**EDUCATION**

**PhD candidate in lab of Dr. Brian Lazzaro*,* Cornell University,** Department of Entomology, Ithaca, NY 2019-

*Tentative Dissertation title***:** Understanding on the fly: mechanisms by which high sugar diets shape Infection resistance.

**Bachelor of Science, University of Nevada, Las Vegas,** School of Life Sciences,Las Vegas, NV 2013-2018

* *Biology, concentration in Ecology and Evolution*
* *McNair Scholar Project*: Investigating the role of the gut microbiome in desiccation survival in fruit flies adapted to arid environments

**MAJOR RESEARCH EXPERIENCE**

**Graduate Researcher, Cornell University (PI: Brian Lazzaro, PhD)** 2019-

* Investigating the the genetic and physiological impact that dietary sugar has on infection dynamics on the fruit fly *Drosophila melanogaster*
* *This work resulted in one invited talk, three oral presentations, two poster presentations. Two manuscripts in preparation. Funded by the Ford Foundation and McNair SUNY Diversity Fellowship.*

**Post-baccalaureate Researcher, University of Kansas (PI: Robert Unckless, PhD)** 2018-2019

* Investigated tradeoffs between infection survival and life history traits including: lifespan, starvation survival, and desiccation survival in *D. melanogaster*
* *This work resulted in one invited talk, one poster presentation, and was funded by the NIH Postbaccalaureate Research Education Program (PREP)*

**Undergraduate Researcher, University of Nevada, Las Vegas (PI: Allen Gibbs, PhD)** 2016-2018

* ​Investigated the effects of the gut microbiome on desiccation resistance in *D. melanogaster* adapted to arid conditions
* *This work resulted in x oral presentations, x poster presentations, and was funded by Ronald E. McNair Scholars Institute and NSF Nevada EpSCoR*

**PUBLICATIONS**

In Print

1. Moreau, C.S., **Darby**, **A.M.**, Demery, A.J., Arcila-Hernández, L.M., Meaders, C. (2022), A framework for educating and empowering students by teaching about history and consequences of bias in STEM, Pathogens and Disease, Volume 80, Issue 1, <https://doi.org/10.1093/femspd/ftac006>

In Preparation

1. **Darby, A.M.,** Lazzaro, B.P. Cross talk between innate immunity and insulin signaling across insects.
2. **Darby, A.M.,** Okoro, D.O., Frank, A.M., Lazzaro, B.P. High sugar feeding post-development increases susceptibilty to infection in *Drosophila melanogaster.*

**HONORS AND AWARDS**

Fellowships

1. Ford Foundation Predoctoral Fellowship (awarded $81,000) 2020
   * + - 1. *Less than 4% of applicants awarded*
2. McNair SUNY Graduate Diversity Fellowship (awarded $81,000) 2019
3. NSF Graduate Research Fellowship Program- Honorable Mention 2019
4. Nevada National Science Foundation EPSCoR Fellowship (awarded $4,000) 2017
5. McNair Scholars Summer Research Institute Fellowship (awarded $2,500) 2017
6. McNair Scholars Summer Research Institute Fellowship (awarded $2,500) 2016

Awards

* + - 1. Best Oral Presentation at Binghamton Biology Symposium 2023
      2. Cornell Graduate School Early Career Exemplary Service Award 2021
      3. Featured speaker, Cornell Graduate School Dean’s Scholar Ceremony 2021
      4. First Place Science Slam Winner *Drosophila* Research Conference 2018
      5. Third Place Oral Presentation at SAEOPP/McNair Research Conference 2017
      6. Third Place Science Slam Winner *Drosophila* Research Conference 2017
      7. Professor Roosevelt Fitzgerald Outstanding Student Achievement Award 2017

Scholar and Program Distinctions

1. Cornell University Graduate School Dean’s Scholar 2019
2. NIH Postbaccalaureate Research Education Program Scholar 2018
3. Ronald E. McNair Scholar 2016
4. National Education for Women’s (NEW) Leadership Program 2018
5. Cornell Diversity Preview Weekend Attendee 2018

Travel Grants

1. Cornell Graduate School Travel funds (awarded $450) 2022
2. Rawlins Endowment Dept. of Entomology, Cornell (awarded $500) 2022
3. Annual Biomedical Research Conference for Minority Students (awarded $800) 2017
4. EPSCoR Nevada Fellowship Travel Funding (awarded $1500) 2017

Scholarships

1. Cornell Graduate School Top-Off Award (awarded $23,000) 2020
2. Student Engagement and Diversity Scholarship (awarded $600) 2017
3. Adelson Medical Scholarship (awarded $12,000) 2013

**TEACHING AND MENOTRSHIP**

Instructor of Record

1. Entomology 4040: **Science of Bias seminar**, Cornell University Spring 2022
2. Entomology 4040: **Science of Bias seminar**, Cornell University Fall 2020

Teaching Assistant

* + - 1. Biol 251 & Biol 351: **Microbiology Lab Coordinator**, UNLV 2016-2018
      2. Biol 351: **Microbiology Undergraduate Teaching Assistant**, UNLV Spring 2018
      3. Biol 351: **Microbiology Undergraduate Teaching Assistant**, UNLV Spring 2017
      4. Biol 351: **Microbiology Undergraduate Teaching Assistant**, UNLV Spring 2016
      5. Biol 251: **Microbiology Undergraduate Teaching Assistant**, UNLV Fall 2015
      6. Biol 251: **Microbiology Undergraduate Teaching Assistant**, UNLV Summer 2015

Guest Lecturer

1. **Introduction to genetics**, Tonganoxie Highschool March 2019

Facilitated Workshops

1. **Managing Microaggressions during Interview Weekends** Sept. 2021

Designed and facilitated a workshop on how to navigate microaggressions during graduate school interviews. We invited two Senior Ford Foundation Fellows and two Cornell CAPS professionals on site to facilitate safe conversations.

1. **Microaggressions Workshop**  Nov. 2020

Adapted the diversity, culture, and identity workshop for the experiences of Black graduate students. Presented to the Black in Sci Coalition.

1. **Diversity, Culture, and Identity Workshop**, Sept. 2020 Designed and facilitated a workshop on how to navigate microaggressions especially when doing graduate school interviews and how to identify whether programs, departments, and colleges support diversity and inclusion initiatives.
2. **Talk Like a Leader: Creating a Vision** April 2018

Facilitated module that helps participants discover three key communication

phrases that can assist in expressing their vision, learning how to inspire others about the vision of their organization, establishing responsibilities to stay focused.

1. **Talk Like a Leader: Standing Up for “I”** Feb. 2018

Facilitated module that involved identifying elements of the assertiveness continuum and where you fit, understanding personal blocks to assertiveness, and gaining assertiveness through positive self-talk.

Instructor Training

1. Intergroup Dialogue Program for Graduate Students and Postdocs Summer 2022

Mentorship

1. Destiny Okoro, Cornell ’23 **Honors Thesis Student and CIHMID URE ’21 Student**

*Project*: Understanding effects of high sugar diet on sugar metabolism during infection

1. Sophia Aredas, UC Irvine ’23 **Microbial Friends and Foe ’22 Student**

*Project*: Investigating effects of high sugar on gut microbiome and immunity

1. Graduate Students Mentoring Undergraduates Program 2022-2023

**PRESENTATIONS**

Upcoming

\*Denotes undergraduate student author

1. **Darby, A.M.** Moreau, C., Demery, A.J., Meaders, C., Arcilia-Hernandez, L.,(2023 March). A framework for educating and empowering students by teaching about history and consequences of bias in STEM. **Oral presentation** at the *Drosophila* Research ConferenceDiversity Iniatives in Diversity and Education*,* Chicago, IL.
2. **Darby, A.M, \***Okoro, D.O., Lazzaro, B.P. (2023 March) Feeding on high sugar post-development increases susceptibility to infection in *Drosophila melanogaster.* **Poster** at the *Drosophila* Research Conference 2023. Chicago, IL.
3. **Darby, A.M,** Moreau, C., (2023 Feb.)*.* Practices to cultivate and integrate DEIJ into any class, research, and extension work. **Oral presentation** at Cornell Entomological Seminar Series. Ithaca, NY.

Invited

1. **Darby, A.M.** (2021)Understanding on the fly the cell biological mechanisms by which high sugar diets shape infection resistance. **Oral presentation** East Carolina University Biology Deparment Research in Progress Seminar. Virtual.
2. **Darby, A. M** (2019) Ecology and Evolution of *Drosophila* Microbiome. Microbiome Workshop at *Drosophila* Research Conference, Dallas, TX.
3. **Darby, A. M.,** Patton, S., Gibbs, A. (2018). Gut microbiome effects on desiccation resistance in *Drosophila melanogaster.* Microbiome Workshop at *Drosophila* Research Conference, Philadelphia, PA.

Conference Presentations

**Chaired Conference Symposia Talks**

1. **Darby, A.M.** (2020) The Diversity Preview Weekend: A graduate student-led initiative to promote diversity, equity and inclusion in higher education. The Allied Genetics Conference Diversity, Equity, and Inclussion Platform Session. Virtual.

*Speakers:* S Barolo, AM Darby, G McDowell, J Alexander, K Tsosie

*Chairs:* Nadia Singh

1. **Darby, A. M.,** Patton, S., Gibbs, A. (2019). Gut microbiome effects on desiccation resistance in *Drosophila melanogaster.* Society of Integrative and Comparative Biology Conference Microbiome Platform Session, San Francisco, CA.

*Speakers***:** AM Darby, RN Ketchum, JC Sargent, KD Kohl, MM Lloyd, M Zylberberg

*Chairs***:** Kevin Kohl, Melissa Pespeni

1. **Darby, A. M.,** Patton, S., Gibbs, A. (2018). Gut microbiome effects on desiccation resistance in *Drosophila melanogaster.* Society of Integrative and Comparative Biology Conference Microbiome Platform Session, San Francisco, CA.

*Speakers***:** AM Darby, RN Ketchum, JC Sargent, KD Kohl, MM Lloyd, M Zylberberg

*Chairs***:** Kevin Kohl, Melissa Pespeni

**Conference Presentations**

\*Denotes undergraduate student author

1. **Darby, A.M, \***Okoro, D.O., Lazzaro, B.P. (2022) Short-term feeding on high sugar increases susceptibility to infection in *Drosophila melanogaster*. **Poster** at the 2022 *Drosophila* Research Conference. San Diego, CA.
2. **Darby, A.M,** Lazzaro, B.P., (2021) Investigating the immediate effects of high sugar on immune defense. **Poster** at the Drosophila Research Conference online. Virtual.
3. **Darby, A. M.**, Mullinax, S, Unckless, R. (2018) Strong immune response in *Drosophila* can lead to tradeoffs in reduced fitness during environmental stress. **Poster presentations** at the Annual Biomedical Research Conference for Minority Students, Indianaplis, IN.
4. **Darby, A. M.,** Patton, S., Gibbs, A. (2018). Gut microbiome effects on desiccation resistance in *Drosophila melanogaster.* **Poster presentation** at the 2018 *Drosophila* Research Conference, Philadelphia, PA.
5. **Darby, A. M.,** Patton, S., Gibbs, A. (2017). Gut microbiome effects on desiccation resistance in *Drosophila melanogaster.* **Oral presentation** at the Southeastern Association of Educational Opportunity Program Personal (SAEOPP) and McNair Research Conference, Atlanta, GA.
6. **Darby, A. M.,** Patton, S., Gibbs, A. (2017). Gut microbiome effects on desiccation resistance in *Drosophila melanogaster.* **Poster presentation** at ABRCMS, Phoenix, AZ.
7. **Darby, A. M.,** Patton, S., Gibbs, A. (2017). Gut microbiome effects on desiccation resistance in *Drosophila melanogaster.* **Poster presentation** at McNair Conference at the University of Washington, Seattle, WA.

Department/University Presentations

\*Denotes undergraduate student author

1. **Darby, A.M.,\*** Okoro, D.O.,Lazzaro, B.P., (2023). High sugar feeding post-development increases suceptibility to infection in *Drosophila melanogaster*. **Oral presentation** at Binghamton Biology Graduate Student Symposium. Binghamton, NY.
   * 1. *Awarded best talk*
2. **Darby, A.M.,** Lazzaro, B.P., (2022) Feeding on high sugar post-development increases suceptibility to infction in *Drosophila melanogaster*. **Oral presentation** at Cornell Superfly. Ithaca, NY.
3. **Darby, A.M.,** Lazzaro, B.P., (2022) Feeding on high sugar post-development increases suceptibility to infction in *Drosophila melanogaster*. **Oral presentation** at the CIHMID CCFI Symposium. Ithaca, NY.
4. **\*Aredas, S.,** Darby, A.M.,Lazzaro, B.P., (2022) Investigating the effects of high sugar diet on the gutmicrobiome and immunity in *Drosophila melanogaster*. **Oral presentation** at Microbial Friends and Foes REU Symposium. Ithaca, NY.
5. **\*Aredas, S.,** Darby, A.M.,Lazzaro, B.P., (2022) Investigating the effects of high sugar diet on the gutmicrobiome and immunity in *Drosophila melanogaster*. **Poster presentation** at the CIHMID CCFI Symposium. Ithaca, NY.
6. **Darby, A.M.,** Lazzaro, B.P., (2022) Short-term feeding on high sugar increases susceptibility to infection in *Drosophila melanogaster*. **Oral presentation** at the Annual Cornell Entomology Symposium. Virtual.
7. **\*Okoro, D.O.,** Darby, A.M.,Lazzaro, B.P., (2021) Relationship between crinkled gene, glucose metabolism and its effect on the immune system. **Oral presentation** at the Microbial Friends and Foes Symposium. Ithaca, NY.
8. **Darby, A. M**., Lazzaro, B. (2020) Understanding the mechanisms by which carbohydrates impact infection outcome in *Drosophila melanogaster*. **Oral presentation** at the 2020 Jugatae Symposium, Ithaca, NY.
9. **Darby, A. M.,** Patton, S., Gibbs, A. (2018). Gut microbiome effects on desiccation resistance in *Drosophila melanogaster.* **Poster presentation** at the 2018 Arizona-Nevada American Society of Microbiology (ASM) Meeting, Las Vegas, NV.
10. **Darby, A. M.,** Patton, S., Gibbs, A. (2017). Gut microbiome effects on desiccation resistance in *Drosophila melanogaster.* **Oral presentation** at the University of Nevada, Las Vegas (UNLV) Lighting Talk Competition, Las Vegas, NV.
11. **Darby, A. M.,** Patton, S., Gibbs, A. (2017). Gut microbiome effects on desiccation resistance in *Drosophila melanogaster.* **Oral presentation** at the UNLV Undergraduate Research Symposium, Las Vegas, NV
12. **Darby, A. M.,** Patton, S., Gibbs, A. (2017). Gut microbiome effects on desiccation resistance in *Drosophila melanogaster.* **Poster presentation** at the UNLV McNair Scholars Research Symposium, Las Vegas, NV.
13. **Darby, A. M.,** Dahroug, M., A. (2016). Gut microbiome effects on starvation resistance in *Drosophila melanogaster****.* Poster Presentation** at the UNLV McNair Scholars Research Symposium, Las Vegas, NV.

**SERVICE AND OUTREACH**

Professional Service

1. Co-session Chair for Initiatives in Education and DEI 2023

2023 *Drosophila* Research Conference

1. Co-session Chair for Metabolism and Physiology Platform Session 2021

2021 *Drosophila* Research Conference

1. 2021 *Drosophila* Research Conference Poster Judge 2021

University Service

1. Lead Organizer of Cornell Black Excellence Research Symposium 2021-2022
2. Entomology Representative, Graduate and Professional Student Association 2021
3. President, Cornell Black Graduate and Professional Student Association 2021-2022
4. Secretary, Cornell Black Graduate and Professional Student Association 2020-2021
5. Diversity, Equity, and Inclusion Committee, Dept. of Entomology 2020
6. Diversity Preview Weekend Co-Leader 2019-2021
7. Chapter president, Phi Sigma Pi National Honor Fraternity 2017-2018
8. Secretary, Scientista Foundation at UNLV 2017-2018
9. Regional Conference Coordinator, Phi Sigma Pi National Honor Fraternity 2016-2017

STEM Outreach

1. Insect Genetics and Nutrition Display at Cornell ENTO Insectapalooza Oct. 2022
2. Science and Technology Entry Program Graduate Student Panel Event April 2021
3. Insect Genetics Display at Cornell ENTO Insectapalooza Oct. 2019
4. STEM Careers, KU STEM Initiative at Lawrence College and Career Center Oct. 2018

1. Girls in STEM Day Guest Panel, Scientista Foundation at UNLV April 2018
2. STEM Carer Panel at Girls in Tech Day, Scientista Foundation at UNLV March 2018
3. UNLV Boo Bash, Scientista Foundation at UNLV Oct. 2017
4. Wet Lands Hands On Team Lead, Wetlands Park 2017- 2018

Diversity, Equity, and Inclusion Service

1. **BGPSA Juneteenth Celebration**  June 2022

Organized Juneteenth Celebration for the Cornell Grad Community

1. **Community Action and Healing Session** May. 2022

Facilitated community meeting for Black academics at Cornell in response

to the tragic Buffalo, May 2022 shooting.

1. **Melanin Mixer, BGPSA, BGBA, BLSA** Feb. 2022

Organize and facilitated networking mixer across the Black Law, Black Business,

and Black Graduate Student Associations.

1. **Mastering Your Transition Into & Progression Through Graduate School** Aug. 2022

Invited panel speaker for Cornell Summer Success Symposium

1. **Graduate Student Life Panel for Undergraduate Researchers** Aug. 2022

Invited panel speaker for Microbial Friends and Foes REU Program

1. **Graduate School Admissions and Interview Panel** Aug. 2022

Invited panel speaker for NIH PREP scholars at University of Kansas

1. **Cornell Dept. of Entomology Community Conversations** May 2022

Invited to co-lead discussion on how to educate STEM students on bias.

1. **Deconstructing Professionalism** Oct. 2021

Co-developed and facilitated event for the Cornell Graduate Student community

where we challenged the social and culturally norms that Western standards of professionalism subjected to underrepresented and marginalized people

1. **Graduate Student Life Panel for Undergraduate Researchers** Aug. 2021

Invited panel speaker for Microbial Friends and Foes REU Program

1. **Letter Writing Session facilitator for BGPSA** Aug. 2020

Led a session educating members of the community on how to contact local representatives and providing resources on how to draft their own letters to

federal, state, and local politicians in response to addressing police brutality

1. **BGPSA Guided Journaling Facilitator** Summer 2020

Facilitated over 8 weeks guided journaling sessions for members of

BGPSA in response to stay at home order of the pandemic and Black Lives

Matter Protests.

**Professional Membership**

* + - 1. American Association for the Advancement of Science
      2. American Society for Microbiology
      3. Entomological Society of America
      4. Genetics Society of America

**Worked on my PhD during a global pandemic, with systematic and institutional racism, sexism, and homophobia there every step of the way.**