

Reed McIntyre Johnson

Department of Entomology
Ohio Agricultural Research and Development Center
Wooster, OH 44691
Phone: 330-202-3523
Fax: 330-263-3686
E-mail: johnson.5005@osu.edu

EDUCATION

- 2008 **PhD in Entomology.** University of Illinois at Urbana-Champaign
Dissertation title: “Toxicogenomics of *Apis mellifera*”
Dissertation advisor: May Berenbaum
- 2002 **MS in Biology.** Wake Forest University, Winston-Salem, NC
Thesis title: “Mimicry and chemical defense in the yellow-banded wasp moth *Syntomeida ipomoeae* Harris (Lepidoptera: Arctiidae)”
Thesis advisor: William Conner
- 1998 **BA in Biology, magna cum laude.** Wabash College, Crawfordsville, IN

PROFESSIONAL EXPERIENCE

Associate Professor. Department of Entomology, The Ohio State University, Wooster, OH. (current); Assistant Professor. 2011-2018

My program focuses on understanding the relationship between pollinators and their environment, with an emphasis on the effects of pesticides and understanding the physiological basis of pesticide toxicity.

Postdoctoral Research Associate, University of Nebraska-Lincoln. 2009-2011

Toxicology of beekeeper-applied drugs and their synergistic interactions with field-applied fungicides in honey bees.

GRANTS, GIFTS and CONTRACTS

Current Funded Projects

- Johnson, R.M., Lin, C.-H. and Goodell, K. 2019-2022. USDA-NIFA. Benefits and risks for pollinators in the corn-soybean agroecosystem. \$467,000
- Tilmon, K.J., Michel, A., Johnson, R.M et al. 2018-2021. North Central Soybean Research Program. Soybean entomology research and extension in the north central region. \$413,307 Johnson Lab share: \$31,605
- Cook, S., Anderson, T., Bahreini, R., Berry, J., Evans, J.D., Gonzalez-Cabrera, J., Johnson, J., Johnson, R., Nasr, M., Mulica, M., Williams, G. 2018-2021. Foundation for Food and Agricultural Research. A pipeline for streamlined development and testing of novel controls for the honey bee parasitic mite *Varroa destructor*. \$50,000 (to OSU).
- Johnson, R.M. 2020-2021. USDA-ARS. Metabarcoding pollen DNA. \$4,500
- Richardson, R.T. and Johnson, R.M. 2017-2021. Project *Apis m.* / Costco Fellowship. \$150,000

Past projects

- McMinn-Sauder, H. and Johnson, R.M. Ohio State Beekeepers Association. Flowers supporting honey bees in the Ohio agroecosystem. \$3,000.
- Johnson, R.M. 2019-2020. Almond Board of California. Effect of almond insecticides, fungicides and phytochemicals on honey bees. \$103,107.
- Johnson, R.M. 2019-2020. Proctor and Gamble. Using non-woven cleaning pads to control small hive beetles in honey bee colonies. \$10,000.
- Zody, D., Villaroel, W. Johnson, R.M. 2019-2020. Ghostwave, Inc. (subcontract under USDA-SBIR). Radar Monitoring of Honey Bees for Early Warning of Health Issues and Colony Collapse. \$32,236
- Lin, C.-H. and Johnson, R.M. 2018-2020. SEEDS: The OARDC Research Enhancement Competitive Grants Program. Honey bees and Soybeans: Better Together? \$49,526
- Gardiner, M.M., Sivakoff, F.S., Johnson, R.M. and Toth, A.L. 2017-2020. USDA-NIFA-AFRI. Landscape legacy and sustainable agriculture: Understanding the impact of heavy metals on bee communities and pollination services. \$496,205
- Smith, K and Johnson, R.M. 2019-2020. Ohio State Beekeepers Association. Screening Compounds for Effects on *Nosema ceranae* in Honey Bees. \$3,000
- Johnson, E.G., M.M. Dewdney, J.H. Graham, A. Singerman, M.D. Danyluk, S. Santra, L. Tetard, A. Gesquiere, L. Petridis, L. De La Fuente, R.M. Johnson, J. Gleason and B. Chamberlin. 2015-2020. USDA-NIFA-SCRI Citrus Disease Research and Extension (University of Florida). Zinkicide A nanotherapeutic for HLB. \$65,326 (OSU portion)
- Johnson, R.M. and Lin, C.-H. 2018-2019. Almond Board of California. Effect of almond insecticide, fungicide and phytochemicals on honey bees. \$92,725
- Hearon, L., Lin, C.-H. and Johnson, R. Ohio State Beekeepers Association. 2018-2019. Soybean or Clover: Pollen Analysis to Determine Floral Source of Ohio Summer Honey. \$2998
- Johnson, R and Lin, C-H. The Almond Board of California. 2017-2018 . Effects of insecticide-fungicide-adjuvant combinations commonly applied to almonds during bloom on honey bee development and survival. \$103,474
- Johnson, R. Emery Oleochemical. 2016-2017. Testing the potential for 8-,9- and 10-carbon fatty acid esters acaricides to control *Varroa* mites (*Varroa destructor*) in honey bee (*Apis mellifera*) colonies. \$102,029
- Johnson, R. and Richardson, R. 2017. Conservation Technology Information Center. Determining floral origin of bee-collected pollen using metabarcoding. \$6,400
- Johnson, R.M. and Garnes, P. 2017. Warner Grants for Sustainable Agriculture. Drone Brood Removal for *Varroa* Mite Control in Bee Hives. \$2,547.
- Johnson, R. Ohio State Beekeepers Association. 2016 – 2017. Development of methods for the detection of emamectin benzoate in pollen from treated ash trees in Ohio. \$2,773
- Todd, K., Richardson, R. (Johnson, R. and Gardiner, M.) 2016-2017. North Central Region Sustainable Agriculture Research & Education Program. Next generation bees: Determining the floral resources that support wild bee reproduction and pollination services in urban agriculture. \$11,970
- Johnson, R. and Janini, T. Emery Oleochemical. 2016. Testing the potential for 8-,9- and 10-

- carbon fatty acid esters acaricides to control Varroa mites (*Varroa destructor*) in honey bee (*Apis mellifera*) colonies. \$49,875
- Johnson, R and Lin, C-H. The Almond Board of California. 2016. Effects of insecticide-fungicide-adjuvant combinations commonly applied to almonds during bloom to honey bee development and survival. \$92,272
- Johnson, R., Ellis, J., Flenniken, M., Sagili, R., Dietsch, A., and Kumarappan, S. USDA-SCRI Planning Grant. 2016-2017. Comprehensive control of Varroa mites and viruses in managed honey bee colonies. \$33,744
- Johnson, R. Ohio State Beekeepers Association. 2016. Development of methods for the detection of emamectin benzoate in pollen from treated ash trees in Ohio \$2,773
- Johnson, R. and Janini, T. 2016. National Honey Board. Using food-derived fatty acids to improve control of Varroa mites in honey bee hives. \$32,738
- Johnson, R., Watters, H. and Lin, C. 2015. Pollinator Partnership Corn Seed Treatment Dust Consortium. Assessing strategies to reduce honey bee exposure to dust emitted during planting of treated corn seeds in Ohio. \$145,000
- Richardson, R. and Johnson, R. 2015. North American Pollinator Protection Campaign. Investigating the effects of fumagillin and other common in-hive xenobiotics on immune function in honey bees. \$9997
- Wransky, M., Brumet, S. and Johnson, R. 2014. NSF iCorps Program MiniGrants (University of Akron). Computer Classification of Pollen Samples. \$2500
- Johnson, R.M. 2014. Emery Oleochemical. Laboratory testing of differential toxicity of a fatty acid ester blend on honey bees and Varroa mites. \$3000
- Johnson, R. and Watters, H. 2014. Pollinator Partnership Corn Seed Treatment Dust Consortium. Assessing strategies to reduce honey bee exposure to dust emitted during planting of treated corn seeds in Ohio. \$157,224
- Richardson, R. and Johnson, R.M. 2014. Ohio State Beekeepers Association. Immune Consequences of Corn Seed Dust Exposure in the Domestic Honey Bee, *Apis mellifera*. A Proposed Colony-Level Experiment \$2,523
- Jasinski, J. and Johnson, R. 2014. Ohio Vegetable and Small Fruit Research & Development Program. Evaluating pesticide effects on squash bees in cucurbits. \$4,300
- Johnson, R.M. EPA-RARE Program. 2013-2015. Data analysis and experimental design concerning bee kill incidents in the Upper Midwest associated with neonicotinoid pesticide treated seed plantings. \$149,895
- Johnson, R.M. 2013-2014. Project Apis m. Effects of “bee-safe” insecticides and common insecticide-fungicide combinations on queen and worker larval development. \$83,660
- Janini, T.E. and Johnson, R.M. Eastern Apicultural Society. 2013. Effects of neonicotinoid/fungicide/adjuvant pesticide combinations commonly encountered by honey bees on pumpkins. \$5,000
- Johnson, R.M. Pollinator Partnership Corn Dust Research Consortium. 2013. Use by honey bees of flowering resources in and around cornfields in Ohio. \$78,206
- Sponsler D.S., and Johnson, R.M. Ohio State Beekeepers Association. 2013. Comparing success of urban, suburban and rural honey bee colonies in Central Ohio. \$2,500
- Johnson, R.M. OARDC SEEDS Grant. 2012-2013. Comparative toxicogenomics of bees important to agriculture in Ohio. \$49,816
- Sponsler, D.S. and R.M. Johnson. Ohio State Beekeepers Association. 2012. Comparing success of urban, suburban and rural honey bee colonies in Central Ohio. \$2,478

Johnson, R.M. Project Apis m. 2012. Pristine effects on queen rearing. \$29,690
Johnson, R.M. National Honey Board. 2009. Identification of biomarkers of sublethal pesticide exposure in honey bees. \$23,366

Pending Proposals

Johnson, R., Williams G., Cook, S., Rinkevich, F., Bartlett, L, Ballen, C and Goodrich, B. USDA-SCRI Pre-proposal. Developing and deploying novel tools to support varroa mite IPM in specialty crop pollinating honey bee colonies. \$4,000,000
McKenzie, H., Lin, C.H., and Johnson, R.M. 2021. Eastern Apicultural Society. Protecting honey bees from pesticide exposure in soybeans by determining periods of attractiveness. \$6,825
Johnson, R.M. and Lin, C.H. 2020. Almond Board of California. Effects on honey bees of bloomtime application of spray adjuvants and adjuvant-fungicide combinations. \$190,888.
Li-Byarlay, H. and Johnson, R.M. 2020. USDA-NIFA-AFRI (subcontract from Central State University) The biotic and abiotic stresses in honey bees and pollinators. \$53,545 (OSU Portion)
Piermarini, P. and Johnson, R.M. 2020. NIH (subcontract from University of Nebraska). Development of small molecule mosquitocides targeting Kir channels. \$1,313,480 (OSU Portion)

Non-Funded Proposals

Lin, C.H. and Johnson, R.M. 2020. National Honey Board. Evaluating the nectar landscape in the Midwest agroecosystem. \$50,494
Zody, D., Villaroel, W., and Johnson, R.M. 2020. USDA-SBIR. Radar Monitoring and Communication of Honey Bee Wing Speed for Proactive Hive Management. \$221,009 (OSU Portion)
Ricke, D. and Johnson, R.M. 2020. Fungicide mixtures: Their translocation in the hive and effects on feeding, development, and immunocompetence of queens. \$9,998
McMinn, H. and Johnson, R.M. 2019. National Honey Board. Relating the floral origin of honey to colony success using DNA metabarcoding. \$29,972
Wang, K-H; Benitez Ponce, MS; Johnson, R; Bergefurd, B; et al. 2018 - 2022. USDA-NIFA Organic Research and Extension Initiative. Soil health management for organic cucumber production: impacts on pollen nutrition for honey bees and host plant resistance against pathogens. \$740,077 (OSU Portion)
Li-Byarlay, H., Subburayalu, S., Freeman, O., Lin, C.-H., and Johnson, R. 2018 - 2021. USDA-NIFA Organic Research and Extension Initiative. Integrate Non-Chemical Bee Breeding Program For Pollinator Health To Increase Crop Productivity In Organic Farms. \$174,969 (OSU Portion)
Richardson, R. T, and Johnson, R. 2018. North American Pollinator Protection Campaign. Characterizing the host range of honey bee parasites. \$9,799
Johnson, R., Lin, C-H., Goodell, K. 2017. USDA-NIFA-AFRI. Benefits and risks for pollinators in the corn-soybean agroecosystem. \$985,488
Wransky, M Coleman, J Johnson, R and Mungovan, W. 2017. Barnstorm Research

- subaward (US Department of Defense, DARPA-SBIR). Reina: Improved mass production of beneficial insects. \$50,541
- Zody, D, Johnson, R, and Walton, E. Ghostwave Inc. subaward (USDA-SBIR). Radar Monitoring of Honey Bees for Early Warning of Health Issues and Colony Collapse. \$24,139
- Johnson, R. and Sivakoff, F. 2017. North American Pollinator Protection Campaign. Exposure and effects of urban heavy metal pollution on honey bee health. \$9984.
- Cornish, K. et al. 2016. Development and Sustainable Production of Regionally Appropriate Biomass Feedstocks. BARRAL - Biofuel and Rubber Research Agricultural Linkages. \$15,000,000.
- Johnson R.M. and Dietsch A. 2016. Healthy Hives 2020 Initiative. Building the future of Varroa mite control: What are beekeepers doing now and what do they want in new approaches? \$34,082.
- Johnson, R.M. 2016. USDA-AFRI Food Security Program. Assessing the effects of stressors on honey bee queen and colony health using an online game. \$810,671
- Sivakoff, F., Gardiner M.M. and Johnson R.M. 2016. OARDC SEEDS. Immune effects of chemical exposure to honey bees in Ohio. \$49,965
- Delaney, D., Frett, J., Brosi, B., Bryant, V., Rangel, J., Spivak, M., Johnson, R., Donaldson-Matasci, University of Delaware (NSF Collections in Support of Biological Research). CSBR: Natural history: National pollinator pollen reference collection and an associated nutritional database: From the flower to the bee. \$45,890
- Johnson, R.M. 2016. NSF-DEB. Preliminary Proposal: Social buffering of toxic exposure in honey bees and bumble bees: a potential mechanism for superorganism resilience.
- Johnson, R.M and J.W. Christman. 2015. OARDC SEEDS. Immune effects of chemical exposure to honey bees in Ohio. \$49,965
- Johnson, R.M. and L.A. Cañas. 2015. USDA-NIFA-AFRI Foundational Program. Combinatorial effects of pesticides on honey bees and bumble bees. \$493,586
- Johnson, R.M. and Goodell K. 2015. NSF-DEB. Preliminary Proposal: Foraging success of honey bees and bumble bees in human-modified landscapes as a consequence of spatially explicit recruitment.
- Johnson, R.M and L.A. Cañas. USDA-NIFA-AFRI Foundational. 2014. Neonicotinoid exposure and effects on bumble bees from the greenhouse to the field. \$499,638
- Johnson, R.M, J.W. Christman and J.W. Hollingsworth. 2014. OARDC SEEDS. Immune effects of chemical exposure to honey bees in Ohio. \$49,965
- Johnson, R.M. and Ingle, B. 2014. USDA Borlaug Fellowship Program – Animal Health / Africa. Honey bee colony evaluation, queen rearing and controlled mating. \$32,696
- Lin, C-H, D.S. Sponsler and R.M. Johnson. 2014. National Honey Board. Honey sources in an agricultural landscape and the impact of soybean fields on honey production. \$29,656.
- Sponsler D.S. and R.M. Johnson. North American Pollinator Protection Campaign. 2012. Honey bee health and productivity in urban and agricultural landscapes. \$7,945

AWARDS and FELLOWSHIPS

Eastern Apicultural Society of North America, James I. Hambleton Award for Outstanding Research. 2019

Society for Environmental Toxicology and Chemistry, Environmental Toxicology and

Chemistry Journal. Best Paper of 2017.
Eastern Apicultural Society of North America, Student Award. 2009
Nebraska Beekeepers Association Travel Grant, 2009
Interdisciplinary Environmental Toxicology Program Fellowship University of Illinois at Urbana-Champaign. 2004-2007
NIH Cell and Molecular Biology Training Grant Fellowship University of Illinois at Urbana-Champaign. 2003-2004

PROFESSIONAL SERVICE

Grant panel member, OSU-SEEDS program. 2020 - present
Grant panel member, USDA-NIFA-AFRI Pollinator Health Panel. 2020.
Subject Editor, Journal of Economic Entomology, Apiculture, 2019 - present
Science Advisors Member, Project Apis m. 2019 - present
Trustee, Foundation for the Preservation of Honey Bees, Inc. 2013 - present
Awards Committee Member, American Association of Professional Apiculturists, 2020-2021.
Graduate Studies Committee Member, Department of Entomology, The Ohio State University. 2011-2017, 2019-present
Member, International Commission on Plant-Pollinator Relations (ICPPR), Honey bee field- and semi-field testing. 2017-present
Board Member, Society for Environmental Toxicology and Chemistry, Ohio Valley Chapter. 2018-2021.
Grant panel member, USDA-NIFA Small Business Innovation Research. Phase I, 2017-2018, Phase II, 2018.
Chair, North Central Regional Association of State Agricultural Experiment Station Directors, NC1173: Sustainable Solutions to Problems Affecting Bee Health. 2012 - 2014.
Rapporteur, European Food Safety Authority 18th Scientific Colloquia, “On towards holistic approaches to the risk assessment of multiple stressors in bees”. Parma, Italy. May 15-16, 2013.
Board Member, American Association of Professional Apiculturists. 2011 - 2013.
Chair, Pollinarium Committee. Department of Entomology, The Ohio State University. 2011 - 2012.
Co-chair, Cell and Molecular Biology and Molecular Biophysics Training Grant Symposium Committee. University of Illinois at Urbana-Champaign. 2006 Committee member, 2005

ADVISING

Graduate Students

Hanna McKenzie (Advisor), Entomology M.S. Student. 2020-present.
Dylan Ricke (Advisor), Entomology M.S. Student. 2019-present
Emily Walker (Advisor), Environmental Sciences Graduate Program M.S. Student. 2019-present
Harper McMinn-Sauder (Advisor), Entomology Ph.D. Student. 2018-present
Stephanie Murray (Advisor), Entomology M.S. Graduated Dec. 2019
Rodney Richardson (Advisor), Entomology Ph.D. Graduated Dec. 2018
Natalia Riusech (Advisor), Environmental Sciences Graduate Program M.S. Graduated Dec. 2017

Douglas Sponsler (Advisor), Entomology Ph.D. Student. Graduated Dec. 2016
Baini Li (Advisor), Entomology M.S. Student. 2012-2013
Fariba Kanga (Co-advisor), Entomology M.S. Student. 2014-2015

Rachel Bienemann (Committee Member) Masters in Plant Health Management Program,
2021
Sarah Scott (Committee Member) Entomology Ph.D. Student, 2018-present
Katie Turo (Committee Member) Entomology Ph.D. Student, 2017-present
Edna Alfaro Inocente (Committee Member) Entomology M.S. Student, Graduated 2020
Carlos Esquivel (Committee Member) Entomology Ph.D. Graduated 2019
Cali Granger (Committee Member) Masters in Plant Health Management Program,
Graduated 2018
Michael McFarland (Committee Member) Entomology M.S. Graduated 2017
Travis Calkins (Committee Member) Entomology M.S. Graduated 2017
Hannah Whitehead (Committee Member) ESGP M.S. Graduated 2017
MaLisa Spring (Committee Member) Entomology M.S. Graduated 2016
Scott Prajzner (Committee Member), Entomology Ph.D. Graduated 2016
Judy Wu (Committee Member), University of Minnesota, Entomology Ph.D. Graduated 2015.
Nathan Baker (Committee Member), Entomology Ph.D. Student. 2011-2013

Undergraduate Students

Lauren Johnson (Co-advisor), Biology Major, College of Wooster, 2020-present
Jack Omori, Environment and Natural Resources Major, The Ohio State University, 2020-
present
Isabel Nazarian, Environment and Natural Resources Major, The Ohio State University, 2020-
present
Nicole Sammons, Microbiology Major, The Ohio State University, 2019-present
William Passifume, Environment and Natural Resources Major, The Ohio State University,
2019-present
Brittany Leyda (Co-advisor), Biology Major, College of Wooster, 2019-present
Jacob Shuman, Community Leadership Major, Ohio State University Agricultural
Technical Institute, 2018-present
Adrianna Pollee, Environment and Natural Resources Major, The Ohio State University, 2019-
2020
Jessica Lyons, OARDC Research Internship Program, Conservation Biology Major, Kent
State University, 2018-2020
Ava Lewis, EEOB Major, The Ohio State University, 2019-2020
Chase Getz, Biology Major, The Ohio State University, 2018-2019
Colin Kurkul, Microbiology Major, The Ohio State University, 2016-2020
Hilary Kordeki, Animal Science Major, The Ohio State University, 2018
Karissa Smith, Food, Agricultural and Biological Engineering Major, The Ohio State University,
2018-2019
Nick Kruse, Food, Agricultural and Biological Engineering Major, The Ohio State University,
2018
Cheyenne Houle, Internship Supervisor, Unity College, 2018
Luke Hearon, Entomology Major, The Ohio State University. 2017-2019

Alyssa Wheeler, Forensic Science Major, The Ohio State University, 2017-2019
Annie Chesler, EEOB Major, The Ohio State University, 2017-2018
Garrett Cherry, Molecular Biology Major, The Ohio State University, 2017-2018
Celene Gielink, Nick Kruse, Nik Suhaimi, Christopher Tracy (Capstone Project Advisor)
FABENG 4910. Heating device for Varroa mite control in bee hives, 2017-2018
Emily Walker (Co-advisor) OARDC Research Internship Program (2017), College of Wooster
Independent Study Project, 2018-present
Bridget Gross (Co-advisor) College of Wooster Independent Study Project, 2017-2018
Andrea Wade (Co-advisor) College of Wooster Independent Study Project, 2016-2017
Robert Burkhart (Committee Member) EEOB Student, 2016-2017
Hailey Curtis, EEOB Major, The Ohio State University, 2016-2017
Benjamin Green (Co-advisor), EEOB Major, 2016-2017
Emma Matcham, SENR Major, 2015-2016
Sreelakshmi Suresh, EEOB Major, 2015-2017
Ellie Fahs, The Ohio State University, 2014-2015
Michael Wransky, University of Akron, 2013-2015
Galen Cobb (Co-advisor) College of Wooster Independent Study Project, 2013
Melanie Erhart (Co-advisor) College of Wooster Independent Study Project, 2013
Natalia Riusech (Co-advisor) College of Wooster Independent Study Project, 2013
Eric Percel, Kelsey Hooten, Rachael Young (Capstone Project Advisor) FABENG 4910. Solar
powered hive-top ventilator, 2012-2013
Jordan Dieterle (Co-advisor) College of Wooster Independent Study Project, 2012-2013

High School Students

Clare Griffith, Metro Early College High School, Columbus OH. Internship, 2017
Peyton Monagan, Metro Early College High School, Columbus OH. Internship, 2015
Renee Krajnak, Metro Early College High School, Columbus OH. Internship, 2015
Sarah Leonard, Westerville High School, Westerville, OH. International Baccalaureate Project,
2014-2015

COURSES TAUGHT

Beekeeping (ENTMLGY 2200, 3 credits with lab). The Ohio State University Columbus
Campus. Spring Semesters 2013-2021. Wooster Campus Spring Semesters 2014-2016,
2018.
Pesticide Science (ENTMLGY 5800, 3 credits). Co-taught with Celeste Welty. Fall Semesters
2014-2017. Fall and Spring Semesters 2018-2021.
Entomology Seminar (ENTMLGY 8000, 1 credit). Weekly departmental seminar series. Fall
2015-Fall 2016.
Beekeeping (ENTO 109, 2 credits). University of Nebraska-Lincoln. Spring 2011

OTHER TEACHING

Externship Coordinator, 4th Year Veterinary Medicine Student Rotation, 2020-2021

Guest Lecturer Insect Biology (ENTMLGY 1101) 2014-2021

Guest Lecturer Veterinary Entomology (ENTMLGY 4607) Fall and Spring Semesters

2013-2021

- Guest Lecturer** Introduction to Horticulture (HCS 3200) Fall 2018-2019
- Guest Lecturer** General and Applied Entomology (BIOTECH 2218T) Fall and Spring semesters 2017-2019
- Guest Lecturer** Pesticides and Their Use (BIOTECH 2219T) Fall Semesters 2017-2019
- Guest Lecturer** Biology of Insects, Animals & Fungi Affecting Buildings (ENTMLGY 1111) Fall Semester 2017, Spring Semester 2018
- Guest Lecturer** Partnership for Plant-Insect Interactions. College of Wooster, Fall Semester 2016, 2019
- Guest Lecturer** Ecology of Agriculture (HCS 5602) Fall Semesters 2013-2019
- Guest Lecturer** Entomology Techniques (ENTMLGY 6702) Spring Semester 2015
- Guest Lecturer** Apiculture (ENTO4043, University of Arkansas – Fayetteville) Spring Semester 2015
- Guest Lecturer** Social Insects (ENTMLGY 3330) Fall Semester 2013
- Instructor** NE OHIO Bioinformatics Workshop and Annotation Jamboree. College of Wooster, Wooster, OH. May 28-30, 2013.
- Guest Lecturer** Pesticide Science (ENTMLGY 5800) Fall 2012.
- Guest Lecturer** Beekeeping (6 lectures). University of Nebraska-Lincoln. Spring 2010
- Teaching Assistant** Toxic Substances in the Environment, University of Illinois at Urbana-Champaign. 2005
- Teaching Assistant** Animal Biology, University of Illinois at Urbana-Champaign. Spring 2003
- Teaching Assistant** Organismal and Evolutionary Biology, University of Illinois at Urbana-Champaign. Fall 2002
- Teaching Assistant** Animal Biology, Wake Forest University. 2000-2002
- English Conversation Teacher** Kasai Elementary School. Szolnok, Hungary. 1998-2000

SCIENTIFIC PUBLICATIONS

Journal Articles

Lin, C-H.; Sponsler, D.B.; Richardson, R.T.; Watters, H.D.; Glinski, D.A.; Henderson, W.M. Johnson, R.M. 2020. Honey bees and neonicotinoid-treated corn seed: contamination, exposure, and effects. *Environmental Toxicology and Chemistry* 10.1002/etc.4957

Richardson, R.T.; Eaton, T.D.; Lin, C-H.; Cherry, G.; Johnson, R.M.; Sponsler, D.B. 2020. Application of plant metabarcoding to identify diverse honeybee pollen forage along an urban-agricultural gradient. *Mol Ecol*, 10.1111/mec.15704

McMinn-Sauder, H.; Richardson, R.; Eaton, T.; Smith, M.; Johnson, R. 2020. Flowers in Conservation Reserve Program (CRP) Pollinator Plantings and the Upper Midwest Agricultural Landscape Supporting Honey Bees. *Insects*, 11 (7), 10.3390/insects11070405

Richardson, R.T.; Sponsler, D.B.; McMinn-Sauder, H.; Johnson, R.M. 2019. MetaCurator: A hidden Markov model-based toolkit for extracting and curating sequences from taxonomically-informative genetic markers. *Methods in Ecology and Evolution*, 11 (1), 181-186. 10.1111/2041-210X.13314

Wade, A., C.-H. Lin, C. Kurkul, E. R. Regan, and R. M. Johnson. 2019 Combined Toxicity of Insecticides and Fungicides Applied to California Almond Orchards to Honey Bee Larvae and Adults *Insects* 10:10010020.

Richardson, R. T., H. R. Curtis, E. G. Matcham, C. Hua Lin, S. Suresh, D. B. Sponsler, L. E. Hearon, and R. M. Johnson. 2019. Quantitative multi-locus metabarcoding and waggle dance interpretation reveal honey bee spring foraging patterns in Midwest agroecosystems. *Mol. Ecol.* 28(3):686-697.

Richardson, R. T., M. N. Ballinger, F. Qian, J. W. Christman, and R. M. Johnson. 2018. Morphological and functional characterization of honey bee, *Apis mellifera*, hemocyte cell communities. *Apidologie*. 49: 397–410.

Johnson, R. M., B. A. Harpur, K. A. Dogantzis, A. Zayed, and M. R. Berenbaum. 2018. Genomic footprint of evolution of eusociality in bees: floral food use and CYPome “blooms.” *Insectes Soc.* 65: 445–454.

Bengtsson-Palme, J., R. T. Richardson, M. Meola, C. Wurzbacher, É. D. Tremblay, K. Thorell, K. Kanger, K. M. Eriksson, G. J. Bilodeau, R. M. Johnson, M. Hartmann, and R. H. Nilsson. 2018. Metaxa2 Database Builder: enabling taxonomic identification from metagenomic or metabarcoding data using any genetic marker. *Bioinformatics*. 34: 4027–4033.

Richardson, R. T., J. Bengtsson-Palme, M. M. Gardiner, and R. M. Johnson. 2018. A reference cytochrome c oxidase subunit I database curated for hierarchical classification of arthropod metabarcoding data. *PeerJ*. 6: e5126.

Calla, B., K. Noble, R. M. Johnson, K. K. O. Walden, M. A. Schuler, H. M. Robertson, and M. R. Berenbaum. 2017. Cytochrome P450 diversification and hostplant utilization patterns in specialist and generalist moths: Birth, death and adaptation. *Molecular ecology* 26:6021–6035.

Richardson, R. T., J. Bengtsson-Palme, and R. M. Johnson. 2017. Evaluating and optimizing the performance of software commonly used for the taxonomic classification of DNA metabarcoding sequence data. *Molecular ecology resources* 17:760–769.

Sponsler, D. B., and R. M. Johnson. 2017. Mechanistic modeling of pesticide exposure: The missing keystone of honey bee toxicology. *Environmental toxicology and chemistry / SETAC* 36:871–881.

Sponsler, D.B. & Johnson, R.M. 2017. Poisoning a society: a superorganism perspective on honey bee toxicology. *Bee World*. doi: 10.1080/0005772X.2017.1295762

Sponsler, D.B., Matcham, E., Lanterman, J. & Johnson, R.M. 2017. Spatial and taxonomic patterns of honey bee foraging: a choice test between urban and agricultural landscapes. *J Urban Ecol*. doi: 10.1093/jue/juw008

Swale, D. R., D. W. Engers, S. R. Bollinger, A. Gross, E. A. Inocente, E. Days, F. Kanga, R. M. Johnson, L. Yang, J. R. Bloomquist, C. R. Hopkins, P. M. Piermarini, and J. S. Denton. 2016. An insecticide resistance-breaking mosquitocide targeting inward rectifier potassium channels in vectors of Zika virus and malaria. *Sci. Rep.* 6: 36954.

Richardson RT, Bengtsson-Palme J, & Johnson RM. 2016. Evaluating and optimizing the performance of software commonly used for the taxonomic classification of DNA metabarcoding sequence data. *Mol. Ecol. Resour.* doi: 10.1111/1755-0998.12628

Sponsler DB & Johnson RM. 2016. Mechanistic modeling of pesticide exposure: The missing keystone of honey bee toxicology. *Environ. Toxicol. Chem.* doi: 10.1002/etc.3661

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- Lin C-H, Sponsler, D.B., Richardson R.T., Johnson R.M. Effects of Exposure to Seed Treatment Insecticides on Honey Bee (*Apis mellifera*) Colonies During Corn Planting. Poster presentation. Third International Conference on Pollinator Biology, Health & Policy. July 18-20, 2016. Pennsylvania State University, State College, PA.
- Whitehead H., Hoy C. and Johnson R. Exploring the Efficacy and Feasibility of Drone Brood Removal for Varroa mite (*V. destructor*) Control Among Small-Scale Beekeepers in the Midwest. Poster presentation. Third International Conference on Pollinator Biology, Health & Policy. July 18-20, 2016. Pennsylvania State University, State College, PA.
- Sponsler D.B., Richardson R.T., Matcham E.G., Lin C-H, Johnson R.M. Spatial and Taxonomic Patterns of Honey Bee Foraging Along an Urban-Rural Gradient. Poster presentation. Third International Conference on Pollinator Biology, Health & Policy. July 18-20, 2016. Pennsylvania State University, State College, PA.
- Johnson R.M., Lin C.-H., Richardson, R., Sponsler, D., Wransky, M., Watters H. Landscape Toxicology of Corn Seed Treatment Dust Exposure in Honey Bees. North Central Branch of the Entomological Society of America Annual Meeting, Cleveland, OH. June 7, 2016.
- Richardson R., Lin C.-H., Pillajo J., Riusech N., Sponsler D., Goodell K., Johnson R.M. Rank-based Inference of Pollen Type Abundance Using a Multi-locus, Metabarcoding Approach. Poster presentation. North Central Branch of the Entomological Society of America Annual Meeting, Cleveland, OH. June 7, 2016.

- Matcham E., Sponsler D., Johnson R.M. Honey Bee Foraging Patterns in Rural and Urban Landscapes. Poster. North Central Branch of the Entomological Society of America Annual Meeting, Cleveland, OH. June 7, 2016.
- Suresh S., Lin C.-H., Matcham E., Sponsler D., Johnson R.M. Honey Bee Foraging in Landscapes Contaminated with Neonicotinoids during Soybean Planting. Poster. North Central Branch of the Entomological Society of America Annual Meeting, Cleveland, OH. June 7, 2016.
- Lin C.-H., Monagan P., Johnson R.M. Soybeans as a Potential Nectar Source for Honey Bees in Ohio's Agricultural Landscape. North Central Branch of the Entomological Society of America Annual Meeting, Cleveland, OH. June 7, 2016.
- Sponsler D., Lin C.-H., Richardson R., Matcham E., Johnson, R.M. Spatial and Taxonomic Patterns of Honey Bee Foraging In and Around a Midwestern Metropolis. North Central Branch of the Entomological Society of America Annual Meeting, Cleveland, OH. June 7, 2016.
- Johnson R.M. Mixture Toxicity in Bees. CropLife America Spring Conference, Arlington, VA. April 13, 2016.
- Johnson R.M., Janini T., Jasinski J., Kanga F. Are pesticide combinations applied to cucurbit crops toxic to bees? American Bee Research Conference, Ponte Verde Beach, FL. January 9, 2016.
- Lin C-H., Monagan P., Johnson R.M. Soybeans as a potential nectar source for honey bees. American Bee Research Conference, Ponte Verde Beach, FL. January 9, 2016.
- Scaloppi M.F., Janini T., Florence D. and Johnson R.M. Evaluating different fatty acids as miticides to control varroa mites (*Varroa destructor*) in honey bees (*Apis mellifera*). Poster. American Bee Research Conference, Ponte Verde Beach, FL. January 8, 2016.
- Sponsler D.B., Wransky M.E. and Johnson R.M. Mechanistic modeling of pesticide exposure: the missing keystone of honey bee toxicology. American Bee Research Conference, Ponte Verde Beach, FL. January 8, 2016.
- Richardson R., Christman J. and Johnson R. Fumagillin exposure suppresses reactive oxygen species production in honey bee hemocytes. American Bee Research Conference, Ponte Verde Beach, FL. January 8, 2016.
- Johnson R.M. Synergistic pesticide interactions in bees. Entomological Society of Saskatchewan. Saskatoon, Saskatchewan. December 4, 2015
- Johnson R.M. Neonics and Corn Seed: Is Corn Dust Killing Bees? AgChem Summit 2015: Pollinators and Pesticides. Arlington, VA. December 1, 2015.
- Johnson R.M., Lin C-H and Watters H. Exposure of honey bees to seed treatment insecticides during corn planting in Ohio. Entomological Society of America Annual Meeting. Minneapolis, MN. November 17, 2015.
- Steeger T, Johnson R, Overmyer J, Garber K, Fisher D. Pollinator risk assessment short course. SETAC North America Annual Meeting. Salt Lake City, UT. November 1, 2015
- Johnson R.M. Corn, soybeans and honey bees: risks and benefits for pollinators in today's agricultural landscape. Department of Horticulture and Crop Science, The Ohio State University. Wooster, OH. October 21, 2015.

- Johnson R.M. Foraging for answers in a world of questions: What impact do pesticides have on honey bees? Department of Entomology, University of Maryland. College Park, MD. October 16, 2015.
- Johnson R.M. Seed treatments in corn: impacts on honey bees. Department of Entomology, University of Minnesota. St. Paul, MN. September 15, 2015.
- Johnson R.M. Honey bees and pesticides: a complicated relationship. University of Arkansas, Department of Entomology Weekly Seminar. Fayetteville, AR. March 20, 2015.
- Johnson R, Riusech N. and Wransky M. Effects of “bee safe” insecticides on worker development. American Bee Research Conference. Tucson, AZ. January 23, 2015.
- Johnson R.M. Methods for determining the effect of pesticide exposure on bees. ACS-AGRO Lunch and Learn Webinar. December 3, 2014.
<http://www.agrodiv.org/webinars/dec2014/1.html>
- Johnson R.M. Killer combinations: which pesticide mixtures are problematic for pollinators? Annual Meeting of the Entomological Society of America. Portland, OR. November 16, 2014.
- Johnson R.M. Determining the hazard of pesticides to honey bees: new and established methods. 13th IUPAC International Congress of Pesticide Chemistry. San Francisco, CA. August 13, 2014.
- Johnson R.M. Pollinator P450s: a lack of “blooms” increases pesticide risks? International Society of Chemical Ecology Annual Meeting. Urbana, IL. July 12, 2014.
- Johnson R.M. Honey bee exposure to neonicotinoid insecticides during corn planting in Ohio. Ozark Prairie Section of SETAC. Stilwell, KS. May 20, 2014.
- Johnson R.M. The effect of pesticides and pesticide combinations on honey bees. The Ohio State University, Department of Plant Pathology. Wooster, OH. February 4, 2014.
- Johnson R.M. and Percel E.J. Effect of the IGR insecticide Dimilin on queen development. American Bee Research Conference. San Antonio, TX. January 11, 2014.
- Sponsler, D. B., C.-H. Lin, and R. Johnson. Honey bee foraging in a Midwestern agroecosystem. Poster, Entomological Society of America Annual Meeting, Austin, TX. November 11, 2013
- Johnson R.M., Xu J. and Janini T. Comparing pesticide sensitivities between the honey bee and other bee species from a toxicogenomic perspective. Annual Meeting of the Entomological Society of America. Austin, TX. November 10, 2013
- Quijia Pillajo J. O., Johnson R, Sponsler D. B., Lin C.-H., and Richardson R. DNA metabarcoding: a novel tool in melissopalynology. OSU International Scholar Research Summaries, Columbus, OH. 2013
- Johnson R.M. Functional toxicogenomics in bees: recent advances towards mechanism-based risk assessment. EuroTox 2013. Interlaken, Switzerland. September 4, 2013.
- Johnson R.M. and Percel E.J. Effect of insecticides and fungicides applied to almonds during bloom on honey bee queen development and survival. 2nd International Conference on Pollinator Biology, Health and Policy. State College, PA. August

14-17, 2013.

- Johnson R.M. and Percel E.J. Effect of "Bee-Safe" insecticides and fungicides on honey bee queen development and survival. Honey Bee Health Summit. Chesterfield, MO. June 12, 2013
- Johnson R.M. and Goulson D. Summary of Discussion on Risk Assessment of Multiple Stressors in Bees: From Mechanistic to Holistic Approaches. EFSA Scientific Colloquium XVIII - Towards holistic approaches to the risk assessment of multiple stressors in bees. Parma, Italy. May 16, 2013
- Johnson R.M. Pollinator P450s: Comparing detoxicative enzyme gene families in the genomes of bees and other insects. Wooster Area Molecular Biology Association. Wooster, OH. January 18, 2013.
- Johnson R.M. and Percel E.J. The effects of the fungicide Pristine on queen rearing. American Bee Research Conference. Hershey, PA. January 11, 2013.
- Sponsler D.S. and Johnson R.M. Urbanization, agricultural intensity and urban-rural interface as predictors of hive productivity. Hershey, PA. January 10, 2013.
- Dahlgren L., Siegfried E., Johnson R., Siegfried B. and Ellis M. Honey bee caste-specific acetylcholinesterase inhibition: Insights into coumaphos tolerance. Hershey, PA. January 10, 2013.
- Johnson R.M. What effect do pesticides have on honey bee health? Society of Environmental Toxicology and Chemistry North America 33rd Annual Meeting, Long Beach, CA. November 13, 2012.
- Sponsler D.S. and Johnson R.M. Influence of urbanization on the survival and productivity of honey bee (*Apis mellifera*) colonies in an agricultural region. Annual Meeting of the Entomological Society of America. Knoxville, TN. November 12, 2012.
- Johnson, R.M. Pesticide and drug interactions in honey bees. Michigan State University, Department of Entomology. East Lansing, MI. October 22, 2012.
- Johnson, R.M. Pesticide and drug interactions in honey bees. University of Florida, Department of Entomology. Gainesville, FL. September 27, 2012.
- Johnson, R.M. Pesticide exposure and stress in honey bees. Symposium: Stress Biology Research: Genetic, Molecular and Population Level Approaches. North Central Branch Meeting of the Entomological Society of America. Lincoln NE. June 5, 2012
- Johnson, R.M. Pesticide interactions in honey bees. The Ohio State University, Department of Horticulture and Crop Science. Wooster OH. April 13, 2012
- Johnson, R.M. Drug interactions in honey bees. The Ohio State University, Department of Entomology. Wooster OH. March 7, 2012
- Johnson, R.M. Drug interactions in honey bees. College of Wooster, Department of Biology. Wooster, OH. March 1, 2012.
- Johnson, R.M., E. Siegfried and M.D. Ellis. Synergistic pesticide interactions in whole honey bee colonies. American Bee Research Conference. Riverdale, MD. February 7, 2012
- Johnson, R.M. Colony Collapse Disorder. Xavier University, Department of Biology. February 3, 2012.
- Johnson, R.M. Using social insect systems for scientific outreach. Annual Meeting of the Entomological Society of America. Reno, NV. November 15, 2011.

- Johnson, R.M. Pesticide-drug interactions in honey bee hives. United States Environmental Protection Agency, Pollinator Protection Series. May 17, 2011.
- Johnson, R.M. Modern challenges to honey bee health: pesticides, pathogens, and drugs. Texas A&M, Department of Entomology. College Station, TX. February 24, 2011.
- Johnson, R.M. Modern challenges to honey bee health: pesticides, pathogens and drugs. Pennsylvania State University, Department of Entomology. University Park, PA. February 15, 2011.
- Johnson, R.M. Modern challenges to honey bee health: pesticides, pathogens and drugs. The Ohio State University, Department of Entomology. February 9, 2011.
- Johnson, R.M. Modern challenges to honey bee health: pesticides, pathogens and drugs. University of California-Davis, Department of Entomology. Davis, California. January 31, 2011.
- Johnson, R.M. Modern challenges to honey bee health: pesticides, pathogens and drugs. Oregon State University, Department of Horticulture. Corvallis, OR. January 12, 2011.
- Johnson, R.M. Broodmapper: developing a web-based game to detect pesticide effects in honey bee brood. American Bee Research Conference. Galveston, TX. January 6, 2011.
- Johnson, R.M. Drug interactions between miticides and fungicides in honey bees (*Apis mellifera*). Annual Meeting of the Entomological Society of America. San Diego, CA. December 14, 2010.
- Johnson, R.M. Drug interactions between miticides and fungicides in honey bees. International Conference of Pollinator Biology, Health and Policy. State College, PA. July 27, 2010.
- Johnson, R.M. Drug interactions between in-hive miticides and fungicides in honey bees. American Bee Research Conference. Orlando, FL. January 15, 2010.
- Johnson, R.M. In-hive miticides affect drone survival and sperm viability. Annual Meeting of the Entomological Society of America. Indianapolis, IN. December 16, 2009.
- Johnson, R.M. Changes in transcript abundance relating to colony collapse disorder in honey bees (*Apis mellifera*). Annual Meeting of the Entomological Society of America. Indianapolis, IN. December 14, 2009.
- Johnson, R.M. Modern challenges to honey bee health: pesticides, pathogens and drugs. University of Minnesota, Department of Entomology. St. Paul, MN. December 8, 2009.
- Johnson, R.M. Changes in transcript abundance relating to colony collapse disorder in honey bees. University of Nebraska—Lincoln, Department of Entomology. October 29, 2009.
- Johnson, R.M. Changes in transcript abundance relating to colony collapse disorder in honey bees. Black Hills State University, Integrative Genomics Seminar. Spearfish, SD. October 23, 2009.
- Johnson, R.M. Panelist. EPA Honey Bee Science Panel, Pesticide Protocol Development Workshop. Crystal City, VA. July 8-9, 2009.
- Johnson, R.M. Synergistic interactions between in-hive miticides in *Apis mellifera*. American Bee Research Conference. Gainesville, FL. February 5, 2009.

- Johnson, R.M. Honey bee cytochrome P450s and their role in pesticide detoxification. PhD Exit Seminar. University of Illinois at Urbana-Champaign, Department of Entomology. Urbana, IL. October 2, 2008.
- Johnson, R.M. Honey bee cytochrome P450s and their role in pesticide detoxification. University of Nebraska—Lincoln, Department of Entomology. Lincoln, NE. July 24, 2008.
- Johnson, R.M. Comparison of the cytochrome P450 genes in the genomes of *Apis mellifera* and *Nasonia vitripennis*: effects of haplodiploidy and eusociality on the P450 repertoire. Southwest Cytochromes P450 Meeting. Navasota, TX. May 14, 2008.
- Johnson, R.M. Comparison of the cytochrome P450 genes in the genomes of *Apis mellifera* and *Nasonia vitripennis* Arthropod Genomics Symposium. Kansas City, MO. April 11-13, 2008.
- Johnson, R.M. Comparison of cytochrome P450 monooxygenase genes in the genomes of *Apis mellifera* and *Nasonia vitripennis*: effects of haplodiploidy and eusociality on the P450 repertoire. Annual Meeting of the Entomological Society of America. San Diego, CA. December 10, 2007.
- Johnson, R.M. Comparison of cytochrome P450 monooxygenase genes in the genomes of *Apis mellifera* and *Nasonia vitripennis*: effects of haplodiploidy and eusociality on the P450 repertoire. Nasonia Genome Annotation and Assembly Meeting. Tempe, AZ. June 2, 2007.
- Johnson, R.M. "Cytochrome P450s in honey bees: insecticide metabolism and genome annotation. Entomological Society of America, North Central Branch Annual Meeting. Bloomington, IL. March 27, 2006.
- Johnson, R.M. Phenobarbital alters cytochrome-P450-mediated metabolism of insecticides in honey bees. Annual Meeting of the Entomological Society of America. Indianapolis, IN. December 11, 2006.
- Johnson, R.M. Cytochrome P450s in honey bees: insecticide metabolism and genome annotation. Annual Meeting of the Entomological Society of America. Fort Lauderdale, FL. December 16, 2005.
- Johnson, R.M. Cytochrome P450s in honey bees: insecticide metabolism and genome annotation. Cell and Molecular Biology and Molecular Biophysics Research Symposium. October 14, 2005.
- Johnson, R.M. Honey bees vs. insecticides: detoxification through cytochrome P450s. Cole Lecture Series. Wabash College, Crawfordsville, IN. September 1, 2005.
- Johnson, R.M. Inducible metabolism of a pyrethroid insecticide in honey bees (*Apis mellifera*). Annual Meeting of the Entomological Society of America. Salt Lake City, UT. November 15, 2004.
- Johnson, R.M. Inducible metabolism of a pyrethroid insecticide in honey bees (*Apis mellifera*). Cell and Molecular Biology and Molecular Biophysics Research Symposium. November 4, 2004.
- Johnson, R.M. Courtship in the yellow-banded wasp moth *Syntomeida ipomoeae* (Lepidoptera: Arctiidae). Annual Meeting of the Entomological Society of America. Cincinnati, OH. October 27, 2003
- Johnson, R.M. Courtship and chemical defense in the yellow-banded wasp moth (*Syntomeida ipomoeae*). Wake Forest University, Winston-Salem, NC.

September 4, 2002

Johnson, R.M. Chemical defenses in the yellow-banded wasp moth. Archbold Biological Station, Lake Placid, FL. August 16, 2001

OUTREACH PRESENTATIONS

Johnson, R.M. Supporting Pollinators in Lawns and Urban Areas. Ohio Turfgrass Foundation Conference & Show and Ohio State University Green Industry Short Course, Virtual Conference. January 5, 2021

Johnson, R.M. Finding New Tools for Varroa Control. Ohio State Beekeepers Association Fall Meeting, Virtual Meeting. November 7, 2020

Johnson, R.M and Goulson, D. Systemic Pesticides Workshop. PepsiCo, Virtual Meeting. September 23, 2020.

Johnson, R.M. Chemicals in Almond Production, Tri-County Beekeepers Association 42nd Annual Spring Workshop. Wooster, OH. March 7, 2020

Johnson, R.M. Urban vs. Rural Beekeeping: Risks and Benefits. Central Ohio Beekeepers Association Monthly Meeting, Columbus, OH. February 19, 2020

Johnson, R.M. How to Know Which Pesticides Are Toxic to Bees; Synergism of Farm Chemicals. British Columbia Bee Master Workshop, Vancouver, BC, Canada. February 12-13, 2020

Johnson, R.M. Honey Bee Biology and Problems. Master Gardener Volunteer Pollinator Specialization, Wooster, OH. February 10, 2020

Johnson, R.M. Planting Forage for Bees: What do bees really eat?. Ohio Turf Foundation Annual Meeting, Columbus, OH. December 3, 2019

Johnson, R.M. What Effect Do Combinations of Insecticides, Fungicides and Adjuvants Have on Honey Bee Larvae, Workers and Queens? California State Beekeepers Association Annual Meeting, Pechanga, CA. November, 19, 2019

Johnson, R.M. Pesticides Colloquium. Bee Informed Partnership Virtual Colloquium Series. November 8, 2019

Johnson, R.M. & Walker, E. Effects of the Addition of a Spray Adjuvant on Insecticide and Fungicide Toxicity to Adult Honey Bee Workers. Poster presented at The Almond Conference, Sacramento, CA. December 9, 2019

Johnson, R.M. Discovering new chemical controls for Varroa, Nosema and European Foulbrood. Ohio State Beekeepers Association Fall Meeting. Plain City, OH. November 2, 2019

Johnson, R.M. Pesticides and Poisons in the Hive: An Overview of Bee Toxicology; Risks and Benefits of Bee Foraging in Both Urban and Agricultural Areas. Worcester County Beekeepers Association, Leicester, MA. October 5, 2019.

Johnson, R.M. Hambleton Award Lecture: Solving Problems At The Intersection Bee Foraging & Pesticide Application; An Overview Of Honey Bee Pesticide Testing & Regulatory Toxicology. Eastern Apicultural Society Annual Meeting, Greenville, SC. July 18, 2019

Johnson, R.M. Plenary Lecture: Pesticides and Poisons in the Hive: An overview of bee toxicology; Beekeeping in Urban and Agriculture Areas in the Midwest: Risks and Benefits. Heartland Apicultural Society Annual Meeting, Bowling Green, KY. July 9, 2019

- Johnson, R.M. Interactions between insecticides and fungicides applied to almonds during bloom. American Beekeeping Federation Annual Meeting, Myrtle Beach, SC. January 10, 2019.
- Johnson, R.M. Insecticide-fungicide-adjuvant combinations and honey bee development. Almond Board of California Annual Meeting, Sacramento, CA. December 4, 2018
- Johnson, R.M. Beekeeping in urban and agricultural areas; Current Varroa control and prospects for new miticides; Advanced honey bee foraging and nutrition; Honey bee toxicology; Effects of insecticide and fungicide combinations applied to almonds. Texas Beekeepers Association Annual Meeting, Temple, TX. November 9-10, 2018.
- Johnson, R.M., Gross, B., Whitehead, H. Double benefits of drone brood removal: Varroa control and food for people. Ohio State Beekeepers Association Fall Meeting, Plain City, OH. November 3, 2018.
- Johnson, R.M. & Hearon, L. Soybean vs. Clover: Summertime honey production in Ohio. Ohio State Beekeepers Association Fall Meeting, Plain City, OH. November 3, 2018.
- Johnson, R.M. Beekeeping. Ohio Farm Service Agency, Findlay, OH. August 15, 2018.
- Johnson, R.M. Optimizing bee health. Ohio Lawn Care Association Meeting, Columbus, OH. August 9, 2018
- Johnson, R.M. Optimizing bee health. Ohio Lawn Care Association Meeting, Wooster, OH. June 14, 2018
- Johnson, R.M. Where are honey bees foraging in Ohio? Beekeeping Webinar Series, The Ohio State University. May 16, 2018 <http://u.osu.edu/beelab/where-are-honey-bees-foraging-in-ohio-with-dr-reed-johnson/>
- Johnson, R.M. Honey bee toxicology; The place of pesticides in pollinator decline; Biology of individuals; Urban vs. ag: What are the risks and benefits. Young Harris Bee Institute, Young Harris, GA. May 9-11, 2018.
- Johnson, R.M. Where are bees foraging in Ohio? Scioto Valley Beekeepers Association meeting, Circleville, OH. March 8, 2018.
- Johnson, R.M. Where are bees foraging in Ohio? Tri-County Beekeepers Association 40th Annual Spring Workshop. Wooster, OH. March 3, 2018.
- Johnson, R.M. How Pesticides Impact Bees. Integrated Crop Pollination Workshop, Wooster, OH. March 1, 2018.
- Johnson R.M., Scott S., et al. Defend our Bees. Defend Our Future. Columbus, OH. February 22, 2018.
- Johnson R.M., Wade A., and Lin C-H. Effect of Insecticide Fungicide Combinations Applied to Almonds During Bloom on Honey Bee Workers and Larvae. American Honey Producers Association Annual Meeting, San Diego, CA. January 10, 2018.
- Johnson R.M. Solving the Problems Facing Honey Bees. Believe in Ohio. Wooster, OH. November 28, 2017.
- Johnson R.M. Pesticides and poisons in the hive. Alberta Beekeepers Commission. Edmonton, Alberta. November 7-8, 2017.
- Johnson R.M. Where are the bees going? Ohio State Beekeepers Association Fall Meeting. Plain City, OH. November 4, 2017.
- Johnson R.M. Overview of beekeeping. ATI Beekeeping Club. Wooster, OH. October 9, 2017.
- Johnson R.M. Effect of Emerald Ash Borer Treatments on Pollinators. EAB University webinar. October 5, 2017.
- Johnson R.M. Viruses in Honey Bees. Beekeeping Webinar Series, The Ohio State University.

- August 16, 2017. <http://u.osu.edu/beelab/viruses-in-honey-bees/>
- Johnson R.M. Honey bees. Science Club. Cornerstone Elementary School, Wooster, OH. May 22, 2018.
- Johnson R.M. Africanized Bees: Can We Live with Them? Tri-County Beekeepers Association 39th Annual Spring Workshop. Wooster, OH. March 4, 2017.
- Johnson R.M. and Lin C-H. Effects of Insecticide and Fungicide Combinations on Honey Bees. Grower and Pest Control Advisor Group, The Almond Conference. December 8, 2016.
- Johnson R.M. Beekeeping Drugs: When and Why. Richland County Beekeepers Association Monthly Meeting. Ashland, OH. November 15, 2016.
- Johnson R.M. Effects of Emerald Ash Borer Treatments on Pollinators. Ohio State Beekeepers Association Fall Meeting. Plain City, OH. November 5, 2016.
- Johnson R.M. Beekeeping Drugs: When and Why. Stark County Beekeepers Association Monthly Meeting. Massillon, OH. November 1, 2016.
- Johnson R.M. Beekeeping Drugs: When and Why. Tri-County Beekeepers Association Monthly Meeting. Wooster, OH. October 26, 2016.
- Johnson R.M. Bee lab research overview. Summit County Master Gardeners' Bus Tour. Wooster, OH. September 16, 2016.
- Johnson R.M. Beekeeping Basics. Cuyahoga Metropolitan Housing Authority Green Team. Wooster, OH. September 8, 2016.
- Johnson R.M. Risks and Benefits in Agricultural Areas. South Carolina Beekeepers Association. Charleston, SC. July 22, 2016.
- Johnson R.M. Pesticides and Poisons in the Hive: An Overview of Bee Toxicology. South Carolina Beekeepers Association. Charleston, SC. July 22, 2016.
- Johnson R.M. Corn and soybeans: opportunities and risks in the agricultural environment in Ohio. East-Central Ohio Beekeepers Association. Granville, OH. May 19, 2016
- Johnson R.M. Pesticides and Poisons in the Hive: An Overview of Bee Toxicology. Beekeeping Webinar Series, The Ohio State University. May 18, 2016
https://www.youtube.com/watch?feature=player_embedded&v=15AaGxyy-D0
- Johnson R.M. Bee lab research overview. Pollinator Specialists, Master Gardener Program. Wooster, OH. April 18, 2016.
- Johnson R.M. Corn and soybeans: opportunities and risks in the agricultural environment. Ontario Beekeepers Association. Guelph Line, Ontario. March 31, 2016
- Johnson R.M. Pesticides and poisons in the hive. Ontario Beekeepers Association. Guelph Line, Ontario. March 31, 2016.
- Johnson, R.M. Chemical Treatments: When and Why. Tri-County Beekeepers Association 38th Annual Spring Workshop. Wooster, OH. March 5, 2016.
- Johnson R.M. Setting the Stage: Why Nutrition Matters. Creating Pollinator Habitat Workshop. Wooster, OH. February 18, 2016
- Johnson R.M. An Overview of the Problems Facing Bees. Tri-State Green Industry Conference. Sharonville, OH. February 4, 2016
- Johnson R.M. Honey bee foraging in Ohio's (and Indiana's and Kentucky's) landscapes. Tri-State Green Industry Conference. Sharonville, OH. February 4, 2016
- Johnson R.M. Honey Bee Toxicology. Foundation for the Preservation of Honey Bees Luncheon Talk. Ponte Verde Beach, FL. January 8, 2016
- Johnson R.M. Pesticides and poisons in the hive. Saskatchewan Beekeepers Association. Saskatoon, Saskatchewan. December 3, 2015

Johnson R.M. Corn and soybeans: opportunities and risks in the agricultural environment. Saskatchewan Beekeepers Association. Saskatoon, Saskatchewan. December 3, 2015

Johnson R.M. The riddle of Nosema: is the cure worse than the disease? Ohio State Beekeepers Association Fall Meeting. Plain City, OH. October 31, 2015.

Johnson R.M. The riddle of Nosema: is the cure worse than the disease? Tri-County Beekeepers Association Monthly Meeting. Wooster, OH. October 28, 2015.

Johnson R.M. Effects of EAB Treatments on Pollinators. Webinar Emerald Ash Borer University. October 1, 2015. <https://www.youtube.com/watch?v=K4zPXzeDEh8>

Johnson R.M. The effects of 'bee safe' insecticides on queen and worker development. Western New York Honey Producers. East Aurora, NY. September 26, 2015.

Johnson R.M. Pesticides and poisons in the hive. Western New York Honey Producers. East Aurora, NY. September 26, 2015.

Johnson R.M. Pumpkin Field Day. Toxicity of pesticide combinations used in cucurbits to squash bees and honey bees. Western Branch OARDC. South Charleston, OH. August 20, 2015.

Johnson R.M. Effect of tank-mix pesticide combinations on bees. Beekeeping Webinar Series, The Ohio State University. July 15, 2015. <http://u.osu.edu/beelab/effect-of-tank-mix-pesticide-combinations-on-bees/>

Johnson R.M. An Overview of the Problems Facing Bees: OSU Research and What Can Be Done to Improve the Situation. NE Ohio Lawn Care Meeting. Wooster, OH. June 18, 2015

Johnson, R.M. Corn planter dust – it's not all dirt. Sandusky River Valley Beekeepers Association Meeting. Clyde, OH. April 6, 2015.

Johnson, R.M. Pesticides and poisons in the hive. Medina County Beekeepers Association Meeting. Medina, OH. March 16, 2015.

Johnson, R.M. Corn planter dust – it's not all dirt. Scioto Valley Beekeepers Association Meeting. Circleville, OH. March 12, 2015.

Johnson, R.M. Beekeeping career in science. Tri-County Beekeepers Association 38th Annual Spring Workshop. Wooster, OH. March 7, 2015.

Johnson, R.M. Corn planter dust – it's not all dirt. Crop Tillage Conference. Ada, OH. March 3, 2015.

Johnson, R.M. The problems with corn seed treatment dust. Maryland State Beekeepers Association Winter Meeting. February 14, 2015.

Johnson, R.M. Pesticides and poisons in the hive. Maryland State Beekeepers Association Winter Meeting. February 14, 2015.

Johnson, R.M. Exposure of honey bees to insecticides during corn planting. Ohio Agribusiness Association Industry Conference. Columbus, OH. February 4, 2015.

Summers, A., Johnson R.M. and Sad, T. Neonicotinoids and Bees. Legislative Ag Chairs Summit. Clearwater, FL. January 3, 2015.

Johnson, R.M. Where have all the bees gone? Ohio Turfgrass Foundation Conference & Show and Ohio State University Green Industry Short Course. Sandusky, OH. December 11, 2014.

Johnson, R.M. Effects of Pesticide Combinations on Workers and Queens. California State Beekeepers Association. Valencia, CA. November 20, 2014.

Johnson, R.M. Honey bee toxicology. Ohio State Beekeepers Association Fall Meeting. Plain City, OH. November 1, 2014

- Johnson R. Bee Foraging in Rural Areas During Corn Planting. Beekeeping Webinar Series, The Ohio State University. August 20, 2014. <http://u.osu.edu/beelab/bee-foraging-in-rural-areas-during-corn-planting/>
- Johnson R.M. Corn Seed Treatment Dust in Ohio; Broodmapper: A web-based game that contributes to honey bee research; Effect of IGR insecticides on development; Pesticides and poisons in the hive. Heartland Apicultural Society Annual Meeting. Carbondale, IL. July 10-11.
- Johnson R.M. Introduction to honey bee health; Viruses; Pesticides and Nosema. The Ohio State University Bee Health Workshop. June 30-July 1, 2014
- Johnson R.M. Neonicotinoids: toxicology and mode of action. Pollinator health, neonicotinoids, and management of hemlock woolly adelgid and emerald ash borer webinar. National Park Service. June 19, 2014.
- Johnson R.M. The problem with corn seed treatment dust. Tuscarawas County Beekeepers Association, Dover, OH. June 12, 2014.
- Johnson R.M. Are Pesticides Killing Honey Bees? Buffalo-Erie County Botanical Gardens, Buffalo, NY. May 2, 2014.
- Johnson R.M. What Is The Matter With Honey Bees? Wooster Science Café. First Amendment Public House, Wooster, OH. April 24, 2014.
- Johnson R.M. A Chemical Bee Interaction. Stark County Beekeepers Association Monthly Meeting, Massillon, OH. March 4, 2014.
- Bloetcher, B., Johnson, R., Kovaleski, J. Questions and answers. Tri-County Beekeepers' Association 37th Annual Spring Beekeeping Workshop. Wooster, OH. March 1, 2014.
- Johnson R.M. A Chemical Bee Interaction. Tri-County Beekeepers' Association 37th Annual Spring Beekeeping Workshop. Wooster, OH. March 1, 2014.
- Johnson R.M. and Michel A. Seed Treatments in Corn: Impacts on Pests and Pollinators. 68th Northeastern Corn Improvement Conference, Wooster, OH. February 14, 2014.
- Johnson R.M. and Michel A. Seed Treatments in Corn: Impacts on Pests and Pollinators. Corn, Soybean and Wheat Connection Webinar. <https://carmenconnect.osu.edu/p3j96de7pi1> January 14, 2014.
- Johnson R.M. Status of Honey Bees and Effects of Pesticides on Bees. Muck School. Willard, OH. January 9, 2014.
- Johnson R.M. Effects of Pesticides on Bees. Pesticide Applicator Training Educator Inservice. Columbus, OH. January 7, 2014
- Johnson R.M. and Percel E.J. Effect of insecticides and fungicides applied to almonds during bloom on honey bee queen development and survival. The Almond Conference, Sacramento, CA. December 3-5, 2013.
- Johnson R.M. Effect of Dimilin on Queen Rearing. California State Beekeepers Association Annual Meeting. South Lake Tahoe, NV. November 21, 2013
- Johnson R.M. Measuring Pesticide Exposure and Effects on Honey Bees. Ohio State Beekeepers Association Fall Meeting. Plain City, OH. November 2, 2013
- Johnson R.M. Measuring pesticide exposure and effects on honey bees. Tri-County Beekeepers Association. Wooster, OH. October 30, 2013.
- Johnson R.M. Honey bee pesticide interaction update. Pumpkin Field Day. OARDC Western Research Station, South Charleston, OH. August 26, 2013.
- Johnson R.M. Protecting honey bees from pesticides. Muck Crops Field Day. Celeryville, OH. July 25, 2013.

- Johnson R. Testing drug-fungicide interactions using Broodmapper. Beekeeping Webinar Series, The Ohio State University – OARDC. May 29, 2013. <http://carmenconnect.osu.edu/p2j3k6tg2bk/>
- Johnson, R. The effects of pesticides and pesticide combinations on bees. Medina County Beekeepers Association. Medina, OH. May 27, 2013.
- Berry, J., Bloetcher, B., Johnson, R., Kovalski, J. Questions and answers. Tri-County Beekeepers' Association 36th Annual Spring Beekeeping Workshop. Wooster, OH. March 2, 2013.
- Johnson, R.M. Broodmapper: a web-based game that contributes to honey bee research. American Beekeeping Federation 2013 North American Beekeeping Conference and Trade Show. Hershey, PA. January 11, 2013.
- Johnson, R.M. and Frazier, J.L. Current state of knowledge of pesticides and best management practices for mitigating impacts on honey bee health. National Stakeholder Conference on Honey Bee Health. Alexandria, VA. October 15, 2012.
- Johnson, R.M. Questions from the hive. Beekeeping Webinar Series, The Ohio State University – OARDC. August 15, 2012. <http://osu-pilot-conc.adobeconnect.com/p3tkmya69u8/>
- Johnson, R.M. Pesticides in and around the hive. Beekeeping Webinar Series, The Ohio State University – OARDC. May 16, 2012. <http://osu-pilot-conc.adobeconnect.com/p5i6qa7691x/>
- Johnson, R.M. Drug interactions in honey bees. Tri-County Beekeepers' Association 34th Annual Spring Beekeeping Workshop. Wooster, OH. March 3, 2012.
- Bloetcher, B., Johnson, R., and Kovalski, J. Questions and answers. Tri-County Beekeepers' Association 35th Annual Spring Beekeeping Workshop. Wooster, OH. March 3, 2012.
- Johnson, R.M. Testing drug-fungicide interactions using *Broodmapper*. Tri-county Beekeepers Association Monthly Meeting. Wooster, OH. January 25, 2012.
- Johnson, R.M. Honey bee pharmacology. Nebraska Beekeepers Association Meeting. Ithaca, NE. November 20, 2010.
- Johnson, R.M. Colony collapse disorder and modern challenges to honey bee health: the roles of pesticides, pathogens and drugs. Association of American Pesticide Control Officials, Spring Meeting. Arlington, VA. March 9, 2010.
- Johnson, R.M. Interactions between miticides. Eastern Apiculture Society, Ellicottville, NY. August 5, 2009.
- Johnson, R.M. Colony collapse disorder. Public Health and Vectorborne Diseases Seminar. Macomb, IL. October 17, 2008.
- Johnson, R.M. Guest. WICD-TV (Champaign, IL) Sunrise News. August 26, 2008.
- Johnson, R.M. Colony collapse disorder update. National Pollinator Week in Champaign-Urbana Opening Ceremony. June 22, 2008.
- Johnson, R.M. Colony collapse disorder: history and possible causes. University of Illinois at Urbana-Champaign Osher Lifelong Learning Institute, "Don't Bee Afraid" course. Champaign, IL. March 6, 2008.
- Johnson, R.M. Colony collapse disorder: history and possible causes. Northern Illinois Beekeepers' Association meeting. Woodstock, IL. February 15, 2008.
- Johnson, R.M. Colony collapse disorder: history and possible causes. Central-Eastern Illinois Beekeepers' Association meeting. Urbana, IL. January 27, 2008.
- Johnson, R.M. The effects of colony collapse disorder and other diseases on bees and beekeeping. Illinois Specialty Crops Conference. Springfield, IL. January 11, 2008.

EXTENSION PROGRAMS

Presenter University of Nebraska-Lincoln Queen Rearing Workshop. 2011

Presenter University of Nebraska-Lincoln Beginning Beekeeping Workshops. 2009-2011

Presenter University of Nebraska-Lincoln Midwest Master Beekeeping Workshop. 2010, 2019

PROFESSIONAL MEMBERSHIP

American Association of Professional Apiculturists

Entomological Society of America

American Association for the Advancement of Science

Society of Environmental Toxicology and Chemistry