

Dillon McCallum

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EDUCATION

University of Tennessee - Knoxville

Herbert College of Agriculture

Master of Science in Plant Science; Turfgrass Pathology Concentration

Overall GPA: 4.00/4.00

Knoxville, TN

December 2024

University of Michigan

College of Literature, Science, and Arts

Bachelor of Science in Biochemistry, Minor in Latin

Overall GPA: 3.94/4.00

Ann Arbor, MI

May 2021

RESEARCH EXPERIENCE

University of Tennessee – Department of Plant Sciences

Research Technician

Principle Investigator: Dr. John Soroohan, Ph.D.

Research Goal: Evidence-based Research for the 2026 FIFA World Cup

- Developed and conducted multiple research projects for the FIFA Club World Cup 2025 and FIFA World Cup 2026 in order to produce evidence-based conclusions that influenced FIFA pitch management decisions.
- Intensely managed natural turfgrass in an indoor environment with no sunlight in order to understand how indoor pitches will perform during the 2026 FIFA World Cup.
- Presented research at local, state, and national field days and conferences in order to update the industry on the latest pitch management advancements
- Developed research projects and objectives for the 2030 and 2034 FIFA World Cups to present to FIFA for continued research funding.

Knoxville, TN

Jan 2025 – Present

University of Tennessee – Department of Plant Sciences

Graduate Research Assistant

Principle Investigator: Dr. Brandon Horvath, Ph.D.

Research Goal: Investigating Alternative Treatment Options for Dollar Spot Epidemics on Creeping Bentgrass

- Analyzed RNAseq data using Linux command line and R studio to determine differential gene expression for molecular
- marker creation.
- Maintained many different species of warm and cool season grasses in greenhouse setting in order to be used for experiments and lab courses.
- Inoculated creeping bentgrass with dollar spot in order to study the time course of infection.
- Assisted with fungicide trials at the university research farm and local golf courses in order to provide data on certain commercial and experimental products to chemical companies.

Knoxville, TN

Sept 2021 – Dec 2024

University of Michigan Medical School – Department of Pharmacology

Ann Arbor, MI
Oct 2017 – May 2020

Undergraduate Research Assistant

Principle Investigator: Dr. Kevin Jones, Ph.D.

Research Goal: Study the Trapping Effects of Open Channel Blockers on NMDA Receptors

- Maintained two separate HEK cell lines, one for transfections and calcium imaging of NMDA receptor mutants and the other for staining zebrafish GABAergic receptors found in the brain.
- Worked as a team with members of my lab to determine the viability of the cDNA in order to solve an issue with the mutagenesis of this DNA.
- Analyzed results of calcium imaging and zebrafish stains using ApE, Fiji, Prism 8, and Excel.
- Reviewed and summarized relevant scientific literature to stay up to date on current research and prepare presentations for weekly journal club meetings.

HONORS AND AWARDS

Volunteer of Distinction	2024
Outstanding Graduate or Professional Student – Student Engagement Award	2024
Bill Rose Foundation Travel Scholarship – Pure Seed	2024
Tom & Emily Austin Outstanding Plant Science Graduate Student Fellowship Award	2023
Walter J. Travis Memorial Scholarship	2022-23
Haxelwood Scholarship – Scholarship from the Herbert College of Agriculture	2021-22
University Honors – received a 3.5 or higher GPA	2017-21
James B. Angell Scholar – received all A’s 3+ consecutive semesters	2018, 2021
Amgen Scholar Fellowship Award at Columbia University	2020

PRESENTATIONS

Oral Presentations

1. Tennessee Recreation and Parks Association Conference
Title: Simple Management Practices for Increasing Performance
Alcoa, TN
February 2026
2. Tennessee Turfgrass Association Conference
Title: Insights from Studying the Fungal Pathogen and Turfgrass Interaction
Nashville, TN
January 2026
3. Crop Science Society of America
Title: The Transcriptome of the Dollar Spot-Bentgrass Pathosystem Over the Time-Course of Infection
Salt Lake City, UT
November 2025
4. Departmental Seminar
Title: The Transcriptome of the Dollar Spot-Bentgrass Pathosystem Over the Time-Course of Infection
Knoxville, TN
April 2023
5. Plant Science Oral Competition, *2nd Place*
Title: The Transcriptome of the Dollar Spot-Bentgrass Pathosystem Over the Time-Course of Infection
Knoxville, TN
November 2023
6. Southeastern Turf Conference
Title: The Transcriptome of the Dollar Spot-Bentgrass Pathosystem Over the Time-Course of Infection
Athens, GA
October 2023
7. Thesis Proposal Seminar
Title: Investigating Alternative Treatment Options for Dollar Spot Epidemics on Creeping Bentgrass
Knoxville, TN
May 2022
8. Undergraduate Research Symposium
Title: The Trapping Effects of Open Channel Blockers on NMDA Receptors
Ann Arbor, MI
April 2019

Poster Presentations

1. Crop Science Society of America
*Title: Evaluation of Sublayers for Temporary Pitch
Constructions* Salt Lake City, UT
November 2025
2. Beacon Field Day
*Title: Investigating Environmental Factors Affecting Dollar Spot
Infection Center Size* Knoxville, TN
October 2025
3. Pure Seed Field Day
*Title: The Transcriptome of the Dollar Spot-Bentgrass Pathosystem
Over the Time-Course of Infection* Rolesville, NC
June 2024
4. Plant Science Poster Competition, *1st Place*
*Title: The Transcriptome of the Dollar Spot-Bentgrass Pathosystem
Over the Time-Course of Infection* Knoxville, TN
April 2024
5. Crop Science Society of America Conference
*Title: The Transcriptome of the Dollar Spot-Bentgrass Pathosystem
Over the Time-Course of Infection* St. Louis, MO
November 2023
6. Undergraduate Research Symposium
*Title: The Trapping Effects of Open Channel Blockers on N-Methyl-
D-Aspartate Receptors Following a Point Mutation* Ann Arbor, MI
April 2019

TEACHING EXPERIENCE

Lead Coach, The First Tee - Greater Knoxville Chapter January 2022 - Present
Ages Taught: 7-9, 10-11, 12-13, 14-18

Responsibilities: Prepare, set-up, and deliver 1-1.5 hour golf group lessons for all skill levels while also infusing them with the nine core values of the First Tee. Lead a PGA jr. league team in practice and matches as head coach. Organize and run special events such as parent-child scrambles and first tee tournaments at local courses.

Graduate Teaching Assistant, University of Tennessee – Knoxville Sep 2021 – Dec 2024

Courses: PLSC 241 *Introduction to Turf Lab*, PLSC 438 *Turfgrass Pathology*

Responsibilities: Prepare and give one-hour lectures, grade quizzes and assignments, and maintain the turfgrass plants utilized for class.

Study Group Facilitator, University of Michigan September 2019 - May 2021

Course: Organic Chemistry I, Organic Chemistry II, Physics for Life Sciences I

Responsibilities: Taught 2-hour discussion sessions for classes of 15 students, designed weekly activities and worksheets, and facilitated exam review sessions.

Student-Athlete Tutor, University of Michigan January 2020 – May 2021

Course: Organic Chemistry I, Organic Chemistry II, Introduction to Psychology, Elementary Latin I, Fundamentals of Biochemistry, Introductory Biochemistry

Responsibilities: Tutoring student-athlete in one of the above classes and coming up with practice problems.

OUTREACH/EXTENSION PRESENTATIONS

Graduate Student Seminar Exchange, University of Tennessee-Knoxville March 2024, 2023

- Assisted in organizing a seminar exchange between the University of Tennessee, the University of Kentucky, Auburn University, North Carolina State University, Virginia Tech University and Ohio

State University. Two students from each agriculture college visited and presented their research at another participating university.

Math & Science Upward Bound Program, University of Tennessee-Knoxville Gardens August 2023

- Led a tour of the UT gardens and greenhouses to 30 high school students while discussing different careers in plant science and agriculture.

Lone Oaks 8th Grade Career Fair, University of Tennessee-Knoxville Extension May 2023

- Gave a career talk about the turfgrass industry to 240 8th graders.

Career Roundtable, University of Tennessee-Knoxville October 2022

- Coordinated a roundtable for graduate students with professionals in each of the four sectors: academia, industry, extension, government.

PROFESSIONAL ASSOCIATIONS

Golf Course Superintendents Association of America, <i>East Tennessee Chapter</i>	2021 – Present
ASA, CSSA, SSSA, <i>Member</i>	2021 – Present
Plant Sciences Graduate Student Association, <i>President</i>	2023 – 2024
Plant Sciences Graduate Student Association, <i>Vice President</i>	2022 – 2023
Undergraduate Research Opportunities Program, <i>Member</i>	2017 – 2019