

Curriculum Vitae

Notarization. I have read the following and certify that this *curriculum vitae* is a current and accurate statement of my professional record.



Signature

Date 6/23/2021

I. Personal Information

I.A. UID, Last Name, First Name, Middle Name, Contact Information

Kelly A. Hamby
4112 Plant Sciences Building
College Park, MD 20742, USA
UID: 113967580

Office: 3124 Plant Science Building
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I.B. Academic Appointments at UMD

Aug. 2020 – Present

Associate Professor and Extension Specialist of Sustainable Agroecosystems Entomology
Department of Entomology
10% Teaching, 40% Extension, 50% Research

Nov. 2014 – Aug. 2020

Assistant Professor and Extension Specialist of Sustainable Agroecosystems Entomology
Extension Specialist
Department of Entomology
10% Teaching, 40% Extension, 50% Research

I.D. Other Employment

Apr. 2014 – Oct. 2014

Postdoctoral Research Assistant, Department of Entomology
University of California, Davis

Jan. 2014 – Mar. 2014

Assistant Lecturer, Department of Entomology
University of California, Davis
Course: ENT 110, Arthropod Pest Management

I.E. Educational Background

2014	University of California, Davis	Ph.D.	Entomology
	Advisor: Frank Zalom		
2012	University of California, Davis	M.S.	Entomology
2009	University of California, Davis	B.S.	Environmental Toxicology

I.F. Continuing Education

Spring 2019 Completed Teaching and Learning Transformation Center's Faculty
Launch Professional Development Program

I.G. Professional Certifications, Licenses, and Memberships

II. Research, Scholarly, Creative and/or Professional Activities

Symbols used to identify role(s) throughout this C.V.

^identifies co-authors I mentored as postdoctoral researchers

#identifies co-authors I mentored as graduate students

@identifies co-authors I mentored as technicians

\$identifies co-authors I mentored who published as undergraduates

*identifies the corresponding author

II.C.1. Refereed Journal Articles

Since starting my current position, 12 co-author, 2 first author, and 7 senior author papers have been published.

Completed during current position:

36. Schöneberg, T.[^], Lewis, M.T.[#], Burrack, H.J., Grieshop, M., Isaacs, R., Rendon, D., Rogers, M., Rothwell, N., Sial, A.A., Walton, V.M., and **Hamby, K.A.*** 2021. Cultural control of *Drosophila suzukii* in small fruit – Current and pending tactics in the U.S. *Insects* Special Issue: Organic pest management of invertebrate pests: A frontier borne of constraints? DOI: 10.3390/insects12020172

Contribution: Senior author. Contributed to conceptualization and obtained funding, supervised and contributed to manuscript writing and figure design.

35. Dively, G.P.^{*}, Kuhar, T.P., Taylor, S., Doughty, H.B., Holmstrom, K., Gilrein, D., Nault, B.A., Ingerson-Mahar, J., Whalen, J., Reisig, D., Frank, D.L., Fleischer, S.J., Owens, D., Welty, C., Reay-Jones, F., Porter, P., Smith, J., Saquez, J., Murray, S., Wallingford, A., Byker, H., Jensen, B., Burkness, E., Hutchinson, W.D., **Hamby, K.A.** 2020. Sweet corn sentinel monitoring for Lepidopteran resistance to Bt toxins. *Journal of Economic Entomology* DOI:10.1093/jee/toaa264

Contribution: Contributed to data interpretation, figure design, and substantially to manuscript writing. Developed a synthesis table.

34. Lewis, M.T.^{*#}, and **Hamby, K.A.** 2020. Optimizing caneberry spray coverage for *Drosophila suzukii* (Diptera: Drosophilidae) management on diversified fruit farms. *Journal of Economic Entomology* DOI: 10.1093/jee/toaa237

Contribution: Senior author. Contributed to development of initial idea and helped obtain funding, supervised and participated in data collection, directed and helped interpret statistical analysis, supervised and contributed to manuscript writing.

33. Schöneberg, T.[^], Arsenault-Benoit, A.[@], Taylor, C.[^], Butler, B., Dalton, D., Walton, V., Petran, A., Rogers, M., Diepenbrock, L., Burrack, H., Leach, H., Van Timmeren, S., Fanning, P., Isaacs, R., Gress, B., Bolda, M., Zalom, F., Roubos, C., Evans, R., Sial, A., and **Hamby, K.A.*** 2020. Pruning of small fruit crops can affect habitat suitability for *Drosophila suzukii*. *Agriculture, Ecosystems, and Environment* DOI: 10.1016/j.agee.2020.106860

Contribution: Senior author. Led project development and grant writing for this multi-state effort, developed experimental design and protocols, established Maryland experimental replicates, supervised Maryland data collection,

summarized multi-state data, directed and interpreted statistical analysis, supervised and contributed substantially to manuscript writing.

32. Leslie, A.W.*, **Hamby, K.A.**, McCluen, S.R., and Hooks, C.R.R. 2020. Evaluating a push-pull tactic for management of *Epilachna varivestis* Mulsant and enhancement of beneficial arthropods in *Phaseolus lunatus* L. *Ecological Engineering* DOI:10.1016/j.ecoleng.2019.105660

Contribution: Contributed to grant writing and data collection for the project, contributed data interpretation and to manuscript writing.

31. Dubey, A.*#, Lewis, M.T.#, Dively, G.P., and **K.A. Hamby**. 2020. Evaluating the ecological impacts of pesticide seed treatments on arthropod communities in a grain crop rotation. *Journal of Applied Ecology* DOI: 10.1111/1365-2664.13595

Contribution: Senior author. Led project development and obtained funding, supervised and participated in data collection, directed and helped interpret statistical analysis, supervised and contributed substantially to manuscript writing.

30. Van Timmeren, S.*, Fanning, P.D., Schöneberg, T.^, **Hamby, K.A.**, Lee, J., and Isaacs, R. 2020. Exploring the efficacy and mechanisms of a crop sterilant for reducing infestation by spotted-wing drosophila, *Drosophila suzukii* (Matsumura). *Journal of Economic Entomology* 113(1): 288-298 DOI: 10.1093/jee/toz245

Contribution: Contributed yeast efficacy data sets, supervised the development of experimental design, protocols, data collection, data interpretation, figure and manuscript preparation for these experiments. Assisted with manuscript editing.

29. Lewis, M.T.*#, and **Hamby, K.A.** 2019. Differential impacts of yeasts on feeding behavior and development in larval *Drosophila suzukii* (Diptera:Drosophilidae). *Scientific Reports* DOI: 10.1038/s41598-019-48863-1

Contribution: Senior author. Contributed to development of initial idea and obtained funding, supervised and participated in data collection, directed and helped interpret statistical analysis, supervised and contributed substantially to manuscript writing.

28. Rendon, D.*, **Hamby, K.A.**, Aresenault-Benoit, A.L.®, Taylor, C.M.^, Evans, R.K., Roubos, C.R., Sial, A.A., Rogers, M., Petran, A., Van Timmeren, S., Fanning, P., Isaacs, R. and Walton, V. 2019. Mulching as a cultural control strategy for *Drosophila suzukii* in blueberry. *Pest Management Science* DOI: 10.1002/ps.5512

Contribution: Contributed to development of idea and grant writing for this multi-state effort, contributed to experimental design and protocols, supervised Maryland experimental replicates and data collection, contributed to manuscript writing.

27. Swett, C.L.*, **Hamby, K.A.**, Hellman, E.M., Carignan, C., Bourret, T.B., and Koivunen, E.E. 2019. Characterizing members of the *Cladosporium cladosporioides* species complex as fruit rot pathogens of red raspberries in the Mid-Atlantic and co-occurrence with *Drosophila suzukii* (spotted wing drosophila). *Phytoparasitica* 77: 415-428. DOI: 10.1007/s12600-019-00734-1

Contribution: Contributed to conceptual development, provided entomology details, and assisted with manuscript editing.

26. Opoku, J., Kleczewski, N. M., **Hamby, K.A.**, Herbert, D. A., Malone, S., and Mehl, H. L.* 2019. Relationship between invasive brown marmorated stink bug (*Halyomorpha halys*)

and fumonisin contamination of field corn in the mid-Atlantic U.S. *Plant Disease* 103(6):1189-1195. DOI: 10.1094/PDIS-06-18-1115-RE

Contribution: Contributed to conceptual development and helped write the grant that funded the work, established Maryland experimental replicates and collected the data, provided entomology details, and assisted with manuscript editing.

25. Lewis, M.T.[#], Koivunen, E.E., Swett, C.L., and Hamby, K.A.* 2019. Associations between *Drosophila suzukii* (Diptera: Drosophilidae) and fungi in raspberries. *Environmental Entomology* 48(1): 68-79. DOI: 10.1093/ee/nvy167

Contribution: Senior author. Developed initial idea and obtained funding, supervised and participated in data collection, directed and helped interpret statistical analysis, supervised and contributed substantially to manuscript writing.

24. Disque, H.H., Hamby, K.A., Dubey, A.[#], Taylor, C[^], and Dively, G.P.* 2018. Effects of clothianidin-treated seed on the arthropod community in a mid-Atlantic no-till corn agroecosystem. *Pest Management Science* DOI:10.1002/ps.5201

Contribution: Helped interpret statistical analysis, supervised writing of the manuscript and contributed to manuscript writing.

23. Nelson, J.L., Hunt, L.G., Lewis, M.T.[#], Hamby, K.A., Hooks, C.R.R., and Dively, G.P.* 2018. Arthropod communities in warm and cool grass riparian buffers and their influence on natural enemies in adjacent crops. *Agriculture, Ecosystems and Environment* 257:81-91. DOI: 10.1016/j.agee.2018.01.019

Contribution: Assisted with manuscript editing and figure preparation.

22. Taylor, C[^]*, Coffey, P.L., Hamby, K.A., and Dively, G.P. 2017. Laboratory rearing of *Halyomorpha halys*: methods to optimize survival and fitness of adults during and after diapause. *Journal of Pest Science* Special Issue: The brown marmorated stink bug *Halyomorpha halys* an emerging pest of global concern. DOI:10.1007/s10340-017-0881-9

Contribution: Helped interpret statistical analysis, helped supervise manuscript writing, and assisted with manuscript editing.

21. Farnsworth, D.* , Hamby, K.A., Bolda, M., Goodhue, R., Williams, J., and Zalom, F. 2016. Economic analysis of revenue losses and control costs associated with the spotted wing drosophila (*Drosophila suzukii* (Matsumura)) in the California raspberry industry. *Pest Management Science*: DOI: 10.1002/ps.4497

Contribution: Contributed the data set and helped interpret data, contributed to figure preparation and manuscript writing. Authors listed in order of contribution and then alphabetically after Goodhue.

20. Hamby, K.A., and Becher, P.* 2016. Current knowledge of interactions between *Drosophila suzukii* and microbes, and their potential utility for pest management. *Journal of Pest Science*: Special Issue: Spotted wing *Drosophila* DOI: 10.1007/s10340-016-0768-1

Contribution: Jointly invited review. Equally contributed to conceptual development, synthesis of primary literature, and manuscript writing.

19. Hamby, K.A.* , Bellamy, D.E., Chiu, J.C., Lee, J.C., Walton, V.M., Wiman, N.G., York, R.M., and Biondi, A. 2016. Biotic and abiotic factors impacting development, behavior, phenology, and reproductive biology of *Drosophila suzukii*. *Journal of Pest Science* Special Issue: Spotted wing *Drosophila* DOI: 10.1007/s10340-016-0756-5

Contribution: Invited review. Developed the concept, synthesized primary literature, prepared tables and figures, and led manuscript writing.

18. Wiman, N.G., Dalton, D.T., Anfora, G., Biondi A., Chiu, J.C., Daane, K.M., Gerdeman, B., Gottardello, A., **Hamby, K.A.**, Isaacs, R., Grassi, A., Ioriatti, C., Lee, J.C., Miller, B., Rossi Stacconi, M.V., Shearer, P.W., Tanigoshi, L., Wang, X., and Walton, V.M. * 2016. *Drosophila suzukii* population response to environment and management strategies. *Journal of Pest Science* Special Issue: Spotted wing *Drosophila* DOI:10.1007/s10340-016-0757-4

Contribution: Contributed to manuscript writing. Authors listed alphabetically between Dalton and Walton.

17. Haviland, D.R.*, Caprile, J.L., Rill, S.M., **Hamby, K.A.**, and Grant, J.A. 2016. Phenology of spotted wing drosophila in the San Joaquin Valley varies by season, crop, and nearby vegetation. *California Agriculture* 70(1): 24-31. DOI: 10.3733/ca.v070n01p24

Contribution: Helped perform and interpret statistical analysis, prepared figures, and contributed substantially to manuscript writing.

16. Schiedler, N.H., Liu, C., **Hamby, K.A.**, Zalom, F.G., and Syed, Z.* 2015. Volatile codes: Correlation of olfactory signals and reception in *Drosophila*-yeast chemical communication. *Scientific Reports* 5:14059. DOI: 10.1038/srep14059

Contribution: Contributed to conceptual development, helped obtain funding, and edited manuscript.

Completed prior to current position:

15. **Hamby, K.A.***, Henderson, J.D., Scher, H.B., and Zalom, F.G. 2015. Organophosphate insecticide activity reduced when mixed with copper (II) hydroxide in peach dormant sprays. *Journal of Entomological Science* 50(4): 284-294. DOI: 10.18474/JES15-12.1

Contribution: Collected and summarized pesticide use data from CDPR database, performed and interpreted statistical analysis, prepared figures and tables, and led manuscript writing.

14. Bahder, B.W.*, Bahder, L.D, **Hamby, K.A.**, Walsh, D.B., and Zalom, F.G. 2015. Microsatellite variation of two Pacific coast *Drosophila suzukii* (Diptera: Drosophilidae) populations. *Environmental Entomology* DOI:10.1093/ee/nvv117

Contribution: Contributed samples and assisted with manuscript editing.

13. **Hamby, K.A.***, Nicola, N.L., Niederholzer, F.J.A., and Zalom, F.G. 2015. Timing spring insecticide applications to target both *Amyelois transitella* (Lepidoptera: Pyralidae) and *Anarsia lineatella* (Lepidoptera: Gelechiidae) in almond orchards. *Journal of Economic Entomology* 108(2): 683-693. DOI:10.1093/jee/tov021

Contribution: Performed and interpreted statistical analysis, prepared figures and tables, and led manuscript writing.

12. Harris, D.W.^S **Hamby, K.A.***, Wilson, H.E.^S, and Zalom, F.G. 2014. Seasonal monitoring of *Drosophila suzukii* (Diptera: Drosophilidae) in a mixed fruit production system. *Journal of Asia-Pacific Entomology* 17(4): 857-864. DOI:10.1016/j.aspen.2014.08.006

Contribution: Developed initial idea, supervised data collection, performed data analysis, contributed to preparation of figures and tables, supervised and substantially contributed to manuscript writing.

11. **Hamby, K.A.***, Bolda, M.P., Sheehan, M.E., and Zalom, F.G. 2014. Seasonal monitoring for *Drosophila suzukii* (Diptera: Drosophilidae) in California commercial raspberries. *Environmental Entomology* 43(4):1008-1018. DOI: 10.1603/EN13245
- Contribution: Developed initial idea; designed experiments; collected, analyzed, and interpreted data; prepared figures and tables; and led manuscript writing.**
10. Lee, J.C.* , Shearer, P.W. Barrantes, L.D., Beers, E.H., Burrack, H.J., Dalton, D.T., Dreves, A.J., Gut, L.J., **Hamby, K.A.**, Haviland, D.R., Isaacs, R., Nielsen, A.L., Richardson, T., Rodriguez-Saona, C.R., Stanley, C.A., Walsh, D.B., Walton, V.M., Yee, W.L., Zalom, F.G., and Bruck, D.J. 2013. Trap designs for monitoring *Drosophila suzukii* (Diptera:Drosophilidae). *Environmental Entomology* 42(6): 1348-1355. DOI: 10.1603/EN13148
- Contribution: Established California experimental replicates, supervised California data collection, and assisted with manuscript editing.**
9. Chiu, J.C.* , Jiang, X., Zhao, L., Hamm, C.A., Cridland, J.M., Saelao, P., **Hamby, K.A.**, Lee, E.K., Kwok, R.S., Zhang, G., Zalom, F.G., Walton, V.M., and Begun, D.J. 2013. Genome of *Drosophila suzukii*, the spotted wing drosophila. *G3: Genes, Genomes, Genetics* 3: 2257-2271. DOI: 10.1534/g3.113.008185
- Contribution: Helped develop collaboration and assisted with manuscript editing.**
8. Yu, D.*^s, Zalom, F.G. and **Hamby, K.A.** 2013. Host status and fruit odor response of *Drosophila suzukii* (Diptera: Drosophilidae) to figs and mulberries. *Journal of Economic Entomology* 106(4): 1932-1937. DOI: 10.1603/EC12480
- Contribution: Contributed to initial idea, supervised experimental design and data collection, contributed to data analysis and interpretation, contributed to preparation of figures and tables, supervised and substantially contributed to manuscript writing.**
7. **Hamby, K.A.**, Kwok, R.S., Zalom, F.G., and Chiu, J.C.* 2013. Integrating circadian activity and gene expression profiles to predict chronotoxicity of *Drosophila suzukii* response to insecticides. *PLoS ONE* 8(7): e68472. DOI: 10.1371/journal.pone.0068472.
- Contribution: Developed initial idea, established collaboration, helped obtain funding, collected, analyzed, and interpreted insecticide toxicity data, prepared insecticide toxicity figures and tables, and led manuscript writing.**
6. **Hamby, K.A.***, and Zalom, F.G. 2013. Relationship of almond kernel damage occurrence to navel orangeworm (Lepidoptera: Pyralidae) success. *Journal of Economic Entomology* 106(3): 1365-1372. DOI:10.1603/EC12473
- Contribution: Contributed to conceptual development; collected, analyzed, and interpreted data; prepared figures and tables; and led manuscript writing.**
5. **Hamby, K.A.***, Alifano, J.A., and Zalom, F.G. 2013. Total effects of contact and residual exposure of bifenthrin and λ -cyhalothrin on the predatory mite *Galendromus occidentalis* (Acari: Phytoseiidae). *Experimental and Applied Acarology* 61: 183-193. DOI: 10.1007/s10493-013-9680-z
- Contribution: Performed and interpreted statistical analysis, prepared figures and tables, and led manuscript writing.**

4. Wilson, H.E.*[§], **Hamby, K.A.**, and Zalom, F.G. 2013. Host susceptibility of ‘French Prune’ *Prunus domestica* to *Drosophila suzukii* (Diptera: Drosophilidae). *Acta Horticulturae (ISHS)* 985: 249-254. DOI: 10.17660/ActaHortic.2013.985.32

Contribution: Contributed to initial idea, supervised experimental design, supervised data collection, contributed to data analysis and interpretation, contributed to preparation of figures and tables, supervised and substantially contributed to manuscript writing.

3. Lee, J.C.*[§], Burrack, H.J., Barrantes, L.D., Beers, E.H., Dreves, A.J., **Hamby, K.A.**[^], Haviland, D.R., Isaacs, R., Richardson, T.A., Shearer, P.W., Stanley, C.A., Walsh, D.B., Walton, V.M., Zalom, F.G., and Bruck, D.J. 2012. Evaluation of monitoring traps for *Drosophila suzukii* (Diptera: Drosophilidae) in North America. *Journal of Economic Entomology* 105(4): 1350-1357. DOI:10.1603/EC12132

Contribution: Established California experimental replicates, supervised California data collection, and assisted with manuscript editing.

2. **Hamby, K.A.***[§], Hernández, A., Boundy-Mills, K.*[§], and Zalom, F.G. 2012. Associations of yeasts with spotted wing drosophila (*Drosophila suzukii*, Diptera: Drosophilidae) in cherries and raspberries. *Applied and Environmental Microbiology* 78(14): 4869-4873. DOI:10.1128/AEM.00841-12

Contribution: Contributed to initial idea; established collaboration; led conceptual development; collected, analyzed, and interpreted data; prepared figures and tables; developed cover photo concept and supervised its creation; led manuscript writing.

1. **Hamby, K.***[§], Gao, L.W., Lampinen, B., Gradziel, T., Zalom, F. 2011. Hullsplit date and shell seal relationship to navel orangeworm (*Amyelois transitella*, Lepidoptera: Pyralidae) infestation on almonds. *Journal of Economic Entomology* 104(3): 965-969. DOI:10.1603/EC10396

Contribution: Performed and interpreted statistical analysis, prepared figures and tables, and led manuscript writing.

II.D. Published Conference Proceedings

II.D.1. Refereed Conference Proceedings

International:

Completed prior to current position:

1. Wilson, H.E.[#], **Hamby, K.A.**, and Zalom, F.G. 2012. Host susceptibility of ‘French Prune’ *Prunus domestica* to *Drosophila suzukii* (Diptera: Drosophilidae) Xth ISHS International Symposium Plum & Prune Genetics, Breeding & Pomology, Davis, CA, USA

II.D.2. Non-Refereed Conference Proceedings

National:

Completed during current position:

2. Arsenault-Benoit, A.[@], and **Hamby, K.** (edited and developed multi-state report booklet) 2017. WERA 1021 Spotted wing drosophila biology, ecology, and management state report booklet, 93 pages, Denver, CO, USA

1. Arsenault-Benoit, A.[@], Lewis, M.[#], Butler, B., and **Hamby, K.** 2017. Maryland State Report (Maryland's specific report). WERA 1021 Spotted wing drosophila biology, ecology, and management state report booklet, p. 33-39, Denver, CO, USA

Regional:

Completed during current position:

2. **Hamby, K.**, Butler, B., Lewis, M.[#], and Taylor, C.[#]. 2017. Updates on spotted wing drosophila management for diversified small fruit farms. 62nd New Jersey Agricultural Convention and Trade Show 2017 Proceedings: February 7-9, 2017 p., 87-89, Atlantic City, NJ, USA
1. Taylor, C.[#], Butler, B., and **Hamby, K.** 2016. Does canopy manipulation impact yield and SWD infestation levels in the outer versus inner canopies of raspberries? 92nd Cumberland-Shenandoah Fruit Workers Conference Proceedings: December 1-2 2017, p., 63-65, Winchester, VA, USA

II.E. Conferences, Workshops, and Talks

II.E.1. Keynotes

Completed prior to current position:

1. **Hamby, K.** 2014. Applications of *Drosophila*-yeast interactions to IPM. Opening session Comstock Award presentation, Pacific Branch Entomological Society of America Annual Meeting, Tucson, AZ, USA

II.E.2. Invited Talks

Since starting my current position, myself and my lab members (1st author = presenter) have given 3 international, 7 national, and 4 regional invited symposium or organized meeting talks, as well as 3 departmental seminars, 3 talks to organizations, and 1 award talk on campus reaching ~613 people.

International invited symposium and organized meeting talks:

Completed during current position:

4. **Hamby, K.**, Arsenault-Benoit, A.[@], Taylor, C.[^], Butler, B., Dalton, D., Walton, V., Petran, A., Rogers, M., Diepenbrock, L., Burrack, H., Leach, H., Van Timmeren, S., Fanning, P., Isaacs, R., Gress, B., Bolda, M., Zalom, F., Roubos, C., Evans, R., Sial, A. 2018. Impact of pruning on crop microclimate and *Drosophila suzukii*. *Organized Meeting; WERA1021 SWD biology, ecology, and management*. 2018 Joint Meeting of the Entomological Society of America, Entomological Society of Canada, and Entomological Society of British Columbia, Vancouver, Canada (63 people)
3. **Hamby, K.** 2018. What do *D. suzukii*'s interactions with fungi mean for pest management? *Symposium: Drosophila suzukii management: What have researchers been spotting?* International IPM Symposium, Baltimore, MD, USA (~35 people)
2. **Hamby, K.** 2016. *Drosophila suzukii* physiology and yeast associations. *Symposium: International Perspectives Contribute Towards a Clearer Understanding of Drosophila suzukii*. XXV International Congress of Entomology, Orlando, FL, USA (~115 people)

Completed prior to current position:

1. **Hamby, K.** 2016. Seasonal biology of spotted wing drosophila (*Drosophila suzukii*) in California raspberries. *Symposium: Biology and control of spotted wing drosophila, Drosophila suzukii*. XXIV International Congress of Entomology, Daegu, South Korea

National invited symposium and organized meeting talks:

Completed during current position:

9. **Hamby, K.**, Lewis, M.T.[#], Schöneberg, T.[^] 2020. Friend or foe? *Drosophila suzukii* interactions with fungi. *Symposium: P-IE Section Symposium: On-Demand Drosophila Interactions for All- From Endosymbionts to Ecosystems*. Entomological Society of America National Meeting. Online.
8. Lewis, M.T.[#], and **Hamby, K.** 2019. Interactions between spotted-wing drosophila and fruit rot fungi in fall raspberries. *Symposium: AGRO: Plant-Insect-Microbe Communications in Agriculture*. American Chemical Society National Meeting. San Diego, CA, USA (~30 people)
7. Lewis, M.T.[#], and **Hamby, K.** 2018. Associations between *Drosophila suzukii* and fungal microbes. *Symposium: AGRO: Agricultural Based Natural Products as Biorational Pesticides*. American Chemical Society National Meeting. Boston, MA, USA (~25 people)
6. Lewis, M.T.[#], and **Hamby, K.** 2017. Understanding interactions between *Drosophila suzukii* and it yeast microbes: Implications for larval fitness and development. *Symposium: AGRO: Roles of Natural Products as Biorational Pesticides in Agriculture*. American Chemical Society National Meeting. Washington, D.C., USA (~30 people)
5. **Hamby, K.** 2016. *Drosophila suzukii*-yeast interactions: Applications for pest management. *Symposium: AGRO: Natural Products as Biorational Pesticides in Agriculture*. American Chemical Society National Meeting. Philadelphia, PA, USA (~25 people)
4. **Hamby, K.**, Boundy-Mills, K., Chiu, J., Syed, Z., and Zalom, F. 2015. Using interdisciplinary approaches to find management solutions for spotted wing drosophila. *Symposium: Synergy in Agricultural Pest Control: Use of Interdisciplinary Approaches to Feed a Growing Population*. National Entomological Society of America Annual Meeting, Minneapolis, MN, USA (~30 people)
3. **Hamby, K.**, Bolda, M., Burrack, H., and Zalom, F. 2014. An unexpected invader, *Drosophila suzukii*. *Symposium: Meeting the challenge of fruit fly pests from beyond the horizon: advances in detection, eradication, and management of invasive fruit fly species*. National Entomological Society of America Annual Meeting, Portland, OR, USA

Completed prior to current position:

2. **Hamby, K.A.**, Hernández, A., Boundy-Mills, K., and Zalom, F. 2013. Yeast associations of spotted wing drosophila (*Drosophila suzukii*, Diptera: Drosophilidae) in cherries and raspberries. *Symposium: Insect-Microbe-Plant Interactions (Interactions between Insect Herbivores, Microorganisms and Their Host Plants)*. National Entomological Society of America Annual Meeting, Austin, TX, USA
1. **Hamby, K.A.**, Chiu, J.C., Bruck, D., Shearer, P.W., Tanigoshi, L., and Zalom, F. 2012. Quantifying the effect of pesticide resistance management: a multifaceted approach. *Symposium: Proceeding Along the IPM Continuum: Developing Multifaceted Approaches for Invasive Species*. National Entomological Society of America Annual Meeting, Knoxville, TN, USA

Regional invited symposium and organized meeting talks:

Completed during current position:

5. **Hamby, K.** 2021. University of Maryland Department of Entomology Hamby lab. *Symposium: PBESA Comstock Winners: Where Are They Now?* Virtual Pacific Branch Entomological Society of America Meeting
4. Dubey, A.[#], Dively, G., Lewis, M.[#], and **Hamby, K.** 2021. Evaluating the costs and benefits of pesticide seed treatments in Maryland grain production. *Symposium: Field and Vegetable Crop Updates Around the Branch.* Virtual Eastern Branch Entomological Society of America Meeting
3. Schöneberg, T.[^], and **Hamby, K.** 2021. Can a crop sanitizer control *D. suzukii* in small fruits? *Symposium: Research Advances in Invasive Pests by Early-Career Scientists.* Virtual Eastern Branch Entomological Society of America Meeting
2. **Hamby, K.A.** 2018. Insect interactions with microorganisms and their utility for management of fruit pests. *Section: Plant-Insect Interactions: From Pests to Mutualists.* Mid-Atlantic Section of the American Society of Plant Biologists and University of Maryland Spring Plant Biology Symposium, College Park, MD, USA (~80 people)

Completed prior to current position:

1. **Hamby, K.A.**, Chiu, J.C., and Zalom, F.G. 2012. Application of genomic tools to integrated pest management. *Symposium: The Future of Entomology: Using genomics tools to answer fundamental questions in entomology, from basic science to application to management.* Pacific Branch Entomological Society of America Annual Meeting, Portland, OR, USA

Invited departmental seminars:

Completed during current position:

6. 2019 Department of Entomology, Michigan State University. *Seminar:* “Friend or foe? Pest management implications of spotted-wing drosophila interactions with fungi” (~40 people)
5. 2017 Department of Entomology, Rutgers University. *Seminar:* “Developing pest management strategies using *Drosophila suzukii* interactions with fungi” (~35 people)
4. 2016 Department of Entomology, Clemson University. *Seminar:* “Exploiting spotted-wing drosophila interactions with fungi for sustainable pest management” (~40 people)

Completed prior to current position:

3. 2014 Department of Entomology, University of Minnesota. *Interview Seminar:* “Exploiting insect-microbe interactions for sustainable *D. suzukii* management”
2. 2014 Department of Entomology, University of California Davis. *Interview Seminar:* “Exploiting insect-microbe interactions for *D. suzukii* management.”
1. 2014 Department of Entomology, University of Maryland. *Interview Colloquium:* “Exploiting insect-microbe interactions for sustainable insect pest management”

Invited talks for agencies and organizations:

Completed during current position:

3. 2019 Entomological Society of Washington 2019 *Annual Banquet*: Dubey, A., Dively, G., and **Hamby, K.** “Do neonicotinoid seed treatments impact arthropod communities in Maryland grain production?” (~30 people)
2. 2018 Entomological Society of Washington Meeting. *Seminar*: “Friend or foe? *Drosophila suzukii* interactions with fungi” (~25 people)
1. 2015 Maryland Entomological Society Meeting. *Seminar*: “Exploiting insect-microbe interactions for sustainable insect pest management” (~25 people)

Invited campus talks:

Completed during current position:

1. 2018 UMD CMNS Board of Visitors. *Award Talk*: “Helping stakeholders mitigate insect pests” (~50 people)

II.E.5. Refereed Abstracts

Completed during current position:

3. Opoku, J., Kleczewski, N.M., **Hamby, K.**, Coomber, A., Haak, D., and Mehl, H.L. Mycotoxigenic *Fusarium* spp. associated with stink bugs collected from corn fields in the Mid-Atlantic U.S. 2018. *Phytopathology* 108 (10S), 75-75,
2. Opoku, J., Mehl, H.L., Kleczewski, N.M., and **Hamby, K.** 2016. Relationship between invasive brown marmorated stink bug (*Halyomorpha halys*) and fumonisin contamination of field corn in the Mid-Atlantic U.S. *Phytopathology* 106 (12S), 24-24
1. Swett, C.L.*, **Hamby, K.A.**, Carignan, C., and Koivunen, E. 2016. Cladosporium interactions with the introduced insect spotted wing drosophila (*Drosophila suzukii*) may alter fruit rot epidemiology. *Phytopathology* 106(12S): 135-135

II.E.8. Non-Refereed Presentations

Since starting at UMD, myself and my lab members (1st author = presenter) have presented 3 international, 6 national, and 13 regional contributed research talks, reaching 677 people.

International contributed talks:

Completed during current position:

3. Dubey, A. #, Dively, G., Lewis, M. #, and **Hamby, K.** 2018. Do neonicotinoid seed treatments affect arthropod communities in grain crops? 2018 Joint Meeting of the Entomological Society of America, Entomological Society of Canada, and Entomological Society of British Columbia, Vancouver, British Columbia, Canada (~25 people)
2. Lewis, M.T. #, and **Hamby, K.** 2018. Associations between *Drosophila suzukii* and fruit rot fungi in fall red raspberries. Joint Meeting of the Entomological Society of America, Entomological Society of Canada, and Entomological Society of British Columbia, Vancouver, British Columbia, Canada (~35 people)
1. Dubey, A. #, Dively, G., Lewis, M. #, and **Hamby, K.A.** 2016. Non-target effects of neonicotinoid seed treatments in a three-year field crop rotation. International Congress of Entomology, Orlando, FL, USA (~25 people)

Won first place in the Ph.D. student paper competition.

National contributed talks:

Completed during current position:

11. Lewis, M. [#], Hu, M., and **Hamby, K.** 2020. Evaluating spotted-wing drosophila as a vector of raspberry fruit rot pathogens. National Entomological Society of America Meeting, Online
 10. Cramer, M. [#], and **Hamby, K.** 2020. Evaluating effects of prophylactic seedling pest management on yield and non-target organisms in Maryland corn. National Entomological Society of America Meeting, Online
 9. Dubey, A. [#], Yarwood, S., Maul, J., Dively, G., Lewis, M. [#], and **Hamby, K.** 2020. Evaluating impacts of neonicotinoid seed treatments on soil health in a Maryland grain crop rotation. National Entomological Society of America Meeting, Online
- Won second place in the Ph.D. student paper competition.**
8. Dubey, A. [#], Lewis, M. [#], Dively, G., and **Hamby, K.** 2020. Evaluating the ecological impacts of pesticide seed treatments on arthropod communities in a grain crop rotation. NC246 Ecology and Management of Arthropods in Corn Annual Meeting, Madison, WI, USA (~30 people)
 7. Lewis, M. [#], and **Hamby, K.** 2019. Optimizing carrier water volume for improved management of spotted-wing drosophila in brambles. National Entomological Society of America Meeting, St. Louis, MO, USA (~30 people)
- Won first place in the Ph.D. student paper competition.**
6. Dubey, A. [#], Dively, G., Lewis, M. [#], and **Hamby, K.** 2019. Disruption of arthropod communities by pesticide seed treatments in a grain crop rotation. National Entomological Society of America Meeting, St. Louis, MO, USA (~30 people)
 5. Lewis, M.T. [#], and **Hamby, K.** 2017. Characterizing the interactions between spotted wing drosophila and its yeast associates. National Entomological Society of America Meeting, Denver, CO, USA (~40 people)

Completed prior to current position:

4. Kwok, R.S., **Hamby, K.A.**, Zalom, F.G., and Chiu, J.C. 2013. Integrating circadian activity and gene expression profiles to predict chronotoxicity of *Drosophila suzukii* response to insecticides. National Entomological Society of America Annual Meeting, Austin, TX, USA
3. **Hamby, K.**, Boundy-Mills, K., and Zalom, F.G. 2011. Yeast associations of spotted wing drosophila (*Drosophila suzukii*) in raspberries. National Entomological Society of America Annual Meeting, Reno, NV, USA
2. Wilson, H.E. [§], **Hamby, K.A.**, and Zalom, F.G. 2011. Seasonal movements of *Drosophila suzukii* (Diptera: Drosophilidae) in a multi-crop setting. National Entomological Society of America Annual Meeting, Reno, NV, USA
1. **Hamby, K.**, and Zalom, F.G. 2010. Performance responses of navel orangeworm, *Amyelois transitella* (Walker), to damage treatments on eleven almond varieties. National Entomological Society of America Annual Meeting, San Diego, CA, USA

Regional contributed talks:

Completed during current position:

17. Lewis, M. [#], Hu, M., and **Hamby, K.** 2021. Interactions between *Drosophila suzukii* and raspberry fruit rot pathogens. Virtual Eastern Branch Entomological Society of America

Meeting

Won first place in the Ph.D. student paper competition.

16. Leslie, A., Afful, E.[^], Sanford, S.[@], Hooks, C., and **Hamby, K.** 2021. Yield loss estimates *Dectes texanus* larvae feeding in soybeans. Virtual Eastern Branch Entomological Society of America Meeting
15. Schöneberg, T.[^], and Hamby, K. 2019. Can a crop sanitizer control *D. suzukii* in small fruits? 95th Cumberland-Shenandoah Fruit Workers Conference, Winchester, VA, USA (~40 people)
14. Schöneberg, T.[^], and **Hamby, K.** 2019. Can a crop sanitizer control *D. suzukii* in small fruits? Mid-Atlantic Vegetable and Small Fruit Workers Conference, Newark, DE, USA (~30 people)
13. Lewis, M.[#], and **Hamby, K.** 2019. Optimizing spray coverage for management of spotted-wing drosophila. Mid-Atlantic Vegetable and Small Fruit Workers Conference, Newark, DE, USA (~30 people)
12. Dubey, A.[#], Dively, G., Lewis, M.[#], and **Hamby, K.** 2019. Do neonicotinoid seed treatments affect arthropod communities in grain crops? Eastern Branch Entomological Society of America Annual Meeting, Blacksburg, VA, USA (~60 people)
11. Lewis, M.[#], and **Hamby, K.** 2019. Interactions between spotted-wing drosophila and fruit rot fungi in fall red raspberries. Eastern Branch Entomological Society of America Annual Meeting, Blacksburg, VA, USA (~60 people)

Won first place in the Ph.D. student paper competition.

10. Dubey, A.[#], Dively, G., Lewis, M.[#], and **Hamby, K.** 2018. Evaluating the impacts of neonicotinoid seed treatments in a mid-Atlantic grain crop rotation. Eastern Branch Entomological Society of America Annual Meeting, Annapolis, MD, USA (~45 people)
9. **Hamby, K.**, Hooks, C., Leslie, A.[^], and Zobel, E. 2018. Research with *Dectes* stem borer and other current research projects in Maryland. Eastern Branch Entomological Society of America Annual Meeting, Annapolis, MD, USA (~35 people)
8. Lewis, M.[#], Koivunen, E., Swett, C., and **Hamby, K.** 2018. Effect of *Drosophila suzukii* on yeast and fruit rot fungi in red raspberries. Eastern Branch Entomological Society of America Annual Meeting, Annapolis, MD, USA (~45 people)
7. Dubey, A.[#], and **Hamby, K.** 2017. Evaluation of economic benefits and long-term sustainability of neonicotinoid seed treatment use in the mid-Atlantic. Northeastern IPM Center Online Conference (52 people)
6. **Hamby, K.**, and Dively, G. 2017. Corn earworm resistance to Bt transgenic corn and recent performance of Bt sweet corn products in Maryland. Eastern Branch Entomological Society of America Annual Meeting, Newport, RI, USA (~20 people)
5. Dubey, A.[#], Dively, G., Lewis, M.[#], and **Hamby, K.** 2017. Impact of neonicotinoid seed treatments on pestiferous arthropods and yield in a three-year grain crop rotation. Eastern Branch Entomological Society of America Annual Meeting, Newport, RI, USA (~25 people)

Won third place in the Ph.D. student paper competition.

4. Opoku, J., Mehl, H.L., Kleczewski, N.M. and **Hamby, K.A.** 2016. Relationship between invasive brown marmorated stink bug and fumonisin contamination of field corn in the

Mid-Atlantic. American Phytopathological Society, Potomac Division, Richmond, VA, USA (~60 people)

3. Taylor, C.[^], Butler, B., and **Hamby, K.A.** 2016. Does canopy manipulation impact yield and SWD infestation levels in the outer versus inner canopies of raspberries? 92nd Cumberland-Shenandoah Fruit Workers Conference. Winchester, VA, USA (~20 people)

Completed prior to current position:

2. **Hamby, K.A.**, Hernández, A., Boundy-Mills, K., and Zalom, F.G. 2013. Yeast associations of spotted wing drosophila (*Drosophila suzukii*, Diptera: Drosophilidae) in cherries and raspberries. Pacific Branch Entomological Society of America Annual Meeting, South Lake Tahoe, NV, USA
1. Yu, D.^{\$}, F.G. Zalom, and **Hamby, K.A.** 2013. Host status and fruit odor response of *Drosophila suzukii* (Diptera: Drosophilidae) to figs (*Ficus carica* L.) and mulberries (*Morus* spp.). Pacific Branch Entomological Society of America Annual Meeting, South Lake Tahoe, NV, USA

Local contributed talks:

Completed during current position:

1. Lewis, M.T.[#], and **Hamby, K.A.** 2019. Can spotted-wing drosophila vector fruit rot fungi in raspberries? UMD Graduate Student Research Appreciation Day, College Park, MD, USA

II.E.11. Non-Refereed Posters

International contributed posters:

Completed during current position:

1. Taylor, C.M.[^], Butler, B., and **Hamby, K.A.** 2016. Mulching practices alter the mulch environment and impact *Drosophila suzukii* larval and pupal survival. *Organized Meeting: WERA1021 Spotted Wing Drosophila Biology, Ecology, and Management*, XXV International Congress of Entomology, Orlando, FL, USA

National contributed posters:

Completed during current position:

1. Arsenault-Benoit, A.[@], Lewis, M.[#], Taylor, C.[^], Butler, B., and **Hamby, K.** 2017. Spotted wing drosophila management in Maryland. *Organized Meeting: WERA 1021: Multi-State Research Collaborations Inspire Spotted Wing Drosophila Management Innovations*, National Entomological Society of America, Denver, CO, USA

Regional contributed posters:

Completed during current position:

3. Kepner, C., **Hamby, K.A.**, and Swett, C.L. 2016. The role of frugivorous insects in fruit rot epidemiology in Maryland vineyards. American Phytopathological Society, Potomac Division, Richmond, VA, USA

Completed prior to current position:

2. Harris, D.W.^{\$}, Wilson, H.E.^{\$}, Zalom, F.G., and **Hamby, K.A.** 2013. Seasonal trapping of *Drosophila suzukii* (Diptera: Drosophilidae) in a multi-crop setting. Pacific Branch Entomological Society of America Annual Meeting, South Lake Tahoe, NV, USA

1. Bruck, D., Dreves, A.J., Shearer, P.W., Tanigoshi, L., **Hamby, K.A.**, Zalom, F.G., Hueppelsheuser, T., Lee, J.C., and Cave, A. 2012. Management of spotted wing drosophila in west coast small fruits. Pacific Branch Entomological Society of America Annual Meeting, Portland, OR, USA

Local contributed posters:

Completed during current position:

6. Schöneberg, T.[^], and **Hamby, K.** 2019. Managing spotted-wing drosophila (*Drosophila suzukii*) and fungi with hydrogen peroxide and peroxyacetic acid. UMD Postdoctoral Research Symposium, College Park, MD, USA
5. Dubey, A.[#], Lewis, M.[#], Dively, G., and **Hamby, K.** 2019. Impact of neonicotinoid seed treatments (NSTs) on Maryland grain production. 2019 Maryland Commodity Classic, Centreville, MD, USA
4. Leslie, A.[^], Zobel, E., Afful, E.[^], **Hamby, K.**, and Hooks, C.R.R. 2019. Dectes stem borer in soybeans. 2019 Maryland Commodity Classic, Centreville, MD, USA
3. Cramer, M.[@], Afful, E.[^], Dively, G., and **Hamby, K.** 2019. Early season insect pressure and management in field corn. 2019 Maryland Commodity Classic, Centreville, MD, USA
2. Dubey, A.[#], Dively, G., Lewis, M.[#], and **Hamby, K.** 2018. Impact of neonicotinoid seed treatments on Maryland grain production. 2018 Maryland Commodity Classic, Centreville, MD, USA

Completed prior to current position:

1. Saini, D.E., Lindberg, J., Butler, E. and **Hamby, K.** 2009. Larval delta smelt behavior in response to physical stimuli using small raceway. 2009 San Francisco Estuary Conference, San Francisco, CA, USA

II.E.13. Symposia

National symposia organized and chaired:

Completed during current position:

3. “*Drosophila* interactions for all – from endosymbionts to ecosystems” 2020 National Entomological Society of America Annual Meeting, Virtual Meeting
2. “Organized Meeting: WERA 1021: Multi-state research collaborations inspire spotted-wing drosophila, *Drosophila suzukii*, management innovations.” 2017 National Entomological Society of America Annual Meeting, Denver, CO, USA
1. “Expanding spotted wing drosophila (*Drosophila suzukii*) research to new horizons.” 2014 National Entomological Society of America Annual Meeting, Portland, OR, USA.

II.E.16. Meetings

Regional meetings organized and chaired:

Completed during current position:

1. 2019 Joint Annual Meeting of the NEERA 1604 Northeast Region Technical Committee on IPM and Northeast IPM Center Advisory Panel. 1.5 day meeting. 2019, College Park, MD.

II.F. Extension and Professional Publications

II.F.1. Reports and Non-Refereed Monographs

National reports:

Completed during current position:

1. **Hamby, K.A.**, and Swett, C.S. 2015. Elucidating symbioses between *Drosophila suzukii* and fungal communities for improved insect and disease management in raspberry production. North American Bramble Growers Research Foundation 2015 Report.

Local reports:

Completed during current position:

7. **Hamby, K.A.**, and Cramer, M.E.[#] 2020. Optimizing early season insect pest management in field corn. Maryland Grain Producers and Utilization Board 2020 Report
6. Afful, E. [^], Dively, G.P., and **Hamby, K.A.** 2019. Yield gains, target pests managed, and secondary pests associated with pyrethroid insecticide use. Maryland Grain Producers and Utilization Board 2019 Report
5. Afful, E. [^], Dively, G.P., and **Hamby, K.A.** 2018. Yield gains, target pests managed, and secondary pests associated with pyrethroid insecticide use. Maryland Grain Producers and Utilization Board 2018 Report
4. Dubey, A. [#], Dively, G.P., Lewis, M. [#], and **Hamby, K.A.** 2017. Evaluating the non-target impacts of neonicotinoid seed treatments in a three year corn, soybean, and wheat crop rotation. Maryland Grain Producers and Utilization Board 2017 Report
3. Dubey, A. [#], Lewis, M. [#], Dively, G.P., and **Hamby, K.A.** 2016. Evaluating the non-target impacts of neonicotinoid seed treatments in a three year corn, soybean, and wheat crop rotation. Maryland Grain Producers and Utilization Board 2016 Report
2. **Hamby, K.A.**, Dively, G.P., Dubey, A. [#], and Lewis, M. [#] 2015. Evaluating the non-target impacts of neonicotinoid seed treatments in a three year corn, soybean, and wheat crop rotation. Maryland Grain Producers and Utilization Board 2015 Report

Completed prior to current position:

1. Zalom, F.G., **Hamby, K.**, and Wilson, H.[§] 2010. Spotted wing drosophila, a concern for dried plum producers? California Prune Board Research Report

II.F.5. Refereed Extension Publications

Completed during current position:

1. **Hamby, K.**, Butler, B., Demchak, K., and Joshi, N. 2015. Spotted wing drosophila monitoring and management. University of Maryland Extension Fact Sheet FS-1023

II.F.6. Non-Refereed Extension Publications

Since starting my current position, 4 co-author, 15 first author, and 23 senior author non-refereed extension publications have been published.

National Extension Publications:

Completed during current position:

2. Sial, A., Little, B., Roubos, C., Isaacs, R., Grieshop, M., Leach, H., Bal, H., Fanning, P., Van Timmeren, S., Guedot, C., Jaffe, B., Walton, V., Rendon, D., Dalton, D.T., **Hamby, K.**, Arsenault-Benoit, A.[@], Rogers, M., Petran, A., Liburd, O., Spies, J., Johnson, D., Zalom, F., Gress, B., Burrack, H., Diepenbrock, L., Lee, J., and Leskey, T. 2018. Management Recommendations for Spotted Wing Drosophila in organic berry crops. UGA Cooperative Extension Bulletin 1497

1. **Hamby, K.A.**, and Swett, C.S. 2016. Partners in crime? Preliminary investigations into the interactions between SWD and fruit rots in fall red raspberries. *The Bramble* 31(1) Spring 2016

Regional Extension Publications:

Completed during current position:

3. **Hamby, K.** 2020. Watch for mites before and after planting strawberries. University of Delaware Weekly Crop Update: August 28, 2020
<https://sites.udel.edu/weeklycropupdate/?p=15755>
2. **Hamby, K.**, Butler, B., Demchak, K., and Joshi, N. 2015. Spotted wing drosophila larval infestations reported in central Maryland. Penn State Extension Tree Fruit Production News: <http://extension.psu.edu/plants/tree-fruit/news/2015/spotted-wing-drosophila-larval-infestations-reported-in-central-maryland>
1. **Hamby, K.**, Butler, B., Demchak, K., and Joshi, N. 2015. Spotted wing drosophila fruit monitoring. Penn State Extension Vegetable, Small Fruit, and Mushroom Production News: <http://extension.psu.edu/plants/vegetable-fruit/news/2015/spotted-wing-drosophila-fruit-monitoring>

Local Extension Publications:

Completed during current position:

41. Fiola, J., and **Hamby, K.** 2021. Periodical (17-year) Brood X cicadas. *Timely Viticulture*, <https://extension.umd.edu/resource/periodical-17-year-brood-x-cicadas>
40. Schöneberg, T.[^], and **Hamby, K.** 2020. Does a crop sanitizer (Jet Ag®) reduce spotted-wing drosophila infestation? *University of Maryland Extension Vegetable and Fruit News* October 2020 11(7):8-10.
39. **Hamby, K.**, and Dively, G. 2020. Proposed EPA changes to address resistance risks for caterpillar pests in Bt crops open for comment until November 9. *University of Maryland Extension Agronomy News*: August 2020 11(7): 3-5.
38. **Hamby, K.**, Cramer, M.[#], Dively, G., Hirsh, S., Kness, A., Leslie, A., Nichols, K., Zobel, E., and Owens, D. 2020. Corn earworm pressure rising—make sure to scout. *University of Maryland Extension Vegetable and Fruit News: Special Alert Edition* August 18, 2020
37. Cramer, M.[#], Dively, G., and **Hamby, K.** 2020. In dry weather, watch for silk-clipping insects in corn. *University of Maryland Extension Agronomy News*: August 2020 11(5): 11-12.
36. **Hamby, K.**, Cramer, M.[#], Dively, G., Hirsh, S., Kness, A., Leslie, A., Nichols, K., Zobel, E., and Owens, D. 2020. Corn earworm pressure varying regionally—make sure to scout. *University of Maryland Extension Agronomy News*: August 2020 11(5): 3.
35. Leslie, A., **Hamby, K.**, and Dively, G. 2020. Considering an insecticide for your small grains? *University of Maryland Extension Agronomy News*: May 2020
34. **Hamby, K.**, Patton, T., and Dively, G. 2020. Mild winters favor greenbug aphids and winter grain mite in small grains and orchardgrass. *University of Maryland Extension Agronomy News*: April 2020 11(1): 16-17.
33. Cramer, M.[#], Afful, E.[^], Dively, G., and **Hamby, K.** 2019. In furrow treatments for controlling early season pests in corn. *University of Maryland Extension Agronomy News*: November 2019 10(8): 10-12.

32. Schöneberg, T.[^], and **Hamby, K.** 2019. Potential of trellising for cultural management of spotted-wing drosophila in blackberries and raspberries. University of Maryland Extension Vegetable and Fruit News October 2019 10(7):12-14.
31. Cramer, M.[#], Afful, E.[^], Dively, G., and **Hamby, K.** 2019. Pyrethroid insecticide effects on pests and beneficials in field corn. University of Maryland Extension Agronomy News: October 2019 10(7): 5-7.
30. **Hamby, K.**, Dively, G., Owens, D., Beale, B., Coffey, P., Kness, A., Leslie, A., Taylor, E, Nichols, K., Morris, M., and Zobel, E. 2019. Special Alert: Scout for corn earworm in vegetable crops. University of Maryland Extension Vegetable and Fruit News: August 2019 10(5):1-3.
29. **Hamby, K.**, Dively, G., Owens, D., Beale, B., Coffey, P., Kness, A., Leslie, A., Taylor, E, Nichols, K., Morris, M., and Zobel, E. 2019. Special Alert: Growers need to scout for soybean podworms and sorghum headworms. University of Maryland Extension Agronomy News: August 9: <http://blog.umd.edu/agronomynews/2019/08/09/special-alert-growers-need-to-scout-for-soybean-podworms-and-sorghum-headworms/>
28. Cramer, M.[@], and **Hamby, K.** 2019. Strawberry insect pests. Small Farm Tour handout and Strawberry Twilight tour booklet May 2019, pp. 22-23.
27. Afful, E.[^], Illahi, N.^{\$}, and **Hamby, K.** 2019. Arrest these early season soil critters: Wireworm and white grub management. University of Maryland Extension Agronomy News: May 2019 10(2): 1-3.
26. Lewis, M.[#], and **Hamby, K.** 2018. Optimizing spray coverage in fall-bearing raspberries and blackberries. Horticulture Technology Newsletter: December 2018
25. Dubey, A.[#], Dively, G., Lewis, M.[#], and **Hamby, K.** 2018. Do neonicotinoid seed treatments impact soil health and quality in grain crops? University of Maryland Extension Agronomy News: November 2018 9(8): 6-8.
24. Lewis, M.[#], and **Hamby, K.** 2018. Optimizing spray coverage in fall-bearing raspberries and blackberries. University of Maryland Extension Vegetable and Fruit News: November 2018 9(7): 14-15.
23. Fiola, J., and **Hamby, K.** 2018. Spotted Lanternfly (SLF) II. Scouting and Management. Timely Viticulture: <http://extension.umd.edu/learn/spotted-lanternfly-slf-ii-scouting-and-management>
22. Fiola, J., and **Hamby, K.** 2018. Spotted Lanternfly (SLF) I. Background. Timely Viticulture: <http://extension.umd.edu/learn/spotted-lanternfly-slf-i%E2%80%94background>
21. Dubey, A.[#], Dively, G., and **Hamby, K.** 2017. Evaluating impacts of neonicotinoid seed treatments on pests, beneficial arthropods, and yield in grain crop rotations. University of Maryland Extension Agronomy News: October 2017 8(7):1-3.
20. Arsenault-Benoit, A.[@], Taylor, C.[^], Butler, B., and **Hamby, K.** 2017. Cultural controls for SWD management in blueberries and raspberries. University of Maryland Extension Vegetable and Fruit News: October 2017 8(7): 7-9.
19. Lewis, M.[#], Butler, B., and **Hamby, K.** 2017. Optimizing carrier water volume for enhanced spray coverage in brambles. University of Maryland Twilight Tours, Keedysville and Queenstown, MD, August 2017

18. Arsenault-Benoit, A.[@], Taylor, C.[^], Butler, B., and **Hamby, K.** 2017. Evaluating blueberry mulching practices on survival of spotted wing drosophila. University of Maryland Twilight Tours, Keedysville and Queenstown, MD, August 2017
17. **Hamby, K.**, and Beale, B. 2017. Sorghum growers encouraged to keep an eye out for sugarcane aphid this season. University of Maryland Extension Agronomy News: April 2017 8(1): 5-6.
16. Dively, G.P., and **Hamby, K.A.** 2016. Sweet corn insect control and efficacy of the transgenic Bt technology. University of Maryland Extension Agronomy News: October 2016 7(7): 4-6.
15. Dubey, A.[#], Dively, G., and **Hamby, K.** 2016. Evaluating impacts of neonicotinoid seed treatments on pests, beneficial arthropods, and yield in grain crop rotations. University of Maryland Extension Agronomy News: October 2016 7(7): 1-3.
14. Lewis, M.[#], Butler, B., and **Hamby, K.** 2016. Optimizing carrier water volume for enhanced spray coverage in raspberries. University of Maryland Extension Vegetable and Fruit News: October 2016 7(6): 24-27.
13. Dively, G.P., and **Hamby, K.A.** 2016. Sweet corn insect control and efficacy of the transgenic Bt technology. University of Maryland Extension Vegetable and Fruit News: October 2016 7(6): 19-23.
12. Taylor, C.[^], Butler, B., and **Hamby, K.** 2016. If you can't take the heat, stay out of the mulch: How mulching practices affect spotted wing drosophila survival in blueberries. University of Maryland Extension Vegetable and Fruit News: October 2016 7(6): 1-3.
11. **Hamby, K.A.**, and Swett, C.S. 2015. Fruit rots and spotted wing drosophila in fall red raspberries: the perfect storm? Horticulture Technology Newsletter: December 2015
10. **Hamby, K.A.** 2015. Spotted wing drosophila adult and larval monitoring. University of Maryland Extension Vegetable and Fruit News: October 2015 6(7): 7-9.
9. Dubey, A.[#], **Hamby, K.A.**, and Dively, G.P. 2015. Evaluating benefits and non-target impacts of repeated use of neonicotinoid treated seed in grain crop rotations. University of Maryland Extension Agronomy News: October 2015 6(7): 1-2.
8. Hooks, C.R.R., Leslie, A.W., **Hamby, K.A.**, and Whalen, J. 2015. Employing marigold as part of a push pull sting operation to subdue the Mexican bean beetle. University of Maryland Extension Vegetable and Fruit News: October 2015 6(7): 3-4.
7. Swett, C.S., and **Hamby, K.A.** 2015. Two of our least favorite fall pest problems may be consorting together: fruit rot and spotted wing drosophila in fall berries. University of Maryland Extension Vegetable and Fruit News: September 2015 6(6): 3.
6. Fiola, J.A., Lewis, M.T. [#], and **Hamby, K.A.** 2015. The Spotted Wing Drosophila (SWD)- Part 2: Management. Timely Viticulture. <http://extension.umd.edu/learn/spotted-wing-drosophila-swd-part-2-management>
5. Fiola, J.A., Lewis, M.T. [#], and **Hamby, K.A.** 2015. The Spotted Wing Drosophila (SWD)- Part 1: History, Background, and Damage. Timely Viticulture. <http://extension.umd.edu/learn/spotted-wing-drosophila-swd-part-1-history-background-and-damage>
4. **Hamby, K.**, Butler, B., Demchak, K., and Joshi, N. 2015. Special Alert #2: SWD larval infestation in Central Maryland: Spotted Wing Drosophila management. University of Maryland Extension Vegetable and Fruit News Special Alert #2: July 2015: 1-6.

3. **Hamby, K.**, Butler, B., Demchak, K., and Joshi, N. 2015. Spotted wing drosophila fruit monitoring. University of Maryland Extension Vegetable and Fruit News 6(3): 6-8.
2. **Hamby, K.**, Butler, B., and Demchak, K. 2015. Spotted wing drosophila monitoring and management. Strawberry Twilight Tour May 2015, pp. 24-30

Completed prior to current position:

1. Zalom, F.G., **Hamby, K.**, and Wilson, H.^s 2010. Spotted wing drosophila, a concern for dried plum producers? California Prune Board Research Report.

II.J. Sponsored Research and Programs – Administered by the Office of Research Administration (ORA)

II.J.1. Grants

Pending Competitive External Funding:

Research and Extension

2. 2021-2025 National Institute of Food and Agriculture – Foundational Program Lead PI with Co-PI Mengjun Hu

Understanding drivers that shape raspberry fungal communities to inform sustainable management

Hamby: \$308,825 Total: \$558,346

Submitted May 27, 2021

1. 2021-2024 National Institute of Food and Agriculture – Extension Implementation Program Area (NIFA EIP), Co-PI with Lead PI Anahí Espíndola, Co-PI Dennis vanEngelsdorp, Co-PI Karen Rane, Co-PI Benjamin Beale, Co-PI Macarena Farcuh, Co-PI Stanton Gill, Co-PI Alan Leslie, Co-PI Andrew Kness, Co-PI Karin Burghardt, Co-PI Galen Dively, Co-PI Stephanie Mathias, and Co-PI Nicole Fiorellino.

Multidisciplinary IPM solutions for a diverse state

Hamby: \$98,252 Total: \$900,000

Submitted March 15, 2021

Active Competitive External Funding:

Research and Extension

I currently have 9 active grants that include both research and extension activities. My portion of these active grants totals \$577,162. Of this, \$451,698 is direct costs and \$125,464 is indirect costs.

9. 2021-2022 Maryland Grain Producers Utilization Board (MGPUB) Lead PI with Co-PI Maria Cramer[#].

Optimizing early season insect pest management in field corn

Hamby: \$18,000 Total: \$18,000

Contribution: Led the grant writing, conceptualization of objectives, and supervised the project.

8. 2020-2022 Northeast Sustainable Agriculture Research and Education Program (NE SARE) Graduate Student Grant, Co-PI with Lead PI Maria Cramer[#].

Optimizing early-season pest control in corn: untangling the contributions of neonicotinoid seed treatments, in-furrow pyrethroids, and Bt hybrids

Hamby: \$14,961

Total: \$14,961

Contribution: Senior author. Supervised the conceptualization, experimental design, writing, and subsequent project.

7. 2020-2021 National Institute of Food and Agriculture – Extension Implementation Program Area (NIFA EIP), Lead PI with Co-PI Cerruti Hooks, Co-PI Dennis vanEngelsdorp, Co-PI Karen Rane, Co-PI Benjamin Beale, Co-PI Macarena Farcuh, Co-PI Stanton Gill, Co-PI Alan Leslie, Co-PI Simon Zebelo, Co-PI Karin Burghardt, Co-PI Galen Dively, Co-PI Stephanie Mathias, Co-PI Anahí Espíndola, and Co-PI Nicole Fiorellino.

IPM solutions for Maryland, an agriculturally and demographically diverse state

Hamby: \$39,290

Total: \$281,000

Contribution: Led the conceptualization, grant writing, and submission.

6. 2020-2021 Maryland State Horticultural Society. Co-PI with Lead PI Torsten Schöneberg[^].
Optimizing trellis systems for improved spray coverage and management of spotted-wing drosophila in blackberries

Hamby: \$1,500

Total: \$1,500

Contribution: Senior author. Supervised the conceptualization, experimental design, and writing.

5. 2019-2022 National Institute of Food and Agriculture – Biotechnology Risk Assessment Research Grants (NIFA BRAG), Co-PI with Lead PI Megan Fritz, Co-PI Fred Gould.
Genomic monitoring approaches for improving insect resistance risk assessment and management in transgenic crops

Hamby: \$76,000

Total: \$499,435

Contribution: Contributed to conceptualization and submission.

4. 2019-2021 Maryland Specialty Crop Block Grant Program, Co-PI with Lead PI Torsten Schöneberg.[^]
Managing Drosophila suzukii and fungi in raspberries using peroxyacetic acid

Hamby: \$26,472

Total: \$26,472

Contribution: Senior author. Supervised the conceptualization, experimental design, and writing.

3. 2018-2021 National Institute of Food and Agriculture – Organic Agriculture Research and Extension Initiative (NIFA OREI), Co-PD and Co-Subobjective lead with Lead PD Ashfaq Sial Ahman, Co-PI Mary Rogers, Co-PD Hannah Burrack, Co-PD Vaughn Walton, Co-PD Matt Grieshop, Co-PD Rufus Isaacs, Co-PD Cesar Rodriguez-Saona, Co-PI Kay Kelsey, Co-PD Jana Lee, Co-PD Kent Daane, Co-PI Erick Smith, Co-PI Frank Zalom, Co-PI Jennie Popp, Co-PD Oscar Liburd, Co-PI Bernadine Strik.

Furthering the development and implementation of systems-based organic management strategies for spotted wing drosophila

Hamby: \$156,000

Total: \$2,000,000

Contribution: This project was renewed for a second funding cycle. In both cycles I co-led the cultural controls subobjective, with significant contributions to the coordination, conceptualization, experimental design, grant writing, and subsequent multi-state activities. In this cycle I also lead a sub-subobjective on the impact of crop sterilants on fruit fungal

communities, with significant contributions to the coordination, conceptualization, experimental design, grant writing, and subsequent multi-state activities.

2. 2018 Northeast Sustainable Agriculture Research and Education Program (NE SARE) Graduate Student Grant, Co-PI with Lead PI Margaret Lewis[#].

Understanding spotted wing drosophila's role as a vector for fruit rot fungi in fall red raspberries

Hamby: \$14,994

Total: \$14,994

Contribution: Senior author. Supervised the conceptualization, experimental design, writing, and subsequent project.

1. 2018-2022 National Institute of Food and Agriculture – Biotechnology Risk Assessment Research Grants (NIFA BRAG), Co-PI with Lead PI Leslie Pick, Co-PI Antony Jose.

A mechanism-based strategy to assess risks of RNA interference in agricultural systems

Hamby: \$229,945

Total: \$500,000

Contribution: Significant contributions to grant writing, conceptualization of objectives, and effort coordinating one subobjective of the grant and subsequent project.

Training

I currently have one active training grant for which I share leadership with Cerruti Hooks that totals \$278,912.

1. 2017 National Institute of Food and Agriculture – Education and Literacy Initiative (NIFA ELI), Co-PI with Lead PI Cerruti Hooks, Co-PI Rose Ogutu, Co-PI Simon Zebelo, Co-PI Donna Ellis, Co-PI Louis Jackai, Co-PI Barbara Leidl, Co-PI Ann Hazelrigg, Co-PI Ana Legrand, Co-PI Hilary Sandler, Co-PI Beatrice Dingha, Co-PI Steve Young.

An undergraduate Integrated Pest Management (IPM) training program for the south and northeast.

Hamby: \$147,140

Total: \$278,912

Contribution: Equally shared leadership for the conceptualization and writing, and shared coordination of this multi-state effort.

Expired Competitive External Funding:

Research and Extension

Since starting my current position, I have received 23 external competitive grants from various federal, state, and local opportunities that include both research and extension, with my portion of the funding totaling \$548,997 direct costs and \$32,449 indirect costs.

23. 2020-2021 Maryland Grain Producers Utilization Board (MGPUB) Lead PI with Co-PI Maria Cramer[#].

Optimizing early season insect pest management in field corn

Hamby: \$15,000

Total: \$15,000

Contribution: Led the grant writing, conceptualization of objectives, and supervised the project.

22. 2017-2020 National Institute of Food and Agriculture – Extension Implementation Program Area (NIFA EIP), Lead PI with Co-PI Cerruti Hooks, Co-PI Dennis vanEngelsdorp, Co-PI Karen

Rane, Co-PI Benjamin Beale, Co-PI Gerald Brust, Co-PI Stanton Gill, Co-PI Alan Leslie[^], Co-PI Simon Zebelo, Co-PI Berran Rogers, Co-PI Galen Dively, Co-PI Jon Traunfeld.
IPM solutions for Maryland, an agriculturally and demographically diverse state

Hamby: \$141,240 Total: \$843,000

Contribution: Led the conceptualization, grant writing, and submission, with significant efforts coordinating and reporting for the subsequent project.

21. 2019-2020 Maryland State Horticultural Society. Co-PI with Lead PI Mengjun Hu.
Establishment of primocane fruiting raspberry plantings at two research farms

Hamby: \$750 Total: \$1,500

Contribution: Contributed to conceptualization, writing, and submission.

20. 2019-2020 Maryland State Horticultural Society. Co-PI with Lead PI Torsten Schöneberg[^].
*Managing *Drosophila suzukii* and fungi using peroxyacetic acid*

Hamby: \$1,125 Total: \$1,125

Contribution: Senior author. Supervised the conceptualization, experimental design, and writing.

19. 2019-2020 Maryland Soybean Board (MSB) Co-PI with Lead PI Alan Leslie, Co-PI Edwin Afful[^], Co-PI Cerruti Hooks, and Co-PI Emily Zobel.
*Improving detection of *Diuraphis stem borer* for developing spray recommendations in soybeans*

Hamby: \$8,000 Total: \$16,895

Contribution: Contributed to grant writing, conceptualization of objectives, and significant effort coordinating the grant and subsequent project.

18. 2019-2020 Maryland Grain Producers Utilization Board (MGPUB) Lead PI with Co-PI Edwin Afful[^], Co-PI Galen Dively.
Yield gains and pests managed with pyrethroid insecticide use in corn

Hamby: \$15,000 Total: \$15,000

Contribution: Led the grant writing, conceptualization of objectives, and coordinated the grant and subsequent project.

17. 2016 Northeast Sustainable Agriculture Research and Education Program (NE SARE) Graduate Student Grant, Co-PI with Lead PI Aditi Dubey[#].
Economic benefits and long term sustainability of neonicotinoid seed treatment use in the Mid-Atlantic

Hamby: \$14,979 Total: \$14,979

Contribution: Senior author. Supervised the conceptualization, experimental design, and writing.

16. 2016-2018 Maryland Specialty Crop Block Grant Program, Co-PI with Lead PI Margaret Lewis[#]. *Optimizing chemical management strategies for improved sustainability and control of *Drosophila suzukii* in Maryland brambles*

Hamby: \$30,640 Total: \$30,640

Contribution: Senior author. Supervised the conceptualization, experimental design, grant writing, and subsequent project.

15. 2017-2018 Maryland State Horticultural Society. Co-PI with Lead PI Margaret Lewis[#].
Optimizing carrier water volume for improved management of SWD and Botrytis fruit rots in Maryland raspberries

Hamby: \$2,000 Total: \$2,000

Contribution: Senior author. Supervised the conceptualization, experimental design, grant writing, and subsequent project.

14. 2018-2019 Maryland Soybean Board (MSB), Co-PI with Lead PI Alan Leslie[^], Co-PI Emily Zobel, Co-PI Cerruti RR Hooks.
Developing a management program from the Dectes stem borer (Dectes texanus) by finding and targeting its weak links

Hamby: \$10,000 Total: \$27,445

Contribution: Significant contributions to grant writing, conceptualization of objectives, and effort coordinating the grant and subsequent project.

13. 2018-2019 Maryland Grain Producers Utilization Board (MGPUB) Lead PI with Co-PI Galen Dively. *Yield gains, target pests managed, and secondary pests associated with pyrethroid insecticide use*

Hamby: \$15,000 Total: \$15,000

Contribution: Led the conceptualization, grant writing, and submission, with significant efforts coordinating and reporting for the subsequent project.

12. 2015-2019 National Institute of Food and Agriculture – Organic Agriculture Research and Extension Initiative (NIFA OREI), Co-PI and Co-Subobjective lead with Lead PI Ashfaq Sial Ahman, Co-PI and Co-Subobjective Lead Mary Rogers, Co-PI and Co-Subobjective Lead Hannah Burrack, Co-PI and Co-Subobjective Lead Vaughn Walton, Co-PI and Co-Subobjective Lead Matt Grieshop, Co-PI and Co-Subobjective Lead Rufus Isaacs, Co-PI and Co-Subobjective Lead Christelle Guédot, Co-PI Peter Shearer, Co-PI Jana Lee, Co-PI Tracy Leskey, Co-PI Donn Johnson, Co-PI Jennie Popp, Co-PI Oscar Liburd, Co-PI eOrganic.
Development and implementation of system-based organic management strategies for spotted wing drosophila

Hamby: \$150,000 Total: \$2,000,000

Contribution: Co-led a subobjective, with significant contributions to the coordination, conceptualization, experimental design, grant writing, and subsequent multi-state activities for the subobjective.

11. 2017-2018 Maryland Soybean Board (MSB), Co-PI with Lead PI Alan Leslie[^], Co-PI Emily Zobel, Co-PI Veronica L. Johnson, Co-PI Cerruti RR Hooks.
Developing a management program from the Dectes stem borer (Dectes texanus) by finding and targeting its weak links

Hamby: \$15,000 Total: \$24,855.

Contribution: Significant contributions to grant writing, conceptualization of objectives, and effort coordinating the grant and subsequent project.

10. 2017-2018 Maryland Soybean Board (MSB), Lead PI with Co-PI Galen Dively.
The impact of the repeated use of neonicotinoid insecticide treated seed in grain crop rotations on non-target invertebrates and soil microbes

Hamby: \$26,000 Total: \$26,000.

Contribution: Led the conceptualization, grant writing, and submission. Led the subsequent project and reporting.

9. 2017-2018 Maryland State Horticultural Society, Co-PI with Lead PI Margaret Lewis[#].
Integrating pruning and carrier water volume for optimized spray coverage and management of spotted wing drosophila in fall-bearing raspberries

Hamby: \$1,500 Total: \$1,500

Contribution: Senior author. Supervised the conceptualization, experimental design, grant writing, and subsequent project.

8. 2017-2018 Maryland Grain Producers Utilization Board (MGPUB), Lead PI with Co-PI Galen Dively.
The impact of the repeated use of neonicotinoid insecticide treated seed in grain crop rotations on non-target invertebrates and soil microbes

Hamby: \$18,000 Total: \$18,000

Contribution: Led the conceptualization, grant writing, and submission. Led the subsequent project and reporting.

7. 2016-2017 Maryland State Horticultural Society, Co-PI with Lead PI Margaret Lewis[#].
Optimizing water carrier volume for improved spray coverage and management of SWD in fall bearing red raspberries

Hamby: \$2,250 Total: \$2,250

Contribution: Senior author. Supervised the conceptualization, experimental design, grant writing, and subsequent project.

6. 2016-2017 Maryland Soybean Board (MSB), Lead PI with Co-PI Galen Dively.
The impact of the repeated use of neonicotinoid insecticide treated seed in grain crop rotations on non-target invertebrates and soil microbes

Hamby: \$26,000 Total: \$26,000

Contribution: Led the conceptualization, grant writing, and submission. Led the subsequent project and reporting.

5. 2016-2017 Maryland Grain Producers Utilization Board, Lead PI with Co-PI Galen Dively.
The impact of the repeated use of neonicotinoid insecticide treated seed in grain crop rotations on non-target invertebrates and soil microbes

Hamby: \$18,000 Total: \$18,000

Contribution: Led the conceptualization, grant writing, and submission. Led the subsequent project and reporting.

4. 2015- 2016 Maryland Soybean Board (MSB), Lead PI with Co-PI Galen Dively.
The impact of the repeated use of neonicotinoid insecticide treated seed in grain crop rotations on non-target invertebrates and soil microbes

Hamby: \$25,962 Total: \$25,962

Contribution: Led the conceptualization, grant writing, and submission. Led the subsequent project and reporting.

3. 2015-2015 North American Bramble Growers Research Foundation, Lead PI with Co-PI Cassandra Swett.

Elucidating symbioses between Drosophila suzukii and fungal communities for improved insect and disease management in raspberry production

Hamby: \$2,000 Total: \$4,000

Contribution: Led the conceptualization, grant writing, and submission. Led the subsequent project and reporting.

2. 2015-2016 Maryland Grain Producers Utilization Board, Lead PI with Co-PI Galen Dively.
The impact of the repeated use of neonicotinoid insecticide treated seed in grain crop rotations on non-target invertebrates and soil microbes

Hamby: \$18,000 Total: \$18,000

Contribution: Led the conceptualization, grant writing, and submission. Led the subsequent project and reporting.

1. 2015-2016 Northeastern Integrated Pest Management Center IPM Partnership Grant. Lead PI with Co-Investigators Dilip Venugopal and Cerruti Hooks.
Multitasking marigold to strengthen organic IPM in lima bean and other bean crops

Hamby: \$25,000 Total: \$25,000

Contribution: Contributed to the conceptualization, experimental design, writing, and subsequent project.

Current Competitive Internal Funding:

2. 2020-2021 Maryland Agricultural Experiment Station (MAES), Co-PI with Lead PI Margaret Lewis, Co-PI Mengjun Hu.

Interactions between spotted-wing drosophila and fruit rot fungi in fall red raspberries

Hamby: \$25,000 Total: \$29,994

Contribution: Senior author. Supervised the conceptualization, experimental design, grant writing, and subsequent project.

1. 2019 Ag Team Awards Program Research Labor and Assistance Funds, Lead PI.
Small fruit research plantings for IPM and demonstration research and extension

Hamby: \$2,500 Total: \$2,500

Contribution: Led writing and submission.

Expired Competitive Internal Funding:

Since starting my current position, I have received 9 internal competitive awards, with my portion of the funding totaling \$69,477.

9. 2018 Ag Team Awards Program Research Labor and Assistance Funds, Lead PI.
Cultural and chemical control methods for spotted wing drosophila management

Hamby: \$2,000 Total: \$2,000

Contribution: Led writing and submission.

8. 2018-2019 Maryland Agricultural Experiment Station (MAES), Co-PI with Lead PI Megan Fritz, Co-PI Schyler Nunziata, and Co-PI Galen Dively.
Identification of the genetic factors contributing to Cry toxin resistance and cross-resistance in Helicoverpa zea

Hamby: \$8,880 Total: \$29,976

Contribution: Contributions to grant writing, conceptualization of objectives, and significant effort coordinating one subobjective of the grant and subsequent project.

7. 2017 Ag Team Awards Program Research Labor and Assistance Funds, Lead PI.
Cultural and chemical control methods for spotted wing drosophila management

Hamby: \$2,500 Total: \$2,500

Contribution: Led writing and submission.

6. 2016 Ag Team Awards Program Research Labor and Assistance Funds, Lead PI.
Entomology small fruit research plantings to evaluate spotted wing drosophila seasonal phenology

Hamby: \$2,340 Total: \$2,340.

Contribution: Led writing and submission.

5. 2016-2017 Maryland Agricultural Experiment Station (MAES), Lead PI with Co-PI Bryan Butler. Developing cultural control tactics for spotted wing drosophila management in small fruits

Hamby: \$25,000 Total: \$30,000

Contribution: Led the conceptualization, grant writing, and submission. Led the subsequent project and reporting.

4. Summer 2016 Research and Scholarship Award (RASA), Lead-PI.
Exploiting insect-microbe interactions for sustainable pest management

Hamby: \$9,000 Total: \$9,000

Contribution: Led the conceptualization, grant writing, and submission. Led the subsequent project and reporting.

3. 2015 Ag Team Awards Program Research Labor and Assistance Funds, Lead PI.
Entomology small fruit research plantings to evaluate spotted wing drosophila seasonal phenology

Hamby: \$2,757 Total: \$2,757

Contribution: Led writing and submission.

2. 2015-2016 ADVANCE Seed Grant, Co-PI with Lead PI Cassandra Swett.
Symbioses between insect and fungal pathogen communities in an agricultural landscape and application in sustainable disease management

Hamby: \$10,000 Total: \$20,000

Contribution: Significant contributions to grant writing, conceptualization of objectives, and effort coordinating the grant and subsequent project.

1. 2014-2015 Delmarva Land Grant Institution Collaborative Research Seed Funding Program, Co-PI with Lead PI Hillary Mehl, Co-PI Nathan Kleczewski, and Co-PI Galen Dively.
Investigations of the relationships between invasive brown marmorated stink bug, mycotoxin-producing fungi, and mycotoxin contamination of corn in the Mid-Atlantic

Hamby: \$7000 Total: \$23,000

Contribution: Contributions to grant writing, conceptualization of objectives, and effort coordinating the grant. Coordinated and led Maryland field experiments.

Not-Funded Competitive Submissions:

Since starting my current position, I have invested significant time and effort into acquiring funding. In addition to my funded grants, I have submitted an additional 18 applications to various agencies

including the National Science Foundation, various National Institute of Food and Agriculture programs, and the Defense Advanced Research Project Agency. Most of these projects were ranked medium to high priority, but not funded.

Research and Extension

16. 2020-2024 National Institute of Food and Agriculture – Foundational Program Lead PI with Co-PI Mengjun Hu

*Establishing *Drosophila suzukii* as a field-relevant model for insect-fungal interactions*

Hamby: \$281,666

Total: \$499,997

Contribution: Led the conceptualization, grant writing, and submission.

Submitted April 7, 2020. Ranked High Priority. Was not funded.

15. 2019-2023 National Institute of Food and Agriculture – Specialty Crop Research Initiative (NIFA SCRI), Co-PD with Lead PD Cesar Rodriguez-Saona, Co-PD Ashfaq Sial Ahmad, Co-PD Hannah Burrack, Co-PI Vaughn Walton, Co-PD Rufus Isaacs, Co-PD Kent Daane, Co-PD Zain Syed, Co-PI Frank Zalom, Co-PI Joanna Chiu, Co-PI Julianna Wilson, Co-PI Max Scott, Co-PI Nikki Rothwell, Co-PD Kim Hoelmer, Co-PI Larry Gut, Co-PI Ke Dong, Co-PI Timothy Miles, Co-PI Roger Margarey, Co-PD Miguel Gómez, and Co-PD Greg Loeb.

Implementing sustainable spotted wing drosophila (SWD) management in US fruit crops to address emerging and continuing challenges

Hamby: \$300,000

Total: \$6,000,000

Contribution: Led this project through submission of the stakeholder relevance statement in December 2018, including the conceptualization and writing of the stakeholder relevance statement and budgeting for the project. Changes in cost-match requirements reduced Maryland's budget such that I could not lead the full proposal. For the full proposal I led a subobjective, for which I designed the experiments and led the writing effort.

Submitted April 30, 2019. Was not funded.

14. 2017-2021 National Institute of Food and Agriculture – Biotechnology Risk Assessment Research Grants (NIFA BRAG), Co-PI with Lead PI Leslie Pick, Co-PI Antony Jose.

Developing a pipeline to assess risks of RNA interference in agricultural systems

Hamby: \$100,000

Total: \$500,000.

Contribution: Significant contributions to grant writing, conceptualization of objectives, and effort coordinating one subobjective of the grant and subsequent project.

Submitted March 30, 2017. Ranked Medium Priority. Was not funded.

13. 2018-2022 National Science Foundation – Integrative Organismal Systems (NSF IOS) Preliminary Proposal, Lead PI with Co-PI Dave Hawthorne, Co-PI Scott McArt and Co-PI Dennis vanEngelsdorp.

Developing a fluorescent dye artificial tracer system for modeling xenobiotic fate in honey bees

Contribution: Led grant writing, conceptualization of objectives, and coordinated submission.

Submitted January 19, 2017. Was not invited for full proposal.

12. 2018-2019 Maryland Grain Producers Utilization Board (MG PUB), Co-PI with Lead PI Adivi Dubey[#].

Neonicotinoid seed treatments as a tool for protecting winter wheat from cereal aphids

Hamby: \$14,400 Total: \$14,400

Contribution: Senior author. Supervised the conceptualization, experimental design, grant writing, and subsequent project.

Submitted December 1, 2017. Was not funded.

11. 2017-2019 Integrated MAES/UME, Lead PI with Co-PI Alan Leslie[^], Co-PI Emily Zobel, Co-PI Cerruti RR Hooks.

*Improved understanding of yield loss, monitoring, and biological control for *Dectes stem borer (Dectes texanus)*, a priority soybean pest*

Hamby: \$10,000 Total: \$40,000

Contribution: Significant contributions to grant writing and conceptualization of objectives.

Submitted March 1, 2017. Was not funded.

10. 2017-2021 National Science Foundation – Integrative Organismal Systems (NSF IOS) Preliminary Proposal, Lead PI with Co-PI Joanna Chiu, Co-PI Vaughn Walton and Co-PI Nik Wiman.

*Phenotypic plasticity of *Drosophila suzukii* in response to seasonal cues*

Contribution: Led and coordinated the conceptualization, grant writing, and submission.

Submitted January 14, 2016. Was not invited for full proposal.

9. 2016-2017 North American Bramble Growers Research Foundation, Lead PI with Co-PI Cassandra Swett.

*Elucidating symbioses between *Drosophila suzukii* and fungal communities for improved insect and disease management in raspberry production*

Hamby: \$2,500 Total: \$5,000

Contribution: Led and coordinated the conceptualization, grant writing, and submission.

Submitted December 16, 2015. Was not funded.

8. 2016 Defense Advanced Research Project Agency (DARPA) Insect Allies, Co-PI, with Lead PI Leslie Pick, Co-PI John Hammond, Co-PI Rose Hammond, Co-PI Caren Chang.

The novel use of conditionally lethal beetle vectors as insect allies to transmit valuable traits to soybean crops via modified comoviruses

Hamby: \$500,000 Total: \$5,157,174

Contribution: Significant contributions to grant writing and conceptualization of objectives in pre-proposal and invited full proposal.

Submitted January 17, 2017. Was not funded.

7. 2016 National Institute of Food and Agriculture – Agriculture and Food Research Initiative (NIFA AFRI) Foundational Program, Lead PI with Co-PI Cassandra Swett, Co-PI Jo Anne Crouch.

*Elucidating symbioses between *Drosophila suzukii* and fungal communities for improved insect and disease management in raspberry production*

Hamby: \$287,706 Total: \$499,897

Contribution: Led the conceptualization, grant writing, submission, and project coordination.

Submitted July 21, 2016. Ranked High Priority. Was not funded.

6. 2016 Defense Advanced Research Project Agency (DARPA) Insect Allies Pre-Proposal, Co-PI, with Lead PI Wendy Peer, Co-PI David O’Brochta, Co-PI Louisa Wu, Co-PI Angus Murphy, Co-PI Nidhi Rawat.

Better Bre(a)d

Hamby: \$430,000 Total: \$12,985,000.

Contribution: Contributions to grant writing and conceptualization of objectives.

Submitted December 6, 2016. Was not invited for full proposal.

5. 2016 Defense Advanced Research Project Agency (DARPA) Young Faculty Award Pre-Proposal, Lead PI with Co-PI Joanna Chiu.

Yeast-delivered RNAi countermeasures for insect pests

Hamby: \$400,000 Total: \$500,000

Contribution: Led the conceptualization, grant writing, submission, and project coordination.

Submitted November 1, 2016. Was not invited for full proposal.

4. 2016 National Institute of Food and Agriculture – Agriculture and Food Research Initiative (NIFA AFRI) Food Security, Lead PI with Co-PI David Hawthorne, Co-PI Dennis vanEngelsdorp, Co-PI Stephan Tubene.

Monitoring, tracking, and mitigating comb wax contamination to reduce managed honey bee colony losses

Hamby: \$236,764 Total: \$998,611

Contribution: Led grant writing, conceptualization of objectives, and coordinated submission.

Submitted July 7, 2016. Ranked Medium Priority. Was not funded

3. 2015 National Science Foundation – Integrative Organismal Systems (NSF IOS) Full Proposal, Lead PI with Co-PI Joanna Chiu, Co-PI Peter Shearer, Co-PI Vaughn Walton and Co-PI Nik Wiman.

*Phenotypic plasticity of *Drosophila suzukii* in response to seasonal cues*

Hamby: \$408,788 Total: \$1,189,723

Contribution: Led and coordinated the conceptualization, grant writing, and submission.

Submitted August 8, 2015. Ranked Medium. Was not funded.

2. 2015 National Institute of Food and Agriculture – Agriculture and Food Research Initiative (NIFA AFRI) Foundational, Lead PI with Co-PI Cassandra Swett.

*Elucidating symbioses between spotted wing drosophila, *Drosophila suzukii*, and fungal communities for improved insect and disease management in raspberry production*

Hamby: \$250,000 Total: \$500,000

Contribution: Led and coordinated the conceptualization, grant writing, and submission.

Submitted April 10, 2015. Ranked High Priority. Was not funded.

1. 2015 Eastern Apicultural Society, Lead PI with Co-PI Galen Dively.

The impact of the repeated use of neonicotinoid insecticide treated seed in grain crop rotations on non-target invertebrates including pollinators

Hamby: \$7,000 Total: \$7,000

Contribution: Led and coordinated the conceptualization, grant writing, and submission.

Submitted April 1, 2015. Ranked High Priority. Was not funded.

Training

3. 2017 National Institute of Food and Agriculture – Organic Agriculture Research and Extension Initiative (NIFA OREI), Co-PI, with Lead PI Cerruti RR Hooks, Co-PI Alan Leslie[^], Co-PI Shirley Micallef, Co-PI Shannon Dill, Co-PI Stephan Tubene, Co-PI Simon Zebelo, Co-PI Paula Shrewsbury, Co-PI William Phillips, Co-PI Raymond Weil, Co-PI Megan Fritz, Co-PI Sara Via, Co-PI Dennis vanEngelsdorp, co-PI Dave Hawthorne, and co-PI Cynthia Wei.

Developing an undergraduate curriculum in organic agriculture at the University of Maryland

Hamby: \$2,000

Total: \$250,000.

Contribution: Significant contributions to grant writing and conceptualization of objectives.

Submitted January 19, 2017. Ranked Medium Priority. Was not funded.

2. 2016 National Institute of Food and Agriculture – Research and Extension Experiences for Undergraduates (NIFA REEU), Co-PI with Lead PI Cerruti Hooks, Co-PI Andrei Alyokhin, Co-PI Donna Ellis, Co-PI Rubella Goswami, Co-PI George Hamilton, Co-PI Ann Hazelrigg, Co-PI Ana Legrand, Co-PI Hilary Sandler, Co-PI Simon Zebelo, Co-PI Steve Young.

An undergraduate Integrated Pest Management (IPM) training program for the northeast

Hamby: \$22,290 Total: \$300,000.

Contribution: Significant contributions to grant writing and conceptualization of objectives.

Submitted March 24, 2016. Was not funded.

1. 2015 National Institute of Food and Agriculture – Education and Literacy Initiative (NIFA ELI), Co-PI with Lead PI Cerruti Hooks, Co-PI Richard Casagrande, Co-PI Rakesh Chandran, Co-PI Jim Dill, Co-PI Alan Eaton, Co-PI Donna Ellis, Co-PI Jennifer Grant, Co-PI George Hamilton, Co-PI Ann Hazelrigg, Co-PI Ed Rajotte, Co-PI Hilary Sandler, Co-PI Joanne Whalen, Co-PI Steve Young.

An undergraduate Integrated Pest Management (IPM) training program for the northeast

Hamby: \$22,620 Total: \$300,000.

Contribution: Significant contributions to grant writing and conceptualization of objectives.

Submitted May 1, 2015. Was not funded.

II.K. Gifts, and Funded Research not administered by ORA

II.K.1. Gifts

3. 2020 Syngenta: \$12,000

2. 2018 Syngenta: \$1,500

1. 2017 Vestaron: \$6,000

II.P. Research Fellowships, Prizes and Awards

Awarded during current position:

7. Board of Visitors Junior Faculty Award, University of Maryland College of Computer, Mathematical, and Natural Sciences. 2018.

6. Early Career Professional Extension Award, National Entomological Society of America. 2017.

Awarded prior to current position:

5. John Henry Comstock Graduate Student Award, Pacific Branch Entomological Society of America. 2014.
4. Travel Award, UC Davis. 2012.
3. Travel Award, Pacific Branch Entomological Society of America. 2012.
2. Lillian and Alex Feir Graduate Student Travel Award in Insect Physiology, Biochemistry, or Molecular Biology, Pacific Branch Entomological Society of America. 2011.
1. National Science Foundation Graduate Research Fellowship (NSF GRFP). 2011-2014.

III. Teaching, Extension, Mentoring, and Advising

III.A. Courses Taught

Courses taught during current position:

7. **ENTM798B**. 1 credit. Writing: The myth of the big chunk of time (6 students), University of Maryland College Park. Spring 2020.
6. **ENTM609**. 4 credits. Integrated Pest Management (10 students), University of Maryland, College Park. Spring 2019.
5. **ENTM798B**. 1 credit. Writing: The myth of the big chunk of time (6 students), University of Maryland College Park. Spring 2018.
4. **ENTM798B**. 1 credit. Writing: The myth of the big chunk of time (12 students), University of Maryland College Park. Spring 2017.
3. **ENTM609**. 4 credits. Integrated Pest Management (10 students), University of Maryland, College Park. Spring 2016.
2. **ENTM788C**. 1 credit. Department of Entomology Colloquium (18 students), University of Maryland, College Park. Spring 2015.

Courses taught prior to current position:

1. **ENT 110**. 5 units. Arthropod Pest Management (about 40 students), University of California, Davis. Winter 2014.

Guest lectures taught during current position:

5. PLSC405/PLSC605. Agroecology. Guest lecture on Integrated Pest Management (~8 students), University of Maryland College Park, October 6, 2020
4. PLSC405/PLSC605. Agroecology. Guest lecture on Integrated Pest Management (~15 students), University of Maryland College Park, October 8, 2019
3. PLSC405/PLSC605. Agroecology. Guest lecture on Integrated Pest Management and Plant Insect Interactions (~15 students), University of Maryland College Park, September 28, 2017
2. PLSC405/PLSC605. Agroecology. Guest lecture on Integrated Pest Management and Plant Insect Interactions (~15 students), University of Maryland College Park, October 6, 2016
1. BSCI279C/BSCI279H. Catalyst Seminar. Guest lecture on research program (~45 students), University of Maryland College Park, March 23, 2015

III.B.5. Instructional Workshops and Seminars Established

2. Science Writing Workshop. 1.5 day interactive workshop. Invited Josh Schimel author of "Writing science: how to write papers that get cited and proposals that get funded" and obtained funding from UMD Department of Entomology and SESYNC for his workshop and visit. (~20 attendees). January 31-February 1, 2017
1. Introduction to POGIL, Process Oriented Guided Inquiry Learning. 1 hr interactive seminar. Invited POGIL facilitator Laura Lavine from Washington State University and advertised the seminar campus wide. (~30 attendees). February 20, 2015

III.B.6. Course or Curriculum Development

2. **ENTM609**. 4 u. Integrated Pest Management, University of Maryland, College Park. Revived an old course number and based this course from previous content I taught, with significant updates and changes in teaching practices.
1. **ENTM798B**. 1 u. Writing: The myth of the big chunk of time, University of Maryland College Park. Developed this course with 50% of the content and exercises sourced from Schimel, J. "Writing Science: How to write papers that get cited and proposals that get funded." The remainder I integrated from other resources or developed myself. I developed all assignments, slide sets, and lecture materials.

III.C. Advising: Research or Clinical

III.C.1. Undergraduate

Undergraduate honors advising during current position:

6. Madison Tewey (ENTM Honors Thesis, Expected graduation Spring 2021) Research project: Can crop sterilants control yeasts?
5. Lyra Morina (CBMG Honors Thesis, Committee Member, Graduated Spring 2019) Research project: Effect of *Wolbachia* on *Culex pipiens pipiens* and *Culex pipiens molestus* bioforms
4. Max O'Grady (ENTM Honors Thesis, Co-Advised with Dennis vanEngelsdorp, Graduated Spring 2019) Research project: Examining factors that influence wax production in honey bees
3. Meg Wickless (ENTM Honors Thesis, Co-Advised with Dennis vanEngelsdorp, Graduated Spring 2018) Research project: The effects of fluvalinate on *Apis mellifera* learning and memory when exposed after emergence
2. Anthony Zhao (ENTM Honors Thesis, Committee Member, Graduated 2017) Research project: Toward a tier 1 test of oral toxicity for non-target aquatic insects: *Pycnopsyche* caddisfly response to a biopolymer-encapsulated insecticide
1. Sadia Naseem (ENTM Honors Thesis, Committee Member, Graduated 2016) Research project: Salivary gland presence and horizontal transmission of brown marmorated stink bug symbiont, *Pantoea carbekii*

Undergraduate research internships during current position:

30. Emma Kohanski (Summer 2020) Research project: Contributed to on-going IPM research
29. Elizabeth Engle (2020-present) Research project: Contributing to on-going IPM research
28. Luz Villanueva (2019-present) Research project: Contributing to on-going IPM research
27. Fiona Siu (2019-present) Research project: Contributing to on-going IPM research
26. Patrick McNamara (2019-present) Research project: Ecology and management of *Dectes* stem borer, applied for graduate school in 2020

25. Hiral Patel (2019-present) Research project: Contributing to on-going IPM research
24. Eric Crandell (2019-2020) Research project: Contributed to on-going IPM research, applied for graduate school in 2020
23. Sophia Barringer (2019-present) Research project: Contributing to on-going IPM research, applied for graduate school in 2020
22. Madison Tewey (2019-2020) Research project: Contributing to on-going IPM research
21. Sophia Heitzig (2018-present) Research project: Contributing to on-going IPM research, moved on to University of Maryland School of Dentistry
20. Rachel Sanford (2018-2019) Research project: Contributing to on-going IPM research
19. Gabriel Mesole (Aborisade) (2018-2019) Research project: Contributed to on-going IPM research, moved on to graduate school at University of Massachusetts, Amherst
18. Gi Kim (2018-2019) Research project: Contributed to on-going IPM research, planning to applied for dental school in 2020
17. Nadya Chehab (2018-2018) Research project: Contributed to on-going IPM research, applied for graduate school in 2020
16. Nurani Illahi (2018-2019) Research project: Contributed to on-going IPM research, moved on to be a research technician in Entomology at the University of Maryland (Lamp lab)
15. Amira Elzaree (2018-2018) Research project: Contributed to on-going IPM research, continued undergraduate studies
14. Daniel Annitsakis (2017-2017) Research project: Yield loss caused by *Dectes* stem borer, moved on to graduate school in Epidemiology at Georgetown
13. Pranish Katwal (2017-2017) Research project: Contributed to on-going IPM research, continued undergraduate studies
12. Alyssa Truong (2017-2017) Research project: Contributed to on-going IPM research, continued undergraduate studies
11. Robert Starkenburg (2017-2019) Research project: Contributed to on-going IPM research, moved on to position with the Fritz lab, applied for graduate school in 2020
10. Elizabeth Hines (2016-2016) Research project: Yeast impacts on *Drosophila suzukii* fitness, moved on to Veterinary school
9. Jessica Van Horn (2016-2016) Research project: Pathogens of *Drosophila suzukii*, moved on to graduate school in Epidemiology at Towson
8. Adrienne Beerman (2016-2016) Research project: *Drosophila suzukii* larval yeast preference, moved on to medical school
7. Claire Weber (2016-2016) Research project: Mapping field plots, continued graduate school
6. Melissa Naugle (2015-2015) Research project: *Drosophila suzukii* larval yeast preference, moved on to graduate school at California State University Monterey Bay
5. Shulamit Shroder (2015-2015) Research project: *Drosophila suzukii* larval yeast preference, moved on to Peace Corps in Senegal then to Extension position with University of California in Kern County, applied for graduate school in 2020
4. Jackie Forester (2015-2015) Research project: Contributed to on-going IPM research, continued undergraduate studies

3. Nigel Swenson (2015-2015) Research project: Yeast associations of strawberry sap beetles, went on to apply for graduate school
2. William Boudhrea (2015-2015) SESYNC Intern, Research project: Yeast associations of strawberry sap beetles, continued undergraduate studies, went on to apply for graduate school
1. Kaitlyn Walker (2015-2015) Research project: Yeast associations of strawberry sap beetles, went on to other employment in science

Undergraduate research internships prior to current position:

6. Helen Nguyen (2013-2014) Research project: Contributed to on-going IPM research, went on to medical school
5. Mitchell Bamford (2013-2014) Research project: Contributed to on-going IPM research, went on to graduate school
4. Daren Harris (2012-2013) Research project: Seasonal trapping of *Drosophila suzukii* (Diptera: Drosophilidae) in a multi-crop setting, University of California, Davis, Department of Entomology
3. Doris Yu (2011-2012) Senior thesis: Host status and fruit odor response of *Drosophila suzukii* (Diptera: Drosophilidae) to figs and mulberries, University of California, Davis, Department of Animal Biology, moved on to employment at California Department of Food and Agriculture
2. Heather Wilson (2010-2012) Research project: Host susceptibility of 'French Prune' *Prunus domestica* to *Drosophila suzukii* (Diptera: Drosophilidae), University of California, Davis, Department of Biological Sciences, moved on to employment as a research technician at University of Georgia
1. Samuel Fahrner (2010-2010) Research project: Contributed to on-going IPM research, went on to graduate school in Entomology at University of Minnesota

Research technician advising during current position:

7. Andrea Brown (Research Technician, Summer 2020-present) Research project: Developing cultural control tactics for spotted wing drosophila management in small fruits
6. Rachel Sanford (Research Technician, Summer 2019-present) Research project: Genomic monitoring approaches for improving insect resistance risk assessment and management in transgenic crops
5. Maria Cramer (Research Technician, Fall 2018-Summer 2019) Research project: Economic benefits and non-target effects of pyrethroid use in field corn, moved on to Entomology graduate school at University of Maryland (my lab)
4. Logan Miller (Research Technician, Spring 2017-Summer 2019) Research project: Interactions between *Drosophila suzukii* and fruit rot fungi
3. Joshua Yeroshefsky (Research Technician (50% Hamby, 50% Fritz, Spring 2017-Spring 2020) Research project: Bt resistance in *Helicoverpa zea*, moved on to full time position at Vigene Biosciences
2. Arielle Arsenault-Benoit (Research Technician, Spring 2017-Summer 2018) Research project: Developing cultural control tactics for spotted wing drosophila management in small fruits, moved on to Entomology graduate school at University of Maryland (Fritz lab)

1. Margaret Lewis (Research Technician, Spring 2015-Fall 2016) Research project: Investigating spotted-wing drosophila interactions with fungi, moved on to Entomology graduate school at University of Maryland (my lab)

III.C.2. Master's

International Master's Research Advising:

1. Anna Alesho (M.S. Wageningen University, The Netherlands, Minor Thesis Completed Summer 2018) Research project: The impact of widely adopted insect pest management technologies on insect communities in Maryland field corn

Committee Member:

5. Margaret Hartman (ENTM, Fall 2019-present) Research project: Contribution of adult Odonata to pest suppression in agroecosystems

4. Meghan McConnell (ENTM, Fall 2015, took a position as DE state apiarist in 2018) Research project: Hive disturbance to control varroa mite

3. Morgan Thompson (ENTM, Graduated 2019) Research project: Evaluating the effect of potato leafhopper feeding on biological nitrogen fixation of alfalfa

2. Jacqueline Hoban (ENTM, Graduated 2017) Research project: Biological control of the emerald ash borer

1. Cody Kepner (PSLA, Graduated 2016) Research project: Survey of vineyard pathogens and potential vectors

III.C.3. Doctoral

Major Advisor:

3. Maria Cramer (ENTM PhD, Fall 2019-Spring 2023) Research project: Impacts of pyrethroids on beneficial insects

2020-2021 Gahan Fellowship (\$12,232)

2019-2020 Gahan Fellowship (\$12,110)

2019-2020 College of Math and Natural Sciences Dean's Fellowship Award (\$5,000)

2. Margaret Lewis (ENTM PhD, Spring 2017- Spring 2021) Research project: Spotted wing drosophila interactions with fungi and optimizing insecticide carrier water volumes in bramble crops

Achievements:

1st in Ph.D. student presentation competition at 2021 Eastern Branch ESA

2020 Northeast IPM Center Outstanding Achievements in IPM Award (\$500)

Fall 2020 College of Math and Natural Sciences Dean's Fellowship Award (\$2,500)

2020-2021 UMD Graduate School's Ann G. Wylie Dissertation Fellowship (\$15,000)

2020-2021 Maryland Agricultural Experiment Station (MAES) grant (\$29,994)

Charlie Mitter Travel Award (\$250)

2nd in Biological Sciences section of campus Graduate Research Appreciation Day 2019

Linnaean Games team member

Entomology Student Organization officer (Treasurer)

Gahan Fellowship (\$12,000)

Invited talk at National American Chemical Society Meeting August 2019

1st in Ph.D. student presentation competition at 2019 Eastern Branch ESA

Invited talk at National American Chemical Society Meeting August 2018

Northeast Sustainable Agriculture Research and Education Graduate Student (\$14,994)

2017-2018 Maryland State Horticultural Society Grant (\$2,000)
Invited talk at National American Chemical Society Meeting August 2017
2016-2017 Maryland State Horticultural Society Grant (\$2,250)
2016 Maryland Specialty Crop Block Grant (\$30,640)
2017-2018 Maryland State Horticultural Society Grant (\$1,500)

1. Aditi Dubey (ENTM PhD, Fall 2015- Fall 2020) Research project: Economic benefits and long term sustainability of neonicotinoid seed treatment usage in the mid-Atlantic, currently employed in Hamby lab

Achievements:

Graduate Science Policy at UMD (President and co-founder)
UMD Entomology Teaching Achievement Award
2019 National ESA Science Policy Fellow
Invited keynote to Entomological Society of Washington
College of Math and Natural Sciences Merit Award (\$2,500)
Outstanding Graduate Student Assembly Member 2019
UMD Goldhaber travel award (\$400)
UMD International conference student support award (\$400)
UMD student government representative
Editor of Maryland Entomological Society newsletter
Captain of the Linnaean Games team
Entomology Student Organization officer (VP and President)
Eastern Branch ESA Student Affairs Committee
1st place in Ph.D. student presentation competition at 2016 International Congress of Entomology
Northeast Sustainable Agriculture Research and Education Graduate Student (\$14,979)
3rd place in Ph.D. student oral competition at 2017 Eastern Branch ESA

Committee Member:

6. Dongxu Chen (ENTM, Anticipated Graduation Spring 2023) Research project: Characterizing potential target site and metabolic resistance mechanisms of *Leptinotarsa decemlineata* to neonicotinoid and pyrethroid insecticides
5. Mintong (Mike) Nan (ENTM, Anticipated Graduation Spring 2022) Research project: Effects of *Drosophila* circadian rhythms on *Metarhizium* infections
4. Brian Lovett (ENTM, Graduated Fall 2019) Research project: Unraveling *Metarhizium* interactions with insects, plants, and microbes
3. Kelly Kulhanek (ENTM, Graduated Spring 2020) Research project: Refining and promoting best management practices for US beekeepers
2. Jonathan Wang (ENTM, Graduated Spring 2021) Research project: Susceptibility of *Drosophila melanogaster* to *Metarhizium*
1. Ryan Gott (ENTM, Committee Member, Graduated 2016) Research project: Transcriptome and development of molecular biomarkers of stress response in *Hyalella azteca*

III.C.4. Post-doctoral

Post-doctoral Advising:

4. Edwin Afful (Fall 2018-Fall 2019) Research project: Optimizing insecticide use in grain crops

3. Torsten Schöneberg (Fall 2018-present) Research project: Improving management of spotted wing drosophila through cultural controls and by understanding fungal interactions
2. Alan Leslie (Spring 2017-Fall 2018, Primary Advisor: Cerruti Hooks, I collaborated and advised for this project) Research projects: Developing a management program from the Dectes stem borer (*Dectes texanus*) by finding and targeting its weak links and grain insect pest management
1. Christopher Taylor (Spring 2016-Spring 2017) Research project: Developing cultural control tactics for spotted wing drosophila management in small fruits, moved on to Home Paramount Pest Control

III.C.5. Other Directed Research

K-12 Interactions

1. Abby Alilio (Fall 2020) Research project: Pink spotted lady beetle preferences for different species of aphid, Eleanor Roosevelt Hight School Research Practicum

III.F. Extension and Professional Education

III.F.1. Extension Programs Established

Contributing to UMD's land grant mission, I work to improve agricultural sustainability and productivity using the Integrated Pest Management (IPM) paradigm. I have developed a highly impactful and seamlessly integrated research and extension program that improves our fundamental understanding of insect pest biology and addresses local, regional, and national stakeholder needs. I have continued my prior work with spotted-wing drosophila because it is the key arthropod pest of U.S. small fruits, and particularly challenges Maryland producers. I have also initiated work to enable corn, wheat and soybean producers to adopt sustainable best management practices for arthropod pests. My program aligns with my role as the state of Maryland's IPM Coordinator, which includes 1) ensuring the diverse needs of Maryland stakeholders are met, 2) preparing next generation professionals for careers in IPM and related fields through teaching and mentorship, and 3) developing interdisciplinary collaborations that create innovative IPM solutions.

III.F.2. Major Extension Programs

Maryland State IPM Coordinator:

Since fall 2017, I have represented MD as our state IPM coordinator, and I provide IPM leadership at a national, regional, and local scale. I participate in the National IPM Coordinating Committee annual meeting, served on the advisory panel for the Northeast IPM Center (NEIPMC) from 2017 through 2020, represent Maryland at IPM meetings, am the point of contact for IPM-related research and extension issues, and served on the search committee for the NEIPMC director. I am a member the Northeast region technical committee on IPM and organized and hosted a two-day joint meeting with the NEIPMC at UMD in May 2019.

Small Fruit Sustainable Insect Pest Management:

Situation/Objectives

Since its initial U.S. invasion in 2008, spotted wing drosophila (SWD, *Drosophila suzukii*) has devastated soft skinned fruit production. U.S. losses due to SWD have been valued at up to \$718 million annually. Maryland stakeholders (~8) participated in the 2014 SWD Impacts survey reporting SWD damage to raspberry, blueberry, cherry, grape, and blackberry crops (see Eastern US SWD Economic Impacts, eFly Working Group 2014). Reported losses ranged from 6% in

blueberries to 63% in raspberries, with a total estimated economic loss of ~\$982,000 in berry crops. More recently, of 105 Maryland blueberry growers surveyed during fruit extension meetings (2016-2019), 18% reported SWD as their most problematic insect pest. Similarly, 32% of the 101 bramble growers surveyed indicated that SWD was their most problematic insect pest.

MD small fruit producers manage diversified small farms, where multiple susceptible crops and cultivars are grown for local fresh markets, with many pick-your-own operations. Labor is short and attention is split between the many crops that are grown. After interviewing multiple MD diversified fruit producers and extension specialists, it became clear that it was necessary to determine the appropriate carrier volume and sprayer settings for adequate spray coverage to manage SWD in brambles. Many producers indicated that they could not reach recommend spray volumes due to the increased time necessary for spraying. To develop stronger relationships with producers and demonstrate the importance of spray coverage, my lab is performing on-farm spray coverage research (see extension publications). In addition, many Maryland operations avoid using insecticides and need alternative control options. To this end, co-lead the SWD cultural controls sub-objective on a USDA-OREI funded multi-state project (recently renewed). We are evaluating pruning, trellising, and mulching strategies to reduce in-crop habitat favorability for SWD, with the goal of developing new management tactics. To increase the visibility of this research, I am performing it on-farm with organic producers and at research farms where it can be shared at field days.

Impact

Stakeholder responses to information shared at 9 events from 2015-2019, were evaluated with surveys at each event. Eighty-two percent of 225 respondents expected the information shared to benefit their operations. Half (50%) of 85 respondents planned to change production practices as a result of my information. Further, 74% of 227 respondents planned to share what they learned with other growers.

Agronomy Sustainable Insect Pest Management:

Situation/Objectives

In 2016, roughly 15.5% of MD's total land area was planted in corn and soybeans (980,000 acres). Grain producers' adoption of genetic engineering (GE) insect pest management technologies (expressing insecticidal proteins derived from *Bacillus thuringiensis* bacteria, or Bt) has increased, resulting in area wide suppression of key pests of corn and soybeans. Indeed, 24% of respondents (n = 151) indicated there were no problematic arthropod pests of field corn and 18% (n = 166) indicated there were no problematic arthropod pests of soybean in 2016-2019 needs assessment surveys. Despite declining pest populations, increasing concerns with insecticide resistance and field failures of these technologies necessitate monitoring programs and early warning systems to protect stakeholders from unexpected losses. In collaboration with county-based extension faculty, my lab has been working to monitor pest populations and understand Bt resistance in *Helicoverpa zea* (corn earworm).

Emerging and invasive species [e.g., Old World bollworm (*Helicoverpa armigera*), sugarcane aphid (*Melanaphis sacchari*)] and pests associated with no-till production [e.g., slugs and *Dectes* stem borer (*Dectes texanus*)] also present barriers to MD grain profitability. In 2016, I attended a *Dectes* stem borer meeting that was held with soybean producers and extension faculty (21 attendees) to develop applied research projects for this pest. As a result of this meeting, I am participating in on-farm collaborative research projects to evaluate *Dectes* stem borer prevalence and damage. My extension work also addresses emerging and invasive species that threaten MD grain crops.

Neonicotinoid insecticide seed treatments are increasingly adopted in soybeans, and virtually all corn seed comes pre-treated with neonicotinoids. Widescale evaluation of pest complexes and pressure have not been performed recently in MD; however, declines in pest pressure at UMD research farms, seed costs, and grain prices indicate that this practice may not be economically justifiable. Using funds provided by the Maryland Soybean Board and Maryland Grain Producers Utilization Board, my lab recently concluded a 3-year project to evaluate the pest suppression, yield benefits, and non-target impacts of neonicotinoid seed treatment use in MD grain crops. We detected low pest pressure and no yield benefit due to these insecticides throughout the study; however, the non-target arthropod community was occasionally impacted (see example extension publications). In addition to neonicotinoid insecticides, pyrethroid insecticides may also be overused. Their affordability encourages prophylactic treatments, and my lab is currently evaluating the pest suppression benefits and non-target impacts of pyrethroids.

Impact

Stakeholder feedback (6 events from 2016-2019) at agronomy winter meetings indicates that 85% find my extension information to be of benefit (n = 192) and 54% plan to change their practices based on my extension information (n = 181). Further, 79% (n = 150) will share my information with others.

III.F.7. Extension Presentations

Since starting at UMD, myself and my lab members (1st author = presenter) provided 3 international, 5 national, 12 regional, and 77 local invited extension presentations reaching 6,996 people. In total, I have provided, 4 international, 8 national, 12 regional, and 88 local extension presentations reaching 7,641 people.

International (120 people):

Completed during current position:

4. **Hamby, K.A.** *Symposium: From Researcher to Stakeholder: Using Extension to Cross Borders in a Changing World: Crossing borders: Lessons learned building relationships as a new extension specialist.* 2018 Joint Meeting of the Entomological Society of America, Entomological Society of Canada, and Entomological Society of British Columbia, Vancouver, Canada (65 people)
3. **Hamby, K.A., et al.** Informal Spotted Wing Working Group. Monitoring SWD: challenges and future tools. Canadian Berry Crop Researchers and Extension Specialist Web Meeting 2016 (~15 people)
2. **Hamby, K.A., et al.** Developing a PCR diagnostic for all life stages of *Drosophila suzukii*. Delegation from Chinese Academy of Agricultural Sciences, April 8, 2015, College Park, MD (~25 people)

Completed prior to current position:

1. **Hamby, K.A., et al.** Informal Spotted Wing Working Group. SWD in California: Seasonal trapping, molecular resistance monitoring, and chemoreception. Canadian Berry Crop Researchers and Extension Specialist Web Meeting 2015 (~15 people)

National (609 people):

Completed during current position:

8. Hamby, K.A., et al. Organic management of spotted wing drosophila (cultural controls section), SWD OREI Project Webinar March 4, 2020 (177 people)
7. **Hamby, K.A.**, et al. OREI Objective 2.1 Canopy management. SWD OREI Project Stakeholder Advisory Meeting, March 11, 2019, Atlanta, GA, USA (~25 people)
6. Swett, C.L. and **Hamby, K.A.** Mold mayhem in mid-Atlantic fall raspberries: Previously unrecognized fruit rots, effects of SWD on fruit rot outbreaks, and significance to management. North American Bramble Growers Association Annual Meeting 2016, Williamsburg, VA, USA (~200 people)
5. **Hamby, K.A.**, et al. OREI Objective 2.2 Evaluate SWD use of the soil-interface and the effect of mulches on habitat favorability. SWD OREI Project Stakeholder Advisory Meeting, March 7, 2016, Atlanta, GA, USA (27 people)
4. **Hamby, K.A.**, et al. Biology summary: *Drosophila suzukii* life history and development. OREI Planning Grant Meeting. Oct. 14, 2014, Atlanta, GA, USA (~50 people)

Completed prior to current position:

3. **Hamby, K.A.**, Seminar. IPM- opportunities for integration. 2014 North Central Research Outreach Center, University of Minnesota, Grand Rapids, MN, USA (~30 people)
2. **Hamby, K.A.**, et al. Objective 1 Summary. WERA1021(Spotted Wing Working Group): Spotted Wing Drosophila Biology, Ecology, and Management. Nov. 14, 2013, Austin, TX, USA (~50 people)
1. **Hamby, K.A.**, et al. SCRI Objective 2.4: Determine propensity for insecticide resistance development in SWD. USDA-NIFA SCRI Stakeholder Meeting, Nov. 5, 2013, Portland, OR, USA (~50 people)

Regional (959 people):

Completed during current position:

12. **Hamby, K.A.** Small fruit session: A review of raspberry and blackberry insects and mites, 2019 Mid-Atlantic Fruit and Vegetable Convention, Hershey, PA, USA (~170 people)
11. **Hamby, K.A.** Small fruit session: What's new in SWD management? 2018 Mid-Atlantic Fruit and Vegetable Convention, Hershey, PA, USA (~100 people)
10. Lewis, M. [#], Arsenault-Benoit, A. [@], and **K. Hamby**. Advancing chemical management and cultural controls for spotted wing drosophila. Mt. Top Fruit and Vegetable Conference, December 19, 2017, Accident, MD, USA (~25 people)
9. **Hamby, K.A.** Small fruit session: Updates on spotted-wing drosophila management for diversified small fruit farms. 2017 New Jersey Agricultural Convention and Trade Show, Atlantic City, NJ, USA (40 people)
8. Leslie, A.W., **Hamby, K.A.**, and C.R.R. Hooks. A push-pull method for the control of Mexican bean beetle in lima beans. 2016 Northeastern plant, pest, and soils conference, Philadelphia, PA, USA (~40 people)
7. **Hamby, K.A.** 2 sessions: Using insecticide seed treatments in agronomic crops. 2016 Mid-Atlantic Crop Management School, Ocean City, MD, USA (95 people)
6. Leslie, A.W., **Hamby, K.A.**, and C.R.R. Hooks. Multitasking marigold to strengthen organic IPM in lima bean and other bean crops. 2015 Mid-Atlantic Vegetable and Small Fruit Workers Conference. Newark, DE, USA (24 people)

5. Leslie, A.W., **Hamby, K.A.**, and C.R.R. Hooks. Multitasking marigold to strengthen organic IPM in lima bean and other bean crops. 2015 First Annual Integrated Pest Management (IPM) Online Conference Northeastern IPM Center (~100 participants)
4. **Hamby, K.A.** Hamby agronomy program, Eastern Shore of Maryland/Delaware Ag Extension-Share Your Program Forum, November 23, 2015, Denton, MD, USA (18 people)
3. **Hamby, K.A.** IPM of cucumber beetles. 2015 Fall Country Side Produce Auction Vegetable Meeting, November 11, 2015, Springs, PA, USA (165 people)
2. **Hamby, K.A.** Heading towards an IPM program for spotted wing drosophila. 2015 Fall Country Side Produce Auction Vegetable Meeting, November 11, 2015, Springs, PA, USA (165 people)
1. **Hamby, K.A.** Controlling SWD and other insects in small fruits. Appalachia Grows: Beginning & Small Farm Conference for Ag-Entrepreneurs, Jan. 24, 2015, Frostburg, MD, USA (~17 people)

Local (5,953 people):

Completed during current position:

88. **Hamby, K.** Insect updates, Virtual 2021 Bay area fruit meeting, February 10, 2021 (~50 people)
87. **Hamby, K.** Diagnosing insect damage and periodical cicadas, Virtual 2021 commercial pesticide conferences, February 2, 2021 (~230 people)
86. Lewis, M. #, and **K. Hamby.** Small fruit insect pest management updates, 2020 Bay area fruit meeting, February 21, 2020, Queenstown, MD, USA (~35 people)
85. **Hamby, K.** Field corn insect management, Caroline county agronomy meeting, February 19, 2020, Denton, MD, USA (105 people)
84. Dubey, A. #, Lewis, M. #, Dively, G., and **K. Hamby.** Neonicotinoid seed treatments in Maryland grain crops. Harford county mid-winter agronomy meeting, February 11, 2020, College Park, MD, USA (~75 people)
83. Dubey, A. #, Lewis, M. #, Dively, G., and **K. Hamby.** Neonicotinoid seed treatments in Maryland grain crops. Cecil county winter agronomy meeting, January 29, 2020, Street, MD, USA (~40 people)
82. Dubey, A. #, Lewis, M. #, Cramer, M. @, Afful, E. ^, Dively, G., and **K. Hamby.** Neonicotinoid seed treatments in Maryland grain crops. Ag agents in-service, December 13, 2019, College Park, MD, USA (~50 people)
81. Leslie, A. ^, Afful, E. ^, Dively, G., and **K. Hamby.** Pyrethroid use in field corn. Calvert County pesticide safety education meeting, December 5, 2019, Prince Frederick, MD, USA (12 people)
80. Hamby, K. Insect pest pressure and what it means for pest management in sweet corn. WyeREC late summer horticultural crops twilight meeting, September 17, 2019, Queenstown, MD, USA (30 people)
79. Lewis, M. #, and **K. Hamby.** Does spray coverage impact spotted-wing drosophila management? WMREC horticultural twilight meeting and tour, August 15, 2019, Keedysville, MD, USA (63 people)
78. Dubey, A. #, Dively, G., and **K. Hamby.** When do neonicotinoid seed treatments pay off for

- Maryland grain crops? Upper Marlboro crops research twilight tour, August 7, 2019, Upper Marlboro, MD, USA (81 people)
77. Afful, E.[#], **Hamby, K.**, and G. Dively. Does planting green affect slug damage? Upper Marlboro crops research twilight tour, August 7, 2019, Upper Marlboro, MD, USA (81 people)
76. Lewis, M.[#], and **K. Hamby**. Does spray coverage impact spotted-wing drosophila management? Upper Marlboro crops research twilight tour, August 7, 2019, Upper Marlboro, MD, USA (81 people)
75. **Hamby, K.**, and M. Cramer[@]. Insect pests of strawberry. Strawberry twilight tour, May 22, 2019, Queenstown, MD, USA (~ 50 people)
74. **Hamby, K.**, and M. Cramer[@]. Insect pests of strawberry. Small fruit tour, May 22, 2019, Waldorf and Owings, MD, USA (~ 35 people)
73. Leslie, A.W.[^], and **K.A. Hamby**. Insect pests of grain crops. Beltsville Agricultural Research Center Pesticide Recertification, March 20, 2019, Beltsville, MD, USA (30 people)
72. **Hamby, K.A.** Field corn insect pest management, Montgomery, Howard, and Fredrick County Agronomy Update, February 27, 2019, Urbana, MD, USA (93 people)
71. Lewis, M.[#], and **K. Hamby**. Spotted lanternfly update and spotted wing drosophila's interactions with fungi. Bay area fruit meeting, February 22, 2019, Queenstown, MD, USA (~ 50 people)
70. **Hamby, K.A.** Invertebrate pests of strawberries, Western Maryland Regional Fruit Meeting, February 14, 2019, Keedysville, MD, USA (62 people)
69. Leslie, A.W.[^], and **K.A. Hamby**. Insect pests of grain crops. 2019 Lower Eastern Shore Agronomy Day, January 30, 2019, Princess Ann, MD, USA (120 people)
68. Leslie, A. W.[^], Hooks, C.R.R., **Hamby, K.A.**, and E. Zobel. Research update on *dectes* stem borer, a pest of soybeans. 2019 Carroll County Mid-Winter Meeting, January 17, 2019, Westminster, MD, USA (110 people)
67. **Hamby, K.A.** Pyrethroid insecticide use in field corn, Maryland Grain Producers Utilization Board, January 3, 2019, Grasonville, MD, USA (30 people)
66. **Hamby, K.A.** Pyrethroid insecticide use on corn, Baltimore County Field Crops Day, December 6, 2018, Upperco, MD, USA (120 people)
65. **Hamby, K.A.** UMES/UMD Researcher spotlight: managing spotted-wing drosophila in small fruit crops, 2018 15th Annual Small Farms Conference, Princess Ann, MD, USA (~26 people)
64. **Hamby, K.A.** Organic SWD Management, CMREC Organic Field Day, August 15, 2018, Upper Marlboro, MD, USA (~15 people)
63. **Hamby, K.A.** Corn insect IPM, CMREC Upper Marlboro Crops Twilight Tour, August 8, 2018, Upper Marlboro, MD, USA (105 people)
62. Leslie, A. W.[^], **Hamby, K. A.**, Dively, G., and C.R.R. Hooks. *Dectes* stem borer and stink bugs. 2018 Caroline County Agronomy Meeting. Denton, MD, USA (105 people)
61. Leslie, A.[^], **Hamby, K.**, Dively, G., and C. Hooks. Insect pests of soybeans. Lower Shore Agronomy Day. 2018 Princess Anne, MD, USA (93 people)

60. **Hamby, K.A.** Small fruit insect management, Bay Area Fruit School, February 21, 2018, Queenstown, MD, USA (44 people)
59. Lewis, M. [#], Arsenault-Benoit, A. [@], and **K. Hamby**. SWD research and management updates. Western Maryland Regional Fruit Meeting, February 15, 2018, Keedysville, MD, USA (55 people)
58. **Hamby, K.A.** Insect management in small grains, Eddie Mercer Agri-Services Winter Wheat Clinic, February 7, 2018, New Midway, MD, USA (~35 people)
57. Dubey, A. [#], Dively, G., and **K. Hamby**. Neonicotinoid seed treatments as a tool for protecting winter wheat from cereal aphids. Maryland Grain Producers Utilization Board, January 11, 2018, Grasonville, MD, USA (~30 people)
56. **Hamby, K.A.** Yield gains, target pests managed, and secondary pests associated with pyrethroid insecticide use, Maryland Grain Producers Utilization Board, January 11, 2018, Grasonville, MD, USA (~30 people)
55. **Hamby, K.A.** Insect pest updates, Southern Maryland Crops Dinner, November 28, 2017, Brandywine, MD, USA (130 people)
54. **Hamby, K.A.** Spotted wing drosophila (SWD) update, WMREC Horticultural Crops Twilight Meeting and Tour August 17, 2017, Keedysville, MD, USA (~55 people)
53. **Hamby, K.A.** Spotted wing drosophila in blueberries and bramble crops, WyeREC Fruit Twilight Meeting August 2, 2017, Queenstown, MD, USA (29 people)
52. **Hamby, K.A.** Using Insecticide Seed Treatments in Grain Crops, Maryland Commodity Classic, July 27, 2017, Centreville, MD, USA (~50 people)
51. **Hamby, K.A.** Agronomy and Small Fruit IPM, Agronomy and Horticulture In-Service, June 21, 2017, Ocean City, MD, USA (~40 people)
50. **Hamby, K.A.** Insect and mite pests of small fruit, Master Gardener and Master Naturalist 19th Annual Training Conference, May 25, 2017, College Park, MD, USA (~45 people)
49. **Hamby, K.A.** Impact of repeated use of neonicotinoid treated seed in grain crop rotations on non-target invertebrates and soil microbes, Maryland Soybean Board, February 23, 2017, Denton, MD, USA (~20 people)
48. **Hamby, K.A.** Neonics and Dectes, Caroline County Agronomy Meeting, February 22, 2017, Denton, MD, USA (106 people)
47. **Hamby, K.A.** Slugs, Cutworms, and Other Insect Issues, Montgomery, Howard and Frederick County Agronomy Update, February 22, 2017, Urbana, MD, USA (110 people)
46. **Hamby, K.A.** Current Research on Spotted Wing Drosophila Management in Small Fruits. Bay Area Fruit School, February 17, 2017, Queenstown, MD, USA (71 people)
45. **Hamby, K.A.** Current Research on Spotted Wing Drosophila Management in Small Fruits. Western MD Fruit Meeting, February 16, 2017, Keedysville, MD, USA (63 people)
44. **Hamby, K.A.** Small grain and soybean insect update. Maryland Crop Improvement Association, Jan. 25, 2017, Annapolis, MD, USA (~50 people)
43. **Hamby, K.A.** What do we know about *Dectes* stem borer? Lower Shore Agronomy Day, January 18, 2017, Willards, MD, USA (132 people)
42. **Hamby, K.A.** Using Insecticide Seed Treatments in Agronomic Crops. Northern Maryland Field Crops Day, December 8, 2016, Upperco, MD, USA (~90 people)

41. **Hamby, K.A.** Spotted wing drosophila in small fruits. WyeREC Late Summer Horticultural Crops Twilight Tour, August 24, 2016, Queenstown, MD, USA (~38 people)
40. **Hamby, K.A.** Evaluating the effects of mulching practices in blueberries on spotted wing drosophila survival. WMREC Horticultural Twilight Meeting and Tour, August 18, 2016, Keedysville, MD, USA (81 people)
39. **Hamby, K.A.** Impact of repeated use of neonicotinoid treated seed in grain crop rotations on non-target invertebrates and soil microbes. Maryland Commodity Classic, July 28, 2016, Centreville, MD, USA (~250 people)
38. **Hamby, K.A.** Spotted wing research updates. 2016 Maryland State Horticultural Society Summer Orchard Tour, July 13, 2016, Woodbine, MD, USA (108 people)
37. **Hamby, K.A.** Insect pest update. Agronomy and Horticulture In-Service, June 15, 2016, Ocean City, MD, USA (~30 people)
36. **Hamby, K.A.** Research updates and arthropod pests. Eddie Mercer Agri-Services, Inc. Small Grain Meeting, May 25, 2016, Frederick, MD, USA (85 people)
35. **Hamby, K.A.** Arthropod pests of small grains and research updates. Wye Small Grains Twilight Tour, May 24, 2016, Queenstown, MD, USA (35 people)
34. **Hamby, K.A.** Spotted wing and small fruit insect update. Western Maryland Regional Fruit Meeting, February 25, 2016, Keedysville, MD, USA (63 people)
33. **Hamby, K.A.** Insect pests of brambles and blueberries. 2016 Bay Area Fruit School, February 17, 2016, Queenstown, MD, USA (60 people)
32. **Hamby, K.A.** Slugs, Bt, pollinator labeling issues. Caroline County Agronomy Meeting, February 17, 2016, Denton, MD, USA (120 people)
31. **Hamby, K.A.** Managing SWD and other small fruit insects. Southern Maryland Vegetable and Fruit Meeting, February 11, 2016, Gambrills, MD, USA (52 people)
30. **Hamby, K.A.** Insect tolerance to B.t. and other insecticides and review of slug control products in no-till corn. Carroll County Mid-Winter Meeting, February 5, 2016, Westminster, MD, USA (80 people)
29. **Hamby, K.A.** Insecticide Resistance and New Pesticide Labels to Protect Bees. Denton Maryland Ag Pesticide Conference, February 4, 2016, Denton, MD, USA (150 people)
28. **Hamby, K.A.** Spotted wing drosophila updates in small fruit. Central Maryland Vegetable Growers Meeting, January 29, 2016, Upperco, MD, USA (109 people)
27. **Hamby, K.A.** Neonicotinoid seed treatments in agronomic crops. Maryland Grain Producers Utilization Board Meeting, Jan. 7, 2016, Centreville, MD, USA (~25 people)
26. **Hamby, K.A.** Insect resistance to insecticides and Bt. Northern Maryland Field Crops Day, December 10, 2015, Upperco, MD, USA (80 people)
25. **Hamby, K.A.** Bt sweet corn insect update. WyeREC Late Summer Horticultural Crops Twilight Meeting, September 9, 2015, Queenstown, MD, USA (43 people)
24. **Hamby, K.A.** Spotted wing drosophila. WMREC Horticultural Crops Twilight Meeting, August 19, 2015, Keedysville, MD, USA (72 people)
23. **Hamby, K.A.** SWD troubles in small fruit. CMREC Crops Research Twilight Meeting, August 6, 2015, Upper Marlboro, MD, USA (~60 people)

22. **Hamby, K.A.** Impact of repeated use of neonicotinoid treated seed in grain crop rotations on non-target invertebrates and soil microbes. Maryland Commodity Classic, July 23, 2015, Centreville, MD, USA (~40 people)
21. **Hamby, K.A.** Insect pests of small grains. Wheat Field Day, May 28, 2015, Frederick, MD, USA (125 people)
20. **Hamby, K.A.** Spotted wing drosophila monitoring and management. WyeREC Strawberry Twilight Meeting, May 26, 2015, Queenstown, MD, USA (69 people)
19. **Hamby, K.A.** Spotted wing drosophila. Bay Area Fruit Meeting, Feb. 25, 2015, Queenstown, MD, USA (74 people)
18. **Hamby, K.A.** Spotted wing drosophila and other insect updates. Western Maryland Regional Fruit Meeting, Feb. 19, 2015, Keedysville, MD, USA (62 people)
17. **Hamby, K.A.** Neonicotinoid seed treatments and issues. Maryland/Delaware Ag Pesticide Conference, Feb. 12, 2015, Denton, MD, USA (175 people)
16. **Hamby, K.A.** Spotted wing drosophila and other insect updates. Southern Maryland Vegetable and Fruit Meeting. Feb. 4, 2015, Clements, MD, USA (~55 people)
15. **Hamby, K.A.** Spotted wing drosophila in small fruit. Central Maryland Vegetable Growers Meeting. Jan. 30, 2015, Upperco, MD, USA (~50 people)
14. **Hamby, K.A.** (presenter) Are neonicotinoid seed treatments warranted and sustainable? Dorchester County Agronomy Meeting, Jan. 22, 2015, Wye Mills, MD, USA (~45 people)
13. **Hamby, K.A.** (presenter) Impact of repeated use of neonicotinoid treated seed in grain. Maryland Grain Producers Utilization Board Meeting, Jan. 7, 2015, Grasonville, MD, USA (~25 people)
12. **Hamby, K.A.** (presenter) Introduction and some work with spotted wing drosophila, *Drosophila suzukii*. Maryland Fruit and Vegetable Workers Meeting, Nov. 5, 2014, Newark, DE, USA (~30 people)

Completed prior to current position:

11. **Hamby, K.A.**, (presenter) et al. Identifying *Drosophila suzukii* attractants from preferred fruits and yeast for improved monitoring and management. Sweet Cherry Working Group Meeting, Oct. 31, 2013. (~30 people)
10. **Hamby, K.A.** (presenter) *Drosophila* management for strawberries. California Strawberry Commission Meeting, Apr. 24, 2013. (~30 people)
9. **Hamby, K.A.** (presenter) *Drosophila* management for strawberries. California Strawberry Commission Meeting. Mar. 21, 2013. (~30 people)
8. **Hamby, K.A.**, (presenter) et al. SWD in Watsonville: seasonal trapping, chronotoxicity, and chemoreception. Driscoll's Northern District SWD Research Update and Initiatives for 2013 Meeting, Apr. 15, 2013. (~20 people)
7. **Hamby, K.A.** (presenter) Biology and management of spotted wing drosophila, insights from around the country. UC Cooperative Extension 2013 Annual Caneberry Meeting. Jan. 11, 2013. (~50 people)
6. **Hamby, K.A.** (presenter) Seasonal biology of spotted wing drosophila in California raspberries. Spotted Wing Drosophila Summit Meeting. Dec. 20, 2012. (~30 people)

5. **Hamby, K.A.** (presenter) Biology of spotted wing drosophila. UC Cooperative Extension 2012 Caneberry Entomology Meeting. Sep. 18, 2012. (~50 people)
4. **Hamby, K.A.** (presenter) Interesting side projects: yeast associations and multi crop trapping of *D. suzukii*. UC Cooperative Extension: Biology & Management of Spotted Wing Drosophila and Oriental Fruit Fly in Cherries. Feb. 14, 2012. (~100 people)
3. **Hamby, K.A.** (presenter) Yeast associations of spotted wing drosophila in raspberries. W-504 (Spotted Wing Rapid Response Project): Biology and Management of Spotted Wing Drosophila in Small and Stone Fruits. Nov.10, 2011. (~60 people)
2. **Hamby, K.A.** (presenter) Research in spotted wing drosophila biology. Tehama County Prune Day. Feb. 4, 2011. (~50 people)
1. **Hamby, K.A.** (presenter) Research in spotted wing drosophila biology. UC Cooperative Extension 2011 Annual Caneberry Meeting. Jan. 24, 2011. (~50 people)

IV. Service and Outreach

IV.A. Editorships, Editorial Boards, and Reviewing Activities

IV.A.3. Reviewing Activities for Journals and Presses

Completed during current position:

18. Crop Protection. 2015 (1 review), 2019 (1 review), 2020 (1 review)
17. Ecology and Evolution. 2017 (1 review)
16. Economic Entomology. 2016 (1 review), 2018 (1 review), 2019 (1 review)
15. Environmental Entomology. 2015 (1 review), 2017 (1 review)
14. Entomologia Experimentalis et Applicata. 2014 (1 review)
13. Insect Molecular Biology. 2017 (1 review)
12. Insects. 2018 (1 review)
11. Journal of Agricultural and Food Chemistry. 2016 (1 review)
10. Journal of Applied Ecology. 2016 (1 review)
9. Journal of Applied Entomology. 2014 (1 review), 2015 (2 reviews), 2016 (2 review), 2020 (1 review)
8. Journal of Asia Pacific Entomology. 2014 (1 review), 2015 (1 review)
7. Journal of Berry Research. 2014 (1 review), 2015 (1 review)
6. Journal of Insect Science. 2015 (2 reviews)
5. Journal of Pest Science 2015 (3 reviews), 2016 (1 review)
4. Phytobiomes 2017 (1 review)
3. PloS ONE. 2014 (1 review), 2015 (1 review)
2. Royal Society Open Science. 2016 (1 review), 2017 (1 review)
1. Scientific Reports. 2019 (1 review), 2020 (1 review)

IV.A.4. Reviewing Activities for Agencies and Foundations

Completed during current position:

6. United States Department of Agriculture Agricultural Research Service (USDA ARS) NP 304 Insect Genomics and Physiology, Ad Hoc Reviewer 2020
5. California State University Agricultural Research Institute (CSU ARI), Ad Hoc Reviewer 2020
4. National Institute of Food and Agriculture Applied Research and Development Program and Methyl Bromide Transitions (NIFA ARDP and MBT), Grant Panelist 2017
3. National Institute of Food and Agriculture Applied Research and Development Program and Methyl Bromide Transitions (NIFA ARDP and MBT), Grant Panelist 2016
2. United States Department of Agriculture Agricultural Research Service (USDA ARS) Areawide Pest Management, Ad Hoc Reviewer 2015
1. National Science Foundation Graduate Research Fellowship Program (NSF GRFP), Grant Panelist 2015

IV.B. Committees, Professional & Campus Service

IV.B.1. Campus Service – Department

8. 2020-present Website Committee
7. 2020-present Diversity and Inclusion Working Group
6. 2019-2020 Risk Assessment & Environmental Protection Search Committee
5. 2018-2019 Faculty Evaluation Committee
4. 2017-2018 Faculty Evaluation Committee
3. 2016-present Entomology Games coach
2nd place at Eastern Branch level 2016, 2018, 2019 (win \$1,000 for travel and move on to national competition)
2. 2015-2016 Graduate Admissions Committee
1. 2014-2015 Graduate Admissions Committee

IV.B.2. Campus Service – College

3. 2020 AGNR Terrapin Strong Committee
2. 2018 Panelist for Maryland Agricultural Experiment Station
1. 2017 Department Chair Review Committee

IV.B.6. Inter-institutional and Regional

1. 2018 Search Committee for Director of NE IPM Center

IV.B.8. Leadership Roles in Meetings and Conferences

Completed during current position:

8. Entomological Society of America Annual Meeting. Symposium coordinator and moderator: Drosophila Interactions for All — From Endosymbionts to Ecosystems. 2020.
7. Northeast Education/Extension & Research Activities (NEERA) 1604: Northeast region technical committee on IPM. Chair. 2018.

6. Western Education/Extension & Research Activities (WERA) 1021: Spotted Wing Drosophila Biology, Ecology, and Management. Arranged catering and collected registration funds. 2018.
5. Northeast Education/Extension & Research Activities (NEERA) 1604: Northeast region technical committee on IPM. Chair-Elect. 2017.
4. Western Education/Extension & Research Activities (WERA) 1021: Spotted Wing Drosophila Biology, Ecology, and Management. Chair. 2017.
3. Western Education/Extension & Research Activities (WERA) 1021: Spotted Wing Drosophila Biology, Ecology, and Management. Vice-Chair. 2016.
2. International Congress of Entomology. Judge for Student Paper Competitions. 2016.
1. Entomological Society of America Annual Meeting. Symposium coordinator and moderator: Expanding spotted wing drosophila (*Drosophila suzukii*) research to new horizons. 2014.

IV.D. Non-Research Presentations

IV.D.1. STEM Outreach Presentations and Events

Completed during current position:

15. Bug Camp Pest Management Activities (24 students) July 10, 2019, ~ 4 hrs
14. Bug Camp Pest Management Activities (24 students) June 27, 2018, ~ 4 hrs
13. Bug Camp Pest Management Activities (24 students) July 12, 2017, ~ 4 hrs
12. Bug Camp Pest Management Activities (24 students) June 28, 2017, ~ 4 hrs
11. Bug Camp Pest Management Activities (30 students) July 20, 2016, ~ 4 hrs
10. Bug Camp Pest Management Activities (9 students) July 27, 2016, ~ 4 hrs
9. Bug Camp Pest Management Activities (30 students) July 20, 2016, ~ 4 hrs
8. Insect Petting Zoo Event (~1,000 attendees), Maryland Day April 25, 2015, ~4 hrs
7. Bug Camp Pest Management Activities (23 students) July 22, 2015, ~ 4 hrs
6. Bug Camp Pest Management Activities (12 students) July 2, 2015, ~ 4 hrs
5. Insect Petting Zoo Event (~1,000 attendees), Maryland Day April 25, 2015, ~4 hrs

Completed prior to current position:

4. Liberty Union High School AP Biology Classes (~60 students) May 29, 2014, ~ 2 hrs
3. Liberty Union High School AP Biology Classes. (~60 students) May 17, 2013, ~ 2 hrs
2. Liberty Union High School AP Biology Classes. (~60 students) May 25, 2012, ~ 2 hrs
1. Liberty Union High School AP Biology Classes. (~60 students) May 23, 2011, ~ 2 hrs

IV.E. Media Contributions

IV.E.1. Internet

Completed during current position:

5. Bay Area Fruit School 2018 Small Fruit Insect Management, recording of live extension talk: https://www.youtube.com/watch?v=4P_HD2u0vklI&feature=youtu.be (30 views as of 3/22/21)

4. Bay Area Fruit School 2017 Current Research on Spotted Wing Drosophila Management in Small Fruits, recording of live extension talk: https://www.youtube.com/watch?v=bA8HoIx08_Y (91 views as of 3/22/21)
3. Bay Area Fruit School 2016 Insect Pests of Brambles and Blueberries, recording of live extension talk: <https://www.youtube.com/watch?v=GN70OAND1vM&t=4s> (41 views as of 3/22/21)
2. Bay Area Fruit School 2015 Spotted Wing Drosophila, recording of live extension talk: <https://www.youtube.com/watch?v=mHAX-MLDdUM&feature=youtu.be> (16 views as of 3/22/21)
1. Hamby lab website, <http://hambylab.weebly.com/>

IV.E.2. TV

Completed during current position:

4. Maryland Public Television, Maryland Farm & Harvest, Season 8 Episode 804, Genetically engineered corn, 12/8/2020, <https://video.mpt.tv/video/episode-804-ikg9oz/>
3. Queen Anne's County TV, University of Maryland's Bay Fruit School, Current Research on Spotted Wing Drosophila Management in Small Fruits, 3/8/17
2. Queen Anne's County TV, University of Maryland's Bay Fruit School, Insect Pests of Brambles and Blueberries 3/8/16
1. Queen Anne's County TV, University of Maryland's Bay Fruit School, Spotted Wing Drosophila 2/25/15

IV.E.4. Digital Media

Completed during current position:

9. 2020 Virtual Twilight Tour Videos, August 2020. Video: "Optimizing trellis systems to control spotted wing drosophila", <https://extension.umd.edu/charles-county/agriculture/2020-virtual-twilight-tour-videos> (68 views as of 3/22/21)
8. 2020 Virtual Twilight Tour Videos, August 2020. Video: "Can spotted-wing drosophila vector fruit rot fungi?", <https://extension.umd.edu/charles-county/agriculture/2020-virtual-twilight-tour-videos> (65 views as of 3/22/21)
7. Interview with Dr. Anna Wallingford for Over-informed on IPM podcast, October 2020. Podcast: "SWD & Yeasts", <https://extension.unh.edu/blog/over-informed-ipm-episode-29-swd-yeasts>
6. Interview with Dr. Anna Wallingford for Over-informed on IPM podcast, June 2020. Podcast: "Seed treatments in field crops", <https://extension.unh.edu/blog/over-informed-ipm-episode-021-seed-treatments-field-crops>
5. Interview with contributing journalist for Fruit Grower News, Doreen Muzzi. January 2020. Article: "The key to controlling spotted wing drosophila", <https://fruitgrowersnews.com/article/the-key-to-controlling-spotted-wing-drosophila/>
4. Interview with contributing journalist for Delmarva Now., Carol Vaughn. May 2019. Article: "Stink bugs bugging you? Asian species spotted on Eastern Shore",

<https://www.delmarvanow.com/story/news/2019/05/16/stink-bugs-bugging-you-asian-species-spotted-eastern-shore/3662664002/>

3. Interview with contributing journalist for American Fruit Grower, Courtney Coon. May 2018. Article: “Does Canopy Climate Impact Spotted Wing Drosophila Pressure?”,

<https://www.growingproduce.com/fruits/berries/does-canopy-climate-impact-swd-pressure/>

2. Interview with contributing editor for DTN/The Progressive Farmer Magazine, Mark Moore. December 2017. Article: “More Neonicotinoid News”,

<https://www.dtnpf.com/agriculture/web/ag/news/crops/article/2017/12/01/weeds-nibble-away-nitrogen-3>

Also got picked up by Genetic Literacy Project, Article: “ Neonicotinoid seed treatments 'best option' for soil pests, but should be used judiciously, study says”

<https://geneticliteracyproject.org/2017/12/08/neonicotinoid-seed-treatments-best-option-soil-pests-used-judiciously-study/>

3. Content updates provided to <https://eorganic.info/spottedwingorganic>

2. Extension information and articles posted on hambylab.weebly.com

Completed prior to current position:

1. **Hamby, K.A.** 2013. Global climate change and commerce: the perfect storm for invasive insects. Cal Alive! Winter E- Newsletter 2013. California Institute for Biodiversity.

IV.E.6. Blogs

Completed during current position:

3. Dubey, A., Dively, G., and Hamby, K. 2018. Insecticide seed treatments are not always economical in Mid-Atlantic grain production. Pay Dirt Blog Post Summer 2018. Delaware Soybean Board <https://desoybeans.org/to-treat-or-not-to-treat/>

Completed prior to current position:

2. Bolda, M.P., and **Hamby, K.** 2011. Un resumen de lo que sabemos hasta el presente sobre drosófila de alas manchadas. Fresas y Moras Blog Post September 22, 2011. UCANR

1. Bolda, M.P., and **Hamby, K.** 2011. A summary of what we know so far about spotted wing drosophila. Strawberries and Caneberries Blog Post September 21, 2011. UCANR

IV.G. Service Awards and Honors

Completed prior to current position:

1. Mary Regan Meyer Prize, UC Davis. 2011.