

Insect Biotech Conference – 2010

Conference Schedule

Wednesday Evening – June 9

- 6:00 pm **Registration:** Outside Newman Room
- 7:00 pm **Plenary Talk:** Newman Room
Dr. Basil Arif, Great Lakes Forestry Centre, Sault Ste. Marie, ON.
From Disease to Genomics: A journey with insect viruses
- 7:45 – 9:30 pm **Reception:** Outside Newman Room

Thursday, June 10

- 7:45 – 9:00 am **Breakfast:** Outside Newman Room (The Canadian Buffet)
- 9:00 am **Opening Remarks:** Ian Orchard
- Session Chair:** **Ian Orchard**
- 9:10 am **MOLECULAR CLONING AND CHARACTERIZATION OF THE RETINOID X RECEPTOR AND ECDYSONE RECEPTOR FROM THE LOBSTER, *HOMARUS AMERICANUS*.** [Page 1]
Tiu, S. H.-K. and Tobe S.S.
Department of Cell and Systems Biology, University of Toronto, Toronto, Ontario, Canada. M5S 3G5
- 9:30 am **MOLECULAR CHARACTERIZATION, EXPRESSION AND FUNCTION OF THE CRUSTACEAN CARDIOACTIVE PEPTIDE AND ITS RECEPTOR IN THE KISSING BUG, *RHODNIUS PROLIXUS*.** [Page 2]
Lee, D. and Lange, A.B.
Department of Biology, University of Toronto Mississauga, Mississauga, ON, Canada.
- 9:50 am **ISOLATION AND CHARACTERIZATION OF THE DH_{31} GENE IN THE KISSING BUG, *RHODNIUS PROLIXUS*.** [Page 3]
Zandawala, M., Paluzzi, J.P. and Orchard, I.
Department of Biology, University of Toronto Mississauga, Mississauga, ON, Canada.
- 10:10 – 10:30 am **Coffee Break:** Outside Newman Room
- Session Chair:** **Angela Lange**
- 10:30 am **A MICROARRAY STUDY ON THE GENE EXPRESSION OF *DROSOPHILA MELANOGASTER* IN RESPONSE TO MULTIPLE COLD EXPOSURES.** [Page 4]
Zhang, Jian¹; Marshall, Katie E.¹; Westwood, Tim J.²; Clark, Melody S.³; Sinclair, Brent J.¹
¹The University of Western Ontario; ²University of Toronto Mississauga; ³British Antarctic Survey

- 10:50 am ***AUTOGRAPHA CALIFORNICA MULTIPLE NUCLEOPOLYHEDROVIRUS PROV-CATH IS RETAINED IN CELLS DUE TO INTERACTION WITH VIRAL CHIA.*** [Page 5]
Jeffrey J. Hodgson,¹ Basil M. Arif² and Peter J. Krell¹
¹Department of Molecular and Cellular Biology, University of Guelph, Guelph, ON N1G 2W1, Canada; ²Laboratory for Molecular Virology, Great Lakes Forestry Centre, Sault Ste Marie, ON P6A 2E5, Canada
- 11:10 am ***SEQUENCES SURROUNDING THE TAAG LATE PROMOTER MOTIF REGULATE TRANSCRIPTION OF AUTOGRAPHA CALIFORNICA MULTIPLE NUCLEOPOLYHEDROVIRUS CHIA GENE.*** [Page 6]
Michael J. Norris, Peter J. Krell
¹Department of Molecular and Cellular Biology, University of Guelph, Guelph, ON N1G 2W1, Canada
- 11:30 – 12:00 pm **Short Exposures** (5 minute talks plus questions)
- CHARACTERIZATION OF OCTOPAMINE/TYRAMINE RECEPTORS IN TRICHOPLUSIA NI.*** [Page 7]
Ashbee, M.^a and Donly, B.C.^{a, b}
^aDepartment of Biology, University of Western Ontario, London, ON, Canada; ^b Southern Crop Protection and Food Research Centre, Agriculture and Agri-Food Canada, London, ON, Canada
- BLOCKADE OF GAP JUNCTION HEMICHANNELS INDUCES SPREADING DEPRESSION-LIKE EVENTS IN THE LOCUST CNS.*** [Page 8]
Spong, K.E., Rodgers, C.I. and Robertson, R.M
 Department of Biology, Queens University, Kingston, ON, Canada
- PRIMARY CULTURES OF EMERALD ASH BORER AGRILUS PLANIPENNIS.*** [Page 9]
Wen, F.Y.^{1, 2}, Caputo, G. F.¹, Doucet, D.¹, Krell, P.J.² and Arif, B.M.¹
¹ Great Lakes Forestry Centre, Sault Ste Marie, ON, Canada; ² Department of Molecular and Cellular Biology, University of Guelph, Guelph, ON, Canada.
- MECHANISMS OF RAPID DESICCATION-HARDENING IN DROSOPHILA MELANOGASTER.*** [Page 10]
Bazinet, Aimee and Sinclair, Brent J.
 Department of Biology, The Univesity of Western Ontario, London, ON, Canada
- 12:00 – 1:20 pm **Lunch Break:** Outside Newman Room (French Café)
- Session Chair:** **Peter Krell**
- 1:20 pm ***POTENTIAL USAGE OF RNA INTERFERENCE IN PEST CONTROL.*** [Page 11]
Guoxing Quan¹, Daniel Doucet¹, Tim Iadd¹, Peter J. Krell² and Basil M. Arif¹
¹ Great Lakes Forestry Centre, Canadian Forest Service, 1219 Queen Street East, Sault Ste. Marie, Ontario, Canada, P6A 2E5 ² Department of Molecular and Cellular Biology, University of Guelph, Guelph, Ontario, Canada, N1G 2W1

- 1:40 pm **MULTIDRUG RESISTANCE GENES IN INSECTS.** [Page 12]
 Labbe, R.¹, Simmons, J.¹, D'Souza, O.², Rheault, M.³ and Donly, B.C.^{1,4}
¹Department of Biology, University of Western Ontario, London ON N6A 5B7; ²Pest Management Centre, Agriculture and Agri-Food Canada, Ottawa ON; ³Department of Biology and Physical Geography, University of British Columbia Okanagan, Kelowna BC V1V 1V7; ⁴Southern Crop Protection and Food Research Centre, Agriculture and Agri-Food Canada, London ON N5V 4T3.
- 2:00 pm **INSECT TISSUE CULTURE: ORIGIN / PRESENT STATE / FUTURE CHALLENGES.** [Page 13]
Caputo, G. and Hooey, S.
 Great Lakes Forestry Centre, Sault Ste. Marie, ON
- 2:20 pm **DEVELOPMENT OF AN ONLINE SEARCHABLE TEM (TRANSMISSION ELECTRON MICROSCOPY) IMAGE DATABASE AS A LEARNING AND TEACHING INSTRUMENT.** [Page 14]
Brownwright, A., Lawrence, K. and Basil, A.
 Great Lakes Forestry Centre, Canadian Forest Service, Sault Ste. Marie, Ontario
- 2:40 – 3:00 pm **Short Exposures** (5 minutes plus questions)
- CONSTRUCTION OF *CHORISTONEURA FUMIFERANA* MULTICAPSID NUCLEOPOLYHEDROVIRUS CFMNPV VECTORS FOR DIRECTLY CLONING OF FOREIGN GENES OR DOUBLE-STRANDS RNAs.** [Page 15]
Tim Ladd¹, Daniel Doucet¹, Peter J. Krell², Basil M. Arif¹ and Guoxing Quan¹
¹ Great Lakes Forestry Centre, Canadian Forest Service, 1219 Queen Street East, Sault Ste. Marie, Ontario, Canada, P6A 2E5 ² Department of Molecular and Cellular Biology, University of Guelph, Guelph, Ontario, Canada, N1G 2W1
- GENERATION AND CHARACTERIZATION OF *AUTOGRAPHA CALIFORNICA* MULTIPLE NUCLEOPOLYHEDROVIRUS DNA POLYMERASE MUTANTS RESISTANT TO APHIDICOLIN AND ABACAVIR.** [Page 16]
Guozhong Feng¹, David Thumbi², Basil Arif³, Daniel Doucet³ and Peter Krell¹
 1. Department of Molecular and Cellular Biology, University of Guelph, Guelph, ON N1G 2W1; 2. Sylvar Technologies Fredericton, NB E3B 5A6; 3. Great Lakes Forestry Centre, Sault Ste Marie, ON P6Q 2E5
- ANALYSIS OF RACK1 PROTEIN DURING THE DEVELOPMENT OF *CHORISTONEURA FUMIFERANA* SPRUCE BUDWORM.** [Page 17]
Haggag S Zein^{1,2}, Tim ladd¹, Daniel Doucet¹, Peter J. Krell², Basil M. Arif¹ and Guoxing Quan¹
¹ Great Lakes Forestry Centre, Canadian Forest Service, 1219 Queen Street East, Sault Ste. Marie, Ontario, Canada, P6A 2E5 ² Department of Molecular and Cellular Biology, University of Guelph, Guelph, Ontario, Canada, N1G 2W1
- 3:00 – 3:20 pm **Coffee Break**
- Session Chair:** **Andrew Donini**
- 3:20 pm **AQUAPORINS IN OSMOREGULATORY TISSUE OF *Aedes aegypti* (LIVERPOOL): INVOLVEMENT OF ANAL PAPILLAE IN WATER TRANSPORT.** [Page 18]
Marusalin, J. and A. Donini.
 Department of Biology, York University, Toronto, Ontario.

- 3:40 pm **PHARMACOLOGICAL CHARACTERIZATION AND GENE EXPRESSION OF ION TRANSPORTERS IN THE MIDGE, *CHIRONOMUS RIPARIUS* (MEIGEN).**
[Page 19]
Nasirian, A. and A. Donini
Department of Biology, York University, Toronto, Ontario
- 4:00 pm **BIOLOGY OF CAPA-RELATED PEPTIDES IN *RHODNIUS PROLIXUS*: THEIR ROLE IN AN ANTI-DIURETIC STRATEGY.** [Page 20]
Paluzzi, J.-P. and Orchard, I.
Department of Biology, University of Toronto Mississauga, Mississauga, ON
- 4:20 pm **End of Session**
- 6:00 pm **Peller Estates Winery**
- 7:00 pm **Conference Dinner, Peller Estates Winery**

Friday, June 11

8:00 – 9:00 am **Breakfast:** Outside Newman Room (The Canadian, plated)

Session Chair: **Mike O'Donnell**

9:00 am **PROTEOMIC ANALYSIS OF THE OCCLUSION-DERIVED AMSACTA MOOREI ENTOMOPOXVIRUS.** [Page 21]
Srini Perera^{1,4}, Zhen Li^{1,4}, Min-Ju Chang^{1,4}, Hu Zhihong², Remziye Nalçacıođlu³, Zihni Demirbag³, Peter Krell⁴ and Basil Arif¹
¹Laboratory for Molecular Virology, GLFC, Sault Ste Marie, ON., Canada. ²Wuhan Institute of Virology, Chinese Academy of Sciences, Wuhan, P.R. of China. ³Dept of Biology, Karadeniz Technical University, Trabzon, Turkey. ⁴Molecular and Cellular Biology, University of Guelph, ON., Canada.

9:20 am **ME53 FROM ACMNPV CO-LOCALIZES WITH GP64 AT VIRAL BUDDING SITES.** [Page 22]
Jondavid de Jong, ²Basil M. Arif, ³David A. Theilmann, and ¹Peter J. Krell
¹Department of Molecular and Cellular Biology, University of Guelph, Guelph, ON N1G 2W1, Canada; ²Laboratory for Molecular Virology, Great Lakes Forestry Centre, Sault Ste Marie, ON P6A 2E5, Canada; ³Pacific Agri-Food Research Centre, Agriculture and Agri-Food Canada, Summerland, BC V0H 1Z0, Canada

9:40 am **LINKS BETWEEN CYTOCHROME P450S, GLUTATHIONE-S-TRANSFERASES AND SECRETION OF METHOTREXATE BY MALPIGHIAN TUBULES OF D. MELANOGASTER.** [Page 23]
Chahine, S. and O'Donnell M.J.
Department of Biology, McMaster University, Hamilton, ON, Canada.

10:00 am **SEQUENCE ANALYSIS ON THE GENOME OF THE CHORISTONEURA BIENNIS ENTOMOPOXVIRUS.** [Page 24]
Zhen Li^{1,2}, Daniel Doucet¹, Peter Krell² and Basil Arif¹
¹Laboratory for Molecular Virology, GLFC, Sault Ste Marie, ON., Canada, ²Molecular and Cellular Biology, University of Guelph, ON., Canada.

10:20 – 10:40 am **Coffee Break:** Outside Newman Room

Session Chair: **Cam Donly**

10:40 am **THE CURIOUS CASE OF THE MISSING HEMOLYMPH: A CHILL-INDUCED DISRUPTION OF ION AND WATER HOMEOSTASIS IN THE FALL FIELD CRICKET (GRYLLUS PENNSYLVANICUS).** [Page 25]
MacMillan, H.A., Sinclair, B.J.
Department of Biology, University of Western Ontario, London, ON, Canada.

11:00 am **GUT FUNCTION IS MODULATED BY NEUROPEPTIDES.** [Page 26]
Robertson, L., Rodrigues, E.P. and Lange, A.B.
Department of Biology, University of Toronto Mississauga, Mississauga, ON

- 11:20 am **EVIDENCE OF A CENTRAL PATTERN GENERATOR REGULATING SPERMATHECAL MUSCLE ACTIVITY IN *LOCUSTA MIGRATORIA*.**
[Page 27]
da Silva, R. and Lange, A.B.
Department of Biology, University of Toronto Mississauga, Mississauga, ON
- 11:40 - 12:00 noon **Check out of hotel rooms**
- 12:00 – 1:10 pm **Lunch Break:** Outside Newman Room (The Pizzeria)
- Session Chair: Basil Arif**
- 1:10 pm **HAEMOLYMPH [NA⁺] AND [K⁺] HOMEOSTASIS IN *DROSOPHILA* IN RESPONSE TO DIETARY LOADING.** [Page 28]
Naikkhwah, W. and O'Donnell M.J.
Department of Biology, McMaster University, Hamilton, ON, Canada.
- 1:30 pm **LARVAE OF THE MIDGE, *CHIRONOMUS RIPARIUS* (MEIGEN) POSSESS TWO DISTINCT MECHANISMS FOR IONOREGULATION IN RESPONSE TO ION-POOR CONDITIONS.** [Page 29]
Nguyen, H. and A. Donini.
Department of Biology, York University, Toronto, Ontario.
- 1:50 pm **INTERACTION BETWEEN THE PHYSIOLOGICALLY RELEVANT ION K⁺ AND THE TOXIC METAL TL⁺ IN *CHIRONOMUS RIPARIUS*.** [Page 30]
Belowitz, R.F. and O'Donnell, Michael
Department of Biology, McMaster University, Hamilton, ON, Canada
- 2:10 – 2:20 pm **Closing Remarks**
- 2:20 pm **End of Conference**