

Delaney L. Miller

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EDUCATION

- 2017 – present PhD Candidate, Indiana University Bloomington, Department of Biology
Ecology, Evolution and Behavior; GPA: 3.81
- 2013-2017 Biology B.S., New Mexico Institute of Mining and Technology, Department of
Biology
Biology; GPA: 3.60

RESEARCH EXPERIENCE

- 2017 – present PhD Candidate, Indiana University Bloomington
Department of Biology, PI: Dr. Irene L. G. Newton
Functional ecology and genetics of a defensive symbiosis in the European
honey bee.
- 2016 -2017 Independent Student Researcher, New Mexico Institute of Mining and
Technology
Department of Biology, PI: Dr. Thomas Kieft
Characterization of anaerobic co-culture from Tau Tona Mines.
- 2015 Research Assistant, New Mexico Institute of Mining and Technology
Department of Biology, PI: Dr. Jamie Voyles
Characterizing variation in virulence and growth conditions between
ancestral and evolved strains of the amphibian pathogen,
Batrachochytridium dendrobatitis (Bd).

PUBLICATIONS

- Miller DL, Smith EA, Rice D, Newton IL. 2020. A bacterial symbiont protects honey bees from fungal disease. *mBio* 12 (3). e00503-21. DOI: <https://doi.org/10.1128/mBio.00503-21>
- Smith EA, Vuong HQ, Miller DL, Parish AJ, McFrederick QS, Newton ILG. 2020. Draft Genome Sequences of Four *Saccharibacter* sp. Strains Isolated from Native Bees. *Microbiology Resource Announcements*. Vol. 9. DOI: 10.1128/MRA.00022-20
- Smith EA, Martin-Eberhardt SA, Miller DL, Parish AJ, Newton ILG. 2019. Draft Genome Sequence of a *Bombella apis* Strain Isolated from Honey Bees. *Microbiology Resource Announcements* Vol. 8. DOI: 10.1128/MRA.01329-19
- Miller DL, Parish AJ, Newton IL. 2019. Transitions and transmission: behavior and physiology as drivers of honey bee-associated microbial communities. *Curr Opin Microbiol*. Vol. 50 (1-7) DOI: 10.1016/j.mib.2019.08.001
- Voyles J, Johnson LR, Rohr J, Kelly R, Barron C, Miller D, Minster J, Rosenblum EB. 2017. Diversity in growth patterns among strains of the lethal fungal pathogen *Batrachochytrium dendrobatidis* across extended thermal optima. *Oecologia* 184:363–373. DOI: 10.1007/s00442-017-3866-8

PRESENTATIONS

- August 2020 Miller DL, Newton IL. *Defensive symbiont suppresses fungal pathogens of Apis mellifera*. Talk for 2020 GEMS seminar series.
- October 2019 Miller DL, Newton IL. *Evidence of symbiont-mediated defense against fungal pathogens in the Apis mellifera*. Poster presented at IU Microbiology Retreat.
- June 2019 Miller DL, Newton IL. *Evidence of symbiont-mediated defense against fungal pathogens in the Apis mellifera*. Poster presented at GRC Animal-Microbe Symbioses.
- May 2019 Miller DL, Newton IL. *Something borrowed, something new: novel functions in an environmentally acquired symbiont of honey bees*. Invited talk at Purdue Microbiome Symposium 2019.
- April 2019 Miller DL, Newton IL. *Something borrowed, something new: novel functions in an environmentally acquired symbiont of honey bees*. Talk at IU EEB program's Brown Bag series.
- October 2018 Miller DL, Newton IL. *The enemy of my enemy is my friend: A defensive symbiosis in the honey bee*. Talk at IU Microbiology Program's Microphiles.
- July 2018 Miller DL, Newton IL. *Acetic acid bacteria as inhibitors of entomopathogenic fungi*. Poster presented at International Symbiosis Society (ISS).
- 2015 Barron C, Miller DL, Voyles J. *Experimental evolution with the lethal pathogen, Bactrachochytrium dendrobatidis*. Poster presented at INBRE.

GRANTS AND AWARDS

March 2020 – present	\$502,077	NSF IOS (data contributor)
April 2019 – March 2020	\$2,000	IURTP Student Research Grant (author)
March 2019- June 2020	\$52,000	Project Apis m. (author)
Summer 2018	\$1,600	Floyd Plant and Fungal Biology Fellowship (author)
Spring 2018	\$500	Cleland Plant and Fungal Science TA (author)

PROFESSIONAL DEVELOPMENT

March -April 2019	NSF Midwest innovation-Corps (I-Corps) Customer Discovery
March 2019	Agriculture Technology Introduction to Customer Discovery
March 2019	Agriculture Innovation Technology Summit

TEACHING EXPERIENCE AND OUTREACH

Spring 2020	Assistant Instructor for Molecular Microbiology Laboratory at Indiana University (M315)
2018 – 2019	Assistant Instructor for Biology Laboratory at Indiana University (L113)
Fall 2018, 2019, 2020	IU Science Fest, <i>Bee for a Day</i> Module

MENTORING AND TRAINING

Summer 2021	Jillian Lewis (undergraduate)
Summer 2021	Alyssa Land (undergraduate)
Spring 2020	Elizabeth Morrison (PhD student)
Fall 2019	Aimee Lee (undergraduate)
Summer 2019	Peyton Kenyon (undergraduate)
Summer 2018 – 2019	Sylvie Martin-Eberhardt (undergraduate)

SERVICE

Fall 2020	EEB Colloquium Host for Dr. Zakee Sabree
Spring 2020	IU Biology Graduate Recruitment Host
Spring 2019	Student Hiring Advisory Committee for Dr. Cristina Landeta
Fall 2018	EEB Colloquium Host for Dr. Benjamin Wolfe

PROFESSIONAL MEMBERSHIPS

Spring 2020 – 2021	American Society for Microbiology (ASM)
Fall 2019 – 2020	Entomological Society of America (ESA)
Spring 2018 -2019	International Symbiosis Society (ISS)

SOCIAL MEDIA AND PRESS

July 2020	Podcast Feature, This Week in Microbiology (TWiM) <i>Bacteria that Protect Bees from Fungi</i> https://asm.org/Podcasts/TWiM/Episodes/Bacteria-That-Protect-Bees-From-Fungi-TWiM-245
July 2020	Article Feature, Radio Broadcast, Indiana Public Media

IU Study: Microbe In Guts Of Honey Bees Could Protect Hives From Fungal Diseases

<https://indianapublicmedia.org/news/iu-study-microbe-in-guts-of-honey-bees-could-protect-hives-from-fungal-diseases.php>

July 2020

Article Feature, The Herald Times

Buzz about the Bees! A new discovery at IU of a protective microbe found in honey bees

<https://www.heraldtimesonline.com/story/news/local/2021/06/26/iu-looks-fungal-pathogen-bees-and-finds-protective-microbe/7777092002/>

March 2020

Article Feature, ASBMB Today

The bee microbiome can fight back against fungi that cause Colony Collapse Disorder.

<https://www.asbmb.org/asbmb-today/science/032120/the-bee-microbiome-can-fight-back-against-fungi-th>

October 2019

Article Feature, Indiana Public Media

Beekeepers, Researchers, & State Lawmakers Agree: We Need the Bees.

<https://indianapublicmedia.org/news/beekeeping-taking-flight-in-indiana.php>