Ellen G. Klinger

Klinger.80@osu.edu

CFAES Department of Entomology
255 Kottman Hall, 2021 Coffey Road
Columbus, OH 43210
(614)247-4763 Office

Education

Ph.D. in Biological Sciences June 2015
Utah State University, Logan, UT 84322
Dissertation: Virulence evolution of fungal pathogens in social and solitary bees with an emphasis on mixed infections.
Advisor: Dr. Dennis Welker; Dr. Rosalind James

M.S. in Ecology and Environmental Sciences August 2003
University of Maine, Orono, ME 04469
Thesis: Susceptibility of adult Colorado potato beetles to the fungal entomopathogen *Beauveria bassiana*.
Advisor: Dr. Eleanor Groden

B.S. in Biology May 2000
Lycoming College, Williamsport, PA 17701, *summa cum laude*

Research/Professional Experience

Assistant Professor- Clinical January 2020-present
The Ohio State University
Columbus, OH 43210

Clinical teaching faculty in Entomology department. Teaching undergraduate and graduate level courses, developing course materials and assessment plans.

Research Entomologist January 2017-December 2019
United States Department of Agriculture, Agricultural Research Service
Pollinating Insect Research Unit, Logan, UT 84341

Was support scientist assisting in research as described below. Prepared grants and manuscripts for publication. Independently collaborated with other researchers and user groups.

Biological Science Technician January 2004-January 2017
United States Department of Agriculture, Agricultural Research Service
Pollinating Insect Research Unit, Logan, UT 84341

Planned, executed and analyzed various experiments related to bee health, both in field and laboratory settings. Investigated methods of control of chalkbrood disease in solitary (non-*Apis*) bees and diagnosed fungal, viral and bacterial diseases isolated from *Apis*, *Megachile* and *Osmia* bees using microbiological and molecular techniques. Responsible for running of pathology laboratory, including management of biological cultures, temperature sensitive samples, high level equipment safety and student employees. Used statistical software to analyze data and presented material in written and graphic formats.

Research Assistant January 2001-September 2003
University of Maine, Orono, ME 04469

Oversaw and assisted in a variety of lab and field projects dealing with biological control of insect pests in potatoes and corn as well as control of European Imported Red Ant in Acadia National Park, Tasks included supervising lab employees, maintaining fungal and insect cultures as well as greenhouse management.

Teaching experience

Courses:
Entomology 1101- Insect Biology
Entomology 2101- Insects and Human Affairs: Pests, Plagues, Poisons and Politics
Entomology 2102- Insects and Human Affairs: Virtual Laboratory*
Entomology 2400H- Evaluating Evidence in Science and Medicine
Entomology 4601- General Insect Pest Management
Entomology 5121- Insect Pathology*
Entomology 5350.01- Taxonomy and Behavior of Aquatic Invertebrates*
Entomology 5604- Capstone Course: Problem Based Studies in Plant Health

*****_designed course curriculum_

Additional teaching experience and professional development:

Drake Institute Information Literacy Endorsement	In progress
Drake Institute Writing Across Curriculum Endorsement	Summer 2022
Drake Institute Meaningful Inquiry Endorsement	Winter 2021
Drake Institute Course Design Endorsement, The Ohio State University	Spring 2020
Drake Institute Faculty FIT program, The Ohio State University	Spring 2020
Lecturer, Utah State University, Biology I	Fall 2015
Graduate Teaching Assistant, Utah State University, Biology I Laboratory	Fall 2014
Teaching Assistant, University of Maine, Introduction to Entomology Lab	Fall 2001-2002
Teaching Assistant, Lycoming College, General Biology Laboratory	1997-2000

Peer-Reviewed Publications

Strange J, Tripodi AD, Huntzinger C, Knoblett J, **Klinger E**, Herndon JD, Vuong H, McFredrick QS, Irwin RE, Evans JD, Giacomini JJ, Ward R, Adler LS. (*in publication*). Comparative analysis of three pollen sterilization methods for feeding bumble bees. Journal of Economic Entomology.

Maccaro J, Moreira Salgado JF, **Klinger E**, Argueta Guzmán M, Ngor L, Stajich J, McFrederick Q. 2022 Comparative Genomics Reveals that Metabolism Underlies Evolution of Entomopathogenicity in Bee-Loving Ascosphaera Spp. Fungi. Journal of Invertebrate Pathology. 10.1016/j.jip.2022.107804

Kopit AM, **Klinger E**, Cox-Foster DL, Ramirez RA, Pitts-Singer TL. 2021. Effects of Provision Type and Pesticide Exposure on the Larval Development *of Osmia lignaria* (Hymenoptera: Megachilidae). Environmental Entomology. 51(1):240-51. 10.1093/ee/nvab119

Klinger, E.G., R.R. James and D.L. Welker. 2021. Presence of pathogen-killed larvae may influence nesting behavior of the alfalfa leafcutting bee, *Megachile rotundata* (Hymenoptera:Megachilidae). Journal of Economic Entomology 114(3):1047-52. 10.1093/jee/toab030

Klinger, E.G., D.M. Lehmann, A.A. Camp, J.P. Strange and D. Cox-Foster. 2019. *Bombus* microcolonies as a tool for biological understanding and risk assessment. Environmental Entomology 48 (6): 1249-1259. 10.1093/ee/nvz117

Klinger, E.G., S. Vojvodic, G. Degrandi-Hoffman, D.L. Welker and R.R. James. 2015. Mixed infections reveal virulence differences between host-specific bee pathogens. Journal of Invertebrate Pathology 129: 28-35. 10.1016/j.jip.2015.05.003

Koch, J.B, B. Love, **E. Klinger** and J.P. Strange. 2014. The effect of photobleaching on bee (Hymenoptera: Apoidea) setae color and its implications for studying aging and behavior. Journal of Melittology 38: 1-9. 10.17161/jom.v0i38.4737

Klinger, E.G., R.R. James, N.N. Youssef, and D.L. Welker. 2013. A multi-gene phylogeny provides additional insight into the relationships between several *Ascosphaera* species. Journal of Invertebrate Pathology 112(1):41-48. 10.1016/j.jip.2012.10.011

Klinger, E.G., E. Groden and F. Drummond. 2006. *Beauveria bassiana* infection between cadavers and adults of the Colorado potato beetle, *Leptinotarsa decemlineata* (Say). Environmental Entomology 35(4): 992-1000. 10.1603/0046-225X-35.4.992

Recent Presentations

2022

Meaningful inquiry showcase, invited speaker, Drake Institute for Teaching and Learning, The Ohio State University.

Insects as Agents of Historical Change. Guest Lecture for University of Kentucky Graduate Class Cultural Entomology, ENT 770.

2021
Transforming Teaching in Entomology: Engagement Through a Pandemic Program Symposia for the Entomological Society of America annual meeting, Denver, CO. Invited speaker.

The Buzz Behind Bee Disease. Presented for The Ohio State University Master Gardner Program. October 2021.

Insect pathogens: friend and foe. Presented at the Ohio State University Masters in Plant Health Management Webinar, Columbus OH.

2019
Use of hypochlorous acid for chalkbrood control in managed bees. Presented at the Pacific Branch Entomological Society of America Meeting, San Diego, CA.

2018
Borderless Parasites, Borderless Pollinators: Broadening Our Understanding of Pollinator and Parasite Communities. Program Symposia for the Entomological Society of America annual meeting, Vancouver, BC. Symposium co-organizer.

Protecting our pollinators: the buzz behind bee disease. Invited presentation for The William and Barbara Haller Endowed Lectureship in Biology and Chemistry, Lycoming College, Williamsport, PA.

Chalkbrood and viral research at the USDA-ARS PIRU Presented to the Forage Genetics Growers Group, Logan, UT.

Grants

"A holistic approach to determining the impact of an established exotic pollinator, Bombus impatiens, on bumble bee health in the Pacific Northwest." USDA-NIFA-AFRI, total $678,880, $20,683 to PI Klinger. Award period 2022-26

Professional and Academic Committee Membership

Professional society memberships

Entomological Society of America (ESA)	Dec. 2000-Oct. 2004; July 2010-present
North American Colleges and Teachers of Agriculture (NACTA)	September 2021-present
Society of Invertebrate Pathology (SIP)	June 2003-June 2004; March 2011-present

Committee and service memberships

University Level Advisory Committee for General Education	Sep 2022-present
Department of Entomology Curriculum Committee, (Chair)	Aug 2020(2021)- present
Department of Entomology Undergraduate Affairs Committee	Aug 2020-present
CFAES Committee on Academic Affairs	Jan 2021-present

ATI Advisor Aug 2021-present
Subject Editor, Journal of Insect Science May 2021- present
Entomological Society of America, NCB Entomology games chair March 2021-present
Entomological Society of America, Entomology Games Committee Member March 2021-present
CFAES Teaching Symposium Planning Committee September 2021-present
Collateral Duty Safety Officer, USDA-ARS Northern Plains/Pacific West Area 2006-2019
Location Safety Coordinator, USDA-ARS Pacific West Area 2014-2019
Utah State University Biology Graduate Student Association, Secretary 2010-2011
University of Maine's Association of Graduate Students, Biological Sciences Student Representative 2002-2003
Chair, Graduate Student Committee for Entomological Society of America Eastern Branch 2001-2002

Graduate Student Committee memberships

Brooke Donzelli (PhD)
Nicki Joseph (PhD)
M. Dominique Magistrado (PhD)
James Radl (PhD)
Liam Whiteman (MS)

Brendan Kelley (MS, completed)

Outreach and other projects:

Additional publications

- Reviewer for Sawfly GenUS online key; www.idtools.org, 2019
- Arthropod Containment Guidelines, section written for the Agricultural Research Service's Biohazard Control/Laboratory Biosafety Manual. 2008

Outreach and volunteer

-Safe Zone training, The Ohio State University Oct 2022

-Ohio Academy of Science Fair Judge 2020-present

Tri-County Beekeepers Association Inc., 42nd Annual Spring Beekeeping Workshop, bee disease workstation, Wooster, OH 2020

-Various outreach activities in Logan, UT, including speaking to school and community groups about pollinators and their health. These groups include Utah State University applied entomology classes, Boy Scouts, elementary schools, senior citizens, Utah Ag Ambassadors, Utah Ag in the Classroom teachers. 2004-2019

- Honey beekeeping workshop for Stokes Nature Center, Logan, UT, 2015

- Prepared and assisted in Bee Disease Workshop, part of a pollinator workshop hosted by USDA Pollinating Insect Research Unit, Logan, UT 2010

- Mentored various undergraduate and minority student groups with in house lab projects, either as school credit or as part of Utah State University Native American Mentorship Program, Logan, UT 2015-2019

- Society for Advancement of Chicanos/Hispanics and Native Americans in Science- guest judge, National Meeting, Salt Lake City, UT 2017
