

Scott H. McArt

Assistant Professor
Department of Entomology
Cornell University
4132 Comstock Hall
Ithaca, NY 14853
shm33@cornell.edu

Phone: 607-255-1377 (lab)
Phone: 607-351-7018 (cell)
Fax: 607-255-0939
blogs.cornell.edu/mcartlab/
pollinator.cals.cornell.edu/
facebook.com/DyceLab/

EDUCATION

Postdoctoral, Entomology, 2014	UMass-Amherst
PhD, Entomology, 2012	Cornell University
MS, Biological Sciences, 2006	University of Alaska-Anchorage
BA, Environmental and Evolutionary Biology, 2001	Dartmouth College

ACADEMIC APPOINTMENT

Assistant professor of pollinator health (60% research, 40% extension)

AREAS OF EXPERTISE

Disease ecology, ecotoxicology, community ecology, chemical ecology, plant-pollinator interactions

PROFESSIONAL EXPERIENCE

2017-present	Assistant Professor, Department of Entomology, Cornell University
2017-present	Director, Cornell Chemical Ecology Core Facility
2017-present	Associate Curator, Cornell University Insect Collection
2014-2017	Research Scientist, Department of Entomology, Cornell University
2012-2014	Postdoctoral Fellow, Pollination Ecology Laboratory, Department of Biology, University of Massachusetts, Amherst
2010-2011	Teaching Assistant, Department of Entomology, Cornell University
2009-2010	Research Assistant, Department of Entomology, Cornell University
2007-2009	Teaching Assistant, Department of Entomology, Cornell University
2006-2007	Teaching Assistant, Undergraduate Biology Program, Cornell University
2005-2006	Consultant, 3PP Natural Resource Consulting, Palmer, Alaska
2004-2005	Teaching Assistant, Department of Biology, University of Alaska, Anchorage
2003-2004	Adjunct Instructor, Department of Biology, University of Alaska, Anchorage
2001-2003	Technician, Nutritional Ecology Laboratory, Department of Biology, University of Alaska, Anchorage

HONORS AND AWARDS

Cornell CALS Outstanding Accomplishments in Extension/Outreach (Pollinator Health Team), 2017
Atkinson Center for a Sustainable Future Faculty Fellow, 2016-2021
USDA NIFA Postdoctoral Fellowship, 2012-2014
Palmer Fellowship, Cornell Entomology, 2012
Wearers of the Green, Dartmouth College Hall of Fame, 2003

GRANT SUPPORT

Active Grants and Contracts

Petersen (PI), McArt (Co-PI)	09/01/19-08/31/22
Cornell Institute for Digital Agriculture (CIDA)	\$225,000

"Improving strawberry yield through native and robotic pollinators"

The goal of this project is to improve sensing and robotic technology that assesses and enhances pollination of strawberry in a spatially explicit manner.

- Thoney (PI), Lehmann & **McArt (co-PIs)** 07/01/19-06/30/21
 Atkinson Center Academic Venture Fund \$124,236
"Grazing sheep on solar array sites to optimize pollinator plant species and sequester soil carbon"
 This project will assess how to optimally conduct rotational sheep grazing on solar farm sites to simultaneously maximize forage for sheep, flowers for pollinators, and soil C sequestration.
- McArt (PI)**, Danforth, McFrederick & Baert (co-PIs) 04/01/19-03/31/22
 USDA NIFA 2018-08603 \$499,000
"Fungicides and pollinator health: Quantifying mechanisms of stress to inform real world solutions"
 The goal of this project is to understand how fungicide-insecticide and fungicide-parasite interactions impact pesticide risk to wild and managed bees.
- McArt (PI)** 08/01/18-07/31/21
 Cypress Creek Renewables, Inc. \$99,998
"Ecological and economic benefits of pollinator-friendly wildflower plantings on solar sites in New York"
 The goal of this project is to understand how wildflower plantings on solar sites impact pollinator populations and pollination services to nearby pollination-dependent crops.
- Jander (PI), **McArt (Co-PI)** 02/05/18-02/04/21
 USDA NIFA REEU 2017-06416 \$272,719
"Plant biotic interactions in agricultural systems"
 This program is comprised of 12 collaborating Cornell/USDA/Boyce Thompson Institute labs and is focused on providing research opportunities in plant biotic interactions to disadvantaged students and underrepresented minorities.
- McArt (PI)** 10/01/17-09/30/19
 FOC 17 001 \$99,635
 New York Farm Viability Institute Specialty Crop Block
"Balancing pest control with pollination services in NY strawberry: identifying effective low-risk pesticides to bees that ensure optimal pollination"
 The goal of this project is to understand how commonly used pesticide sprays impact pollination and fruit quality in a crop that relies on pollinators, but also has important fruit pests and pathogens.
- McArt (PI)**, Adler, Ellner, Irwin, McFrederick & Myers (Co-PIs) 10/1/16-09/30/20
 1 R01 GM122062 \$1,928,135
 NIH-NSF-USDA Ecology and Evolution of Infectious Disease Program
"Transmission networks in trait-based communities"
 The goal of this project is to understand how pathogen transmission and disease spread occur in complex communities of bees that visit shared resource venues (flowers).
- McArt (PI)**, Mullen (Co-PI) & Danforth (Senior Personnel) 08/01/18-07/31/19
 NYS Pollinator Protection Plan, Cornell Appropriation \$300,000
 NYS Environmental Protection Fund
"Assessing the importance of pesticides, pathogens and beekeeper management practices to improve the health of wild and managed pollinators in New York"
 This project has three main goals: 1) Assess how grower management practices can reduce pesticide risk during pollination of New York crops, 2) Assess the relative importance of pesticide exposure, pathogens/parasites and inadequate management practices for NYS honey bee health, and 3) Continue the NYS Beekeeper Tech Transfer Team, which works with beekeepers to improve operation-scale bee health and business decisions.
- McArt (PI)** 08/01/18-07/31/19
 Honey Bee Research \$150,000
 NYS Dept. of Agriculture & Markets
 The focus of this year's appropriation is on understanding the importance of invasive spotted knapweed for honey production in New York, for consideration in the release of biocontrol agents for knapweed.
- McArt (PI)** 10/01/16-09/30/20
 NYC-139850 \$125,000

USDA NIFA Multi-State Federal Capacity Funds

“Pesticide impacts on strawberry production: Balancing pest control with pollination services”

The goal of this project is to understand how commonly used pesticide sprays impact pollination and fruit quality in a crop that relies on pollinators, but also has important fruit pests and pathogens.

McArt (PI) 10/01/16-09/30/19
NYC-139442 \$90,000

USDA NIFA Federal Capacity Funds

“Consequences of pathogen spillover from managed to wild bees”

The goal of this project is to understand if and when pathogen spillover from managed honey bees results in negative impacts on wild bee communities.

Previous Grants and Contracts

Nault (PI), **McArt (Co-PI)** 10/01/15-09/30/18
USDA NIFA Multi-State Federal Capacity Funds \$90,000

McArt (PI), Mullen (Co-PI), Danforth (Senior Personnel) 08/01/16-07/31/18
NYS Pollinator Protection Plan, Cornell Appropriation \$600,000

McArt (PI) 04/01/15-03/31/17
New York Farm Viability Institute \$119,999

Mullen (PI), **McArt (Co-PI)** 01/15/16-12/31/16
Northern New York Agriculture Development Program \$28,910

McArt (PI) 04/01/15-03/31/16
North American Pollinator Protection Campaign \$10,000

McArt (PI) 09/01/12-08/31/14
USDA NIFA Postdoctoral Fellowship \$129,955

PEER REVIEWED PUBLICATIONS (h-index:13, i-10 index:13, 694 citations as of 7/30/19)

In review

Graystock, P., W. H. Ng, K. Parks, A. D. Tripodi, P. A. Muñiz, A. A. Fersch, C. R. Myers, Q. S. McFrederick and S. H. McArt. Dominant species and dilution drive parasite temporal dynamics in plant-pollinator communities. *Submitted to Nature Ecology & Evolution*.

Urbanowicz, C. M., P. A. Muñiz and S. H. McArt. Honey bees and wild bees differ in their preference for and use of introduced floral resources. *In review at Ecological Applications*.

Published

Iverson, A. L., C. Hale, L. Richardson, O. Miller and S. H. McArt. 2019. Synergistic effects of three sterol biosynthesis inhibiting fungicides on the toxicity of a pyrethroid and neonicotinoid insecticide to bumble bees. *In press at Apidologie*.

Milano, N. J., A. L. Iverson, B. A. Nault and S. H. McArt. 2019. Comparative survival and fitness of bumble bee colonies in natural, suburban, and agricultural landscapes. *Agriculture Ecosystems & Environment* 284:106594.

Urbanowicz, C. M., N. Baert, S. E. Bluher, M. Ramos, K. Böröczky and S. H. McArt. 2019. Low maize pollen collection and low pesticide risk to honey bees in heterogeneous agricultural landscapes. *Apidologie*. <https://doi.org/10.1007/s13592-019-00655-2>

Figuroa, L. L., M. Blinder, C. Grincavitch, A. Jelinek, E. Mann, L. Merva, L. Metz, A. Zhao, R. E. Irwin, S. H. McArt and L. S. Adler. 2019. Bee pathogen transmission dynamics: Deposition, persistence and acquisition on flowers. *Proceedings of the Royal Society of London B* 286: 20190603.

Truitt, L. L., S. H. McArt, A. H. Vaughn and S. P. Ellner. 2019. Trait-based modeling of multi-host pathogen transmission: Plant-pollinator networks. *The American Naturalist* 193:149-167.

- Adler, L. S., K. Michaud, S. P. Ellner, S. H. McArt, P. C. Stevenson and R. E. Irwin. 2018. Disease where you dine: Plant species and floral trait variation in pathogen transmission to bumble bees. *Ecology* 99:2535-2545.
- Tumminello, G., T. A. Volk, S. H. McArt and M. K. Fierke. 2018. Maximizing pollinator diversity in willow biomass plantings: A comparison among willow sex and pedigrees. *Biomass & Bioenergy* 117:124-130.
- McArt, S. H., C. M. Urbanowicz, S. McCoshum, R. E. Irwin and L. S. Adler. 2017. Landscape predictors of pathogen prevalence and range contractions in United States bumblebees. *Proceedings of the Royal Society of London B* 284:20172181.
- McArt, S. H., A. A. Fersch, N. Milano, L. L. Truitt, and K. Böröczky. 2017. High pesticide risk to honey bees despite low focal crop pollen collection during pollination of a mass blooming crop. *Nature Scientific Reports* 7:46554.
- McArt, S. H., T. Miles, C. Rodriguez-Saona, A. Schilder, L. S. Adler, and M. Grieshop. 2016. Floral scent mimicry and vector-pathogen associations in a pseudoflower-inducing plant pathogen system. *PLoS One* 11:e0165761.
- Parachnowitsch, A. L., S. C. Cook-Patton and S. H. McArt. 2014. Neighbours matter: Natural selection on plant size depends on the identity and diversity of the surrounding community. *Evolutionary Ecology* 28:1139-1153.
- Kaplan, I., S. H. McArt, and J. S. Thaler. 2014. Plant defenses and predation-risk differentially shape patterns of consumption, growth, and digestive efficiency in a guild of leaf-chewing insects. *PLoS One* 9:e93714.
- McArt, S. H., H. Koch, R. E. Irwin, and L. S. Adler. 2014. Arranging the bouquet of disease: Floral traits and the transmission of plant and animal pathogens. *Ecology Letters* 17:624-636.
- McArt, S. H. and J. S. Thaler. 2013. Plant genotypic diversity reduces the rate of consumer resource utilization. *Proceedings of the Royal Society of London B* 280:20130639.
- McArt, S. H., R. Halitschke, J-P. Salminen, and J. S. Thaler. 2013. Leaf herbivory increases plant fitness via induced resistance to seed predators. *Ecology* 94:966-975.
- Thaler, J. S., S. H. McArt, and I. Kaplan. 2012. Compensatory mechanisms for ameliorating the fundamental trade-off between predator avoidance and foraging. *Proceedings of the National Academy of Sciences* 109:12075-12080.
- McArt, S. H., S. C. Cook-Patton, and J. S. Thaler. 2012. Relationships between arthropod richness, evenness, and diversity are altered by complementarity among plant genotypes. *Oecologia* 168:1013-1021.
- Cook-Patton, S. C. *, S. H. McArt*, A. L. Parachnowitsch, J. S. Thaler, and A. A. Agrawal. 2011. A direct comparison of the consequences of plant genotypic and species diversity on arthropod communities and ecosystem function. *Ecology* 92:915-923. *Authors contributed equally.
- McArt, S. H., D. E. Spalinger, W. B. Collins, E. R. Schoen, T. Stevenson, and M. Bucho. 2009. Summer dietary nitrogen availability as a potential bottom-up constraint on moose (*Alces alces*) in South-central Alaska. *Ecology* 90:1400-1411.
- Capps, K. A., C. B. Turner, M. T. Booth, D. L. Lombardozzi, S. H. McArt, D. Chai, and N. G. Hairston, Jr. 2009. Behavioral responses of the endemic shrimp *Halocardina rubra* (Malacostraca: Atyidae) to an introduced fish, *Gambusia affinis* (Actinopterygii: Poeciliidae) and implications for the trophic structure of Hawaiian Anchialine ponds. *Pacific Science* 63:27-37.
- McArt, S. H., D. E. Spalinger, J. M. Kennish, and W. B. Collins. 2006. A modified method for determining tannin-protein precipitation capacity using accelerated solvent extraction (ASE) and microplate gel filtration. *Journal of Chemical Ecology* 32:1367-1377.

NON-REFEREED PUBLICATIONS

- McArt, S. H. 2019. Notes from the lab: The latest bee science distilled. Summary of Jactel et al. 2019 [*Environment International* 129:423-429]: "Alternatives to neonicotinoids." *American Bee Journal* 159(8):883-884.

- McArt, S. H. 2019. Notes from the lab: The latest bee science distilled. Summary of Sponsler et al. 2019 [*Science of the Total Environment* 662:1012-1027]: "Pesticides and pollinators: A socioecological synthesis." *American Bee Journal* 159(7):791-793.
- Bruckner, S., N. Steinhauer, S. D. Aurell, D. M. Caron, J. D. Ellis, A. M. Fauvel, K. Kulhanek, S. H. McArt, E. K. Mullen, J. Rangel, R. Sagili, J. Tsuruda, J. T. Wilkes, M. E. Wilson, D. Wynn, K. Rennich, D. vanEngelsdorp and G. R. Williams. 2019. 2018-2019 Honey Bee Colony Losses in the United States: Preliminary Results. <https://beeinformed.org/results/2018-2019/>
- McArt, S. H. 2019. Notes from the lab: The latest bee science distilled. Summary of Powney et al. 2019 [*Nature Communications* 10:1038]: "Widespread losses of pollinating insects in Britain." *American Bee Journal* 159(6):683-685.
- McArt, S. H. 2019. Notes from the lab: The latest bee science distilled. Summary of Wade et al. 2019 [*Insects* 10:20]: "Combined toxicity of insecticides and fungicides applied to California almond orchards to honey bee larvae and adults." *American Bee Journal* 159(5):561-562.
- Hinsley, C. A., C. M. Urbanowicz, T. Grout, P. Cappy, S. H. McArt and E. K. Mullen. 2019. 2018 New York State Beekeeper Tech Team Report, 29 pp. <https://pollinator.cals.cornell.edu/sites/pollinator.cals.cornell.edu/files/shared/documents/2018%20NYS%20Beekeeper%20Tech%20Team%20Report.pdf>
- Van Dyke, M., E. Mullen, D. Wixted and S. H. McArt. 2018. A pesticide decision-making guide to protect pollinators in landscape, ornamental, and turf management. 36 pp. <https://pollinator.cals.cornell.edu/sites/pollinator.cals.cornell.edu/files/shared/Pesticide%20Decision-Making%20Guide%20to%20Protect%20Pollinators%20in%20Tree%20Fruit%20Orchards.pdf>
- McArt, S. H. 2019. Notes from the lab: The latest bee science distilled. Summary of Ramsey et al. 2019 [*Proceedings of the National Academy of Sciences of the United States* 116:1792-1801]: "Varroa destructor feeds primarily on honey bee fat body tissue and not hemolymph." *American Bee Journal* 159(4):443-445.
- McArt, S. H. 2019. Notes from the lab: The latest bee science distilled. Summary of Holder et al. 2018 [*Proceedings of the National Academy of Sciences of the United States* 115:13033-13038]: "Fipronil pesticide as a suspect in historical mass mortalities of honey bees." *American Bee Journal* 159(3):281-282.
- McArt, S. H. 2019. Notes from the lab: The latest bee science distilled. Summary of Evans et al. 2018 [*Agriculture, Ecosystems and Environment* 268:162-170]: "Wild, native bees and managed honey bees benefit from similar agricultural land uses." *American Bee Journal* 159(2):199-201.
- McArt, S. H. and D. Wixted. 2019. The "controversy" surrounding pesticide risk to bees. *American Bee Journal* 159(1):87-90.
- Van Dyke, M., E. Mullen, D. Wixted and S. H. McArt. 2018. A pesticide decision-making guide to protect pollinators in tree fruit orchards. 31 pp. <https://pollinator.cals.cornell.edu/sites/pollinator.cals.cornell.edu/files/shared/Pesticide%20Decision-Making%20Guide%20to%20Protect%20Pollinators%20in%20Tree%20Fruit%20Orchards.pdf>
- Hinsley, C. A. and S. H. McArt. 2018. 2018 New York State Varroa survey results, 1 p. <https://pollinator.cals.cornell.edu/sites/pollinator.cals.cornell.edu/files/shared/2018%20NYS%20Varroa%20Survey%20Results.pdf>
- McArt, S. H. 2018. Notes from the lab: The latest bee science distilled. Summary of Stamets et al. 2018 [*Scientific Reports* 8:13936]: "Extracts of polypore mushroom mycelia reduce viruses in honey bees." *American Bee Journal* 158(12):1383-1385.
- McArt, S. H. 2018. Notes from the lab: The latest bee science distilled. Summary of Nicholls et al. 2018 [*Environmental Science and Technology* 52:9391-9402]: "Monitoring neonicotinoid exposure for bees in rural and peri-urban areas of the U.K. during the transition from pre- to post-moratorium." *American Bee Journal* 158(11):1279-1281.
- McArt, S. H. 2018. Notes from the lab: The latest bee science distilled. Summary of Kent et al. 2018 [*Frontiers in Genetics* 9:316]: "Conservation genomics of the declining North American

- bumblebee *Bombus terricola* reveals inbreeding and selection on immune genes." *American Bee Journal* 158(10):1169-1170.
- McArt, S. H. 2018. Notes from the lab: The latest bee science distilled. Summary of Utzeri et al. 2018 [*Scientific Reports* 8:9996]: "Entomological signatures in honey: an environmental DNA metabarcoding approach can disclose information on plant-sucking insects in agricultural and forest landscapes". *American Bee Journal* 158(9):1063-1064.
- McArt, S. H. 2018. Notes from the lab: The latest bee science distilled. Summary of Oddie et al. 2018 [*Scientific Reports* 8:7704]: "Rapid parallel evolution overcomes global honey bee parasite". *American Bee Journal* 158(8):937-938.
- Urbanowicz, C. M. and S. H. McArt. 2018. 2017 New York State *Varroa* survey results, 1 p. <https://pollinator.cals.cornell.edu/sites/pollinator.cals.cornell.edu/files/shared/2017%20NYS%20Varroa%20survey%20results.pdf>
- Hinsley, C. A., P. Cappy, S. H. McArt and E. K. Mullen. 2018. 2018 New York State Beekeeper Tech Team Spring Honey Bee Health Report, 1 p. <https://pollinator.cals.cornell.edu/sites/pollinator.cals.cornell.edu/files/shared/Spring%202018%20OHoney%20Bee%20Health%20Report.pdf>
- McArt, S. H. 2018. Notes from the lab: The latest bee science distilled. Summary of Fisher et al. 2018 [*Journal of Economic Entomology* 111:510-516]: "The effects of the insect growth regulators methoxyfenozide and pyriproxyfen and the acaricide bifenthrin on honey bee (Hymenoptera: Apidae) forager survival". *American Bee Journal* 158(7):821-822.
- McArt, S. H. 2018. Notes from the lab: The latest bee science distilled. Summary of Luchetti et al. 2018 [*Proceedings of the Royal Society of London B* 285:20172849]: "Nursing protects honey bee larvae from secondary metabolites of pollen". *American Bee Journal* 158(6):701-702.
- Deutsch, K. R. and S. H. McArt. 2018. Notes from the lab: The latest bee science distilled. Summary of Bailes et al. 2018 [*Biology Letters* 14:20180001]: "First detection of bee viruses in hoverfly (syrphid) pollinators". *American Bee Journal* 158(5):583-584.
- McArt, S. H. 2018. Notes from the lab: The latest bee science distilled. Summary of Ziegelmann et al. 2018 [*Scientific Reports* 8:363]: "Lithium chloride effectively kills the honey bee parasite *Varroa destructor* by a systemic mode of action". *American Bee Journal* 158(4):461-462.
- Wheeler, M. K., P. Cappy, S. H. McArt and E. K. Mullen. 2018. 2017 New York State Beekeeper Tech Team Report, 29 pp. <https://pollinator.cals.cornell.edu/sites/pollinator.cals.cornell.edu/files/shared/2017%20Tech%20Team%20Report.pdf>
- McArt, S. H. 2018. Notes from the lab: The latest bee science distilled. Summary of Liao et al. 2017 [*Scientific Reports* 7:15924]: "Behavioral responses of honey bees (*Apis mellifera*) to natural and synthetic xenobiotics in food". *American Bee Journal* 158(3):333-334.
- McArt, S. H. 2018. Notes from the lab: The latest bee science distilled. Summary of Lopez-Urbe et al. 2017 [*Conservation Genetics* 18:659-666]: "Higher immunocompetence is associated with higher genetic diversity in feral honey bee colonies (*Apis mellifera*)". *American Bee Journal* 158(2):203-204.
- McArt, S. H. 2018. Notes from the lab: The latest bee science distilled. Summary of Hallmann et al. 2017 [*Plos One* 12(10):e0185809]: "More than 75 percent decline over 27 years in total flying insect biomass in protected areas". *American Bee Journal* 158(1):53.
- McArt, S. H. 2017. Notes from the lab: The latest bee science distilled. Summary of Mitchell et al. 2017 [*Science* 358:109-111]: "A worldwide survey of neonicotinoids in honey". *American Bee Journal* 157(12):1283-1284.
- Wheeler, M. K., P. Cappy, S. H. McArt and E. K. Mullen. 2017. 2017 New York State Beekeeper Tech Team Spring Honey Bee Health Report, 1 p. <https://pollinator.cals.cornell.edu/sites/pollinator.cals.cornell.edu/files/shared/spring%202017%20Ocolony%20health%20report.pdf>

- Wheeler, M. K., P. Cappy, S. H. McArt and E. K. Mullen. 2017. 2016 New York State Beekeeper Tech Team Pesticide Report, 21 pp.
<https://pollinator.cals.cornell.edu/sites/pollinator.cals.cornell.edu/files/shared/2016%20NYS%20Tech%20Team%20Pesticide%20Report.pdf>
- Wheeler, M. K., P. Cappy, S. H. McArt and E. K. Mullen. 2017. 2016 New York State Beekeeper Tech Team Report, 48 pp.
<https://pollinator.cals.cornell.edu/sites/pollinator.cals.cornell.edu/files/shared/documents/2016%20Tech%20Team%20report.pdf>
- Moylett, H., A. D. Tripodi, J. W. Smith, L. L. Figueroa, S. H. McArt, E. Evans, D. Lehmann, E. Spevak, W. Whelung and J. P. Strange. 2016. Bumble bee clean stock certification: A white paper of the Pollinator Partnership and the North American Pollinator Protection Campaign.
- McArt, S. H. 2015. Pesticides and the threat to bees in New York. Empire State Honey Producers Association Fall Newsletter, Nov. 2015.

RESEARCH AND ADVISING RESPONSIBILITIES

Current Responsibilities

Director, Cornell Chemical Ecology Core Facility (CCECF)

(2017-present)

The CCECF is an analytical chemistry facility that specializes in HPLC-MS-MS applications (e.g., quantification of small molecules such as plant/insect hormones, plant secondary metabolites, pesticide residues). The fee-based facility is open to internal Cornell users as well as external users. I work closely with the CCECF manager (currently Dr. Nicolas Baert) to oversee all operations and budgetary considerations. The CCECF is physically housed in 4133 Comstock Hall in the Department of Entomology.

Research Associates

Dr. Nicolas Baert, Cornell Chemical Ecology Core Facility manager (2017-present)

Extension Professionals

Travis Grout, NYS Beekeeper Tech Team Agricultural Economist (2018-present)

Emma Mullen, Senior Honey Bee Extension Associate (2015-present)

Postdoctoral Scholars

Dr. Daiana De Souza (2019-present)

Dr. Wee Hao Ng (2019-present)

Dr. Aaron Iverson (2017-present); starting as assistant professor at St. Lawrence University in Sept. 2019

Lab/Field Technicians

Phoebe Koenig, Part-time technician (2018-present)

Maria Van Dyke, Part-time technician (2018-present)

Paige Muñiz, Lab Manager (2017-present)

Major Advisor

Hailey Scofield, PhD student, Cornell Neurobiology & Behavior (2019-present) *Co-advised with Dr. Cole Gilbert*

- Awarded NSF Graduate Research Fellowship (2017-2020)
- Awarded Cornell Fellowship (2016-2017)

Timothy Salazar, PhD student, Cornell Ecology and Evolutionary Biology (2017-present) *Co-advised with Dr. Stephen Ellner*

- Awarded NSF Graduate Research Fellowship (2018-2021)
- Awarded Cornell Fellowship (2017-2018)

Kaitlin Deutsch, PhD student, Cornell Entomology (2017-present)

- Awarded NSF Graduate Research Fellowship (2018-2021)
- Awarded Cornell Fellowship (2017-2018)

Katherine Urban-Mead, PhD student, Cornell Entomology (2016-present) *Co-advised with Dr. Bryan Danforth*

- Awarded NSF Graduate Research Fellowship (2016-2019)

Laura Figueroa, PhD student, Cornell Entomology (2015-present)

- Awarded NSF Graduate Research Fellowship (2016-2019)
- Awarded CALS Deans Excellence Graduate Fellowship (2015-2016)

Minor Committee Member

Diana Obregon, PhD student with Dr. Katja Poveda, Cornell Entomology (2018-present)

Kara Fikrig, PhD student with Dr. Laura Harrington, Cornell Entomology (2018-present)

Talya Shragai, PhD student with Dr. Laura Harrington, Cornell Entomology (2016-present)

Matt Boucher, PhD student with Dr. Greg Loeb, Cornell Entomology (2015-present)

Mary Centrella, PhD student with Drs. Bryan Danforth and Katja Poveda, Cornell Entomology (2015-present)

Undergraduate Researchers

Alondra Torres, summer REU student from University of Puerto Rico

Mesly Mata, summer REU student from Oklahoma State University

Catherine Crosier, Biology (2018-present)

Leeah Richardson, Entomology (2018-present)

Olivia Miller, Biology (2018-present)

Abby Davis, Entomology (2017-present)

Undergraduate Advisees

Sean Lee, Entomology (2019-present)

William Kandalaft, Entomology (2017-present)

High School Research Interns

Lillian McCormick (summer 2019)

Past Responsibilities

Extension Professionals

Mary Kate Wheeler, Agricultural Economic Analyst, NYS Beekeeper Tech Team, Cornell University (2017-2018)

Postdoctoral Scholars

Dr. Peter Graystock, NIH postdoctoral associate (2017-2018); currently Independent Research Fellow, Imperial College, London

Dr. Christine Urbanowicz (2018-2019); currently AAAS fellow in Washington, D.C.

Major Advisor

Nelson Milano, Masters student, Cornell Entomology (2016-2018) *Co-advised with Dr. Brian Nault*

Minor Committee Member

Erica McPhail, MS student with Dr. Melissa Fierke, SUNY ESF (2017-2018)

Giuseppe Tumminello, MS student with Dr. Melissa Fierke, SUNY ESF (2015-2016)

Lab/Field Technicians

Ashley Fersch (2015-2018)

Jeffrey Teague (2017-2018)

Sarah Blucher (2015-2016)

Undergraduate Researchers

Jiawen Yang, Biology (2018-2019)

Casey Hale, Entomology (2017-2019, Honors thesis: *"Pesticide risk predicts bee visitation and richness within conventionally and organically managed strawberry systems"*)

Emma Williams, Biology (2017-2019)

Julie Kapuvári, Biology (2016-2019, Honors thesis: “A systematic review on the risk of neonicotinoid insecticides to wild bees”)

Blyssalyn Bieber, summer REU student from Misericordia University (2018)

Annika Salzberg, Entomology (2018)

David Lewis, Biology (2016-2018)

Mahilet Kebede, Biology (2017)

Lauren Truitt, Biology and Mathematics (2014-2017, Honors thesis: “A trait-based model of disease transmission in plant-pollinator networks”)

Sally Compton, Biology (2014-2017, Honors thesis: “Functional traits of wild bees predict pathogen prevalence”)

Marcel Ramos, Biology (2016-2017)

Trebor Hall, Entomology (2016-2017)

Joshua Roberts, Biology (2015-2016)

Nolan Amon, Entomology (2016)

Emily Wafler, Environmental Science and Sustainability (2014-2015)

Rosie Nagele, Biology (2015)

Carlee Roberts, Environmental Science and Sustainability (2015)

Tim Jalbert, Biology (2015)

Undergraduate Advisees

Fiona MacNeill, Entomology (2018-2019)

Annika Salzberg, Entomology (2017-2019)

High School Research Interns

Elena Suarez (summer 2018)

Shuyun (Alina) Xiao (summer 2016)

- Awarded Cornell Research Apprenticeship in Biological Sciences

Ben Losey (summer 2015)

EXTENSION/OUTREACH RESPONSIBILITIES

Extension Programs

“Notes from the Lab: The Latest Bee Science Distilled”

I write a monthly column in *American Bee Journal*, which reaches ~15,000 subscribers. Each month, I summarize a recent pollinator health paper from the primary literature for a non-scientific audience. The goal is to make the emerging pollinator health science more approachable and relevant to beekeepers and the public.

<http://americanbeejournal.com/category/columns/notes-from-the-lab/>

PDFs of each article: <http://blogs.cornell.edu/mcartlab/notes-from-the-lab/>

Columns published to date: 21

New York State Beekeeper Tech Transfer Team

Role: Research Lead

The Beekeeper Tech Team is an interdisciplinary group that works directly with NYS beekeepers to improve honey bee health, reduce colony losses, and increase profitability of the state’s beekeeping industry. Data are collected from beekeeper’s colonies and their operations, and colony health/management and business recommendations are provided via in-person meetings and publicly available summary reports (see links below).

2018 New York State Beekeeper Tech Team Report (29 pages)

<https://pollinator.cals.cornell.edu/sites/pollinator.cals.cornell.edu/files/shared/documents/2018%20NYS%20Beekeeper%20Tech%20Team%20Report.pdf>

2018 Spring Honey Bee Health Report (1 page):

<https://pollinator.cals.cornell.edu/sites/pollinator.cals.cornell.edu/files/shared/Spring%202018%20Honey%20Bee%20Health%20Report.pdf>

2017 New York State Beekeeper Tech Team Report (29 pages)

<https://pollinator.cals.cornell.edu/sites/pollinator.cals.cornell.edu/files/shared/2017%20Tech%20Team%20Report.pdf>

2017 Spring Honey Bee Health Report (1 page):

<https://pollinator.cals.cornell.edu/sites/pollinator.cals.cornell.edu/files/shared/spring%202017%20colony%20health%20report.pdf>

2016 Pesticide Report (21 pages):

<https://pollinator.cals.cornell.edu/sites/pollinator.cals.cornell.edu/files/shared/2016%20NYS%20Tech%20Team%20Pesticide%20Report.pdf>

2016 NYS Beekeeper Tech Team Summary Report (48 pages):

<https://pollinator.cals.cornell.edu/sites/pollinator.cals.cornell.edu/files/shared/documents/2016%20Tech%20Team%20report.pdf>

Pesticide Risk to Pollinators: Extension of Information to Growers

Most growers are interested in minimizing pesticide risk to non-target organisms such as bees, but they lack current information on how to do so. To fill this gap, I am making a concerted effort to create extension materials and give talks to growers and applicators on how to reduce pesticide exposure and risk to pollinators. In addition, we are currently working on a *Risk Assessment for Neonicotinoid Insecticides for New York State* on commission from the governor.

Grower/applicator talks to date: 13 (~1,075 applicators/growers reached)

“A pesticide decision-making guide to protect pollinators in tree fruit orchards” (31 pages)

<https://pollinator.cals.cornell.edu/sites/pollinator.cals.cornell.edu/files/shared/Pesticide%20Decision-Making%20Guide%20to%20Protect%20Pollinators%20in%20Tree%20Fruit%20Orchards.pdf>

“A pesticide decision-making guide to protect pollinators in landscape, ornamental, and turf management” (36 pages)

<https://pollinator.cals.cornell.edu/sites/pollinator.cals.cornell.edu/files/shared/Pesticide%20Decision-Making%20Guide%20to%20Protect%20Pollinators%20in%20Tree%20Fruit%20Orchards.pdf>

Veterinarian Education: The Honey Bee

The new FDA Veterinary Feed Directive requires that antibiotic prescriptions for honey bees are issued by a veterinarian. Yet most U.S. veterinarians are not familiar with honey bees because they are not included in current veterinary training curriculum. To fill this gap, I teach continuing education workshops for veterinarians on honey bee biology and disease control. In addition, I have worked with instructors in the Cornell Vet School to develop new curriculum and teach the school's first “Honey Bee Health and Conservation” course, available to 2nd and 3rd year veterinary students.

October 2019: NYS Veterinary Conference Honey Bee Track. Role: Speaker.

August 2019: *Honey Bee Health and Conservation* course (VTMED 6698). Role: Lecturer.

June 2019: *Honey Bee Health for the Veterinarian* 1-day workshop, Greenwich, NY (24 veterinarians). Role: Course coordinator and speaker.

March 2019: Cornell Veterinary School Special Species Symposium: *Honey Bee Biology and Health* (29 veterinary students). Role: Course coordinator and speaker.

<http://blogs.cornell.edu/specialspeciessymposium/>

August 2018: *Honey Bee Health and Conservation* course (VTMED 6698: 16 veterinary students).

Role: Lecturer. <http://news.cornell.edu/stories/2018/08/new-course-trains-veterinary-students-protect-pollinators>

October 2017: NYS Veterinary Conference *Honey Bee Track* (53 veterinarians). Role: Speaker.

Introduction to Honey Bee Queen Rearing Workshop

Role: Coordinator and Instructor

Poor genetics is a major problem for honey bee health. This workshop teaches students how to rear locally adapted disease-resistant honey bee queens. Emphasis is placed on learning multiple techniques, ranging from small scale backyard production to larger scale commercial production.

<https://pollinator.cals.cornell.edu/resources/beekeeping-workshops>

June 2019 participants: 22 people, 115 queens distributed from local northeast *Varroa*-resistant genetic stock.

June 2018 participants: 21 people, 45 queens distributed from local northeast *Varroa*-resistant genetic stock.

June 2017 participants: 24 people, >200 queens distributed from local northeast *Varroa*-resistant genetic stock.

New York State Varroa Survey

The *Varroa* mite (*Varroa destructor*) is the dominant parasite of honey bees and is at epidemic levels in New York. However, most of the ~3,000 hobby beekeepers in the state are not aware of the magnitude of the threat that *Varroa* poses. To address this problem, I initiated the NYS *Varroa* Survey. Sampling bottles are sent to NYS beekeepers in the spring and early fall, the beekeepers collect bees from their colonies and return them to us, then we quantify mite levels in their hives. Because we email the beekeepers their mite levels within 2 weeks of receiving the samples, they can use the information to make real-time management decisions. The information is summarized and shared to beekeepers via individual emails, our Facebook page: <https://www.facebook.com/DyceLab/> and Pollinator Network extension website.

2019 participants: 35 beekeepers pre-enrolled

2018 participants: 33 beekeepers. Results:

<https://pollinator.cals.cornell.edu/sites/pollinator.cals.cornell.edu/files/shared/2018%20NYS%20Varroa%20Survey%20Results.pdf>

2017 participants: 66 beekeepers. Results:

<https://pollinator.cals.cornell.edu/sites/pollinator.cals.cornell.edu/files/shared/2017%20NYS%20Varroa%20survey%20results.pdf>

Extension & Outreach Talks

Cornell Summer College Research Apprenticeship in Biological Sciences Program, "Pollinator health: What do we know and what can we do?" Dyce Lab for Honey Bee Studies, Ithaca, NY, July 2019 (37 high school students, 45 min talk, 45 min in bee yard and lab)

Empire State Honey Producers Association Summer Picnic, "Habitat and invasive plant species: What do we know?" Kutik's Honey Farm, Oxford, NY, July 2018 (90 people, 60 min talk)

Conservation Medicine One Health Summer program, "Pollinator health of wild bees and honey bees" Cornell Vet School and Dyce Lab for Honey Bee Studies, Ithaca, NY, July 2019 (44 undergraduates, 45 min lecture, 120 min in bee yard and lab)

Cornell Institute for Host-Microbe Interactions and Disease Summer REU program, "Pollinator health of wild bees and honey bees", Ithaca, NY, July 2019 (30 undergraduate students, 45 min lecture)

Boyce Thompson Institute Summer REU program, "Pollinator health of wild bees and honey bees" Boyce Thompson Institute and Dyce Lab for Honey Bee Studies, Ithaca, NY, July 2019 (50 undergraduates and high school students, 45 min lecture, 75 min in bee yard and lab)

Penn State Ag In-service day, "What do we know about pesticide risk to bees?" State College, PA, July 2019 (110 people, 45 min talk)

Mann Library Chats in the Stacks, Cornell Reunion Weekend, "Improving pollinator health: What we know and what YOU can do" Ithaca, NY, June 2019 (50 people, 45 min talk). Video:

<https://youtu.be/Kfo7RWXYjuo>

Honey Bee Health for the Veterinarian 1-day workshop, "Honey bee biology 101 with a focus on disease management" and "American and European Foulbrood: Identification and control in New York." Greenwich, NY, June 2019 (24 people, 2 x 60 min talks, 2 x 60 min talks in the bee yard)

American Wildlife Conservation Foundation, "Stressors associated with worldwide insect declines" Hector, NY, May 2019 (45 people, 45 min talk)

Caroline Elementary School, "Bees!" Caroline, NY, May 2019 (64 people, 3 x 30 min talks)

Cornell College of Veterinary Medicine Special Species Symposium, "Pollinator health: What do veterinarians need to know?" Dyce Lab for Honey Bee Studies, Ithaca, NY, March 2019 (29 people, 2 x 60 min talks, 2 x 60 min wet labs)

Statewide IPM Grower Advisory Committee, "Pesticides and pollinators in New York: Current research and recommendations for growers" Geneva, NY, March 2019 (30 people, 90 min talk/discussion)

- Empire State Producers Expo, "Pesticides and pollinators in New York: Current research and recommendations for growers" Syracuse, NY, Jan. 2019 (75 people, 45 min talk)
- Western New York Corn Congresses, "Pollinators and neonics in corn: What do we know?" Batavia, NY, Jan. 2019 (360 people, 30 min talk), Waterloo, NY, Jan. 2019 (230 people, 30 min talk)
- Empire State Honey Producers Association Annual Meeting, "A brief history of the Dyce Lab: 50 years of research and extension in New York." Syracuse, NY, Nov. 2018 (125 people, 45 min talk), A discussion of beekeeper registration in New York." (75 people, 30 min talk)
- Wyoming County Beekeepers Association annual honey feast, "How to improve pollinator health in New York." Perry, NY, Sept. 2018 (45 people, 45 min talk)
- Cornell College of Veterinary Medicine, "American and European Foulbrood: Everything veterinarians need to know," Cornell Vet School and Dyce Lab for Honey Bee Studies, Ithaca, NY, Aug. 2018 (16 people, 60 min talk, 120 min in bee yard)
- Cornell Floriculture Field Day, "Creating a pollinator-friendly wildflower and ornamentals garden," Cornell Ornamentals Garden, Ithaca, NY, Aug. 2018 (40 people, 30 min talk)
- Empire State Honey Producers Association Summer Picnic, "Research update from the Dyce Lab: Improving pollinator health in New York," Dyce Lab for Honey Bee Studies, Ithaca, NY, July 2018 (120 people, 60 min talk, 75 min in bee yard)
- Boyce Thompson Institute Summer REU program, "Pollinator health of wild bees and honey bees" Dyce Lab for Honey Bee Studies, Ithaca, NY, July 2018 (20 undergraduates and high school students, 75 min in bee yard and lab)
- Cornell Summer College One Health Program, "Pollinator health: What do we know and what can we do," Dyce Lab for Honey Bee Studies, Ithaca, NY, July 2018 (42 high school students, 60 min talk, 90 min in bee yard and lab)
- Cornell Summer College Research Apprenticeship in Biological Sciences Program, "Pollinator health: What do we know and what can we do," Dyce Lab for Honey Bee Studies, Ithaca, NY, July 2018 (37 high school students, 45 min talk, 45 min in bee yard and lab)
- Liberty Hyde Bailey Lecture, Cornell CALS Reunion, "The Buzz About Bees: Understanding and Improving Pollinator Health." Ithaca, NY June 2018 (~100 people, 20 min talk). Video: <https://livestream.com/accounts/2125927/events/8226737/videos/176196487>
- Annual Bounty of New York Reception & Dinner, Cornell Alumni Association, "Improving pollinator health in New York." Schenectady, NY, April 2018 (80 people, 45 min talk)
- Cornell Pesticide Applicator update, "Pesticides and pollinators in New York: Current research and recommendations for applicators." Geneva, NY, April 2018 (50 people, 60 min talk)
- Cornell Pesticide Applicator update, "Pesticides and pollinators in New York: Current research and recommendations for applicators." Ithaca, NY, April 2018 (80 people, 60 min talk)
- Southern Adirondack Beekeepers Association annual conference, "How to improve pollinator health in New York." Malta, NY, March 2018 (210 people, 50 min talk)
- American Honey Producers Association, "Multiple stresses meet multiple solutions: New York as an emerging pollinator health success story." San Diego, CA, Jan. 2018 (170 people, 30 min talk)
- NYS Invasive Species Advisory Committee, "Data on bees and invasive plant species in New York." Albany, NY, Dec. 2017 (40 people, 30 min talk)
- NYS IPM Board of Directors meeting, "Research update from the Dyce lab: Progress on pollinator health in New York." Geneva, NY, Nov. 2017 (30 people, 60 min talk)
- NYS Department of Environmental Conservation, "Progress on pollinator health in New York." Albany, NY, Nov. 2017 (40 people, 60 min talk)
- Joint Ontario Beekeepers-Empire State Honey Producers Association meeting, "Research update from the Dyce lab: Progress on pollinator health." Niagara Falls, Ontario, Canada, Nov. 2017 (240 people, 30 min talk)
- New York State Turfgrass Association, "How to make pollinator-friendly areas on NYS golf courses." Rochester, NY, Nov. 2017 (60 people, 60 min talk)
- Narrowsburg Honey Bee Festival, "How to improve pollinator health in New York," Narrowsburg, NY, Sept. 2017 (100 people, 60 min panel discussion and 45 min talk)
- Cornell Entomology Undergraduate Club (Snodwiggs), "What we do at the Dyce lab," Dyce Lab for Honey Bee Studies, Ithaca, NY, Sept. 2017 (12 people, 30 min talk and 30 min in bee yard)

- Integrated Pest Management and Pollinator Protection Conference, Saint Regis Mohawk Tribe, "What can we do as ordinary citizens to improve pollinator health in New York?" Akwesasne, NY, Aug. 2017 (15 people, 60 min talk)
- Cornell Master Beekeeper Program, "Parasite spillover between managed honey bees and wild bees," Dyce Lab for Honey Bee Studies, Ithaca, NY, Aug. 2017 (video recorded for online learning module, 50 students per year)
- Cornell Floriculture Field Day, "Creating a pollinator-friendly wildflower and ornamentals garden," Cornell Ornamentals Garden, Ithaca, NY, Aug. 2017 (65 people, 2 x 30 min talks)
- Cornell Summer College Research Apprenticeship in Biological Sciences Program, "Pollinator health: What do we know and what can we do," Dyce Lab for Honey Bee Studies, Ithaca, NY, July 2017 (30 high school students, 30 min talk and 30 min in bee yard)
- TC3 Sustainable Agriculture class, "Pollinators and NYS agriculture: How can IPM help?" Dyce Lab for Honey Bee Studies, Ithaca, NY, July 2017 (15 people, 30 min talk and 30 min in bee yard)
- Northeastern Association of State Departments of Agriculture (NEASDA) annual meeting, "Pollinators and agriculture: Progress on a sensitive topic in New York." Cooperstown, NY, June 2017 (35 people, 30 min talk)
- Varna Community Center, "Beautiful bees!" Varna, NY, April 2017 (15 people, 45 min talk)
- NYS IPM Pollinator Meeting, "Pollinators and agriculture in New York: How IPM can help." Syracuse, NY, March 2017 (30 people, 45 min talk)
- Empire State Honey Producers Association Annual Meeting, "Cornell honey bee research update." Syracuse, NY, Nov. 2016 (125 people, 45 min talk)
- Finger Lakes Beekeeping Club, "Minimizing pathogen spillover from your backyard hive to wild bee communities," Ithaca, NY, Nov. 2016 (20 people, 60 min talk)
- New York Farm Viability Institute Pollinator Symposium, "The Cornell pollinator network: research and extension on pollinators among 9 labs at Cornell." Syracuse, NY, Nov. 2016 (35 people, 25 min talk)
- NY Farm Bureau and Audubon Society, "Bees and New York agriculture," Dyce Lab for Honey Bee Studies, Ithaca, NY, Sept. 2016 (12 people, 30 min talk and 30 min in bee yard)
- Future Farmers Association of New York, "Pollinator health and its importance to New York agriculture," Dyce Lab for Honey Bee Studies, Ithaca, NY, Aug. 2016 (65 high school students)
- Cornell Summer College Research Apprenticeship in Biological Sciences Program, "Pollinator health: What do we know and what can we do," Dyce Lab for Honey Bee Studies, Ithaca, NY, Aug. 2016 (30 high school students, 30 min talk and 30 min in bee yard)
- Empire State Honey Producers Association Summer Picnic, "The NYS Pollinator Protection Plan: How Cornell researchers can help NYS beekeepers," Dyce Lab for Honey Bee Studies, Ithaca, NY, July 2016 (75 people, 45 min talk)
- Empire State Honey Producers Association Board of Directors Annual Meeting, "Benefits of beekeeper registration in New York: A research and extension perspective." Syracuse, NY, Feb. 2016 (19 people, 60 min talk)
- Empire State Honey Producers Association Annual Meeting, "Meeting NYS beekeeper needs via research and extension at Cornell." Albany, NY, Nov. 2015 (125 people, 45 min talk)
- NYS IPM Pollinator Meeting, "Synopsis of Cornell research on pollinators." Albany, NY, Oct. 2015 (110 people, 30 min talk)
- NYS Apiary Industry Advisory Committee, "Project update on 'Assessing the impact of pesticides on honey bee health in NY.'" Albany, NY, July 2015 (18 people, 30 min talk)
- Empire State Honey Producers Association Annual Meeting, "The need for research on factors contributing to honey bee losses in New York." Syracuse, NY, Nov. 2014 (115 people, 45 min talk)

Other Relevant Extension/Outreach Activities

- Science advisor to Natural Resources Defense Council regarding risk from neonicotinoid insecticides to pollinators in New York (May 16, 2019)
- Host of "PolliNation: Artists and Scientists Crossing Borders to Explore the Value of Pollinator Health," an exhibit showcasing my lab's collaboration with Welsh artists on the topic of pollinator health. Exhibit shown from May-September 2019 in Mann Library on the Cornell campus (April 10, 2019): https://events.cornell.edu/event/artists_scientists_pollinator_health

- Visit with 6 NYS Legislators, the Deputy Secretary for Agriculture, Deputy Secretary for Energy and the Environment, and Lobbyists for the Natural Resources Defense Council, NY Farm Bureau, Citizens Campaign for the Environment, Northeast Agribusiness and Feed Alliance, American Farmland Trust, and NYS Nursery and Landscape Association in Albany, NY regarding pollinator health research findings and funding for CALS honey bee research and extension (March 13, 2019)
- Tour of the Dyce Lab for Honey Bee Studies with NYS Senate Ag Committee Chair Jennifer Metzger and NYS Assembly Ag Committee Chair Donna Lupardo (Feb. 22, 2019)
- Science advisor to Natural Resources Defense Council regarding neonicotinoid risk to pollinators in New York (Jan. 25, 2019)
- Science advisor to Jacqueline Czub and Chris Logue (NYS Department of Agriculture & Markets) regarding neonicotinoid risk assessment in New York (Nov. 5, 2018)
- Science advisor to Scott Menrath (NYS Department of Environmental Conservation) regarding neonicotinoid risk assessment in New York (Nov. 1, 2018)
- Science advisor to Natural Resources Defense Council regarding neonicotinoid risk to pollinators in New York (Oct. 25, 2018)
- Science advisor to Venetia Lannon (NYS Deputy Secretary for the Environment) and Pat Hooker (Deputy Secretary for Agriculture) regarding neonicotinoid risk assessment in New York (Oct. 22, 2018)
- Science advisor to Natural Resources Defense Council regarding pesticide risk to honey bees and wild bees (July 1, 2018)
- Advisor to NYSDAM regarding implementation of a honey bee training program for NYS veterinarians and future NYS apiary inspectors (July 3, 2018)
- Science advisor to NYSDAM regarding the status of research on pollinator health stressors in NYS and more broadly (May 1, 2018)
- Science advisor to NYS Invasive Species Advisory Committee regarding limiting the release of spotted knapweed (*Centaurea maculosa*) biocontrol due to reliance of bees on the plant for nectar and pollen (Dec. 19, 2017)
- Visit with Venetia Lannon (NYS Deputy Secretary for the Environment) and 6 NYS Legislators and Senators in Albany, NY regarding funding for CALS honey bee research and extension (Nov. 28, 2017)
- Testimony to the NYS Assembly regarding pollinator declines, the value of bees to NYS, and Cornell's role in providing research and extension to beekeepers, growers and the public (Nov. 28, 2017): http://nystateassembly.granicus.com/MediaPlayer.php?view_id=8&clip_id=4401
- Science advisor to NYSDEC conference call regarding possible legislation to allow honey bees to forage on state lands (May 26, 2017)
- Science advisor to NYS Agribusiness Roundtable conference call regarding recent Cornell research related to pesticide risk to bees (May 26, 2017)
- Science advisor to Rob Davis at Fresh Energy Solar regarding designation of "pollinator-friendly solar" in proposed New York legislative bill (May 8, 2017)
- Science advisor to NYS Golf Association regarding best management practices for pesticide use and habitat management to promote bees on NYS golf courses (April 14, 2017)
- Science advisor to NYS governor's office regarding the status of research on neonicotinoid and other pesticides and bees (Feb. 7, 2017)
- Visit with 8 NYS Legislators and Senators in Albany, NY regarding funding for CALS honey bee research and extension (Feb. 7, 2017)
- Science advisor to conference call with NYSDAM, NYSDEC and NYS governor's office regarding the status of research on neonicotinoid insecticides and bees (Aug. 18, 2016)
- Host of "NYS Pollinator Protection Plan Announcement" at Dyce Lab for Honey Bee Studies, Cornell University, Ithaca, NY. Speakers: Richard Ball, NYS Commissioner of Ag & Markets; Kenneth Lynch, Deputy Commissioner of the NYS Department of Environmental Conservation; Ron Rausch, Director of the Environmental Management Bureau of the NYS Office of Parks, Recreation and Historic Preservation; Bill Magee, Chairman of the Agriculture Committee in the NYS Assembly; Tom O'Mara, State Senator and Chairman of the Senate Environmental Conservation Committee. (June 24, 2016). Video showing highlights of event:

<http://www.twcnews.com/nys/central-ny/news/2016/06/24/recommendations-to-reduce-pollinator-population-decline-introduced.html>
 Science advisor to “Honey bees and native pollinators” Roundtable with Senator O’Mara, Albany, NY (May 24, 2016) <https://www.nysenate.gov/newsroom/press-releases/thomas-f-omara/omara-hosts-honeybees-native-pollinators-roundtable-albany>
 Visit with 9 NYS Legislators and Senators in Albany, NY regarding funding for CALS honey bee research and extension (Jan. 16, 2016)
 Host of “Pollinator Research at Cornell” during CALS visit by 12 NYS Legislators, Senators and staff (Nov. 5, 2015)
 Host of “Pollinator Research at Cornell” during CALS visit by NYS Comptroller Thomas DiNapoli and staff (April 17, 2015)
 Annual participant in Entomology Department’s “Insectapalooza” (2014-present)
 Answering phone calls/email requests for information from citizens (~100 individual responses in 2018-2019)
 Occasional editor and contributor to Cornell Pollinator Network extension website (2015-present): <http://pollinator.cals.cornell.edu/> and Dyce Lab Facebook page (2017-present): <https://www.facebook.com/DyceLab/>

ACADEMIC PRESENTATIONS

Invited Talks

4th International Conference for Pollinator Biology, Health, and Policy, “Traits as drivers of plant-pollinator-pathogen networks” Davis, CA, July 2019
 Department of Entomology, Michigan State University, “Pesticides, pathogens and pollinator declines: What do we know?” East Lansing, MI, March 2019
 Sustainable Michigan Endowed Project, Michigan State University, “Improving pollinator health: Some local successes and many global challenges” East Lansing, MI, March 2019
 Entomological Society of America Annual Meeting, “A trait-based approach to understanding disease transmission in plant-pollinator networks” P-IE Section Symposium: From Genes to Communities: Quantifying Diverse Responses of Pollinators to Multiple Anthropogenic Stressors. Vancouver, BC, Canada, Nov. 2018
 Department of Ecology, Evolution and Natural Resources, Rutgers University, “Pesticides, pathogens and pollinator declines: What do we know?” New Brunswick, NJ, Oct. 2018
 Boyce Thompson Institute Summer REU program, “Pollinator health of wild bees and honey bees: Research and extension in the McArt lab.” Ithaca, NY, June 2018
 Penn State Center for Pollinator Research, “Pollinator health of wild bees and honey bees: Research and extension in the McArt lab.” Penn State University, State College, PA, April 2018
 Fields Institute for Research in Mathematical Sciences, “Landscapes, networks and traits: Ecological factors at multiple scales shape patterns of disease in bees.” Workshop on pollinators and pollination modeling. Toronto, Ontario, Canada. Feb. 2018
 Department of Environmental Conservation and Management, “Multiple stresses meet multiple solutions: New York as an emerging pollinator health success story.” University of Wales, Trinity St David, Swansea, Wales, UK, Nov. 2017
 Department of Soil and Crop Sciences, Cornell University, “Pesticides, pathogens and pollinator declines: what do we know?” Ithaca, NY, Nov. 2016
 International Congress of Entomology, “Floral scent mimicry and transmission of a pollinator-vectorized plant pathogen.” Orlando, FL, Sept. 2016
 Department of Environmental & Forest Biology, SUNY ESF, “Ecological drivers of pollinator health, performance and declines.” Syracuse, NY, March 2016
 Cornell Department of Entomology Jugatae Graduate Student Symposium, “Ecological drivers of pollinator health, performance and declines.” Ithaca, NY, Jan. 2016

- North American Pollinator Protection Campaign, "Linking pesticide stress to disease prevalence in a network of controlled, experimental honey bee hives." Washington, DC, Oct. 2015
- Department of Entomology, Purdue University, "Pollinators and pathogens: The darker side of pollination." West Lafayette, IN, Sept. 2015
- Department of Entomology, Cornell University, "Pollinators and pathogens: The darker side of pollination." Ithaca, NY, Jan. 2015
- Department of Forestry and Rangeland Stewardship, Colorado State University, "From moose to microbes: Plant phenolics as modulators of herbivory, pollination and disease." Fort Collins, CO, May 2014
- Department of Entomology, Cornell University, "From moose to microbes: Plant phenolics as modulators of herbivory, pollination and disease." Ithaca, NY, March 2014
- Department of Entomology and Nematology, University of California, Davis, "From moose to microbes: Plant phenolics as modulators of herbivory, pollination and disease." Davis, CA, March 2014
- Department of Biology, University of Louisville, "From moose to microbes: Plant phenolics as modulators of herbivory, pollination and disease." Louisville, KY, Feb. 2014
- Second International *Microbotryum* Meeting, Amherst College, "Comparative biology of pollinator-vectored plant pathogens." Amherst, MA, May 2013
- Department of Bioagricultural Sciences and Pest Management, Colorado State University, "Plant genotypic diversity and its influence on arthropod communities and ecosystem functioning." Fort Collins, CO, May 2012
- Department of Entomology, Washington State University, "Plant genotypic diversity and its influence on arthropod communities and ecosystem functioning." Pullman, WA, Apr. 2012
- Patton Symposium on Insect Nutrition, Cornell University, "Plant genotypic diversity reduces the rate of consumer resource utilization." Ithaca, NY, Feb. 2011
- Cornell Entomology Department Merger, "A direct comparison between the effects of plant genotypic diversity on arthropod communities and ecosystem functioning." Ithaca, NY, Jan. 2010

Contributed Talks and Posters (*presenter)

- Grab, H.*, A. Iverson, O. Miller, L. Richardson, D. Obregon, N. Baert, C. Hale, B. N. Danforth, S. H. McArt and K. Poveda. Potential for economic and ecological tradeoffs when managing bumble bees for crop pollination. Entomological Society of America, St. Louis, MO, Nov. 2019.
- Pinilla, M.*, J. Fitzgerald, E. Williams, A. Davis, S. H. McArt and R. E. Irwin. Within-colony transmission of bumble bee and honey bee pathogens. Entomological Society of America, St. Louis, MO, Nov. 2019.
- Davis, A.*, K. R. Deutsch and S. H. McArt. Pollinator disease transmission dynamics: effects of a common bee parasite on a hoverfly (Diptera: Syrphidae) host. 4th International Conference for Pollinator Biology, Health, and Policy, Davis, CA, July 2019.
- Deutsch, K. R.*, M. Kebede, A. Iverson, P. A. Muñiz and S. H. McArt. The effect of landscape context on hoverfly communities. 4th International Conference for Pollinator Biology, Health, and Policy, Davis, CA, July 2019.
- Urban-Mead, K. R.*, P. A. Muñiz, S. H. McArt and B. N. Danforth. Bees in the trees: forest canopy resources for orchard pollinators. 4th International Conference for Pollinator Biology, Health, and Policy, Davis, CA, July 2019.
- Grout, T.* and S. H. McArt. A risk assessment for neonicotinoid insecticides in New York. 4th International Conference for Pollinator Biology, Health, and Policy, Davis, CA, July 2019.
- Iverson, A.*, A. Evans, H. Grab, A. Power and S. H. McArt. Impacts of landscape-scale floral resource availability on pollinator communities. 4th International Conference for Pollinator Biology, Health, and Policy, Davis, CA, July 2019.

- Salazar, T. *, S. P. Ellner and S. H. McArt. The consequences of worker size variation on demography in bumble bees. 4th International Conference for Pollinator Biology, Health, and Policy, Davis, CA, July 2019.
- Figueroa, L. L. *, M. Blinder, C. Grincavitch, A. Jelinek, E. Mann, L. Merva, L. Metz, A. Zhao, R. E. Irwin, S. H. McArt and L. S. Adler. Mechanisms mediating bee pathogen transmission: deposition, persistence and acquisition on flowers. 4th International Conference for Pollinator Biology, Health, and Policy, Davis, CA, July 2019.
- Truitt, L., S. H. McArt*, A. Vaughn and S. P. Ellner. Trait-based modeling of multi-host pathogen transmission: Plant-pollinator networks. Ecology and Evolution of Infectious Disease Conference, Princeton, NJ, June 2019.
- Urbanowicz, C. M. *, N. Baert, S. Bluher, M. Ramos, K. Böröczky and S. H. McArt. Low maize pollen collection and low pesticide risk to honey bees in heterogeneous agricultural landscapes. Eastern Branch of the Entomological Society of America, Blacksburg, VA, March 2019.
- Centrella, M. *, K. Poveda, B. N. Danforth, A. Fersch, N. Baert, B. D. Eitzer, M. Van Dyke, K. Böröczky and S. H. McArt. Do solitary and social bees respond in the same way to stressors in agroecosystems? Joint Entomological Society of America and Entomology Society of Canada Annual Meeting, Vancouver, BC, Canada, Nov. 2018.
- Iverson, A. *, A. Evans, H. Grab, R. Perez-Alvarez, S. H. McArt, J. Fisher and A. Power. Landscape-scale floral resources: Implications for natural enemies, pests and pollinators. Joint Entomological Society of America and Entomology Society of Canada Annual Meeting, Vancouver, BC, Canada, Nov. 2018.
- Deutsch, K. *, M. Kebede, A. Iverson and S. H. McArt. Contrasting effects of landscape context on bee and hover fly pollinator populations. Joint Entomological Society of America and Entomology Society of Canada Annual Meeting, Vancouver, BC, Canada, Nov. 2018.
- Urban-Mead, K. *, S. H. McArt and B. N. Danforth. Bees in the trees: Early spring forest canopy resources support orchard pollinators. Joint Entomological Society of America and Entomology Society of Canada Annual Meeting, Vancouver, BC, Canada, Nov. 2018.
- Figueroa, L. L. *, S. Compton, H. Grab and S. H. McArt. Functional traits of wild bees predict pathogen prevalence. Joint Entomological Society of America and Entomology Society of Canada Annual Meeting, Vancouver, BC, Canada, Nov. 2018.
- Suarez, E. *, N. J. Baert, D. Lewis, A. A. Fersch and S. H. McArt. Pesticide risk to bees from apple blossoms and wildflowers at 28 New York apple orchards. Cornell-Boyce Thompson Institute High School Internship Summer Symposium, Ithaca, NY, Aug. 2018.
- Bieber, B. *, P. Graystock, P. A. Muñiz and S. H. McArt. Infection dynamics for *Nosema ceranae* among eight genera of wild bees. Cornell-Boyce Thompson Institute Research Experience for Undergraduates Summer Symposium, Ithaca, NY, Aug. 2018.
- Davis, A. E. *, B. Bieber, P. Graystock, P. A. Muñiz and S. H. McArt. Effects of honey bee parasites on North American hoverfly (Diptera: Syrphidae) pollinators. Cornell Summer Institute for Life Sciences Undergraduate Research Symposium, Ithaca, NY, Aug. 2018.
- Milano, N. J. *, B. A. Nault and S. H. McArt. The effects of landscape and farm practices on performance of the common eastern bumble bee, *Bombus impatiens*. Entomological Society of America Eastern Branch Meeting, Baltimore, MD, March 2018.
- McPhail, E. S. *, M. K. Fierke, C. A. Nowak and S. H. McArt. Influences of invasive plant management on pollinator assemblages on powerline rights-of-way in New York and Ohio. New York Society of American Foresters Annual Meeting, Syracuse, NY, Jan. 2018.
- Urban-Mead, K. R. *, S. H. McArt and B. N. Danforth. Bees in the treetops: A new spatial dimension to pollinator visitation networks. Cornell Department of Entomology Jugatae Graduate Student Symposium, Geneva, NY, Jan. 2018.

- Milano, N. J.* , B. A. Nault and S. H. McArt. The effects of landscape and farm practices on performance of the common eastern bumble bee, *Bombus impatiens*. Cornell Department of Entomology Jugatae Graduate Student Symposium, Geneva, NY, Jan. 2018.
- Hale, C.* , A. Iverson and S. H. McArt. Synergisms between insecticides and fungicides impact mortality of the common eastern bumble bee (*Bombus impatiens*). Cornell Department of Entomology Jugatae Graduate Student Symposium, Geneva, NY, Jan. 2018.
- Urban-Mead, K. R.* , S. H. McArt and B. N. Danforth. Bees in the treetops: A new spatial dimension to pollinator visitation networks. Entomological Society of America, Denver, CO, Nov. 2017.
- Figuroa L. L.* , L. S. Adler, R. E. Irwin, C. Grincavitch, E. Mann, L. Metz, A. Zhao and S. H. McArt. Pathogen transmission among bees through shared floral resources: The role of flower species and pathogen placement. Entomological Society of America, Denver, CO, Nov. 2017.
- Milano, N. J.* , B. A. Nault and S. H. McArt. The effects of landscape and farm practices on performance of the common eastern bumble bee, *Bombus impatiens*. Entomological Society of America, Denver, CO, Nov. 2017.
- McArt, S. H.*, A. A. Fersch, N. J. Milano, L. L. Truitt and K. Boroczky. Pesticide risk to honey bees during pollination of a mass blooming crop. Entomological Society of America, Denver, CO, Nov. 2017.
- McPhail, E. S.* , M. K. Fierke, C. A. Nowak and S. H. McArt. Influences of chemical, mechanical, and integrative vegetation management strategies on pollinator assemblage on powerline rights-of-way in New York and Ohio. Entomological Society of America, Denver, CO, Nov. 2017.
- Fersch, A. A.* , L. L. Truitt, N. J. Milano and S. H. McArt. Effect of landscape complexity on diversity of pollen collected by *Apis mellifera*. Entomological Society of America, Denver, CO, Nov. 2017.
- S. H. McArt*. Why we need more physiologists and toxicologists looking into the impact of fungicides on pollinator health. Sarkaria Institute of Physiology and Toxicology Pollinator Symposium, Cornell Entomology, Ithaca, NY, Oct. 2017.
- Tumminello, G.* , T. A. Volk, S. H. McArt, and M. K. Fierke. Pollinator diversity associated with willow biomass crops. International Congress of Entomology, Orlando, FL, Sept. 2016.
- Figuroa, L. L.* , P. Graystock, H. Connelly, Q. McFrederick and S. H. McArt. Pathogen prevalence in plant-pollinator networks. International Congress of Entomology, Orlando, FL, Sept. 2016.
- Figuroa, L. L.* , P. Graystock, H. Connelly, Q. McFrederick and S. H. McArt. Pathogen prevalence in plant-pollinator networks. Third International Conference on Pollinator Biology, Health and Policy. State College, PA, July 2016.
- McArt, S. H., T. Miles, C. Rodriguez-Saona*, A. Schilder, L. S. Adler and M. Grieshop. Floral scent mimicry and transmission of a pollinator-vectored plant pathogen. Gordon Conference for Plant Volatiles. Ventura, CA, Jan. 2016.
- Figuroa, L. L.* , H. Connelly and S. H. McArt. Pathogen prevalence in plant-pollinator networks. Cornell Department of Entomology Jugatae Graduate Student Symposium, Ithaca, NY, Jan. 2016.
- Tumminello, G.* , T. A. Volk, S. H. McArt, and M. K. Fierke. Pollinator diversity associated with willow biomass crops. Entomological Society of America, Portland, OR, Nov. 2015.
- Giacomini, J.* , R. E. Irwin, S. H. McArt, and L. S. Adler. Influence of pollen diet on parasite infection in bumble bees. Ecological Society of America, Baltimore, MD, Aug. 2015.
- Connon, S. J.* , S. H. McArt, R. E. Irwin and L. S. Adler. Fungicide impacts on the pathogen load of a bumble bee gut parasite. Ecological Society of America, Baltimore, MD, Aug. 2015.
- McArt, S. H.*, C. Urbanowicz, R. E. Irwin, and L. S. Adler. Landscape predictors of pathogen prevalence in bumble bees. Ecological Society of America, Baltimore, MD, Aug. 2015.

- McArt, S. H.* and L. S. Adler. Chemical ecology of a pollinator-vectored plant pathogen. Ecological Society of America, Sacramento, CA, Aug. 2014.
- McArt, S. H.*, R. Halitschke, J-P. Salminen and J. S. Thaler. Leaf herbivory increases plant fitness via induced resistance to seed predators. Gordon Conference for Plant-Herbivore Interactions, Ventura, CA, Jan. 2013.
- McArt, S. H.* Mummy berry disease of blueberry. 'Twilight' Local Growers Meeting, UMass Cold Spring Orchard, Belchertown, MA, July 2012.
- McArt, S. H.*, R. Halitschke, J-P. Salminen and J. S. Thaler. Leaf herbivory increases plant fitness via induced resistance to seed predators. Cornell Frontiers in the Life Sciences Symposium, Ithaca, NY, March 2012.
- McArt, S. H.*, R. Halitschke, J-P. Salminen and J. S. Thaler. Induced resistance to seed predators via leaf herbivory: Implications for individual plants and genotypically diverse patches. Ecological Society of America, Austin, TX, Aug. 2011.
- McArt, S. H.* Plant genotypic diversity and its influence on arthropod communities. Cornell Entomology Undergraduate Club, Ithaca, NY, Feb. 2011.
- McArt, S. H.* and J. S. Thaler. Plant genotypic richness decreases arthropod evenness. Ecological Society of America, Pittsburgh, PA, Aug. 2010.
- McArt, S. H.*, R. Halitschke and J. S. Thaler. Jasmonate-mediated induced resistance to seed predators via leaf herbivory. Gordon Conference for Plant-Herbivore Interactions, Galveston, TX, Jan. 2010.
- McArt, S. H.*, R. Halitschke and J. S. Thaler. Jasmonate-mediated induced resistance to seed predators via leaf herbivory. Cornell - Penn State Chemical Ecology Symposium, Ithaca, NY, Oct. 2009.
- McArt, S. H.*, S. C. Cook and J. S. Thaler. Contrasting mechanisms for how plant genotypic and species diversity increase arthropod diversity. Ecological Society of America, Albuquerque, NM, Aug. 2009.
- Cook, S. C.*, S. H. McArt, J. S. Thaler, and A. Agrawal. A direct comparison between plant genotypic and species diversity on ecosystem functioning. Ecological Society of America, Albuquerque, NM, Aug. 2009.
- McArt, S. H.*, Cook, S. C. and J. S. Thaler. Contrasting mechanisms for how plant genotypic and species diversity increase arthropod diversity. Biogeochemistry and Environmental Biocomplexity Symposium, Ithaca, NY, Jan. 2009.
- McArt, S. H.* and J. S. Thaler. Plant phytochemical variation impacts plant-mediated interactions between herbivores. Cornell Ecology and Evolutionary Biology Symposium, Ithaca, NY, Jan. 2009.
- McArt, S. H.* and J. S. Thaler. Intraspecific plant chemical diversity and its influence on arthropod communities. Ecological Society of America, Milwaukee, WI, Aug. 2008.
- McArt, S. H.*, D. E. Spalinger, W. B. Collins, E. R. Schoen. 2009. Summer dietary nitrogen availability as a potential bottom-up constraint on moose (*Alces alces*) in South-central Alaska. Ecological Society of America, San Jose, CA, Aug. 2007.

PRESS AND RESOURCE FOR MEDIA

2019

- Interview with Julia Jacobo, science writer for ABC News, regarding the decision by USDA to stop monitoring honey bee colonies and colony losses in the United States (July 2019): <https://abcnews.go.com/US/40-decline-honey-bee-population-winter-unsustainable-experts/story?id=64191609>
- Interview with Liz Kineke, science writer for CBS News, regarding how climate change is impacting pollinator health (June 2019)

- Interview with Kimberly McCoy, science writer for PBS NewsHour, regarding new research showing pathogen spillover between managed honey bees and native wild bees (June 2019): <https://www.pbs.org/newshour/science/are-commercial-honeybees-making-wild-bees-sick>
- Press regarding our science-art collaboration with artists from Wales on the topic of pollinator health (June 2019): <http://www.newyorkagconnection.com/story-state.php?Id=570&yr=2019&fbclid=IwAR1t43k9kGnFZE-hdclgWqAQz7jIDslZDIFszq8fA3jzDcpt6KDUKbr3WKI>
- Press regarding our new Atkinson Center for a Sustainable Future project on using solar farm sites to graze sheep, maintain flowers for pollinators, and sequester soil C: <http://news.cornell.edu/stories/2019/05/atkinson-academic-venture-fund-awards-13m-10-projects>
- Press via the BBC program *Countryfile* regarding our science-art collaboration with artists from Wales on the topic of pollinator health (May 2019): <https://www.bbc.co.uk/iplayer/episode/m0005qbm/countryfile-south-wales>
- Resource for Nathan Rott, writer for NPR, on IPBES' report indicating that one million species are threatened with extinction from human activity (May 2019): <https://www.npr.org/2019/05/06/720654249/1-million-animal-and-plant-species-face-extinction-risk-u-n-report-says>
- Live radio interview with Alex Jensen, host of "This Morning" in Seoul, South Korea, regarding IPBES' report on one million species being threatened with extinction from human activity (May 2019): <https://podcasts.apple.com/kr/podcast/0513-news-focus-1-prof-jack-liu-scott-mcart-global/id1038822609?i=1000437925222&l=en>
- Interview with Beth Saulnier, Senior Editor for the Cornell Alumni Magazine, regarding the reinvigoration of the Dyce Lab and research on pollinator health (May 2019)
- Interview with Jose Beduya, staff writer for the Cornell Chronicle, regarding PolliNation, the exhibit documenting our science-art collaboration with artists from Wales on the topic of pollinator health (May 2019): <http://news.cornell.edu/stories/2019/05/art-science-collaboration-spotlights-pollinator-health>
- Interview with Erik Stokstad, writer for *Science* magazine, regarding research efforts to improve honey bee genetics for parasite and pathogen resistance (May 2019)
- Tip sheet for CALS media on the new IPBES report that 1 million species face extinction due to human activity (May 2019): <http://news.cornell.edu/media-relations/tip-sheets/windshield-effect-taken-new-extremes-un-biodiversity-report>
- Interview with Jenny Leijonhufvud, Gallery & Outreach Spaces Coordinator for Mann Library, regarding PolliNation, the exhibit documenting our science-art collaboration with artists from Wales on the topic of pollinator health (May 2019): https://events.cornell.edu/event/artists_scientists_pollinator_health
- Interview with Anyi Cheng, assistant editor at the Cornell Daily Sun, regarding research and extension at the Dyce Lab (April 2019): <https://cornellsun.com/2019/04/19/through-research-and-outreach-cornell-lab-confronts-declining-bee-population/>
- Interview with Jason Koski, media coordinator for Cornell CALS, regarding how our research is relevant to Earth Day (April 2019). 1-minute video: <http://www.cornell.edu/video/buzz-about-pollinators-entomologist-scott-mcart>
- Interview with Tammy Webber, writer for the *Associated Press*, regarding pollinator-friendly solar in the United States (April 2019)
- Press in *The Guardian* regarding how our publication on chlorothalonil threats to bumble bees (McArt et al. 2017 *Proceedings B* 284:20172181) supported the EU decision to ban chlorothalonil (March 2019): <https://www.theguardian.com/environment/2019/mar/29/eu-bans-widely-used-pesticide-over-safety-concerns>

2018

- Interview with Jodi Helmer, writer for *Scientific American*, regarding pollinator-friendly solar in the United States (Nov. 2018): <https://www.scientificamerican.com/article/solar-farms-shine-a-ray-of-hope-on-bees-and-butterflies/>

- Interview with Krishna Ramanujan, staff writer for the Cornell Chronicle, regarding 2018 Insectapalooza, the Dept. of Entomology open house (Oct. 2018): <http://news.cornell.edu/stories/2018/10/educational-fun-insects-insectapalooza-oct-20>
- Press regarding the NYS Beekeeper Tech Team (Sept. 2018): <http://www.cornell.edu/video/protecting-bees-boosting-ny-economy-beekeeper-tech-team>
- Press regarding our new “Honey Bee Biology and Disease Management” course for veterinary students (Aug. 2018): <http://news.cornell.edu/stories/2018/08/new-course-trains-veterinary-students-protect-pollinators>
- Interview with Weng Cheong, writer for the Syracuse Post-Standard, regarding the use of drones for crop pollination (Aug. 2018)
- Interview with Aristos Georgiou, science reporter for Newsweek, regarding the global state of pollinator health and factors causing declines (Aug. 2018)
- Resource for C. Claiborne Ray, columnist for the New York Times, on environmental threats to bees in New York City (July 2018): <https://www.nytimes.com/2018/07/27/science/honey-hives-pollutants.html>
- Rochester Democrat & Chronicle story regarding our new research on pollinator friendly solar farms (July 2018): rochesterdemocrat.ny.newsmemory.com/publink.php?shareid=0d312576d
- Cornell Chronicle story regarding our new research on pollinator friendly solar farms (July 2018): <http://news.cornell.edu/stories/2018/07/partnership-assess-pollinator-friendly-solar-farms>
- Interview with Matt Steecker, writer for the Ithaca Journal, regarding our new research on pollinator-friendly solar farms in New York (July 2018): <https://www.ithacajournal.com/story/news/local/2018/07/08/cornell-university-and-solar-developer-do-100-000-pollinator-study/760461002/>
- Interview with Chelsea Whyte, writer for New Scientist magazine, regarding a new publication in Proceedings B showing that bees perform well in urban vs. rural areas in England (July 2018): <https://www.newscientist.com/article/2172755-bumblebees-in-cities-are-healthier-than-those-in-the-countryside/>
- Interview with Brian Nearing, writer for the Albany Times Union, regarding the NYS Pollinator Protection Plan update and possible legislation regarding pesticide restrictions (June 2018): <https://www.timesunion.com/business/article/Common-chemicals-in-fruit-orchard-industry-13014584.php>
- Interview with Rob Davis, Director of Fresh Energy, regarding legislation for the creation of “pollinator-friendly solar” label in New York (June 2018): <http://nylcv.org/press-item/5128/>
- Resource for Matt Kelly, freelance writer for The Bee Report, regarding the use of drones for crop pollination (June 2018): <https://thebeereport.com/2018/07/03/drone-pollinates-apples-maybe/>
- Resource for Matt Kelly, freelance writer for Penn Yan Chronicle (New York), regarding competition for resources among bees (May 2018): <https://thebeereport.com/2018/05/25/bees-can-be-aggressive-but-its-a-waste-of-time/>
- Interview with Kara Dunn, writer for American Agriculturist, regarding emerging research regarding pesticide impacts on bees (March 2018): <http://www.americanagriculturist.com/bees/go-easy-fungicide-threatened-bees>

2017

- Interview with Angela Lovell, writer for *Grainews* (Manitoba), regarding fungicides, bee health and what growers can do to reduce risk to non-target organisms (Dec 2017)
- Interview with Damian Carrington, environment editor for *The Guardian*, regarding our publication on factors associated with United States bumble bee declines (Dec 2017): https://www.theguardian.com/environment/2017/dec/29/alarming-link-between-fungicides-and-bee-declines-revealed?CMP=share_btn_tw
- Interview with Peter Reschke, writer for *Ontario Farmer Magazine*, regarding our publication on factors associated with United States bumble bee declines (Dec 2017)
- Interview with Erik Stokstad, writer for *Science* magazine, regarding our publication on factors associated with United States bumble bee declines (Dec 2017)

- Interview with Dana Kobilinsky, science writer for *The Wildlife Society*, regarding our publication on factors associated with United States bumble bee declines (Dec 2017): <http://wildlife.org/study-links-fungicides-to-bee-colony-declines/>
- Interview with Rebecca Williams, NPR affiliate Michigan Radio in Ann Arbor, MI, regarding our publication on factors associated with United States bumble bee declines (Nov 2017): <http://michiganradio.org/post/investigators-point-fungicides-one-reason-bumblebee-declines>
- Interview with Blaine Friedlander, staff writer for the *Cornell Chronicle*, regarding our publication on factors associated with United States bumble bee declines (Nov 2017): <http://news.cornell.edu/stories/2017/11/bee-decline-fungicides-emerge-improbable-villain>
- Some additional press regarding our publication on factors associated with United States bumble bee declines (Nov 2017)
<https://www.sciencedaily.com/releases/2017/11/171114195041.htm>
<https://www.manitobacooperator.ca/daily/u-s-study-links-bumblebee-declines-to-fungicide-use>
<https://www.agcanada.com/daily/u-s-study-links-bumblebee-declines-to-fungicide-use>
<http://growingfruit.org/t/fungicides-bumblebee-decline/13268>
<https://utahpests.usu.edu/news/bee-fungicides>
<https://www.rt.com/usa/414630-bumblebees-fungicides-extinction-study/>
<http://americanlaboratory.com/344453-Fungicides-Have-Negative-Impact-on-Bee-Health/>
<http://www.umass.edu/newsoffice/article/researchers-link-fungicides-bumblebee>
<https://umdrighnow.umd.edu/researchers-find-another-suspect-bee-decline-fungicides-business-mirror>
- Resource for Matt Kelly, freelance writer for Penn Yan Chronicle (New York), regarding factors that can cause aggressive honey bee behavior (Sept 2017)
- Resource for Arielle Tuzon, researcher for ABC Television News, regarding bumble bee buzz pollination (July 2017)
- Interview with Thomas Hill, freelance writer for Growing Magazine, regarding plants used by managed and wild bees (July 2017): <https://www.growingmagazine.com/education/creating-permanent-habitat-pollinators/>
- Letter to the Editor of the Albany Times Union outlining inaccurate and incomplete information regarding our research on pesticide risk to honey bees (July 2017): <http://www.timesunion.com/opinion/article/Letter-Significant-findings-about-health-of-bees-11732643.php>
- Interview with Matthew Weinstein, staff writer for the Ithaca Journal, regarding Dyce lab research showing that *Varroa* mites are major threat to NYS honey bees (July 2017): <http://www.ithacajournal.com/story/news/local/2017/07/13/buzz-off-varroa-mite-hurting-ny-honeybee-colonies/475227001/>
- Press regarding NYS policy and our research related to pesticide risk to honey bees (June 2017): <http://www.timesunion.com/allwcm/article/State-pushes-bee-health-week-amid-pesticide-11233551.php>
- Interview with Anthony King, staff writer for Chemistry & Industry, a UK scientific society magazine, regarding the recently announced 2016-17 United States honey bee loss estimate and factors that may be contributing to losses (June 2017)
- Interview with Matt Kelly, freelance writer for Penn Yan Chronicle (New York), regarding pollinator declines (May 2017): <http://www.chronicle-express.com/news/20170518/plant-wildflowers-because-bee-lives-matter>
- Some press regarding our publication on pesticide risk to honey bees in NYS apple (April 2017):
<http://www.futurity.org/pesticides-bee-bread-1409092/>
<http://www.sciencenewslines.com/news/2017042115330015.html>
<https://phys.org/news/2017-04-bees-heavy-pesticide-peril-drawn-out.html>
https://www.eurekalert.org/pub_releases/2017-04/cu-ndu042017.php
<http://www.newswise.com/articles/view/673390/?sc=rsla>
<http://healthmedicinet.com/i/new-data-unearths-pesticide-peril-in-beehives/>

- Interview with Blaine Friedlander, staff writer for the Cornell Chronicle, regarding our publication on pesticide risk to honey bees in NYS apple (April 2017): <http://www.news.cornell.edu/stories/2017/04/bees-face-heavy-pesticide-peril-drawn-out-sources>
- Interview with Dave Weinstock, reporter for Growing magazine, regarding factors contributing to pollinator declines and current research on pesticides and pathogens (Jan. 2017)
- Interview with Ben Henry, reporter for The Scientist Magazine, regarding mummy berry disease and other plant pathogens vectored by pollinators (Jan. 2017): <http://www.the-scientist.com/?articles.view/articleNo/48063/title/The-Fungus-that-Poses-as-a-Flower/>

2016

- Interview with Matt Hayes, staff writer for periodICALS magazine, regarding research and extension related to declining NY bee populations (Sept. 2016): <https://cals.cornell.edu/news/periodicals/pollinator-protectors>
- Interview with Alex Dunbar, producer for CNY news (ABC and NBC affiliate), regarding pollinator health in New York (Sept. 2016): <http://cnycentral.com/news/local/cornell-researchers-looking-for-answers-after-54-of-bees-in-new-york-state-died-last-year>
- Interview with Kelly Harold, producer for ABC News, regarding pollinator declines and the threat to US agriculture (July 2016): http://abcnews.go.com/video/food_forecast
- Interview with Jenna Flanagan, correspondent for NY NOW, regarding the NYS Pollinator Protection Plan (July 2016): <http://nynow.org/post/rnc-analysis-lack-buzz-hurting-farmers>
- Interview with WHCU radio regarding the NYS Pollinator Protection Plan (June 2016): <http://whcuradio.com/news/025520-state-cornell-protect-bees-pollinators/>
- Interview with Krishna Ramanujan, staff writer for the Cornell Chronicle, regarding new NIH grant to study pathogen transmission among bees (June 2016): <http://news.cornell.edu/stories/2016/06/scientists-examine-spread-disease-bees-nih-grant>
- Interview with Krishna Ramanujan and Matt Hayes, staff writers for the Cornell Chronicle, regarding Cornell pollinator research/extension and the New York State Pollinator Protection Plan (June 2016): <http://www.news.cornell.edu/stories/2016/06/new-state-pollinator-protection-plan-announced-cornell>
- Resource for Taylor Watson, staff writer for The Daily Orange, Syracuse University, regarding factors contributing to pollinator declines (March 2016): <http://dailyorange.com/2016/03/researcher-explains-decline-in-bee-population-at-suny-esf-lecture>
- Interview with Ivy Reynolds, Assistant Director of Public Policy for NY Farm Bureau, for Farm Bureau 'Grassroots' April newsletter featuring New York's pollinators (March 2016): http://www.nyfb.org/img/uploads/file/0416_grassroots_for_web.pdf
- Resource for Sue Garing, writer for the Empire State Honey Producers newsletter, regarding the benefits of registration for New York beekeepers (Jan. 2016)

2015

- Interview with Brian Nearing, staff writer for the Albany Times Union, on the NYS Pollinator Protection Plan (Nov. 2015)
- Resource for Sue Garing, writer for the Empire State Honey Producers newsletter, regarding pesticide threats to bees in New York (Oct. 2015)
- Interview with Azure Gilman, staff writer for Al Jazeera America, on the growing number of hobby beekeepers in New York (Aug. 2015)
- Interview with C. Claiborne Ray, columnist for the New York Times, on how bees survive the winter (Jan. 2015): http://www.nytimes.com/2015/01/27/science/earth/27qna.html?_r=0

2014

- Interview with CBS Boston radio on pathogen transmission by and among bees (June 2014)
- Interview with UMass media relations on pathogen transmission and bees (June 2014): <http://www.umass.edu/researchnext/floral-transmitters>

TEACHING RESPONSIBILITIES (no formal teaching responsibilities)

Organizer, Pollinator Reading Group, Cornell University (Fall 2015, Spring 2016, Fall 2016, Spring 2017, Fall 2017, Spring 2018, Fall 2018, Spring 2019)

Guest Lecturer

Applied Entomology: *How to improve pollinator health in New York* (lecture and lab), Cornell University (Fall 2017, Fall 2018), ~15 students per class.

Integrated Pest Management: *Bee biology and health* (lecture and lab), Cornell University (Spring 2016, Spring 2017, Spring 2018, Spring 2019), ~35 students per class.

Honey Bee Biology: *Steps that New York is taking to improve pollinator health* (lecture), *Pesticides, pathogens and pollinator health* (lecture), Cornell University (Fall 2016, Fall 2017, Fall 2018), ~90-120 students per class.

Insect Conservation Biology: *How to improve pollinator health in New York* (lecture), Cornell University (Fall 2017), 10 students.

Experimental Design in Ecology: *Common gardens, randomized blocks and observer bias* (lecture), UMass-Amherst (Spring 2014), 30 students.

Chemical Ecology: *Plant phenolics* (lecture), Colorado State University (Spring 2014), 15 students.

Tutorial Instructor, Introduction to modern meta-analysis using MetaWin, Colorado State University (Spring 2014), 10 students.

COMMITTEE ASSIGNMENTS

State

NYS Apiary Industry Advisory Committee Science Advisor (2015-present)

NYS Pollinator Protection Plan Task Force Science Advisor (2015-2016)

University

Pesticide Management Education Program (PMEP) Director Search Committee (2019)

Cornell Undergraduate Beekeeping Club Faculty Advisor (2016-present)

Department

Rogoff Endowment Committee Chair (2019-2021)

Jugatae Seminar Series Coordinator (2018-2021)

Department Open House ("Insectapalooza") Committee (2017-2019)

Honey Bee Extension Associate Advisory Committee (2015-2019)

Griswold Endowment Committee Chair (2015-2019)

Entomology Space Committee (2015)

Honey Bee Extension Associate Search Committee (2014-2015)

Community

Varna Community Association Board Member (2017-2019)

PROFESSIONAL ACTIVITIES

Peer Reviewer: *Austral Ecology* (1), *Basic and Applied Ecology* (1), *Biological Invasions* (1), *Canadian Journal of Zoology* (1), *Ecological Entomology* (3), *Ecological Applications* (2), *Ecology* (6), *Ecology Letters* (3), *Functional Ecology* (2), *Insects* (1), *Journal of Applied Ecology* (1), *Oecologia* (2), *Oikos* (1), *Parasitology* (1), *Plant Ecology & Diversity* (1), *PLoS One* (2), *Proceedings of the Royal Society of London B* (3)

Grant Reviewer: USDA NIFA Pollinator Health Program (September 2019), USDA ARS Internal Review (April 2019), NSF Graduate Research Fellowship Program (Jan. 2019), NSF Division of Environmental Biology Program (Oct. 2017), Foundation for Food and Agricultural Research (FFAR) Pollinator Health Fund (Sept. 2017), USDA Federal Capacity Funds (Cornell, July 2017), David R. Atkinson Sustainable Biodiversity Fund (Cornell, Feb. 2011), NSF IGERT in Biogeochemistry and Biocomplexity Training Grants Program (Cornell, Jan. 2009, Jan. 2010)

Symposium Co-organizer (with Quinn McFrederick, UC Riverside): "Drivers of host-pathogen interactions" session of the 4th International Conference on Pollinator Biology, Health and Policy (Davis, CA, July 2019). Co-organizer (with Margarita Lopez-Urbe, Penn State): Penn State-Cornell Pollinator Symposium (State College, PA, April 2018). Organizer: "Probing the microbial

world of flowers: Impacts on plants and animals,” Ecological Society of America (Sacramento, CA, Aug. 2014)
Student Presentation Judge: Entomological Society of America Annual Meeting (Vancouver, BC, Nov. 2018). Entomological Society of America Annual Meeting (Denver, CO, Nov. 2017), Poster Presentation Judge: Front Range Student Ecology Symposium (Colorado State University, 2013)
Invited Speaker Host: Dr. Quinn McFrederick, University of California, Riverside (2019), Dr. Rebecca Irwin, North Carolina State University (2018), Dr. Peter Graystock, Cornell University (2017), Dr. Nigel Raine, Guelph University (2016), Dr. Douglas Futuyma, SUNY Stony Brook (2010), Dr. Jason Fridley, Syracuse University (2010), Dr. Gina Wimp, Georgetown University (2008)
Administrator: Cornell pollinator list serve (POLLINATOR-L@cornell.edu)

PROFESSIONAL ASSOCIATIONS

Entomological Society of America
Ecological Society of America
International Society for Chemical Ecology

PROFESSIONAL OVERVIEW

Dr. McArt is an Assistant Professor of Pollinator Health and Director of the Chemical Ecology Core Facility in the Department of Entomology at Cornell University. McArt’s research is focused on understanding factors important for declines of wild and managed bees, especially stress from pesticides, pathogens/parasites, and loss of habitat. He is particularly interested in scientific research that can inform management decisions by beekeepers, growers, regulatory agencies and the public. McArt manages a ~80 colony research apiary and his lab is equipped for molecular (e.g., PCR for pathogens) and chemical analyses (e.g., multi-residue pesticide analyses via HPLC-MS). With a 60/40 research/extension appointment, McArt conducts research and interacts regularly with stakeholders. He gives guest lectures and leads a bi-weekly “pollinator reading group” at Cornell that is attended by undergraduates, grad students, postdocs and faculty. McArt currently mentors 1 research associate, 2 extension professionals, 3 technicians, 3 postdoctoral associates, 5 graduate students (major advisor), 5 graduate students (minor committee member) and 6 undergraduates.