

# Emma L. Boehm

Indiana University – Bloomington  
Department of Biology  
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## EDUCATION

2019–Present **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 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) <i>Lectures: Phenotypic Plasticity, Role of Epigenetics in Evolution</i>
S2021	Associate Instructor for Dr. Jen Lau, BIOL X150, ASURE Field Eco/Evo (Indiana University – Bloomington, Bloomington, IN) <i>Lectures: Intro to R</i>
F2020	Associate Instructor for Dr. Curt Lively, BIOL S318, Honors Evolution (Indiana University – Bloomington, Bloomington, IN) <i>Lectures: Intro Quantitative Genetics, Intro Life History, Role of Epigenetics in Evolution</i>
F2019	Associate Instructor for Dr. Laura Mojonier, 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)