

# Claire Williams

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Languages: English (Native), Spanish (B1)

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## Education

Trinity College Dublin, Dublin, Ireland

2020-2021

*Master's of Science, Biodiversity and Conservation*

Northeastern University, Boston, Massachusetts

2015-2020

*Bachelor's in Biochemistry\*, Summa Cum Laude*

**GPA: 4.0**

*\*Degree accredited by the American Society of Biochemistry and Molecular biology: Passed a rigorous biochemistry and molecular biology certification exam in spring of graduation year*

- ❖ **Achievements:** Sigma Xi Research Honor Society, TriBeta Biological Honor Society, Dean's List in all semesters; President's Award, Spring 2019 & Spring 2020 (top 10 students in graduating class), awarded membership in the [Huntington 100](#); See below for research related achievements

University College Dublin, Dublin, Ireland

Fall 2015 and Spring 2017

*Study Abroad, Fall 2015 and Spring 2017*

Holyoke Community College

2013-2015

*Associate Degree in Liberal Arts, High Honors, May 2015*

**GPA: 3.98**

- ❖ **Achievements:** Member of Phi Theta Kappa Honor Society, Dean's List four consecutive semesters
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## Publications and Presentations

### Publications

- Cox, CL, Alexander, S, Casement, B, Chung, AK, Curlis, JD, Degon, Z, Dubois, M, Falvey, C, Graham, Z, Folfas, E, Gallegos, M, Neel, L., Nicholson, DJ, Padilla-Perez, DJP., Ortiz-Ross, X, Rosso, AA, Taylor, Q, Thurman, TJ, **Williams, CE**, McMillan, W.O. and Logan, M.L. (2020) Ectoparasite extinction in simplified lizard assemblages during experimental island invasion. *Biology Letters*: 16(8):20200474.
- Logan, M.L., Kneel, LK, Nicholson, DJ, Stokes, A, Miller, C, Chung, AK, Curlis, JD, Keegan, KM, Rosso, AA, Maayan, I, Folfas, E, **Williams, CE**, Casement, B, Gallegos, M, Padilla-Perez, DJ, Falvey, C, Alexander, S, Charles, K, Graham, Z, McMillan, WO, Losos, JB, Cox, CL (2020) Sex-specific microhabitat use is associated with sex-biased thermal physiology in Anolis lizards. *Journal of Experimental Biology*: 224: jeb235697
- Gosztyla ML., Kwong L, Murray N, **Williams CE**, Behnke N, Curry P, Corbett KD, DSouza K, de Pablo JG, Gicobi J, Javidnia M, Lotay N, Prescott SM, Quinn JP, Rivera ZMG, Smith MA, Tang KTY, Venkat A, Yamoah MA. 10 "Simple" Rules for Advancing Anti-Racism in STEM. **Accepted at PLOS Computational Biology.**

### Forthcoming Publications

- Rosso, AA, Logan ML, Casement B, Chung AK, Curlis JD, Folfas E, Gallegos M, Neel LK, Nicholson DJ, **Williams CE**, McMillan WO, and Cox CL. Gene expression and physiology respond plastically to temperature change in a tropical ectotherm. **Submitted to Functional Ecology, Jan 2021.**
- Williams, CE**, Kueneman, J, Nicholson, DJ., Rosso, AA, Folfas, E, Casement, B, Gallegos, M, McMillan, WO, Cox, CL, Logan, ML. Sustained drought, but not short-term warming, alters the gut microbiome of wild Anolis lizards. **In preparation, expected submission to Molecular Ecology.**
- Berdy, BM\*, **Williams, CE\***, Sizova, M, Jung, D, Epstein, S. Comparison of Microbial Cultivation Strategies in High Arctic Lake Sediment. \*co first-author **In preparation to be submitted to Applied and**

## ***Environmental Microbiology.***

Berdy, BM, **Williams, CE**, Cram J, Douglass B, Zheng A, Brucker, RM. Low-dose, combined pesticide exposure alters the composition of the honey-bee gut microbiome. ***In preparation.***

## **Conference Presentations**

**Williams CE**, Berdy BM, Brucker, RM. 2020. Using Culture-Independent and Culture-Dependent Methods to Evaluate Pesticide Impacts on the Honey Bee Microbiome. Northeastern Global Health Conference: Boston, MA. (poster)

**Williams CE**, Kueneman J, McMillan WO, Cox CL, Logan ML. 2020. The response of the gut microbiome to climate warming in a vertebrate ectotherm: a field-transplant experiment in the Panama Canal. Society for Integrative and Comparative Biology: Austin, TX. (poster)

**Williams CE**, Berdy BM, Epstein SS. 2019. Gulliver: Developing new technology for autonomous isolation of bacteria in their natural environment. American Society for Microbiology: San Francisco, CA. (poster)

**Williams CE**, Berdy BM, Epstein SS. 2018. Development of Gulliver, a novel in situ cultivation strategy. International Society for Microbial Ecology: Leipzig, Germany. (poster)

Osiakwan S, Taylor E, Bantwal M, Singh A, Berdy B, **Williams CE**, Medik V, Epstein SS. 2017. Novel Culturing Techniques Bring a Wave of Bacterial Discovery: Looking for What You've Never Seen. Annual Biomedical Research Conference for Minority Students: Phoenix, AZ. (poster)

Berdy BM, Sizova M, Jung D, Eilers A, Wunschel E, **Williams CE**, Dupont C, Richter A, Torralba M, Nelson KE, Epstein S. 2017. Microbial Community Composition of Lake Sediment in the High Arctic. American Society for Microbiology: New Orleans, LA. (poster)

**Williams CE**, Kacprzyck J, McCabe P. 2017. Protective effect of Azadirachta indica extract on heat treated Arabidopsis thaliana and Lolium perenne. University College Dublin Study Abroad Student Research Symposium: Dublin, Ireland. (poster)

**Williams CE**, Berdy BM, Epstein SS. 2017. Gulliver Prototype Development and Deployment. American Society for Biochemistry and Molecular Biology: Chicago, IL. (poster) *Abstract published online: The FASEB Journal*, 31: 940.5-940.5.

## **Research Experience**

### **Experience/Projects:**

#### **Volunteer, Federation of American Scientists**

**September 2020 - Present**

- ❖ Participate in science communication research regarding scientific messaging about the COVID-19 pandemic
- ❖ Assist in developing coding scheme and code COVID-19 citizen questions based on content

#### **Intern, Smithsonian Tropical Research Institute, Panama**

**May 2019 - September 2019**

- ❖ Conducted independent study on lizard microbiome changes in response to climate warming
- ❖ Assisted with field system set up and data collection for large-scale transplant experiment
- ❖ Extracted, prepared, and sequenced 16S MiSeq library
- ❖ Analyze output sequence data in QIIME2, Phyloseq, and R

#### **Undergraduate Researcher, Brucker Lab, Rowland Institute at Harvard University**

**Jan 2018- May 2019**

- ❖ Conducted research relating to honey bee microbiome changes in response to environmental stress
- ❖ Assisted in the maintenance of seven bee hives throughout the summer season

#### **Undergraduate Researcher, Epstein Laboratory, Northeastern University**

**Jan 2016- Aug 2018**

- ❖ Conducted independent research relating to the topics of microbial uncultivability and antibiotic resistance
- ❖ Worked to develop novel microbial cultivation device to streamline cultivation
- ❖ Assayed a culture collection of 1400 isolates for novelty and antimicrobial production
- ❖ Described novel isolates according to morphological and biochemical characteristics
- ❖ Instructed undergraduate students in basic lab safety and microbiological techniques

#### **Undergraduate Researcher, McCabe Laboratory, University College Dublin**

**Jan 2017 - May 2017**

- ❖ Conducted independent research relating to plant/crop protective additives
- ❖ Used plant cell suspension culture coupled with fluorescence microscopy to reach a conclusion about the effects of a plant extract on the model organism *Arabidopsis thaliana*
- ❖ Used whole plant methods to further investigate real-life agricultural applications of a plant extract

#### **Invited Talks**

**Williams CE.** *Ecological Impacts through a Microscopic Lens.* NUTalk, TedX Style Talk. 2019. Northeastern University, Boston, MA.

**Williams CE.** *Investigation of Microbiome-Mediated Toxicity of Pesticides on the European Honey Bee*, Northeastern Undergraduate Peer Talks. 2018. Northeastern University, Boston, MA.

**Williams CE.** *Investigation of Microbiome-Mediated Toxicity of Pesticides on the European Honey Bee* Harvard SEAS REU Summer Students Symposium. 2018. Harvard University, Boston, MA.

**Williams CE.** *Investigation of Microbiome-Mediated Toxicity of Pesticides on the European Honey Bee* Rowland Institute Summer Undergraduate Symposium. 2018. Rowland Institute at Harvard, Boston, MA.

**Williams CE.** *Investigation of novel antibiotic production by psychrotolerant microorganisms* Matz Symposium. 2018. Northeastern University, Boston, MA.

**Williams CE, Nguyen, L.** *I-chip: pioneer microbial discovery to catalyze scientific ingenuity* Northeastern Biomedical Engineering Society. Northeastern University, Boston, MA.

**Williams CE.** *Gulliver Development and Deployment: A radically different microbial cultivation device.* Northeastern Undergraduate Peer Talks. 2017. Northeastern University, Boston, MA.

#### **Grants/ Awards**

- ❖ NSF GRFP, Honorable Mention, 2021
- ❖ Graduate Dean's Scholarship, University of Nevada, Reno, Fall 2021(\$10,000)
- ❖ Trinity College Dublin, E3 Excellence Postgraduate Scholarship in Engineering, Environment and Emerging Technologies, Summer 2020 (\$6,000)
- ❖ Smithsonian Tropical Research Institute, Ernst Mayr Fellowship, Summer 2020 (\$3,000)
  - Deferred due to COVID-19 travel restrictions
- ❖ Charlotte Mangum Conference Support Scholarship, Fall 2019
- ❖ Bridge-Builder Award, Co-Awardee, Fall 2019 (\$1,000)
- ❖ Presidential Global Scholarship, Spring 2019 (\$2,000)
- ❖ Goldwater Scholarship, Spring 2019 (\$7,500)
- ❖ Advanced Undergraduate Research and Creative Endeavors Award, Fall 2018 (\$3,000)
- ❖ ASM Undergraduate Research Fellowship, Spring/Summer 2018 (\$7,000)
- ❖ Harvard REU fellowship, Summer 2018
- ❖ Alpha Fund Prototyping Grant, Spring 2018 (\$5,000)
- ❖ NSF I-Corps Venture Grant, Fall 2018 (\$2,000)
- ❖ Advanced Undergraduate Research and Creative Endeavors Award, Fall 2017 (\$2,182).
- ❖ Boston Bacterial Meeting Attendance Scholarship, Summer 2017

- ❖ Matz Biotechnology Co-op Scholarship, Spring 2017
  - ❖ Undergraduate Research Conference Travel Award, Spring 2017
  - ❖ Early Undergraduate Research and Creative Endeavors Award, Fall 2016 (\$729)
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## Volunteer/ Leadership / Outreach Experience

### Tutors Against Covid

August 2020- Present

- ❖ Tutor students in math and chemistry. All proceeds donated to COVID relief.

### Curriculum writer, Outreach 360

September 2020

- ❖ Developed STEM curriculum for students learning English.

### Volunteer, STEMforBLM activism group

June 2020 - Present

- ❖ Contribute to anti-racist [open letter](#), [resource list](#), and informational materials
- ❖ Co-author [essay](#) about Anti-Racist action in STEM, and create infographics for distribution based on peer-reviewed literature

### Think Like a Scientist!, Boston, MA

October 2019 - October 2020

- ❖ Program developer, lead mentor and advisor
- ❖ Researched, designed, developed a [novel STEM outreach program](#) based on current STEM outreach literature for students in 4th-6th grade
- ❖ Co-wrote grant and obtained funding for program launch
- ❖ Recruited, trained, and organized a team of undergraduates to serve as mentors
- ❖ Program was awarded the "Illuminating Complex Problems" award by Northeastern in 2021

### Scholarship Chair, Sigma Xi Scientific Research Honor Society, Northeastern Univ.

Sept 2019 - May 2020

- ❖ Maintained a database of scholarships, held meetings about applications, helped connect students to fellowships and scholarships that would be a good fit for them.

### Science Mentor, Science Club for Girls, Boston, MA

June 2017- December 2017

- ❖ Mentored young girls interested in STEM fields in scientific literacy and experimental design
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## Technical/Computer Skills

- ❖ Competent in command-line programming and scripting (Bash) and cloud-computing
- ❖ Advanced knowledge of QIIME2
- ❖ Advanced knowledge of R/RStudio
- ❖ Advanced knowledge of Excel
- ❖ Experienced in Java, and Racket
- ❖ Basic knowledge of HTML and CSS
- ❖ Proficient in ImageJ Analysis Software