5th Annual Canadian Neurometabolic Club Meeting
Satellite of the Canadian Association for Neuroscience meeting

May 27-28, 2017
Montreal – Hotel Bonaventure
We are grateful for educational grants from

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

Saturday, May 27  Hotel Bonaventure
5:00 – 6:00  Badge pick-up
6:00 – 7:00  KEYNOTE LECTURE
7:30 –  Dinner, drinks and entertainment at the Forum Montreal

Sunday, May 28  Hotel Bonaventure
8:30 – 10:10AM  Session I: NEUROBEHAVIORAL CONTROLS OF PALATABILITY AND HYPERPHAGIA
10:10 – 10:30AM  Coffee break
10:30 – 12:10PM  Session II: HYPOTHALAMIC ADAPTATIONS TO DIET AND OBESITY
12:10 – 12:30pm  POSTER PITCH
12:30 – 2:10 PM  Buffet lunch and posters
2:10 – 3:50PM  Session III: GUT-BRAIN AXIS & DISEASE MODELS
3:50 – 4:00 PM  Concluding remarks and prize announcements

VENUE:  HOTEL BONAVENTURE - 900 de la Gauchetière W. Montréal, QC H5A 1E4

SATURDAY, MAY 27 -
5:00 – 6:00PM  Badge pick-up and presentation drop-off

6:00 – 7:00PM  Keynote lecture:  Harvey Grill, PhD
Professor of Psychology, University of Pennsylvania
Obesity Unit Director of the Penn Institute for Diabetes, Obesity and Metabolism

"Treating the hyperphagia driving obesity: Focus on feeding inhibition"

7:30PM --  Social, food & entertainment at the Forum Sports Bar
4th floor of the Montreal Forum - 2313 St-Catherine St. West H3H 1N2

SUNDAY, MAY 28 -  TRAINEE PRESENTATIONS
1. **BMI-BRAIN STRUCTURE ASSOCIATIONS ARE LARGELY GENETIC AND PARTLY MEDIATED BY COGNITIVE ABILITIES AND PERSONALITY TRAITS.**

Uku Vainik *1,2, Travis Baker 3, Andréanne Michaud 1, Bratislav Misić 1, Mahsa Dadar 1, Yashar Zeighami 1, José C. García Alanis 4, Yu Zhang 1, D. Louis Collins 1, Alain Dagher 1

1. Montreal Neurological Institute, McGill University. 2. Institute of Psychology, University of Tartu. 3. Rutgers University. 4. Department of Psychology, Philipps-Universität Marburg

2. **ROLE OF CENTRAL GPR120 IN ENERGY BALANCE, ANXIO-DEPRESSIVE BEHAVIOR AND NEUROINFLAMMATION**


CHUM Research Center and Montreal Diabetes Research Center. Department of Nutrition, Biochemistry and Molecular Medicine, Faculty of Medicine, University of Montreal.

3. **INVESTIGATING THE ROLE OF GHRELIN IN THE ANTICIPATION OF SCHEDULED TREAT**

Rim Khazall*, Harry MacKay, Fatema Khazall, Lindsay Hyland, Alfonso Abizaid

Carleton University

4. **STRANGER DANGER! GHRELIN RECEPTOR SIGNALLING IN THE VTA AND ITS ROLE IN SOCIAL APPROACH AND SOCIAL INTERACTION.**

Park, S.1*, King, S.1, De Sante, S.1, Culka, G.2, Parodi, G.1, Hyland, L.1, Khazall, R.1, Zigman, J.M.3, Woodside, B.4, Abizaid A.1, 1-Department of Neuroscience, Carleton University, Ottawa ON, Canada; 2-Department of Integrated Science, Carleton University, Ottawa ON, Canada; 3-Departments of Internal Medicine and Psychiatry, The University of Texas Southwestern Medical Center, Dallas, TX, USA. 4-Centre for the Study of Behavioral Neurobiology, Concordia University, Montreal QC, Canada;

10:10 – 10:30 **COFFEE BREAK**
10:30 AM – ORAL SESSION II
HYPOTHALAMIC ADAPTATIONS TO DIET AND OBESITY

1. ASTROCYTE-DERIVED ACBP/DBI ACTIVATES THE HYPOTHALAMIC MELANOCORTIN PATHWAY TO REGULATE FEEDING AND ENERGY HOMEOSTASIS.

Khalil Bouyakdan*, Chloé Chrétien2, Alexandre Fisette1, Demetra Rodaros1, Fabienne Liénard2, Eric Biron3, Luc Pénicaud2, Xavier Fioramonti2, Thierry Alquier1 - CRCHUM & Université de Montréal. 2-CSGA & Université de Bourgogne. 3- CRCHUQ & Université Laval

2. LEPTIN SENSING IN THE MEDIAN EMINENCE

Sarah Robins*, Liliia Butiaeva, Xiaohong Liu, Christina Kim and Maia Kokoeva. Metabolic Disorders and Complications, McGill University Health Center, Montreal, Canada

3. EFFECTS OF THE SATURATED FATTY ACID PALMITATE ON CELLULAR NEUROINFLAMMATION AND POMC EXPRESSION IN THE MHypoA-POMC/GFP NEURONAL CELL MODELS

Erika K. Tse1*, Denise D. Belsham1,2,3
Department of 1-Physiology, 2-Medicine, and 3-Obstetrics and Gynaecology, Faculty of Medicine, University of Toronto, ON, Canada

4. THE TUBBY PROTEIN REGULATES EXPRESSION OF GENES INVOLVED IN METABOLISM AND NEURONAL FUNCTIONS

Hamza Taufique* 1,2, Ryan Mui 3 and Sabine P. Cordes 1,2
1. Department of Molecular Genetics, University of Toronto. 2. Lunenfeld-Tanenbaum Research Institute, Mount Sinai Hospital. 3. College of Osteopathic Medicine, Michigan State University

12:10 – 12:30 POSTER PITCH (30 seconds each)

12:30 – 2:10 BUFFET LUNCH AND POSTER SESSION
1. MECHANISM OF METFORMIN ACTION IN THE UPPER SMALL INTESTINE

T. M. Zaved Waise\textsuperscript{1*}, Frank A. Duca\textsuperscript{1†}, Paige V. Bauer\textsuperscript{1,2}, Mozhgan Rasti \textsuperscript{1}, Christopher J. Rhodes\textsuperscript{3} & Tony K.T. Lam\textsuperscript{1,2,4,5}

\textsuperscript{1}Toronto General Research Institute and Department of Medicine, \textsuperscript{2}Departments of Physiology, University of Toronto, \textsuperscript{3}Kovler Diabetes Center, Department of Medicine, Section of Endocrinology, Diabetes and Metabolism, University of Chicago, Chicago, IL, USA 60637. \textsuperscript{4}Departments of Medicine, University of Toronto. \textsuperscript{5}Banting and Best Diabetes Centre, University of Toronto. \textsuperscript{†}Current address: School of Animal and Comparative Biomedical Sciences, University of Arizona, Tucson, AZ, USA 85721.

2. NICOTINAMIDE-N-METHYLTRANSFERASE CONTROLS METABOLISM AND BEHAVIOR BY REGULATING NEURONAL AUTOPHAGY

Kathrin Schmeisser\textsuperscript{1*}, Alex Parker\textsuperscript{1,2}

\textsuperscript{1}Centre de Recherche du Centre Hospitalier de l’Université de Montréal (CRCHUM), 900 St-Denis Street, Montréal, Québec, Canada H2X 0A9. \textsuperscript{2}Department of Neuroscience, University of Montréal, 2960 Chemin de la Tour, Montréal, Québec, Canada H3T 1J4

3. AEROBIC GLYCOLYSIS: FOOD FOR THOUGHT OR ACHILLES HEEL FOR ALZHEIMER’S DISEASE?

Richard A. Harris, Timothy Scholl, Robert Bartha, Robert C. Cumming\textsuperscript{*}
Western University, Ontario Canada

4. CHARACTERIZATION OF A NEW ANIMAL MODEL OF OBESITY AND CHRONIC LIVER DISEASE FOR THE STUDY OF HEPATIC ENCEPHALOPATHY

Ochoa-Sanchez R., Trémblay M., Clément MA, Rose C.
CRCHUM & Université de Montréal

3:50 PM - CONCLUDING REMARKS AND PRIZE ANNOUNCEMENTS
POSTERS

FEEDING: PALATABILITY & REWARD

1. METABOLIC (DE)COUPLING AND INTERACTION OF GLUCOSE AND LACTATE METABOLITES UNDER VARYING SYSTEMIC CONDITIONS.
Ms. Alexandria Béland-Millar* , Ms. Justine Courtemanche , Mr. Jeremy Larcher, Tina Yuan Prof. Claude Messier. University of Ottawa, Faculty of Social Sciences.

2. SUBJECTIVE VALUE FOR HIGH CALORIE SNACK FOODS RELATES TO WEIGHT GAIN IN THE FIRST YEAR STUDENTS
Selin Neseliler*, Kevin Larcher, Yashar Zeighami, Stephanie Scala, Alain Dagher Montreal Neurological Institute, Montreal, Qc

3. THE STIMULATION OF THE SHELL PART OF THE NUCLEUS ACCUMBENS DECREASES SUCROSE INTAKE IN FEMALE RATS
Sandrine Chometton*, Geneviève Guèvremont, Elena Timofeeva . CRIUCPQ, Université Laval, Québec

4. STUDYING THE IMPACT OF PHYSICAL ACTIVITY ON FOOD REWARD AND ANXIETY-LIKE BEHAVIORS
Franco, A*, Jacob-Brassard, E, Décarie-Spain, L, & Fulton, S .Université de Montréal and Centre de Recherche du CHUM

5. ANXIODEPRESSIVE-LIKE BEHAVIOURS INDUCED BY HIGH FAT FEEDING: PARTICULARITIES IN THE FEMALE MOUSE
Décarie-Spain, L, Fisette, A, Jacob-Brassard, E*, Fiuza, D, Takla, M, Barker, P, Alquier, T & Fulton, S. Centre de recherche du CHUM, Montreal Diabetes Research Centre & Université de Montréal, Montreal, Canada

HYPOTHALAMUS & ENERGY HOMEOSTASIS

6. GLYCEMIC STATE ALTERS ADROPIN RESPONSIVENESS OF RAT PARAVENTRICULAR NUCLEUS NEURONS.
Spencer P. Loewen* & Alastair V. Ferguson. Department of Biomedical and Molecular Sciences, Queen's University, Kingston, ON, Canada
7. ANTIPSYCHOTIC-INDUCED HYPOTHALAMIC INFLAMMATION AS A POTENTIAL MEDIATOR OF METABOLIC SIDE EFFECTS
Chantel Kowalchuk, BSc a, b, Denise Belsham, PhD c, d, Gary J. Remington MD, PhD, FRCPC a, b, e, Margaret K. Hahn, MD, PhD, FRCPC a, b, e a- Centre for Addiction and Mental Health, Toronto, Ontario, Canada. b- Institute of Medical Sciences, University of Toronto, Toronto, Ontario, Canada. c- Department of Physiology, University of Toronto, Toronto, Ontario, Canada. d- Departments of Medicine and Obstetrics and Gynecology, University of Toronto, Toronto, Ontario, Canada. e- Department of Psychiatry, University of Toronto, Toronto, Ontario, Canada

8. TNF-ALPHA EXPOSURE INDUCES NEUROINFLAMMATION AND INSULIN RESISTANCE IN A RAT-DERIVED HYPOTHALAMIC CELL MODEL
Matthew N. Clemenzi* (1), Makram E. Aljghami (1), Leigh Wellhauser (1), and Denise D. Belsham (1) Departments of Physiology, (2) Medicine and (3) Obstetrics and Gynaecology; University of Toronto, ON, Canada.

9. TIME-LAPSE IMAGING OF HYPOTHALAMIC LEPTIN RECEPTOR NEURONS IN LIVING MICE
Lilia Butiaeva*, Xiaohong Liu and Maia Kokoeva
McGill University, Department of Medicine, Division of Endocrinology and Metabolism, Montréal, Canada

10. THE EFFECTS OF RELAXIN-3 AND A SPECIFIC RXFP3 AGONIST ON FOOD INTAKE AND CIRCULATING HORMONES IN RATS
de Ávila C1*, Chometton S1, Guèvremont G1, Calvez, J1, Lenglos C1, Gundlach, AL2, Timofeeva E1 1- Faculté de Médecine, Département de Psychiatrie et de Neurosciences, Centre de recherche de l'Institut universitaire de cardiologie et de pneumologie de Québec, Université Laval, Québec, QC, Canada, 2- The Florey Institute of Neuroscience and Mental Health, Parkville, VIC, Australia.

11. THE EFFECT OF BISPHENOl A AND BISPHENOl S ON HYPOTHALAMIC FEEDING-RELATED NPY/AGRP NEURONS
Neruja Loganathan*1, Emma McIlwraith1 and Denise D. Belsham1,2 Departments of Physiology1, Medicine2 and Obstetrics and Gynaecology2, Faculty of Medicine, University of Toronto, Ontario, Canada

12. REGULATION OF THE NOVEL REPRODUCTIVE PEPTIDE, PHOENIXIN, BY BISPHENOl A AND PALMITATE, BUT NOT 17ß-ESTRADIOL, IN HYPOTHALAMIC CELL MODELS
Emma McIlwraith* (1), Neruja Loganathan (1), Denise D. Belsham (1,2) (1)Departments of Physiology, (2) Medicine and (2) Obstetrics and Gynaecology, University of Toronto, Toronto, ON, Canada

13. ALTERATIONS IN NEUROINFLAMMATORY CYTOKINES IN CO-CULTURE OF HYPOTHALAMIC NEURONS AND MICROGLIA EXPOSED TO PALMITATE
Soyeon Park*, Mun Huei Kim, Jennifer A. Chalmers, Denise D. Belsham Departments of Physiology, University of Toronto, Toronto, Ontario, Canada.
14. INVESTIGATING THE ROLE OF GHSR SIGNALING IN THE DMH AND PMV ON ENERGY HOMEOSTASIS

Lindsay Hyland*, Su-Bin Park, Alexander Edwards, Yosra Abdelaziz, Barbara Woodside, and Alfonso Abizaid. Department of Neuroscience, Carleton University, Ottawa, ON, Canada

15. THE EFFECT OF THE ENDOCRINE DISRUPTING CHEMICAL BISPHENOL A ON PRO-OPIOMELANOCORTIN, CIRCADIAN RHYTHM AND NEUROINFLAMMATORY MARKER GENE EXPRESSION IN HYPOTHALAMIC CELL MODELS

Ashkan Salehi 1(*), Denise D. Belsham 1,2,3. 1 Physiology, 2 Obstetrics and Gynaecology, 3 Medicine, University of Toronto, Toronto, ON, Canada

NEUROINFLAMATION & DISEASE MODELS

16. ANTI-SEIZURE ACTIVITY OF ANNONA SENEGALENSIS ON THE GENETIC EPILEPSY WITH FEBRILE SEIZURE PLUS MODEL IN DROSOPHILA MELANOGASTER

Samuel Sunday Dare1 *, Jimena Berni2 Department of Anatomy, Kampala International University Western Campus, Ishaka Uganda, 2- Department of Zoology, University of Cambridge United Kingdom

17. BEYOND AMYLOID - MANIPULATING METABOLISM AS A POTENTIAL THERAPY FOR ALZHEIMER’S DISEASE

Asad Lone* and Robert C. Cumming. University of Western Ontario

18. DETERMINING THE EVOLUTIONARILY CONSERVED ROLE OF GLIAL DERIVED LACTATE IN DROSOPHILA MELANOGASTER MEMORY

Mr. Ariel Frame* , Dr. Anne Simon, Dr. Robert Cumming. Western University

19. INVESTIGATING THE PROTECTIVE EFFECTS OF MITOCHONDRIAL TARGETED TELOMERASE REVERSE TRANSCRIPTASE ON NEURONAL METABOLISM UNDER OXIDATIVE STRESS AND SENSITIVITY TO AMYLOID-BETA.

Olivia Singh*, Robert C. Cumming. Western University

20. PALINOPALLESTHESIA: A NEW SYNDROME

Neil Sondhi *, Mina Al Sayyab, Dr. Alan Hirsch
Aureus University School of Medicine

21. POMEGRANATE EXTRACTS AND DERIVATIVES SHOW NEUROPROTECTIVE EFFECTS IN SIMPLE AMYOTROPHIC LATERAL SCLEROSIS AND HUNTINGTON DISEASE MODELS

*Constantin Bretonneau1,2, Audrey Labarre1,2, Gilles Tossing1,2, Alex Parker1,2
1-CRCHUM, Université de Montréal, 2-Département de Neurosciences.