

CURRICULUM VITAE

Zachary Y. Huang

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Education

Ph.D., Honey Bee Biology, University of Guelph, Canada, 1988
B.Sc., Entomology and Phytopathology, Hunan Agricultural University, China, 1982

Professional Experience

07/04 to present Associate Professor, Dept. of Entomology, Michigan State University
Ecology, Evolutionary Biology and Behavior Program
04/06 - Environmental Science and Policy Program
11/98 to 06/04 Assistant Professor, Dept of Entomology, Michigan State University
08/93 to 10/98 Senior Research Scientist, Department of Entomology, University of Illinois
03/90 to 07/93 Postdoctoral Fellow, Dept of Entomology, University of Illinois
08/88 to 02/90 Postdoctoral Fellow, Dept of Entomology, University of Missouri

Affiliations

American Association for Professional Apiculturists
Entomological Society of America
Eastern Apicultural Society (Life Member)
International Union for the Study of Social Insects

Awards and Honors

The President's Volunteer Service Award (Bronze Award), the President's Council on Service & Civic Participation, 2008
3rd prize and honorable mention, MSU Global Focus Photography Contest, 2007
2nd prize, VI international apiculture photography contest, 2006
Roger A. Morse Apiculture Lecture, Dept Entomology, Cornell University, 2005
Outstanding Mentor, Siemens Westinghouse Math, Science & Tech. Competition, 2003
Lilly Teaching Endowment Fellowship (one of 5 university-wide awardees), MSU, 2002
Senior Visiting Scientist, Xishuangbanna Tropical Botanical Garden, Yunnan, China, 2002
Best Proposal Award, Michigan Agricultural Experiment Station, MSU, Oct 2001
Adjunct Professor, China Agricultural University, 2001-
www.cyberbee.net, featured as "Hot Picks" on the journal *Science*, June 2, 2000
Guest Professor, Institute of Apicultural Research, Chinese Academy of Agric. Sciences, 2000-
Guest Professor, Yunnan Agricultural University, 1999-
Induction to Sigma Xi, 1992
Distinguished Ph.D. Dissertation (top 10 percentile), 1988
Toronto District Beekeepers' Association Scholarship, 1984, 1986
The Beatty-Munro Family Memorial Fellowship, 1984, 1986
Soden Memorial Fellowship in Agriculture, 1986
Gordon F. Townsend Fellowship, 1986
University of Guelph Graduate Scholarship, 1985
Pre-doctoral Grant, Canadian International Development Agency, 1985-1988
Davison Travel Grant, 1984, 1986
Chinese Educational Commission Overseas Graduate Fellowship, 1983-1984
Honors B.Sc. Thesis, 1981

Publications

Refereed Journal Articles (*=correspondence author)

1. Kou, R., S.-Y. Chou, Z.Y. Huang, R.-L. Yang. 2008. Juvenile hormone levels are increased in winners of cockroach fights. Hormones and Behavior. In press.
2. Duan J.J, M. Marvier*, J. Huesing, G. Dively, **Z.Y. Huang**. 2008. A meta-analysis of effects of Bt crops on honey bees (Hymenoptera: Apidae). PLOS ONE, 3(1): e1415. doi:10.1371/journal.pone.0001415
3. Chow, S.-Y, **Z.Y. Huang**, S.-C. Chen, R.-L. Yang, R. Kou*. 2007. Antenna contact and agonism in the male lobster cockroach, *Nauphoeta cinerea*. Hormones and Behavior 52: 252-260
4. Wharton*, K.E., F.C. Dyer, **Z.Y. Huang**, T. Getty. 2007. The role of the honey bee queen in regulating colony drone production. Behavioral Ecology 18: 1092-1099 (featured in Science).
5. Cho, S., **Z. Y. Huang**, J. Zhang*. 2007. Sex-specific splicing of the honey bee doublesex gene reveals 300 million years of evolution at the bottom of the insect sex-determination pathway. Genetics 177:1733-41
6. **Huang, Z.Y.*** 2007. Honey bee genome: the untold story. Chinese Bulletin of Entomology 44: 5-9
7. Liu, Z., J. Tan, **Z.Y. Huang**, K. Dong*. 2006. Effect of a fluvalinate-resistance-associated sodium channel mutation from varroa mites on cockroach sodium channel sensitivity to fluvalinate, a pyrethroid insecticide. Insect Biochemistry and Molecular Biology 36: 885-889
8. Cho, S., **Z.Y. Huang**, D.R. Green, D.R. Smith, and J. Zhang*. 2006. Evolution of the complementary sex-determination gene of honey bees: balancing selection and trans-species polymorphisms. Genome Research 16: 1366-1375
9. **Huang, Z.Y.**, J. Zhao, L. Zhou, Y. Qin*. 2006. Electronic monitoring of feeding behavior of *Varroa* mites on honey bees. Journal of Apicultural Research 45(3): 157–158
10. Yang, L., Y-C. Qin*, D.-L. Song, **Z.Y. Huang**. 2006. An overview of the melatonin and its application in entomology. Chinese Bulletin of Entomology 43: 163-168 (in Chinese)
11. Zeng, Z., **Z.Y. Huang**, Y. Qin*, H. Pang: 2005. Hemolymph juvenile hormone titers in worker honey bees under normal and pre-swarming conditions. Journal of Economical Entomology 98: 274-278
12. Tan, J., Z. Liu, R. Wang, **Z. Y. Huang**, A.C. Chen, M. Gurevitz, K. Dong*. 2005. Identification of amino acid residues that are critical for pyrethroid binding to an insect sodium channel. Molecular Pharmacology 67: 513-522
13. Leoncini, I., Y. Le Conte, G. Costagliola, E. Plettner, A.L. Toth, M. Wang, **Z. Huang**, J-M. Bécard, D. Crauser, K.N. Slessor, G.E. Robinson*. 2004. Regulation of behavioral maturation in honey bees by a new primer pheromone. Proceedings of National Academy of Sciences USA 101: 17561-17564. [cited in Science, Science News, MSU news, Medical Daily etc]

14. Schneider, S.S.*, L. A. Lewis, **Z. Y. Huang**. 2004. The vibration signal and juvenile hormone titers in worker honey bees, *Apis mellifera*. Ethology 110: 977-985
15. **Huang, Z.Y.***, A.V. Hanley, W. Pett, J.J. Duan. 2004. Field and semi-field evaluation of impacts of transgenic canola pollen on survival and development of worker honey bees. Journal of Economic Entomology 97: 1517-1523
16. Zhou, T., D.L. Anderson, **Z.Y. Huang***, S. Huang, J. Yao, T. Ken, Q. Zhang. 2004. Identification of *Varroa* mites infesting *Apis cerana* and *Apis mellifera* in China. Apidologie 35: 645-654
17. Lin, H., C. Dusset, **Z.Y. Huang***. 2004. Short-term changes in juvenile hormone titres in honey bee workers due to stress. Apidologie 35: 319-327
18. Li, X., **Z.Y. Huang**, Y. Qin*, D. Song. 2004. Bio-assay methods of melatonin. Chinese Bulletin of Entomology 42(1): 109-112 (in Chinese)
19. Hanley, A.V., **Z.Y. Huang**, W. Pett*. 2003. Effect of transgenic Bt corn pollen on larval development of honey bee (*Apis mellifera* L.) and greater wax moth (*Galleria mellonella* L.). Journal of Apicultural Research 42: 77-81
20. Wang, R., **Z.Y. Huang**, K. Dong*. 2003. Molecular characterization of an arachnid sodium channel gene from the varroa mite (*Varroa destructor*). Insect Biochemistry and Molecular Biology 33: 733-739
21. **Huang, Z.Y.***, J.H. Fewell. 2002. Modeling insect societies: from genes to colony behavior. Trends in Ecology and Evolution 17: 403-404
22. Wang, R., Z. Liu, K. Dong, P.J. Elzen, J. Pettis, **Z.Y. Huang***. 2002. Association of novel mutations in a sodium channel gene with fluvalinate resistance in the varroa mite, *Varroa destructor*. Journal of Apicultural Research 40: 17-25
23. Schulz, D.S., M.J. Vermiglio, **Z.Y. Huang**, G.E. Robinson*. 2002. Effects of colony food shortage on social interactions in honey bee colonies. Insectes Sociaux 49: 50-55
24. Beshers*, S.N., **Z.Y. Huang**, Y. Oono, G.E. Robinson. 2001. Social inhibition and the regulation of temporal polyethism in honey bees. Journal of Theoretical Biology 213: 461-479
25. Pearce, A.N., **Z.Y. Huang**, M.D. Breed*. 2001. Juvenile hormone and aggression in honey bees. Journal of Insect Physiology 47: 1243-1247
26. Jassim, O., **Z.Y. Huang***, G.E. Robinson. 2000. Juvenile hormone profiles of worker honey bees during normal and accelerated behavioral development. Journal of Insect Physiology 46: 243-249
27. Bloch, G., D.W. Borst, **Z.-Y. Huang**, G.E. Robinson*, A. Hefetz. 2000. Haemolymph JH titer, biosynthesis rates, ovarian development and the social environment in *Bombus terrestris*. Journal of Insect Physiology 46: 46-57
28. Giray, T., **Z.-Y. Huang**, G.E. Robinson*. 1999. Endocrine basis of genetic differences for behavioral development in honey bees. Behavioral Ecology & Sociobiology 47: 17-28

29. **Huang, Z.-Y.**, E. Plettner, G.E. Robinson*. 1998. Effect of social environment and mandibular gland removal on division of labor in worker honey bees. Journal of Comparative Physiology B 183: 143-152
30. Pankiw, T., **Z.-Y. Huang**, M.L. Winston, G.E. Robinson. 1998. Queen mandibular gland pheromone influences worker honey bee (*Apis mellifera* L.) juvenile hormone titers and foraging ontogeny. Journal of Insect Physiology 44: 685-692
31. Schulz, D.J., **Z.-Y. Huang**, G.E. Robinson. 1998. Effect of colony food shortage on the behavioral development of the honey bee, *Apis mellifera*. Behavioral Ecology & Sociobiology 42: 295-303
32. Robinson, G.E., **Z.-Y. Huang**. 1998. Colony integration in honey bees: genetic, endocrine, and social control of division of labor. Apidologie 29: 159-170 (Invited review)
33. Trumbo, S.T., **Z.-Y. Huang**, G.E. Robinson. 1997. Division of labor between undertaker specialists and other middle age workers in honey bee colonies. Behavioral Ecology & Sociobiology 41: 151-163
34. Cnaani, J., D.W. Borst, **Z.-Y. Huang**, G.E. Robinson, A. Hefetz. 1997. Caste determination in *Bombus terrestris*: differences in larval development and rates of JH biosynthesis. Journal of Insect Physiology 43: 373-381
35. **Huang, Z.-Y.**, G.E. Robinson. 1996. Regulation of honey bee division of labor by colony age demography. Behavioral Ecology & Sociobiology 39: 147-158
36. Bloch, G., D. W. Borst, **Z.-Y. Huang**, G.E. Robinson, A. Hefetz. 1996. Effects of social conditions on juvenile hormone-mediated reproductive development in *Bombus terrestris* workers. Physiological Entomology 21: 257-267
37. **Huang, Z.-Y.**, G.E. Robinson. 1995. Seasonal changes in juvenile hormone in worker honey bees. Journal of Comparative Physiology B 165: 18-28
38. Robinson, G.E., R.E. Page, **Z.-Y. Huang**. 1994. Temporal polyethism in social insects is a developmental process. Animal Behavior 48: 467-469
39. **Huang, Z.-Y.**, G.E. Robinson, D.W. Borst. 1994. Physiological correlates of division of labor among similarly aged honey bees. Journal of Comparative Physiology A 174: 731-739
40. Goodman, W.G., **Z.-Y. Huang**, G.E. Robinson, C. Strambi, A. Strambi. 1993. A comparison of two juvenile hormone radioimmunoassays. Archives of Insect Biochemistry & Physiology 23: 147-152
41. **Huang, Z.-Y.**, G.E. Robinson. 1992. Honey bee colony integration: Worker-worker interactions mediate plasticity in endocrine and behavioral development. Proceedings of the National Academy of Sciences USA 89: 11726-11729 (cited in the text book "Animal Behavior" by J. Alcock)
42. Robinson, G.E., C. Strambi, A. Strambi, **Z.-Y. Huang**. 1992. Reproduction in worker honey bees is associated with low juvenile hormone titres and rates of biosynthesis. General & Comparative Endocrinology 87: 471-480

43. **Huang, Z.-Y.**, G.E. Robinson, S.S. Tobe, K.J. Yagi, C. Strambi, A. Strambi, B. Stay. 1991. Hormonal regulation of behavioral development in the honey bee is based on changes in the rate of juvenile hormone biosynthesis. Journal of Insect Physiology 37: 733-741
44. **Huang, Z.-Y.**, G.W. Otis. 1991. Inspection and feeding of larvae by worker honey bees (Hymenoptera: Apidae): Effect of starvation and food quantity. Journal of Insect Behavior 4: 305-317
45. **Huang, Z.-Y.**, G.W. Otis. 1991. Non-random visitation of brood cells by worker honey bees (Hymenoptera: Apidae). Journal of Insect Behavior 4: 177-184
46. **Huang, Z.-Y.**, C.O. Knowles. 1991. Nicotinic and muscarinic cholinergic receptors in honey bee (*Apis mellifera*) brain. Comparative Biochemistry & Physiology C 97: 275-281
47. **Huang, Z.-Y.**, C.O. Knowles. 1990. Properties of a quinuclidinyl benzilate binding component in the bulb mite. Comparative Biochemistry & Physiology C 95: 71-77
48. **Huang, Z.-Y.** 1990. A simple *in vivo* bioassay for estimating the hypopharyngeal gland activity in honeybees (*Apis mellifera* L, Apidae, Hymenoptera). Journal of Apicultural Research 29: 75-81
49. **Huang, Z.-Y.**, G.W. Otis, P.E.A. Teal. 1989. Nature of brood signal activating the protein synthesis of hypopharyngeal gland in honey bees, *Apis mellifera* (Apidae: Hymenoptera). Apidologie 20: 455-464
50. **Huang, Z.-Y.**, G.W. Otis. 1989. Factors determining hypopharyngeal gland activity of worker honey bees (*Apis mellifera* L.). Insectes Sociaux 36: 264-276

Patent

51. **Huang, Z.Y.** 2002. "Method and apparatus for control of mites in a beehive," US Patent #6,475,061 (Other countries: China and the European Union). (featured on Kalamazoo Newsgazette, Bee World, and The Speedy Bee)

Book Edited

52. Liu, J., R. Wang, Z. Ouyang, S. Hu, **Z.-Y. Huang**, W. Cheng, Y. Wu (editors). 1992. Advances and Trends in Modern Ecology (with a preface by E.P. Odum). China Science and Technology Press, Beijing, China. pp 396

Book Chapters

53. **Huang, Z.Y.** 2008. The colony collapse disorder crisis for honey bees. In Encyclopedia of Life Science, Vol. 1, (ed K. E. Cullen). Facts On File, New York
54. Le Conte, Y., Z.Y. **Huang**, G.E. Robinson. 2008. "Quorum sensing" in honeybees: Pheromone regulation of division of labor. In (eds: S.C. Winans and B.L. Bassler) Chemical Communication among Bacteria. ASM Press, Washington DC. Chapter 30, 463-468
55. **Huang, Z.Y.** 2007. Beekeeping in various parts of the world: China. In (eds: H. Shimanuki, K. Flottum, and A. Harman). The ABC and XYZ of Bee Culture: An Encyclopedia of Beekeeping. 92-93. The A.I. Root Company, Medina, OH

56. **Huang, Z.-Y.**, G.E. Robinson. 1999. Social control of division of labor in honey bee colonies. In (eds: C. Detrain, J.L. Denoubourg, J.M. Pasteels) Information Processing in Social Insects. Birhauser, pp. 165-186
57. **Huang, Z. Y.** 1999. Regulation of division of labor in worker honey bees: the activator-inhibitor model. In (eds: L.J. Connor, R. Hoopingarner) Apiculture in the 21st Century. Wicwas Press, pp 25-37
58. **Huang, Z.-Y.** 1992. Advances in honey bee ecology. In: (eds: J.G. Liu et al.) Advances and Trends in Modern Ecology. (In Chinese) pp 187-206

Conference Proceedings

59. Wharton, K.E., F.C. Dyer, **Z. Huang**, T. Getty. 2006. Drone regulation in honeybee colonies: a case for queen-worker cooperation? Scientific Proceedings of International Union for the Study of Social Insects Congress XV. pp 238-239. Abstract
60. S. Cho, Z.Y. Huang, D. Smith, J. Zhang. 2006. "Evolution of sex determination gene in the honey bees." Scientific Proceedings of International Union for the Study of Social Insects Congress XV. p169. Abstract
61. L. Leniaud, M. Kutnik, A. Pichon, S. Dupont, **Huang, Z.Y.**, and A.G. Bagnères. 2006. "Ontogenic potentialities and caste differentiation in the *Reticulitermes* worker caste," Scientific Proceedings of International Union for the Study of Social Insects Congress XV. p168. Abstract
62. **Huang, Z.Y.**, R. Lin. 2004. JH titers, biosynthesis and metabolism in honey bee workers infected by a microsporidia parasite, *Nosema apis*. Eighth International Conference on the Juvenile Hormones, Scientific Program Abstracts, p12, Abstract
63. Qin, Y., **Z.Y. Huang**. 2004. Dynamics of *Nosema* spores in honey, beeswax and their relationship to worker infection. Proceedings of the American Bee Research Conference, American Bee Journal 144: 406-407, Abstract
64. Zhou, T., D. Anderson, **Z.Y. Huang**, S. Huang, J. Yao, K. Tan, Q. Zhang. 2004. Absence of *Varroa jacobsoni* in mites infesting *Apis cerana* and *Apis mellifera* in China. In (Eds E.N. Camaya, C.R. Cervencia) Proceedings of the 7th Asian Apicultural Association Conference and 10th Beenet Symposium and Technofora, pp 187-192
65. Wang, R., K. Dong, **Z.Y. Huang**, P.J. Elzen, J. Pettis. 2002. Resistance mechanism of *Varroa jacobsoni* to fluvalinate: altered sodium channel? In (Eds: E.H. Erickson, R.E. Page Jr. and A.A. Hanna) Proceedings of the 2nd International Conference on Africanized Honey Bees and Bee Mites. pp 173-176
66. **Huang, Z.Y.** 2001. Mitezapper: a new device for varroa mite control. Proceedings of Apimondia Congress, Durban, South Africa, p. 54
67. Zhou, T., J. Yao, S.X. Huang, **Z.Y. Huang**. 2001. Larger cell size reduces varroa mite reproduction. Proceedings of the American Bee Research Conference, American Bee Journal 141: 895-896. Abstract
68. **Huang, Z.Y.**, H.O. Kuang, B.Y. Kuang, Y. Qin. 2001. Juvenile hormone and division of labor in *Apis cerana*. Proceedings of 7th International Bee Research Association Conference and

- Asian Apicultural Association Conference, Thailand, 2000. Journal of Apicultural Research 40 (supplement): 3-6
69. Schmidt-Bailey, J., D. Westervelt, **Z.Y. Huang**. 2000. The Spartan Beetle Buster: testing of a new method for surveying the small hive beetle. Proceedings of the American Bee Research Conference, American Bee Journal 140: 907. Abstract
 70. Wang, R., D. Ke, P.J. Elzen, J. Pettis, **Z.Y. Huang**. 2000. Altered sodium channel as a possible resistance mechanism of *Varroa jacobsoni* to fluvalinate. Proceedings of the American Bee Research Conference, American Bee Journal 140: 747. Abstract
 71. **Huang, Z. Y.**, R. Wang. 1999. Nosema disease and division of labor in honey bees. Proceedings of XXXVI Congress of Apimondia, Vancouver, Canada, p 102, Abstract
 72. **Huang, Z.-Y.**, G.E. Robinson. 1998. Regulation of onset of foraging in honey bees: a worker primer pheromone in the mandibular glands? Proceedings of the American Bee Research Conference, American Bee Journal 138: 297. Abstract
 73. **Huang, Z.-Y.**, G.E. Robinson. 1994. Seasonal changes in juvenile hormone levels in worker honey bees (*Apis mellifera*). In: (eds: A. Lenoir, G. Arnold & M. LePage) Les Insectes Sociaux. Proceedings of the 12th Int'l Congress of IUSSI, 1994, Paris, France, p 236. Abstract
 74. **Huang, Z.-Y.**, C.O. Knowles. 1990. Nicotinic and muscarinic cholinergic receptors associated with honey bee neural membranes. In: (eds: B. Veeresh, Mallik & C.A. Viraktamath) Social Insects and the Environment. Proceedings of the 11th Int'l Congress of IUSSI, 1990, Bangalor, India, p 463. Abstract
 75. **Huang, Z.-Y.**, G.W. Otis. 1989. Hunger signal from larvae of honey bees (*Apis mellifera* L.). Proceedings of Chinese Association of Agricultural Students & Scholars 1st Conference, 1989. Cornell Univ. Ithaca, NY, p 133. Abstract
 76. **Huang, Z.-Y.**, G.W. Otis. 1986. Mechanism of hypopharyngeal gland activation in honey bees (*Apis mellifera*). In: (eds: J. Eder, H. Rembold) Chemistry and Biology of Social Insects. Proceedings of the 10th International Congress of IUSSI, 1986, Munich, Germany, p 224. Abstract
- Extension Publications and Popular Articles***
77. **Huang, Z.Y.**, 1997-2008. Website design and contents for <http://cyberbee.msu.edu>, over 700 photos, and over 40 pages of information related to honey bees. 5.7 million hits during 2007
 78. **Huang, Z.Y.**, W. Pett. 2008. "Working with your beekeeper for optimal fruit pollination," Michigan Farm News, April 15, 2008, page 20-21
 79. **Huang, Z.Y.**, W. Pett. 2008. "Working with your beekeeper for optimal fruit pollination," MSU Fruit Crop Advisory Team Alert Newsletter <http://www.ipm.msu.edu/cat08fruit/f03-18-08.htm#1>
 80. **Huang, Z.Y.**, W. Pett. 2007. "Working with your beekeeper for optimal pollination of fruits and vegetables," Proceedings of Great Lakes Fruit, Vegetable & Farm Market Expo. http://www.glexpo.com/abstracts/2007abstracts/pollination_2007.pdf

81. **Huang, Z.Y.** 2007. Information on colony collapse disorder, Cyberbee.msu.edu. <http://cyberbee.net/ccd.shtml>
82. **Huang, Z.Y.** 2007. Locating a local beekeeper for fruit pollination MSU Fruit Crop Advisory Team Alert Newsletter. <http://www.ipm.msu.edu/cat07fruit/f05-01-07.htm#7>
83. **Huang, Z.Y.** 2007. My trip to Nepal. Midwest Beekeeping 1(3): 8-11. <http://indianabeekeepingschool.com/magazine/0705.pdf>
84. **Huang, Z.Y.**, R. Isaacs. 2007. Using bees for pollination of fruit crops. MSU Fruit Crop Advisory Team Alert Newsletter. <http://www.ipm.msu.edu/cat07fruit/f03-27-07.htm#1>
85. **Huang, Z.Y.** 2007. The recent honey bee crisis and its implications for Michigan fruit growers. MSU Fruit Crop Advisory Team Alert Newsletter. <http://www.ipm.msu.edu/cat07fruit/f03-27-07.htm#2>
86. **Huang, Z.Y.** 2007. Honey bee colony collapse disorder and vegetable growers. MSU Vegetable IPM Crop Advisory Team Alert Newsletter. <http://www.ipm.msu.edu/cat07veg/v04-18-07.htm#2>
87. **Huang, Z.Y.** 2007. As a beekeeper you should know about CCD. Midwest Beekeeping, 1: 8.
88. **Huang, Z.Y.** 2006. Dealing with mites and other stresses. Michigan Beekeepers Association Newsletter, 8: 4-7.
89. Isaacs, R. and **Z.Y. Huang**. 2006. Using bees for pollination of small fruit crops. Fruit Crop Advisory Team Alert, MSU. <http://www.ipm.msu.edu/cat06fruit/f04-11-06.htm#7>
90. **Huang, Z.Y.** 2006. Honey bee update. Fruit Crop Advisory Team Alert, MSU. <http://www.ipm.msu.edu/cat06fruit/f04-11-06.htm#3>
91. **Huang, Z.Y.** 2006. Pollination for crops and pesticide use. Fruit Crop Advisory Team Alert, MSU. <http://www.ipm.msu.edu/cat06fruit/f04-11-06.htm#2>
92. **Huang, Z.Y.** 2005. Honey bees and cucurbit pollination. Vegetable Crop Advisory Team Alert, MSU. July, 2005. http://www.ipm.msu.edu/CAT05_veg/V07-20-05.htm#1
93. Isaacs, R., **Z.Y. Huang**. 2005. Bees help optimize the pollination of fruit trees. The Vegetable Growers News 44: 51-53
94. Isaacs, R., **Z.Y. Huang**, A. Iezzoni, 2005. Optimizing small fruit pollination with bees. MSU Fruit Crop Advisory Team Alert Newsletter, http://www.ipm.msu.edu/CAT05_frt/F04-26-05.htm#6
95. **Huang, Z.Y.**, W. Pett. 2005. Strong honeybee colonies can survive through winter. The Vegetable Growers News 44: 53
96. **Huang, Z.Y.**, W. Pett. 2004. Pollination of vine crops. Great Lakes Fruit, Vegetable & Farm Market Expo, Abstract (<http://www.glexpo.com/abstracts/2003abstracts/vinecrop.pdf>)
97. Smith, L., **Z.Y. Huang**. 2004. Another job for busy bees: Honey bees are the perfect choice for vectoring biocontrol agents. Bee Culture 132: 46-49

98. **Huang, Z.Y.** 2004. Pollination of Vine Crops, Pennsylvania Vegetable Growers News 27 (10): 16
99. **Huang, Z.Y.** 2004. Pollination for Vegetables and Pesticide Use. Pennsylvania Vegetable Growers News 27(9): 19
100. **Huang, Z.Y.** 2003. Fall treatment of varroa mites. Michigan Beekeepers Association Newsletter, Fall 2003: 3-4
101. **Huang, Z.Y.**, W. Pett. 2003. Pollination of vine crops. Great Lakes Fruit, Vegetable & Farm Market Expo, Abstract (<http://www.glexpo.com/abstracts/2003abstracts/vinecrop.pdf>)
102. Huang, S.X., T. Zhou, J. Yao, **Z.Y. Huang**. 2003. Biology and phylogeny of, and resistance mechanisms to, Varroa mites in China (2). Bee Journal, Feb: 11-12 (In Chinese)
103. Huang, S.X., T. Zhou, J. Yao, **Z.Y. Huang**. 2003. Biology and phylogeny of, and resistance mechanisms to, Varroa mites in China (1). Bee Journal, Jan: 10-11 (In Chinese)
104. Huang, S.X., **Z.Y. Huang**, T. Zhou, J. Yao. 2003. New discoveries on Varroa and implications for their control (2). Beekeeping in China. 54 (3): 9-10 (In Chinese)
105. Huang, S.X., **Z.Y. Huang**, T. Zhou, J. Yao. 2003. New discoveries on Varroa and implications for their control (1). Beekeeping in China. 54 (1): 4-5 (In Chinese)
106. **Huang, Z.Y.**, W. Pett. 2003. Pollination of vine crops with honey bees. Vegetable Crop Advisory Team Alert, Michigan State University 18 (9): 4-5 http://www.ipm.msu.edu/CAT03_veg/V06-25-03.htm#4
107. **Huang, Z.Y.** 2003. The other bees: alternative pollinators for tree and small fruits. Fruit Crop Advisory Team Alert, Michigan State University 18 (6): 9-10 http://www.msue.msu.edu/ipm/CAT03_frt/F05-20-03.htm#9
108. **Huang, Z.Y.** 2003. Working with beekeepers when applying pesticides. Fruit Crop Advisory Team Alert, Michigan State University 18 (6): 8 (http://www.msue.msu.edu/ipm/CAT03_frt/F05-20-03.htm#8)
109. **Huang, Z.Y.** 2003. Tree fruit pollination. Fruit Crop Advisory Team Alert, Michigan State University 18 (6): 3 (http://www.msue.msu.edu/ipm/CAT03_frt/F05-13-03.htm#3)
110. **Huang, Z.Y.** 2001. MiteZapper - a new and effective method for varroa mite control. American Bee Journal. 141: 730-732
111. **Huang, Z.Y.**, H. Lin. 2001. The small hive beetle – a new pest of honey bees in the United States. Newsletter of the Michigan Entomological Society 46: 5, 8
112. Bishop, B., W. Pett., **Z. Y. Huang**. 2000. Honey bees and pickle and vine crop pollination. Vegetable Crop Advisory Team Alert, Michigan State University 15(12): 2. http://www.ipm.msu.edu/CAT00_veg/V07-19-00.htm#2

113. **Huang, Z.Y.**, R. Isaacs. 2000. Pollination of small fruit crops in 2000. Fruit Crop Advisory Team Alert, Michigan State University 15: 4-5 (http://www.msue.msu.edu/ipm/CAT00_fruit/F04-11-00.htm#7)
114. **Huang, Z.Y.** 1999. Fruit trees and honey bees in 1999. Fruit Crop Advisory Team Alert, Michigan State University 14: 2-3
115. Hansen, M., **Z.Y. Huang**. 1999. Small hive beetle (*Aethina tumida*) now in Michigan! Extension pamphlet
116. **Huang, Z.Y.** 1999. My first year at MSU. Michigan Beekeepers Association Newsletter, Fall Issue
117. **Huang, Z.Y.** 1999. Small hive beetle is becoming a factor for Michigan beekeepers. The Fruit Growers News 38: 43
118. **Huang, Z.Y.**, M. Hansen. 1999. Small hive beetle now found in Michigan. Pesticide Notes, MSU Pesticide Educational Program 12: 2-3

Presentations

Symposium Presentations (Invited)

1. "Effect of mitezapper on varroa mite population, a field test," Apimondia conference, Melbourne, Australia, Sept 2007
2. "Standardized laboratory assay for assessing effects on honey bee larvae," Symposium: Harmonizing laboratory methods to evaluate potential effects of GM crops on non-target arthropods, Entomological Society of America, San Diego, CA, Dec 2007
3. "Regulation of division of labor in honey bees, from humans to bees, and back," Program Symposium Contribution of Social Insect Studies to Science and Society, Entomological Society of America, Indianapolis, IN, Dec 2006
4. "Regulation of Foraging Age in Honey Bees by a Primer Pheromone," International Entomology Symposium, Beijing, China, August 2006
5. "Does the parasite *Nosema apis* manipulate host behavior through juvenile hormone?" International Entomology Symposium, Beijing, China, August 2006
6. "Absence of *Varroa jacobsoni* in *Apis mellifera* and *A. cerana* in China," 7th Asian Apicultural Association Conference, Laguna, Philippines, Feb 2004 (With D. Anderson, T. Zhou, S.X. Huang, J. Yao and Q. Zhang)
7. "Modeling Nosema disease in honey bee colonies," Symposium on Epizootiological Models held at the Annual meeting of the Soc. for Invertebrate Pathology, Burlington, VT, Aug 2003 (With D Onstad and D. Crowder)
8. "Change of honey bee social behavior caused by a microsporidian parasite: physiological mechanisms," Section C Symposium "Parasites, Pathogens and Insect Sociality," Annual Meeting of Entomological Society of America, Fort Lauderdale, FL, Nov 2002 (with R. Lin)
9. "Mitezapper: a new device for varroa mite control," XXXVII International Apicultural Congress, Durban, South Africa, October 2001

10. "Social inhibition of foraging honey bees," Santa Fe Institute Social Insects Working Group, Santa Fe, NM Oct 2000
11. "Juvenile hormone and division of labor in *Apis cerana*," 7th IBRA conference on tropical bees: management and diversity & 5th Asian apiculture association conference, Chiangmai, Thailand, Mar 2000
12. "Regulation of onset of foraging in honey bee workers," Apimondia Conference, Vancouver, Canada, Sept 1999
13. Informal conference "Career development for Chinese entomologists," Annual Meeting of Entomological Society of America, Las Vegas, NE, Dec 1998
14. Endocrine Control of Social Behavior in Invertebrates, Animal Behavior Society Meeting, Carbondale, IL, July 1998
15. Apiculture for the 21st Century, International Symposium, E. Lansing, MI, June 1997
16. The 12th International Congress of IUSSI, Paris, France, Aug 1994 (with G.E. Robinson)
17. Annual Meeting of Entomological Society of America, Baltimore, MD, Dec 1992 (with G.E. Robinson)
18. The 3rd International Congress of Neuroethology, McGill University, Montreal, Canada, Aug 1992 (with G.E. Robinson)

Presentations at Institutions (Invited)

20. "Does *Nosema apis* manipulate honey bee behavior through JH production?" Social Insect Research Group, Arizona State University, March 2008
21. "Honey bees, juvenile hormone and *Nosema apis*, Is it really host manipulation?" Institut de Recherche sur la Biologie de l'Insecte, Université de Tours, France, Jan 2008
22. "Does *Nosema apis* manipulate honey bee hosts via juvenile hormone?" Department of Entomology, University of Maryland, Oct 2007.
23. "Evolutionary ecology of the complementary sex determination gene in honey bees," Department of Entomology, China Agricultural University, Sept 2007
24. "Importance of honey bees in Michigan agriculture and threats they face," Plant Coalition, Michigan State University, June 2007
25. "Honey bees: overview of honey bee research at MSU bee biology lab," Department of Horticulture, Michigan State University, April 2007
26. "Insect portraiture, two perspectives," Department of Entomology, Michigan State University, East Lansing, MI, Feb 2007 (with David Cappaert)
27. Resistance mechanisms of varroa mites to chemicals," Jilin Apicultural Institute, Jilin, China, August 2006

28. "Evolution of the complementary sex-determination gene of honey bees," Jilin Apicultural Institute, Jilin, China, August 2006
29. "Mitezapper as a control method for varroa mites," Jilin Apicultural Institute, Jilin, China, August 2006
30. "Honey bee research in the United States," Jilin Apicultural Institute, Jilin, China, August 2006
31. "Honey bee research and extension at MSU," Jilin Apicultural Institute, Jilin, China, August 2006
32. "Honey bee queen regulates egg gender when presented only drone cells," Rothenbuler Bee Laboratory, Ohio State University, Columbus, OH, June 2006
33. "Mechanism of Division of labor in honey bees," College of Life Sciences, Tunghai University, Taichung, Taiwan, Mar 2006
34. "Mechanism of Division of labor in honey bees," Department of Entomology, National Chung Hsing University, Taichung, Taiwan, Mar 2006
35. "Mechanism of Division of labor in honey bees," Department of Entomology, National Taiwan University, Taiwan, Mar 2006
36. "Does nosema parasite produce juvenile hormone to manipulate honey bee behavior," Institute of Cellular and Organismal Biology, Academia Sinica, Taipei, Taiwan, Mar 2006
37. "Advances of insect pollination inside greenhouses," Institute of Vegetable and Flower Researches, Chinese Academy of Agricultural Sciences, Beijing, China, Mar 2006
38. "Honey bee research at MSU," College of Life Science, Sun Yat-Sen University, Guangzhou, China, Feb 2006
39. "Honey bee research at MSU," Bee Research Center, Guangdong Province Institute of Entomological Research, Guangdong, China, Feb 2006
40. "Regulation of division of labor in honey bees," College of Agronomy, Tropical Agricultural University of South China, Hainan, China, Feb 2006
41. "Regulation of division of labor by a primer pheromone: how a simple model played the big role," Roger A. Morse Apiculture Lecture, Department of Entomology, Cornell University, Dec 2005
42. "Research Experience with honey bees and vision for insect pollination biology," USDA Solitary Bee Lab, Logan, UT, July 2005
43. "Working with honey bees, the past, the present and the future," USDA Honey Bee Lab, Weslaco, TX, June 2005

44. "Social modulation of foraging age in worker honey bees", Department of Biological Sciences, East Tennessee State University, Johnson City, TN, Sept 2004
45. "Regulation of foraging age in honey bees," Honey Bee Research Institute, Jiangxi Agricultural University, Nanchang, Jiangxi, China, April 2004
46. "Honey bee extension, teaching and research at the Michigan State University," Honey Bee Research Institute, Jiangxi Agricultural University, Nanchang, Jiangxi, China, April 2004
47. "Working with bees and their keepers, the Michigan experience," Department of Environmental Biology, University of Guelph, Guelph, Ont, Canada, Feb 2004
48. "Effect of transgenic corn pollen on honey bees and their pest," Dept. of Natural Resources and Environmental Sciences, University of Illinois, Oct 2003
49. "Honey bee queens regulate sex ratio by overriding a highly stereotyped behavioral program," Brain and Behavioral Group, MSU, Sept 2003
50. "Working with honey bees and their keepers: A five year summary," Department of Entomology, MSU, Sept 2003
51. "Let us bee social – what do we know about honey bee sociobiology," Xishuangbanna Tropical Botanical Garden, Yunnan, China, Apr 2002
52. "*Apis cerana* in China and how do they resist the varroa mites," Ecology of Invertebrates Seminar, National Institute of Agricultural Research in Avignon and the Univ. of Avignon & the Countries of Vaucluse, France, Mar 2002
53. "Resistance mechanisms of varroa mites to chemicals," Ecology of Invertebrates Seminar, National Institute of Agricultural Research in Avignon and the Univ. of Avignon & the Countries of Vaucluse, France, Mar 2002
54. "Melatonin and division of labor in honey bees," Brain and Behavior Group, Neuroscience Program, MSU, Feb 2002
55. "Basic and applied research combined: honey bee projects at MSU," Zoological Institute, Chinese Academy of Sciences, Beijing, China, June 2001
56. "Honey bee research projects at MSU," Department of Entomology, China Agricultural University, June 2001
57. "Mitezapper: a new method for controlling varroa mites," Institute of Apicultural Research, Chinese Academy of Agricultural Sciences, Beijing, China, June. 2001
58. "Basic and applied research combined: honey bee research at MSU," Xishuangbanna Tropical Botanical Garden, Yunnan, China, May 2001
59. "Importance of honey bee pollination for agriculture," International workshop for sustainable agricultural in developing countries," Institute of Pomology, Chinese Academy of Agricultural Sciences, Hebei, China, Aug 2000

60. "Bumble bee biology and commercial rearing," Institute of Vegetable Research, Chinese Academy of Agricultural Sciences, Aug 2000
61. "Honey bee research at Michigan State University and North America," Institute of Apicultural Research, Chinese Academy of Agricultural Sciences, Aug 2000
62. "Recent entomological research in North America," Hunan Agricultural University, Dec 1999
63. "Regulation of division of labor in honey bees," Dept of Apiculture, Yunnan Agricultural University, Nov 1999
64. "Regulation of foraging age in honey bee workers," Dept. Entomology, Purdue University, Oct 1999
65. "Regulation of behavioral development in honey bees: genetic physiological, and biochemical mechanisms," Dept. Entomology, Michigan State University, June 1998
66. "Nosema disease: a hidden threat to honey bees," Dept. Entomology, Michigan State University, June 1998
67. Dept. Entomology, Michigan State University, Sept 1997
68. Dept. Biological Sciences, Illinois State University, Feb 1996
69. Hunan Agricultural College, Hunan, China, Dec 1993
70. Honey Bee Research Institute, Academy of Agricultural Science, Beijing, China, Oct 1993
71. Dept. of Plant Protection, Beijing Agricultural University, Beijing, China, Oct 1993
72. Entomological Society of Beijing, Beijing, China, Sept 1993
73. Dept. of Environmental Biology, University of Guelph, Ont, Canada, May 1988
74. Dept. of Entomology, University of Missouri, Columbia, MO, Nov 1988
75. The Dyce Laboratory, Cornell University, Ithaca, NY, Oct 1984

Contributed Presentations or Posters

76. "Popping the mites: can microwave be used as a method for varroa control?" American Bee Research Conference, Sacramento, CA, Jan 10, 2008 (with Y. Fu)
77. "Caste differentiation and ongenetic potentialities in the subterranean termite genus *Reticulitermes*," XV^{ème} Colloque, Physiologie de L'Insectes, 2007 (with L. Leniaud, E. Darronset, A.G. Bagnères)
78. "Functional characterization of the first arachnid sodium channel from the varroa mite," CSREES Arthropods & Nematodes Programs Awardee Poster Session Entomological Society of America meeting, San Diego, CA, December 8, 2007 (with Y. Du, Z. Liu, Y. Numura, K. Dong)

79. "Microwave radiation as a possible control method for Varroa mite (Acari: Varroidae) control in honeybees," Annual Meeting of Entomological Society of America, San Diego, CA, Dec 2007 (with Yulun Fu)
80. "Evolution of sex determination gene in the honey bee," Workshop on Honey Bee Genomics and Biology, Cold Spring Harbo, May 2007 (with S. Cho, D. Smith and J. Zhang).
81. "Effect of Mitezapper on varroa mite populations: a field test." American Bee Research Conference, Phoenix, AZ, Dec 2006
82. "Chemical mimicry by the ectoparasitic mite *Varroa destructor* infesting *Apis cerana* and *Apis mellifera*," Entomological Society of America, Indianapolis, IN, Dec 2006 (with Y.L. Conte, M. Navajas, J. P. Christides, Z. J. Zeng, A. G. Bagnères)
83. "Evolution of sex determination gene in the honey bees." International Union for the Study of Social Insects, Washington DC, August 2006 (with S. Cho, D. Smith and J. Zhang)
84. "Ongetenic potentialities and caste differentiation in the *Reticulitermes* worker caste." International Union for the Study of Social Insects, Washington DC, August 2006 (with L. Leniaud, M. Kutnik, A. Pichon, S. Dupont and A.G. Bagneres)
85. "Drone regulation in honeybee colonies: a case for queen-worker cooperation? " International Union for the Study of Social Insects, Washington DC, August 2006 (with Wharton, K.E., F.C. Dyer, T.Getty)
86. "Chemical signature and camouflage used by Varroa infesting *Apis cerana* and *A. mellifera* broods: an adaptive strategy. 11th ISBE meeting, Avignon, France, July 2006 (with A.-G. Bagnères, M. Navajas, M. Salvy, J.-P. Christides, Y. Le Conte)
87. "Chemical signature and camouflage used by Varroa infesting *Apis cerana* and *Apis mellifera* broods: an adaptive strategy. IUSSI-France, Tours, France, April 2006 (with A.-G. Bagnères, M. Navajas, M. Salvy, J.-P. Christides, Y. Le Conte)
88. "Electronic monitoring of mite feeding behavior on honey bees." American Bee Research Conference , Baton Rouge, LA, Jan 2006 (with Y. Qin, J. Zhao, L. Zhou)
89. "Electronic monitoring of feeding behavior of Varroa mites on honey bees." Annual Meeting of Entomological Society of America , Ft. Lauderdale, FL, Dec 2005 (with Y. Qin, J. Zhao, L. Zhou)
90. "Effects of colony, drone age, and Nosema infection on numbers of spermatozoa in the honey bee." Annual Meeting of Entomological Society of America , Ft. Lauderdale, FL, Dec 2005 (with G.W. Otis, T. Kiraly, R. Ebadi)
91. "Evolution of the complementary sex-determination gene of honey bees: balancing selection and trans-species polymorphisms. Annual Meeting of Entomological Society of America , Ft. Lauderdale, FL, Dec 2005 (with S. Cho, D.R. Green, D.R. Smith & J. Zhang)

92. "The interplay of queen and worker strategies on brood sex ratio patterns in the honeybee, *Apis mellifera*." Animal Behavior Society Meeting, Snowbird, UT, Aug 2005 (with K.E. Wharton, F.C. Dyer & T. Getty)
93. "Hemolymph juvenile hormone titers in worker honey bees (*Apis mellifera*) under normal and pre-swarming conditions." American Bee Research Conference, Reno, NV, Jan 2005 (with Y. Qin & Z. Zeng).
94. "Hemolymph juvenile hormone titers and sodium / potassium ratios in worker honey bees (*Apis mellifera*) under normal and pre-swarming conditions." Annual Meeting of Entomological Society of America, Salt Lake City, UT, Nov 2004 (with Y. Qin)
95. "Thermal death kinetics the honey bee and its parasite, *Varroa destructor*." Annual Meeting of Entomological Society of America, Salt Lake City, UT, Nov 2004 (with Y. Qin)
96. "How does a bee fly? Changes in flight muscle contractile proteins." Annual Meeting of Entomological Society of America, Salt Lake City, UT, Nov 2004 (with P. Alvarez-Ortiz, D. Iskay, S. Cabrera & T. Giray)
97. "The vibration signal and juvenile hormone titers in worker honey bees, *Apis mellifera*." IUSSI-NAS Annual Meeting, Camp Tontozona, AZ, Oct 2004 (with S.S. Schneider & L.A. Lewis)
98. "JH titers, biosynthesis and metabolism in honey bee workers infected by a microsporidia parasite, *Nosema apis*." Eighth International Conference on the Juvenile Hormones, Lake Tahoe, CA, Jun 2004
99. "Dynamics of *Nosema* spore loads in honey, beeswax and their relationship with worker infection," American Bee Research Conference, San Antonio, TX, Jan 2004
100. "Testing the balancing selection hypothesis on the complementary sex-determination gene of honeybees." Annual Meeting for the Society for Molecular Biology and Evolution, Pennsylvania State University, 2004 (with S. Cho & J. Zhang)
101. "Extraordinary queens - honey bee queens control sex ratio by overriding a highly stereotyped behavioral program," Annual Meeting of Entomological Society of America, Cincinnati, OH, Oct 2003
102. "Tracking *nosema* spores in colonies headed by hygienic and regular queens," Annual Meeting of Entomological Society of America, Cincinnati, OH, Oct 2003 (with Y. Qin)
103. "Model of *nosema* disease in honey bee colonies," Annual Meeting of Entomological Society of America, Cincinnati, OH, Oct 2003 (with D. Onstad & D. Crowder)
104. "*Nosema* spore reproduction in different honey bee castes," American Bee Research Conference, Niagara on the River, Ont, Canada, Dec 2002 (with L. Tava & R. Lin)
105. "*Nosema* spore reproduction in different honey bee castes," Annual Meeting of Entomological Society of America, Ft. Lauderdale, FL, Nov 2002 (with L. Tava & R. Lin)

106. "Why do young worker honey bees prefer warm temperatures?" Annual Meeting of Entomological Society of America, Ft. Lauderdale, FL, Nov 2002 (with J. Michalek)
107. "Effect of transgenic corn pollen on worker honey bees," Annual Meeting of Entomological Society of America, San Diego, CA, Dec 2001 (with A.V. Hanley & W. Pett)
108. "Why nurse bees do not sleep: melatonin implicated," Annual Meeting of Entomological Society of America, San Diego, CA, Dec 2001 (with R. Lin & R. Yu)
109. "Short-term changes in juvenile hormone titers in worker honey bees," Annual Meeting of Entomological Society of America, San Diego, CA, Dec 2001 (with R. Lin & C. Dusset)
110. "Earlier foraging in *Nosema*-infected honey bee workers: Are host *corpora allata* needed?" Annual Meeting of Entomological Society of America, San Diego, CA, Dec 2001 (with R. Lin & J. Sullivan)
111. "Larger cell size reduces varroa mite reproduction," American Bee Research Conference, Port Deposit, MA, Sept 2001
112. "The Spartan Mitezapper: a novel method for mite control," American Bee Research Conference, Port Deposit, MA, Sept 2001
113. "Melatonin and division of labor in honey bee workers," Annual Meeting of Entomological Society of America, Montreal, Canada, Dec 2000 (with R. Yu)
114. "Does *Nosema apis* affect age of first foraging in honey bees via juvenile hormone?" Annual Meeting of Entomological Society of America, Montreal, Canada, Dec 2000 (with R. Lin)
115. "Earlier foraging in carbon dioxide anesthetized bees: is it juvenile hormone mediated?" Annual Meeting of Entomological Society of America, Montreal, Canada, Dec 2000 (with E. Foster)
116. "Molecular and functional analysis of a sodium channel gene of the Varroa mite, *Varroa jacobsoni*," Annual Meeting of Entomological Society of America, Montreal, Canada, Dec 2000 (with R. Wang & K. Dong)
117. "The distribution of *Varroa jacobsoni* in swarms, afterswarms and remaining bees in the Western honey bees *Apis mellifera*," Annual Meeting of Entomological Society of America, Montreal, Canada, Dec 2000 (with J. Schmidt-Bailey)
118. "A novel invention for controlling *Varroa jacobsoni*, a parasite of the honey bees," Annual Meeting of Entomological Society of America, Montreal, Canada, Dec 2000
119. American Bee Research Conference, Eastern Apicultural Society, Salisbury, MD, Aug 2000
120. 2nd International Conference of Africanized Bees and Bee Mites, Tucson, AZ, Apr, 2000 (with R. Wang, K. Dong, P.J. Elzen & J. Pettis)
121. Annual Meeting of Entomological Society of America, Atlanta, GA, Dec 1999 (with R. Wang & K. Dong)
122. Annual Meeting of Entomological Society of America, Atlanta, GA, Dec 1999 (with R. Lin)

123. American Bee Research Conference, Apimondia, Vancouver, Canada, Sept 1999 (with R. Lin)
124. Annual Meeting of Entomological Society of America, Las Vegas, NE, Dec 1998
125. American Bee Research Conference, Colorado Springs, CO, Jan 1998
126. International Union for the Study of Social Insects/North American Section Meeting, Nederland, CO. Sep 1997 (with D. Schulz & G.E. Robinson)
127. Annual Meeting of Entomological Society of America, Louisville, KY, Dec 1996 (with D.W. Borst, S.E. Fahrbach & G.E. Robinson)
128. The 19th Annual Meeting of Midwest Neurobiologists, Madison, WI, June 1996
129. The 19th Annual Meeting of Midwest Neurobiologists, Madison, WI, June 1996 (with O.W. Jassim & G.E. Robinson)
130. Annual Meeting of Entomological Society of America, Las Vegas, NE, Dec 1995 (with G.E. Robinson)
131. Annual Meeting of Entomological Society of America, Las Vegas, NE, Dec 1995 (with D. Schulz & G.E. Robinson)
132. The 6th Annual Argonne Symposium for Undergraduates in Science, Engineering and Mathematics, Argonne, IL, Nov 1995 (with O. Jassim & G.E. Robinson)
133. The 6th International Conference on Juvenile Hormones, Woods Hole, MA, Sept 1995 (with G.E. Robinson)
134. Annual Meeting of Entomological Society of America, Indianapolis, IN, Dec 1993 (with G.E. Robinson)
135. Annual Meeting of Entomological Society of America, Indianapolis, IN, Dec 1993 (with G.E. Robinson)
136. Annual Meeting of Entomological Society of America, Indianapolis, IN, Dec 1993 (with T. Giray & G.E. Robinson)
137. Annual Meeting of Entomological Society of America, Baltimore, MD, Dec 1992 (with G.E. Robinson)
138. The 3rd International Congress of Neuroethology, McGill University, Montreal, Canada, Aug 1992 (with M.E. O'Neal & G.E. Robinson)
139. The 15th Annual Meeting of Midwest Neurobiologists, Columbia, MO, Mar 1992 (with G.E. Robinson)
140. Annual Meeting of Entomological Society of America, Reno, NV, Dec 1991 (with G.E. Robinson)
141. The 2nd Annual Argonne Symposium for Undergraduates in Science, Engineering and Mathematics, Argonne, IL, Nov 1991 (with M.E. O'Neal & G.E. Robinson)

142. Annual Meeting of Entomological Society of America, New Orleans, LA, Dec 1990 (with G.E. Robinson)
143. Annual Meeting of Entomological Society of America, New Orleans, LA, Dec 1990. (with C.O. Knowles)
144. Agricultural Experiment Station Workshop, Columbia, MO, Nov 1989. (with C.O. Knowles)
145. First Conference of the Chinese Association of Agricultural Students and Scholars, Ithaca, NY, June 1989
146. Annual Meeting of Entomological Society of America, Boston, MASS, Dec 1987 (with G.W. Otis)
147. The 10th International Congress of IUSSI, Munich, West Germany, Aug 18-22, 1986 (with G.W. Otis)
148. Annual Meeting of Entomological Society of Canada, Ottawa, Ontario, Sept 1985
149. Annual Meeting of Entomological Society of America, Hollywood, FL, Dec 1985
150. Annual Meeting of Entomological Society of America, San Antonio, TX, Dec 1984 (with G.W. Otis)

Extension Presentations (invited or contributed)

151. "Honey bee diseases, pests and the CCD crisis," Ingham County Extension Center, April 9 2008 (15 people)
152. "Honey bee photography," Southern Adirondack Beekeepers Association, Albany, NY, March 29 2008 (130 people)
153. "Are genetically modified plants causing CCD?" Southern Adirondack Beekeepers Association, Albany, NY, March 29 2008 (130 people)
154. "Using honey bees for blueberry pollination," special topics on blueberry production, Fennville, MI March 27, 2008 (50 people)
155. "GM Plants and honey bees: do they cause CCD?" Southeast Michigan Beekeepers Association, Novi, MI, March 15 2008 (150 people)
156. "Honey bee biology," Agricultural and Natural Resources Week Beekeeping Program, Michigan State University, March 7-8 2008 (three times, 90 people)
157. "Threats to honey bees and CCD update," Bee Class by Ingham County Extension Office, MSU Pavilion, Jan 15 2008 (25 people)
158. "Importance of honey bees for Michigan fruit industry and their current status," NW Michigan Orchard & Vineyard Show, Traverse City, MI, Jan 2008 (100 people)
159. "Chasing bees around the world," American Beekeeping Federation and American Honey Producers Association Joint Meeting, Sacramento, CA, Jan 2008 (50 people)

160. "Mechanisms of essential oil on varroa mite control," Almond Board Conference, Modesto, CA, Dec 2007 (200 people)
161. "Working with your beekeeper for optimal pollination of fruits and vegetables," Great Lakes Fruit, Vegetable & Farm Market Expo, Grand Rapids, MI, Dec 2007 (with W. Pett, 150 people)
162. "Inside story of honey bees," Heartland Apicultural Society, Frankfurt, KY, July 2007 (50 people)
163. "Nosema disease: effect on workers and its control," Heartland Apicultural Society, Frankfurt, KY, July 2007 (30 people)
164. "GM plants and bees," Heartland Apicultural Society, Frankfurt, KY, July 2007 (50 people)
165. "Queen rearing: theory and methods," Rapti Beekeepers Association, Dang, Nepal, Mar 2007 (16 people)
166. "Queen and drone biology," Rapti Beekeepers Association, Dang, Nepal, Mar 2007 (16 people)
167. "Honey bee disease and pests," Rapti Beekeepers Association, Dang, Nepal, Mar 2007 (16 people)
168. "Controlling the two mites: Varroa and *Tropilaelaps*," Rapti Beekeepers Association, Dang, Nepal, Mar 2007 (16 people)
169. "Strategies for increasing honey production," Rapti Beekeepers Association, Dang, Nepal, Mar 2007 (16 people)
170. "Hive products of bees: pollen, propolis, beeswax and royal jelly," Rapti Beekeepers Association, Dang, Nepal, Mar 2007 (16 people)
171. "Honey plants," Rapti Beekeepers Association, Dang, Nepal, Mar 2007 (16 people)
172. "Marketing your honey," Rapti Beekeepers Association, Dang, Nepal, Mar 2007 (16 people)
173. "Fruit pollination using honey bees and other insects," MSU Horticultural Days, Benton Harbor, MI, Feb 2007 (66 people)
174. "Field-testing the Mitezapper," Southeastern Michigan Beekeepers Association Spring Conference, MI, Feb 2007 (80 people)
175. "Varroa mites: biology and its control," Ingham County MSU Extension Bee Program, E. Lansing, MI, Feb 2007 (24 people)
176. "Honey bee diseases and pests," Ingham County MSU Extension Bee Program, E. Lansing, MI, Feb 2007 (24 people)

177. "Honey bee pheromones and relevance to beekeeping," Iowa Honey Producers Association, Marshalltown, IA, Nov 2006 (60 people)
178. "Digital photography of honey bees," Iowa Honey Producers Association, Marshalltown, IA, Nov 2006 (30 people)
179. "Nosema disease, should you worry about it?" Iowa Honey Producers Association, Marshalltown, IA, Nov 2006 (60 people)
180. "What can I do for you, Michigan beekeepers," Michigan Beekeepers Association, Midland, MI, Oct 2006 (15 people)
181. "Honey bee pheromones and beekeeping," Heartland Apicultural Society, Vincennes, IN, July 2006 (60 people)
182. "Honey bee photography - classroom instruction," Heartland Apicultural Society, Vincennes, IN, July 2006 (60 people)
183. "Honey bee pests and diseases," Eaton County Education Center, Charlott, Michigan, July 2006 (50 people)
184. "Honey bee photography – field demonstration," Heartland Apicultural Society, Vincennes, IN, July 2006 (30 people)
185. "Mechanisms of Division of Labor in Honey Bees," Virginia State Beekeepers Association Summer Meeting, June 2006 (80 people)
186. "Honey bee photography," Virginia State Beekeepers Association Summer Meeting, June 2006 (80 people)
187. "Exocrine glands and pheromones," Virginia State Beekeepers Association Summer Meeting, June 2006 (80 people)
188. "Field Day: Honey Bee Research at MSU and Tour of MSU Bee Biology Building," Southeast Michigan Beekeepers Association, MSU Apiary, http://sembabees.org/gallery/MSU06_0506.html (20 people)
189. "Honey bees and blueberry pollination," Blueberry Field Day, Travel Nichols Research Station, May 2006 (80 people)
190. "Bee pheromones: biology and relevance to beekeeping," North Carolina State Beekeepers Association Spring Meeting, Clemmons, NC, March 2006 (250 people)
191. "External and internal morphology of honey bees," North Carolina State Beekeepers Association Spring Meeting, Clemmons, NC, March 2006 (100 people)
192. "Honey bee photography workshop," North Carolina State Beekeepers Association Spring Meeting, Clemmons, NC, March 2006 (90 people)
193. "Almond pollination in California," ANR Week Beekeeping conference, MSU, MI, March 2006 (180 people)

194. "Resistance mechanisms against fluvalinate by *Varroa destructor*," Empire State Beekeepers Association, Syracuse, NY, Dec 2005 (80 people)
195. "The life of a worker bee", Michigan Beekeeper Association Fall Meeting, Midland, MI, Oct 2005 (80 people)
196. "Honey bee pheromones: biology and relevance to beekeeping," Southwest Michigan Beekeepers Association Meeting, Benton Harbor, Oct 2005 (50 people)
197. "Honey bee researches in the country," Cranbrook Bee Club, Bloomfield Hills, MI, Oct 2005 (18 people)
198. "Basic honey bee biology," "Starting up with bees," "Seasonal management," "Disease and pests of honey bees," One day workshop and field day (9am to 3pm). Lakeview, MI, Aug 2005 (20 people)
199. "The newest honey bee pheromone," Eastern Apicultural Society, Kent, OH Aug 2005 (100 people)
200. "Exocrine glands and their pheromones," Southeast Michigan Beekeepers' Association Meeting, Novi, MI, April 2005 (120 people)
201. "Exocrine glands and their pheromones," Agricultural and Natural Resources Week Beekeeping Program, Michigan State University, Mar 2005 (160 people)
202. "Dynamics of *Nosema* spore levels in honey, beeswax and relationship to rate of worker infection," Agricultural and Natural Resources Week Beekeeping Program, Michigan State University, Mar 2005 (140 people)
203. "Honey bee health, numbers, and other factors in cucumber pollination," Great Lakes Expo (Fruit, Vegetable & Farm Market), Grand Rapids, MI, Dec 2004 (110 people)
204. "Honey bee exocrine glands and pheromones," Michigan Beekeepers' Association Meeting, Higgins Lake, MI, Oct 2004 (60 people)
205. "Honey bees photographed around the world," Southeast Michigan Beekeepers' Association Meeting, Novi, MI, March 2004 (160 people)
206. "Honey bees photographed around the world," Agricultural and Natural Resources Week Beekeeping Program, Michigan State University, Mar 2004 (160 people)
207. "Apilife Var and other means for controlling Varroa mites," Agricultural and Natural Resources Week Beekeeping Program, Michigan State University, Mar 2004 (160 people)
208. "Vine crop pollination," Great Lakes Expo (Fruit, Vegetable & Farm Market), Grand Rapids, MI, Dec 2003 (250 people)
209. "American foulbrood: symptoms, treatment, resistance and recent research," Michigan Beekeepers' Association Fall Meeting, Cadillac, MI, Oct 2003 (50 people)

210. "A five year summary of bee research and education at MSU," Michigan Beekeepers' Association Fall Meeting, Cadillac, MI, Oct 2003 (50 people)
211. "Five years at MSU," Southwest Michigan Beekeepers' Association Meeting, Benton Harbor, MI, Oct 2003 (30 people)
212. "Honey bee education and research at MSU," Southeast Michigan Beekeepers' Association Meeting, Novi, MI, Sept 2003 (30 people)
213. "The inside story: demonstration of honey bee morphology and anatomy," Heartland Apicultural Society, 2nd Conference, Midway, KY, July 2003 (30 people)
214. "New ideas in varroa mite control: update on mitezapper," Heartland Apicultural Society, 2nd Conference, Midway, KY, July 2003 (250 people)
215. "Age related changes in worker honey bees," Keynote Speaker, Southeast Michigan Beekeepers' Association 63rd Annual Bee School, Schoolcraft College, MI, Mar 2003 (120 people)
216. "The extraordinary queen: insect birth control," Agricultural and Natural Resources Week Beekeeping Program, Michigan State University, Mar 2003 (150 people)
217. "Why young bees like it warm --flight development in bees," Agricultural and Natural Resources Week Beekeeping Program, Michigan State University, Mar 2003 (150 people)
218. "Age related changes in worker honey bees," Agricultural and Natural Resources Week Beekeeping Program, Michigan State University, Mar 2003 (150 people)
219. "Flight development in worker bees," Joint conference of Ontario and Michigan Beekeepers' Associations, Niagara on the River, Ont, Canada, Dec 2002 (200 people)
220. "The cousins of our bees: Asian bees," Michigan Beekeepers' Association Fall Meeting, Flint, MI, Oct 2002 (50 people)
221. "Effect of transgenic pollen on honey bees," Eastern Apicultural Society Conference, Ithaca, NY, Aug 2002 (60 people)
222. "Other products of the hive," Eastern Apicultural Society Workshop, Ithaca, NY, Aug 2002 (70 people)
223. "Zapping varroa mites," The 1st conference of Heartland Apicultural Society, Goshen, IN, July 2002 (180 people)
224. "Asian bees," The 1st conference of Heartland Apicultural Society, Goshen, IN, July 2002 (8 people)
225. "Varroa mites and update on the mitezapper," Southwest Michigan Beekeepers' Association summer meeting, Lake Michigan College Beeyard, Benton Harbor, MI, June 2002 (15 people)

226. “*Apis cerana* in China and how do they resist the varroa mites,” National Association of Queen Breeders and Bee Rearing Centers, Limoges, France Mar 2002 (50 people)
227. “Nosema disease: how does it affect your bees,” National Association of Queen Breeders and Bee Rearing Centers, Limoges, France, Mar 2002 (50 people)
228. “Resistance mechanisms of varroa mites to chemicals,” National Association of Queen Breeders and Bee Rearing Centers, Limoges, France, Mar 2002 (50 people)
229. “Non-chemical control for varroa mites: zapping them,” Keynote Speaker, National Association of Queen Breeders and Bee Rearing Centers, Limoges, France, Mar 2002 (50 people)
230. “Tree fruit pollination - makes it or breaks it,” MSU Tree Fruit IPM & Production School, Kellogg Biological Station, MSU, Feb 2002 (100 people)
231. “Melatonin and bees: why some bees work around the clock and others sleep” Agricultural and Natural Resources Week Beekeeping Program, Michigan State University, Mar 2002 (160 people)
232. “Varroa control with a new device, the Spartan Mitezapper,” Fall meeting of Michigan Beekeeper’s Association, Big Rapids, MI, Oct 2001 (60 people)
233. “Beekeeping with *Apis cerana* in China,” Fall meeting of Michigan Beekeeper’s Association, Big Rapids, MI, Oct 2001 (60 people)
234. “Mitezapper: how does it work and its potential market,” National Agri-Marketing Association at MSU, MSU, Oct 2001 (16 students)
235. “A non-chemical approach to varroa mite control -- introducing the electrifying Mitezapper,” Eastern Apicultural Society Conference, Cape Cod, MA, Aug 2001 (80 people)
236. “Beekeeping with *Apis cerana* in China,” Eastern Apicultural Society Conference, Cape Cod, MA, Aug 2001 (110 people)
237. “A new way to deal with resistant mites -- zap 'em!” Joint meeting of Michigan Beekeepers' Association and Ontario Beekeepers' Association Summer Meeting, July 2001 (120 people)
238. “Mitezapper for varroa control: simple idea, great effect,” Southeast Michigan Beekeepers' Association 63rd Annual Bee School, Schoolcraft College, MI, Mar 2001 (80 people)
239. “Two web-related projects at MSU to help beekeepers,” Agricultural and Natural Resources Week Beekeeping Program, Michigan State University, Mar 2001 (120 people)
240. “Mitezapper for Varroa control: simple idea, great effect, “ Agricultural and Natural Resources Week Beekeeping Program, Michigan State University, Mar 2001 (120 people)

241. "Varroa mites and Chinese bees," Michigan Beekeepers Association Fall Meeting, Big Rapids, MI, Oct 2000 (80 people)
242. "Honey bee research at Michigan State University," Michigan Beekeepers Association Fall Meeting, Big Rapids, MI, Oct 2000 (80 people)
243. "What is new with the small hive beetle?" Michigan Beekeepers Association and Indiana Beekeepers Association Joint Summer Meeting, Nappanee, IN, June 2000 (90 people)
244. "Age-related behavior of workers, and how they know when and what to do?" Indiana Beekeepers Association, Middlebury, IN, May 2000 (80 people)
245. "What is buzzing with bee research at Michigan State University?" Michigan State Beekeepers' Association Fall Meeting, Big Rapids, Oct 2000 (120 people)
246. "Pesticide resistance: how do bugs get it?" Agricultural and Natural Resources Week Beekeeping Program, Michigan State University, Mar 2000 (180 people)
247. "Small hive beetle update," Michigan Beekeepers' Association Fall Meeting, Big Rapids, MI, Oct 1999 (90 people)
248. "Small hive beetle," Plant Industry Section Fall Training, Pesticide and Plant Pest Management Division, Michigan Department of Agriculture, Lansing, MI, Oct 1999 (70 people)
249. "Update on the small hive beetle, a new pest in honey bees," Pesticide Education and Regulatory Update, E. Lansing, MI, Oct 1999 (70 people)
250. "Small hive beetle report" and demonstration of mite resistance field test, Holland Beekeeper's Meeting, Holland, MI, July 1999 (80 people)
251. Demonstration of mite resistance field test, Southeast Michigan Beekeeper's Meeting, Davisburg, MI, July 1999 (70 people)
252. Demonstration of mite resistance field test, Southwest Michigan Beekeeper's Meeting," St. Joseph, MI, July 1999 (10 people)
253. Demonstration of mite resistance field test, Michigan Beekeeper's Association Summer Meeting, St. Charles, MI, July 1999 (80 people)
254. "Social structure of the honey bee colony," Keynote Speaker, Indiana Beekeeper's Association Summer Meeting, Warsaw, IN, June 1999 (70 people)
255. "Social organization of the honey bee colony," Keynote speaker, Southeast Michigan Beekeepers' Association 61st Annual Bee School, Schoolcraft College, MI, April 1999 (120 people)
256. "A closer look at the Nosema problem," Southeast Michigan Beekeepers' Association 61st Annual Bee School, Schoolcraft College, MI, April 1999 (120 people)
257. "Research program at Michigan State University," Ontario Bee Breeders' Association Annual Queen Breeding Workshop, Guelph, Ont. Mar 1999 (150 people)

258. "Social organization of the honey bee colony," Agricultural and Natural Resources Week, MSU, Mar 1999 (200 people)
259. "Research experience and future research," Southwest Michigan Beekeepers Association, Benton Harbor, Feb 1999 (6 people)
260. "Division of labor in the hive," Missouri State Beekeepers Association Fall Meeting, Michigan State Beekeepers Association, Cadillac, Oct, 1998 (120 people)
261. "Behavioral sequences of worker honey bees," Missouri State Beekeepers Association Fall Meeting, Lake of Ozarks, Missouri, Oct 10, 1998 (150 people)
262. "Nosema disease," Missouri State Beekeepers Association Fall Meeting, Lake of Ozarks, Missouri, Oct 10, 1998 (200 people)
263. "Social regulation of forager development," Illinois State Beekeeping Association Annual Meeting, Nov 1997
264. "Activation of food glands in worker bees," Toronto District Beekeepers' Association, Mar 1988
265. "Beekeeping in China," Toronto District Beekeepers' Association, Feb 1985

Outreach Presentations

266. "Honey bees and beekeeping, show and tell," Barry County Extension 4-H Youth Program. Hastings, MI, May 2008 (375 3rd grade students)
267. "Honey bees are important to Michigan agriculture," Capital area Audubon Program, Lansing, MI. Nov 2007 (50 people)
268. "Colony collapse disorder and its implications for our food," Presentation at " God Save The Queen October Honey Bee Research Benefit," Leapin Lizard Gallery, Covington, KY, Oct 12, 2007 (100 people)
269. "Honey bees: importance to Michigan agriculture and threats they face," Pfizer, Portland, MI. June 2007(70 people)
270. "Honey bees: biology and beauty," Senior Group, First Baptist Church, Okemos, MI. Feb 2007 (30 people)
271. "Honey bee show and tell," Meridian Heritage Festival, Meridian Township Complex, Okemos, MI. Oct, 2006, with K. Wharton (300 attendees)
272. "MSU bee lab field day," MSU bee biology building, May, 2006 (27 attendees)
273. "Honey bee show and tell," Meridian Heritage Festival, Meridian Township Complex, Okemos, MI. Oct, 2005, (with K. Wharton, 400 attendees)
274. Slide show of bees, Observation hive show, "Behavior of bees," "How honey is made," "Bee sting," a 3 hr program, Bennett Woods School, Okemos, MI. Sept, 2005, with K. Wharton (170 Students)

275. "Honey bee Biology," "Dance reading" and "Nest recognition," Korean Visting International Professional Program, MSU, July 2005, (20 teachers)
276. "Honey bee biology," Senior Students, Okemos High School, May, 2005 (20 students)
277. "Melatonin and honey bee division of labor," Senior Students, Okemos High School, May, 2005 (30 students)
278. "Honey bee division of labor," Rotary International, Okemos branch, Okemos, MI, Dec 2004 (40 people)
279. "How do bees and insects over-winter?" Junior League of Detroit BINZ, Belle Isle Nature Zoo, MI, Dec 2004 (20 people)
280. Meridian Heritage Festival, Meridian Township Complex, Okemos, MI. Oct 2, 2004. (500 attendees)
281. Presentation to 2nd Grade, Marble Elementary School, MI. May 29, 2003 (21 students)
282. Field demonstration "How to install package bees," to Cub Scouts, May 5, 2003 (7 people)
283. Presentation to 7th grade Perry Middle School, May 2002. (200 students, by S. Michelak)
284. Presentation to 7th grade Perry Middle School, May 2001 (200 students, by S. Michelak)
285. Presentation at Rural Education Day MSU Pavilion, April 2000 (1,500 3rd grade students)
286. Presentation to 1st Grade Yankee Ridge Elementary School, June 1997
287. Science Fair (Honey Bee Show), Bottonfield Elementary School, IL, Sept 1997
288. Presentation to 2nd Grade Bottonfield Elementary School, IL, Sept 1997
- Presentations by Lab Members (Audience number given for extension talks)***
289. Lin, S. "Mechanism by which the juvenile hormone analog methoprene induces accelerated behavioral development in worker honey bees, *Apis mellifera*" High School Honors Science Program Report Presentation, MSU, Sept 2007
290. Zhao, G. "Electronic monitoring of *Varroa destructor* feeding behavior on honey bee *Apis mellifera*," High School Honors Science Program Report Presentation, MSU, Aug 2004
291. Tuitele, F. "The amount of pollen grains ingested by larvae of honey bee (*Apis mellifera*) worker, drone and queen of different ages," High School Honors Science Program Report Presentation, MSU, Aug 2004
292. Lee, G., L.I. Araujo. "Effect of carbon dioxide on honey bee foraging behavior, JH titer and sensitivity to JH," High School Honors Science Program Report Presentation, MSU Aug, 2003

293. Taua, L. "Nosema spore production in honey bee workers performing different tasks," High School Honors Science Program Report Presentation, MSU, Aug 2002
294. Lin, H. "Other products of the bee hive," Southeast Michigan Beekeepers' Association 62nd Annual Bee School, Schoolcraft College, MI, Mar 2002 (160 people)
295. Lin, H. "It is not just honey: other hive products you can harvest from bees," Agricultural and Natural Resources Week Beekeeping Program, MSU, Mar 2002 (160 people)
296. Krishnamurti, P. "Comparison of protein profiles between healthy and *Nosema*-infected honey bee workers (*Apis mellifera* L.)," High School Honors Science Program Report Presentation, MSU, Aug 2001
297. Mathews, E. "What I've learned about Nosema and how it affects bees," Minority Research Program Report Presentation, MSU, July 2001
298. Hanley, A.V. "MSU Apiculture Summer Research Report," Southwest Michigan Beekeepers Association. Paw Paw, MI, July 2001 (12 people)
299. Lin, H. "An update on Nosema research and its possible alternative control," Agricultural and Natural Resources Week Beekeeping Program, Michigan State University, Mar 2001 (120 people)
300. Hanley, A.V. "Transgenic pollen and honey bees," Agricultural and Natural Resources Week Beekeeping Program, Michigan State University, Mar 2001 (120 people)
301. Hanley, A.V. "Effect of transgenic pollen on honey bees," Michigan Beekeepers Association Fall Meeting, Big Rapids, MI, Oct 2000 (80 people)
302. Foster, E.S. "Effects of CO₂ anesthesia on behavior and physiology/after-hours controlled mating" Michigan Beekeepers Association Fall Meeting, Big Rapids, MI, Oct 2000 (80 people)
303. Foster, E.S. "The effect of CO₂ narcosis on the juvenile hormone profile of the worker honey bee, *Apis mellifera* L.," 2000 Ronald E. McNair Post-Baccalaureate Achievement Program and Summer Research Opportunity Program Report Presentation, Oct 2000
304. Lin, H. "Honey bee perfume," Southeast Michigan Beekeepers' Association 60th Annual Bee School, Schoolcraft College, MI, Mar 2000 (120 people)
305. Lin, H. "Royal jelly, health effects and production," Agricultural and Natural Resources Week Beekeeping Program, MSU, Mar 2000 (180 people)
306. Dusset, C. "Short-term changes of juvenile hormone due to stress," Undergraduate Research Opportunity Program Report Presentation, MSU, Oct 2000

Courses Taught

Graduate Course Insect Physiology, S05, S01 (with J. Miller & A. Raikhel), S99 (with A. Raikhel)

Undergraduate Course

Apiculture and Pollination (Independent Study), S00, F00.

Short Courses

Honey bee biology and Beekeeping, MSU Evening College, S06, S07
 Queen Rearing, June 2004
 Package Bee Installation, May 2003
 Beginning Beekeeping, April, 2001
 Beginner Level Beekeeping, April, 2000

Workshops

Honey bee queen rearing and beekeeping essentials, Rapti Beekeepers Association, Nepal, 2007
 Honey Bee Biology, Korean Teachers, 2005
 Beekeeping Short Course, 1998
 Radiochemical assay of insect juvenile hormone biosynthesis (Illinois State University, 1 day workshop), 1996, 1997
 Behavioral Physiology and Ecology of Honey Bees (Beijing Agricultural University, 2-week workshop), 1993

Guest Lectures

EST643 Integrating Beekeeping Across the Curriculum (Oakland University), Beaver Island, MI, July 2007 (21 students)
 Insect Physiology Juvenile Hormone Labs, Spring 2003
 Insects and People, UIUC, 1995
 Chemical Communication in Bees, UIUC, 1991, 1998
 Honey Bee Morphology, University of Guelph, 1986

Supervising and Hosting***High School Students***

Stephanie Lin, High School Honors Science Program, 2007 (Regional semi-finalist, Siemens Competition)
 Faleomavaega Tuitele, Jennifer Zhao, High School Honors Science Program, 2004
 Laura Araujo, Grace Lee, High School Honors Science Program, 2003 (Regional finalist, Siemens Competition)
 Letti Taua, High School Honors Science Program, 2002
 Priya Krishnamurti, High School Honors Science Program, 2001
 Errol Mathews, Sowkya Rangarajan, The Minority Apprenticeship Program, 2001

Undergraduate Students

Joseph Riddle, David Huang, research assistant, summer 2006
 Mitchell Carroll, Eileen Chang, summer assistants, summer 2005
 Bartek Majewski, research assistant in developing the Mitezapper, 2002-2003
 Emily Jackson, Laurent Clauda, undergraduate summer research assistants, Summer 2001
 Erik Foster, Summer Research Opportunity Program-McNair Scholar, 1999-2000
 Candice Dusset, Undergraduate Research Opportunity Program, 1999-2000

Graduate Students

Yu-lun Fu, M.Sc. student, 2006-
 Kathryn Elizabeth Wharton, Ph.D. Student, 2003 -2008 (guidance committee)
 Devrim Oskay, Ph.D. Student (Univ. Puerto Rico), 2002-2007 (guidance committee)
 Julianna Tuell, Ph.D. Student, 2003 – 2007 (guidance committee)
 Mercedes Ramirez, M.Sc. Student, 2007- (guidance committee)
 Anne Hanley, M.Sc. student, 2000 - 2002

Postdoctoral Fellows

Kiheung Ahn, (Konkuk University, Korea) 2006-2008
Guntima Suwannapong (Univ. Of Burapha, Thailand), May – Nov 2007
Liangxian Sun, (Quanzhou University, China), 2006
Yuchuan Qin, (China Agricultural University, China), 2003 - 2004
Jianguo Tan, (co-advised with K. Dong) 2002 - 2003
Ronglin Yu, 2000 (Commercial beekeeper, Canada)
Joerg Schmidt-Bailey, 2000 - 2001
Ruiwu Wang (co-advised with K. Dong), 1999- 2002 (University of Calgary Postdoc)
Ron Huarong Lin, 1999- 2002 (Commercial beekeeper, Canada)

Visiting Scientists

Paitatoon Seanbualuang (Chulalongkorn University, Thailand), May – Nov 2008
Xianbing Xie (Jiangxi Agricultural University, China), March – Sep 2008
Laurianne Leniaud (University of Tours, France), Jan 2007
Jakob Wegener (Länderinstitut für Bienenkunde, Germany), Nov 2006
Marie-Pierre Schippers (McMaster University, Canada), April 2006
Laurianne Leniaud (University of Tours, France), Nov 2005
Bingyan Xie, Dongxin Feng (Institute of Vegetable & Flower Res., China), Oct 2004
Rong Kou and Chang (Academia Sinica, Taiwan), Mar 2004
Kathryn Gardner (Cornell University), Jan 2004
Ting Zhou (Institute of Apicultural Research , China), 2002 - 2003
Zhijiang Zeng (Jiangxi Agric University, China), Aug 2003
Michael Langenberger (Canada), summers of 2002, 2004-2006

Symposia/Meetings Organized

“Contribution of social insect studies to science and society,” Program Symposium,
Entomological Society of America, Indianapolis, IN, 2006 (with Tugrul Giray)
Agricultural and Natural Resources Week Beekeeping Program at MSU, 1999-2005
Informal Conference, Overseas Chinese Entomologists Association, ESA, 2000
Symposium on mechanism of division of labor, International Union for the Study of Social
Insects, Sapporo, Japan, 2002

National and International Service

Reviewer

Journals

Apidologie, American Bee Journal, Analytical and Bioanalytical Chemistry, Annals of the
Entomological Society of America, BeeScience, Bee World, Behavioral Ecology and
Sociobiology, Comparative Biochemistry and Physiology, Entomologia Sinica, Environmental
Biosafety Research, Insectes Sociaux, Journal of Apicultural Research, Journal of
Comparative Physiology, Journal of Economic Entomology, Journal of Environmental
Entomology, Journal of Insect Physiology, Naturwissenschaften, Turkish Journal of Zoology,
Proceedings of the National Academy of Sciences USA

Grants

Austria Science Foundation, Israel Natural Science Foundation, National Science Foundation
(USA), USDA-National Research Initiative, USDA-North Central Region SARE Program,
USDA National Labs Project Plan Review

Editor-in-Chief

SINO-Ecologists Overseas Newsletter, 1990
Chinese Illini, 1991-1992

Media Appearance

Interview related to honey bee colony collapse disorder (Detroit Free Press, Michigan Radio, Michigan Farm News, Lansing State Journal, Kalamazoo Gazette, WKAR Michigan Public Radio, interlochen radio, Saginaw News, MSU Futures Magazine, MSU ANR Communications Office, Detroit Weekly) 2007-2008
Phone interview by Lansing State Journal, Feb 2007
Interview by MSU news, Dec 2006 (<http://special.newsroom.msu.edu/honey/>)
Interview by State News, Nov 2006 (<http://www.stateneews.com/article.phtml?pk=38687>)
Interview by MSU news, Oct 2006 (<http://newsroom.msu.edu/site/indexer/2883/content.htm>)
Interview by Futures magazine (MAES, MSU), Dec 2005
Interview by Focal Point (MSU student TV), Nov 2005
Story by WKAR radio, Sept 23, 2005, <http://wkar.org/morningedition/story.php?storyid=806>
MSUtoday news regarding beetography, July 2005,
<http://www.msutoday.msu.edu/research/index.php3?article=15Jul2005-8>
MSUE news regarding beetography, June 20, 2005,
http://www.green.msu.edu/articles/Photogenic_Bees_Huang.htm
Interview by State News, regarding PNAS paper, Dec 1, 2004
Phone Interview by CBC, regarding PNAS paper, Nov 29, 2004
Interview by MSU news, regarding PNAS paper, Nov 11, 2004
Interview by Michigan Public Radio (later broadcasted on NPR), May 17, 2004
Phone interview regarding honey bees, Kalamazoo Gazette, May 4, 2004
Phone interview regarding bumble bees, Kalamazoo Gazette, May 5, 2004
Radio interview by Farm Radio Network on bees and pollination, March 9, 2004
Phone interview by Oakland Press, Sept 3, 2003
TV interview by HOM-TV (Meridian Township, MI) on bee sting allergies, May 28, 2003
Radio interview by Lansing State Journal on bee stings, May 19, 2003
Radio interview by Farm Radio Network on bees and pollination, May 14, 2003
Radio interview by Michigan Farm Radio (Grand Rapids, MI) on "beebase," May 17, 2002
Research News, MSU, "Mite-zapper wins MUCI grant," p. 7, Spring 2002
MSU Today, "Bees for hire: new web site will offer match-making," Mar 8, 2002
TV interview by PBS on flower scent and plaque of honey bees, Feb 27, 2002
Growing GREEN newsletter, "Spartan Mitezapper Saving the Honeybee," Sep. 2001
The State News, "Honeybees in jeopardy," Oct 8, 2001
Associated Press, "Field abuzz for bees brought in for pollination," Sept 29, 2001
Booth News (picked by AP), "Swarms make raid on wasp, hornet killer," Sept 6, 2001
Kalamazoo Gazette, "Bee lovers abuzz over Michigan invention," front page, July 27, 2001
Radio interview on a talk show (www.comedyworld.com) on insect eating, 2000
Radio interview by Lansing State Journal (Source for Kid Science on July 5), 2000
TV interview by News 6 (Lansing) on honey bees and wasps, Sept 2000
Radio interview by Michigan Farm Radio (Grand Rapids) on bees and mites, Aug 2000
TV interview by News 6 (Lansing) on honey bees and wasps, Oct 1999

Editorial Board Member

Entomologia Sinica, 2001 –
BeeScience, 1992 - 1994
The Chinese Association of Agricultural Students & Scholars Journal, 1992-1993

Treasurer

Overseas China Education Fund (www.ocef.org) 1996-1998

Vice President

MSU Chinese American Faculty Association, 2000-2001

Section Cb, Entomological Society of America, 2000
SINO-Ecologists Club Overseas, 1990

President

President-elect nominee, Intl Union for the Study of Social Insects, N. Amer. Section, 2001
Overseas Chinese Entomologists Association, 2000
Apiculture Club, University of Guelph, 1986

Chair

NCR202, Health and survival of honey bee colonies, 2004-2005
Board of directors, Professor Huang Pi-Cheng Scholarship, 1999-2005
Board of directors, Chinese Heritage Center, Lansing, Michigan, 1999-2002

Entomological Society of America

Section Cd3 Moderator, Annual Meeting of 2002
Student Competition Moderator, Annual Meeting of 2002, 2001
Student Competition Judge, Annual Meeting of 2000
Chair, Section Cb (Apiculture and Social Insects), 2001
Vice-Chair, Section Cb (Apiculture and Social Insects), 2000
Secretary, Section Cb (Apiculture and Social Insects), 1999

Webmaster

<http://cyberbee.msu.edu>, 1997 - (Featured in **Science**, Netwatch Section, June 2000)
<http://sfi.cyberbee.net>, 2000 - (Santa Fe Institute Social Insect Working Group)
<http://michiganbees.org>, 2004 – (Michigan Beekeepers' Association)
<http://iussi.bees.net>, 2002 - (Intl Union for the Study of Social Insects, N. Amer. Section)
<http://www.soscef.org>, 1998 (SOS China Education Fund, now ocef.org)

Cyberbee.msu.edu web impact statistics for 2005-2007

<i>Category</i>	2005	2006	2007
Successful requests (Jan 1 to Dec 31):	4,579,869	5,432,260	5,729,63
Average successful requests per day:	12,548	14,885	15,705
Successful requests for pages:	215,262	300,564	329,528
Average successful requests for pages per day:	589	823	903
Distinct files requested:	9,782	10,666	11,860
Distinct hosts served:	129,340	178,805	223,736
Data transferred (gigabytes):	76.003	102.736	107.072
Average data transferred per day (megabytes):	213.247	288.269	300.534
Top level domains reached	167	167	174

Member

IOBC Global Working Group on Transgenic Organisms in IPM and Biocontrol (2002-)
NCR202, Health and survival of honey bee colonies, (1998-2003)
Social Insect Working Group, Santa Fe Institute (2000-2004)
Award committee, American Association of Professional Apiculturists, 2001

Photography

Bee photo (**cover**), American Bee Journal, May 2008
Bee photo (**covers**), American Bee Journal, March, April, May 2007
Bee photo (**cover**), Abstracts of "Honey Bee Genomics and Biology", May 2007
Bee photo (**cover**), MSU Entomology 100 Year Celebration Brochure, Apr 2007
Bee photo (**cover**), Midwest Beekeepers, Mar 2007
Bee Photo (**cover**), Chinese Bulletin of Entomology, Jan 2007
Bee photos (**four, one**), American Bee Journal, Oct, Nov 2006
Bee photo (**covers**), American Bee Journal, March, June, July, Aug 2006
Bee photo, Vlaams Nederlandse Imkersfederatie (Beekeeping for Belgium in Netherlands), 2005
Bee photo (**cover**), NSF poster for the BeeSpace Project (UIUC), Dec 2005
Bee photos (two), Journal of Chemical Education 82: 810, Jan 2005
Bee photo (**cover**), American Bee Journal, Nov 2005
Bee photo (**cover**), Bee Culture, Oct 2005
Mite photo (**cover**), German Bee Journal (Bienen), April 2005
Mite photo, World-Watch 18: 9, Sept/Oct 2005 ('Vampire' mite ravages US honeybee population)
Bee photo, Science (307:31), Jan 7, 2005
Bee photo (**cover**), PNAS, Nov 29, 2004
Bee photo, Science, (<http://sciencenow.sciencemag.org/cgi/content/full/2004/1130/3>)
Bee photo (**cover**), J. Experimental Biology 207 (19), Nov 29, 2004
Bee photos (four), Feb 2004 issue of NIH publication No. 04-4932, Findings (web version: <http://www.nigms.nih.gov/news/findings/feb04/sting.html>)
Bee photo, Turkish Bee Journal, Oct 2004 (p 32) (regarding cyberbee.msu.edu)
Bee photos (two), Belgium Bee Journal, June 2004 (pp 14-15)
Bee photo, Current Biology (14: R178), Mar 9, 2004
Bee photo, Nature Reviews Genetics (4: 932), Dec 01, 2003
Bee photo, Science (<http://sciencenow.sciencemag.org/cgi/content/full/2003/1010/3>)
Bee photo, Science main page, web version of Oct 10, 2003, uncredited
Bee photo, Science (296: 636), April 2002 (credited on 296: 2336)
Bee photo (**cover**), Genome Research 12: (4), Apr 2002

Service to Michigan State University

College and University Service

College Graduate Committee, 2005-2008
Interim CANR representative to the Academic Council/Faculty Council, Fall 2003
Nominee, University Appeals Board, 2003
Nominee, CANR representative to the Academic Council/Faculty Council 2002

Department Service

Graduate Committee, 2002-
Faculty Advisory Committee, 2005-2007
Computer Committee, Awards Committee, 2001
Seminar Committee, 1999-2000
Seminar speakers hosted: D. Borst, S. Cho, Y. Le Conte, D.C. Marshall, D. Moore, R.E. Page, R.W.K. Punchihewa, G. Gamboa, Z.R. Shen, B. Stay, G.E. Robinson, E. Vargo
Hutson student proposal reviewer

Professional Development

Workshops and Seminars Attended

Honey Bee Genomics and Biology, Cold Spring Harbor, NY, May 6-8, 2007
Artificial insemination of honey bee queens, Ohio State University, June 2006
MSU portal training for extension faculty and staff, Dec 2004
A Field Guide to GenBank and NCBI Molecular Biology Resources, Feb 2004

Summer Fruit Tour and Inservice, Aug 2003
Lilly Teaching Fellowship, MSU, 2002-2003
Workshop on Faculty Fulbright Opportunities, April 2003
USDA grant writing workshop, St Paul, Minnesota, Sept 2002
Cooperative Learning Applications, MSU, Aug 2002
SBIR/STTR Grants: How to Get Funded, MSU, Feb 2002
How to Survive in a Research Intensive Environment-III (A Grant Writing Workshop), MSU, 2001
Computer Workshop: Coldfusion Database Programming (2 day workshop), MSU, 2001
Computer Workshop: Microsoft Access Database (1 day workshop), MSU, 2001
Computer Workshop: Macromedia Flash (1 day workshop), MSU, 2000
Computer Workshop: Macromedia Dreamweaver (1 day workshop), MSU, 2000
How to Survive in a Research Intensive Environment-I (tenure process), MSU, 2000
Using Adobe Photoshop (5 day workshop), UIUC, 1997
Mathematica (1 day workshop), Wolfram Research Inc, 1996
Computer Programming in C++ 110 (regular course), University of Illinois, 1995
Computer Programming in APL (short course), University of Guelph, 1985
Computer Programming in FORTRAN (short course), University of Guelph, 1985

(updated 4/30/2008)