Phoebe **Koenig**

Honey Bee Technician, Cornell University

contact
Cornell University
Ithaca, NY 14850

pak98@cornell.edu

Work Experience

Cornell University

Since 2018 **Full-time technician with 20 hours/week in 2 different labs** Ithaca, NY

Kirstin Petersen's Collective Embodied Intelligence Lab:

- designed and tested a device to mimic the honey bee shaking signal, a communication signal involved in colony coordination
- currently designing and testing a novel device that tracks honey bee trajectory using the angle of the sun

Scott McArt's Bee Lab:

- managed 75 honey bee colonies in the 2018 season and 20 colonies in the 2019 season, with 92% overwinter survival both years
- helped conduct an experiment assessing fungicide and pesticide use in apple orchards and the effects on managed and wild bee communities
- coauthored the New York State Neonicotinoid Risk Assessment, a document commissioned by New York lawmakers to inform pesticide regulations

Bee Informed Partnership

2016-2018 **Tech-transfer Team, Midwest team lead** St. Paul, MN

- health consultant for over 30 migratory, commercial beekeeping operations, advising on management of over 125,000 colonies
- tested honey bee hygienic behavior for queen breeders, a trait that helps colonies suppress parasitic mite reproduction
- collected data on annual honey bee loss for the annual Bee Informed survey, 2016-2017
- contributed to the Bee Informed Partnership blog at beeinformed.org

University of Minnesota

2016-2016 **Marla Spivak's Bee Lab, Research Assistant** St. Paul, MN

- helped manage 200 lab colonies around the Minneapolis-St. Paul metro area
- researched how flower patch density corresponds to recruitment by honey bee foragers

Cornell University

2014-2016 **Tom Seeley's Bee Lab, Research Assistant** Ithaca, NY

- researched the cues honey bee colonies use to move into a reproductive phase (2014)
- assisted in setting up hives, catching swarms, building bee equipment, maintaining colonies, and extracting honey (2014)
- conducted an honor's thesis experiment with 30 colonies titled: "Does an induced break in brood rearing reduce Varroa mite densities in honey bee colonies" (2015)

contact
Phoebe Koenig

Cornell University
Ithaca, NY 14850

pak98@cornell.edu

Grants

2020 **NSF Graduate Research Fellowship Program**
Received National Science Foundation Grant with 3 full years of Graduate Funding at $34,000 per year plus $12,000 in tuition.

2017 **North Dakota Department of Agriculture**
Received $50,000 North Dakota Department of Agriculture Grant to support and expand Bee Informed Partnership Midwest Tech-Transfer Team

2014 **Sigma Xi**
Received Sigma Xi Cornell Undergraduate Grant to support honors thesis research $500

2014 **Jane E. Brody Grant**
Received $400 Cornell University CALS undergraduate student grant to support honors thesis research

Education

2013-2016 **Bachelor of Science** in Entomology
Cornell University GPA: 3.6, Cum Laude with distinction in Research
Honor's Thesis: Does an induced break in brood rearing reduce Varroa mite densities in honey bee colonies? **Thesis Advisor: Tom Seeley.**

Relevant University Courses: Animal Behavior, Advanced Behavioral Ecology, Genetics and Genomics, Insect Biology, Insect Ecology, Insect Physiology, Spider Biology, Evolution and Diversity, Introduction to Computing using MATLAB, Statistics, Chemical Ecology

Peer-Reviewed Publications

Feb 2020 **Koenig, P.A., Smith, M.L., Horowitz, L.H., Palmer, D.M., Petersen, K.H.**
Artificial shaking signals in honey bee colonies elicit natural responses. Scientific reports, 10(1), 1-8.

May 2017 **Smith, M.L., Koenig, P.A., Peters, J.M.**
The cues of colony size: how honey bees sense that their colony is large enough to begin to invest in reproduction. Journal of Experimental Biology, 220(9), 1597-1605.

Other Publications

2020 **Grout, T.A., Koenig, P.A., Kapuvari, J.K., McArt, S.H** Cornell University Extension
Neonicotinoid Insecticides in New York State: a risk assessment

2017 **Koenig, P.K.** Bee Culture
Why are more North American beekeepers overwintering their bees in cold storage?

2017 **Wolfin, J., Koenig, P.K.** University of Minnesota Extension
Creeping Charlie: Management and Value to Pollinators

contact
Phoebe Koenig

Cornell University
Ithaca, NY 14850

pak98@cornell.edu

Outreach

2019 **Cornell STEP Program**
Hosted a visit to the Dyce Honey Bee Lab through Cornell's Science & Technology Entry Program (STEP) for 15 underrepresented high school students interested in STEM

2019 **Cornell Diversity Preview Weekend**
Hosted a table at Diversity Preview Weekend, which helps underrepresented minority students apply to graduate schools

2019 **Auburn Library**
Talk at a local library about bee behavior

2014- now **Insectapalooza**
Helped run and organize Cornell's well attended, annual insect fair (2014-2016, 2018)

2018 **Lansing Pollinator Festival**
Hosted a table to teach children about honey bee behavior and robotics

2018 **Liberty Hyde Bailey Panel: The Buzz about Bees**
Featured speaker at Cornell annual alumni panel, with 200+ attendees

2016 **Minneapolis Pollinator Festival**
Live demonstrations of bee hives inside a screened trailer

2016-18 **Minnesota State Fair**
Honey Bee Area Volunteer

2015 **Naturalist Outreach Practicum**
Presentations to 11+ groups of K-8 children

Extension

2016-2018 **Bee Informed Partnership**
My job on the Midwest Tech Team was primarily extension. I traveled around the country helping commercial beekeepers monitor and manage parasites within their colonies. I advised on management of 30 operations, managing between 1,500-50,000 colonies each, for a total of 125,000 colonies.