

# 6<sup>th</sup> Annual Meeting of the Canadian Neurometabolic Club

Satellite meeting of the Canadian Association for Neuroscience



**May 12-13, 2018**

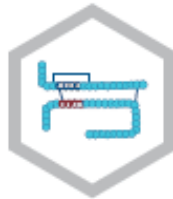
**Vancouver – Sheraton Wall Centre**



## CAN-ACN

CANADIAN ASSOCIATION FOR NEUROSCIENCE  
ASSOCIATION CANADIENNE DES NEUROSCIENCES

We are grateful for educational grants and sponsorship from



Montreal Diabetes  
Research Center

*Understand to Prevent and Cure*



Université   
de Montréal

**Organizers:**

Maia Kokoeva  
Thierry Alquier  
Stephanie Fulton  
Claire-Dominique Walker  
Alfonso Abizaid

## PROGRAM AT A GLANCE

### SATURDAY, MAY 12

6:00 – 7:00 PM

7:30 – 10:00 PM

*SHERATON WALL CENTRE - Port McNeil room (4<sup>th</sup> floor of north tower)*

KEYNOTE LECTURE – Giovanni Marsicano

SOCIAL - Blackbird Public House and Oyster Bar

### SUNDAY, MAY 13

9:00 – 10:15 AM

10:15 – 10:45 AM

10:45 – 1:00 PM

1:00 – 2:00 PM

2:00 – 2:50 PM

2:50 – 4:20 PM

4:20 - 4:25 PM

*SHERATON WALL CENTRE - Pavilion Ballroom (3rd floor of north tower)*

ORAL SESSION 1: *MICROBIOME AND DISEASE MODELS*

Coffee break

ORAL SESSION 2: *HOMEOSTATIC AND HEDONIC CONTROLS OF ENERGY BALANCE*

Buffet lunch

CAREERS IN NEUROMETABOLISM - Orsha Magyar

ORAL SESSION 3: *FATTY ACIDS IN ENERGY HOMEOSTASIS*

Concluding remarks and prize announcements

**VENUE: SHERATON WALL CENTRE**

<http://www.sheratonvancouver.com/>

### **SATURDAY, MAY 12: Port McNeil room (4th floor of north tower)**

5:00 – 6:00 PM

Badge pick-up and presentation drop-off

6:00 – 7:00 PM

**KEYNOTE LECTURE**

**Giovanni Marsicano, PhD**

Research Director INSERM

Team Endocannabinoids and Neuroadaptation,  
NeuroCentre Magendie, University of Bordeaux

***Cannabinoid CB1 receptor signalling in the brain: the where matters***

7:30 – 10:00 PM

**SOCIAL**

**Blackbird Public House and Oyster Bar**

905 Dunsmuir St

<http://donnellygroup.ca/the-blackbird/>

## **SUNDAY, MAY 13: Pavilion Ballroom C (3rd floor of north tower)**

**8:30 – 8:55 AM BADGE PICK-UP AND PRESENTATION DROP-OFF**

### **9:00 AM – ORAL SESSION I**

#### ***MICROBIOME AND DISEASE MODELS***

9:00 AM - EFFECT OF DIETARY FRUCTOSE ON SYNAPTIC PLASTICITY AT AGRP NEURONS

**Mikayla A. Payant\***<sup>1</sup>, Alex J. Hebert<sup>1</sup>, Eleftheria Maratos-Flier<sup>2</sup>, Melissa J. Chee<sup>1</sup>,

*1- Department of Neuroscience, Carleton University, 2- Division of Endocrinology, Beth Israel*

9:18 AM - LACTOBACILLUS GASSERI IN THE UPPER SMALL INTESTINE IMPACTS AN ACSL3-DEPENDENT FATTY ACID SENSING PATHWAY THAT REGULATES WHOLE-BODY GLUCOSE HOMEOSTASIS

Paige V. Bauer<sup>1,2</sup>, **Frank A. Duca**<sup>1\*</sup>, T. M. Zaved Waise<sup>1</sup>, Helen J. Dranse<sup>1</sup>, Brittany A. Rasmussen<sup>1,2</sup>, Akshita Puri<sup>4</sup>, Mozghan Rasti<sup>1</sup>, Catherine A. O'Brien<sup>2,4,5</sup>, Tony K. T. Lam<sup>1,2,3,6</sup>

*<sup>1</sup> Toronto General Research Institute and Department of Medicine, UHN, Toronto, ON; <sup>2</sup> Department of Physiology, University of Toronto, Toronto, ON; <sup>3</sup> Department of Medicine, University of Toronto, Toronto, ON; <sup>4</sup> Princess Margaret Cancer Centre, UHN, Toronto, ON; <sup>5</sup> Department of Pathobiology, University of Toronto, Toronto, ON; <sup>6</sup> Banting and Best Diabetes Centre, University of Toronto, Toronto, ON*

9:36 AM - ANTIBIOTIC TREATMENT IMPAIRS SYNAPTIC PLASTICITY IN THE PVN AND MEMORY OF AN ACUTE STRESS

**Zurek AA\***, Sterley TL, Baimoukhametova D, Bains JS

*University of Calgary*

9:54 AM - THE METABOLIC REGULATOR P66SHC AS A THERAPEUTIC TARGET FOR ALZHEIMER'S DISEASE

**Asad Lone\***, Robert C. Cumming

*Western University, Ontario, Canada*

**10:15 – 10:45 AM COFFEE BREAK**

## **10:45 AM – ORAL SESSION 2**

### ***HOMEOSTATIC AND HEDONIC CONTROLS OF ENERGY BALANCE***

10:45 AM - GROWTH DIFFERENTIATION FACTOR 15 MODULATES THE ACTIVITY OF NEURONS INVOLVED IN ENERGY BALANCE

**N. J. Simpson\***, H. M. Grover, A. V. Ferguson

*Centre for Neuroscience Studies, Department of Biomedical and Molecular Sciences, Queen's University*

11:03 AM - LEPTIN SENSING IN THE MEDIAN EMINENCE

**Tal Slutzki**, Sarah Robins, Liliia Butiaeva, Xiaohong Liu, and Maia Kokoeva.

*McGill University Health Center, Montreal, Canada*

11:21 AM - LEPTIN RECEPTOR EXPRESSION AND THE BLOOD BRAIN BARRIER.

**Liliia Butiaeva**, Sarah Robins, Tal Slutzki, Xiaohong Liu and Maia Kokoeva

*McGill University Health Center, Montreal, Canada*

11:39 AM - POSTNATAL OVERNUTRITION ALTERS THE TRANSCRIPTOME OF THE SUBFORNICAL ORGAN IN THE RAT

**Colleen S Peterson**<sup>1\*</sup>, Shuo Huang<sup>1,2</sup>, Samantha A Lee<sup>1,3</sup> Ferguson AV<sup>4</sup>, and W Mark Fry<sup>1\*</sup>

<sup>1</sup> *Department of Biological Sciences, University of Manitoba, Winnipeg, MB, Canada, R3T 2N2;*

<sup>2</sup> *Presently located at Department of Physiology and Pharmacology, Hotchkiss Brain Institute,*

*Cumming School of Medicine, University of Calgary, Calgary, AB T2N 4N1, Canada;* <sup>3</sup> *Presently*

*located at Department of Biomedical Engineering, University of Manitoba, Winnipeg, MB, Canada, R3T 2N2;* <sup>4</sup> *Centre for Neuroscience, Queen's University, Kingston, Ontario, K7L 3N6, Canada.*

11:57 AM - ASTROCYTE-NEURON LACTATE SHUTTLE DEFICITS UNDERLIE LONG-TERM PLASTICITY IMPAIRMENTS AFTER ACUTE STRESS

**Murphy-Royal C\***, Bains JS, & Gordon GR

*Hotchkiss Brain Institute, Dept of Physiology and Pharmacology, Cumming School of Medicine, University of Calgary*

12:15 PM - NOBODY LIKES EATING ALONE: ENDOCANNABINOID SYSTEM INFLUENCES THE ABILITY OF GHRELIN TO INCREASE FOOD INTAKE AND FOOD MOTIVATION WHEN INFUSED INTO THE VTA

**Alexander Edwards**<sup>1\*</sup>, Lindsay Hyland<sup>1</sup>, Csaba Fekete<sup>2</sup>, Matthew Hill<sup>3</sup>, Melissa Chee<sup>1</sup>, and Alfonso Abizaid<sup>1</sup>

<sup>1</sup> *Department of Neuroscience, Carleton University, Ottawa, ON Canada*

<sup>2</sup> *Anatomy Institute of the Albert University of Medicine at Szent-György, Szeged, Hungary*

<sup>3</sup> *Matthew Hill, Hotchkiss Brain Institute, University of Calgary, AB, Canada*

12:33 PM - A HIGH-SUCROSE MATERNAL DIET HAS ENDURING EFFECTS ON OFFSPRING BRAIN AND BEHAVIOR IN RATS

**Daniel J Tobiansky**\*<sup>1,2</sup>, George Kachkovski<sup>1</sup>, Kim L Schmidt<sup>3</sup>, Reilly T Enos<sup>4</sup>, ChunQi Ma<sup>1</sup>, Ryan J Tomm<sup>1</sup>, Jordan E Hamden<sup>5</sup>, Cecilia Jalabert<sup>5</sup>, Stan B Floresco<sup>1,2</sup>, E Angela Murphy<sup>4</sup>, Kiran K Soma<sup>1,2,5</sup>.

<sup>1</sup> Department of Psychology, University of British Columbia, Vancouver, BC Canada; <sup>2</sup> Djavad Mowafaghian Centre for Brain Health, University of British Columbia, Vancouver, BC, Canada;

<sup>3</sup> Department of Biological Sciences, Simon Fraser University, Burnaby, BC, Canada; <sup>4</sup> Department of Pathology, Microbiology and Immunology, School of Medicine, University of South Carolina, Columbia, SC, USA; <sup>5</sup> Department of Zoology, University of British Columbia, Vancouver, BC Canada.

## **1:00 – 2:00 PM      BUFFET LUNCH**

### **2:00 -2:50PM**

#### **FROM BENCH TO TABLE: USING THE INTERSECTION OF NEUROSCIENCE AND NUTRITION AS AN AVENUE FOR SCIENCE COMMUNICATION**

**Orsha Magyar, M.Sc, CHN    CEO & Founder, NeuroTriton**

### **2:50 PM - ORAL SESSION 3**

#### **FATTY ACIDS IN ENERGY HOMEOSTASIS**

2:50 PM - SEXUAL DIMORPHISM IN THE RELATIVE CONTRIBUTION OF STRIATAL NEUROINFLAMMATION TO ANXIODEPRESSIVE BEHAVIOURS INDUCED BY SATURATED FATS

**Léa Décarie-Spain**<sup>1,2</sup>, Sandeep Sharma<sup>1,2</sup>, Cécile Hryhorczuk<sup>1,2</sup>, Alexandre Fisette<sup>1,2</sup>, Victor Issa Garcia<sup>1,2</sup>, Élisabeth Jacob-Brassard<sup>1,2</sup>, Laurie Martin<sup>1,2</sup>, Mélodie Takla<sup>1,2</sup>, Philip Barker<sup>3</sup>, Nathalie Arbour<sup>1</sup>, Thierry Alquier<sup>1,2</sup> & Stephanie Fulton<sup>1,2</sup>

1- Centre de recherche du CHUM & Université de Montréal; 2- Montreal Diabetes Research Centre; 3- University of British Columbia

3:08 PM - IMPAIRED FATTY ACID METABOLISM MEDIATES COGNITIVE AND METABOLIC SYMPTOMS IN ALZHEIMER`S DISEASE

**Laura K. Hamilton**\*<sup>1,4</sup>, Sandra Joppe<sup>1,4</sup>, Martin Dufresne<sup>3</sup>, Anne Aumont<sup>1,4</sup>, Pierre Chaurand<sup>2</sup>, Stephanie Fulton<sup>3,4</sup>, and Karl J.L. Fernandes<sup>1,4</sup>

Departments of 1-Neurosciences, 2-Chemistry, 3-Nutrition, 4-CRCHUM, Université de Montréal, Montréal, CANADA

3:26 PM - NEUROPROTECTIVE AND ANXIOLYTIC ACTIONS OF MICROGLIAL GPR120 ACTIVATION

**Geneviève Demers**<sup>1,3,5\*</sup>, Jérôme Roy<sup>1,2,5</sup>, Diane Bairaman<sup>1,3</sup>, Nathalie Arbour<sup>1,2,5</sup>, Cyril Laurent<sup>1,2,5</sup>, Vincent Poitout<sup>1,4</sup>, Guillaume Ferreira<sup>6</sup>, Thierry Alquier<sup>1,4,5\*</sup> and Stephanie Fulton<sup>1,3,5\*</sup>.

<sup>1</sup>*Montreal Diabetes Research Center and Centre de Recherche du CHUM. Departments of: <sup>2</sup>Neuroscience, <sup>3</sup>Nutrition, <sup>4</sup>Medicine, <sup>5</sup>University of Montreal, Montreal (QC) H3T1J4, Canada. <sup>6</sup>INRA, Nutrition and Integrative Neurobiology, UMR 1286, Bordeaux, France.*

3:44 PM - A GENETIC VARIANT OF FATTY ACID AMIDE HYDROLASE REGULATES THE OPPOSING CROSSTALK BETWEEN LEPTIN AND GLUCOCORTICOIDS IN THE CONTEXT OF FEEDING

**Balsevich G**<sup>1</sup>, Petrie G<sup>1</sup>, Singh A<sup>2</sup>, Sticht M<sup>1</sup>, Borgland, SL<sup>1</sup>, Chelikani PK<sup>2</sup>, Hill MN<sup>1</sup>

<sup>1</sup>*Hotchkiss Brain Institute, University of Calgary, Calgary, AB, Canada, <sup>2</sup>Department of Production Animal Health, Faculty of Veterinary Medicine, Snyder Institute for Chronic Diseases, University of Calgary, Calgary, AB, Canada.*

4:02 PM - GENETIC DISRUPTION OF ADIPOSE TRIGLYCERIDE LIPASE (ATGL) IN MADIOBASAL HYPOTHALAMIC NEURONS INDUCES OVERWEIGHT AND METABOLIC DISTURBANCES

**Romane Manceau**<sup>1</sup>, Khalil Bouyakdan<sup>1</sup>, Alexandre Fisette<sup>1</sup>, Demetra Rodaros<sup>1</sup>, Grant Mitchell<sup>2</sup>, Stephanie Fulton<sup>1</sup>, Thierry Alquier<sup>1</sup>.

<sup>1</sup>*CRCHUM – Université de Montréal, <sup>2</sup>Centre de Recherche du CHU Ste Justine*

**4:20 PM - CONCLUDING REMARKS AND PRIZE ANNOUNCEMENTS**

## THANK YOU!

Thanks to Cecile Hryhorczuk for help with meeting organization

***E-mail: [info.neuroclub@gmail.com](mailto:info.neuroclub@gmail.com)***

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