Hildegard Tollefsen

720 Queen St., Columbia, SC 29205 | 803-543-5343 | tollefsenhildegard@gmail.com
LinkedIn · Portfolio

Research Interests

Undergraduate researcher in environmental science with strong interests in entomology, host-pathogen interactions, and disease ecology. Experienced in experimental design, statistical analysis (R), and insect behavior. Passionate about advancing ecological understanding through independent research and science communication.

EDUCATION

University of South Carolina, Columbia, SC
B.S. in Environmental Science, May 2025
Advisor: Dr. Dean Alexa
GPA: 3.748 / 4.0

RESEARCH & FIELDWORK

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

- 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

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

OUTREACH & ENGAGEMENT

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.

Eric LoPresti Lab | University of South Carolina
Artistic Collaborator | Aug 2024 - Present

- Creating 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

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

- **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

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

HONORS & AWARDS

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

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