6th Annual Meeting of the Canadian Neurometabolic Club

Satellite meeting of the Canadian Association for Neuroscience

May 12-13, 2018
Vancouver – Sheraton Wall Centre
We are grateful for educational grants and sponsorship from

Organizers:
Maia Kokoeva
Thierry Alquier
Stephanie Fulton
Claire-Dominique Walker
Alfonso Abizaïd
## PROGRAM AT A GLANCE

### SATURDAY, MAY 12

**Sheraton Wall Centre - Port McNeil room (4th floor of north tower)**

- **6:00 – 7:00 PM**  
  Keynote Lecture – Giovanni Marsicano

- **7:30 – 10:00 PM**  
  Social - Blackbird Public House and Oyster Bar

### SUNDAY, MAY 13

**Sheraton Wall Centre - Pavilion Ballroom (3rd floor of north tower)**

- **9:00 – 10:15 AM**  
  Oral Session 1: Microbiome and Disease Models

- **10:15 – 10:45 AM**  
  Coffee break

- **10:45 – 1:00 PM**  
  Oral Session 2: Homeostatic and Hedonic Controls of Energy Balance

- **1:00 – 2:00 PM**  
  Buffet lunch

- **2:00 – 2:50 PM**  
  Careers in Neurometabolism - Orsha Magyar

- **2:50 – 4:20 PM**  
  Oral Session 3: Fatty Acids in Energy Homeostasis

- **4:20 – 4:25 PM**  
  Concluding remarks and prize announcements

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**VENUE:** Sheraton Wall Centre  
http://www.sheratonvancouver.com/

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### 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**, Alex J. Hebert¹, Eleftheria Maratos-Flier², Melissa J. Chee¹,
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. Bauer¹,², Frank A. Duca**, T. M. Zaved Waise¹, Helen J. Dranse¹, Brittany A. Rasmussen¹,², Akshita Puri⁴, Mozhgan Rasti¹, Catherine A. O’Brien²,³,⁵, Tony K. T. Lam¹,²,³,⁶
¹ Toronto General Research Institute and Department of Medicine, UHN, Toronto, ON; ² Department of Physiology, University of Toronto, Toronto, ON; ³ Department of Medicine, University of Toronto, Toronto, ON; ⁴ Princess Margaret Cancer Centre, UHN, Toronto, ON; ⁵ Department of Pathobiology, University of Toronto, Toronto, ON; ⁶ 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 Peterson1*, Shuo Huang1,2, Samantha A Lee1,3 Ferguson AV4, and W Mark Fry1*
1 Department of Biological Sciences, University of Manitoba, Winnipeg, MB, Canada, R3T 2N2; 2 Presently located at Department of Physiology and Pharmacology, Hotchkiss Brain Institute, Cumming School of Medicine, University of Calgary, Calgary, AB T2N 4N1, Canada; 3 Presently located at Department of Biomedical Engineering, University of Manitoba, Winnipeg, MB, Canada, R3T 2N2; 4 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 Edwards1*, Lindsay Hyland1, Csaba Fekete2, Matthew Hill3, Melissa Chee1, and Alfonso Abizaid1
1 Department of Neuroscience, Carleton University, Ottawa, ON Canada
2 Anatomy Institute of the Albert University of Medicine at Szent-György, Szeged, Hungary
3 Matthew Hill, Hotchkiss Brain Institute, University of Calgary, AB, Canada
A HIGH-SUCROSE MATERNAL DIET HAS ENDURING EFFECTS ON OFFSPRING BRAIN AND BEHAVIOR IN RATS

Daniel J Tobiansky*,1,2, George Kachkovski1, Kim L Schmidt3, Reilly T Enos4, ChunQi Ma1, Ryan J Tomm1, Jordan E Hamden5, Cecilia Jalabert5, Stan B Floresco1,2, E Angela Murphy4, Kiran K Soma1,2,5.

1 Department of Psychology, University of British Columbia, Vancouver, BC Canada; 2 Djavad Mowafaghian Centre for Brain Health, University of British Columbia, Vancouver, BC, Canada; 3 Department of Biological Sciences, Simon Fraser University, Burnaby, BC, Canada; 4 Department of Pathology, Microbiology and Immunology, School of Medicine, University of South Carolina, Columbia, SC, USA; 5 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, NeuroTrition

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-Spain1,2, Sandeep Sharma1,2, Cécile Hryhorczuk1,2, Alexandre Fisette1,2, Victor Issa Garcia1,2, Élizabeth Jacob-Brassard1,2, Laurie Martin1,2, Mélodie Takla1,2, Philip Barker3, Nathalie Arbour1, Thierry Alquier1,2 & Stephanie Fulton1,2

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*,1,4, Sandra Joppe1,4, Martin Dufresne3, Anne Aumont1,4, Pierre Chaurand2, Stephanie Fulton3,4, and Karl J.L. Fernandes1,4

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 Demers¹,³,⁵, Jérôme Roy¹,²,⁵, Diane Bairaman¹,³, Nathalie Arbour¹,²,⁵, Cyril Laurent¹,²,⁵, Vincent Poitout¹,⁴, Guillaume Ferreira⁶, Thierry Alquier¹,⁴,⁵* and Stephanie Fulton¹,³,⁵*.
¹Montreal Diabetes Research Center and Centre de Recherche du CHUM. Departments of: ²Neuroscience, ³Nutrition, ⁴Medicine, ⁵University of Montreal, Montreal (QC) H3T 1J4, Canada. ⁶INRA, 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 G¹, Petrie G¹, Singh A², Sticht M¹, Borgland, SL¹, Chelikani PK², Hill MN¹
¹Hotchkiss Brain Institute, University of Calgary, Calgary, AB, Canada, ²Department 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 MEDIOBASAL HYPOTHALAMIC NEURONS INDUCES OVERWEIGHT AND METABOLIC DISTURBANCES

Romane Manceau¹*, Khalil Bouyakdan¹, Alexandre Fisette¹, Demetra Rodaros¹, Grant Mitchell², Stephanie Fulton¹, Thierry Alquier¹.
¹CRCHUM – Université de Montréal, ²Centre 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
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