**Rachel E. Mallinger**

2110 Steinmetz Hall. 269-267-4757

Gainesville, FL, 32608 rachel.mallinger@ufl.edu

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| **APPOINTMENTS** |  |
| Assistant Professor, Department of Entomology and Nematology, University of Florida |  Nov 2017- |
| Post-doctoral research associate, USDA-ARS, Fargo ND |  2015-2017 |
| Graduate research assistant. University of Wisconsin–Madison  | 2007-2015 |
| **EDUCATION**

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| PhD, Entomology. University of Wisconsin–Madison  *Cultivating alternative apple pollinators: Examining the contribution of wild bees to crop pollination, and the factors that influence their abundance and diversity within Wisconsin orchards*  | 2015  |
| Joint M.S., Entomology and Agroecology. University of Wisconsin–Madison  *Insect responses to conventional and organic cropping systems and the use of plant volatiles in pest management*   | 2009 |
| B.A., Biology. Kalamazoo College | 2005 |

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| **PUBLICATIONS** |  |
| J.R. Prasifka, **R.E. Mallinger**, Z.M. Portlas, B.S. Hulke, K.K. Fugate, T. Paradis, M.E. Hampton, C.J. Carter. Using nectar-related traits to enhance crop-pollinator interactions. *Frontiers in Plant Science*. In review. |  |
| Shajahan, S., S. Srinivasagan, D. Suresh Babu, I. Cannayen, J. Franco, **R.E. Mallinger**, J.R. Prasifka, and D. Archer. Sunflower floral dimension measurements using digital image processing. *Computers and Electronics in Agriculture*. In review.  |  |
| Royaute, R., E.S. Wilson, B.R. Helm, **R.E. Mallinger**, J. Prasifka, K.J. Greenlee, and J.H. Bowsher. Phenotypic integration in an extended phenotype: among-individual variation in nest-building traits of the alfalfa leafcutting bee. *Journal of Evolutionary Biology*. <https://doi.org/10.1111/jeb.13259> | 2018 |
| **R.E. Mallinger**, H.R. Gaines-Day, and C. Gratton. Do managed bees have negative effects on wild bees? A systematic review of the literature. *PLoS ONE* 12(12): e0189268. <https://doi.org/10.1371/journal.pone.0189268> | 2017 |
| J.R. Prasifka, **R.E. Mallinger**, B.S. Hulke, S.R. Larson, and D. Van Tassel. Plant-herbivore and plant-pollinator interactions of the developing perennial oilseed crop, Silphium integrifolium Michx. *Environmental Entomology* 46 (6): 1339 - 1345. <https://doi.org/10.1093/ee/nvx134>.  | 2017 |
| **R.E. Mallinger** and J. Prasifka. Benefits of insect pollination to confection sunflowers differ across plant genotypes. *Crop Science* 57 (6): 3264 – 3272. DOI: 10.2135/cropsci2017.03.0148  | 2017 |
| EM Lichtenberg, CM Kennedy, C Kremen, P Batáry, F Berendse, R Bommarco, NA Bosque-Pérez, LG Carvalheiro, WE Snyder, NM Williams, R Winfree, S Åström, F Benjamin, C Brittain, R Chaplin-Kramer, Y Clough, H Connelly, B Danforth, T Diekötter, SD Eigenbrode, J Ekroos, E Elle, BM Freitas, Y Fukuda, HR Gaines-Day, C Gratton, A Holzschuh, R Isaacs, M Isaia, S Jha, D Jonason, VP Jones, B Klatt, AM Klein, J Krauss, DK Letourneau, S Macfadyen, **RE Mallinger**, EA Martin, E Martinez, J Memmott, L Morandin, L Neame, M Otieno, MG Park, L Pfiffner, M Pocock, C Ponce, SG Potts, K Poveda, M Ramos, JA Rosenheim, M Rundlöf, H Sardiñas, ME Saunders, NL Schon, AR Sciligo, CS Sidhu, I Steffan-Dewenter, T Tscharntke, M Veselý, WW Weisser, JK Wilson, and DW Crowder. 2017. A global synthesis of the effects of diversified farming systems on arthropod diversity at field and landscape scales. *Global Change Biology.* DOI: 10.1111/gcb.13714 | 2017 |
| **R.E. Mallinger** and J. Prasifka**.** 2017.Bee visitation rates to cultivated sunflowers increase with the amount and accessibility of nectar sugars. *Journal of Applied Entomology* 141 (7): 561 – 573. DOI: 10.1111/jen.12375.  | 2017 |
| **R.E. Mallinger**, J. Gibbs and C. Gratton. 2016. Diverse landscapes have a higher abundance and species richness of spring wild bees by providing complementary floral resources over bee foraging periods. *Landscape Ecology* 31(7): 1523-1535. DOI: 10.1007/s10980-015-0332-z | 2016 |
| **R.E. Mallinger,** P. Werts, and C. Gratton. 2015. Pesticide use within a pollinator-dependent crop has negative effects on the abundance and species richness of sweat bees, Lasioglossum spp., and on bumble bee colony growth. *Journal of Insect Conservation* 19: 999-1010. DOI: 10.1007/s10841-015-9816-z | 2015 |
| **R.E. Mallinger** and C. Gratton. 2015. Species richness of wild bees, but not the use of managed honey bees, increases fruit set of a pollinator-dependent crop. *Journal of Applied Ecology* 52 (2): 323-330. DOI: 10.1111/1365-2664.12377 |  2015  |
| **R.E. Mallinger.** 2014.Dune vegetation and insect communities vary with barrier beach geomorphic setting on Sapelo Island, United States. *Journal of Coastal Research* 30 (6): 1210-1217. DOI: 10.2112/JCOASTRES-D-12-00113.1 |  2014 |
| **R.E. Mallinger**, D.B. Hogg and C. Gratton. 2011. Methyl salicylate attracts natural enemies and reduces populations of soybean aphids (Hemiptera: Aphididae) in soybean agroecosystems. *Journal of Economic Entomology* 104(1): 115–124. DOI: 10.1603/EC10253 |  2011 |
| L.L. Stelinski, L.J. Gut, **R.E. Mallinger**, D. Epstein, T.P. Reed and J.R. Miller. Small plot trials documenting effective mating disruption of Oriental Fruit Moth by using high densities of wax-drop pheromone dispensers. *Journal of Economic Entomology* 98 (4).  | 2005 |

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| **GRANTS and FELLOWSHIPS** |  |  |
| National Sunflower Association. J. Prasifka and R.E. Mallinger. **Funded for 17,900**. *Benefits of insect pollination to confection sunflowers: Year 2 Renewal*.  |  | 2017 |
| National Sunflower Association. J. Prasifka and R.E. Mallinger. **Funded for $16,500**. *Benefits of insect pollination to confection sunflowers*.  | 2016 |
| Wisconsin Distinguished Graduate Fellowship, University of Wisconsin Madison. **Awarded $25,000** plus one year tuition coverage   | 2014 |
| Department of Agriculture, Trade and Consumer Protection Specialty Crop Block Grant. **Funded for $55,527.** Primary author on proposal: *Cultivating alternative apple pollinators: Continuing to enhance the sustainability of apple production through conservation and use of wild bees* awarded to the Wisconsin Apple Growers Association, R.E. Mallinger, and C. Gratton  | 2012 |
| Department of Agriculture, Trade and Consumer Protection Specialty Crop Block Grant. **Funded for $42,000**. Primary author on proposal: *Cultivating alternative apple pollinators: Enhancing the sustainability of apple production through conservation and use of wild bees* awarded to the Wisconsin Apple Growers Association, R.E. Mallinger, and C. Gratton | 2011 |
| Sustainable Agriculture, Research and Education (SARE) Graduate Student Grant. **Funded for $9,850**. Primary author on proposal: Can *wild bees meet pollination needs in apples? Determining the efficacy of native bees and their contribution to pollination* awarded to R.E. Mallinger and C. Gratton | 2011 |
| **TEACHING**  |  |
| *General Ecology*. Teaching Assistant. Solely taught laboratory and discussion components of the course, which included field exercises, lab experiments, quantitative analyses, computer simulation, and discussions of primary literature. Course fulfilled university quantitative coursework requirements. University of Wisconsin–Madison.   | 2013 |
| *Biology Core Curriculum: Ecology, Evolution and Genetics*. Teaching Assistant. Solely taught discussion sections and assisted with labs. Course included inquiry-based experiments in the field and laboratory, and fulfilled university writing-intensive course requirements. University of Wisconsin–Madison.  | 2009 |
| **MENTORING**  |  |
| NSF-Research Experiences for Undergraduates (REU) co-mentor. Micki Palmersheim*. Sublethal effects of neonicotinoids on the alfalfa leafcutter bee (Megachile rotundata).* NDSU, Fargo ND | 2017 |
| NSF-Research Experiences for Undergraduates (REU) co-mentor. Elisabeth Wilson. *Nest building 101: Nest architecture reflects behavior and ecology of Megachile rotundata.* NDSU, Fargo ND | 2016 |
| Post-undergraduate independent research project. Jon Tetlie. *Flight behavior of Megeachile rotundata under different light conditions in a greenhouse setting.* USDA-ARS, Fargo ND | 2015-2016 |
| Undergraduate independent research project. Eleanor McCabe. *Effects of orchard pesticide use and landscape composition on the health and performance of bumble bee colonies.* University of Wisconsin-Madison | 2013 |
| Undergraduate independent research project. Melissa Hileman. *How does the amount of natural habitat surrounding orchards affect wild bee fitness?* University of Wisconsin-Madison | 2012 |
| Undergraduate senior thesis research project. Molly (Riley) Waytes. *Pollination requirements of cranberries: How does distance from edge of field affect bee visitation and fruit set*? Kalamazoo College.  | 2011 |
| **AWARDS and HONORS**   |  |  |
| Kinney Merit Travel Award University of Wisconsin–Madison, $600  |  | 2013 |
| Biological Scholars Award University of Wisconsin–Madison, $1,500   |  | 2011 |
| Second place for a paper presentation Entomological Society of America Meeting, Indianapolis IN |  | 2009 |
| Third place for a paper presentation Entomological Society of America North Central Branch Meeting, St. Louis MO  |  | 2009 |
| Second place for a paper presentation Entomological Society of America North Central Branch Meeting, Columbus OH  |  | 2008 |
| Kalamazoo College Diebold Award recipient Kalamazoo College, outstanding senior thesis award**INVITED PRESENTATIONS**  |  | 2005 |
| R.E. Mallinger. *Conserving Wild Bees and Pollination Services in Rural and Urban Landscapes*. New Mexico State University seminar series. Albuquerque Botanic Gardens. Albuquerque, NM. March 28 |  | 2018 |
| J. Elmquist and R.E. Mallinger. St. John’s County Beekeepers Association. March 5.  |  | 2018 |
| R.E. Mallinger. *Wild Bees in our Gardens: Biology, Identification, and Conservation.* Charlotte County’s “Landscape Gardening Series”. Port Charlotte, FL. January 26 |  | 2018 |
| R.E. Mallinger. *Cultivating Native Pollinators: How Landscapes, Habitat Management, and Floral Traits Affect Wild Bees.* The University of Florida Whitney Laboratory for Marine Bioscience. St. Augustine, FL. January 12 |  | 2018 |
| R.E. Mallinger. *Native Bees of North America: Who are they, what do they do, and how can we conserve them?* Evenings at Whitney Public Lecture Series. The University of Florida Whitney Laboratory for Marine Bioscience. St. Augustine, FL. January 11 |  | 2018 |
| R.E. Mallinger. *Conserving wild bees in urban and rural landscapes.* Great Plains American Society of Landscape Architects Conference. Fargo, ND. August 29.  |  |  2015 |
| R.E. Mallinger, H.R. Gaines-Day, and C. Gratton. *Integrating broad-scale landscape perspectives with bees, floral resources, and fruit crop yields.* Annual Meeting of theEntomological Society of America. Portland, OR. November 19. |  |  2014 |
| R.E. Mallinger. *Wild bees of Wisconsin: Biology, importance, and conservation.* Kemp Natural Resources Station Seminar Series, Woodruff, WI. July 28  |  |  2014 |
| R.E. Mallinger. *The role of wild bees in fruit pollination*. Peninsula Agriculture Research Station Fruit School, Sturgeon Bay, WI. April 8.  |  | 2014 |
| R.E. Mallinger. *Wisconsin’s wild bees: Who are they, what do they do, and why should we conserve them?* Wednesday Nite @ the Lab, University of Wisconsin-Madison. March 26.  |  | 2014 |
| R.E. Mallinger. *The role of wild and managed bees in apple pollination*. Wisconsin Fresh Fruit and Vegetable Growers Annual Meeting, Wisconsin Dells, WI. January 20. |  | 2014 |
| R.E. Mallinger. *Can wild bees meet the pollination requirements of apples in Wisconsin?* Wisconsin Fresh Fruit and Vegetable Growers Annual Meeting, Wisconsin Dells, WI. January 22.  |  | 2013 |
| R.E. Mallinger, H.R. Gaines-Day, D.M. Lowenstein, C. Gratton*Impacts of local and broad scale landscape structure on the diversity of pollinators in Wisconsin agroecosystems.* Annual Meeting of the Entomological Society of America. Knoxville, TN. November 14.  |  | 2012 |
| R.E. Mallinger. *Wild pollinators of apples: Impacts of landscape and management on native bee populations.* Wisconsin Fresh Fruit and Vegetable Growers Annual Meeting, Wisconsin Dells, WI. January 17. **SUBMITTED PRESENTATIONS and POSTERS** |  | 2012 |
| M. Palmersheim, B. Helm, R.E. Mallinger, R. Royaute, J. Bowsher, and J. Rhinehart. *Sublethal effects of neonicotinoids on Megachile rotundata.* Society for Integrative and Comparative Biology Annual Meeting. Poster presentation*.* San Francisco, CA. Jan. 3 – 7.  | 2018 |
| R.E. Mallinger, A. Varenhorst, J. Bradshaw and J. Prasifka. *How do pollination services to sunflowers vary across plant genotypes, environments, and pollinator taxa?* Annual Meeting of the Entomological Society of America. Denver, CO. November 4. | 2017 |
| R.E. Mallinger, A. Varenhorst, J. Bradshaw and J. Prasifka*. Benefits of Insect Pollination to Confection Sunflowers: Comparisons Across Three States, Three Years, and Multiple Hybrids.* National Sunflower Association Meeting, Fargo, ND. January 11. | 2017 |
| E. Wilson, B. Helm, R. Royaute, R.E. Mallinger, J.P Rhinehart, J.H. Bowsher, and K.J. Greenlee. *Nest building 101: Nest architecture reflects behavior and ecology of Megachile rotundata.* Society for Integrative and Comparative Biology Annual Meeting. Poster presentation New Orleans, LA. Jan 4-8. | 2017 |
| R.E. Mallinger and J. Prasifka. *Floral trait variation affects bee foraging behaviors in cultivated sunflowers.* International Congress of Entomology Meeting. Orlando, FL. September 29. | 2016 |
| R.E. Mallinger and J. Prasika. *Bee-sunflower interactions: Evaluating plant traits that attract bees and crop pollinator-dependency.* National Sunflower Association Meeting, Fargo, ND. January 12. | 2016 |
| R.E. Mallinger and C. Gratton. *Pollination services provided by wild and managed pollinators to apple crops of the Midwest.* Annual Meeting of the Entomological Society of America, Austin TX. November 11.  | 2013 |
| R.E. Mallinger and C. Gratton*. Habitat diversity and floral density at different spatial scales influence wild bee pollinators of orchards.* Annual Meeting of the Ecological Society of America, Minneapolis, MN. August 6.   | 2013 |
| R.E. Mallinger and C. Gratton*. Impacts of landscape structure and pesticides on wild bees of southern Wisconsin*. Annual Meeting of the Ecological Society of America. Portland, OR. Poster presentation. August 6**–**9.   | 2012 |
| R.E. Mallinger and D.B. Hogg*. Methyl salicylate reduces populations of the soybean aphid through the attraction of natural enemies.* Annual Meeting of the Entomological Society of America. Indianapolis, IN. December 14.   | 2009 |
| R.E. Mallinger and D.B. Hogg. *Can methyl salicylate enhance biological control of the soybean aphid in soybean fields?* Annual Meeting of the North Central Branch of the Entomological Society of America, St. Louis, MO. March 16.   | 2009 |
| R.E. Mallinger and D.B. Hogg. *The efficacy of methyl salicylate, an herbivore-induced plant volatile, in attracting natural enemies of the soybean aphid*. Annual Meeting of the Entomological Society of America. Reno, NV. Poster presentation. November 17**–**19.   | 2008 |
| R.E. Mallinger and D.B. Hogg. *Aphid pests and their natural enemies in organic and conventional soybean and alfalfa fields.* Annual Meeting of the North Central Branch of the Entomological Society of America. Columbus, OH.  |  2008 |

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| **PROFESSIONAL SERVICE***Agriculture, Ecosystems and Environment,* Reviewer(x6)*Plos One,* Reviewer (x2)*Journal of Applied Ecology,* Reviewer (x4)*Environmental Entomology* (x2)*Journal of Insect Science,* Reviewer (x1)*Journal of Insect Conservation,* Reviewer (x1)*Apidologie,* Reviewer (x1)*Diversity***,** Reviewer (x1)*Journal of Economic Entomology* (x1)*Ecological Entomology* (x1) |  |
| Reviewer for Graduate Women in Science Grants, Graduate Women in Science National  Organization | 2016 |
| **UNIVERSITY SERVICE** |  |
| Instructor for Entomology Major at Grandparents University, an outreach program for grandparent alumni and their grandchildren University of Wisconsin-Madison |  |
| Review panel member for graduate student small grant awards University of Wisconsin–Madison   |  |
| Entomology Graduate Student Association President University of Wisconsin–Madison   |  |
| Search and hire committee member for faculty position in population genetics of insects University of Wisconsin–Madison   |  |
| Entomology Graduate Student Association Vice-President  University of Wisconsin–Madison   |  |
| Wisconsin Ecology Representative from the Entomology Department  University of Wisconsin–Madison   |  |
| Agroecology board member (graduate student representative)  University of Wisconsin–Madison  |  |

**MEDIA COVERAGE**

*Study looks at link between pollinators, sunflower yields* (March 6, 2018). Retrieved 19 March 2018 from https://www.thefencepost.com/news/study-looks-at-link-between-pollinators-sunflower-yields/

Guest on NPR’s Science Friday. *Looking Beyond Honeybees* segment (February 2, 1018). Retrieved 11 February 2018. https://www.sciencefriday.com/segments/looking-beyond-honeybees/

*Wild Bees Play Integral Role in Southern Wisconsin Agriculture* (2017, March 29). Retrieved 26 July 2017 from https://www.wiscontext.org/wild-bees-play-integral-role-southern-wisconsin-agriculture

*Native Pollinators Step Up* (2014, August 21). Retrieved 20 February 2015 from http://fyi.uwex.edu/news/2014/08/21/native-pollinators-step-up/

*Hundreds of Native Bee Species Can Also Pollinate Crops* (2014, July 27). Retrieved 20 February 2015 from http://wxpr.org/post/hundreds-native-bee-species-can-also-pollinate-crops

*What's the buzz? Online bee guide features Wisconsin pollinators* (2013, November 15). Retrieved 23 January 2015 from http://phys.org/news/2013-11-online-bee-features-wisconsin-pollinators.html

*Online guide provides the A-Bee-C’s of bee identification* (2013, November 21). Retrieved 23 January 2015 from http://www.thegrower.com/news/Online-guide-provides-the-A-Bee-Cs-of-bee-identification-232879041.html

**COMMUNITY OUTREACH**

**Resources created**

Designed "WI Wild Bee Guide", an online interactive guide to spring wild bees in Wisconsin. http://energy.wisc.edu/bee-guide/

**Public presentations**

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| Participated in USDA's Bring Kids to Work Day, presentation on bees, pollination, and general entomology, Fargo, ND. April 27 | 2017 |
| Member of Insect Ambassadors, an outreach organization at the University of Wisconsin-Madison that presents entomology to the general public | 2007 -2015 |
| *Native bees of WI: Conservation and importance*. Door County Wild Ones Chapter Meeting, Sturgeon Bay, WI. May 28, 2011 and March 18, 2012   | 2011,2012 |
| *Wild bee pollinators of southern Wisconsin*. Kickapoo Beekeepers Association, Soldiers Grove, WI. November 12.   | 2011 |

**PROFESSIONAL MEMBERSHIPS**

Entomological Society of America, 2007- present

Ecological Society of America, 2012-present

Florida Entomological Society, 2017 - present