

A. **NAME:** LAURENCE PACKER, Professor of Biology

B. DEGREES:

B.A. (hons.) Zoology	1976	University of Oxford
Postgraduate Certificate in Education Canterbury	1977	Christ Church College,
Ph.D.	1986	University of Toronto

C. EMPLOYMENT

1999-present	Full Professor, Department of Biology, Faculty of Science and Engineering, York University
1995-1999	Associate Professor, Department of Biology, Faculty of Pure and Applied Science and Faculty of Environmental Studies, York University
1993-1995	Assistant Professor, Department of Biology, Faculty of Pure and Applied Science and Faculty of Environmental Studies, York University
1998-1993	University of Research Fellow, Assistant Professor, Department of Biology, Faculty of Pure and Applied Science, York University
1987-1988	Post-Doctoral Research Fellow, Department of Biological Sciences, University of Calgary
1986-1987	Assistant Professor of Biology (Sabbatical Replacement), University College of Cape Breton
1981-1986	Demonstrator in General Entomology, Department of Zoology, University of Toronto
1978-1980	Lecturer in Ecology, Christ Church College, Canterbury, Kent, UK

D. PROFESSIONAL ACTIVITIES

- 1) I was one of 7 instructors for the international bee course held at the American Museum of Natural History's South Western Research Station for 2003-2005, 2007, 2009 and 2011.
- 2) COSEWIC co-chair of the Arthropods SSC, January 2007-2011 (interim co-chair to September 2012).
- 3) Taught a course on the identification of African bees at the National Museum of Kenya, Nairobi for two weeks in July 2008.
- 4) Reviewer for Science, Nature, PNAS, Proceedings of the Royal Society of London, TREE, Systematic Entomology, Evolution, Behavioral Ecology and Sociobiology, Behavioral Ecology, Zoological Journal of the Linnean Society, Biological Journal of the Linnean Society, Heredity, Insectes Sociaux, Biochemical Genetics, Journal of the Kansas Entomological Society among others.
- 5) Member of the North American Pollinator Protection Campaign, 2002-present.
- 6) Co-organizer (with Miriam Richards) of a symposium "the myth of the sterile worker" for the 2006 international congress of the International Union for the Study of Social Insects held in Washington DC, in July 2006.
- 7) Our work on bee barcoding and bees in general resulted in considerable media attention in 2008 and 2009, three television appearances and numerous newspaper reports each year. The conservation genetics of bees has received wide coverage with a commentary in TREE, an interview with the Toronto Star, published August 7th, 2005 (listed as one of the 100 highlights of the year in the year end edition), a television appearance on more2life, TVO, September 15th 2005.

E. GRADUATE STUDENTS

	Past Totals	Current
Postdoctoral	2	1 SC
Fellows		
PhD	4	4 ATP, JSM, HN,
Masters	10	5 GR, JP, SM, NDS, NV,

Before – Miriam, Noel, Jeremy, John T,

Since 1998:

<u>Name</u>	<u>Degree</u>	<u>Dates</u>	<u>Title</u>
Hume Douglas*	Masters	1998-2001	A revision of the North American Cardiophorus Species found east of the Rocky Mountains
Jessica Janjic*	Masters	1999-2001	Phylogeny of the bee genus Agapostemon

Pak Kin Chan	Masters	2002-2004	Oak savannahs in southern Ontario, are we ready for reintroduction of the Karner Blue Butterfly yet?
Jennifer Gixti	Masters	2002-2004	Bee biodiversity in southern Ontario
Robin Sellars	Masters	2001-2003	Sociobiology of <i>Halictus farinosus</i>
Sophie Cardinal	Masters	2002-2004	Use of the sting apparatus in bees systematics
Hien Ngo	Masters	2005-2008	Coffee pollination in Costa Rica
Anne-Isabelle Gravel	Masters	2005-2011	Bee biodiversity in Argentina
Alana Taylor	Masters	2005-2007	Bee biodiversity in oak savannah in southern Ontario
Erin Willis	Masters	2005-2007	Revision of <i>Chilicola</i> (<i>Chilioediscelis</i>)
Sheila Dumesh	Masters	2008-2011	Revision of the genus <i>Mexalictus</i>
Amro Zayed	PhD	2001-2006	Bee Conservation Genetics
Jason Gibbs	PhD	2005-2010	Barcoding <i>Dialictus</i>
Sheila Colla	PhD	2005-2012	Bumble bee conservation
Alana Taylor	PhD	2007-	Impact of fire on bee communities
Hien Ngo	PhD	2008-2013	Bees in coffee agroecosystems in Vietnam
J. Scott MacIvor	PhD	2010-	

F. CURRENT/RECENT RESEARCH FUNDING

NSERC Research Networks Grant	2005-2011	\$85,000pa
The microgenomics network: advancing of biodiversity through DNA barcodes (P. Hebert PI with 37 additional applicants including L. Packer) Packer component of above.		
NSERC Discovery Grant	2007-2014	\$55,820pa
CFI, Canadian University Biodiversity Consortium	2007-2010	\$86,349

(York University component)

ORF, Canadian University Biodiversity Consortium 2007-2010 \$306,753
(L. Packer at York as PI)

CFH, Bee Biodiversity in Coffee Plantations in Vietnam

NSERC Research Networks Grant 2009-2014 ~\$100,000pa
The Canadian Pollinator Initiative, PI Dr. P.
Kevan, Guelph. York component.

FAO Preparation of a key for the identification of the 2008-2009 US\$10,000
Families of the world

G. RESEARCH PUBLICATIONS

1A. *Refereed Journal Papers*

- A117. Engel, M.S. and L. Packer. (in press). A new species of *Chiasmognathus* from Kazakhstan (Hymenoptera: Apidae). *Journal of Melittology*. 11 ms pages.
- A116. Sheffield, C. S. P. G. Kevan, A. Taylor-Pindar and L. Packer. (in press). Bee (Hymenoptera: Apoidea) diversity within apple orchards and wild habitats in the Annapolis Valley, Nova Scotia. *Canadian Entomologist*. 21 proof pages.
- A115. Dumes, S. and L. Packer. 2013. Three new species of *Neofidelia* (Hymenoptera: Apoidea: Megachilidae) from northern Chile. *Zootaxa*. 3609: 471-483.
- A114. Packer, L. and S. Dumes. 2012. *Mirnapis ohloweni* Packer and Dumes, new species with notes on *M. inca* Urban (Hymenoptera: Apidae: Eucerini). *Zootaxa* 3478:113-122.
- A113. Packer, L. 2012. *Penapis larraini* Packer, a new species of rophitine bee (Hymenoptera: Halictidae) from a fog oasis in Northern Chile. *Zootaxa* 3408:54-58.
- A112. Smith, M.A., J. Gibbs, L. Packer, C. Sheffield and 25 others. *Wolbachia* and DNA barcoding insects: patterns, potential, and problems. *PLoS ONE* 7(5): e36514. doi:10.1371/journal.pone.0036514.
- A111. Gibbs, J., Albert, J.R., & L. Packer. Dual origins of social parasitism in North American *Dialictus* (Hymenoptera; Halictidae) identified using a phylogenetic approach. *Cladistics* 28:195-207.

- A110. Dumes, S. & L. Packer. 2011. The *Calliopsis* (Hymenoptera: Andrenidae) of Chile with the description of a new species. *Zootaxa* 2908:64-68.
- A109. Ngo, H., A.C. Mojica & L. Packer. 2011. Coffee plant-pollinator interactions: a review. *Canadian Journal of Zoology*. 89:647-660.
- A108. Sheffield, C.S., C.M. Ratti, L. Packer, & T. Griswold. 2011. Leafcutter & mason bees of the genus *Megachile* Latreille (Hymenoptera: Megachilidae) in Canada & Alaska. *Canadian Journal of Arthropod Identification*. 18:1-107.
- A107. Mayer, C., L. Adler, W.S. Armbruster, A. Dafni, C. Eardley, S.-Q. Huang, P.G. Kevan, J. Ollerton, L. Packer, A.Ssymank, J. Stout & S.G. Potts. 2011. Pollination ecology in the 21st century: key questions for future research. *Journal of Pollination Ecology*. 3:8-23.
- A106. Williams, N.M., E.E. Crone, T.H. Roulston, R.L. Minckley, L. Packer & S.G. Potts. 2010. Ecological & life history traits predict bee species responses to environmental disturbances. *Biological Conservation*. 143:2280-2291.
- A105. Richards, M.H. & L. Packer. 2010. Social behaviours in solitary bees: interactions among individuals in *Xeralictus bicuspidariae* Snelling (Hymenoptera: Halictidae: Rophitinae). *Journal of Hymenoptera Research*. 19:66-76.
- A104. Packer, L., J.C. Grixti, R.E. Roughley & R. Hanner. 2009. The status of taxonomy in Canada & the impact of DNA barcoding. *Canadian Journal of Zoology*. 87:1097-1110.
- A103. Colla, S.R., E. Willis, & L. Packer. 2009. Can green roofs provide habitat for bees? *Cities & the Environment*. 2:article 4, 12pp.
<http://escholarship.bc.edu/cate/vol12/iss11/14>.
- A102. Gibbs, J., Ascher, J.S. & Packer, L. 2009. Proposal for precedence of *Dialictus* Robertson, 1902 & *Evylaeus* Robertson, 1902 over *Hemihalictus* Cockerell, 1897, *Sudila* Cameron, 1898 & *Sphecodogastra*, Ashmead, 1899 (Insecta, Hymenoptera). *Bulletin of Zoological Nomenclature* 66: 147-158.
- A101. Sheffield, C.S., P.D.N. Hebert, P. Kevan and L. Packer. (2009). DNA barcoding a regional bee (Hymenoptera: Apoidea) fauna and its potential for ecological studies. *Molecular Ecology Resources*. 9:196-207.
- A100. Packer, L., J. Gibbs, C.S. Sheffield and R. Hanner. (2009). DNA barcoding and the mediocrity of morphology. *Molecular Ecology Resources*. 9:42-50.

- A99. Packer, L. (2009). A remarkable new species of *Geodiscelis* from Argentina (Hymenoptera: Colletidae). *Transactions of the Kansas Academy of Sciences*. 112:22-30.
- A98. Colla, S. and L. Packer. 2008. Evidence for the decline of eastern North American bumble bees, with special focus on *Bombus affinis* Cresson, 1863. *Insect Conservation*. 17: 1379-1391.
- A97. Danforth, B.N. C. Eardley, L. Packer, K. Walker and F.J. Randrianambinintsoa. 2008. Phylogeny of Halictidae with an emphasis on endemic African Halictinae. *Apidologie* 39:86-101.
- A96. Almeida, E.A.B., B.N. Danforth and L. Packer. 2008. Phylogeny of the Xeromelissinae (Hymenoptera: Colletidae) based upon morphology and molecules. *Apidologie* 39:75-85.
- A95. Packer, L. 2008. Phylogeny and classification of the Xeromelissinae (Hymenoptera: Apoidea, Colletidae) with special emphasis upon the genus *Chilicola*. *Systematic Entomology*. 33:72-96.
- A94. Willis, E. and L. Packer. 2008. Revision of *Chilicola* (*Chilioediscelis*). *Zootaxa*, 1762:29-52.
- A93. Zayed, A., S. A. Constantin and L. Packer. 2007. Successful biological invasion despite a severe genetic load. *PLoS ONE*:2:e868 doi:10.1371/journal.pone.0000868.
- A92. Packer, L., A.-I. Gravel, and G. LeBuhn. 2007. Social organization of *Halictus* (*Seladonia*) *tripartitus* Cockerell (Hymenoptera: Halictidae). *Journal of Hymenoptera Research*. 16:281-292.
- A91. Packer, L., J.A. Genaro and C.S. Sheffield. 2007. The bee genera of eastern Canada. *Canadian Journal of Arthropod Identification*.
http://www.biology.ualberta.ca/bsc/ejournal/pgs_03/pgs_03.html
- A90. Packer, L. . 2007. *Mydrosoma micheneri* Packer, new species, a new diphaglossine bee from Brasil (Hymenoptera: Colletidae). *Journal of Hymenoptera Research*. 16:277-280.
- A89. Zayed, A. and L. Packer. 2007. The population genetics of a solitary oligolectic sweat bee, *Lasioglossum* (*Sphecodogastra*) *oenotherae* (Hymenoptera: Halictidae). *Heredity* 99:397-405.
- A88. Packer, L. 2007. Phylogeny and classification of the Xeromelissinae (Hymenoptera: Apoidea, Colletidae) with special emphasis upon the genus *Chilicola*. *Systematic*

Entomology 33:72-96.

- A87. Packer, L. and J.A. Genaro. 2007. Fifteen new species of *Chilicola* (Hymenoptera: Colletidae). Zootaxa, 1468:1-55.
- A86. Kremen, C., N. M. Williams, M.A. Aizen, B. Gemmill-Herren, G. Lebuhn, R. Minckley, L. Packer, S. G. Potts, T. Roulston, I. Steffan-Dewenter, D. Vazquez, R. Winfree, L. Adams, E. E. Crone, S. S. Greenleaf, T. H. Keitt, A. Klein, J. Regetz, T. Ricketts. 2007. Pollination and other ecosystem services produced by mobile organisms: a conceptual framework for the effects of land use change. Ecology Letters, 10:299-314.
- A85. Cardinal, S. and L. Packer. 2007. Phylogenetic analysis of the corbiculate Apinae based on morphology of the sting apparatus. Cladistics 23:99-118.
- A84. Chan. P.K. and L. Packer. 2006. Are we ready for reintroduction of the Karner Blue Butterfly? Restoration Ecology. 14:645-652.
- A83. Gibbs, J. and L. Packer. 2006. Revision and phylogenetic analysis of *Chilicola sensu stricto* (Hymenoptera: Colletidae) with the description of a new species. Zootaxa 1355:1-37.
- A82. Packer, L. 2006. Use of artificial arenas to predict the social organisation of halictine bees: Data for fourteen species from Chile. Insectes Sociaux, 53:307-315.
- A81. Grixti, J.C., and L. Packer. 2006. Bee community composition change over a 35 year period. Canadian Entomologist 138:147-164.
- A80. Packer, L. 2006. A new *Leioproctus* with unique wing venation in males (Hymenoptera: Colletidae; Paracolletinae) with comments on unusual wing modifications in bees. Zootaxa, 1104:47-57.
- A79. Steffan-Dewenter, I., S.G. Potts and L. Packer. 2005. Pollinator diversity and crop pollination services are at risk. Trends in Ecology and Evolution, 20:651-652.
- A78. Genaro, J. and L. Packer 2005. A revision of the genus *Xenochilicola* (Hymenoptera: Colletidae) with the description of a new species. Zootaxa, 1054:1-14.
- A77. Zayed, A., L. Packer, J.C. Grixti, L. Ruz, R.E. Owen and H. Toro. 2005. Increased genetic differentiation in a specialist versus a generalist bee: implications for conservation. Conservation Genetics 5:1017-1026.
- A76. Zayed, A. and L. Packer. 2005. Complementary sex determination substantially increases extinction proneness in haplodiploid populations. Proceedings of the

National Academy of Sciences. 102:10742-10746.

- A75. Packer. L. 2005. The influence of marking upon bee behaviour in circle tube experiments with a methodological comparison among studies. *Insectes Sociaux*. 52: 139-146.
- A74. Packer. L. 2005. A New Species of *Geodiscelis* (Hymenoptera: Colletidae: Xeromelissinae) from the Atacama Desert of Chile. *Journal of Hymenoptera Research*. 14:84-91.
- A73. Packer. L. 2004. Taxonomic and behavioural notes on Patagonian Xeromelissinae with the description of a new species (Hymenoptera: Colletidae). *Journal of the Kansas Entomological Society*. 77: 78:95-110.
- A72. Packer, L., A. Zayed, J.C. Grixti, L. Ruz, R.E. Owen, F. Vivallo and H. Toro. 2005. Conservation genetics of potentially endangered mutualisms: reduced levels of genetic variation in specialist versus generalist bees. *Conservation Biology* 19:195-202.
- A71. Zayed, A., D.W. Roubik and L. Packer. 2004. Use of diploid male frequency data as an indicator of pollinator decline. *Proceedings of the Royal Society of London. B*. 271: S9-S12.
- A70. Grixti, J., Zayed, A., and L. Packer. 2004. Behavioural interactions among females of *Acamptopoeum submetallicum* (Spinola) and *Nolanomelissa toroi* Rozen (Hymenoptera: Andrenidae). *Journal of Hymenoptera Research* 13: 48-56.
- A69. Packer, L. 2004. Morphological variation in the gastral sterna of female Apoidea (Insecta: Hymenoptera). *Canadian Journal of Zoology* 82: 130-152.
- A68. Packer, L. 2003. The comparative morphology of the skeletal parts of the sting apparatus of bees (Hymenoptera: Apoidea). *Zoological Journal of the Linnean Society* 138:1-38.
- A67. Packer, L., B.W.T., Coelho, S. Mateus and R. Zucchi. 2003. Behavioral Interactions Among Females of *Halictus (Seladonia) lanei* (Moure) (Hymenoptera: Halictidae). 76: 177-182.
- A66. Janjic, J., and L. Packer. 2003. Phylogeny of the bee genus *Agapostemon* (Hymenoptera: Halictidae). *Systematic Entomology* 28:101-124.
- A65. Packer, L. and J. Taylor. 2002. Genetic variation within and among populations of an arctic alpine sweat bee (Hymenoptera: Halictidae). *The Canadian Entomologist*. 134: 619-632.
- A64. Zayed, A., and L. Packer. 2002. Genetic differentiation across a behavioural boundary in

- a primitively eusocial bee (Hymenoptera: Halictidae). *Insectes Sociaux*. 49: 282-288.
- A63. Zayed, A. and L. Packer. 2001. High levels of diploid male production in a primitively eusocial bee (Hymenoptera: Halictidae). *Heredity*. 87: 631-636.
- A62. Toro, H. and L. Packer. 2001. Nuevas especies chilenas de Xeromelissinae (Hymenoptera: Colletidae). *Acta Entomologica Chilena*. 25: 47-50.
- A61. Packer, L. and R. E. Owen. 2001. Population genetic aspects of pollinator decline. *Conservation Ecology*. 5(1): 4. <http://www.consecol.org/vol5/iss1/art4>, no page numbers available in online final version. 43 pages in hardcopy.
- A60. Janjic, J. and L. Packer. 2001. New descriptions of *Halictus (Seladonia)* from the new world. *Journal of Hymenoptera Research*. 10:55-75.
- A59. Pabalan, N., K.G. Davey and L. Packer. 2000. Temporal variation in dominance behaviors of *Halictus ligatus*. *Journal of Insect Behavior*. 13:627-650.
- A58. Kerr, J.T., A. Sugar and L. Packer 2000. Indicator taxa, rapid biodiversity assessment, and nestedness in an endangered ecosystem *Conservation Biology* 14:1726-1734.
- A57. Packer, L. 2000. The biology of *Thrincohalictus prognathus* (Hymenoptera: Halictidae) in Israel. *Journal of Hymenoptera Research*. 9: 53-61.
- A56. Plateaux-Quénu, C., L. Plateaux and L. Packer. 2000. Population-typical behaviours are retained when eusocial and non-eusocial forms of *Evylaeus albipes* (F.) (Hymenoptera; Halictidae) are reared simultaneously in the laboratory. *Insectes Sociaux*. 47:263-270.
- A55. Danforth, B.N., H. Sauquet and L. Packer, 1999. Phylogeny of the bee genus *Halictus* (Hymenoptera; Halictidae) based on parsimony and likelihood analyses of nuclear EF-1 α sequence data. *Molecular Phylogenetics and Evolution*. 13: 605-618.
- A54. Packer, L. A. Porsa, C. Plateaux-Quénu and L. Plateaux. 1999. A cryptic species allied to *Evylaeus villosulus* (Kirby) (Hymenoptera: Halictidae). *Annales de la Société Entomologique de France*, 35: 165-171.
- A53. Kerr, J.T., and L. Packer. 1999. The environmental basis of North American species richness patterns among *Epicauta* (Coleoptera: Meloidae). *Biodiversity and Conservation*. 8: 617-628.
- A52. Sugar, A., A. Finamore, H. Goulet, J. Cumming, J.T. Kerr and L. Packer. 1998. A preliminary survey of Symphytan and Aculeate Hymenoptera from oak savannahs in Southern Ontario. *Proceedings of the Entomological Society of Ontario*. 129: 9-18.

- A51. Dunn, M., P.L. Mitchell and L. Packer. 1998. A comparison of the phenology and social biology of two sibling species of *Halictus* in an area of sympatry. *Canadian Journal of Zoology*. 76: 2207-2213.
- A50. Packer, L. 1998 A phylogenetic analysis of western European species of the *Lasioglossum leucozonium* species group (Hymenoptera: Halictidae): Sociobiological and taxonomic implications. *Canadian Journal of Zoology*. 76: 1611-1621.
- A49. Danforth, B.N., P.L. Mitchell and L. Packer. 1998 Mitochondrial DNA differentiation between two cryptic *Halictus* (Hymenoptera; Halictidae) species. *Annals of the Entomological Society of America*. 91: 387-391.
- A48. Packer, L., J. Taylor, D. Savignano, C. Bleser, C. Lane, and L. Sommers. 1998 Population biology of an endangered butterfly, *Lycaeides melissa samuelis* (Lepidoptera; Lycaenidae): Genetic variation, gene flow and taxonomic status. *Canadian Journal of Zoology*. 76:320-329.
- A47. Richards, M.H. and L. Packer 1998. Demography and relatedness in multiple foundress nests of the social sweat bee: *Halictus ligatus*. *Insectes Sociaux*. 45: 97-109.
- A46. Plateaux-Quénu, C., L. Plateaux and L. Packer 1998. A test of the mating limitation hypothesis in *Evylaeus albipes*, a primitively eusocial halictine bee. *Journal of Insect Behavior* 11: 119-128.
- A45. Kerr, J. T. and L. Packer 1998. Effects of climate change on Canadian mammal species richness. *Environmental Monitoring and Assessment* 49: 263-270.
- A44. Packer, L. and J. Taylor 1997. How many cryptic species are there? An application of the phylogenetic species concept to genetic data for some comparatively well known bee species. *Canadian Entomologist* 129:587-594.
- A43. Kerr, J.T. and L. Packer 1997. Habitat heterogeneity determines mammalian species richness in high energy environments. *Nature* 385:252-254.
- A42. Packer, L. 1997. The relevance of phylogenetic systematics to biology: examples from medicine and behavioural ecology. *Mémoires de Muséum National d'Histoire Naturelle special volume: The origin of biodiversity in insects: phylogenetic tests of evolutionary scenarios*. P. Grandcolas (Ed.) 173:11-29.
- A41. Carman, G.M. and L. Packer 1997. A cryptic species allied to *Halictus ligatus* Say. (Hymenoptera; Halictidae). detected by allozyme electrophoresis, G.C. Eickwort Memorial Volume. *Journal of the Kansas Entomological Society* 69:168-176.
- A40. Richards, M.H. and L. Packer. 1996. The socioecology of body size variation in a

primitively eusocial bee. *Oikos* 77:68-76.

- A39. Pabalan, N., K.G. Davey and L. Packer 1996. Comparative morphology of spermathecae in solitary and primitively eusocial bees. *Canadian Journal of Zoology* 74:802-808.
- A38. Richards, M.H. and L. Packer. 1995. Annual variation in survival and reproduction of the primitively eusocial sweat bee, *Halictus ligatus* (Hymenoptera: Halictidae). *Canadian Journal of Zoology* 73:933-941.
- A37. Richards, M.H., L. Packer and J. Seger. 1995. Unexpected patterns of parentage and relatedness in a primitively eusocial bee. *Nature* 373:239-241.
- A36. Packer, L., A. Dzinis, K. Strickler and V. Scott. 1995. Genetic differentiation between two host "races" and two species of cleptoparasitic bees and their hosts. *Biochemical Genetics* 33:97-109.
- A35. Packer, L. 1994. *Lasioglossum (Dialictus) tenax* (Sandhouse) (Hymenoptera; Halictidae) as a solitary sweat bee. *Insectes Sociaux* 41:309-313.
- A34. Richards, M.H. and L. Packer. 1994. Trophic aspects of caste determination in a primitively eusocial sweat bee. *Behavioral Ecology and Sociobiology* 34:385-391.
- A33. Packer, L. and R.E. Owen. 1994. Relatedness and sex ratio in a primitively eusocial halictine bee. *Behavioral Ecology and Sociobiology* 34:1-10.
- A32. Owen, R.E. and L. Packer. 1994. Estimation of the proportion of diploid males in populations of Hymenoptera. *Heredity* 72:219-227.
- A31. Li, J., I.B. Heath and L. Packer. 1993. The phylogenetic relationships of the chytridiomycetous gut fungi (Neocallimasticaceae) and the Chytridiomycota II. Cladistic analysis of structural data and description of the Neocallimasticales Ord. nov. *Canadian Journal of Botany* 71:393-407.
- A30. Rosenmeier, L. and L. Packer. 1993. A comparison of genetic variation in two sibling species pairs of haplodiploid insects. *Biochemical Genetics* 31:185-200.
- A29. Packer, L. 1993. Two new species of Halictine bees from high altitude in the New World tropics. *Canadian Journal of Zoology* 71:1653-1662.
- A28. Blanchetot, A., and L. Packer. 1992. Genetic variability in the social bee *Lasioglossum marginatum* and a cryptic undescribed sibling species as detected by DNA fingerprinting and allozyme electrophoresis. *Insect Molecular Biology* 1:89-97.
- A27. Owen, R.E., L.J. Mydyski, D.B. McCorquodale and L. Packer. 1992. Allozyme variation in bumble bees. *Biochemical Genetics* 30:443-453.

- A26. Packer, L. 1992. The social organisation of *Lasioglossum (Dialictus) laevisimum* in Southern Alberta. Canadian Journal of Zoology 70:1767-1774.
- A25. Packer, L., R.E. Owen and C. Plateaux-Quénu. 1992. Electrophoretic evidence that *Lasioglossum (Evylaeus) mediterraneum* (Bluthgen) is a species distinct from *L. (E.) laticeps* (Schenck) with notes on its phylogenetic position. Canadian Entomologist 124:371-380.
- A24. Packer, L. and R.E. Owen. 1992. Variable enzyme systems in the Hymenoptera. Biochemical Systematics and Ecology 20:1-7.
- A23. Packer, L. 1991. The evolution of social behaviour and nest architecture in sweat bees of the subgenus *Evylaeus* (Hymenoptera: Halictidae): A phylogenetic approach. Behavioral Ecology and Sociobiology 29:153-160.
- A22. Packer, L. 1990. Solitary and eusocial nests in a population of *Augochlorella striata* (Provancher) (Hymenoptera; Halictidae) at the northern edge of its range. Behavioral Ecology and Sociobiology. 27:339-344.
- A21. Packer, L. and R.E. Owen. 1990. Allozyme variation, linkage disequilibrium and diploid male production in a population of the primitively social bee *Augochlorella striata* (Hymenoptera; Halictidae). Heredity 65:241-248.
- A20. Packer, L. and R.E. Owen. 1989. Allozyme variation in *Halictus rubicundus*: a primitively social bee (Hymenoptera: Halictidae). Canadian Entomologist 121:1049-1058.
- A19. Packer, L., V. Jessome, C. Lockerbie and B. Sampson. 1989. The phenology and social biology of four sweat bees in a marginal environment: Cape Breton Island. Canadian Journal of Zoology 67:2871-2877.
- A18. Packer, L., B. Sampson, C. Lockerbie and V. Jessome. 1989. Nest architecture and brood mortality in some sweat bees (Hymenoptera; Halictidae) from Cape Breton Island. Canadian Journal of Zoology 67:2864-2870.
- A17. Plateaux-Quénu, C., L. Plateaux and L. Packer. 1989. Preadaptations to sociality in the bivoltine, solitary halictine *Evylaeus villosulus*. Insectes Sociaux 36:245-263.
- A16. Packer, L. and R.E. Owen. 1989. Notes on the biology of *Lasioglossum cooleyi* (Crawford), an eusocial halictine bee (Hymenoptera: Halictidae). Canadian Entomologist 121:431-438.
- A15. Darling, C.D. and L. Packer. 1988. Effectiveness of malaise traps in collecting Hymenoptera: the influence of trap design, mesh size and location. Canadian Entomologist 120:787-796.

- A14. Packer, L. 1988. The effect of *Bombylius pulchellus* (Diptera; Bombyliidae) and other mortality factors upon the biology of *Halictus ligatus* (Hymenoptera; Halictidae) in southern Ontario. Canadian Journal of Zoology 66:611-616.
- A13. Packer, L. and G. Knerer. 1987. The biology of a subtropical population of *Halictus ligatus* Say (Hymenoptera; Halictidae). III. The transition between annual and continuously brooded colony cycles. Journal of the Kansas Entomological Society 60:510-516.
- A12. Packer, L. 1987. The triungulin larva of *Nemognatha (Pauronemognatha) punctulata* LeConte (Coleoptera; Meloidae) with a description of the nest of its host *Megachile brevis pseudobrevis* Say (Hymenoptera; Megachilidae). Journal of the Kansas Entomological Society 60:280-287.
- A11. Packer, L. 1987. A description of the mature larva and cocoon of the bee *Thygater* sp. (Hymenoptera; Anthophoridae). Journal of the New York Entomological Society 95:23-27.
- A10. Packer, L. and G. Knerer 1986. The biology of a subtropical population of *Halictus ligatus* Say (Hymenoptera; Halictidae). I. Phenology and social organisation. Behavioral Ecology and Sociobiology 18:363-375.
- A9. Packer, L. 1986. The biology of a subtropical population of *Halictus ligatus* Say. II. Male behaviour. Ethology 72:287-298.
- A8. Packer, L. 1986. The biology of a subtropical population of *Halictus ligatus* Say. IV. A cuckoo-like caste. Journal of the New York Entomological Society 94:458-466.
- A7. Packer, L. 1986. The social organisation of *Halictus ligatus* (Hymenoptera; Halictidae) in southern Ontario. Canadian Journal of Zoology 64:2317-2324.
- A6. Packer, L. 1986. Multiple foundress associations in a temperate population of *Halictus ligatus*. Canadian Journal of Zoology 64:2325-2332.
- A5. Packer, L. and G. Knerer. 1986. An analysis of variation in the nest architecture of *Halictus ligatus* in Ontario. Insectes Sociaux 33:190-204.
- A4. Packer, L. and G. Knerer. 1985. Social evolution and its correlates in bees of the subgenus *Evylaeus*. Behavioral Ecology and Sociobiology 17:143-149.
- A3. Packer, L. 1985. The social organisation of two halictine bees from southern Mexico with notes on two bee-hunting philanthine wasps. Pan-Pacific Entomologist 51:291-298.
- A2. Packer, L. 1984. The ecological genetics of the speckled wood butterfly, *Pararge aegeria* L. - A preliminary study. Heredity 52:179-188.

- A1. Packer, L. 1983. The nesting biology of *Lasioglossum (Evylaeus) laticeps* (Hymenoptera; Halictidae) in England. *Insectes Sociaux* 30:367-375.

1B. Papers Submitted

- B1. Packer, L. *Patagonicola*: A new genus of xeromelissine bee from Argentina (Hymenoptera: Apoidea: Colletidae). Submitted to *Canadian Entomologist*. 62 ms pages.

1C. Papers Published by HQP Whose Research was Funded by my Research Grants

- C37. Dumesh, S. (accepted). Revision of the Mesoamerican bee genus *Mexalictus* (Hymenoptera: Halictidae) with the description of 19 new species. *Zootaxa*, 110ms pages.
- C36. Colla, S.R., J. Ascher, M. Arduser, J. Cane, M. Deyrup, S. Droege, G. Hall, C. Henne, J. Gibbs, T. Griswold, J. Neff, R.P. Jean, M. Rightmyer, C. Sheffield, M. Veit, & A. Wolf. 2012. Documenting persistence of most Eastern North American bee species (Hymenoptera: Apoidea: Anthophila) to 1990-2009. *Journal of the Kansas Entomological Society* 85:14-22.
- C35. Owen, R.E., M.C. Otterstatter, R.V. Cartar, A. Farmer, N. O'Toole & S.R. Colla. 2012. Significant expansion of the distribution of the bumble bee *Bombus moderatus* (Hymenoptera: Apidae) in Alberta over 20 years. *Canadian Journal of Zoology* 90:133-138.
- C34. Bartomeus, I., J.S. Ascher, D. Wagner, S.R. Colla, B.N. Danforth, S. Kornbluth & R. Winfree. 2011. Climate-associated phenological advances in bee pollinators & bee-pollinated plants. *Proceedings of the National Academy of Science*. 108:20645-20649.
- C33. Sheffield, C.S., S. Dumesh, and M. Cheryomina. 2011. *Hylaeus punctatus* (Hymenoptera: Colletidae), a bee species new to Canada with notes on other non-native species. *Journal of the Entomological Society of Ontario*. 142:29-41.
- C32. Richards, M.H., A. Rutgers-Kelly, J. Gibbs, J.L. Vickruck, S.M. Rehan, and C. Sheffield. 2011. Bee diversity in naturalizing patches of Carolinian grasslands in southern Ontario. *Canadian Entomologist* 143: 279-299.

- C31. Gibbs, J. 2011 Revision of the metallic *Lasioglossum* (*Dialictus*) of Eastern North America (Hymenoptera, Halictidae, Halictini). Zootaxa. 3073:1-216.
- C30. Vickruck, J.L., S.M. Rehan, C.S. Sheffield, & M.H. Richards. 2011. Nesting biology & barcode analysis of two cryptic species within *Ceratina dupla*, with comparisons to *C. calcarata* (Hymenoptera: Apidae: Xylocopinae). Canadian Entomologist 143: 254-262.
- C29. Dumes, S., & C.S. Sheffield. 2011. Bees of the Genus *Dufourea* Lepeletier (Hymenoptera: Halictidae: Rophitinae) of Canada. Canadian Journal of Arthropod Identification 20: http://www.biology.ualberta.ca/bsc/ejournal/ds_20/ds_20.html
- C28. Rehan, S.M. & C.S. Sheffield. 2011. Morphological & molecular delineation of a new species in the *Ceratina dupla* species group (Hymenoptera: Apidae: Xylocopinae) of eastern North America. Zootaxa 2873:35-50.
- C27. Gibbs, J. 2010. Atypical wing venation in *Dialictus* & *Hemihalictus* & its implications for subgeneric classification of *Lasioglossum*. Psyche, doi:10.1155/2010/605390 6 pp.
- C26. Sheffield, C.S., M. Richards, & T. Griswold. Discovery of the western Palearctic bee *Megachile* (*Pseudomegachile*) *ericetorum* (Hymenoptera: Megachilidae) in Ontario. Journal of the Entomological Society of Ontario. 141:85-92.
- C25. Taylor, A.N. & P. Catling. 2011. Bees and butterflies in burned and unburned alvar woodland: evidence for the importance of postfire succession to insect pollinator diversity in an imperiled ecosystem. Canadian Field Naturalist. 125: 297-305.
- C24. Colla, S.R. & S. Dumes 2010. Natural history notes for the bumble bees of southern Ontario. Entomological Society of Ontario 141: 38-67.
- C23. C.M. Ratti & S.R. Colla. 2010. Discussion of the presence of an eastern bumble bee species (*Bombus impatiens* Cresson) in western Canada. Pan-Pacific Entomologist. 86:29-31.
- C22. Colla, S.R. & C.M. Ratti. 2010. Evidence for the decline of the western bumble bee (*Bombus occidentalis* Greene) in British Columbia. Pan-Pacific Entomologist. 86:32-34. 75

- C21. Gardiner, M., J.K. Tuell, R. Isaacs, J. Gibbs, J.S. Ascher, D. A. Landis. 2010 Implications of three model biofuel crops for beneficial arthropods in agricultural landscapes. *BioEnergy Research*, 3: 6–19.
- C20. Droege, S., M.G. Rightmyer, C.S. Sheffield, & S.G. Brady 2010. New synonymies in the bee genus *Nomada* from North America (Hymenoptera: Apidae). *Zootaxa* 2661:1-32.
- C19. Gibbs, J. 2010. Revision of the metallic *Dialictus* of Canada (Hymenoptera: Halictidae: Lasioglossum). *Zootaxa*. 2591:1-382.
- C18. Williams, P., S. R. Colla & Z. Xie. 2009 Bumblebee vulnerability: common correlates of winners & losers across three continents. *Conservation Biology* 23:931-940.
- C17. Gibbs, J. 2010. Atypical wing venation in *Dialictus* and *Hemihalictus* and its implications for subgeneric classification of *Lasioglossum*. *Psyche*. Vol. 2010 Article ID 605390, 6 pages, 2010. doi:10.1155/2010/605390
- C16. Gibbs, J. 2010. An aberrant bee of the species *Lasioglossum (Dialictus) disparile* (Cresson) with brief taxonomic notes on the species. *Journal of the Kansas Entomological Society* 83:92-96.
- C15. Gibbs, J. 2009. New species in the *Lasioglossum petrellum* species-group (Hymenoptera: Halictidae) identified with an integrative taxonomic approach. *The Canadian Entomologist* 141:371-396.
- C14. Gibbs, J. 2009. A new cleptoparasitic *Lasioglossum* (Hymenoptera, Halictidae) from Africa. *Journal of Hymenoptera Research*, 18: 74–79.
- C113. Gibbs, J. & Sheffield, C.S. 2009. Rapid range expansion of the Wool-carder Bee, *Anthidium manicatum* (Linnaeus) (Hymenoptera: Megachilidae) in North America. *Journal of the Kansas Entomological Society*, 82:21–29.
- C12. Gibbs, J. 2009. Integrative taxonomy identified new (and old) species in the *Lasioglossum (Dialictus) tegulare* (Robertson) species group (Hymenoptera, Halictidae). *Zootaxa* 2032:1-38.
- C11. Genaro, G.A. 2006. Checklist and distribution patterns of apoid wasps (Hymenoptera: Apoidea: Sphecidae and Crabronidae) of Cuba. *Zootaxa*, 1171:47-68.
- C10. Genaro, G.A. 2004. Notas sobre las presas y conducta de nidificación de algunas especies de esfécidos (Hymenoptera: Spheciformes: Crabronidae, Nyssonidae). *Cocuyu* 14:18-19.

- C9. Genaro, G.A. 2004. A new species of *Cerceris* from Hispaniola, West Indies (Hymenoptera: Crabronidae: Philanthinae). *Journal of the Kansas Entomological Society* 77:761-764.
- C8. Zayed, A. 2004. Effective population size of Hymenoptera with complementary sex determination. *Heredity* 93:627-630.
- C7. Romankova, T. 2003. Bees of genus *Colletes* of Ontario (Hymenoptera, Apoidea, Colletidae). *Journal of the Entomological Society of Ontario* 134:91-106.
- C6. Douglas, H. 2003. A revision of the north American *Cardiophorus* (Coleoptera: Elateridae) species found east of the Rocky Mountains. *Canadian Entomologist*. 135:493-548.
- C5. Kerr, J. T., and D.J. Currie. 2000. Evolutionary and environmental controls on broad-scale patterns of biodiversity in North America. *Ecoscience* 6:329-337
- C4. Kerr, J.T. 1999 Weak links: Rappoport's rule and large-scale species richness patterns. *Global Ecology & Biogeography Letters*. 8: 47 - 54
- C3. Kerr, J.T., R. Vincent and D.J. Currie. 1998 Determinants of Lepidopteran richness patterns in North America. *Ecoscience* 5: 448 - 453
- C2. Kerr, J.T. 1997. Species richness, endemism and the choice of areas for conservation. *Conservation Biology* 11:1094-1100. 1997.
- C1. Richards, M.H. 1994. Social evolution in the genus *Halictus*: A phylogenetic approach. *Insectes Sociaux* 41:315-325.

1D. Papers Published in Books

- D8. Chan, P.K. and L. Packer. 2004. When is a site restored? Studies of the suitability of five oak savannah habitats in Ontario for reintroduction of the Karner Blue butterfly (*Lycaeides melissa samuelis*). *Proceedings of the 16th International Conference, Society for Ecological Restoration*. 9pp.
- D7. Chan, P.K. and L. Packer. 2003. Quantitative assessment of potential karner Blue Butterfly (*Lycaeides melissa samuelis*) reintroduction sites in Ontario. In C.J. Lemieux, J.G. Nelson, T.J. Beechey and M.J. Troughton (eds.), *Proceedings of the Parks and Research Forum of Ontario (PRFO) Annual General Meeting May 8-10, 2003, University of Western Ontario*, p. 347-353.
- D6. Packer, L. 1999. The distribution of *Halictus ligatus* Say and *H. poeyi* Lep.

(Hymenoptera; Halictidae) in North America. pp 81-84 in: Entomological contributions in memory of Bryan A. Alexander. G. W. Byers, R. H. Hagen and R. W. Brooks eds. National History Museum University of Kansas Special Publication #24.

- D5. Packer, L. 1998. Reproductive altruism in insects. (pp 118-128.) In: The Encyclopaedia of Reproduction. Edited by Adashi, E.Y. et al., Harcourt - Brace.
- D4. Packer, L. 1994. Biodiversity and the food supply. pp. 117-123. In: Human society and the natural world: perspectives on sustainable futures. Edited by D.V.J. Bell, *et al.*, Faculty of Environmental Studies, North York.
- D3. Packer, L. 1994. The extirpation of the Karner Blue butterfly in Ontario. pp. 143-152. In: The Karner Blue Butterfly: a symbol of a vanishing landscape. D. Andow, R. Baker and C. Lane (Eds.). University of Minnesota Press, St. Paul. MN.
- D2. Packer, L. 1993. Multiple foundress associations in sweat bees. pp. 215-233. In: Queen number and sociality in insects. Edited by L. Keller. Oxford University Press.
- D1. Packer, L. 1991. The status of two butterflies, Karner Blue (*Lycaeides Melissa samuelis*) and Frosted Elfin (*Incisalia irus*), restricted to oak savannah in Ontario. pp. 253-271. In: Conserving Carolinian Canada G.M. Allen, P.F.J. Eagles and S.D. Price (Eds.). University of Waterloo Press.

1E. Books

- E1. Packer, L. 2010. Keeping the bees: why all bees are at risk and what we can do to save them. HarperCollins Canada, 273pp.

1F. Papers Published in Volumes of Conference Proceedings

- F9. Kerr, J. and L. Packer. 1994. Biodiversity patterns in North American Mammals: the importance of phylogeny. Proceedings of the XIIIth Meeting of the Willi Hennig Society, Copenhagen.

The following eight articles were published as short papers in Proceedings of the International Congress of the International Union for the Study of Social Insects, Paris, 1994; Bangalore, 1990; Munich, 1987.

- F8. Packer, L. 1994. Intracolony conflicts of interest in the primitively social bee

Lasioglossum laevissimum. p. 164.

- F7. Packer, L., J. Taylor and M. Richards. 1994. Social devolution in sweat bees. p. 358.
- F6. Pabalan, N., L. Packer and K.G. Davey. 1994. Oosorption and spermathecal morphology in three species of wild bees. p. 489.
- F5. Sakagami, S.F. and L. Packer. 1994. Delayed eusociality in Halictine bees. p. 86.
- F4. Packer, L. 1990. Biochemical systematics and the evolution of social behaviour and nest architecture in sweat bees of the subgenus *Evylaeus*. p. 666.
- F3. Packer, L. 1987. An unexpectedly high female bias to the sex ratio in a temperate population of *Halictus ligatus*. pp. 353-354.
- F2. Packer, L. 1987. Reproductive competition in two populations of *Halictus ligatus*. pp. 553-554.
- F1. Plateaux-Quénu, C., L. Plateaux and L. Packer. 1987. The biology of a bivoltine population of *Evylaeus villosulus*. p. 391.

1G. Government Reports

- G4. Packer, L., J.C. Grixti, H. Douglas, J. Janjic, R. Sellars and M. Sommers. 2001. Insect survey of tall-grass prairie in southern Ontario with particular reference to the bees of the Manestar tract. A report submitted to the WWF and OMNR Living Legacy Program, 13pp.
- G3. Packer, L. 1998. A status report on the Frosted Elfin butterfly *Incisalia irus* (Godart) in Canada. A report submitted to COSEWIC, 30pp.
- G2. Packer, L. 1987a. A status report on the Karner Blue butterfly, *Lycaeides melissa samuelis* Nabokov, in Canada. A report prepared for the World Wildlife Fund and the Ontario Ministry of Natural Resources Wildlife Branch, Nongame Program. Unpublished. 66pp.
- G1. Packer, L. 1987b. A status report on some rare lepidopteran species in southern Ontario. A report prepared for the World Wildlife Fund and the Ontario Ministry of Natural Resources, Wildlife Branch, Nongame Program. Unpublished. 38pp.

1H. Book Reviews

- H4. Packer, L. 1998. Review of "The Evolution of Social Behavior in Insects and Arachnids" J.A. Choe and B.J. Crespi (Eds.) C.U.P. Annals of the Entomological Society of America.
- H3. Packer, L. 1994. Review of "The Bee Genera of North and Central America (Hymenoptera: Apoidea)". Edited by C.D. Michener, R.J. McGinley and B.N. Danforth. Smithsonian Institution Press. Bulletin of the Canadian Entomological Society 26:127-129.
- H2. Packer, L. 1992. Review of "The Social Biology of Wasps". Edited by K.G. Ross and R.W. Matthews. Cornell University Press. Bulletin of the Entomological Society of Canada 24:49-50.
- H1. Packer L. 1989. Review of "The Natural History and Behavior of North American Beewolves". By H.E. Evans and K.M. O'Neill. Cornell University Press. Quarterly Review of Biology 64:213-214.

1I. Workshop Proceedings

- I1. Balpataky, K. and L. Packer. 2005. Interdisciplinary approaches to the problems caused by invasive species. Summary of workshop presentations. York University. 39pp.

H. SEMINARS AND PAPERS PRESENTED

Lifetime Total: 93

Invited*: 35

Since 2007:

*University of Toronto Alumnus Association. Toronto, October 28, 2008

*Royal Canadian Institute for the Advancement of Science, Toronto, October 26, 2008.

*Entomological Society of Canada, Ottawa, October 21, 2008

*Universidade Nacional Autonoma de Mexico, Colima, October 10, 2008

*V Congreso Mesoamericano de Abejas Sin Aguijon, Merida, Mexico, October 2, 2008

*Encontro de Abelhas, Riberão Preto, Brazil, July 26, 2008

*Encontro de Abelhas, Riberão Preto, Brazil, July 25, 2008

National Museum of Kenya, Nairobi, Kenya, July 15, 2008

International Centre for Insect Physiology and Ecology, Nairobi, Kenya,
July 15, 2008

*Pollinator Summit, Durban, South Africa, July 2, 2008.

Pollinator Summit, Durban, South Africa, July 1, 2008

*David Suzuki Foundation Booklet Release, Toronto, May 3, 2008.

Canadian Centre for DNA Barcoding Annual Conference, Royal Ontario
Museum, April 26, 2008

*Municipality of Guelph Pollinator Park Opening Event, March 3, 2008

*University of Toronto, Scarborough Campus, March 28, 2008

I. ADMINISTRATIVE AND PROFESSIONAL WORK

1. Committee Work

1a. *University Committee Work*

2005-2006	Chair, Departmental T&P committee
2005-2006	Search Committee, two animal physiology positions
2005-2008	Senate Executive
2005-2008	Biology Department Executive Committee
2004-2008	Senator
2004-2008	FGS Council
2002-2006	Member, International Strategic Research Planning Group, York University
2002-2003	Search Committee for Population Geneticist, Department of Biology
2001-2003	Graduate Committee
2000-2001	Teaching Committee
1999-2000	Chair of the Teaching Committee, Department of Biology Tenure and Promotion Committee, Department of Biology Executive Committee, Department of Biology
1	Search for Departmental Chair Committee, Department of Biology Women's Faculty Award position in Molecular Evolution Search Committee
1996-1999	PhD Committee, Faculty of Environmental Studies
1995-1998	Science Library Committee, Faculty of Pure and Applied Science representative, York University
1995-1997	Seminar Committee, Department of Biology
1995-1996	Graduate Curriculum Committee, FES
1994-1996	Bethune College Curriculum Committee

1993-1994	Tenure and Promotion Committee, Department of Biology
1993-1994	Search Committee for Master of Bethune College
1993-1994	Science in the Bachelor of Environmental Studies Curriculum Committee
1992-1994	Senate Library Committee, Faculty of Graduate Studies representative, York University
1991-1993	Applied Ecology Curriculum Development Committee
1989-1994	Science Library Committee, Faculty of Pure and Applied Science representative, York University
1989-1991	Graduate Committee, Department of Biology, York University
1988-1989	Seminar Committee, Department of Biology, York University
1986-1990	Canadian Representative on the International Steering Committee of the International Union for the Study of Social Insects.

1b. Government and Other Committee Work

2008-present	Scientific Advisory Committee, NSERC-CANPOLIN
2008-present	Board of Directors, NSERC-CANPOLIN
2007-present	COSEWIC (Committee on the Status of Endangered Wildlife in Canada) Co-Chair Arthropods Specialist Subcommittee.
2005-present	Member, Board of Directors, CCBD
2005-present	Member of the Board for the Canadian Music Centre
2000-2002	Member of Steering Committee for NSERC GSC18 Reallocation exercise.
1996-1998	Member of Biological Survey of Canada, Terrestrial Arthropods
2	Member of collections and cultures subcommittee for NSERC MFA awards
1995	Chair of collections and cultures subcommittee for NSERC MFA awards

1994-1997 Member of NSERC GSC18 - evolution and ecology

1992-present Karner Blue Recovery Team Member. Led by the Ontario
Ministry of Natural Resources.

1c. Workshop Participation

1992 Environment Canada Workshop on Environmental Monitoring,
Toronto. May 16-19.

1992 Agriculture Canada, Canadian Museum of Nature and Forestry
Canada
Workshop on the Future of Systematics in Canada, Ottawa, June
16-17.

1d. National and International Initiatives

2008-present Chair of Campaign to Barcode the Bees of the World

2003-present Canadian Pollinator Initiative (with Peter Kevan)

2001-present Member of North American Pollinator Protection Campaign

1e. Editorial Duties

2005 – 2008 Editor for Apoidea, Zootaxa,

2000 – present Editorial board Canadian Journal of Zoology,

2000 – present Editorial board Acta Entomologica Chilena,

J. TEACHING

1a) Undergraduate Teaching

1998 W	NATS SCI 1690.06	Evolution
1989 S	BIO 3000	Field Course – General Entomology
1989/90 F	BIO 4230.04	General Entomology
1989/90 FW	BIO 3100.02	Current Topics
1990/91 W	BIO 4170.03	Biology of Hymenoptera
1991/92 W	BIO 4230.04	General Entomology
1991/92 FW	BIO 3100.02	Current Topics

1992 F	BIO 4170.03	Applied Entomology
1992/93 FW	BIO 3100.02	Current Topics
1992/93 FW	BIO 4800.06	L.Rosenmeier Research Honours Thesis
1993/94 FW	BIO 4800.06	D. Clark Research Honours Thesis
1993/94 W	ENVS 4180	Biodiversity
1994 S	ENVS 3900.06	Individual directed study Biology of Rabies x 2 A.
1994/95 FW	BIO 4800.08	Dzinas Research Honours Thesis
1994 S	BIO 3000	Field Course – Urban Insect Biodiversity
1994/95 F	BIO 4170.03	Biodiversity
1994/95 FW	BIO 4800.08	G. Carman Research Honours Thesis
1995/96 F	ENVS 4180	Biodiversity
1995/96 W	BIO 4230.04	General Entomology
1996/97 F	ENVS 4000	Honours Project x 2
1996/97 FW	BIO 3100.02	Current Topics
1996/97 F	BIO 4111.04	Biodiversity
1996/97 FW	BIO 4800.08	M. Dunn and A. Sugar Honours Thesis
1996/97 FW	BIO 4800.04	M. Nikousefat-Rad Honours Thesis
1998 F	BIO 4230.04	General Entomology
1998/99 FW	BIO 4800.08	J.Janjic Honours Thesis
1999 F	BIO 4230.04	General Entomology
1999 F	BIO 4255.04	Biodiversity
2000	BIO4800.08	J.Grixti, A. Zayed, M. Sommers, Honours Thesis
2001	BIO 4230.04	Entomology
2001	BIO 4255.03	Biodiversity
2001	BIO 3000	Field Course – Bees and Wasps
2002	BIO 4255.03	Biodiversity
2002	BIO 1010.06	Introductory Biology (Ecology and Evolution Section)
2003	BIO 4800.08	L.Mac Honours Thesis
2003	BIO 4255.03	Biodiversity
2003	BIO 1010.06	Introductory Biology (Ecology and Evolution Section)
2004	BIO 4255.03	Biodiversity
2004	BIO 4260.03	Field Course – Bees and Wasps
2005	BIO 4255.03	Biodiversity
2005	BIO 4260.03	Systematics
2006	BIO 4255.03	Biodiversity
2006	BIO 4260.03	Systematics
2006	BIO 3000	Field Course – Bees
2007	BIO 4255.03	Biodiversity
2007	BIO 4230.04	Entomology
2008	BIO 4255.03	Biodiversity
2008	BIO 4230.04	Entomology

1b) Graduate Teaching

1989 F	BIO 5000	Biology of Bees
1991/92 W	BIO 5221B.01	Principles and Practices of Phylogenetic Systematics
1993/94 W	BIO 5221B.01	Principles and Practices of Phylogenetic Systematics
1993 F	ENVS 5101	Introduction to Environmental Studies
1993 F	ENVS 5112	Ecology in Environmental Studies
1993 S	ENVS 7599	Individual directed study x 2
		Ecology and Evolution – 1 cu
1994 F	ENVS 5112	Ecology and Environmental Studies
1995 F	ENVS 5112	Ecology and Environmental Studies
1995 S	ENVS 7599	Individual directed study – Urban Ecology – 2 cu's
1995 S	ENVS 7599	Individual directed study – Biodiversity – 1 cu
1996 W	BIO 5221B.01	Phylogenetics
1996 W	BIO 5092.03	Entomology
1996 W	ENVS 6599	Individual directed study – Ecology – 1 cu
1996 W	ENVS 6599	Individual directed study – Sociobiology – 3 cu's
1996 F	ENVS 5112	Ecology in Environmental Studies
1996 F	ENVS 6599	Individual directed study – Conservation – 1 cu
1996 F	ENVS 6599	Individual directed study – Ecological Forestry – 1 cu
1998 F	BIO 5086	Phylogenetic Systematics
1999 F	BIO 5086	Phylogenetic Systematics
2000 S	BIO 5334	Social Evolution of Insects
2000 W	BIO 5221	Phylogenetics
2001 W	BIO 5221	Phylogenetics
2002 W	BIO 5XXX	Pollination Biology
2003 W	BIO 5221	Phylogenetics
2006 S	BIO 5XXX	Pollination Biology
2008/9	BIO 5XXX	Systematics