

Charlotte Francoeur

Microbiology Graduate Student

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Education

University of Wisconsin - Madison

Microbiology Doctoral Training Program, Class of 2016

Laboratory of Dr. Cameron Currie, Department of Bacteriology

GPA: 4.0

University of Maryland - College Park Bachelor of Science in Microbiology with Black Women's Studies Minor

Graduation: May 2016

Cumulative GPA: 3.905

Integrated Life Sciences Honors

Cell Biology and Molecular Genetics Departmental Honors

Cum Laude Latin Honors

Research Experience

Current

Currie Lab, University of Wisconsin-Madison

January 2017-Present

Graduate research assistant in the laboratory of Dr. Cameron Currie investigating bacterial and viral associations in fungus-farming ants (tribe: Attini). More details about my research here.

Past

Wu Lab, University of Maryland - College Park

September 2014 - July 2016

Institute for Bioscience and Biotechnology Research Laboratory

Volunteer undergraduate research assistant in the laboratory of Dr. Louisa Wu

Used the *Drosophila* Genetics Research Panel to perform a genome-wide association study (GWAS) to find genes associated with the phagocytosis of fungi in *Drosophila melanogaster*

Nou Lab, United States Department of Agriculture - Agricultural Research Service

August 2012 - May 2014

Biological Science Aid in the Environmental Microbial and Food Safety laboratory of Dr. Xiangwu Nou

Investigated biofilm formation between *Ralstonia insidiosa* and foodborne pathogens, *Escherichia coli*, *Salmonella* spp., and *Listeria monocytogenes*. Resulted in a publication (see below)

Martin Lab, United States Department of Agriculture - Agricultural Research Service

August 2011 - May 2012

High School Research Intern in the Invasive Insect Biocontrol and Behavior laboratory of Dr. Phyllis Martin

Investigated bacterial strains pathogenic to the brown marmorated stink bug using 16S rRNA sequencing, Biolog, and phenotypic tests (e.g. optimal growth conditions, hemolytic activity, urease production)

Publications

Liu, N. T., Bauman, G. R., **Francoeur, C. B.**, Shelton, D. R., Lo, Y. M., & Nou, X. (2016). *Ralstonia insidiosa* serves as bridges in biofilm formation by foodborne pathogens *Listeria monocytogenes*, *Salmonella enterica*, and *Enterohemorrhagic Escherichia coli*. Food Control, 65, 14–20.

Oral Presentations

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|---|--------------|
| 1. Francoeur, C.B. & Currie, C. Characterizing microbial associations in leaf-cutter ant fungus gardens. MDTP Student Seminar Series Talk at University of Wisconsin - Madison. | October 2018 |
| 2. Francoeur, C.B. , Nazario-Toole, A., & Wu., L. Genome Wide Association Study on Phagocytosis of Zymosan in <i>Drosophila melanogaster</i> . Senior Thesis Talk at University of Maryland - College Park. | May 2016 |
| 3. Francoeur, C.B. , Nazario-Toole, A., & Wu., L. Genome Wide Association Study on Phagocytosis of Zymosan in <i>Drosophila melanogaster</i> . ILS Student Seminar Series at University of Maryland - College Park. | March 2016 |
| 4. Francoeur, C.B. , Price, T., & Martin, P. Isolation and Identification of Pathogenic Bacteria From Stink Bugs. Research Symposium Talk at Eleanor Roosevelt High School. . | April 2012 |

Poster Presentations

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| 1. Francoeur, C.B. , Khadempour, L., Currie, C. Microbial tolerance of plant defense compounds in the fungus-farming ant system. Poster Presentation at the 8th Annual Plant Sciences Symposium. | November 2018 |
| 2. Francoeur, C.B. , Hoang, D., Carlos, C., & Currie, C. Potential roles of <i>Burkholderia</i> in the fungus-farming ant system. Poster Presentation at the Beneficial Microbes Meeting. | July 2018 |
| 3. Francoeur, C.B. , Khadempour, L., Currie, C. Microbial tolerance of plant defense compounds in the fungus-farming ant system. Poster Presentation at Madison Microbiome Meeting. | April 2018 |
| 4. Francoeur, C.B. , Khadempour, L., Currie, C. Microbial tolerance of plant defense compounds in the fungus-farming ant system. Poster Presentation at the DOE Joint Genome Institute Genomics of Energy and Environment Meeting. | March 2018 |
| 5. Francoeur, C.B. & Martin, P. Identifying Bacteria From Stink Bugs. Poster Presentation at Eleanor Roosevelt High School Research Symposium. | April 2012 |

Professional Development

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| 1. Ant Course French Guiana, Nouragues Research Station | August-Sept 2018 |
| 2. Anvi'o Workshop UW-Madison | May 2017 |
| 3. Microbiota Analysis in R UW-Madison | November 2016 |
| 4. Microbiota Processing in mothur UW-Madison | November 2016 |

Teaching & Mentoring

Currie Lab

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| Jennifer Koehler: REU student. Lipid Production of <i>Streptomyces</i> on Conversion Residue. | Summer 2018 |
| Donny Hoang: MDTP rotation student. Inhibition of <i>Escovopsis</i> by <i>Burkholderia</i> . | January 2018 |
| Josh Daniels: Undergraduate student, Summer 2017-May 2018. Investigation of Bee-Associated <i>Streptomyces</i> species and their ability to produce lipids. | 2017-2018 |
| Laura Williams: Undergraduate student, Fall 2017-May 2018. Characterization of <i>Burkholderia</i> sp. isolated from the fungus gardens of fungus farming ants. | 2017-2018 |

Teaching

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| Assistant Teacher | September 2017 - December 2017 |
| Assistant teacher for Pathogenic Bacteriology with professor Dr. Joe Dillard
Duties include giving three lectures (Antibiotics + Disinfection, Clostridia, Treponema and Borrelia), writing and grading exams, and meeting with students | |
| Undergraduate Teaching Assistant | January 2016 - May 2016 |
| Teacher's assistant for Research Applications in the Life Sciences (HLSC377).
Duties included weekly office hours, grading assignments, and aiding discussions about scientific papers | |

Awards

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| 1. UW-Madison Student Research Travel Grant - Conference, \$1200 | June 2019 |
| 2. Dean's List and Academic Honors - University of Maryland | Fall 2012-Spring 2016 |
| 3. Senator Pinsky's Senatorial Scholarship | August 2012-May 2013 |
| 4. Delegate Anne Healey Scholarship | August 2012-May 2013 |

Leadership & Volunteering

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| UW-Madison Women's Club Ultimate Frisbee B Team Coach | 2018-2019 |
| Junior Science Cafe (Junior Science Cafe Program) | Fall 2017 |
| Outreach program that brings high school and middle school students and scientists together to discuss careers in science run by the Morgridge Institute for Research | |
| Women's Maryland Club Ultimate B Team Captain | 2014-2016 |
| Organize practices and tournaments in order to grow the women's ultimate community | |
| Women's Maryland Club Ultimate Treasurer | 2013-2016 |
| Manage funds for women's club ultimate | |
| Alternative Spring Break-Chesapeake Bay | Spring Break 2013 |
| Engaged in tree planting, urban farming, river clean up and oyster restoration | |

Organizations/Committees

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| Student Invited Speaker Committee at UW-Madison | 2017-Present |
| A committee of students who coordinate visits from prominent researchers outside of UW-Madison | |

Relevant Classes

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| 2017 | CS 301: Introduction to Data Programming (Python)
MICROBIO526: Microbial Physiology
MICROBIO875: Bioinformatics for Microbiologists |
| 2016 | MICROBIO655: Biology and Genetics of Filamentous Fungi
ENST432: Environmental Microbiology |
| 2015 | BSCI467: Freshwater Biology
BSCI424: Pathogenic Microbiology |