

ERICA NADOLSKI

Department of Biology
Indiana University - Bloomington
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EDUCATION

2020-Present **Ph.D. in Genome, Cell, and Developmental Biology**

Indiana University Bloomington

Minors in (i) Evolution and (ii) History & Philosophy of Science

In progress

Advisor: Dr. Armin Moczek; Committee Members: Drs. Ryan Bracewell,
Luke Nikolov, Erik Ragsdale, Ann Sophie Barwich

2016-2020 **B.S. with Honors, *summa cum laude***

University of Oklahoma, Department of Biology

Minors in (i) Chemistry and (ii) History of Science

Advisor: Dr. J. P. Masly

Thesis: The Genetic Basis of a Newly-Evolved Reproductive Structure in
Drosophila

RESEARCH EXPERIENCE

2020-Present **IU Department of Biology, Genome, Cell, and Developmental Biology**

Research: The evolutionary developmental biology of sexual dimorphisms and evolutionary innovations in the beetle tribe Onthophagini; ongoing
PI: Dr. Armin Moczek, Professor of Biology, IU, Bloomington, IN

2018-2020 **OU Department of Biology, Honors Undergraduate Research**

Research: Investigated the genetic basis of the origin and evolution of novel secondary sexual reproductive structures in *Drosophila*
PI: Dr. J. P. Masly, Professor of Biology, OU, Norman, OK

2017-2020 **Oklahoma Biological Survey, Undergraduate Research Assistant**

Research: Studied phylogenetic relationships among groups of native and invasive species subject to priority effects and along drought gradients
PI: Dr. Lara Souza, Director of the Oklahoma Biological Survey, Norman, OK

PUBLICATIONS

-in press-

Nadolski, E.M., Moczek, A.P. 2023. The promise and limits of an agency perspective in evolutionary developmental biology. *Evolution & Development*.

<https://doi.org/10.1111/ede.12432>

Nadolski, E.M.,* Davidson, P. L.,* Moczek, A.P. 2023. Gene regulatory networks underlying the development and evolution of plasticity in horned beetles. *Current Opinion in Insect Science*. <https://doi.org/10.1016/j.cois.2023.101114> * co-first authors

-in preparation-

Nadolski, E.M., Moczek, A.P. Post-embryonic function of Hox gene *labial* resolves beetle head segment boundaries through metamorphosis. (aimed for submission to *Evolution & Development*)

Nadolski, E.M., Jones, J., Westwick, R., Davidson, P. L., Moczek, A.P. Insects in their environments: eco-devo and evo-devo perspectives. (Invited chapter for the edited volume, *Comprehensive Molecular Insect Science, 2nd edition*)

Harper, A. R., McCrory, J., **Nadolski, E.M.**, Afkhami, M., Masly, J.P. A novel gene specifies species-specific morphology of a sexually selected trait in *Drosophila* (aimed for submission to *PLoS Biology*)

PRESENTATIONS

- 2024 Innovation of and through sexual dimorphism: insights from horned beetles.
Society of Integrative and Comparative Biology: **Runner-up for Division of Evolutionary Developmental Biology Best Student Talk**
- 2024 Evolutionary novelties, segmental boundaries, and Hox gene expression in the insect head. Society of Integrative and Comparative Biology. **Division of Evolutionary Developmental Biology Best Student Poster**
- 2023 EMBO/FEBS Venice summer school in evolutionary developmental biology: The future of evo devo systems biology. *Invited participant*.
- 2022 EMBO/FEBS Venice summer school: The character concept in metabolic, physiological, and developmental evolution. *Invited participant*.
- 2020 The Genetic Basis of a Newly-Evolved Reproductive Structure in *Drosophila*.
OU Undergraduate Research Day. **Talk.**
- 2020 The Genetics of Sex-Specific Reproductive Traits in *Drosophila*.
The Allied Genetics Conference. **Talk.**

GRANTS AND FELLOWSHIPS

2023-24	IU-NIH “Common Themes in Reproductive Diversity” Predoctoral Fellowship
2022-23	IU College of Arts and Sciences Kindig Research Fellowship
2021	NSF Graduate Research Fellowship – Honorable Mention
2020-21	IU College of Arts and Sciences Graduate Fellowship
2019	OU Honors College Undergraduate Research Grant

AWARDS

2024	SICB 2024 Division of Evolutionary Developmental Biology Best Poster Award
2023	IU CISAB Hanna Kolodziejki Award
2022	IU Provost’s Travel Award for Women in Science
2020	Genetics Society of America TAGC 2020 Undergraduate Travel Award
2020	OU Undergraduate Research Day 2020 Distinguished Presenter Award
2020	OU Honors College Dean's Leadership Award for Reading Group Moderators
2019	OU Nominee for the University of Cambridge Churchill Scholarship
2017-2020	OU College of Arts and Sciences Dean’s List, President’s Honor Roll

TEACHING EXPERIENCE

2023	“ Entomology ,” Associate Instructor, BIOL-Z373; with Prof. Armin Moczek
2022	“ Eco Evo Devo: Thinking about Evolution ,” Journal Club organizer and Facilitator, BIOL-Z620
2022	“ Introductory Biology: The Biology of the Senses ,” Associate Instructor, BIOL-L 104; with Prof. Laura Mojonner
2022	Guest Lecture “From candidate gene to functional analysis using RNAi,” ABEH-A 501 'Techniques in reproductive diversity'

SERVICE

Departmental

2022-Present	Biology Department Diversity, Equity, and Inclusion Committee, Student Rep.
2022-2023	Biology Department Graduate Recruitment Weekend, Food Committee Chair
2021-2022	GCDB Graduate Student Association, Secretary
2021-2022	Biology Department Graduate Recruitment Weekend, Activities Committee

- 2020-2023 BioLGBTQ Student Association, member
2021 Created & ran BioLGBTQ “Safe Space Training Workshop” for Biology Dept.

Professional

- 2023 Manuscript Review – Evolution & Development
2022 Manuscript Review – Evolution & Development
2021 Manuscript Review – Seminars in Cell and Developmental Biology

Mentoring

- 2024 **London Mitchell**, Bloomington High School South senior
BHSS Senior Internship Program – 12 weeks
2023 **Isabel Manley**, IU student - Bachelor of Science in Biology
Undergraduate research project (2 semesters)
2023 **Gabriel Ruiz**, high school student
IU James Holland Summer Programs - Research Program (1 week)
2023 **Cohort** of 9 high school students
IU James Holland Summer Programs - Research Exposure (1 day)
2022 **Sukhmani Gill**, high school student
IU GROUPS Summer Research Experience (6 weeks)

Community Outreach

- 2023 **Reconstructing 6 million years of human evolution using diverse data sets**
Outreach module with five AP Biology class periods at Bloomington High School South;
240 participants
2022 **Mammalian Skull Evolution**
Outreach module. Taught to teens from the Bloomington Youth Shelter. Dec. 6th; 6
students. Taught to a 5th grade class at Templeton Elementary School. Oct. 11th; 22
students; Bloomington, IN
2022 **Science Fest**
“Mammalian Skull Evolution” outreach module displayed at IU event. Oct. 22nd
Bloomington, IN
2022 **BugFest 2022**. Oct. 1st. Presented on horned beetle biology and diversity in
Bloomington, IN.
2021 **Introduction to the Scientific Method using Termite Behavior**
Outreach module taught to a 3rd grade class at Childs Elementary School. Bloomington,
IN; ~20 students

- 2021 **Reconstructing 6 million years of human evolution using diverse data sets**
Outreach module with two AP Biology classes at Bloomington High School South; 60 participants
- 2021 **BugFest 2021**. Presented on horned beetle biology and diversity in Bloomington, IN.
- 2020 **Tiny Fruit Flies Answer Big Scientific Questions**
Animated video describing Masly Lab research at a grade-school level
<https://www.youtube.com/watch?v=zJB7bortvOw&t=58s>

Professional Affiliations

Society of Developmental Biology

Society for Integrative and Comparative Biology