

# Insect Biotech Conference – 2012

## Conference Schedule

### Wednesday Evening – June 6

- 6:00 pm                    **Registration:** Outside Newman Room
- 7:00 pm                    **Plenary Talk:** Newman Room  
Dr. Ronald J. Nachman, United States Department of Agriculture, Area Wide  
Pest Management Research Unit, College Station, Texas  
**MIMETIC ANALOGS OF INSECT NEUROPEPTIDES AS RATIONAL  
TOOLS FOR DEVELOPMENT OF NOVEL PEST CONTROL.**
- 7:45 – 9:00 pm           **Reception:** Outside Newman Room (Pizzeria, Beer and Wine)

### Thursday, June 7

- 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                    **FINAL STEPS IN JH BIOSYNTHESIS IN THE CORPORA ALLATA OF THE  
DESERT LOCUST *SCHISTOCERCA GREGARIA* AND THE COCKROACH  
*DIPLOPTERA PUNCTATA*. [Page 1]**  
Marchal, E.<sup>a,b</sup>, Verlinden, H.<sup>b</sup>, Badisco, L.<sup>b</sup>, Zhang, J., Vanden Broeck, J.<sup>b</sup>, Tobe, S.S.<sup>a</sup>  
<sup>a</sup> Department of Cell and Systems Biology, University of Toronto, Toronto, ON,  
Canada; <sup>b</sup> Department of Molecular Developmental Physiology and Signal  
Transduction, Animal Physiology and Neurobiology, Zoological Institute, K.U.  
Leuven, Leuven, Belgium.
- 9:30 am                    **THE ROLES OF EXOGENOUS JH PRECURSORS AND CALCIUM IN JH  
BIOSYNTHESIS IN THE COCKROACH, *DIPLOPTERA PUNCTATA*. [Page 2]**  
Huang, J. and Tobe, S.S.  
Department of Cell and Systems Biology, University of Toronto, Toronto, ON,  
Canada
- 9:50 am                    **POST-FEEDING DIURESIS IN *RHODNIUS PROLIXUS*: THE ROLE OF  
FGLAMIDE-RELATED ALLATOSTATINS. [Page 3]**  
Zandawala, M. and Ian Orchard  
Department of Biology, University of Toronto Mississauga, Mississauga, ON, Canada.
- 10:10 am                    **THE NEURAL AND PEPTIDERGIC CONTROL OF LOCUST GUT  
CONTRACTION: THE EFFECT OF FGLa/ASTs. [Page 4]**  
Robertson, L. and Lange, A.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 A HETERODIMERIC GLYCOPROTEIN HORMONE AND ITS RECEPTOR IN THE DENGUE AND YELLOW FEVER VECTOR, *Aedes Aegypti*. [Page 5]**  
Paluzzi, J.P. and O'Donnell, M.J.  
Department of Biology, McMaster University, Hamilton, ON, Canada.

11:10 am **THE PHYSIOLOGICAL ROLES OF RHOPR-KININS AND THE MOLECULAR CHARACTERIZATION OF THEIR GENE IN THE BLOOD-GORGING INSECT, *Rhodnius prolixus*. [Page 6]**  
Bhatt, G. and Orchard, I.  
Department of Biology, University of Toronto Mississauga, ON, Canada.

11:30 – 12:10 pm **Short Exposures** (5 minute talks plus questions)

**REGIONS OF ACMNPV LATE EXPRESSION FACTOR 3 INVOLVED IN PROTEIN-PROTEIN INTERACTIONS [Page 7]**  
Yoonji Kim, Kelsey Downie, and Eric B Carstens  
Department of Biomedical and Molecular Sciences, Queen's University, Kingston, ON, Canada

**RE-EXAMINING THE ROLE OF HOMOLOGOUS REPEAT REGIONS AS BACULOVIRUS ORIGINS OF DNA REPLICATION [Page 8]**  
Jessica A. Breznik, Yoonji Kim, and Eric B. Carstens.  
Department of Biomedical and Molecular Sciences, Queen's University, Kingston, ON, Canada

**EXPRESSION OF HIGHLY PATHOGENIC AVIAN INFLUENZA VIRUS H5N1 NEURAMINIDASE IN A BACULOVIRUS EXPRESSION VECTOR. [Page 9]**  
Ackford, J., Elliott, A. and Krell, P.J.  
Department of Molecular and Cellular Biology, University of Guelph, Guelph, ON, Canada.

**NEW CELL LINES FROM THE EMERALD ASH BORER, *Agrilus planipennis*. [Page 10]**  
Wen Fayuan<sup>1,2</sup>, Caputo Guido<sup>1</sup>, Hooey Sharon<sup>1</sup>, Bowman Susan<sup>1</sup>, Pinkney Kristine<sup>1</sup>, Arif, Basil<sup>1</sup>, Krell, Peter<sup>2</sup>, and Doucet, Daniel<sup>1</sup>  
<sup>1</sup> Great Lakes Forestry Centre, Sault Ste Marie, ON, Canada; <sup>2</sup> Department of Molecular and Cellular Biology, University of Guelph, Guelph, ON, Canada.

12:10 – 1:20 pm **Lunch Break:** Topaz Room (Deli Bar "Make Your Own")

**Session Chair: Eric Carstens**

1:20 pm **FUNCTIONAL GENOMIC STUDY OF OLFACTION IN EMERALD ASH BORER.** [Page 11]  
Sohail S. Qazi<sup>1</sup>, Susan Bowman<sup>1</sup>, Michel Cusson<sup>2</sup>, Catherine Beliveau<sup>2</sup> and Daniel Doucet<sup>1</sup>  
<sup>1</sup>Insect Molecular Biology and Pathology Research Group, Great Lakes Forestry Centre Canadian Forest Service, Natural Resources Canada, Sault Ste. Marie, Ontario, Canada; <sup>2</sup>Laurentian Forestry Centre, Canadian Forest Service, Natural Resources Canada, 1055 Rue du PEPS, Québec, Canada

1:40 pm **THE ALLATOTROPIN FAMILY IN *RHODNIUS PROLIXUS*: GENE TRANSCRIPT AND DISTRIBUTION.** [Page 12]  
Masood, M. and Orchard, I.  
Department of Biology, University of Toronto Mississauga, Mississauga, ON

2:00 pm **ACTIONS OF CRUSTACEAN CARDIOACTIVE PEPTIDE IN *RHODNIUS PROLIXUS*.** [Page 13]  
Lee, D. and Lange, A.B.  
Department of Biology, University of Toronto Mississauga, Mississauga, Ontario, Canada

2:20 – 2:50 pm **Short Exposures** (5 minutes plus questions)

**VALIDATION OF HOUSEKEEPING GENES FOR QUANTITATIVE REAL-TIME PCR IN *DIPLOPTERA PUNCTATA* TISSUES DURING THE GONADOTROPHIC CYCLE.** [Page 14]  
Elisabeth Marchal, Ekaterina F. Hult, Jenny Huang, and Stephen S. Tobe  
Department of Cell and Systems Biology, University of Toronto, Toronto, ON, Canada.

**SODIUM AND POTASSIUM TRANSPORT ACROSS THE POSTERIOR MIDGUT OF BLOOD-FED *AEDES AEGYPTI*.** [Page 15]  
Pacey, E. K., and O'Donnell, M. J.  
Department of Biology, McMaster University, Hamilton, ON, Canada.

**TRANSPORT OF ELECTROLYTES BY THE *DROSOPHILA* POSTERIOR MIDGUT EPITHELIUM: AN EXTRACELLULAR ION SCAN STUDY.** [Page 16]  
Natalie M. D'Silva<sup>1</sup>, M.J. O'Donnell<sup>1</sup>, S. Shanbhag<sup>2</sup>, and S. Tripathi<sup>2</sup>,  
<sup>1</sup>Department of Biology, McMaster University, Hamilton, ON, Canada; <sup>2</sup>Tata Institute of Fundamental Research, Colaba, Mumbai, India

**FITNESS COSTS AND METABOLIC COMPENSATION BY INSECTICIDE-RESISTANT COLORADO POTATO BEETLE *LEPTINOTARSA DECEMLINEATA* SAY.** [Page 17]  
Scott, I.M.,<sup>1</sup> Clarke, V.C.,<sup>2</sup> Jurcic, K.,<sup>2</sup> and Yeung, K.K.- C.<sup>2</sup>  
<sup>1</sup>Agriculture and Agri-Food Canada, London ON; <sup>2</sup>Functional Proteomic Facility, Biochemistry, Western University, London, ON

2:50 – 3:20 pm **Coffee Break**

Session Chair: Cam Donly

3:20 pm **A CARDIO-INHIBITOR FROM THE TESTES IS PRESENT AMONG INSECT VECTORS OF CHAGAS DISEASE.** [Page 18]

R. Gary Chiang

Biology Department, Redeemer University College, Ancaster, ON

3:40 pm **FMRamide-LIKE PEPTIDES (FLPs) ASSOCIATED WITH MUSCLE FIBERS IN *RHODNIUS* REPRODUCTIVE TISSUE.** [Page 19]

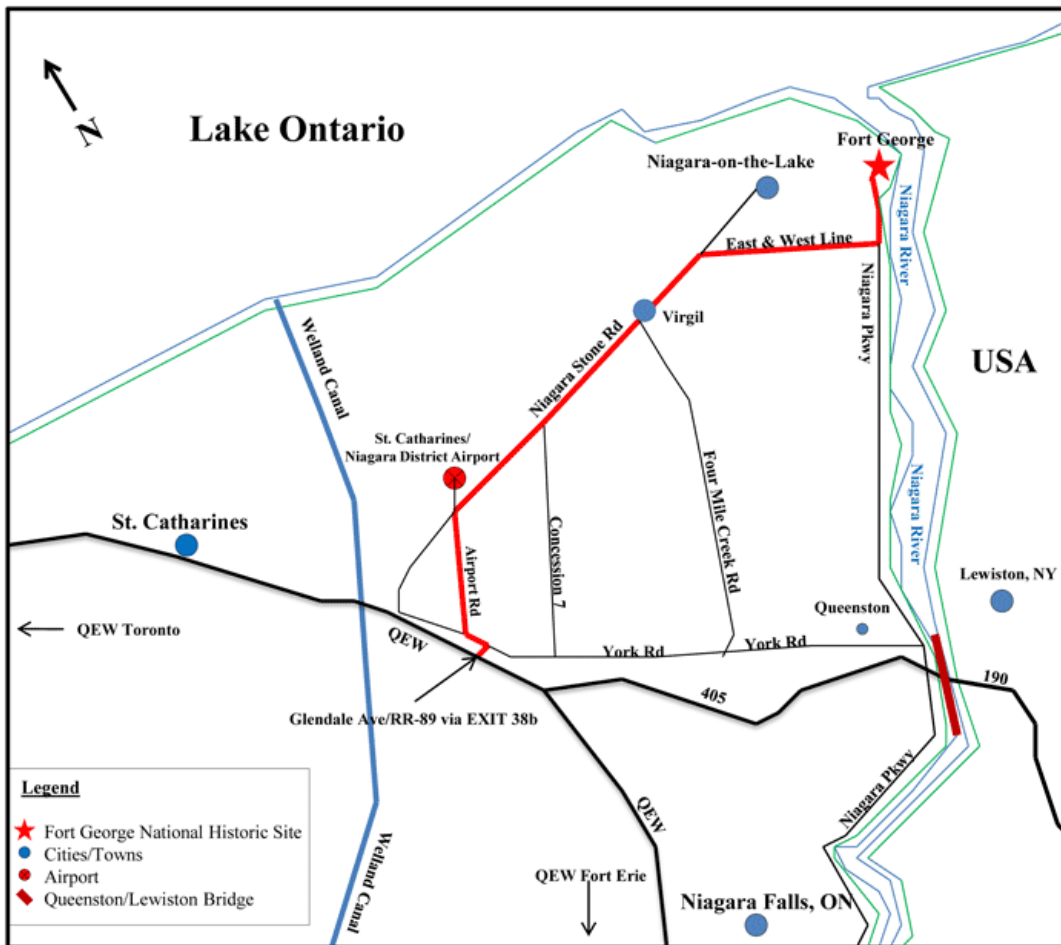
Sedra, L and Lange, A.B.

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

4:00pm **End of Session**

6:00 pm **Navy Hall, Fort George National Historical Site of Canada (Beer Tasting)**

7:00 pm **Conference Dinner, Navy Hall, Fort George National Historical Site of Canada (Catered by Kristin's Fine Food)  
305 Ricardo St., Niagara-on-the-Lake, Ontario, LOS 1J0**



## Friday, June 8

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

**Session Chair:**      **Peter Krell**

9:10 am      **A NOVEL STORAGE LIPID IN *EUROSTA SOLIDAGINIS*. [Page 20]**  
Marshall, K.E.<sup>1</sup>, Thomas, R.H.<sup>2</sup>, Roxin, Á.<sup>3</sup>, Chen, E.K.Y.<sup>4</sup>, Brown, J.C.L.<sup>1</sup>, Gillies, E.R.<sup>4</sup> and Sinclair, B.J.<sup>1</sup>  
<sup>1</sup>Department of Biology, University of Western Ontario; <sup>2</sup>Department of Psychology, University of Western Ontario; <sup>3</sup>Department of Pharmaceutical Science, University of Toronto; <sup>4</sup>Department of Chemistry, University of Western Ontario

9:30 am      **IDENTIFICATION AND CLONING OF A PHOSPHOLIPASE A2 TRANSCRIPT IN *RHODNIUS PROLIXUS*. [Page 21]**  
Defferrari, M.S.<sup>a</sup>, Carlini, C.R.<sup>a</sup>, Orchard, I.<sup>b</sup>  
<sup>a</sup>Graduate Program in Cellular and Molecular Biology, Universidade Federal do Rio Grande do Sul, Brazil. <sup>b</sup>Department of Biology, University of Toronto at Mississauga, Mississauga, ON, Canada.

9:50 am      **CLONING AND CHARACTERIZATION OF A CHITIN DEACETYLASE-LIKE PROTEIN HOMOLOGUE IN THE SPRUCE BUDWORM, *CHORISTONEURA FUMIFERANA*. [Page 22]**  
Guoxing Quan<sup>1</sup>, Tim Ladd<sup>1</sup>, Fayuan Wen<sup>1,2</sup>, Peter J. Krell<sup>2</sup> and Basil M. Arif<sup>1</sup>  
<sup>1</sup>Great Lakes Forestry Centre, Canadian Forest Service, Sault Ste. Marie, ON, Canada; <sup>2</sup>Department of Molecular and Cellular Biology, University of Guelph, ON, Canada.

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

**Session Chair:**      **Brent Sinclair**

10:30 am      **A NOVEL AMMONIUM-SELECTIVE MICROELECTRODE FOR STUDIES OF NANOLITER SAMPLES OF FLUID SECRETED BY MALPIGHIAN TUBULES. [Page 23]**  
Browne, A. A. and O'Donnell, M.J.  
Department of Biology, McMaster University, Hamilton, ON, Canada.

10:50 am      **A PHYSIOLOGICAL FUNCTION FOR OATP58DC IN ORGANIC ANION EFFLUX ACROSS THE *DROSOPHILA* BLOOD-BRAIN BARRIER. [Page 24]**  
Seabrooke, S. and O'Donnell, M.J.  
Department of Biology, McMaster University, Hamilton, ON, Canada

11:10 am      **EFFECTS OF DH31 AND DROSOKININ ON EPITHELIAL K<sup>+</sup> TRANSPORT IN THE GUT OF LARVAL *DROSOPHILA MELANOGASTER*. [Page 25]**  
Vanderveken, M.J., 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 (Mediterranean)

**Session Chair: Michael O'Donnell**

- 1:00 pm **ANALYSIS OF *AUTOGRAPHA CALIFORNICA* MULTIPLE NUCLEOPOLYHEDROVIRUS DNA POLYMERASE. [Page 26]**  
Feng, G.Z.<sup>1</sup>, Arif, B. M.<sup>2</sup>, and Krell, P. J.<sup>1</sup>  
<sup>1</sup>Department of Molecular and Cellular Biology, University of Guelph, Guelph, ON N1G 2W1; <sup>2</sup>Great Lakes Forestry Centre Sault Ste Marie, ON P6Q 2E5
- 1:20 pm **TRANSCRIPTION OF VIRAL GENES IN CATERPILLAR GUT DURING INFECTION WITH THE *MAMESTRA CONFIGURATA* NUCLEOPOLYHEDROSIS VIRUS. [Page 27]**  
Donly, B.C.<sup>a</sup>, Theilmann, D.A.<sup>b</sup>, and Erlandson, M.A.<sup>c</sup>  
<sup>a</sup> Southern Crop Protection & Food Research Centre, AAFC, London, ON, Canada; <sup>b</sup> Pacific Agri-Food Research Centre, AAFC, Summerland, B.C. Canada; <sup>c</sup> Saskatoon Research Centre, AAFC, Saskatoon, SK, Canada
- 1:40 pm **COMPARING INFLUENZA VIRUS HEMAGGLUTININ (HA) EXPRESSION IN THREE DIFFERENT BACULOVIRUS EXPRESSION SYSTEMS. [Page 28]**  
Elliott, A., Nagy, E. and Krell, P.  
Department of Molecular and Cellular Biology, University of Guelph, Guelph ON, Canada.
- 2:00 pm **DETERMINATION OF THE ROLE *me53/ME53* PLAYS IN BOTH EARLY AND LATE PHASES IN THE BACULOVIRUS REPLICATION CYCLE. [Page 29]**  
Liu, Y., Nagy, E. and Krell, P.J.  
Department of Molecular and Cellular Biology, University of Guelph, ON, Canada
- 2:20 – 2:30 pm **Closing Remarks**
- 2:30 pm **End of Conference**