

Hildegard Tollefsen

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## EDUCATION

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**University of South Carolina, Columbia, SC**

B.S. in Environmental Science, May 2025

Advisor: Dr. Dean Alexa

GPA: 3.748 / 4.0

## RESEARCH & FIELDWORK

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**Undergraduate Research Assistant, [Dallas Lab](#)**

**University of South Carolina – Columbia, SC**

**September 2022 – May 2025**

- Conducted research on *Tribolium castaneum* systems in population and disease ecology.
- Assisted with beetle stock maintenance, lab organization, and data entry.
- Collected and analyzed data on habitat quality and beetle behavior.
- Designed and implemented an independent research project using fungal pathogens to assess infection dynamics.
- Developed protocols and tested variables such as time to infection, time to death, fungal growth, and dose-response.
- Analyzed experimental data to understand environmental drivers of disease transmission.

## PUBLICATIONS & PRESENTATIONS

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- Dallas, T., & Tollefsen, H. *Age-dependent effects of pathogen exposure and infection in a fungal pathogen*. Manuscript in preparation.

- Presented a sustainable design proposal at the [SWANA Sustainable Design Competition](#), March 2025 — awarded 3rd place nationally.
- Presented independent disease ecology research at the University of South Carolina Undergraduate Research Symposium, April 2025.

## GRANTS & FUNDING

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- *Magellan Scholar Award*, University of South Carolina – \$2,500 for independent research on fungal pathogens in beetle populations (2023–2024)

## OUTREACH & ENGAGEMENT

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### **Volunteer | Carolina Wildlife Shelter**

May 2018 - Aug 2019 | Columbia SC

- Assisted in caring for and rehabilitating injured wildlife, providing hands-on support and public education about local species and conservation efforts.

### **TAKIN Program | The Wilds**

Participant | 2020 - 2021

- Participated in a nationwide program run by The Wilds organization that consisted of virtual and in person talks and events, weekly newsletters, trivia nights, and national citizen data collection through iNaturalist.

### **[Eric LoPresti Lab](#) | University of South Carolina**

Artistic Collaborator | Aug 2024 - Present

- Created detailed illustrations of native moth species for research and outreach purposes.

## **SWANA Sustainable Design Competition | Sustainable Design Project**

University of South Carolina | March-2025

- Participated in a team-based sustainability project for the National SWANA Sustainable Design competition through coursework with Thomas Syfert and Larry Cook, Director of the Sustainability Program at UofSC.
- Researched and proposed practical solutions to real-world solid waste and environmental management challenges; team awarded third place nationally.

## **EXTRACURRICULAR ACTIVITIES**

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### **Campus Orchestra | University of South Carolina**

Member | Aug 2021 - Dec 2022

- Played cello in ensemble performances, contributing to teamwork and public concerts.

### **Moksha Bollywood Fusion Dance Team | University of South Carolina**

Competitive Dancer | Aug 2023 - Present

- Represented the university in competitions, showcasing choreography and teamwork.

## **RELATED COURSEWORK & CERTIFICATIONS**

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- **Entomology & Ecology**

*Insect Ecology (BIOL 599)* – insect-plant interactions, sampling, lab and fieldwork

*Parasitology (BIOL 531)* – host-parasite life cycles, specimen ID, microscopy

*Introduction to Entomology* – Alison Certificate

*Pest and Disease Management* – Coursera Certificate (University of Illinois)

- **Quantitative & Technical Skills**

*Statistical Methods (SATS 515)* – regression, ANOVA, experimental design

*Scientific Application Programming (CSCE 206)* – Python/C for simulations, data analysis

*R Programing for Data Science* - Alison Certificate

- **Environmental Applications**

*Intro to Environmental Engineering (ECIV 350)* – water treatment, risk assessment, pollution dynamics

## HONORS & AWARDS

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Presidents List - Fall 2021

Dean's List - Spring 2021 - Fall 2024.

LIFE Scholarship -2021-2025

Magellan Scholar Award - 2023-2024

3rd Place National SWANA Sustainable Design Competition - 2025

## SKILLS & MISCELLANEOUS

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### Laboratory & Field Techniques

- Insect handling and behavioral observation (e.g., *Tribolium castaneum*)
- Pathogen exposure protocols using fungal agents
- Dissection, microscopy, and specimen preparation
- Field sampling methods for insects and ecological data
- Habitat manipulation experiments and population surveys

## **Research & Experimental Design**

- Hypothesis formulation and experimental setup
- Independent research project design and execution
- Grant writing (Magellan Scholar Award recipient)
- Data collection, cleaning, and management protocols
- Dose-response modeling and host-pathogen interaction studies

## **Data Analysis & Programming**

- **R** – statistical modeling, data visualization, regression, ANOVA
- **Excel** – data entry, descriptive statistics, figures
- **Python / C** – basic simulations and scientific computing (via CSCE 206)
- Familiar with statistical packages and reproducible research workflows

## **Environmental Science & Engineering**

- Knowledge of water treatment processes and pollution dynamics (ECIV 350)
- Environmental risk assessment and sustainability design practices
- Applied knowledge of parasitology and pest/disease management systems

## **Communication & Collaboration**

- Scientific illustration for outreach and publications (LoPresti Lab)
- Public speaking and academic presentations (e.g., SWANA competition, USC research symposium)
- Team collaboration on interdisciplinary sustainability and design projects
- Experience in science communication to public audiences (Carolina Wildlife Shelter)

## **Languages**

- English – Native
- Latin – Advanced reading proficiency
- Spanish – Beginner