

## P. LARRY PHELAN

Department of Entomology  
OARDC/The Ohio State University  
Wooster, OH 44691

Phone: (330)-263-3728  
Email: [phelan.2@osu.edu](mailto:phelan.2@osu.edu)

**Current Position:** Research/Teaching responsibilities. Areas of research focus:

- 1) soil organic matter, soil biology, and their relationship to plant health and resistance to biotic attack and abiotic stress,
- 2) chemical ecology and metabolomics of insect-plant interactions
- 3) mediation of insect behavior by chemical signaling.

### EDUCATION

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**PhD** University of California, Riverside, CA, Entomology, 1984.  
**MS** Michigan State University, E. Lansing, MI, Entomology, 1981.  
**BA** The College of Wooster, Wooster, OH, Biology, 1976.

### EMPLOYMENT

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1998-present: Professor, Dept. of Entomology, OARDC/The Ohio State University.  
1991-1998: Assoc. Professor, Dept. of Entomology, OARDC/The Ohio State University.  
1986-1991: Asst. Professor, Dept. of Entomology, OARDC/The Ohio State University.  
1984-1985: Postdoctoral Researcher, Dept. of Entomology, Univ. of California, Riverside.

### RECENT PEER-REVIEWED PUBLICATIONS (TOTAL = 62)

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Oliveira, N.C., **Phelan, P.L.**, Labate, C.A., C onsoli, F.L. 2022. Non-targeted metabolomics reveals differences in the gut metabolic profile of the fall armyworm strains when feeding different food sources. *J Insect Physiol.* 139:104400.

Kim, Y. N., Basta, N. T., Gardiner, M. M., and **Phelan, P. L.** In Prep. Potential for remediation of post-industrial urban soils by urban farming and organic matter management. *J. Environ. Qual.*

Kim, Y.N., Culman, S.W., Gardiner, M.M., and **Phelan, P.L.** In Prep. Reversal of industrial legacy effects in urban soils associated with additions of organic amendments for urban agriculture. *J. Environ. Qual.*

Mittapelly, P., Rajarapu, S.P., **Phelan, P.L.**, and Michel, A.P. In review. Metatranscriptome and amino acid profiling in the brown marmorated stink bug reveals the importance of the obligate bacterial endosymbiont in *Halyomorpha halys*. *J. Insect Physiol.*

Rajarapu, S.P., Muilenburg, V.L., Wijeratne, S., **Phelan, P.L.**, Sudhamalla, B., Herms, D.A., and Mittapalli, O. Submitted. Molecular characterization of the interaction between the invasive emerald ash borer and a novel and coevolved host species (*Fraxinus* spp.). *Ecol. Evol.*

Esquivel, C. J., Ranger, C.M., **Phelan, P.L.**, Martinez, E.J., Hendrix, W.H., Ca nas, L. A., and Michel, A.P. 2019. Weekly survivorship curves of soybean aphid biotypes 1 and 4 on insecticidal seed treated soybean. *J. Econ. Entomol.* 112: 712-719.

### BOOK CHAPTERS (TOTAL = 8)

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**Phelan, P. L.** 2009. Ecology-based agriculture and the next green revolution: Is modern agriculture exempt from the laws of ecology?, pp. 97-135, in *Sustainable Agroecosystem Management: Integrating Ecology, Economics, and Society*, P. J. Bohlen and G. House, eds, CRC Press, Boca Raton, FL.

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**RECENT FUNDING (TOTAL AS PROJECT DIRECTOR = \$2.22 MILL, CA. \$5 MILL AS CO-PI)**

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Phelan, P. L., and M. M. Gardiner. Biodiversity and ecosystem services in urban soils. NIFA-AEM. 2016-2022. \$499,092.

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**RECENT INVITED PRESENTATIONS (PAST 5 YEARS)**

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- Phelan, P. L. Potential for remediation of post-industrial urban soils by organic matter management, Ohio Organics Council Conference, Nov. 4, 2022.
- Phelan, P. L. Identifying first principles to redesign agroecosystems for sustainability and resilience. Keynote Speaker, Workshop for Advanced Training, Center for Environmental & Sustainable Research. Universidade Nova de Lisboa, Portugal. Oct. 24, 2022.
- Phelan, P. L. Managing the soil community to promote inclusive plant health and improve crop resilience, University of Wisconsin Division of Extension, March 22, 2022.
- Phelan, P. L. Insect chemical ecology: Navigating the world through smell. NE Ohio American Chemical Soc Earth Day Celebration, Keynote Speaker, April 21, 2022.
- Phelan, P. L. Remediation of post-industrial urban soils by organic management. OFFER Winter Webinars Mar. 31, 2021.
- Phelan, P. L. Managing the soil community to promote inclusive plant health and improve crop resilience. UNEP International Year of Plant Health. Universidade Nova de Lisboa, Portugal. Dec. 2, 2020.
- Phelan, P. L., Kim, Y. N., Gardiner, M.M. Remediation of post-industrial urban soils by organic farming and organic matter management Symposium: Entomology in Urban Agriculture. ESA Annual Research Conference. Nov. 18, 2020.
- Phelan, P. L. Biological buffering: How the soil community promotes plant resistance and resilience to pests. Symposium, Joint meeting of Entomol. Soc. of America & Entomol. Soc. of Canada. Nov. 13, 2018.
- Phelan, P. L. Managing the soil community to promote plant ecosystem services and improve crop resilience, Horticulture & Crop Science, Dept Seminar, March 28, 2018
- Phelan, P. L. Developing critical reading skills, OARDC Scholars Professional Development Series, March 27, 2018
- Phelan, P. L. Can post-industrial urban soils be made healthy for farming? Ohio Ecological Food and Farm Association Annual Conference, Dayton OH, Feb 17, 2018.

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**TEACHING**

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ENTMLGY 5490, Insect Behavior: Mechanisms & Function, Spring odd years, GRAD/UG, lect  
ENTMLGY 6703, Molecular Techniques & Data Analysis, Spring even years, GRAD, lect/lab

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**ADMINISTRATIVE SERVICES**

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*Department*

Promotion & Tenure Committee  
Curriculum Committee  
Awards Committee

*College*

CFAES Investigation Committee  
CFAES Promotion & Tenure Committee  
Stinner Annual Summit Committee, Chair  
Agroecosystems Management Program Executive Committee  
Ohio Percent for Art/Wooster Campus Selection Committee