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| EDUCATION | |
| **Doctor of Philosophy in Plant Pathology** | August 2023 |
|  | 3.97/4.00 |
| University of Florida | Gainesville, FL |
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| **Bachelor of Science in Biochemistry** | May 2019 |
| Minors in Genetics, Plant Pathology | 3.93/4.00 |
| Clemson University | Clemson, SC |
| General and Departmental Honors | Clemson University Honors College |

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| RESEARCH INTERESTS |
| * Soilborne fungal pathogens of fruit and vegetable crops |
| * Dispersal and movement of fungal plant pathogens |
| * Genetics of fungal plant pathogens |
| * Detection methods for fungal plant pathogens |

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| RESEARCH EXPERIENCE | |
| **Graduate Research Fellow** | August 2019 - Present |
| University of Florida Department of Plant Pathology | Gainesville, FL |
| * Study modes and impact of dispersal and movement of *Fusarium oxysporum* f. sp. *niveum*, the fungus that causes Fusarium wilt of watermelon | |
| * Analyze the genetic diversity of *F. oxysporum* f. sp. *niveum* as it relates to virulence on watermelon varieties | |
| * Help develop and describe screening methods for pathogen detection and host resistance | |
| * Assist in Extension work, screening soil for clients and developing tools for disease forecasting | |

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| **Undergraduate Research Assistant** | January 2016 – May 2019 |
| Clemson University Department of Genetics and Biochemistry | Clemson, SC |
| * Studied effect of SIZ1 promoter length on gene expression in transgenic *Arabidopsis thaliana* | |
| * Performed assays to quantify expression of genes and biochemical pathways | |
| * Cultured, genetically transformed, and developed turfgrass tissue | |

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| **Summer Research Assistant** | May 2018 – July 2018 |
| Noble Research Institute | Ardmore, OK |
| * Studied effect of silencing and overexpression of genes for lignin and flavonoid pathways in Alfalfa | |
| * Evaluated resistance of transgenic Alfalfa to various fungal pathogens, including *F. oxysporum* | |
| * Evaluated low-nitrogen stress tolerance of transgenic Alfalfa via root nodulation | |

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| **Summer Research Assistant** | May 2017 – July 2017 |
| New York State Agricultural Experiment Station (Cornell AgriTech) | Geneva, NY |
| * Studied effect of acute cold events on *Podosphaera macularis*, the Powdery Mildew pathogen on hop | |
| * Evaluated regional epidemiology of *P. macularis* in New York | |
| * Cultured pathogen and measured development using microscopy and staining techniques | |

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| TEACHING EXPERIENCE | |
| **Teaching Assistant (as Graduate Research Fellow)** | January 2021 – August 2021 |
| University of Florida Department of Plant Pathology | Gainesville, FL |
| * Assisted in courses for Fungal Plant Pathogens and Applied Plant Disease Management | |
| * Prepared and taught Basidiomycete lab session | |
| * Prepared an original assignment on communication in science, assisted in preparing lessons, graded assignments | |

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| PUBLICATIONS |
| Fulton, J.C., **Cullen, M.**, Beckham, K., Sanchez, T., Xu, Z., Stern, P., Vallad, G., Meru, G., McGregor, C.,and Dufault, N.S. A contrast of three inoculation techniques used to determine race of unknown *Fusarium oxysporum* f.sp. *niveum* isolates. *Journal of Visualized Experiments*. 2021 (Awaiting Publication) |
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| **Cullen, M.**, Perondi, D., Fraisse, C., Dufault, N. Introducing a Fusarium wilt risk calculator tool for watermelon growers in Florida. *UF/IFAS Electronic Data Information Source*. 2021 (Awaiting Publication) |

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| PRESENTATIONS |  |
| Lloyd Noble Plant Science Summer Presentation | July 2018 |
| Gave 10-minute talk on results of infection assays and root nodulation experiments involving targeted genotypes of transgenic Alfalfa. | |
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| Clemson Plant Sciences Symposium | May 2018 |
| Gave walk-up poster presentation for 3 total hours on gene homology, plant transformation, and results of abiotic stress experiments on transgenic Arabidopsis. | |
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| Cornell NYSAES Summer Research Symposium | July 2017 |
| Gave walk-up poster presentation for 1 hour on region-specific epidemiology and pathogen development for Powdery Mildew on Hop. | |

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| FELLOWSHIPS/SCHOLARSHIPS | |
| **Graduate Student Preeminence Award (Fellowship)** | August 2019 – August 2023 |
| University of Florida |  |
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| **Aramark Student Scholarship** | August 2015 – May 2019 |
| Clemson University |  |
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| **Out-of-State Scholarship** | August 2015 – May 2019 |
| Clemson University |  |

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| HONORS/AWARDS | |
| **President’s List** | Spring 2017, Spring 2018, Fall 2018, Spring 2019 |
| Clemson University |  |
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| **Dean’s List** | Fall 2015, Spring 2016, Fall 2016, Fall 2017 |
| Clemson University |  |

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| PROFESSIONAL SOCIETIES | |
| Phi Kappa Phi Honors Society – Clemson Chapter #49 | November 2018 - Present |
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| American Phytopathological Society (APS) | July 2017 - Present |

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| SKILLS/COURSEWORK | |
| Coursework | |
| Fungal, Bacterial, Viral Plant Pathology, Applied Disease Management, Molecular Biochemistry, General Plant Pathology, Epidemiology, Host-Pathogen Interactions, Molecular Genetics, , Biochemistry of Metabolism, Genes to Proteins, Statistics, Vegetable Breeding, Integrated Pest Management, Mycology, Bioinformatics, Epigenetics, Physical Approach to Biochemistry | |
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| Skills | |
| -Pathogen Culturing | -Soil Bioassays for Pathogen Detection |
| -Microsoft Office | -R Statistical Analysis |
| -Gel Electrophoresis | -DNA/RNA Extraction |
| -Media Preparation | -Light Microscopy |
| -Plant Propagation | -Plant Tissue Transformation |

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| LEADERSHIP ROLES |  |
| **Secretary** | August 2020 – August 2021 |
| Plant Pathology Graduate Student Organization | Gainesville, FL |
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| **Public Relations Officer** | May 2018 – May 2019 |
| Genetics and Biochemistry Club | Clemson, SC |