

## CURRICULUM VITAE

### **John Frazier Tooker**

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#### **Education**

<u>Institution</u>	<u>Degree / position</u>	<u>Year</u>	<u>Field of Study</u>
Bates College	B.S. (Advisor: Sharon Kinsman)	1992	Biology (Minor in French)
University of Illinois at Urbana-Champaign	M.S. (Advisor: Larry Hanks)  Master's title: Natural enemy relations of pine needle scale (Homoptera: Diaspididae) in east central Illinois and the potential for conservation biological control	1999	Entomology
	PhD (Advisor: Larry Hanks)	2003	Entomology
	PhD title: Multitrophic interactions in a prairie insect community: ecology, behavior, and conservation.		
	Postdoctoral scholar (Hanks)	2003	Entomology
The Pennsylvania State University	Postdoctoral scholar (Advisor: Consuelo De Moraes)	2003-08	Entomology

#### **Work History**

2014 to present	Associate Professor, Department of Entomology, The Pennsylvania State University, University Park, PA.  (50% research / 50% extension appointment)
2013 to present	Graduate Faculty College of Agricultural Science's International Agriculture Development Program.
2008 to present	Extension Specialist, Field and Forage Crop Team, Integrated Management of Pests of Agronomic Crops Program, Penn State Extension, University Park, PA.
2008 to 2014	Assistant Professor, Department of Entomology, The Pennsylvania State University, University Park, PA.
2009 to present	Affiliate Faculty Member of Penn State's Center for Pollinator Research
2008 to present	Affiliate Faculty Member of Penn State's Center of Chemical

## Ecology

2008 to present            Affiliate Faculty Member of Penn State's Intercollege Graduate Degree Program in Ecology

**Intensive training**

- 1998            Midwest Institute for Biological Control: Habitat management for biological control and biological control in annual crop habitats. Kellogg Biological Station, Hickory Corners, MI. June, 1 wk.
- Midwest Institute for Biological Control: Importation biological control in the Midwest. European Biological Control Laboratory, USDA/ARS, Montpellier, France. July, 1 wk.
- 2000            Organization for Tropical Studies: Graduate Educational Program. Tropical Biology: An Ecological Approach. Costa Rica. January-March, 8 wk.
- Parasitic Hymenoptera Training Session XI. The Maryland Center for Systematic Entomology, Department of Entomology, University of Maryland, College Park, MD. June, 1 wk.
- 2002            SAS Programming I - Essentials. SAS Institute, Inc. On-site training course, University of Illinois at Urbana-Champaign (UIUC). February, 1 wk.
- Training on Environmental Scanning Electron Microscopy, Beckman Institute, UIUC. September, 1 wk.
- 2011            Professional Grant Development Workshop. The Grant Training Center. On-site training course. Temple University, Philadelphia, Pennsylvania. May, 1 wk.

**Grants received.**

*Since March 2008, I, alone or via collaborations, have received 34 separate grants. Total Value of Awards (excluding Student Fellowships and Grants): \$11,235,763*

*Portion awarded to Dr. Tooker's program: \$2,059,092*

- 1998            Master's Thesis Research Grant, Graduate College, UIUC
- 1998, 2000,  
2002, 2003        Conference Travel Grant, Graduate College, UIUC
- 1999            Travel Grant, Program in Ecology and Evolutionary Biology, UIUC

- 1999 Enhancement Fund Award, School of Life Sciences, UIUC
- 2001 On-Campus Dissertation Research Grant, Graduate College, UIUC
- 2001 Grant-in-Aid of Research, Sigma Xi, The Scientific Research Society
- 2001 Summer Research Fellowship, Program in Ecology and Evolutionary Biology, UIUC
- 2001 Small Grants Program, Prairie Biotic Research, Inc.
- 2002 Travel Grant, Program in Ecology and Evolutionary Biology, UIUC
- 2002 Francis M. and Harlie M. Clark Research Support Grant, UIUC
- 2005 Henry & Sylvia Richardson Research Grant, Entomological Foundation, Entomological Society of America
- 2006-2008 USDA National Research Initiative Competitive Postdoctoral Grant. "Phytohormones and Insects." J. F. Tooker (PD) and C. M. De Moraes \$120,590.
- 2009 Penn State College of Agriculture Seed Grant. "Enhancing management of insect pests in Pennsylvania field crops through monitoring, forecasting, and the use of genotypically diverse cultivar mixtures." J. F. Tooker (PD), G. Roth, and D. Voight. \$15,000.
- 2009 Penn State College of Agriculture Seed Grant. "Measuring and mapping plant and insect biodiversity in agricultural landscapes for management of ecosystem services." D. Mortensen (PD), F. Egan, J. F. Tooker, and D. Miller. \$15,000.
- 2009 Pennsylvania Vegetable Growers Association. "Improving Risk Alerts and Management for Sweet Corn Pests." S. Fleischer and J. F. Tooker. \$4,500.
- 2009-2012 Sustainable Agriculture Research and Education Program-Northeast Region. H. Karsten (PD) and Co-PIs: T. Richard, W. Curran, J. F. Tooker, C. Altemose, D. Beegle, J. Hyde, R. Koide. "Integrating Strategies and Institutions for Investigating Long-Term Sustainability of Cropping Systems." \$399,800.
- 2009-2010 Pennsylvania Soybean Promotion Board. "Soybean aphid in Pennsylvania-monitoring and development of new management tactics." J. F. Tooker (PD). \$19,000.

- 2010-2011 Pennsylvania Soybean Promotion Board. “Developing a biologically based management strategy for slugs in no-till soybeans.” J. F. Tooker (PD). \$12,185
- 2010-2011 Organic Farming Research Foundation. “Enhancing insect-pest management in organic systems using genotypically diverse cultivar mixtures.” J.F. Tooker (PD). \$13,638
- 2010-2013 USDA Extension Integrated Pest Management Coordination and Support Program. “IPM Implementation in Pennsylvania: Programs for Agricultural and Urban Communities.” E. G. Rajotte, J. F. Tooker, B. Gugino, L. Garling. \$1,049,533 (Tooker portion: 20%).
- 2010-2012 USDA Sustainable Agriculture Research and Education Program- Northeast Region Graduate Research Fellowship, I. M. Grettenberger and J. F. Tooker. \$13,172
- 2010-2012 Private Donor. “Understanding the role of nutrition in host-plant choice by pollinators” J. F. Tooker, D. A. Mortensen, H. Patch. \$77,000.
- 2011-2013 Maryland Grain Producers Utilization Board. “Slugs in mid-Atlantic grain fields: Developing a biologically based management strategy” J. F. Tooker. \$26,592.
- 2011-2012 State Horticultural Association of Pennsylvania. “Characterizing natural enemy community of brown marmorated stink bug.” D. J. Biddinger, G. Krawcyck, J. F. Tooker. \$17,000.
- 2011-2012 USDA-Northeast Integrated Pest Management Center Partnership Grant. Mid-Atlantic High Residue Cropping Systems IPM Working Group Focusing on Slug Management. J. Whalen and J. F. Tooker. \$19,414.
- 2011-2014 National Science Foundation. “Plant responses to the perception of insect pheromones” Graduate Research Fellowship Anjel Helms, Mark Mescher and John Tooker. \$90,000.
- 2011 Pennsylvania Department of Agriculture. “Developing an online tracking tool for brown marmorated stink bug.” Douglas Miller, PSU Center for Environmental Informatics, & J. F. Tooker. \$5,000.
- 2011-2013 USDA Sustainable Agriculture Research and Education Program- Northeast Region Graduate Research Fellowship. M. R. Douglas and J. F. Tooker. \$14,692.
- 2011-2014 USDA Specialty Crop Research Initiative. “Biology, Ecology, and

Management of Brown Marmorated Stink Bug in Orchard, Small Fruit, Grapes, Vegetable, and Ornamentals.” T. Leskey (PI) and many co-PI, including J. F. Tooker among seven co-PI at Penn State. Total funding from USDA: \$5,739,966. Tooker portion ~\$100,000.

- 2012-2015 USDA Sustainable Agriculture Research and Education-Northeast Region Research and Education Grants Program, “Using cultivar mixtures to improve pest control and grain crop production.” J. F. Tooker (PD). \$164,919.
- 2012-2013 Maryland Grain Producers Utilization Board. “Assessing the role of insecticidal seed treatments in herbivore-predator interactions.” J. F. Tooker (PD), 2012-2013. \$8,640
- 2012-2014 USDA Northeast Regional Integrated Pest Management Program. “Developing an IPM program for western bean cutworm, a new corn and dry bean pest in the Northeast Region.” J. F. Tooker (PD), J. K. Waldron (Cornell Univ.), D. A. Miller (PSU), M. Skinner (Univ. of Vermont). 2012-2014. \$172,310. Tooker portion: \$77,540.
- 2012-2013 Pennsylvania Soybean Promotion Board. “Developing a slug management program for soybeans based on slug feeding preferences” J. F. Tooker (PD). \$17,117
- 2012-2013 Pennsylvania Soybean Promotion Board. “Establishing a sentinel plot program for detection of insect pests and diseases in Pennsylvania soybeans.” J. F. Tooker (PD). \$36,078
- 2012-2013 Pennsylvania Soybean Promotion Board. “Understanding interactions among soybean, beetle vectors, Bean pod mottle virus, and beneficial root bacteria.” M.C. Mescher (PD), K. Mauck, M. Fernanda Peñafior, J. F. Tooker (co-PD), C. M. De Moraes. \$16,000.
- 2012-2014 USDA-NIFA Graduate Student Fellowship. “Exploiting increased intraspecific diversity to improve crop response to the abiotic and biotic stressors of climate change.” I. Grettenberger, J. F. Tooker. \$75,000.
- 2012-2014 USDA-NIFA Enhanced Implementation of Integrated Pest Management for Vectored Pathogens. “Enhancing adoption of web-based pest predictions systems: The case of BYDV.” E. Rajotte (PD), J. Russo, J. F. Tooker (co-PD), C. Rosa. \$420,000. Tooker portion: \$105,000
- 2013 BBSRC (Biotechnology and Biological Sciences Research Council, United Kingdom) UK-US Honey Bee Health Exchange, Christina Grozinger (PI) Anthony Vaudo, Harland Patch, John Tooker (Penn

- State University), Jeri Wright (Newcastle University). 2013. (\$6,900 total; PSU portion \$3,450 will fund visit to Newcastle Univ. by Anthony Vaudo, who is co-advised by Grozinger and Tooker).
- 2013 Pennsylvania Department of Agriculture, “Investigating the consequences of neonicotinoid seed treatments for slugs, their predators, and integrated pest management in no-till cropping systems”, John Tooker (PD), Margaret Douglas. \$20,000.
- 2013 Pennsylvania Soybean Promotion Board. “A sentinel plot program for detection of insect pests and diseases in Pennsylvania soybeans.” J. F. Tooker. 2013-2014. \$28,568.
- 2013 Maryland Grain Producers Utilization Board. The influence of seed treatments on slugs and their predators in mid-Atlantic grain fields. J. F. Tooker. 37,144.
- 2013-2015 Sustainable Agriculture Research and Education Program-Northeast Region. H. Karsten (PD) and Co-PIs: T. Richard, W. Curran, J. F. Tooker, C. Altemose, D. Beegle. “Integrating Strategies and Institutions for Investigating Long-Term Sustainability of Cropping Systems.” \$400,000 (renewal).
- 2013-2016 USDA Extension Integrated Pest Management Coordination and Support Program “IPM Implementation in Pennsylvania: Programs for Agricultural and Urban Communities.” E. G. Rajotte, J. F. Tooker (Co-PI), B. Gugino, L. Garling. \$900,000 (Tooker portion: 20%).
- 2013-2015 USDA Northeast Regional Integrated Pest Management Program. “Overcoming slugs in no-till crop fields with cover crops and arthropod predators.” J. F. Tooker. \$60,000. Tooker portion: 100%
- 2013-2017 USDA AFRI Agriculture & Natural Resources Science for Climate Variability & Change Program. “Strengthening Farm Operator Capacity for Strategic Management of Cropping System Adaptation to Climate Change.” R. D. Weaver, A. R. Kemanian, C. W. White, C. Duffy, J. F. Tooker (co-PI). (\$750,000, 4 year project, JFT portion: 15%)
- 2014-2015 Maryland Grain Producers Utilization Board. The interaction between neonicotinoid seed treatments, slugs, and slug predators in mid-Atlantic no-till grain fields. J. F. Tooker. \$15,081.
- 2014-2015 Stoy G. and Della A. Sunday Program Support for Fruit Production Research, College of Agricultural Science, The Pennsylvania State University. Rice, K. B., M. Gish, S. J. Fleischer, and J. F. Tooker.

\$4,216.

- 2014-2016 North American Pollinator Protection Campaign (NAPPC) Bee Health Improvement Project Grant. The effects of pollen diversity on bumble bee health in an agricultural environment. A. D. Vaudo, J. F. Tooker, C. M. Grozinger. \$9,700.
- 2014-2016 EPA Regional Agricultural Integrated Pest Management program. "Developing an IPM program against slug populations in Mid-Atlantic no-till grain fields." J. F. Tooker. (\$159,632, JFT portion: 100%)
- 2014-2016 Northeast Sustainable Agriculture Research and Education - Research and Education Grant. "Getting the most out of cover crops: How timing of termination influences soil health, pest control, and improved crop production." H. D. Karsten, W. S. Curran, J. F. Tooker (\$222,694, JFT portion: 25%).
- 2014-2016 NIFA Graduate Student Fellowship, Anthony Vaudo, C. M. Grozinger, and J. F. Tooker (\$75,000, JFT portion: 50%)
- 2014-2015 USDA Borlaug Fellowship program. "Reversing the pesticide treadmill: Safe and effective management of key insect pests of lablab bean (*Lablab purpureus*) in Bangladesh using biopesticides." Maggie Douglas and J. F. Tooker (\$17,336; JFT portion: 100%)
- 2015-2017 Defining efficacy windows for neonicotinoid seed treatments: A survey of early-season field crop pests. USDA NIFA AFRI Critical Agricultural Research and Extension program. J. F. Tooker (PI) and C. H. Krupke, Purdue University (\$150,000; JFT portion and effort: 50%).
- 2015-2016 NE-SARE Partnership Grant, and the four farmers, Developing an IPM program against slug populations in Mid-Atlantic no-till grain fields. J. F. Tooker and M. Le Gall (\$11,443; JFT portion and effort 50%)

### **Publications**

*In the past three years, I have collaborated on 23 peer-reviewed publications, including two in PNAS. Nineteen of these papers included postdocs, graduate or undergraduate advisees as co-authors.*

Articles in refereed journals (Postdoctoral advisees are dashed-underlined, graduate student advisee and co-authors are underlined; Undergraduate student advisee and co-authors are double underlined)

1. Tooker, J. F., and L. M. Hanks. 1999. Dwarf millipedes (Diplopoda: Polyxenidae) on pines in an ornamental landscape. *Proceedings of the Entomological Society of Washington* 101: 696-697.
2. Tooker, J. F., and L. M. Hanks. 2000. Flowering plant hosts of adult hymenopteran parasitoids of central Illinois. *Annals of the Entomological Society of America* 93: 580-588.
3. Tooker, J. F., and L. M. Hanks. 2000. Influence of plant community structure on natural enemies of pine needle scale (Homoptera: Diaspididae) in urban landscapes. *Environmental Entomology* 29: 1305-1311.
4. Tooker, J. F., P. F. Reagel, and L. M. Hanks. 2002. Nectar sources of day-flying Lepidoptera of central Illinois. *Annals of the Entomological Society of America* 95: 84-96.
5. Tooker, J. F., W. A. Koenig, and L. M. Hanks. 2002. Altered host plant volatiles are proxies for sex pheromones in the gall wasp *Antistrophus rufus*. *Proceedings of National Academy of Science USA* 99: 15486-15491.
6. Favret, C., J. F. Tooker, and L. M. Hanks. 2004. *Iowana frisoni* Hottes (Hemiptera: Aphididae) redescribed, with notes on its biology. *Proceedings of the Entomological Society of Washington* 106: 26-34.
7. Tooker, J. F., and L. M. Hanks. 2004. Stereochemistry of host plant monoterpenes as mate location cues for the gall wasp *Antistrophus rufus*. *Journal of Chemical Ecology* 30: 473-477.
8. Tooker, J. F., and L. M. Hanks. 2004. Trophic position of the endophytic beetle *Mordellistena aethiops* Smith (Coleoptera: Mordellidae). *Environmental Entomology* 33: 291-296.
9. Tooker, J. F., A. R. Deans, and L. M. Hanks. 2004. Description of the *Antistrophus rufus* (Hymenoptera: Cynipidae) species complex, including two new species. *Journal of Hymenoptera Research* 13: 125-133.
10. Tooker, J. F., and L. M. Hanks. 2004. Impact of prescribed burning on endophytic insect communities of prairie perennials (Asteraceae: *Silphium* spp.). *Biodiversity and Conservation* 13: 1875-1888.
11. Tooker, J. F., and L. M. Hanks. 2004. Endophytic insect communities of two prairie perennials (Asteraceae: *Silphium* spp.). *Biodiversity and Conservation* 13: 2551-2566.
12. Tooker, J. F., A. L. Crumrin, and L. M. Hanks. 2005. Plant volatiles are behavioral cues for adult females of the gall wasp *Antistrophus rufus*. *Chemoecology* 15: 85-88.
13. Ellis, J. A., A. D. Walter, J. F. Tooker, M. D. Ginzel, P. F. Reagel, E. S. Lacey, A. B. Bennett, E. M. Grossman, and L. M. Hanks. 2005. Conservation biological control in urban landscapes: Manipulating parasitoids of bagworm (Lepidoptera: Psychidae) with flowering forbs. *Biological Control* 34: 99-107.
14. Tooker, J. F. and C. M. De Moraes. 2005. Jasmonate in lepidopteran eggs and neonates. *Journal of Chemical Ecology* 31: 2753-2759.
15. Tooker, J. F., M. Hauser, and L. M. Hanks. 2006. Floral host plants of Syrphidae and Tachinidae (Diptera) of Central Illinois. *Annals of the Entomological Society of America* 99: 96-112.



16. Tooker, J. F., and L. M. Hanks. 2006. Tritrophic interactions influence reproduction of prairie perennials (Asteraceae: *Silphium*). *Environmental Entomology* 35: 537-545.
17. Tooker, J. F. and C. M. De Moraes. 2006. Jasmonate in lepidopteran larvae. *Journal of Chemical Ecology* 32: 2321-2326.
18. Tooker, J. F. and C. M. De Moraes. 2007. Jasmonate, salicylate, and benzoate in insect eggs. *Journal of Chemical Ecology* 33: 331-343.
19. Tooker, J. F. and C. M. De Moraes. 2007. Feeding by Hessian fly (*Mayetiola destructor* [Say]) larvae does not induce plant indirect defences. *Ecological Entomology* 32: 153-161.
20. Tooker, J. F., J. R. Rohr, W. G. Abrahamson, and C. M. De Moraes. 2008. Gall insects can evade and alter indirect plant defenses. *New Phytologist* 178: 657-671.
21. Tooker, J. F. and C. M. De Moraes. 2008. Gall Insects and Indirect Plant Defenses: A Case of Active Manipulation? *Plant Signaling & Behavior* 3: 503-504.
22. Tooker, J. F. and C. M. De Moraes. 2009. A gall-inducing caterpillar species increases essential fatty acid content of its host-plant without concomitant increases in phytohormone levels. *Molecular Plant-Microbe Interactions* 22: 551-559.
23. Peiffer M., J. F. Tooker, D. S. Luthe, and G. W. Felton. 2009. Plants on early alert: glandular trichomes as sensors for insect herbivores. *New Phytologist* 184: 644-656.
24. Tooker, J. F., Peiffer M., D. S. Luthe, and G. W. Felton. 2010. Trichomes as sensors: detecting activity on the leaf surface. *Plant Signaling & Behavior* 5:73-75.
25. Tooker, J. F., and Fleischer, S. J. 2010. First report of western bean cutworm (*Striacosta albicosta*) in Pennsylvania. Online. *Crop Management* doi:10.1094/CM-2010-0616-01-RS.
26. Tooker, J. F. and C. M. De Moraes. 2011. Feeding by Hessian fly (*Mayetiola destructor* [Say]) larvae increases levels of fatty acids and indole-3-acetic acid, but not hormones involved in plant-defense signaling. *Journal of Plant Growth Regulation* 30: 158-165.
27. Tooker, J. F. and C. M. De Moraes. 2011. Feeding by a gall-inducing caterpillar species increases levels of indole-3-acetic and decreases abscisic acid in *Solidago altissima* stems. *Arthropod-Plant Interactions* 5: 115-124.
28. Onstad, D. W., P. D. Mitchell, T. M. Hurley, J. G. Lundgren, R. P. Porter, C. H. Krupke, J. L. Spencer, C. D. DiFonzo, T. S. Baute, R. L. Hellmich, L. Buschman, W. D. Hutchison, J. F. Tooker. 2011. Seeds of change: Corn seed mixtures for resistance management and IPM *Journal of Economic Entomology* 104: 343-352.
29. Kluger, E. C., S. H. Berlocher, L. M. Hanks, and J. F. Tooker. 2011. Consequences of habitat fragmentation for the prairie-endemic weevil *Haplorhynchites aeneus*. *Environ. Entomol.* 40: 1388-1396.
30. Wang, G., L. L. Cui, J. Dong, F. Francis, Y. Liu, and J. F. Tooker. 2011. Combining intercropping with semiochemical releases: optimisation of alternative control of *Sitobion avenae* in wheat crops in China. *Entomologia Experimentalis et Applicata*, 140: 189-195.
31. Graham, E. E., J. F. Tooker, and L. M. Hanks. 2012. Floral host plants of adult beetles of central Illinois. *Annals of the Entomological Society of America* 105: 287-297.
32. Douglas, M. R. and J. F. Tooker. 2012. Slug (Mollusca: Agriolimacidae, Arionidae) ecology and management in no-till field crops, with an emphasis on the Mid-Atlantic region. *Journal of Integrated Pest Management* 3: C1-C9.

33. Cui, L.L., F. Francis, Y. Liu, S. Heuskin, G. Lognay, J. Dong, J. Chen, C. Bragard, J. F. Tooker, and Y. Liu. 2012. E- $\beta$ -Farnesene synergizes the influence of an insecticide to improve control of cabbage aphids in China. *Crop Protection* 35: 91–96.
34. Frost, C. J., Smyers E. C., Dean J. M., Mescher M. C, Carlson, J. E., De Moraes C. M., and J. F. Tooker. 2012. A petiole-galling insect herbivore decelerates leaf lamina litter decomposition rates. *Functional Ecology* 26: 628–636. DOI: 10.1111/j.1365-2435.2012.01986.x
35. Tian, D, M. Peiffer, E. Shoemaker, J. Tooker, E. Haubruge, E. Francis, D. S. Luthe, and G. W. Felton. 2012 Salivary glucose oxidase from caterpillars mediates the induction of rapid and delayed-induced defenses in the tomato plant *PLoS ONE* 7(4): e36168. doi:10.1371/journal.pone.0036168.
36. Tian, D., Tooker, J. F., Peiffer, M., Chung, S., and G. W. Felton. 2012. Role of trichomes in defense against herbivores: Comparison of herbivore response to woolly and hairless trichome mutants in tomato (*Solanum lycopersicum*). *Planta* 236: 1053-66.
37. Kim J, Tooker JF, Luthe DS, De Moraes CM, Felton GW. 2012. Insect egg can enhance wound response in plants: a study system of tomato *Solanum lycopersicum* L. and *Helicoverpa zea* Boddie. *PLoS ONE* 7(5): e37420. doi:10.1371/journal.pone.0037420
38. Tooker, J. F. and S. D. Frank. 2012 Genotypically diverse cultivar mixtures for insect pest management and increased crop yields. *Journal of Applied Ecology* 49:974-985.
39. Shoffner, A. V. and J. F. Tooker. 2013. The potential of genotypically diverse cultivar mixtures to moderate aphid populations in wheat (*Triticum aestivum* L.). *Arthropod-Plant Interactions* 7: 33-43.
40. Helms, A. M., C. M. De Moraes, J. F. Tooker, and M. C. Mescher. 2013. Exposure of *Solidago altissima* plants to volatile emissions of an insect antagonist (*Eurosta solidaginis*) deters subsequent herbivory. *Proceedings of National Academy of Science USA* 110: 199-204.
41. Bohnenblust, E. W., J. F. Egan, D. Mortensen, and J. F. Tooker. 2013. Direct and indirect effects of the synthetic-auxin herbicide dicamba on two lepidopteran species. *Environmental Entomology* 42 (3): 586-594.
42. Bohnenblust, E. W., J Breining, S. J. Fleischer, G. W. Roth, and J. F. Tooker. 2013. Corn earworm in Northeastern field corn: pest threat and the value of transgenic hybrids. *Journal of Economic Entomology* 106 (3): 1250-1259.
43. Bohnenblust, E. W., J Breining, G. W. Roth, and J. F. Tooker. 2013. Corn pith weevil, *Geraeus penicillus* (Coleoptera: Curculionidae), in transgenic, insect-resistant and conventional field corn hybrids. *Journal of Applied Entomology* 137: 668-672.
44. Chung, S. H., C. Rosa, E. D. Scully, M. Peiffer, J. F. Tooker, K. Hoover, D. S. Luthe, and G. W. Felton. 2013. Herbivore Exploits Orally-Secreted Bacteria to Suppress Plant Defenses, *Proceedings of the National Academy of Science, USA* 110: 15728-15733.
45. Schipanski, M. E., M. Barbercheck, M. R. Douglas, D. M. Finney, K. Haider, J. P. Kaye, A. R. Kemanian, D. A. Mortensen, M. R. Ryan, J. F. Tooker, and C. White. 2014. A conceptual framework for evaluating ecosystem services provided by cover crops in agroecosystems. *Agricultural Systems* 125: 12-22.

46. Bohnenblust, E. W., J. A. Breining, J. A. Shaffer, S. J. Fleischer, G. W. Roth, and J. F. Tooker. 2014. Current European corn borer, *Ostrinia nubilalis*, injury levels in the Northeastern US and the value of Bt field corn. *Pest Management Science* 70: 1711-1719. DOI: 10.1002/ps.3712
47. Egan, J. F., E. W. Bohnenblust, S. Goslee, D. A. Mortensen, and J. F. Tooker. 2014. Herbicide drift affects plant and arthropod communities. *Agriculture, Ecosystems, and Environment* 185: 77–87.
48. Toth, A. L., J. F. Tooker, S. Radhakrishnan, R. Minard, M. T. Henshaw, C. M. Grozinger. 2014. Shared genes related to aggression, rather than chemical communication, are associated with reproductive dominance in paper wasps (*Polistes metricus*). *BMC Genomics* 15(1): 75.
49. Tooker, J. F., and A. M. Helms. 2014. Phytohormone dynamics associated with gall insects, and their potential role in the evolution of the gall-inducing habit. *Journal of Chemical Ecology* 40:742-753.
50. McCarville. M. T., M. E. O’Neal, B. D. Potter, K. J. Tilmon, E. M. Cullen, B. P. McCormack, J. F. Tooker, and D. A. Prischmann-Voldseth. 2014. One gene versus two: a regional study on the efficacy of single gene versus pyramided resistance for soybean aphid management. *Journal of Economic Entomology* 107(4):1680-1687.
51. Vaudo, A. D., H. M. Patch, D. A. Mortensen, C. M. Grozinger, and J. F. Tooker. 2014. Bumble bees exhibit daily behavioral patterns in pollen foraging. *Arthropod-Plant Interactions* 8: 273-283.
52. Helms, A. M., C. M. De Moraes, M. C. Mescher, and J. F. Tooker. 2014. The volatile emission of *Eurosta solidaginis* primes herbivore-induced volatile production in *Solidago altissima* and does not directly deter insect feeding. *BMC Plant Biology* 14:173
53. Rice, K., C. Bergh, E. Bergmann, D. Biddinger, C. Dieckhoff, G. Dively, H. Fraser, T. Garipey, G. Hamilton, T. Haye, A. Herbert, K. Hoelmer, C. Hooks, A. Jones, G. Krawczyk, T. Kuhar, H. Martinson, W. Mitchell, A. Nielsen, D. Pfeiffer, M. Raupp, C. Rodriguez-Saona, P. Shearer, P. Shrewsbury, D. Venugopal, J. Whalen, N. Wiman, T. Leskey, J. Tooker. 2014. Biology, ecology, and management of brown marmorated stink bug (*Halyomorpha halys*). *Journal of Integrated Pest Management* 5:A1-A13.
54. Douglas, M. R., J. R. Rohr, and J. F. Tooker. 2015. Neonicotinoid insecticide travels through a soil food chain, disrupting biological control of non-target pests and decreasing soybean yield. *Journal of Applied Ecology* 52: 250–260. (**Editor’s Choice article and image from the article featured on the cover**).
55. Glenna, L., Tooker, J. F., Welsh, R., Ervin, D. Intellectual property, scientific independence, and the efficacy and environmental impacts of genetically engineered crops. *Rural Sociology*. *Rural Sociology* 80 (2): 147–172.
56. Douglas, M. R., and J. F. Tooker. Large-scale deployment of seed treatments has driven rapid increase in use of neonicotinoid insecticides and preemptive pest management in U.S. field crops. *Environmental Science and Technology* 49 (8): 5088–5097.
57. Grettenberger, I. M., and J. F. Tooker. 2015. Moving beyond resistance management toward an expanded role for seed mixtures in agriculture. *Agriculture, Ecosystems and Environment* 208: 29–36 (doi:10.1016/j.agee.2015.04.019)

58. Rice, K. B., S. J. Fleischer, C. M. De Moraes, M. C. Mescher, J. F. Tooker, and M. Gish. 2015. Handheld lasers allow efficient detection of fluorescent marked organisms in the field. *PLoS ONE* 10(6): e0129175. doi:10.1371/journal.pone.0129175.
59. Vaudo, A. D., J. F. Tooker, C. M. Grozinger, and H. M. Patch. 2015. Bee nutrition and floral resource restoration. *Current Opinion in Insect Science* 10: 133–141.
60. Ray, S., I. Gaffor, F. Acevedo, A. M. Helms, W.-P. Chuang, J.F. Tooker, G. W. Felton, D. S. Luthe. 2015. Maize plants recognize herbivore-associated cues from caterpillar frass. *Journal of Chemical Ecology* 41: 781–792
61. Bohnenblust, E. W., A. D. Vaudo, J. F. Egan, D. A. Mortensen, and J. F. Tooker. Effects of the herbicide dicamba on non-target plants and pollinator visitation. *Environmental Toxicology and Chemistry*, *in press*.

#### Manuscripts in review

1. Russo, L, A. Miller, J. Tooker, O. Bjornstad, K. Shea. Signals of diffuse coevolution between plants and their insect visitors. (Submitted to *Ecology*, July 2013.)
2. Pisani-Gareau, T, and J. F. Tooker. Why is successful conservation biological control so elusive? (Submitted to *Biological Control* in September 2014).
3. Walls III, J. T., P. Caciagli, J. F. Tooker, J. M. Russo, E. G. Rajotte, C. Rosa. Modeling the decision process for barley yellow dwarf management. (Submitted to *Computers and Electronics in Agriculture* in July 2015).
4. Campbell C., L. Russo, A. Marins, O. DeSouza, K. Schönrogge, D. Mortensen, J. F. Tooker, R. Albert, and K. Shea. Top-down network analysis characterizes termite-termite community interactions (Submitted to *Ecosystems*, May 2015.)
5. Grettenberger, I. M. and J. F. Tooker. Inter-varietal interactions among plants in genotypically diverse mixtures tend to decrease herbivore performance (Submitted to *Functional Ecology*, September 2015).

#### Book chapters

1. Runyon, J. B., J. F. Tooker, M. C. Mescher, C. M. De Moraes. 2009. Parasitic plants in agriculture: chemical ecology of germination and host-plant location as targets for sustainable control. In: E. Lichtfouse (ed.) *Organic Farming, Pest Control and Remediation of Soil Pollutants. Sustainable Agriculture Reviews 1*. p. 123-136.
2. Tooker, J. F. Encouraging natural enemies with plant species diversity in perennial cropping systems. In: Hopwood et al. *Farming with Native Beneficial Insects: Strategies for Ecological Pest Control*. Storey Publishing., North Adams, Ma (*in press*).

#### Book reviews

- Tooker, J. F. 2006. Review of *Plant-Provided Food for Carnivorous Insects: a Protective Mutualism and its Applications* (F. L. Wäckers, P.C.J. van Rijn, J. Bruin, Eds.) for *Ecoscience* 13: 428-429.
- Tooker, J. F. 2006. Review of *Biology, Ecology, and Evolution of Gall-inducing Arthropods. Vol. 1 & 2* (A. Raman, C. W. Schaefer, T. M. Withers, Eds.). *Environmental Entomology* 36: 495-496.

- Tooker, J. F. 2012. Review of *Insect Ecology: Behavior, Populations and Communities* by Price, Denno, Eubanks, Finke, and Kaplan for *American Entomologist* 58 (4): 249-250.
- Tooker, J. F. 2015. Review of *Neotropical Gall Insects* (G. W. Fernandes, J. C. Santos, Eds.) *Quarterly Review of Biology* 90 (2): 210-211.

Bulletins, reports, or conference proceedings

- Tooker, J. F., and L. M. Hanks. 1997. Pine needle scale. *University of Illinois Cooperative Extension Service Home, Yard and Garden Pest Newsletter* 20: 3-4.
- Reagel, P. F., M. D. Ginzl, J. F. Tooker, L. M. Hanks, and P. Nixon. 1999. Evaluation of insecticides for thrips control and associated phototoxicity. *Arthropod Management Tests* 24: report G73.
- Alleyne, M., and J. F. Tooker. 1999. Enhancing the experience...Shaping the future. *School of Life Sciences Alumni Newsletter*, UIUC. Fall.
- Tooker, J. F. 2002. Prairie Insects. A Prairie Rendezvous. *Grand Prairie Friends of Illinois Newsletter* 5: 3-8.
- Tooker, J. F. 2003. Prairie Insects. *Gatherings: the Newsletter of the Volunteer Stewardship Network*, The Nature Conservancy, Chicago, IL. Winter/Spring.
- Tooker, J. F. 2006. Prairie Insects. *Blue Mounds Area Project Newsletter* (Mt. Horeb, WI) Volume 8 (4): 3-4.

**Published Abstracts** (Graduate student advisee and co-authors are underlined)

- Tooker, J. F., and L. M. Hanks. Cryptic species of gall wasps (Hymenoptera: Cynipidae: *Antistrophus rufus*) specialized in three prairie forbs (Asteraceae: *Silphium*). 87<sup>th</sup> Annual Meeting of the Ecological Society of America, Tucson, AZ, August 2002.
- Tooker, J. F., and L. M. Hanks. Influence of gall wasps and their parasitoids on fitness of native prairie perennials (Asteraceae: *Silphium*). Abstract, XIII International Entomophagous Workshop, Tucson, AZ, July 2003. 30 pp. *Journal of Insect Science* 3: 33.
- Tooker, J. F. and C. M. De Moraes, 2005. Jasmonate in lepidopteran eggs and neonates. International Society of Chemical Ecology annual meeting, Washington, D.C. July 2005
- Tooker, J. F., and C. J. Frost. 2010. A gall-inducing caterpillar species differentially alters decomposition dynamics of leaf litter from two *Populus* host-plant species. Annual meeting of the Ecological Society of America, Pittsburgh, PA. August 2010.
- Pisani-Gareau, T., J. F. Tooker. Successful Conservation Biological Control: In Search of the Holy Agroecological Grail? Annual meeting of the Ecological Society of America, Pittsburgh, PA. August 2010.
- Tooker, J. F. Seed technology and insect management - its use and limitations. 2011 Atlantic Coast Ag Convention & Trade Show, Atlantic City, New Jersey, January 2011.
- Bohnenblust, E., G. Roth, J. Breining, J. F. Tooker. Current European Corn Borer levels in Pennsylvania: When are Bt varieties appropriate? Proceedings of the 65<sup>th</sup> Northeast Corn Improvement Conference, Newark, DE February 2011.

Breining, J, E. Bohnenblust, J. F. Tooker, and G. Roth. Agronomic and economic evaluation of stacked and conventional hybrids in Pennsylvania. Proceedings of the 65<sup>th</sup> Northeast Corn Improvement Conference, Newark, DE February 2011.

Bohnenblust, E., G. Roth, J. Breining, J. F. Tooker. A two year evaluation of Bt versus non-Bt for control of European Corn Borer in Pennsylvania. Proceedings of the 66<sup>th</sup> Northeast Corn Improvement Conference, Lancaster, PA February 2012.

Bohnenblust, E., J. Breining, J. Shaffer, G. Roth, and J. F. Tooker. Bt Corn for insect Control in Pennsylvania. Proceedings of the 67<sup>th</sup> Northeast Corn Improvement Conference, Ottawa, Canada, February 2013.

Porras, M., E. Rajotte, P. Caciagli, J. F. Tooker, C. Rosa, J. Russo, B. Gugino, F. E. Gildow. The development of a smart-phone support platform for monitoring and management of aphids-barley yellow dwarf virus on small grains in Pennsylvania. 9th International Symposium on Aphids Beijing, China, June 2013 - *Registration Award Winner Talk*

### **Honors, Recognitions, and Outstanding Achievements**

List of Teachers Ranked as Excellent by their Students, UIUC:

Biology 104: Animal Biology. Fall 1996.

Biology 120: Genetics, Evolution and Biodiversity. Spring 1997, Fall 1998.

Biology 252: Honors Population Biology. Spring 1999.

Ellis MacLeod/DuPont Award

for Outstanding Teaching by a Graduate Student in the Department of Entomology, UIUC, Spring 2000.

Elected a member of Gamma Sigma Delta, The Honor Society of Agriculture, Spring 2000.

Elected an associate member of Sigma Xi, Fall 2000.

Harley J. Van Cleave Fellowship, School of Integrative Biology, UIUC, Spring 2002.

2<sup>nd</sup> Place, Submitted Papers, Sections A, B, Cb-f, Student Competition, North Central Branch of the Entomological Society of America annual meeting, East Lansing, MI, March 2002.

Research profiled in 2003-2004 School of Integrative Biology Calendar, UIUC.

Received Penn State's 2008 Cooperative Extension Director's Team Award as member of the Crop Management Extension Group (CMEG). Award recognizes extension program team that works together in exemplary fashion to address a special initiative or goal.

Received Endowment Award from the Horace T. Woodward Faculty Development Fund, College of Agricultural Sciences, Penn State.

Early Career Innovation Award from the Entomological Society of America, September 2013 (\$1000 award).

Recognition Award for one of the Top Three Talks at the National No-Till Conference, Cincinnati, OH, January 2015.

International IPM Award of Recognition, 8th International IPM Symposium, March 2015, Brown Marmorated Stink Bug Specialty Crop Research Initiative, Coordinated Agricultural Project Team

Postdoctoral Mentor Award. Penn State Postdoctoral Society, September 2015

**Invited Presentations** (When more than one author, the presenter is listed first; graduate student advisee and co-authors are underlined).

*Since March 2008, I have presented invited seminars in nine Departments of Entomology and international conferences in South Africa and Chile.*

1. Tooker, J. F. Midwest Institute for Biological Control: Biology of parasitic Hymenoptera. Champaign, IL. June 2002.
2. Tooker, J. F. Departmental Seminar, Department of Entomology, The Pennsylvania State University, University Park, PA. March 2003.
3. Tooker, J. F. Departmental Seminar, Department of Entomology, UIUC. March 2003.
4. Tooker, J. F. Monthly meeting of Forest Glen chapter of the Illinois Native Plant Society. May 2003.
5. Tooker, J. F. Art Neish Young Investigators Mini-Symposium, Annual meeting of the Phytochemical Society of North America, Peoria, IL. August 2003.
6. Tooker, J. F. Departmental Seminar, Department of Entomology, University of Maryland, College Park, MD. 20 February 2004.
7. Tooker, J. F. Departmental Seminar, Department of Biology, Bucknell University, Lewisburg, PA. 5 March 2004.
8. Tooker, J. F. Entomology in Prairie Ecosystems, Symposium, North Central Branch of the Entomological Society of America annual meeting, Kansas City, MO. March 2004.
9. Tooker, J. F. Faculty Candidate Research Seminar, Department of Entomology, University of Massachusetts, Amherst, MA. 12 April 2004.
10. Tooker, J. F. Faculty Candidate Teaching Seminar, Department of Entomology, University of Massachusetts, Amherst, MA. 13 April 2004.
11. Tooker, J. F. Seminar for the Intercollege Graduate Degree Program in Ecology, The Pennsylvania State University, University Park, PA. 10 December 2004.
12. Reigel, P. F., E. S. Lacey, J. F. Tooker, M. D. Ginzel, M. T. Smith, R. W. Fuester, & L. M. Hanks. Symposium: Variations on a theme-Biological Control. annual meeting, North-Central Branch of the Entomological Society of America, West Lafayette, IN, March 2005.
13. Tooker, J. F. Faculty Candidate Research Seminar, Department of Biological Sciences, University of Rhode Island, Kingston, RI. 12 July 2006.
14. Tooker, J. F. Faculty Candidate 'Future Research' Seminar, Department of Biological Sciences, University of Rhode Island, Kingston, RI. 13 July 2006.
15. Tooker, J. F. Field-based work in Chemical Ecology in "A rose by any other name: Chemical signaling and host--vector dynamics", a joint symposium of the Center for Chemical Ecology and the Center for Infectious Disease Dynamics, The Pennsylvania State University, University Park, PA. Jan 2007.

16. Tooker, J. F. Insect Ecology Faculty Candidate Research Seminar, Department of Entomology, University of Kentucky, Lexington, KY. 13 August 2007.
17. Tooker, J. F. Arthropod Ecology Faculty Candidate Research Seminar, Department of Entomology, Pennsylvania State University, University Park, PA. 24 September 2007.
18. Tooker, J. F. Arthropod Ecology Faculty Candidate Extension Seminar, Department of Entomology, Pennsylvania State University, University Park, PA. 25 September 2007.
19. Tooker, J. F. Gall-inducing insects as drivers of insect community composition. Student-Organized Symposium: The Changing Landscape of Insect-Plant Interactions; Community Ecology, Biodiversity and Conservation. Eastern Branch of the Entomological Society of America annual meeting, Syracuse, NY, March 2008.
20. Tooker, J. F. Gall-inducing insect evade host-plant defenses. International Congress of Entomology, Durban, South Africa, July 2008.
21. Tooker, J. F. Departmental Seminar, Department of Entomology, University of Arkansas, Fayetteville, AR. 19 September 2008.
22. Tooker, J. F. Effects of fire on stem-dwelling insects in prairie Silphiums. Prescribed Fire: Learning from the Past, Planning for the Future, Stevens Point, WI, January 2009.
23. Tooker, J. F. Research overview. Eastern Branch of the Entomological Society of America annual meeting, Harrisburg, PA, March 2009.
24. Mortensen, D. A. & J. F. Tooker (*both authors presented*). Seeds of a collaboration: Plant-insect interactions at a landscape scale. Departmental Seminar, Department of Entomology, Pennsylvania State University, University Park, Pennsylvania, 6 Nov 2009.
25. Tooker, J. F. Western bean cutworm, a pest new to Pennsylvania. Eastern Branch of the Entomological Society of America annual meeting, Annapolis, MD, March 2010.
26. Mortensen D. A. & J. F. Tooker (*both authors presented*). Assessing and mitigating risks to agroecosystems from biotechnology-based plant growth regulator herbicide use. Office of Pesticide Programs, Environmental Fate and Effects Division, US Environmental Protection Agency, Arlington, VA, 7 April 2010.
27. Toth A. L., J. F. Tooker, C. M. Grozinger. Transcriptomic and chemical signatures or reproductive dominance in *Polistes* paper wasps. First International Conference on Pollinator Biology, Health and Policy, Center for Pollination Research, University Park, PA 26 July 2010.
28. Tooker, J. F. & D. A. Mortensen. A threat to beneficial-insect habitat from new herbicide programs. First International Conference on Pollinator Biology, Health and Policy, Center for Pollination Research, University Park, PA 28 July 2010.
29. Tooker, J. F. & D. A. Mortensen. Annual Meeting of the North American Pollinator Protection Campaign, Washington, D.C. 20 October 2010.
30. Tooker, J. F. The influence of gall-inducing insects on host-plant chemistry and defenses. Departmental Seminar, Department of Entomology, University of Massachusetts, Amherst, MA, 8 Nov 2010.
31. Tooker, J. F. Insights into gall formation from fatty acid and phytohormone dynamics during gall-insect feeding. Annual Meeting of the Entomological Society of America annual meeting, San Diego, CA, December 2010.



32. Tooker, J. F. The influence of gall-inducing insects on host-plant chemistry and defenses. Departmental Seminar, Department of Entomology, Rutgers University, New Brunswick, NJ, 4 February 2011.
33. Tooker, J. F. Developing a biologically based management strategy for slugs in no-till soybeans. Annual Meeting of the Pennsylvania Soybean Promotion Board. Linglestown, PA. 10 March 2011.
34. Tooker, J. F., Departmental Seminar, Department of Entomology, University of Illinois at Urbana-Champaign, Urbana, IL, 11 April 2011.
35. Tooker, J. F., Pheromone production in *Eurosta solidaginis*: characterization and insight on possible function. Evolutionary Ecology Across Three Trophic Levels: An International Symposium in Honor of Warren Abrahamson, Lewisburg, PA, 13 June 2011 (poster presentation).
36. Tooker, J. F. and M. R. Douglas (*both authors presented*). Slugs in Pennsylvania: Research plans and progress. Mid-Atlantic High Residue Cropping Systems IPM Working Group Focusing on Slug Management, 9 August 2011.
37. Tooker, J. F., Brown marmorated stink bug. Annual Meeting of the North Central IPM Extension Entomologists Working Group, St. Louis, MO, 11 Oct 2011.
38. Bohnenblust, E., G. Roth, J. Breining, J. F. Tooker. A two year evaluation of Bt versus non-Bt for control of European Corn Borer in Pennsylvania. Proceedings of the 66th Northeast Corn Improvement Conference, Lancaster, PA February 2012.
39. Tooker, J. F., The influence of gall-inducing insects on host-plant chemistry and defenses. Penn State Parasite Manipulation Workshop, University Park, PA. May 2012
40. Douglas, M. R., and John F. Tooker. Insights on the ecology and management of slugs in Pennsylvania no-till crop fields. Annual Meeting of the American Malacological Society, Cherry Hill, NJ, 18 June 2012
41. Tooker, J. F. Departmental Seminar, Department of Entomology, North Carolina State University, Raleigh, NC, 22 Oct 2012.
42. Tooker, J. F. Host-plant resistance to Brown Marmorated Stink bug, USDA-NIFA SCRI CAP project "Biology, Ecology, and Management of Brown Marmorated Stink Bug in Orchard Crops, Small Fruit, Grapes, Vegetables, and Ornamentals" Stakeholder Advisory Panel Meeting, 28 Nov 2012
43. Douglas, M. R., and J. F. Tooker. Prey-mediated effects on predators of seed-applied insecticides in no-till agroecosystems. Annual Meeting of the Entomological Society of America, Knoxville, TN, November 2012.
44. Tooker, J. F. and M. R. Douglas. Risks and benefits of neonicotinoid seed treatments in field crops in US corn belt. Annual Meeting of the Entomological Society of America, Knoxville, TN, November 2012.
45. Bohnenblust, E. W., Breining J., Roth, G. W., J. F. Tooker. Bt Corn for insect Control in Pennsylvania. 67th Northeast Corn Improvement Conference, Ottawa Canada, 15 Feb 2013.
46. Douglas, M. R., and J. F. Tooker. The influence of crop management tactics, including seed-applied insecticides, on biological control of slugs in no-till crop fields.

- International Symposium for the Biological Control of Arthropods, Pucon, Chile, March 2013.
47. Grettenberger, I. M. and J. F. Tooker. A different type of diversity: Does increased crop genotypic diversity improve control of insect pests? Annual meeting of the Eastern Branch of the Entomological Society of America, Lancaster, PA. March 2013.
  48. Douglas, M. R., and J. F. Tooker. Prey-mediated effects on predators of seed-applied insecticides in no-till agroecosystems. Annual meeting of the Eastern Branch of the Entomological Society of America, Lancaster, PA. March 2013.
  49. Tooker, J. F. Resistance of western corn rootworm to Bt corn: Status and relevance to Mid-Atlantic corn production. Annual meeting of the Eastern Branch of the Entomological Society of America, Lancaster, PA. March 2013.
  50. Tooker, J. F. Departmental Seminar, Department of Plant Science, South Dakota State University, Brookings, SD, 25 March 2013.
  51. Tooker, J. F. Departmental Seminar, Department of Entomology, Ohio Agricultural Research and Development Center, Ohio State University, Wooster, OH, 3 April 2013.
  52. Tooker, J. F. Brown Bag presentation, Department of Entomology, Iowa State University, Ames, Iowa, 7 October 2013.
  53. Tooker, J. F. Departmental Seminar, Harold Gunderson Memorial Lecture, Department of Entomology, Iowa State University, Ames, Iowa, 7 October 2013.
  54. Glenna, L., J. F. Tooker, R. Welsh, and D. Ervin. 2013. Intellectual Property, Scientific Independence, and the Efficacy and Environmental Impacts of Genetically Engineered Crops. 38th Annual Meeting of the Social Science History Association, Chicago, IL. November 2013.
  55. Grettenberger, I. M., and J. F. Tooker. Increasing crop genotypic diversity to alter behavior and performance for better pest control. Annual meeting of the Eastern Branch of the Entomological Society of America. Williamsburg, VA. March 2014
  56. Rice, K.B., R. Troyer, W.S. Mitchell, K. Waltrous, L.Kime, J. Harper, J.F. Tooker, and S.J. Fleischer. Economics of brown marmorated stink bug in processing tomato: influence of landscape and management. Annual meeting of the Eastern Branch of the Entomological Society of America. Williamsburg, VA. March 2014.
  57. Rice, K.B., M.Gish, W.S. Mitchell, S.J. Fleischer, and J.F. Tooker. Insights on brown marmorated stink bug behavior from a mark/recapture field experiment. Annual meeting of the Pacific Branch of the Entomological Society of America. Tucson, AZ. April 2014.
  58. Tooker, J. F. Understanding trophic interactions to improve pest control. **Bangladesh Agricultural Research Institute, Gazipur, Bangladesh**, 18 February 2015.
  59. Tooker, J. F. Complex ecological effects of pest management approaches. Workshop on Comparing the Environmental Effects of Pest Management Practices Across Cropping Systems. National Research Council Board on Agriculture and Natural Resources, **National Academy of Sciences**, Washington, D.C., March 2015.
  60. Tooker, J. F. Departmental Seminar, Department of Entomology, Purdue University, April 2015.

61. Tooker, J. F. Suspected resistance to Bt hybrids by western corn rootworms in Pennsylvania, Northeast Corn Improvement Conference, 12 February 2015

**Contributed Presentations** (Oral unless noted otherwise) (First listed author was the presenter; graduate student advisee are underlined; undergraduate student advisee are double underlined; Postdoctoral advisees are bold underlined, staff technicians are dotted underlined, and high school students are wavy underlined).

*In the past four years, my advisees (undergraduates, graduates, and postdoctoral associates) and technical staff have submitted 30 first-author presentations at scientific conferences.*

1. Tooker, J. F., and L. M. Hanks. Entomological Society of America annual meeting, Las Vegas, NV, November 1998.
2. Tooker, J. F., and L. M. Hanks. North Central Branch of the Entomological Society of America annual meeting, Des Moines, IA, March 1999.
3. Tooker, J. F., and L. M. Hanks. Poster presentation. XII International Entomophagous Insects Workshop, Asilomar Conference Center, Pacific Grove, CA, September 1999.
4. Tooker, J. F., M. D. Ginzl, and L. M. Hanks. Entomological Society of America annual meeting, Atlanta, GA, December 1999.
5. Ginzl, M. D., J. F. Tooker, and L. M. Hanks. North Central Branch of the Entomological Society of America annual meeting, Minneapolis, MN, March 2000.
6. Reigel, P. F., J. F. Tooker, and L. M. Hanks. North Central Branch of the Entomological Society of America annual meeting, Minneapolis, MN, March 2000.
7. Tooker, J. F., and L. M. Hanks. Entomological Society of America annual meeting, Montreal, Canada, December 2000.
8. Tooker, J. F., and L. M. Hanks. Entomological Society of America annual meeting, San Diego, CA, December 2001.
9. Bennett, A. B., J. F. Tooker, M. D. Ginzl, L. M. Hanks, and C. S. Sadof. Entomological Society of America annual meeting, San Diego, CA, December 2001.
10. Tooker, J. F., and L. M. Hanks. 4th Annual Graduate Student Symposium, Program in Ecology and Evolutionary Biology, UIUC, February 2002.
11. Tooker, J. F., and L. M. Hanks. North Central Branch of Entomological Society of America annual meeting, East Lansing, MI, March 2002.
12. Tooker, J. F., and L. M. Hanks. Joint Meeting of the Society for the Study of Evolution and the Society of Systematic Biologists, Urbana, IL, June 2002.
13. Tooker, J. F., and L. M. Hanks. Annual Meeting of the Ecological Society of America, Tucson, AZ, August 2002.
14. Tooker, J. F., and L. M. Hanks. Entomological Society of America annual meeting, Ft. Lauderdale, FL, November 2002.
15. Tooker, J. F., and L. M. Hanks. North Central Branch of Entomological Society of America annual meeting, Madison, WI, March 2003.

16. Tooker, J. F., and L. M. Hanks. XIII International Entomophagous Workshop, Tucson, AZ, July 2003.
17. Tooker, J. F., W. A. Koenig, and L. M. Hanks. Entomological Society of America annual meeting, Cincinnati, OH, October 2003.
18. Reagel, P. F., E. S. Lacey, J. F. Tooker, M. D. Ginzel, M. T., Smith, R. W. Fuester, L. M. Hanks. North Central Branch of the Entomological Society of America annual meeting, Purdue University, West Lafayette, Indiana, March 2005.
19. Tooker, J. F., C. M. De Moraes. International Society of Chemical Ecology annual meeting, Washington, D.C. July 2005.
20. Reagel, P. F., E. S. Lacey, J. F. Tooker, M. D. Ginzel, M. T. Smith, R. W. Fuester, & L. M. Hanks. IX European Workshop on Insect Parasitoids, Cardiff Univ., Cardiff, Wales, September 2005.
21. Tooker, J. F., C. M. De Moraes. Entomological Society of America annual meeting, Ft. Lauderdale, FL, December 2005.
22. Reagel, P. F., E. S. Lacey, J. F. Tooker, M. D. Ginzel, M. T. Smith, L. M. Hanks. Entomological Society of America annual meeting, Ft. Lauderdale, FL, December 2005.
23. Tooker, J. F., C. M. De Moraes. Entomological Society of America annual meeting, Indianapolis, IN, December 2006.
24. Tooker, J. F., C. M. De Moraes. Entomological Society of America annual meeting, San Diego, CA, December 2007.
25. Tooker, J. F. Poster presentation. CSREES Awardee Workshop: Building Connections in Applied Biology of Arthropods and/or Nematodes with Genomics, Entomological Society of America meeting, San Diego, CA, December 2007.
26. Tooker, J. F. Poster presentation. CSREES Awardee Workshop, Entomological Society of America meeting, San Diego, CA, November 2008.
27. Graham, L., J. F. Tooker, L. M. Hanks. Floral host plants of adult beetles of Central Illinois. North Central Branch of the Entomological Society of America annual meeting, March 2009.
28. Tooker, J. F. Annual meeting of the Entomological Society of America, Indianapolis, IN, December 2009.
29. Toth, A. L., J. F. Tooker, C. M. Grozinger. Transcriptomic and chemical signatures of reproductive dominance in paper wasps. Gordon Research Conference: Genes and Behavior. Ventura, California, March 2010.
30. Toth, A. L., J. F. Tooker, C. M. Grozinger. Transcriptomic and chemical signatures of reproductive dominance in paper wasps. USDA Grantee Workshop, Washington, DC. March 2010.
31. Tooker, J. F., C. J. Frost. A gall-inducing caterpillar species differentially alters decomposition dynamics of leaf litter from two *Populus* host-plant species. Annual meeting of the Ecological Society of America, Pittsburgh, PA. August 2010.
32. Pisani-Gareau, T., J. F. Tooker. Successful Conservation Biological Control: In Search of the Holy Agroecological Grail? Annual meeting of the Ecological Society of America, Pittsburgh, PA. August 2010.

33. Bohnenblust E., J. F. Tooker. Sub-lethal doses of herbicide can increase susceptibility to aphid populations. Annual meeting of the Entomological Society of America, San Diego, CA. December 2010.
34. Grettenberger, I. M., J. F. Tooker. The role of nighttime predation in suppressing soybean aphid populations. Annual meeting of the Entomological Society of America, San Diego, CA. December 2010.
35. Shoffner A. V., J. F. Tooker. The potential of genotypically diverse cultivar mixtures of wheat for controlling aphid populations. Annual meeting of the Entomological Society of America, San Diego, CA. December 2010.
36. Breining J, E. W. Bohnenblust, J. F. Tooker, G Roth. Performance and economic comparison of Bt and conventional corn hybrids in Pennsylvania. Northeastern Corn Improvement Conference, Newark, DE. February 2011
37. Bohnenblust E., J. Breining, J. Shaffer, G. Roth, J. F. Tooker. Current European corn borer levels in PA: When is Bt appropriate? Northeastern Corn Improvement Conference, Newark, DE. February 2011. (contributed talk, candidate's graduate student was presenter).
38. Bohnenblust E., J. F. Tooker. Sub-lethal doses of herbicide can increase susceptibility to aphid populations. Annual meeting of the Eastern Branch of the Entomological Society of America, Harrisburg, PA. March 2011.
39. Grettenberger, I. M., J. F. Tooker. The role of nighttime predation in suppressing soybean aphid populations. Annual meeting of the Eastern Branch of the Entomological Society of America, Harrisburg, PA. March 2011 (poster presentation).
40. Shoffner, A. V., J. F. Tooker. The potential of genotypically diverse cultivar mixtures of wheat for controlling aphid populations. The 2011 Undergraduate Exhibition, Penn State University (poster presentation). \*undergraduate honors student
41. Malcolm, G. M., H. Karsten, D. Beegle, W. Curran, C. Dell, P. Kleinman, R. Hoover, T. Richard, J. Tooker, V. Ishler. Evaluating dairy cropping systems designed to produce all forage, feed, and fuel. Annual Meetings of the American Society of Agronomy, Crop Science Society of America, and Soil Science Society, San Antonio, TX. Oct 2011.
42. Karsten, H., G. Malcolm, D. Beegle, W. Curran, C. Dell, P. Kleinman, T. Richard, V. Ishler, J. Tooker, R. Hoover. Integrating winter canola into dairy crop rotations. Annual Meetings of the American Society of Agronomy, Crop Science Society of America, and Soil Science Society, San Antonio, TX. Oct 2011.
43. Schipanski, M., S. Bailey, M. Barbercheck, M. Douglas, D. Finney, K. Haider, J. Kaye, A. Kemanian, D. Mortensen, M. Ryan, J. Tooker and C. White. A conceptual framework for evaluating multifunctionality of cover crops in agroecosystems. Meetings of the American Society of Agronomy, Crop Science Society of America, and Soil Science Society, San Antonio, TX. Oct 2011.
44. Grettenberger, I. M., J. F. Tooker. Consequences of diversity: Comparing pest and natural enemy populations in monocultures and variety mixtures of soybeans. Annual meeting of the Entomological Society of America, Reno, NV. Nov 2011.

45. Bohnenblust E., G. W. Roth, J. F. Tooker. European corn borer populations in Pennsylvania and the value of Bt corn. Annual meeting of the Entomological Society of America, Reno, NV. Nov 2011
46. Douglas, M. R., J. F. Tooker. Toxic slugs? Neonicotinoid seed treatments in tri-trophic perspective. Annual meeting of the Entomological Society of America, Reno, NV. Nov 2011.
47. McCarville, M., E. Cullen, B. McCornack, K. Tilmon, B. Potter, J. F. Tooker, M. O'Neal. The role of single and stacked *Rag* genes for controlling soybean aphid across soybean growing areas of the United States. Annual meeting of the Entomological Society of America, Reno, NV. Nov 2011.
48. Karsten, H, Verbeten, W., Malcolm G., Douglas, M., and J. F. Tooker No-till Establishment of Alfalfa and Canola and Slug Herbivory. Meetings of the American Society of Agronomy, Crop Science Society of America, and Soil Science Society,, Cincinnati, OH, Oct 2012.
49. Bohnenblust, E. W., and J. F. Tooker. Corn earworm populations in Pennsylvania field corn and the value of Bt hybrids for controlling ear damage. Annual Meeting of the Entomological Society of America, Knoxville, TN, November 2012.
50. Grettenberger, I. M., and J. F. Tooker. The benefits within: can increased crop genotypic diversity help manage insect pests. Annual Meeting of the Entomological Society of America, Knoxville, TN, November 2012.
51. Grettenberger, I. M., and J. F. Tooker. Genotypic diversity as a pest management tool: effects of crop intraspecific diversity on soybean aphid and natural enemy populations. Annual Meeting of the Entomological Society of America, Knoxville, TN, November 2012 (Poster Presentation).
52. Helms, A. M., M. C. Mescher, J. F. Tooker. Perception of an insect semiochemical primes host-plant defenses. Annual Meeting of the Entomological Society of America, Knoxville, TN, November 2012.
53. Kim J., J. F. Tooker, D. S. Luthe, C. M. De Moraes, and G. W. Felton. Tomato defensive response to *Helicoverpa zea* oviposition and subsequent mechanical wounding. Annual Meeting of the Entomological Society of America, Knoxville, TN, November 2012.
54. McCarville, M, J. F. Tooker, M. E. O'Neal et al. Is pyramiding resistance the answer for soybean aphid management? Annual Meeting of the Entomological Society of America, Knoxville, TN, November 2012.
55. Helms, A. M., M. C. Mescher, C. M. De Moraes, and J. F. Tooker. Exposure to an insect-derived olfactory cue enhances plant defense responses. Annual meeting of the Eastern Branch of the Entomological Society of America, Lancaster, PA. March 2013.
56. Bohnenblust, E. W., J Breining, S. J. Fleischer, G. W. Roth, and J. F. Tooker. Assessing corn earworm infestations in Pennsylvania field corn, and the value of Bt for control of ear damage. Annual meeting of the Eastern Branch of the Entomological Society of America, Lancaster, PA. March 2013.
57. Grettenberger, I. M., and J. F. Tooker. The power of diversity: Does crop genotypic diversity affect insect herbivores and natural enemies? College of Agricultural

- Sciences/Gamma Sigma Delta 16th Annual Graduate and Undergraduate Research Expo, The Pennsylvania State University, March 2013 (Poster Presentation).
58. Helms, A. M., M. C. Mescher, and J. F. Tooker. Exposure to an insect-derived olfactory cue enhances plant defense responses. College of Agricultural Sciences/Gamma Sigma Delta 16th Annual Graduate and Undergraduate Research Expo, The Pennsylvania State University, March 2013 (Poster Presentation).
  59. Grettenberger, I. M., and J. F. Tooker. The power of diversity: Does crop genotypic diversity affect insect herbivores and natural enemies? Environmental Chemistry and Microbiology Student Symposium, The Pennsylvania State University, March 2013 (Poster Presentation).
  60. Grettenberger, I. M., and J. F. Tooker. The power of diversity: Does crop genotypic diversity affect insect herbivores and natural enemies? The Graduate Exhibition. The Pennsylvania State University, March 2013 (Poster Presentation).
  61. Porras, M., E. Rajotte, P. Caciagli, J. F. Tooker, C. Rosa, J. Russo, B. Gugino, and F. E. Gildow. The development of a smart-phone support platform for monitoring and management of aphids-barley yellow dwarf virus on small grains in Pennsylvania. 9th International Symposium on Aphids Beijing, China, June 2013 - **Registration Award Winner Talk**
  62. Helms, A. M., C. M. De Moraes, J. F. Tooker, and M. C. Mescher. Exposure to an insect-derived olfactory cue enhances plant defense responses. Annual Meeting of the Ecological Society of America. Minneapolis, MN, August 2013.
  63. Glenna, Leland, J. F. Tooker, R. Welsh, and D. Ervin. Intellectual Property and Agricultural Innovation: The Case of Genetically Engineered Crops. Annual Meeting of the Rural Sociology Society, New York, NY. August 2013
  64. Vaudo, A. D., C. M. Grozinger, D. A. Mortensen, H. Patch., J. F. Tooker. *Bombus impatiens* foragers exhibit predictable daily patterns in pollen foraging preferences. 2<sup>nd</sup> International Conference on Pollinator Biology, Health and Policy, University Park, PA, August 2013.
  65. Bohnenblust, E. W., J. F. Egan, D. A. Mortensen, J. F. Tooker. Effects of the herbicide dicamba on pollinators. 2<sup>nd</sup> International Conference on Pollinator Biology, Health and Policy, University Park, PA, August 2013 (Poster Presentation).
  66. Aschwanden A. C., M. R. Douglas, H. D. Karsten, and J. F. Tooker. The influence of crop rotation and management intensity on abundance, diversity, and function of predatory arthropods in farming systems. Annual Meeting of the Entomological Society of America, Austin, TX, November 2013 (Poster Presentation).
  67. Grettenberger, I. M., and J. F. Tooker. Can crop genotypic diversity mitigate biotic and abiotic stress while maintaining productivity? Annual Meeting of the Entomological Society of America, Austin, TX, November 2013.
  68. Hanks, L. M., C. A. Silliman, J. G. Millar, A. A. Smith, J. F. Tooker and E. G. Chapman. Temporal and spatial variation in cuticular hydrocarbon profiles of two species of cerambycid beetles. Annual Meeting of the Entomological Society of America, Austin, TX, November 2013.

69. Douglas, M. R., and J. F. Tooker Are neonicotinoid seed treatments friendly to natural enemies? A meta-analysis - Annual Meeting of the Entomological Society of America, Austin, TX, November 2013.
70. Helms, A. M., J. F. Tooker, and M. C. Mescher. Plant perception of herbivore odors: exposure of host plants to the putative pheromone of a specialist herbivore primes indirect defenses. Annual Meeting of the Entomological Society of America, Austin, TX, November 2013.
71. Waldron, J. K., M. Skinner, C. Frank Sullivan, S. Crawford, D. Miller, and J. F. Tooker. Understanding the distribution and flight activity of western bean cutworm (*Striacosta albicosta*), a new corn and dry bean pest in the Northeastern United States. Annual Meeting of the Entomological Society of America, Austin, TX, November 2013 (Poster Presentation).
72. Rice, K., K. Watrous, S. J. Fleischer, and J. F. Tooker. Damage rates from brown marmorated stink bug in processing tomatoes: influence of farm management, cultivar, and landscape. Annual Meeting of the Entomological Society of America, Austin, TX, November 2013.
73. Bohnenblust, E. W., and J. F. Tooker. Direct and indirect effects of the herbicide dicamba on two lepidopteran species. Annual Meeting of the Entomological Society of America, Austin, TX, November 2013.
74. Vaudo, A., C. M. Grozinger, H. Patch, D. A. Mortensen. Biotic and abiotic factors guide bumble bee (*Bombus impatiens*) pollen foraging preferences. Annual Meeting of the Entomological Society of America, Austin, TX, November 2013.
75. Baluch, K. J., P. H. Patterson, A. M. Mayer, M. Alp, H. K. Burley, J. F. Tooker, and M. R. Douglas. Feed intake and performance of pastured laying hens. Annual Meeting of the Poultry Science Association, Corpus Christi, TX, July 2014.
76. Helms, A. M., C. M. De Moraes, M. C. Mescher, and J. F. Tooker. Plant perception of herbivore odors: Exposure of host plants to the putative pheromone of a specialist herbivore primes herbivore-induced volatile production. Annual Meeting of the Ecological Society of America, Sacramento, CA, August 2014.
77. Rice, K. B., M. Gish, S. J. Fleischer, and J. F. Tooker. Non-destructive detection across landscapes of mass marked insects. Annual Meeting of the Ecological Society of America, Sacramento, CA, August 2014.
78. Grettenberger, I. M., and J. F. Tooker. Mind your neighbors: Intra-varietal interactions drive the influence of crop genotypic diversity on herbivore populations. Annual Meeting of the Entomological Society of America, Portland, OR, November 2014.
79. Helms, A. M., R. Sowers, M. C. Mescher, J. F. Tooker. Potential tradeoffs of pheromone-based mate location and enhancing host-plant defenses. Annual Meeting of the Entomological Society of America, Portland, OR, November 2014.
80. Rice, K. B., R. Troyer, K. Watrous, L. Kime, J. F. Tooker, S. J. Fleischer. The influence of crop management and landscape diversity on damage in tomatoes by brown marmorated stink bug. Annual Meeting of the Entomological Society of America, Portland, OR, November 2014.



81. Vaudo, A. D., H. M. Patch, D. A. Mortensen, D. Stabler, G. A. Wright, C. M. Grozinger, J. F. Tooker. Bee foraging strategies are shaped by pollen nutritional quality. Annual Meeting of the Entomological Society of America, Portland, OR, November 2014.
82. Ray, S., I. Gaffor, W. P. Chuang, A. M. Helms, J. F. Tooker, G. W. Felton, D. S. Luthe. Fecal contamination of food increases herbivore performance on plants. Annual Meeting of the Entomological Society of America, Portland, OR, November 2014 (submitted poster presentation).
83. Walls III, J. T., C. Rosa, P. Caciagli, J. F. Tooker, J. Russo, Zedx, B. Gugino, C. Hinrichs, K. Babbie, E. Rajotte. A cyber-age approach to manage barley yellow dwarf virus in winter wheat on a global scale. Annual Meeting of the Entomological Society of America, Portland, OR, November 2014 (submitted poster presentation).

### Informal presentations

- Tooker, J. F. "The Organization for Tropical Studies – an entomological point of view," informal seminar, Department of Entomology, UIUC. 26 April 2000.
- Tooker, J.F. "The potential for enhancing natural enemies in field and forage crops." Weed Ecology Lab Group, Department of Crop and Soil Science, Penn State. 2 October 2007.
- Tooker, J. F. Overview of research related to biological control for visiting delegation of Chinese Scientists, Department of Entomology, Penn State. 11 Dec 2008.

### **Resident Instruction**

*Despite not having a formal teaching appointment at Penn State, I have regularly contributed guest lectures and each spring supervise an undergraduate class with about 20 students.*

- Laboratory teaching assistant, Biology 104: Animal Biology. UIUC. Fall 1996.
- Laboratory teaching assistant, Biology 120: Genetics, Evolution and Biodiversity. UIUC. Spring 1997, Fall 1998.
- Quiz writer and grader, Biology 120: Genetics, Evolution and Biodiversity. UIUC. Fall 1997.
- Laboratory teaching assistant, Biology 252: Honors Population Biology. UIUC. Spring 1998, Spring 1999.
- Laboratory teaching assistant, Entomology 319: Fundamentals of Insect Pest Management. UIUC. Fall 1999.
- Guest lecturer, Entomology 319, UIUC: Fundamentals of Insect Pest Management. "IPM of Christmas Tree pests". UIUC. December 1999, 2001.
- Laboratory teaching assistant, Entomology 321: Biological Control of Insect Pests. UIUC. Spring 2000.
- Guest lecturer, Entomology 321: Biological Control of Insect Pests. "Approaches to biological control: conservation biological control" and "Approaches to biological control: augmentation biological control". UIUC. April 2000.
- Invited to serve as entomology resource person, Organization for Tropical Studies, Course 2000-3 Tropical Biology: An Ecological Approach, Costa Rica. June-August 2000 (declined).
- Plant resources person, Biology 252: Honors Population Biology. UIUC. Spring field trip 2002.

Supervisor for independent research project of undergraduate A. L. Crumrin, Natural Resources and Environmental Sciences 290, UIUC. Summer 2002.

Guest lecturer, Entomology 301: Introduction to Entomology. "Ecology of some prairie insects: herbivores, parasitoids and plant fitness." UIUC. July 2003.

Guest lecturer, Entomology 202: The Insect Connection. "Plant-insect communication and gall insects." Pennsylvania State University. February 2005, 2006, 2007, 2008, Nov. 2008, April 2009, Nov. 2009, March 2010.

Guest lecturer, Agronomy 518: Plant Stress Biology. Insect galls. October 2007.

Course supervisor, Entomology 316: Field Crops Entomology (graduate student-taught course), Spring 2009, 2010, 2011, 2012, 2013 (approx. 20 students per semester).

Guest lecturer, Agronomy 425: Field Crop Management. Integrated Pest Management and Insect Pests of Field Crops. April 2009, March 2010, 2011, 2012, 2013, 2014, 2015

Guest lecturer, Entomology 597a: Frontiers in Insect Science. Biological control, biodiversity, and pest management. September 2009, 2012, 2013.

Guest lecturer, Entomology 597: Herbivore Offense. Gall Insects, Masters of Offense. March 2011.

Guest lecturer, GE 310 Agroecology: The Science of Sustainable Agriculture, Boston College, Chestnut Hill, MA, 11 October 2012 (via SKYPE)

Instructor, Agronomy 429: Crop Scouting. Insect Pests and Integrated Pest Management. Fall 2013, 2014, 2015 (Team-taught class; Tooker is one of seven instructors for the course).

Guest lecturer, Chemical Ecology, Dept. of Entomology, 30 Sept 2014

Guest lecturer, Seed Treatments, Emerging Issues in Agroecology, Plant 461, March 2014, 2015, 12 students

Guest lecturer, Insect Pest Management, Agronomy 28, Fall 2013, 2014, 2015

Guest lecturer, Prof. Development lecture, 26 March 2014, 16 students

#### **Postdoctoral Advisees:**

- Kevin Rice, PhD (May 2013 – Present) (co-supervised with Dr. Shelby Fleischer)
- Marion Le Gall, PhD (May 2014 – Present)
- Eric Yip, PhD (February 2015 – Present) (co-supervised with Drs. Mark Mescher and Consuelo De Moraes)
- Anjel Helms (Sept 2015- present) (co-supervised with Drs. Mark Mescher and Consuelo De Moraes)

#### **Graduate Students Advisees:**

##### Degrees Completed:

Margaret Douglas, MS student (January 2010 – August 2012)

Eric Bohnenblust, PhD student (August 2009 – May 2014)

Ian Grettenberger, PhD student (August 2009 – August 2015)

Anjel Helms, PhD student (August 2010 – August 2015), Ecology Program co-advised with Mark Mescher

##### In Progress:

Anthony Vaudo, PhD student (August 2011 – Present). Co-advised with Christina Grozinger.

Margaret Douglas, PhD student (July 2012 – Present)

Anna Busch, MS student (August 2014 – Present)

Kirsten Pearsons, PhD student (August 2015 – Present)  
Elizabeth Rowen, PhD student (August 2015 – Present)

### **Graduate Student Committees**

*PhD committee member:* Christy Harris (PhD, Entomology), Amanda Bachmann (PhD, Entomology), Franklin Egan (PhD, Ecology Program), Jeffery Law (PhD, Ecology Program), Wilma Aponte (PhD, Entomology), Katherine Szulewski (MS, Entomology), Tracy Conklin (PhD, Entomology), Laura Russo (PhD, Ecology), Donglan Tian (PhD, Entomology), Sean Halloran (PhD, Entomology), Jinwon Kim (PhD, Entomology), Brad Carlson (PhD, Ecology), Ariel Rivers (PhD, Entomology), Jermaine Hinds (PhD, Entomology), Flor Acevedo (PhD, Entomology), Rachel Milliron (MS, Plant Science), Maggie Lewis (MS, Entomology), Chad Nihranz (PhD, Ecology), Heidi Myer (PhD, Plant Science).

### **Undergraduate Advisees (Approved in 2009 as an advisor for undergraduates enrolled in Schreyer Honors College):**

*Ms. Shoffner's research resulted in a 2013 publication and an undergraduate award from the Entomological Society of America to present at the national meeting.*

Alexandra Shoffner, Schreyer Honors College, Honors Thesis Research Advisor (March 2009-May 2012).

Sherry Zhao, Schreyer Honors College, Honors Thesis Research Advisor (April 2012-May 2013).

### **Honors, Recognitions, and Outstanding Achievements of Students**

*My five graduate student advisees have been widely honored. Four of them have received national competitive fellowships (NSF, EPA, USDA), and among them they have won eight national awards, and five "Best Presentations" awards at and national and regional competitions.*

- Ian Grettenberger, NSF Graduate Research Fellowship-Honorable Mention
- Ian Grettenberger, Sigma Xi Grant-in-Aid (\$1000)
- Margaret Douglas, Sigma Xi Grant-in-Aid (\$1000)
- Ian Grettenberger, USDA Sustainable Agriculture Research and Education Program-Northeast Region Graduate Research Fellowship (\$13,172)
- Alexandra Shoffner, Schreyer Honors College Research Grant (\$300)
- Alexandra Shoffner, Undergraduate Travel Grant, Plant-Insect Ecosystem Section, Entomological Society of America (\$1000 to attend Annual Meeting and present her Honors Thesis Research)
- Ian Grettenberger, Annual Meeting of the Eastern Branch of the Entomological Society of America, Poster Competition, 2<sup>nd</sup> Place
- Anjel Helms, NSF Graduate Research Fellowship Recipient (\$90,000), Spring 2011.
- Ian Grettenberger, Penn State's CarbonEarth Fellowship, funded by NSF

- Maggie Douglas, USDA Sustainable Agriculture Research and Education Program-Northeast Region Graduate Research Fellowship (\$14,692)
- Eric Bohnenblust, Outstanding Graduate Student Award, Entomological Society of Pennsylvania, October 2011 (\$200)
- Maggie Douglas, President's Prize for Best Talk, Plant-Insect Ecosystem section, Annual Meeting of the Entomological Society of America, November 2011
- Maggie Douglas, Asa Fitch Memorial Award for Best Masters Student, Eastern Branch of the Entomological Society of America, March 2012
- Anthony Vaudo, Sigma Xi Grant-in-Aid (\$1000), Spring 2012
- Eric Bohnenblust, EPA STAR Graduate Fellowship (126,0000), Spring 2012
- Ian Grettenberger, USDA-NIFA Graduate Fellowship (\$75,000), Spring 2012
- Eric Bohnenblust Lloyd E. Adams Grant in Aid, Department of Entomology, Penn State University, Spring 2012
- Ian Grettenberger, Vartkes Miroyan Memorial Award, Department of Entomology, Penn State University, Spring 2012
- Maggie Douglas, Michael E. Duke Memorial Award, Penn State Department of Entomology, Spring 2012
- Maggie Douglas, Legend of Entomology Masters Student Award, Plant-Insect Ecosystem Section, Entomological Society of America
- Maggie Douglas, Outstanding MSc Student in Biological Control Award, International Organization for Biological Control-Nearctic Section, Fall 2012
- Maggie Douglas, Monsanto Student Travel Award Recipient, Fall 2012
- Ian Grettenberger, President's Prize for Best Talk, Plant-Insect Ecosystem section, Annual Meeting of the Entomological Society of America, Fall 2012
- Ian Grettenberger, Kenneth & Barbara Starks Plant Resistance to Insects Graduate Student Research Award, Entomological Foundation, November 2012
- Anjel Helms, President's Prize for Best Talk, Plant-Insect Ecosystem section, Annual Meeting of the Entomological Society of America, Fall 2012
- Anjel Helms, Best Oral Presentation by a PhD Competition, Annual Meeting of the Eastern Branch of the Entomological Society of America, March 2013
- Ian Grettenberger, 1<sup>st</sup> Place Poster Presentation, 16th Annual Environmental Chemistry and Microbiology Student Symposium, March 2013, The Pennsylvania State University.
- Ian Grettenberger, 2<sup>nd</sup> Place Poster Presentation, The Graduate Exhibition, March 2013, The Pennsylvania State University.
- Anthony Vaudo, Travel award from Sahakian Family Endowment for Graduate Education in Agriculture Sciences, Penn State University (\$300).
- Anjel Helms, Ralph O. Mumma Graduate Award, Department of Entomology, The Pennsylvania State University, Spring 2013
- Eric Bohnenblust, Michael E. Duke Memorial Award, Department of Entomology, The Pennsylvania State University, Spring 2013
- Ian Grettenberger, Lloyd E. Adams Memorial Grant-in-Aid Recipient, Department of Entomology, The Pennsylvania State University, Spring 2013
- Maggie Douglas, Entomological Society of America/USDA-AFRI Travel Grant, August 2013.

- Anjel Helms, President's Prize for Best Talk, Plant-Insect Ecosystem section, Annual Meeting of the Entomological Society of America, Fall 2013
- Anthony Vaudo, North American Pollinator Protection Campaign (NAPPC) Bee Health Improvement Project Grant, February 2014
- Ian Grettenberger, Annual Environmental Chemistry and Microbiology Student Symposium Spring 2014, second place poster session.
- Eric Bohnenblust, Eastern Branch John Henry Comstock Memorial Award for Best PhD Student, Eastern Branch of the Entomological Society of America, March 2014.
- Anjel Helms, Michael E. Duke Memorial Award, Department of Entomology, The Pennsylvania State University, Spring 2014
- Maggie Douglas, Evans Family Award for Graduate Student Extension Achievement, College of Agricultural Sciences, The Pennsylvania State University, April 2014
- Maggie Douglas, USDA Borlaug Fellowship, August 2014
- Anthony Vaudo, NIFA Graduate Student Fellowship, Fall 2014
- Anthony Vaudo, Entomological Society of America/USDA AFRI Student Travel Grant, Fall 2014
- Anjel Helms, Penn State Alumni Association Dissertation Award