

Insect Biotech Conference – 2014

Conference Schedule

Wednesday Evening – June 4

- 6:00 pm **Registration:** Outside Newman Room
- 7:00 pm **Plenary Talk:** Newman Room
“PESTICIDES AND POLLINATORS: THE IMPACT OF ENVIRONMENTAL STRESSORS ON BEES”
Nigel Raine
Rebanks Family Chair in Pollinator Conservation, School of Environmental Sciences, University of Guelph, Guelph, ON.
- 7:45 – 9:00 pm **Reception:** Outside Newman Room (Pizzeria, Beer and Wine)

Thursday, June 5

- 7:45 – 9:00 am **Breakfast:** Topaz Room (The All Canadian)
- 9:00 am **Opening Remarks:** Ian Orchard
- Session Chair:** **Ian Orchard**
- 9:10 am **ASH DECLINE ASSESSMENT IN EMERALD ASH BORER-INFESTED AREAS: A CASE STUDY USING UAV IMAGING TECHNOLOGIES.** [Page 1]
He, Y.¹, Murfitt, J. ¹, Mui, A. ¹, De Mille, K.²
¹Department of Geography, University of Toronto Mississauga, Mississauga, ON, Canada.
²Credit Valley Conservation, Mississauga, ON, Canada.
- 9:30 am **ESTABLISHMENT OF A CELL LINE FROM THE EMERALD ASH BORER, *Agrilus planipennis*, AND ANALYSIS OF ITS TRANSCRIPTIONAL RESPONSE TO AZADIRACTIN.** [Page 2]
Fayuan Wen^{1,2}, Sharon Hooey ¹, Peter Krell ², Guido Caputo ¹, Susan Bowman¹, Kristine Pinkney¹, Jun Duan^{1,2}, Guoxing Quan¹, Michel Cusson³, Basil Arif¹, Daniel Doucet¹
¹Natural Resources Canada, Great Lakes Forestry Centre, Sault Ste Marie, ON, Canada
²Department of Cellular and molecular Biology, University of Guelph, Guelph, ON, Canada
³Natural Resources Canada, Laurentian Forestry Centre, Quebec, QC, Canada
- 9:50 am **CHARACTERIZATION OF ACMNPV ME53 NUCLEAR TRANSLOCATION DOMAIN.** [Page 3]
Liu, Y. and Krell, P.J.
Department of Molecular and Cellular Biology, University of Guelph, ON, Canada

- 10:10 am **EFFECTS OF CANAVALIA ENSIFORMIS MAJOR UREASE ON THE IMMUNE SYSTEM OF THE CHAGAS' DISEASE VECTOR *RHODNIUS PROLIXUS*. [Page 4]**
Defferrari, M.S.^a, Orchard, I.^b, Carlini, C.R.^a
^a Brain Institute, Pontifícia Universidade Católica do Rio Grande do Sul, and Center of Biotechnology, Universidade Federal do Rio Grande do Sul, Brazil.
^b Department of Biology, University of Toronto Mississauga, Mississauga, ON, Canada.
- 10:30 – 10:50 am **Coffee Break:** Outside Newman Room
- Session Chair:** **Angela Lange**
- 10:50 am **CHARACTERIZATION OF SPREADING DEPRESSION IN *DROSOPHILA MELANOGASTER*. [Page 5]**
Spong, K.E., Rodríguez, E.C., and Robertson, R.M.
 Department of Biology, Queens University, Kingston, ON, Canada
- 11:10 am **THE EFFECTS OF STARVATION ON SPREADING DEPRESSION IN THE CNS OF *LOCUSTA MIGRATORIA*. [Page 6]**
Mangulins, R. and Robertson, R.M.
 Department of Biology, Queen's University, Kingston, ON, Canada
- 11:30 – 12:10 pm **Short Exposures** (5 minute talks plus questions)
- POSSIBLE INVOLVEMENT OF CORAZONIN IN ECDYSIS OF *RHODNIUS PROLIXUS*: A PRELIMINARY ANALYSIS. [Page 7]**
Patel, H., Haddad, A. and Lange, A.B.
 Department of Biology, University of Toronto Mississauga, Mississauga, ON, Canada.
- THE INVOLVEMENT OF SULFAKININS IN THE CONTROL OF FEEDING IN *RHODNIUS PROLIXUS*. [Page 8]**
Al-Alkawi, H., Lange, A.B. and Orchard, I.
 Department of Biology, University of Toronto Mississauga, Mississauga, ON, Canada
- DISTRIBUTION OF CAPA-RELATED NEUROPEPTIDES IN THE CENTRAL NERVOUS SYSTEM OF THE YELLOW AND DENGUE FEVER VECTOR, *AEDES AEGYPTI*. [Page 9]**
 A. Uyklu and Paluzzi, J.P.
 Department of Biology, York University, Toronto, Ontario, Canada.
- 12:10 – 1:20 pm **Lunch Break:** Topaz Room (Bagel Bar)

Session Chair: Michael O'Donnell

1:20 pm **THE REGULATION OF CARDIAC ACTIVITY BY THE UNCONVENTIONAL GASEOUS SIGNALING MOLECULE, NITRIC OXIDE, IN THE VIETNAMESE STICK INSECT, *BACULUM EXTRADENTATUM*.**
[Page 10]

da Silva, R.¹, da Silva, S.², and Lange, A.B.³

¹ Department of Biology, McMaster University, Hamilton, ON, Canada

² Department of Chemical and Physical Sciences, University of Toronto Mississauga, ON, Canada

³ Department of Biology, University of Toronto Mississauga, ON, Canada

1:40 pm **JABURETOX AND UDP-N-ACETYL GLUCOSAMINE PYROPHOSPHORYLASE: AN UNEXPECTED INTERACTION OPENING DOORS TO THE UNDERSTANDING OF THE ENTOMOTOXIC MECHANISM OF ACTION OF UREASE-DERIVED PEPTIDES.** [Page 11]

Defferrari, M.S.^{a,b}, Fruttero, L.J.^d, Demartini, D.R.^a, Ligabue-Braun, R.^{a,b}, Cortez-Lopes, F.^{a,c}, Krug, M.S.^a, Settembrini, B.P.^e, Carlini, C.R.^{a,b}

^aCenter of Biotechnology, Universidade Federal do Rio Grande do Sul.

^bBrain Institute, Pontifícia Universidade Católica do Rio Grande do Sul.

^cGraduate Program in Cellular and Molecular Biology, Universidade Federal do Rio Grande do Sul, Brazil.

^dDepartment of Clinical Biochemistry, Universidad Nacional de Cordoba; and
^eArgentinian Museum of Natural Sciences, Argentina.

2:00- 2:40 pm **Short Exposures** (5 minute talks plus questions)

***GNOME* DANCES IN YEAST** [Page 12]

Fattash, Isam, Chia-Ni Lee and Guojun Yang

Department of Biology, University of Toronto Mississauga, Mississauga, ON, Canada

EXCEPTIONAL TRANSPOSITION ACTIVITY OF THE *GNOME* MITE BY AN ENGINEERED *OZMA* TRANSPOSASE. [Page 13]

Lee, Chia-Ni, Isam Fattash and Guojun Yang

Department of Biology, University of Toronto Mississauga, Mississauga, ON, Canada

LOCMI-FGLa/AST-2: A LOCUSTA DIURETIC. [Page 14]

Robertson, L.¹, Donini, A.², Lange, A.B.³

¹Department of Biomedical Sciences, University of Guelph, Guelph, ON, Canada

²Department of Biology, York University, Toronto, ON, Canada.

³Department of Biology, University of Toronto Mississauga, Mississauga, ON, Canada

2:40 – 3:00 pm **Coffee Break**

Session Chair: Joffre Mercier

3:00 pm **THE PHYSIOLOGICAL ROLES OF PROCTOLIN IN *DROSOPHILA*.** [Page 15]

Ormerod, K. G. and Mercier, A. J.

Department of Biological Sciences, Brock University, St. Catharines, ON, Canada.

3:20 pm

**STRUCTURE-ACTIVITY STUDIES OF MYOINHIBITING PEPTIDES (MIPs)
IN *RHODNIUS PROLIXUS*. [Page 16]**

Sedra, L, Haddad, A., and Lange, A.B.

Department of Biology, University of Toronto Mississauga, Mississauga, ON, Canada.

3:40pm

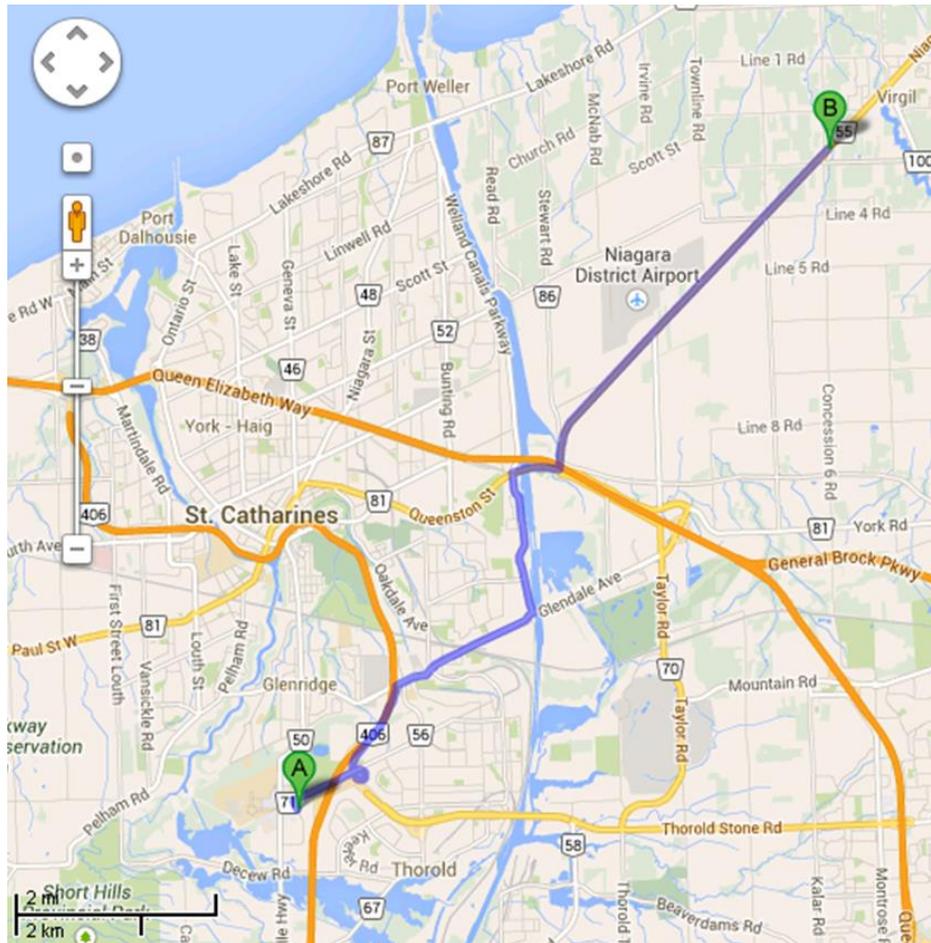
End of Session

6:00 pm

**Trius Winery at Hillebrand, 1249 Niagara Stone Rd, Niagara-on-the-Lake, ON
L0S 1J0 (Sparkling Wine Tour & Tasting)**

7:15 pm

**Conference Dinner, Trius Winery at Hillebrand, 1249 Niagara Stone Rd,
Niagara-on-the-Lake, ON L0S 1J0**



**Four Points by Sheraton Saint Catharines Niagara Suites**

3530 Schmon Pkwy, Thorold, ON L2V 4Y6, Canada

	1. Head northwest on Schmon Pkwy toward St David's Rd/Regional Rd 71	go 130 m total 130 m
	2. Take the 1st right onto St David's Rd/Regional Rd 71 Continue to follow St David's Rd About 2 mins	go 1.1 km total 1.2 km
Show: Text only Map Street View		
	3. Take the ramp onto ON-406 N About 1 min	go 1.8 km total 3.0 km
	4. Take the Regional Road 89/Glendale Avenue exit	go 350 m total 3.4 km
	5. Turn right onto Glendale Ave/Regional Rd 89 About 4 mins	go 2.5 km total 5.9 km
	6. Turn left onto Welland Canals Parkway About 3 mins	go 2.3 km total 8.2 km
	7. Turn right onto Queenston St About 53 secs	go 750 m total 9.0 km
	8. Take the 1st left onto Niagara Stone Rd (signs for County Highway 55/Niagara Stone Road) Destination will be on the right About 5 mins	go 6.8 km total 15.8 km

**Trius Winery at Hillebrand**

1249 Niagara Stone Rd, Niagara-on-the-Lake, ON L0S 1J0, Canada

Friday, June 6

7:45 – 9:10 am **Breakfast:** Topaz Room (The All Canadian)

Session Chair: **Daniel Doucet**

9:10 am **ISOLATION AND FUNCTIONAL CHARACTERIZATION OF CORTICOTROPIN RELEASING FACTOR LIKE DIURETIC HORMONE RECEPTOR IN *RHODNIUS PROLIXUS*. [Page 17]**

Lee, H., Zandawala, M. and Orchard, I.

Department of Biology, University of Toronto Mississauga, Mississauga, Canada.

9:30 am **FUNCTIONAL CHARACTERIZATION OF TWO CALCITONIN-LIKE DIURETIC HORMONE RECEPTORS IN *RHODNIUS PROLIXUS*. [PAGE 18]**

Meet Zandawala^{1,2}, Shizhong Li², Frank Hauser², Cornelis J.P. Grimmelikhuijzen², Constantine Poulos³ and Ian Orchard¹

¹ Department of Biology, University of Toronto Mississauga, Mississauga, Canada.

² Department of Biology, University of Copenhagen, Copenhagen, Denmark.

³ Department of Chemistry, University of Patras, 26500 Patras, Greece.

9:50 am **SPATIAL EXPRESSION ANALYSIS OF NEUROPEPTIDE G-PROTEIN COUPLED RECEPTORS IN THE LYME DISEASE VECTOR, *IXODES SCAPULARIS* [Page 19]**

A. Qudrat and J.P. Paluzzi

Department of Biology, York University, Toronto, Ontario, Canada.

10:10 – 10:30 am **Coffee Break:** Outside Newman Room

Session Chair: **Jean-Paul Paluzzi**

10:30 am **mRNA AND PROTEIN EXPRESSION OF AQUAPORINS IN THE ANAL PAPILLAE OF LARVAL MOSQUITO *Aedes aegypti* IN RESPONSE TO SALINITY. [Page 20]**

Akhter, H.; Bui, P.; Donini, A.

Department of Biology, York University, Toronto, Ontario, Canada

10:50 am **AMMONIA EXCRETION IN ANAL PAPILLAE OF *A. Aegypti* MOQUITO: INVOLVEMENT OF RHESUS PROTEINS, AMT, V-TYPE H⁺ ATPase, Na⁺/K⁺ ATPase and NHE3. [Page 21]**

Ionescu, A.¹, Bui, P.¹, Weihrauch, D.², Donini, A.¹

¹Department of Biology, York University, Toronto, ON, Canada.

²Department of Biological Sciences, University of Manitoba, Winnipeg, MB, Canada.

11:10 am **ION TRANSPORT MECHANISMS OF THE *DROSOPHILA* GUT EPITHELIA [Page 22]**

D'Silva, N.M. and O'Donnell, M.J.

Department of Biology, McMaster University, Hamilton, ON, Canada

11:30 - 12:00 noon **Check out of hotel rooms**

11:45 – 1:00 pm **Lunch Break:** Topaz Room (Pasta Buffet)

Session Chair: **Peter Krell**

1:00 pm **THE EFFECTS OF DIETARY ORGANIC ANIONS ON SALICYLATE
SECRETION BY MALPIGHIAN TUBULES IN *DROSOPHILA*.** [Page 23]
Kaas, M.K.L. and O'Donnell, M.J.
Department of Biology, McMaster University, Hamilton, ON, Canada

1:20 pm **CALCIUM TRANSPORT BY INSECT MALPIGHIAN TUBULES.** [Page 24]
Browne, A. A., O'Donnell, M.J.
Department of Biology, McMaster University, Hamilton, ON, Canada.

1:40 – 1:50 pm **Closing Remarks**

2:00 pm **End of Conference**