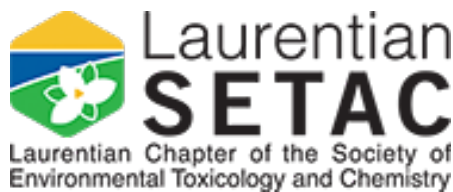


Wilfrid Laurier University presents

# 31<sup>st</sup> ANNUAL ONTARIO BIOLOGY DAY 2018

PROGRAMME

Thank you to our sponsors!



# SATURDAY MARCH 24<sup>th</sup>

Registration opens at 10:30 in the Rotunda of the Science Building.

## Opening Ceremony (N1001)

12:00 pm	Mary-Anne Caibaiosal	Traditional Knowledge Keeper This conference was conducted on the traditional territory of the Neutral, Anishnawbe, and Haudenosaunee peoples.
12:15 pm	Dr. Deborah MacLatchy	President and Vice-Chancellor

## Concurrent Session I

### A1: Transcription Factors and SNPs (N1001)

Time	Speaker	Title
12:30 pm	Julie P.M. Holmes*, Aftab Taiyab, Judith A. West-Mays	INVESTIGATING THE INTERACTION OF CANONICAL SMAD AND NON-CANONICAL TGF- $\beta$ INDUCED PATHWAYS IN THE FORMATION OF EMT AS A MODEL FOR CATARACTS IN THE VERTEBRATE LENS
12:45 pm	Philip Yang* and Stephen Renaud	ACHAETE-SCUTE FAMILY BHLH TRANSCRIPTION FACTOR 2 REGULATES PROLIFERATION IN HUMAN TROPHOBLASTS
1:00 pm	Michelle Lim*, Carolina R. Batista, Rajon Hossain, Rodney P. DeKoter	DETERMINATION OF JAK3 AS A DRIVER GENE IN A $\Delta$ SP1B/PU.1 MOUSE MODEL OF B-ALL
1:15 pm	Megan G. McGill*, Gargi S. Jaju, Stephen J. Renaud	Elucidating Signaling Pathways Involved in Syncytiotrophoblast Development
1:30 pm	Ng,K.C.W.1*, and Percival-Smith, A.1	THE NON-SPECIFICITY OF TRANSCRIPTION FACTORS IN SACCHAROMYCES CEREVISIAE
1:45 pm	Hailie A Pavanel* and Kathleen A Hill	ANALYSIS OF COPY NUMBER VARIANTS IN ASSOCIATION WITH LOCALIZED REGIONS OF HETEROZYGOSITY IN OUTBRED MICE

### A2: Cancer: Proliferation and Spread (N1002)

Time	Speaker	Title
12:30 pm	Aesha Patel*, Costin N. Antonescu	UNDERSTANDING THE EFFECTS OF SERINE AND GLYCINE METABOLISM ON P53- REGULATED CALTHRIN-MEDIATED ENDOCYTOSIS
12:45 pm	Shuying Yang*, Abdiwahab Y. Moalim, Sergey V. Plotnikov	REGULATION OF CANCER CELL MIGRATION BY CALCIUM
1:00 pm	Margarita Rojkova*, Dr. Greg Kelly	THE EFFECTS OF BLOCKING WNT LIGAND SECRETION ON THE DIFFERENTIATION OF F9 TERATOCARCINOMA CELLS

1:15 pm	John Talia*, Bre-Anne Fifiield, Lisa Porter	A BALANCING ACT: THE CYCLIN=LIKE PROTEIN PROMOTES CANCER FORMATION IN THE LIVER
1:30 pm	Gillian T. Denomme*, Lisa A Porter and Elizabeth Fidalgo da Silva	EFFECTS OF NUTRIENT DEPLETION IN CELL PROLIFERATION AND GROWTH
1:45 pm	Kaitlin M. Dufresne*, Dr. Blake T. Dotta	THE EFFECTS ON CELL MORPHOLOGY, CELL PROLIFERATION AND CELL VIABILITY AFTER REPEATED EXPOSURE TO NICKEL AGAINST MCF-7 BREAST CANCER CELLS

### A3: *Drosophila* biology (N1042)

Time	Speaker	Title
12:30 pm	Shelby L. Rice*, Jamie Kramer	THE ROLE OF THE SWI/SNF CHROMATIN REMODELLING COMPLEX IN THE NEURAL REMODELLING OF THE DEVELOPING DROSOPHILA MELANOGASTER MUSHROOM BODY
12:45 pm	Zachary Klugman*, Anne F. Simon, Gurpreet Dharmi	Optimization of qPCR to analyze age, sex and isolation as factors affecting the expression of Neuroligin 3 in <i>Drosophila</i> <i>Melanogaster</i>
1:00 pm	Sebastian J. Heine*, Amanda J. Moehring	OCTOPAMINERGIC NEURONS REGULATE FEMALE SEXUAL RECEPTIVITY IN DROSOPHILIA MELANOGASTER
1:15 pm	Akashdeep Dhillon*, Tabashir Chowdhury, Amanda J. Moehring	DROSOPHILA MELANOGASTER WITH ATYPICAL SPERMATHECAL DEVELOPMENT: GENETIC BASIS AND REPRODUCTIVE EFFICIENCY
1:30 pm	Jade N. de Belle*, Anne F. Simon	SEXUALLY DIMORPHIC SOCIAL SPACING IN DROSOPHILA MELANOGASTER: DETERMINING THE NEURAL CIRCUITRY INVOLVED
1:45 pm	Ryan D. Hallman*, Aleksandar S Necakov	OPTOGENETIC CONTROL OF NOTCH-MEDIATED LATERAL INHIBITION IN DROSOPHILA NEUROBLASTS THROUGH CRY2-CIBN CLUSTERING

### A4: Gene Silencing and DNA Tools (N1044)

Speaker	Speaker	Title
12:30 pm	Vyshnave Jeyabalan* <sup>1,2</sup> , Amanda M. Hamilton <sup>2</sup> , Nancy Liu <sup>1,2</sup> , Shirley Liu <sup>1,2</sup> , Katie M. Parkins <sup>2,3</sup> , and John A. Ronald <sup>2,3,4</sup>	DEVELOPMENT OF SELF-REPLICATING NON-INTEGRATING LENTIVIRAL VECTORS FOR SAFE MOLECULAR-GENETIC IMAGING OF TRANSPLANTED CELLS IN VIVO
12:45 pm	David, R, Letwin*. Nicolas, Bensoussan. Vojislava, Grbic	RNA INTERFERENCE AS A GENE SILENCING TOOL TO CONTROL THE TWO-SPOTTED SPIDER MITE TETRANYCHUS URTICAE
1:00 pm	Moe Saei-Marand* <sup>1,3</sup> , Nivin N. Nyström <sup>2,3</sup> , Amanda M. Hamilton <sup>3</sup> , John A. Ronald <sup>2,3,4</sup>	HOMOLOGY INDEPENDENT TARGETED INTEGRATION (HITI) CRISPR/CAS9 SYSTEMS FOR EFFICIENT REPORTER GENE KNOCK-IN IN CELLS

1:15 pm	Nicholas A. Werry	DEVELOPING TARGETED RNAi KNOCKDOWNS OF fruitless SPLICE VARIANTS FOR <i>Drosophila melanogaster</i> AND <i>Drosophila simulans</i>
1:30 pm	Eric J.M. Cowan1*, Lining -N. Tian2.	DEVELOPING IN VITRO REGENERATION AND TRANSFORMATION METHODS FOR APPLE PLANTS
1:45 pm	Meagan N Boyd*, Kabwe K Nkongolo	IDENTIFICATION OF SPECIES – DIAGNOSTIC DNA MARKERS DIFFERENTIATING RED MAPLE RED MAPLE ( <i>Acer rubrum</i> ) AND SILVER MAPLE ( <i>A. saccharinum</i> )

## B1: Anthropogenic Impacts on Habitat Quality (N1059)

Time	Speaker	Title
12:30 pm	Anish S. Jammu* & Sanja Hinić-Frlog	BIRD WINDOW COLLISIONS IN LIGHT OF BUILDING & HABITAT CHARACTERISTICS DURING THE FALL MIGRATORY PERIOD AT UNIVERSITY OF TORONTO MISSISSAUGA
12:45 pm	Victoria L Heath*, Megan F Mickle, and Dennis M Higgs	Discerning Cyclic Patterns and Habitat Variation in Underwater Soundscapes in the Laurentian Great Lakes
1:00 pm	Jason W. Chappus1*, Oliver P. Love1, Emily A. McKinnon2	DECLINES IN WINTERING SNOW BUNTING POPULATIONS AS A FUNCTION OF CLIMATE CHANGE AND AGRICULTURAL INTENSIFICATION IN NORTH AMERICA
1:15 pm	Jillyan Birtch*, Albrecht Schulte-Hostedde	EFFECTS OF ANTHROPOGENIC WASTE ON THE RACCOON, <i>PROCYON LOTOR</i> (CARNIVORA: PROCYONIDAE) IN SOUTHERN ONTARIO
1:30 pm	Jasmine S. Louste-Fillion1*, Emily E. Smenderovac1, Nadia C. Mykytczuk1, John S. Gunn1	USE OF GUT MICROBIOMES IN CREEK CHUB ( <i>SEMOTILUS ATROMACULATUS</i> ) TO ASSESS THE ENVIROBMENTAL EFFECTS OF MINE EFFLUENTS IN SUDBURY STREAMS
1:45pm	Julia A. Schlaepfer*, Albrecht Schulte-Hostedde	PERSONALITY: HOW DO SQUIRRELS HANDLE STRESS?

## B2: Sociality/Aggression in Animals (N2005)

Time	Speaker	Title
12:30 pm	Hannah E. Clyde*, James S. Quinn	COMMON TERN AGGRESSION AND FLEDGING SUCCESS AT BREEDING SITES SHARED WITH CASPIAN TERNS
12:45 pm	Yen Chan*, Yanira J. Padilla, Marc-André Lachance, Anne F. Simon	EFFECT OF GUT MICROBIOME ON MODULATING SOCIAL SPACING IN <i>DROSOPHILA MELANOGASTER</i>
1:00 pm	Kristin S Ransome*, Christine M Scharf, Anne F Simon, and Graham J Thompson	NETWORK ANALYSIS OF LIVING SOCIAL POPULATIONS: LESSONS FROM FRUIT FLIES
1:15 pm	Raven E.C. Ouellette *, Lincoln M. Savi, Ian P.C. Thomas, Daniel J. Mennill	SINGLE-SONG REPERTOIRES CHANGE THROUGHOUT A LIFETIME IN SAVANNAH SPARROWS
1:30 pm	Elizabeth Steadman*, Frank Mallory	THE DIET OF GREAT HORNED OWLS ( <i>Bubo virginianus</i> ) FROM HIGH BLUFF ISLAND, SOUTHERN ONTARIO

1:45 pm	Isabelle-Gabriele Hendel*, Dr. Mery Martinez	REPRODUCTIVE EFFORT OF BRACHYHYPOPOMUS OCCIDENTALIS AND ELECTRIC SIGNAL VARIATION
---------	---	--

## Room N3021 C1: Aquatic Toxicology and Chemosensory Responses (N3021)

Time	Speaker	Title
12:30 pm	Muhammad, Ahsan1	CHEMOTOPIC ORGANIZATION OF ODORANT RESPONSES IN THE SEA LAMPREY ( <i>Petromyzon marinus</i> ) OLFACTORY EPITHELIUM
12:45 pm	Tashea Yucca Albano	DISTRIBUTION OF SOLITARY CHEMOSENSORY CELLS FOUND ON THE BRANCHIAL PORES OF NEWLY TRANSFORMED SEA LAMPREY, <i>Petromyzon marinus</i> .
1:00 pm	Emma C. Kunert*, Scott Smith, Jim McGeer	EFFECTS OF GALLIUM AND INDIUM MIXTURES ON THE AQUATIC INVERTEBRATE DAPHNIA MAGNA
1:15 pm	Ann Le*, G.B. Golding	CORRELATION BETWEEN PANGENOME SIZES & RATES OF HORIZONTAL GENE TRANSFER IN BACTERIAL GENOMES
1:30 pm	Heather A Bauman*, Oana Birceanu, Michael P. Wilkie	ALTERNATIVE LAMPRICIDE TREATMENTS: PHYSIOLOGICAL EFFECTS ON JUVENILE LAKE STURGEON ( <i>ACIPENSER FULVESCENS</i> ).
1:45 pm	Nikel, Kirsten E.*1, Balshine, Sigal2	FISH BEHAVIOUR AND PHYSIOLOGY ACROSS TWO WASTEWATER EFFLUENT GRADIENTS IN HAMILTON HARBOUR

2:00-2:30 Coffee Break

Science building, 1<sup>st</sup> floor Rotunda (entrance)

This coffee break is generously sponsored by Diamed Canada

## Concurrent Session II

### A5: Bacterial Pathogens (N1001)

Time	Speaker	Title
2:30 pm	Monir Riasad Fadle Aziz*, Joseph B. McPhee	PhoP/PhoQ TWO-COMPONENT REGULATORY SYSTEM IS REQUIRED FOR OMPTIN PROTEASE ACTIVITY IN <i>Escherichia coli</i>
2:45 pm	Nikol Leshchyshyn*1, Stefanie Lucarelli2, Mauricio Terebiznik3, Costin N. Antonescu4	THE ROLE OF CLATHRIN IN AKT ACTIVATION IN <i>LEGIONELLA</i>
3:00 pm	Emma L. Mulholland* and Marie A. Elliot	RIBONUCLEASE INTERACTING PARTNERS AND BEHAVIOUR IN <i>STREPTOMYCES VENEZUELAE</i>
3:15 pm	Alyssa Banaag1* & Debora Barnett-Foster1,2,3	PATHOGENESIS OF ENTEROHEMORRHAGIC <i>ESCHERICHIA COLI</i> IN THE <i>GALLERIA MELONELLA</i> MODEL
3:30 pm	Emily E. F. Brown*1, Ashley Cooper1,2, and Burton Blais2.	SELECTION OF ANTIMICROBIAL RESISTANT BACTERIA FROM MEDICATED FEEDS

3:45 pm	Rebecca Cabral-Dias*, Dr. Antonescu, and Dr. McPhee	DIVERSE HOST INTERACTION PHENOTYPES OBSERVED IN INFLAMMATORY BOWEL DISEASE ASSOCIATED ADHERENT-INVASIVE ESCHERICHIA COLI (AIEC)
---------	---	---

#### A6: *In silico* and laboratory tools (N1002)

Time	Speaker	Title
2:30 pm	Bhavya Singh <sup>1</sup> *, Dr. Andrew G. McArthur <sup>2</sup> , Dr. Jonathon R. Stone <sup>1</sup>	ONTOLOGICAL CLASSIFICATION OF RESISTANCE GENE ANNOTATIONS FOR ANTIMICROBIAL SURVEILLANCE
2:45 pm	Alexandra Florescu <sup>1</sup> *, Brian Alcock, Amos Raphenya, Andrew G. McArthur	INCORPORATING PHENOTYPIC TESTING INTO ONTOLOGICAL DATA SHARING PARADIGMS
3:00 pm	Cory J. Soininen, Rosettia Ho, Nicholas A Boehler, Robert A Hegele	THE UTILIZATION OF WHOLE-EXOME SEQUENCING IN IDENTIFYING THE GENETIC BASIS OF A RARE DISEASE
3:15 pm	Steven E. Villani*, Bin Luo, Nicholas Boehler, and Dr. Kathleen A. Hill	COMPUTATIONAL TOOLS FOR ANALYZING MOUSE MICROARRAY DATA
3:30 pm	Ernest Iu*, Sergey Plotnikov	DEVELOPMENT OF A NOVEL, STIFFNESS-TUNABLE TOOL TO STUDY DUROTAXIS
3:45 pm	Sumaiya Baig*, <sup>1</sup> Reta Bodagh*, <sup>1</sup> Gurjit Mander <sup>1</sup> , Yanming Qi <sup>1</sup> , Steven Chatfield <sup>2</sup> , Paul A.E. Piunno <sup>1</sup> , Joshua N. Milstein <sup>1</sup>	OBSERVATION OF CONJUGATION BETWEEN ESCHERICHIA COLI S17-1 AND BL21(DE3) PLYSS STRAINS USING A MICROFLUIDIC CHEMOSTAT

#### Room N1042 A7: Protein Biology

Time	Speaker	Title
2:30 Pm	Kazeera Alair*, Uzair Mayat, Roozbeh Manshaei, Ali Mazalek, Sarah A. Sabatinos	MODELLING DNA SYNTHESIS AND PROTEIN CO-LOCALIZATION USING DNA FIBER ANALYSIS
2:45 pm	Laura M. Williams*, Jeffrey Gagnon	THE ROLE OF CYSTATHIONINE GAMMA-LYASE IN GHRELIN SUPPRESSION
3:00 pm	Terry R. Suk*, Michelle R. Millones, Susanne E. Kohalmi	DETERMINING PROTEIN-PROTEIN INTERACTIONS BETWEEN AROGENATE DEHYDRATASE2 AND CHLOROPLAST DIVISION PROTEINS OF ARABIDOPSIS THALIANA.
3:15 pm	Patel, Shyam* & Karagiannis, Jim	INVESTIGATING THE CTD CODE IN SCHIZOSACCHAROMYCES POMBE: THE ROLE OF THREONINE-4 PHOSPHORYLATION
3:30 pm	Kirsten A. Crandall	IDENTIFICATION OF A CELL SURFACE RECEPTOR FOR STB ON STC-1 CELLS
3:45 pm	Friday E. Black <sup>1</sup> *, Mark W. Sumarah <sup>2,3</sup> and Christopher P. Garnham <sup>2,4</sup>	ABSTRACT: PURIFICATION AND CHARACTERIZATION OF AN ENZYME RESPONSIBLE FOR THE DETOXIFICATION OF FUMONISINS PRODUCED BY ASPERGILLUS WELWITSCHIAE

## Room N1044 A8: Cancer-Therapy

Time	Speaker	Title
2:30 pm	Oriena T. Mensah*, Dr. Tony Rupar, Cathy Regan, Srinitya Gannavarapu	GLOBOTRIAOSYL CERAMIDE METABOLISM IN FIBROBLASTS FROM A FABRY DISEASE PATIENT FOLLOWING NOVEL LENTIVIRAL GENE THERAPY TREATMENT.
2:45 pm	Nathanial A. Gryska1* and Carly Buckner2	EFFECTS OF CHAGA MUSHROOM (INONOTUS OBLIQUUS) EXTRACTS ON THE GROWTH OF B16-BL6 MURINE MELANOMA CELLS AND ALONGSIDE CONVENTIONAL CANCER TREATMENTS
3:00 pm	Luc Lanteigne*1, Amadeo Mark Parissenti1,2,3,4, Carita Lannér1,2,3	A STUDY OF THE RELATIONSHIP BETWEEN CHEMOTHERAPY-INDUCED RIBOSOMAL RNA DEGRADATION AND APOPTOSIS IN THE HUMAN A2780 OVARIAN EPITHELIAL CARCINOMA CELL LINE
3:15 pm	Jonathan O'Beid*, Lisa Porter, Dorota Lubanska	ROLE OF MECHANICAL AND STRUCTURAL PROPERTIES OF GLIOBLASTOMA MULTIFORME MICROENVIRONMENT IN TUMOUR AGGRESSIVENESS AND THERAPY RESISTANCE
3:30 pm	Philip G. Habashy*, Dorota Lubanska1, Lisa A. Porter1, Huiming Zhang1	ROLE OF GABAB AND CXCR4 IN MEDULLOBLASTOMA
3:45 pm	Amy Basilious*, Bre-Anne Fifield, Lisa A. Porter	ROLE OF SPY1 IN MAMMARY DEVELOPMENT

## Room N1059 A9: Cell Migration, Adhesion, and Disease

Time	Speaker	Title
2:30 pm	Niki Shahrrava*, Alex P. Peidl, Katherine M. Quesnel, Andrew Leask	CCN1 AND CCN2 ARE INVERSELY REGULATED TO CCN3 IN HUMAN GINGIVAL FIBROBLASTS
2:45 pm	Sophia N. Bourgeois*, Andrew Leask, Katherine M. Quesnel, James D. Hutchenreuther and Alex P. Peidl.	CCN1 EXPRESSION BY FIBROBLAST IS REQUIRED FOR ANGIOGENESIS IN MICE
3:00 pm	Michel Kiflen1,2*, Rajiv Sanwal2,3, Elizabeth Sabath2, Warren Lee2,3,4	UNDERSTANDING THE MOLECULAR MECHANISM OF EARLY ATHEROSCLEROSIS BY STUDYING THE EFFECTS OF RAB17 ON ENDOTHELIAL CELL TRANSCYTOSIS
3:15 pm	Danika P. Bongfeldt1* and Robert M. Lafrenie2	THE EFFECTS OF E-CADHERIN DEPENDENT ADHESION ON THE INTEGRIN-ACTIVATED MAP KINASE PATHWAY
3:30 pm	Brianna F. Kops*, Mariyan J. Jeyarajah, Stephen J. Renaud	PKC-ALPHA ACTIVATION BY SYNDECAN-4 REGULATES EXTRAVILLOUS CYTOTROPHOBLAST CELL MIGRATION

3:45 pm	Fernando R. Valencia	FORMINS – A FAMILY OF KEY REGULATORS OF CELL MIGRATION BY TISSUE STIFFNESS
---------	----------------------	--

#### Room N2005 B3: Niches, Movement, and Dimorphism

Time	Speaker	Title
2:30 pm	Roxanne H. Savoie*, Frank F. Mallory	SEXUAL SIZE DIMORPHISM IN THE ARCTIC FOX (ALOPEX LAGOPUS) POPULATION NEAR ARVIAT, NUNAVUT
2:45 pm	Christina M. Mozzon	THE TROPHIC NICHE OF SCULPINS (COTTUS SP.) IN FORAGE FISH COMMUNITIES OF NEAR NORTH AND FAR NORTH LAKES IN ONTARIO
3:00 pm	Irina Sukhova	ISOTOPIC DISCRIMINATION AND TURNOVER IN TISSUES OF THE TRUE ARMYWORM, MYTHIMNA UNIPUNCTA HAWORTH: APPLICATIONS TO TRACING LONG-DISTANCE MOVEMENTS
3:15 pm	Petar Puskar1*, Amanda N. Barkley1, Kevin J. Hedges2 and Nigel E. Hussey1	RESIDENCY AND MOVEMENT PATTERNS OF ARCTIC SKATE (Amblyraja hyperborea) IN CUMBERLAND SOUND
3:30 pm	Jordan C. Courchesne* and Isabel R. Hilgendag	IMPACT OF FOREST DERIVED ORGANIC MATTER ON FRESHWATER ZOOPLANKTON ABUNDANCE AND COMPOSITION
3:45 pm	Gilian M. Hughes 1* , A. Zybowska 1 , A. Mokdad 2 , M. McCabe 2 , T. Pitcher 1,2 , B. Zielinski 1,2	PREFERENCE RESPONSE TO PHENYLETHYL ALCOHOL AMONG PREVIOUSLY EXPOSED CHINOOK SALMON (ONCORHYNCHUS TSHAWYTSCHA)

#### Room N3021 C2: Brains and Bodies

Time	Speaker	Title
2:30 pm	Cathy Ong Ly1*, Benjamin D. Rubin1, Ali Tassi2,3, Tim D. Wilson2,4	HOW MUCH DO YOU CHANGE? AN EVALUATION OF THE ANATOMICAL CONSEQUENCES OF MAXILLOMANDIBULAR ADVANCEMENT SURGERY
2:45 pm	Amratha Chandrakumar*, Juan Chen, Melvyn A. Goodale	REPRESENTATION OF HAPTIC SIZE IN THE HUMAN BRAIN
3:00 pm	Rajkamalpreet S. Mann*1, Kaela E. Scott2, Brian L. Allman2	ASSESSING BRAINSTEM SENSITIVITY IN AN ANIMAL MODEL FOR AUTISM
3:15 pm	Gayatri Sivaratnam*, Dennis Kolosov, Michael J. O'Donnel	K <sup>+</sup> TRANSPORT AND ACID-BASE BALANCE IN THE MALPIGHIAN TUBULES OF THE LARVAL CABBAGE LOOPER, AN IMPORTANT AGRICULTURAL PEST OF NORTH AMERICA
3:30 pm	Mackenzie J. Martel*1, Elizabeth F. Wenghofer2, Mazen T. Saleh1, Roger M. Sandre3, Danielle Brabant-Kirwan3	A STUDY ON THE INCIDENCE OF METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS, ESBL-PRODUCING ENTEROBACTERIACEAE, AND AMPICILLIN-RESISTANT HAEMOPHILUS INFLUENZAE AND DESCRIPTION OF THE PATIENTS THEY INFECT IN A NORTHERN ONTARIO HOSPITAL



3:45 pm	Nadia Mohammad Sharif	INCREASED SPERM MORTALITY AND MORPHOLOGICAL ABNORMALITIES IN MICE WITH PI-BASED CART IN UTERO EXPOSURE
---------	-----------------------	--

### Poster Session

4:00-5:30      Poster Session      Science Atrium

5:30-6:30      Free time!

### Keynote Speaker

6:30-7:30      [Dr. Lyne Morissette](#)

“About love, oceans, audacity and innovation: being a biologist in the 21st century

This event was supported by Wilfrid Laurier University and by the Laurier Faculty of Science Student Association (FOSSA).

### Dinner and Evening Social

7:30-10:30      Buffet-style banquet  
(cash bar will be available)      Science Atrium

## SUNDAY MARCH 25<sup>th</sup>

### Concurrent Session III

#### A10: Cell Checkpoints (N1001)

Time	Speaker	Title
8:30 am	Kyle J. Cheung*, Zohreh Kianfard, Sarah A. Sabatinos	ASSESSING DNA DAMAGE AND REPLICATION INSTABILITY IN ENVIRONMENTALLY STRESSED SCHIZOSACCHAROMYCES POMBE CHECKPOINT MUTANTS
8:45 am	Jackie Fong*, Dr. Elizabeth Fidalgo Da Silva, and Dr. Lisa A. Porter	ROLE OF TUBERIAN AND CYCLIN B1 AS A DNA DAMAGE RESPONSE
9:00 am	Saba Zafar* and Sarah Sabatinos	ASSESSING THE EFFECT OF NITROGEN STARVATION ON GEMCITABINE SENSITIVITY IN FISSION YEAST
9:15 am	Zanib Taleb	PROTEIN EXPRESSION PATTERNS IN HEMATOPOIETIC TISSUE OF PLK4 HAPLO-INSUFFICIENT MICE

#### A11: Development of Protein Tools (N1002)

Time	Speaker	Title
8:30 Am	Shwetha Suresh*, Praveen Nekkar Rao	Sulfonamides in the prevention of amyloid beta (A $\beta$ ) aggregation in Alzheimer's disease
8:45 am	Tyler S. Boulanger*, Nivin N. Nystrom, Yuanxin Chen, Amanda M. Hamilton, John A. Ronald	DEVELOPING HUMAN ORGANIC ANION-TRANSPORTING POLYPEPTIDE (OATP1) AS A PHOTOACOUSTIC REPORTER SYSTEM USING THE CLINICALLY-USED DYE INDOCYANINE GREEN
9:00 am	Gregory M.J. Foran*, Aleksander Necakov	CREATION OF AN OPTOGENETIC SPLIT PROTEASE
9:15 am	Maram Bakri Albakri*, Patrick Lojoie	COMPREHENSIVE ASSESSMENT OF THE IMPACT OF VARIOUS FLUORESCENT PROTEINS ON THE FUNCTIONS OF FUSION PARTNERS

#### B4: Policy and Education (N1042)

Time	Speaker	Title
8:30 am	Sarah D. Mitton*, Amanda Barkley, David M.P. Jacoby, Kevin J. Hedges, Nigel E. Hussey	A FRAMEWORK FOR INCORPORATING SPATIAL BYCATCH ASSESSMENT INTO FISHERIES MANAGEMENT
8:45 am	Amera G. Khalaff*, Christine L. Madliger, Oliver P. Love	ASSESSING THE MEDICAL PROFESSION'S ADOPTION OF AN ADAPTIVE FRAMEWORK IN STUDIES OF MATERNAL STRESS
9:00 am	Habon Ali*, Fiona Rawle	Misconceptions About Evolution: A Framework for Understanding How Misconceptions Surrounding

		Evolution Act as a Barrier to Student Learning
9:15 am	Christian Hua*, Ursula Strandberg, Michael T. Arts, Satyendra Bhavsar	The Effects of Cooking on EPA and DHA in Great Lakes' Fish

### B5: Soil composition and plant growth (N1044)

Time	Speaker	Title
8:30 am	Kyelle A. Byne*, Peter Ryser	THE EFFECT OF A DELAYED SPRING ON LATE GROWING SEASON ROOT SENESCENCE AND NUTRIENT UPTAKE IN RHYNCHOSPORA ALBA (L.) VAHL (CYPERACEAE)
8:45 am	Daniela Araujo*, Dr. Vadim Bostan	BIODIVERSITY AND NUTRIENT UPTAKE OF VEGETATION IN THE RIPARIAN AREA OF THREE STORMWATER RETENTION PONDS IN THE GREATER TORONTO AREA
9:00 am	Ayla, E.M. Frank*, Peter Beckett	SOIL PROPERTIES OF A TECHNOSOL COMPOSED OF BIOSOLIDS AND MUNICIPAL COMPOSTS USED IN THE RECLAMATION OF LOW-SULFUR, NICKEL-COPPER CONTAMINATED MINE TAILINGS
9:15 am	Alana M. Wong	THE EFFECTS OF SRC ON PLANT GROWTH AND SILICA CONTENT IN COVER CROPS AND GRAPES

### C3: Biometric Data Collection and Devices (N1059)

Time	Speaker	Title
8:30 am	Kerman K. Sekhon*, Jayson, Parker	DARK DATA IN HEALTH: CAN BIOMETRIC DATA PREDICT LIFESTYLE IMPACT ON COGNITIVE PERFORMANCE?
8:45 am	Sarah Kealey*, Jeffery Dawson, Iain McKinnell	A PORTABLE, INEXPENSIVE HEARTRATE MONITORING SYSTEM TO AID WITH PATIENT COMPLIANCE FOR REHABILITATIVE EXERCISE POST-CONCUSSION
9:00 am	Kayla Larsen*, Jeffery Dawson, Iain McKinnell	DEVELOPMENT OF A NOVEL CONCUSSION MONITORING DEVICE AND COLLECTION OF BASELINE DATA FOR HEAD MOVEMENTS DURING ROUTINE ACTIVITIES
9:15 am	Julia Pignanelli*, Dr. Simon Rondeau-Gagne, Dr. Jalal Ahamed	FABRICATION AND CHARACTERIZATION OF A PDMS BASED CAPACITIVE, FLEXIBLE PRESSURE SENSOR FOR BIOMEDICAL APPLICATIONS

### D1: Science Education (N2005)

Time	Speaker	Title
8:30 am	Sameer Kotwal*, Fiona Rawle	Scientific Jargon as a Barrier to Learning Biology
8:45 am	Marigrace T. Noronha*, Christoph Richter, Felicity Morgan, Steven Chatfield	BIOCAREERS: LEARNING FROM OUR ALUMNI

9:00 am	Gavin T. Ridgeway*, Andrew E. Laursen, Charlotte de Araujo	Testing the Effectiveness of a Video Learning Module in Helping Science Students Understand the Process of ATP Hydrolysis
---------	--	---

9:30-10:00 Coffee Break

Science building, 1<sup>st</sup> floor Rotunda (entrance)

This coffee break is generously sponsored by Cedarlane Laboratories

## Concurrent Session IV

### A12: Cellular and behavioural responses to stress (N1001)

Time	Speaker	Title
10:00 am	Joe D. Jodoin*, Emily Stanbrook, Brett M. Culbert, Sigal Balshine	DOES SOCIALITY PREDICT LEARNING ABILITY IN CICHLID FISHES
10:15 am	Derek A. Mann*, Kathleen A. Hill	Observing effect of single base pair and structural variation in the recombinant inbred lines TyJ and RwwJ
10:30 am	Maricel K. Hope* Dr. Robert C. Cumming	STRESS-INDUCED EFFECTS OF HTERT OVEREXPRESSION ON CELL VIABILITY AND METABOLISM IN HT22 AND B103 NEURONAL CELL LINES
10:45 am	Rawan Nasser*, Sarah A. Sabatinos, Costin N. Antonescu	CONTROL OF DNA DAMAGE REPAIR BY THE EPIDERMAL GROWTH FACTOR RECEPTOR
11:00 am	Jibran Syed*, Sepideh Torabi, Vera M. Velasco, Ingo Ensminger	Effects of Low Temperature and Short Photoperiod on Dehydrin Protein Abundance Across Various Conifer Species
11:15 am	Hanna Varonina*, Kristie Bruinsma, Vojislava Grbic	CHARACTERIZATION OF DETOXIFICATION CAPABILITY OF 5 TOMATO-ADAPTED SPIDER MITE STRAINS

### A13: Autophagy, Lysosomes, and Lysis (N1002)

Time	Speaker	Title
10:00 am	Dianne Ganeswaran*, Pooja Patel, Sarah A. Sabatinos	Measuring the Effect of Environmental Stress on Checkpoint Mutant Survival in Relation to Autophagy
10:15 am	Luke N. Yaeger*, Hanjeong Harvey, Lori L. Burrows, Zeinab Hosseini-Doust	MY ENEMY'S ENEMY: TARGETING PSEUDOMONAS BIOFILMS WITH LYTIC PHAGE
10:30 am	AnnMarie Fernando*, Dr. Scott A. MacDougall-Shackleton	THE DEVELOPMENT OF A METHOD TO DETECT NEURONAL APOPTOSIS IN SONGBIRDS (PASSERI)
10:45 am	Neha Chauhan*, Victoria E B Hipolito, Robert J Botelho	IMMUNE STIMULI LYSOSOMAL REMODELING AND ADAPTATION IN PRIMARY MURINE PHAGOCYtic CELLS

11:00 am	Lamees Mohammad*, Jacqueline E Lebenzon, Alex S Torson, Brent J Sinclair	Break and Enter: Investigating the expression of mitophagy and autophagy related genes during diapause in Colorado potato beetle
11:15 am	Janusan Baskararajah* Golam Saffi, Roberto J Botelho	EFFICACY OF REACTIVE OXYGEN SPECIES ON LYSOSOMAL DYNAMICS

#### A14: Genomics/Transcription Factors (N1042)

Time	Speaker	Title
10:00 am	Ruxia Tian*, Sakthi D. Moorthy, Jennifer A. Mitchell	The Significance of Transcription Factor Binding Motifs in Transcriptional Regulation in Embryonic Stem Cells
10:15 am	Romaisa Hussain* and Allison E. McDonald	EXPOSURE OF THE COPEPOD TIGRIOPUS CALIFORNICUS TO DIFFERENT LEVELS OF HYDROGEN PEROXIDE AND ITS EFFECT ON ALTERNATIVE OXIDASE PROTEIN LEVELS
10:30 am	Jina Nanayakkara*, Wanxiangfu Tang, Ping Liang	LIVE-AND-DIE: A TALE OF JUMPING GENE EVOLUTION
10:45 am	Tatiana M. J. Lenko*, Dr. Kathleen Hill	COMPARISON OF THE EXTENT AND NATURE OF STRUCTURAL VARIATION IN THE GENOMES OF LABORATORY MICE AND WILD CAUGHT MICE
11:00 am	Erika D. Frangione*, Arjan Banerjee, Sasa Stefanovic	PLASTIC GENOME SEQUENCE ASSEMBLY AND ANNOTATION OF A PARASITE SPECIES CUSCUTA AFRICANA
11:15 am	Alexandra J Ferrara*, Vera Tai	USING GENOMICS TO INVESTIGATE TWO STRAINS OF PSEUDANABAENA SP. (CYANOBACTERIA) ISOLATED FROM A BLOOM IN AN OLIGOTROPHIC LAKE

#### B6: Predation (N1044)

Time	Speaker	Title
10:00 am	Wilkinson, S.A.,*, Parmar T.P. Arts, M.T.	THE DISTRIBUTION OF ESSENTIAL FATTY ACIDS THROUGH TROPHIC LEVELS IN A SOUTHERN ONTARIO POND
10:15 am	Rachel H. Pieniazek*, Christian Ieraci, Dennis M. Higgs	THE EFFECTS OF ANTHROPOGENIC NOISE ON FORAGING BEHAVIOUR IN BLACK BULLHEAD (AMEIURUS MELAS)
10:30 am	Ann Kuganathan	SEASONAL CHANGES IN THE BRAIN SIZE OF THE COLD- WATER PREDATOR, LAKE TROUT, SALVELINUS NAMAYCUSH
10:45 am	Katerina P. Schiller-Deorksen* Dr. Frank F. Mallory	PREDATOR/PREY RATIOS OF TERRESTRIAL MAMMALS IN AFRICA
11:00 am	Sierra M. L. Goetz*, Jean- Francois Robitaille	WOLVERINE (Gulo gulo) DIET IN THE YUKON TERRITORY, CANADA
11:15 am	Alexandre R. Findlay*, Mery Martinez	DOES PREDATION AFFECT THE ELECTRIC ORGAN DISCHARGE AND BODY SHAPE IN THE WEAKLY ELECTRIC FISH, BRACHYHYPOPOMUS OCCIDENTALIS

## B7: Fungal Diversity (N1059)

Time	Speaker	Title
10:00 am	Alexandra J. Poelman*, R. Greg Thorn	ROOT ASSOCIATED FUNGI FOUND IN NEW BRUNSWICK CAVES AND MINES
10:15 am	Morgan A. Walker*, Greg Thorn	MINING THE CLONES: IMPROVING THE PHYLOGENETIC INFORMATION FROM A SET OF CLONES OF SOIL-DERIVED FUNGAL rDNA
10:30 am	Rudrakshi Chakrabarti	THE PERSISTANCE OF TRANSPLANTED SACCHAROMYCES CEREVISIAE IN THE WILD
10:45 am	Eashwar Mohan	MUTATIONAL DIVERSIFICATION OF SACCHAROMYCES PARADOXUS
11:00 am	Sarah R. Sandor*, Hanchen Wang, Jianping Xu	MITOCHONDRIAL MULTILOCUS GENOTYPE ANALYSIS REVEALS LOW GENETIC VARIABILITY BETWEEN GLOBAL POPULATIONS WITHIN THE MATSUTAKE MUSHROOM SPECIES COMPLEX
11:15 am	Farida E. Samad-zada*, Rebecca Schalkowski, Asher D. Cutter	THE EVOLUTIONARY SIGNIFICANCE OF MATING PLUGS IN REPRODUCTIVE BEHAVIOUR OF CAENORHABDITIS NEMATODES

## C4: Responses to Environmental Stress (N2005)

Time	Speaker	Title
10:00 am	Holly E. Nevison*, Joshua J. Frank, Danielle A. Way	Effects of elevated temperature and CO2 levels on ectomycorrhizal interactions in Populus x. canadensis roots
10:15 am	Aisa C. Kuper-Psenicnik*, Jantina Toxopeus, Brent J. Sinclair	A calorimetric method for measuring ice content of the freeze-tolerant cricket Gryllus veletis
10:30 am	Brynne M. Duffy*, Susan E. Anthony, Ken Lukowaik, Brent J. Sinclair	COLD COMFORTS: LONG TERM COLD EXPOSURE PROLONGS MEMORY IN COMMON POND SNAIL, LYMNAEA STAGNALIS
10:45 am	Tang, Joanne M. *, Jimenez Padilla, Yanira, Lachance, Marc-Andre, Sinclair, Brent J.	THE EFFECTS OF GUT-ASSOCIATED YEASTS ON DROSOPHILA MELANOGASTER WATER BALANCE
11:00 am	Emma K.L. Churchman*1, Scott A. MacDougall-Shackleton2	THE EFFECT OF LEPTIN ON MIGRATORY RESTLESSNESS AND BODY COMPOSITION IN WHITE-THROATED SPARROWS (ZONOTRICHIA ALBICOLLIS)
11:15 am	Teagan Marie Anne Neufeld	THE EFFECTS OF HYPOXIA ON PILOCARPINE INDUCED HYPERKINESIA PLANARIA

## B8: Reproduction & Development (N3021)

Time	Speaker	Title
------	---------	-------

8:30 am	Taryn Jakub*, Carlie Muir, Sashko Damjanovski, Bryan Neff	THE EFFECT OF ELEVATED INCUBATION TEMPERATURES ON ATRIAL NATRIURETIC PEPTIDE MRNA LEVELS AND EARLY HEART DEVELOPMENT IN ATLANTIC SALMON, SALMO SALAR
8:45 am	Renee A. Levasseur*, Dr. Yves Alarie	Comparison of the Development Times of Selected Species of Dytiscidae (Coleoptera: Adephaga) at constant temperature
9:00am	Grace A. Bastien, Stephanie M. Doucet, Alana D. Demko	ECOGEOGRAPHICAL AND CLIMATIC PREDICTORS OF GEOGRAPHICAL VARIATION IN PLUMAGE AND MORPHOLOGY IN RUFOUS-CAPPED WARBLERS, BASILEUTERUS RUFIFRONS
9:15am	Noha M AlMalki	CORRELATIONS OF SUBCUTANEOUS FAT AND REPRODUCTIVE PARAMETERS IN THE ARCTIC FOX (ALOPEX LAGOPUS)

11:30-12:30      Lunch – boxed lunches  
provided                                      Science Rotunda

12:30-1:15      Awards & Closing Remarks                                      Science Building, room N1001

Thank you to our Prize Sponsors:

MacMillan Publishing  
A: Cell ,Molecular & Genetics Division

Pearson Canada  
B: Ecology & Evolution Division

The Laurentian chapter of the Society of  
Environmental Toxicology and Chemistry (SETAC)  
C: Physiology & Toxicology

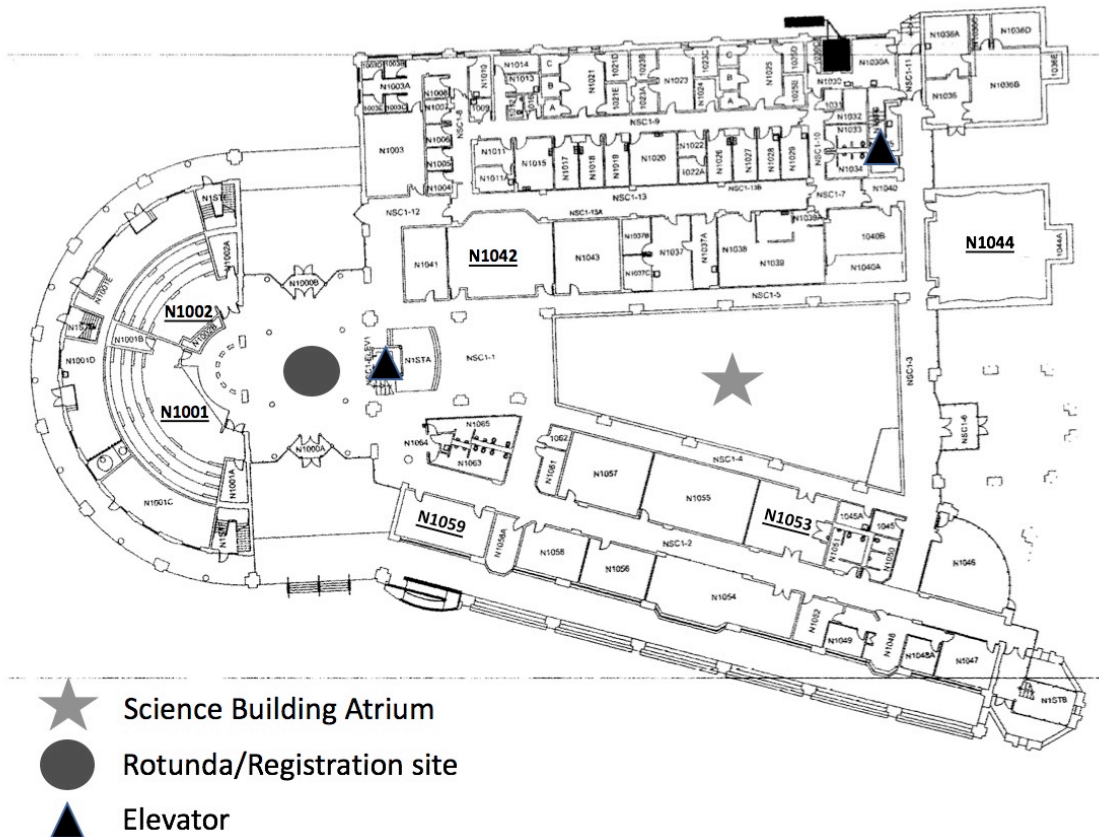
Nelson Publishing  
D: Science Education

Book draw prizes donated by Elsevier Publishing

# Ontario Biology Day: Executive Summary

Bricker Ave

King St N



\*\*\*N2005 is located on the 2<sup>nd</sup> floor and N3021 is located on the 3<sup>rd</sup> floor of the Science Building\*\*\*

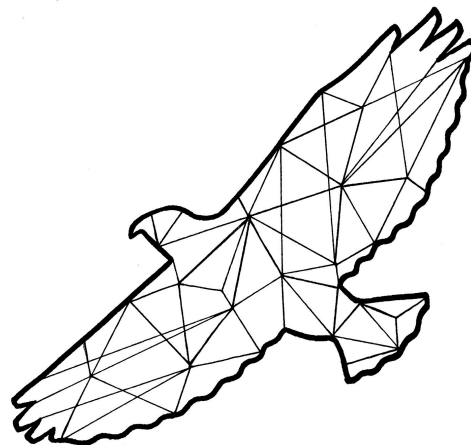
## ONTARIO BIOLOGY DAY 2018 Wilfrid Laurier University

### SATURDAY

Time	Event	Location
10:30 – 12:00	Registration (tea, water, coffee provided)	Science Building Courtyard
12:00 – 12:15	Opening Ceremony by the Indigenous Office	N1001
12:15 – 12:30	Welcome remarks by Dr. Deborah MacLachty (WLU President)	N1001
12:30 – 2:00	Concurrent Session I	Science Building rooms N1001, N1002, N1044, N1042, N1059, N2005, N1053 – practice room
2:00 – 2:30	Coffee break	Science Building Atrium
2:30 – 4:00	Concurrent session II	Science Building rooms N1001, N1002, N1044, N1042, N1059, N2005, N1053 – practice room
4:00 – 5:30	Poster session	Science Building Atrium
5:30 – 6:30	***Free time***	***Free time***
6:30 – 7:30	Key note speaker Dr. Lynne Morissette	N1001
7:30 – 10:30	Banquet	Science Building Atrium

### SUNDAY

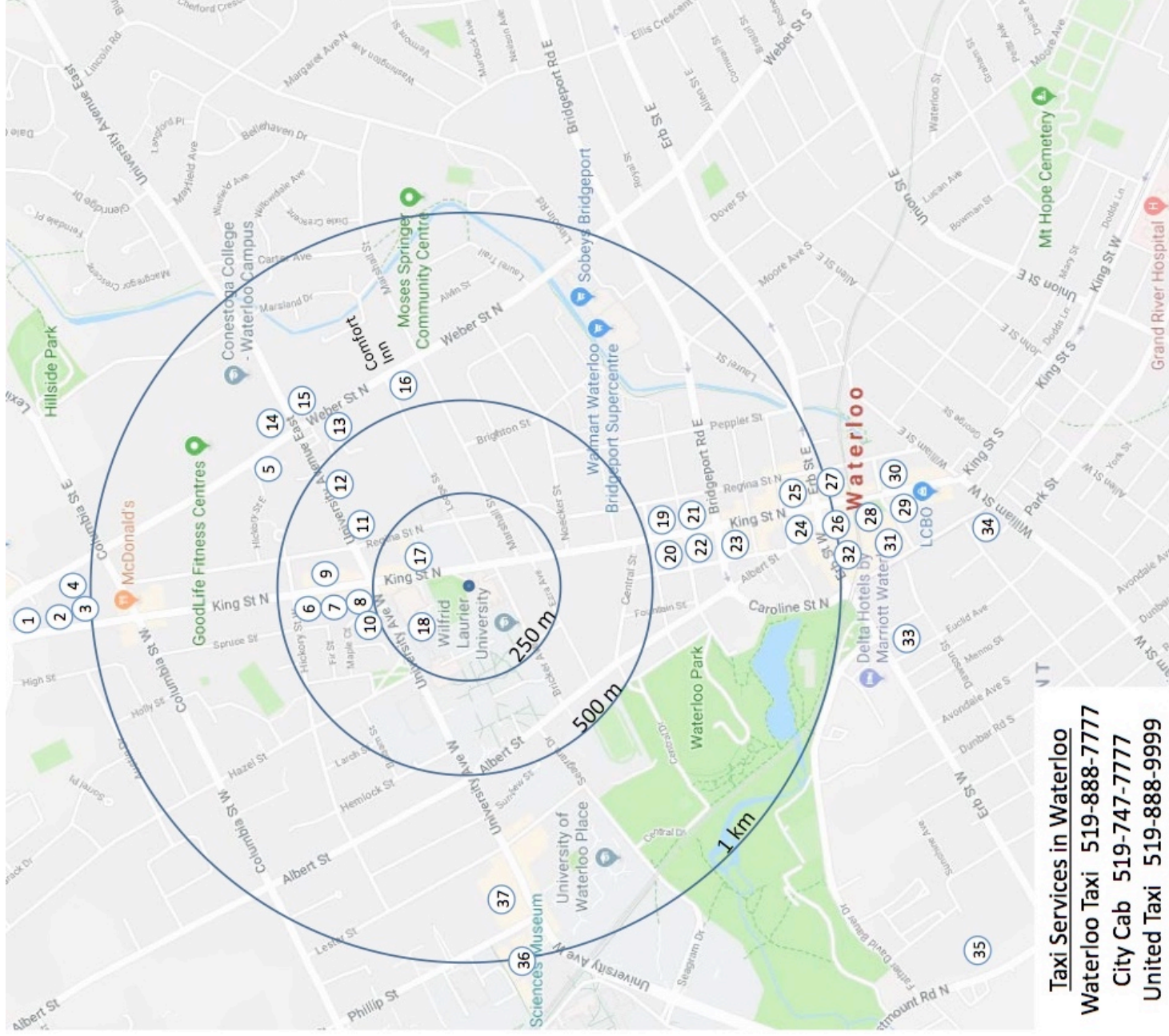
8:30 – 9:30	Concurrent Session III	Science Building rooms N1001, N1002, N1044, N1042, N1059, N2005, N1053 – practice room
9:30 – 10:00	Coffee break	Science Building Atrium
10:00-11:30	Concurrent session IV	Science Building rooms N1001, N1002, N1044, N1042, N1059, N2005, N1053 – practice room
11:30-12:30	Lunch - Boxed lunch provided	Science Building Atrium
12:30-1:00	Awards and closing remarks	Science Building Atrium
1:15	Departure	





### Some Local Eateries

1. Harvey's
2. Tim Hortons
3. Ennio's Pasta House
4. KFC
5. Swiss Chalet
6. University Commons: Thai Express, Freshii,  
Subway, Sakura Island Japanese, Smoke's
7. Itamae Sushi & Shoeless Joe's
8. Starbucks
9. Morty's Pub, Bhima's Warung, Burrito Boyz
10. Booster Juice, Mozy's Shawarma, Frat Burger
11. China Garden, Williams Cafe
12. Crabby Joe's, Tim Hortons, WingsUp, Domino's
13. Tito's Pizza, Wendy's
14. Sonny's Drive-In
15. Dairy Queen, Johnny Fresco, Popeyes, Pizza Hut
16. Mother's Pizza
17. Papa John Pizza, Shawarma Plus, Noon Moment
18. Wilf's Restaurant
19. Ethel's Lounge
20. Tim Hortons, Empress of India
21. Harmony Lunch
22. Pub on King
23. Heather Pub and Hotel
24. Coffee Culture, Uptown 21, Taco Farm
25. Symposium Café, Masala Bay
26. Abe Erb, Famoso Neapolitan Pizzeria
27. Crystal Palace, Café 22, King Street Trio
28. Beertown, Cora, Booster Juice
29. Davids Tea, Starbucks
30. The Works, Wildfire Steakhouse, Marbles
31. Thai Sun, Booster Juice
32. Angie's, The Duke of Wellington
33. Sole Wine Bar
34. Red House
35. 168 Sushi Buffet, Country Style
36. University Plaza: East Side Mario's, Mongolian  
Grill, Molly Bloom's Pub, and many more.
37. Mel's Diner, Burger King, Pizza Nova and others.



### Taxi Services in Waterloo

Waterloo Taxi 519-888-7777  
 City Cab 519-747-7777  
 United Taxi 519-888-9999