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. 2024. 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) *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 Mojonnier, BIOL 104, Biology of the Senses (Indiana University - Bloomington, Bloomington, IN)

MENTORING EXPERIENCE

Undergraduates

2023-24	J.F., Indiana University – Bloomington (IPE Sustainability Scholar, Independent Project)
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, Independent Project)
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	Letters to A Pre-Scientist (Bilingual [English/Spanish] STEM Pen Pal)
2023	Planting Science (Scientist Mentor Volunteer)
2023	ScienceCORPS (Observer/Teaching Assistant Volunteer)
2023	IU Women's Research Poster Competition (Poster Judge Volunteer)
2023	Bloomington North High School Senior Project Night (Community 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

2021-24	Red Queen Game for M375 Parasitology (Guest Lecturer)
2023	Indiana University Olsen Chair in Evolutionary Biology Faculty Search (Graduate Committee Member)

Member of:
Society for the Study of Evolution

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