had the opportunity to discuss their research in the lab and Dr. Ruthazer showed me the equipment and the model they use.

3) Lab: Pierre Drapeau Lab-CRCHUM. No. days spent: 2

Techniques shown: zebrafish microinjection, screening of positive/labeled embryos

*Dr. Pierre Drapeau offered me to join his lab for a master's/PhD.

Samuel Dare (returned 2017-06-04)

Anne McKinney's lab. No of days spent: 3.

I learnt more on:

- a. Confocal imaging and analysis
- b. Deconvolving and reconstructing three-dimensional image stacks using software.

c. Importing and interpreting the deconvolved image stacks using Imaris

software.

Sana El Hajii (returned 2017-06-28-

David Stellwagen lab in the MGH. No of days: 4 weeks (but not going every day, just when there are experiments). I was following some experiments on cell culture (stem cells) and learning electrophysiology recording.

Maria Florencia Zappa Villar (returned 2017-06-05)

1) Dr. Thomas Durcan's Lab (4 days).

I learned about the use of induced pluripotent stem cells (iPSCs) in neurodegenerative disorders. They explained me how to obtain iPSC-derived neurons (dopaminergic neurons, motoneurons) and keep them in vitro. I observed the progenitors at the microscope and changed the differentiation medium.

I had the opportunity to talk with all the postdoc members of the lab about their different projects.

2) Dr. Claudio Cuello's Lab (1 day).

I had an interview with Dr. Cuello. We talked about his current projects and my research in Argentina. After that, we visit the laboratory's facilities and I had the opportunity to talk with Dr. Sonia Do Carmo (Research Associate) and their students.

4) Dr. Judes Poirier – Douglas Institute (1 day)

I met Dr. Poirier and one of his student, Nathalie Nilsson, at the Douglas Institute. We talked a lot about his current and past research lines. We visited all the lab's facilities: they work in vitro with iPSCs, in vivo with animal models and with patients of the Hospital also.