

Emma L. Boehm

Indiana University – Bloomington
Department of Biology
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EDUCATION

- 2019-25 **Ph.D., Indiana University - Bloomington**
Biology (minor: genetics)
Advisor: Dr. Jennifer Lau
- 2015-19 **B.S., cum laude, University of Minnesota – Twin Cities**
Ecology, Evolution, and Behavior & Plant and Microbial Biology (double major)
(minor: Spanish)
Honors thesis advisor: Dr. Ruth G. Shaw

RESEARCH AND PROFESSIONAL EXPERIENCE

- 2019 Healthy Prairies Summer Research Technician (Ruth G. Shaw Lab, University of Minnesota – Twin Cities, MN)
- 2016-19 Undergraduate Research Assistant (Ruth G. Shaw Lab, University of Minnesota – Twin Cities, MN)
- 2018 National Science Foundation Research Experience for Undergraduates (*Chamaecrista* Project, University of Minnesota – Twin Cities, MN)
- 2017 Plant Growth Intern for Food Production (NASA Kennedy Space Center, FL)
- 2016 Forestry Intern (Village of Wilmette, IL)

PUBLICATIONS

Boehm, E.L., A.R. Peschel, and R.G. Shaw. 2023. Adaptive maternal effects increase progeny fitness of an annual legume (*Chamaecrista fasciculata*) under drought. In prep, *American Journal of Botany*

Jones, J.M., **E.L. Boehm**, K. Kahmark, J. Lau, and S. Evans. 2022. Microbial community response to drought depends on crop and displays legacies to field inoculation. *Elem Sci Anth*, 10(1), 00110.

Peschel, A.R., **E.L. Boehm**, and R.G. Shaw. 2020. Estimating the capacity of *Chamaecrista fasciculata* for adaptation to change in precipitation. *Evolution*, 75(1), pp.73-85.

PRESENTATIONS

*undergraduate/high school mentee

-oral presentations-

- 2021 **Boehm, E.L.** and J.A. Lau. Where no prairie has gone before: Ecological and evolutionary questions regarding restorations. EcoLunch, Indiana University – Bloomington, Bloomington, IN
- 2020 **Boehm, E.L.** and J.A. Lau. Selective agents: exploring the intersections in adaptive response. EcoLunch, Indiana University – Bloomington, Bloomington, IN
- 2017 Mickens, M.A., A.M. Granpre, **E.L. Boehm**, and P. Barnwell. Space plants for astronaut consumption. NASA STEM Camps. Kennedy Space Center, Cocoa Beach, FL
- 2015-17 **Boehm, E.L.** and C. Lehman. Environmental ethics spectrum. Presented by Dr. Clarence Lehman in EEB 3407, University of Minnesota – Twin Cities, Minneapolis, MN (*developed as directed studies project with Dr. Lehman, presented by Dr. Lehman in environmental ethics lecture and integrated into permanent curriculum*)

-poster presentations-

- 2023 *Addisu, A., *R. Cruz, **E.L. Boehm**, S.B. Perez, and J.A. Lau. Investigating Blue-Eyed Mary's potential population decline. James Holland Summer Science Research Program Symposium, Bloomington, IN
- 2023 **Boehm, E.L.** and J.A. Lau. Environmental distance explains differences in fitness components of a winter annual plant. Evolution 2023, Albuquerque, NM
- 2023 **Boehm, E.L.** and J.A. Lau. Investigating the evolution of phenotypic plasticity using a long-term crop rotation experiment. Indiana University EEB Departmental Conference, Bloomington, IN
- 2022 *Niño, D., **E.L. Boehm**, S.B. Perez, and J.A. Lau. Exploring trait variation in *Chamaecrista fasciculata*. IU Research Summer Poster Symposium, Bloomington, IN
- 2022 *Lang-Martinez, M., **E.L. Boehm** and S.B. Perez. Do seed characteristics across different seeds sources influence microbial abundance? James Holland Summer Science Research Program Symposium, Bloomington, IN
- 2022 **Boehm, E.L.** and J.A. Lau. Investigating the evolution of phenotypic plasticity using a long-term crop rotation experiment. Evol-LTER Working Group, Sevilleta National Wildlife Refuge, NM
- 2021 *Mbengue, A., **E.L. Boehm**, and J.A. Lau. Timing of stress-related environmental cues on *Arabidopsis thaliana*. IU Research Summer Poster Symposium, Bloomington, IN
- 2019 **Boehm, E.L.**, M. Kulbaba, and R.G. Shaw. Density effects in natural populations of *Chamaecrista fasciculata*. Undergraduate Research Symposium, University of Minnesota – Twin Cities, Minneapolis, MN
- 2018 **Boehm, E.L.**, A.R. Peschel, and R.G. Shaw. Investigating maternal effects in *Chamaecrista fasciculata*. Botany 2018, Rochester, MN
- 2018 **Boehm, E.L.**, A.R. Peschel, and R.G. Shaw. Investigating maternal effects in *Chamaecrista fasciculata*. Undergraduate Research Symposium, University of Minnesota – Twin Cities, Minneapolis, MN
- 2018 **Boehm, E.L.**, A.R. Peschel, and R.G. Shaw. Investigating maternal effects in *Chamaecrista fasciculata*. EEB & PMB Undergraduate Departmental Symposium, University of Minnesota – Twin Cities, Minneapolis, MN

GRANTS, FELLOWSHIPS, & AWARDS

- 2023 Provost's Travel Award for Women in Science (\$650)
- 2023 Indiana University Research & Teaching Preserve Student Grant (\$970)
- 2022 Floyd Plant and Fungal Biology Summer Fellowship (\$3234)
- 2022 George W. Brackenridge Fellowship (\$2000)
- 2021 Fred Seward Award (\$2500)
- 2021 Floyd Plant and Fungal Biology Summer Fellowship (\$3234)
- 2021-24 National Science Foundation Graduate Research Fellowship (\$102000)
- 2020 Floyd Plant and Fungal Biology Summer Fellowship (\$617)
- 2020 College of Arts and Science Graduate Fellowship (\$12500)
- 2019 Elmhurst Garden Club College Graduate Scholarship (\$2000)
- 2017-18 Investigating maternal effects in *Chamaecrista fasciculata*. Undergraduate Research Opportunities Program (\$1500)
- 2018 Citizens for Space Exploration Travel Grant (\$500)
- 2018 Elmhurst Garden Club College Scholarship (\$3000)
- 2018 Ernst C. and Lucy B. Abbe Award (\$3000)
- 2018 John Stout Memorial Scholarship (\$2000)
- 2017 John Stout Memorial Scholarship (\$2000)
- 2017 Tsang Weatherbee Merit Scholar (\$5000)
- 2017 University of Minnesota Study Abroad Scholarship (\$1000)
- 2015-19 University of Minnesota National Scholarship (\$40000)

TEACHING EXPERIENCE

- S2023 Associate Level Awardee, Graduate Teaching Apprenticeship Program in Higher Education, Center for Innovative Teaching and Learning (Indiana University – Bloomington, Bloomington, IN)
- S2022 Associate Instructor for Drs. Barbara Hug and Jen Lau, BIOL Z620, Translating Science: Connecting the Next Generation Scientist with K12 Educators (Crosslisted at Indiana University – Bloomington, Bloomington, IN and University of Illinois, Urbana, IL)
- F2021 Associate Instructor for Dr. Lynda Delph, BIOL S318, Honors Evolution (Indiana University – Bloomington, Bloomington, IN)
Lectures: Phenotypic Plasticity, Role of Epigenetics in Evolution
- S2021 Associate Instructor for Dr. Jen Lau, BIOL X150, ASURE Field Eco/Evo (Indiana University – Bloomington, Bloomington, IN)
Lectures: Intro to R
- F2020 Associate Instructor for Dr. Curt Lively, BIOL S318, Honors Evolution (Indiana University – Bloomington, Bloomington, IN)
Lectures: Intro Quantitative Genetics, Intro Life History, Role of Epigenetics in Evolution
- F2019 Associate Instructor for Dr. Laura Mojonner, BIOL 104, Biology of the Senses (Indiana University - Bloomington, Bloomington, IN)

MENTORING EXPERIENCE***Undergraduates***

- 2023 P.T., Indiana University – Bloomington (IU Women and Technology Mentee)
- 2023 S.K., Indiana University – Bloomington (IU Women and Technology Mentee)
- 2023 S.R., Indiana University – Bloomington (Undergraduate Research Assistant)
- 2021-23 E.C., Indiana University – Bloomington (IU Women and Technology Mentee)
- 2021-22 A.M., Indiana University – Bloomington (SREP & GROUPS Mentee, Research Assistant)
- 2022 D.N., Indiana University – Bloomington (SREP Co-Advised Mentee)
- 2020 M.W., North Carolina A&T State University (NSURP Mentee)
- 2019 A.M., Indiana University – Bloomington (Undergraduate Research Assistant)

High School Students

- 2023 R.C., Bloomington South High School (James Holland SSRP Co-Advised Mentee)
- 2023 A.A., Bloomington North High School (James Holland SSRP Co-Advised Mentee)
- 2022 E.B., Bloomington North High School (Bloomington North Internship Program)
- 2022 M.M., Providence Cristo Rey High School (James Holland SSRP Co-Advised Mentee)

COMMUNITY SERVICE & OUTREACH ACTIVITIES

- 2023 ScienceCORPS (Observer/Teaching Assistant Volunteer)
- 2023 IU Women's Research Poster Competition (Poster Judge Volunteer)
- 2023 Bloomington North High School Senior Project Night (Panelist)
- 2021 Skype-a-Scientist (Scientist Volunteer)
- 2021 Evergreen Park Community High School (Scientist Volunteer)
- 2019-21 IU Biology Outreach (Elementary School Science Outreach Volunteer)
- 2019-21 IU ScienceFest (Lau Lab Organizer & Graduate Student Volunteer)
- 2021 Marlin Elementary School (Prairie Planting Scientist Volunteer)
- 2020 Boys and Girls Club of Bloomington (Read to Succeed Tutor)
- 2019 Andersen United Community School (Spanish Service-Learning Volunteer)
- 2018 Citizens for Space Exploration (Illinois Representative to Congress Members)
- 2016-19 Ecology Club (Event Coordinator, Treasurer)
- 2018-19 UMN Study Abroad - Mexico (Student Contact)

2017 NASA Outreach Day (Presenter)
2017 Merritt Island National Wildlife Refuge (Volunteer)
2017 *Vida Sana* at Waite House Community Center (Spanish Service-Learning Volunteer)

ACADEMIC SERVICE

2023 Olsen Chair in Evolutionary Biology Faculty Search (Graduate Committee Member)

Reviewer for *Oikos* (1), *Trends in Plant Science* (1)