

Insect Biotech Conference – 2008

Conference Schedule

Wednesday Evening – June 11

- 6:00 pm **Registration:** Outside Newman Room
- 7:00 pm **Plenary Talk:** Newman Room
Professor Brent Sinclair, University of Western Ontario
Drosophila: A non-cold tolerant insect as a model for insect cold tolerance.
- 7:45 – 10:00 pm **Reception:** Outside Newman Room

Thursday, June 12

- 7:45 – 8:50 am **Breakfast:** Outside Newman Room (Extensive Continental)
- 8:50 am **Opening Remarks:** Ian Orchard
- Session Chair:** **Ian Orchard**
- 9:00 am Leonard, E.M., Pierce, L.M., Wood, C.M. and M.J. O'Donnell, Department of Biology, McMaster University, Hamilton, ON, Canada.
Identification of mechanisms involved in high cadmium tolerance in *Chironomus riparius*. [see abstract – page 7]
- 9:20 am Kocmarek, A.L., Spaic, M., and M.J. O'Donnell, Department of Biology, McMaster University, Hamilton, ON, Canada.
Movement of K⁺ across the blood brain barrier of the ventral neural cord of the cockroach. [page 8]
- 9:40 am Chahine, S. and M.J. O'Donnell, Department of Biology, McMaster University, Hamilton, ON, Canada.
Characterization of the transepithelial transport of methotrexate by the Malpighian tubules of *Drosophila melanogaster*. [page 9]
- 10:00 am Ianowski, J.P., Paluzzi, J.-P., Patrick, M. and I. Orchard, Department of Biology, University of Toronto Mississauga, Mississauga, ON, Canada.
Identification of a putative basolateral Na⁺:K⁺:2Cl⁻ cotransporter in Malpighian tubule of *Rhodnius prolixus*. [page 10]
- 10:20 – 10:40 am **Coffee Break:** Outside Newman Room

Session Chair: Angela Lange

- 10:40 am Dedes, J., Insectary Supervisor, Canadian Forest Service (CFS), GLFC, Sault Ste. Marie, ON, Canada.
The modernization of insect production services at the Great Lakes Forestry Centre. [page 11]
- 11:00 am Klose, M.K.¹, Atwood, H.L.¹ and A.J. Mercier², ¹Department of Physiology, University of Toronto, Toronto, ON; ²Department of Biological Sciences, Brock University, St. Catharines, ON, Canada.
Presynaptic modulation by a *Drosophila* neuropeptide requires internal calcium stores. [page 12]
- 11:20 am D'Souza, O.^{1,3}, Rheault, M.⁴; Caveney, S.³ and B.C. Donly^{2,3}, ¹Pest Management Centre, Agriculture and Agri-Food Canada, Ottawa ON. ²Southern Crop Protection and Food Research Centre, Agriculture and Agri-Food Canada, London ON. ³ Department of Biology, University of Western Ontario, London, ON. ⁴ Department of Biology and Physical Geography, University of British Columbia Okanagan, Kelowna, BC, Canada.
Multidrug resistance genes in the cabbage looper moth, *Trichoplusia ni*. [page 13]
- 11:40 – 12:00 pm **Short Exposures** (5 minute talks plus questions)
- Nguyen, H. and A. Donini, Department of Biology, York University, ON, Canada.
Neuronal control of epithelial ion transport? The anal papillae of Chironomids. [page 14]
- Sinclair, B.J.¹, Gibbs, A.G.², Lee, W.-K.³, Rajamohan, A.¹, Socha, J.J.³, and S.P. Roberts², ¹Department of Biology, The University of Western Ontario, London, ON, Canada, ²School of Life Sciences, University of Nevada Las Vegas, Las Vegas, NV, USA, ³Advanced Photon Source, Argonne National Laboratory, IL, USA.
Using synchrotron x-rays to observe freezing processes in insects. [page 15]
- Lam, F.¹ and B.C. Donly^{1,2}, ¹Department of Biology, University of Western Ontario, London, ON, Canada, ² Southern Crop Protection and Food Research Centre, Agriculture and Agri-Food Canada, London, ON, Canada.
Expression of octopamine receptor genes in the cabbage looper, *Trichoplusia ni*. [page 16]
- 12:00 – 1:10 pm **Lunch Break:** Outside Newman Room

Session Chair: Jacqueline Bede

- 1:10 pm Li, Z.^{1,2}, Lucarotti, C.³, Krell, P.J.² and B.M. Arif¹, ¹ Laboratory for Molecular Virology, Great Lakes Forestry Centre, Sault Ste. Marie, ON, Canada, ²Department of Molecular and Cellular Biology, University of Guelph, Guelph, ON, ³Atlantic Forestry Centre, Fredericton, NB, Canada.
Comparative sequence analysis of two entomopoxviruses (EPVs).
[page 17]
- 1:30 pm Cusson, M.^{1,2}, Lapointe, R.^{1,3}, Tanaka, K.^{4,5}, Rasoolizadeh, A.^{1,2} and B.A. Webb⁴, ¹Natural Resources Canada, Canadian Forest Service, Quebec City, QC, Canada, ²Département de biologie, Université Laval, Québec, QC, Canada, ³Sylvar Technologies Inc., PO Box 636, Stn A, Fredericton, NB, Canada, ⁴Department of Entomology, University of Kentucky, Lexington, KY, USA, ⁵Institute for Biological Resources and Functions, National Institute of Advanced Industrial Sciences and Technology, Tsukuba, Ibaraki 305-8566, Japan
Analysis of the genomes of two polydnaviruses transmitted by ichneumonid wasps to the eastern spruce budworm, *Choristoneura fumiferana*. [page 18]
- 1:50 pm Hodgson, J.J.¹, Arif, B.M.² and P.J. Krell¹, ¹ Department of Molecular and Cellular Biology, University of Guelph, Guelph, ON, ² Laboratory for Molecular Virology, Great Lakes Forestry Centre, Sault Ste Marie, Canada.
The AcMNPV and CfMNPV *v-cath* genes are expressed as preproenzymes. [page 19]
- 2:10 pm de Jong, J.¹, Arif, B.M.², Theilmann, D.³ and P.J. Krell¹, ¹Dept. of Molecular and Cellular Biology, University of Guelph, Guelph, ON, ²Great Lakes Forestry Centre, Natural Resources Canada, Sault Ste. Marie, ON, ³Pacific Agri-Food Research Centre, Agriculture and Agri-Food Canada, Summerland, BC, Canada.
The role of ME53 in baculovirus infection. [page 20]
- 2:30 – 2:55 pm **Short Exposures (5 minutes plus questions)**
- Simmons, J.S.¹ and B.C. Donly^{1,2}
¹Department of Biology, University of Western Ontario, London, ON,
²Southern Crop Protection and Food Research Centre, AAFC, London ON, Canada
MDR protein-mediated multiple xenobiotic resistance in the cabbage looper moth, *Trichoplusia ni*. [page 21]
- Li, L.^{1,2}, Ladd, T.¹, Zheng, S.^{1,2,3}, Krell, P.J.², Arif, B.M.¹, Retnakaran, A.¹, Basham, D.¹, Zhang, D.^{1,2}, Zheng, Y.^{1,2}, Dinakar, A.R.^{1,2}, Quan, G.^{1,2}, Buhlers, D.¹, Tomkins, B.L.¹, Feng, Q.^{1,3} and D. Doucet¹, ¹Great Lakes Forestry Centre, Canadian Forest Service, Sault Ste. Marie, ON, Canada; ²Department of Molecular and Cellular Biology, University of Guelph, Guelph, ON, Canada; ³School of Life Sciences, South China Normal University, Guangzhou, China.

**Mining of the Great Lakes Forestry Centre spruce budworm
Expressed Sequence Tag database. [page 22]**

da Silva, R. and A.B. Lange, Department of Biology, University of
Toronto Mississauga, Mississauga, ON, Canada.

**Sensory cells associated with the spermathecal sac of *Locusta
migratoria*. [page 23]**

Robertson, L. and A.B. Lange, Department of Biology, University of
Toronto Mississauga, Mississauga, ON, Canada.

**Allatostatins are involved in the control of the gut of the locust. [page
24]**

2:55 – 3:20 pm

Coffee Break

Session Chair:

Basil Arif

3:20 pm

Dehghani, M., Shoemaker, K.L. and R.M. Robertson, Department of
Biology, Queen's University, Kingston, ON, Canada.

**Protein expression pattern in the central nervous system of *Locusta
migratoria* following heat shock. [page 25]**

3:40 pm

Te Brugge, V., Ianowski, J.P., Paluzzi, J.-P. and I. Orchard, Department
of Biology, University of Toronto Mississauga, Mississauga, ON, Canada.

**Activity of diuretic factors on the anterior mid-gut of the blood-
feeding bug, *Rhodnius prolixus*. [page 26]**

4:00 pm

Paluzzi, J.P., Ianowski, J.P. and I. Orchard, Department of Biology,
University of Toronto Mississauga, Mississauga, ON, Canada.

**The anti-diuretic peptide, RhoprCAPA-2, is a multi-targeting peptide
encoded by two genes with dissimilar spatial and temporal expression
profiles in the insect disease vector, *Rhodnius prolixus*. [page 27]**

4:20 pm

End of Session

6:00 pm

Reception, Treadwells Farm-to-Table Cuisine, Port Dalhousie

7:00 pm

Conference Dinner, Treadwell Farm-to-Table Cuisine, Port Dalhousie

Friday, June 13

8:00 – 9:00 am **Breakfast:** Outside Newman Room (Full Canadian)

Session Chair: **Stephen Tobe**

9:00 am Staniscuaski, F.^{1,2}, Te Brugge, V.³, Carlini, C.R.^{1,2} and I. Orchard³,
¹Center of Biotechnology and ²Department of Biophysics, Universidade Federal do Rio Grande do Sul, Brazil. ³Department of Biology, University of Toronto Mississauga, ON, Canada.

Effect of jack bean urease and the urease-derived peptide Jaburetox-2Ec on *Rhodnius prolixus* gut. [page 28]

9:20 am Chapleau, M., Weech, M.-H., Pan, L., Ide, C. and J.C. Bede, Department of Plant Science, McGill University, Ste-Anne-de-Bellevue, QC, Canada.
Caterpillars undermine *Arabidopsis* induced defenses by cross-talk through signaling pathways. [page 29]

9:40 am Rajamohan, A. and B.J. Sinclair, Department of Biology, The University of Western Ontario, London, ON, Canada.

Effect of dietary supplements on cold tolerance in *Drosophila melanogaster*. [page 30]

10:00 am Chiang, R.G.¹ and M.J. O'Donnell², ¹Biology Department, Redeemer University College, Ancaster, ON, ²Biology Department, McMaster University, Hamilton, ON, Canada.

The effect of proctolin on spontaneous contractions of the vagina in the blood-feeding insect, *Rhodnius prolixus*. [page 31]

10:20 – 10:50 am **Coffee Break:** Outside Newman Room

Session Chair: **Michael O'Donnell**

10:50 am Zheng, Y.^{1,2}, Bowman, S.^{1,2}, Tomkins, B.¹, Krell, P.J.², Arif, B.M.¹ and D. Doucet¹, ¹Great Lakes Forestry Centre, Canadian Forest Service, Sault Ste. Marie, ON, ²Department of Molecular and Cellular Biology, University of Guelph, Guelph, ON, Canada

Cloning and characterization of a serine proteinase (Sep-I) from the molting fluid of spruce budworm prepupae. [page 32]

11:10 am Perera, S.C.^{1,2}, Krell, P.J.² and B.M. Arif¹, ¹Laboratory for Molecular Virology, Great Lakes Forestry Centre, Sault Ste. Marie, ON, ²Department of Molecular and Cellular Biology, University of Guelph, Guelph, ON, Canada.

Characterization of the *Amsacta moorei* entomopoxvirus spheroidin promoter. [page 33]

- 11:30 am Yang, D.-H.¹, de Jong, J.G.¹, Arif, B.M.² and P.J. Krell¹, ¹Department of Molecular and Cellular Biology, University of Guelph, Guelph, ON, ²Great Lakes Forestry Centre, Sault Ste. Marie, ON, Canada.
Comparative gene expression analysis of the baculovirus *Choristoneura fumiferana* multicapsid nucleopolyhedrovirus (CfMNPV) and a knock-out mutant. [page 34]
- 11:50 am Quan, G.^{1,2}, Doucet, D.¹, Krell, P.J.² and B.M. Arif¹, ¹ Great Lakes Forestry Centre, Canadian Forest Service, Sault Ste. Marie, ON, ² Department of Molecular and Cellular Biology, University of Guelph, Guelph, ON, Canada.
Characterization of the *Choristoneura fumiferana* Receptor of activated C kinase 1 (CfRACK1) promoter. [page 35]
- 12:10 – 1:30 pm **Lunch Break:** Outside Newman Room
- Session Chair:** **Andrew Donini**
- 1:30 pm Hult, E.F., Weadick, C.J., Chang, B.S.W. and S.S. Tobe, Department of Cell and Systems Biology, University of Toronto, Toronto, ON, Canada.
Reconstruction of ancestral FGLamide-type insect allatostatins: a novel approach to the study of allatostatin function and evolution. [page 36]
- 1:50 pm Tiu S.H.K.^{1,2}, Tobe S.¹ and S.-M. Chan², ¹ Department of Cell and Systems Biology, University of Toronto, Toronto, ON, Canada, ² School of Biological Sciences, The University of Hong Kong, Pokfulam Rd., Hong Kong, China.
Molecular characterization of a shrimp vitellogenin receptor involved in the processing of vitellogenin: from the sites of synthesis to the final storage in the ovary. [page 37]
- 2:10 pm Kai, Z.¹, Tobe, S.S.^{*2}, Ling, Y.¹, Zhang, L.¹, Zhang, J.², Xie, Y.¹, Zhao, Y. and X. Yang^{*1}, ¹ Department of Applied Chemistry, College of Science, China Agricultural University, Beijing, P. R. China, ² Department of Cell and Systems Biology, University of Toronto, Toronto, ON, Canada.
Discovery of new insect growth regulators: allatostatin analogs and their inhibition mechanism. [page 38]
- 2:30 pm Lenkic, L.E., Tiu, S. and S.S. Tobe, Department of Cell and Systems Biology, University of Toronto, Toronto, ON, Canada.
Effects of analogue treatment on the control of JH biosynthesis during the gonadotrophic cycle of *Diploptera punctata*. [page 39]
- 2:50 – 3:00 pm **Closing Remarks**
- 3:00 – 3:30 pm **Coffee Break and Farewells:** Outside Newman Room
- 3:30 pm **End of Conference**