Multiple Grad Opportunities (MS/Ph.D.) in Forest Pathology, Genetics, and Fungal Ecology at SUNY ESF

The brand-new ***Integrative Forest Pathology and Genecology Lab*** at SUNY ESF seeks 2-3 highly-motivated and passionate MS and Ph.D. students to start in September (or May) 2026. Students will conduct basic and applied research on forest health issues regionally and worldwide. The lab's research program will focus on multiple dimensions of forest health and plant pathology in managed, natural, and urban contexts, in the following **research areas**:

- Fungal diversity and ecology in the context of plant and forest ecosystem health, disturbance, and conservation using classical and molecular tools and approaches

- Resistance to native and introduced plant pathogens in managed forests, urban forests, and conservation contexts using classical quantitative genetics and molecular tools

- Plant health dimensions of assisted migration and adaptive silviculture

- Innovative monitoring approaches for forest pests and invasive species – including the development of nanopore sequencing, bioinformatics tools, low-cost spore-and-insect trapping, to be integrated with basic aerobiology and fungal functional ecology research

- Epidemiology of forest pathogens and declines integrating field data; vector dynamics; and/or Bayesian modeling approaches that leverage forest health monitoring (FHM) and forest inventory and analysis (FIA) data

- Applying, integrating, and developing approaches from the fields of disease ecology, invasion biology, biogeography, and big data to understand worldwide and regional spread of plant-pathogenic and/or invasive fungi, viruses, nematodes, bacteria, and parasitic plants in non-agricultural and tree-dominated plant communities

The Integrative Forest Pathology and Genecology Lab conducts research on forest health issues relevant to New York State, the Northeast, and globally. Graduate students in the lab can expect to apply and develop the above research areas across the following **study systems**:

- Oak health – including oak wilt caused by *Bretziella fagacearum*; oak decline in Northern red oak (*Quercus rubra*); and emergent pathogenic *Diplodia* and *Tubakia* spp.

- Beech health – novel monitoring approaches for *Litylenchus crenatae* and interactions between host response and resistance to beech scale (*Cryptococcus fagisuga*), *Neonectria species*, and *L. crenatae*. Potential opportunities with *Nothofagus* in Chile/Argentina/NZ.

- Conifer systems – including above and belowground diseases of hemlock, Eastern white pine (*Pinus strobus*), red pine (*P. resinosa*), native and non-native spruce (*Picea*), and cedars (e.g., *Thuja occidentalis* and *Chamaecyparis lawsoniana*, Port-Orford Cedar).

- Ambrosia beetles and their microbiomes and fungal plant-pathogenic associates

Qualifications

- BS in biology, forestry and/or natural-resource related major (with priority given to applicants with a prior background in forests, plants, fungi, and/or microbiology)
- MS preferred for students seeking Ph.D.

Preferred Background and Expertise (prefer at least one and willingness to learn others)

- Prior coursework in plant pathology, mycology/fungi, microbiology, nematology, botany/plant biology, plant physiology, statistics, ecology, forestry, tree biology, natural resource management, conservation, traditional ecological knowledge, or related fields
- Experience working with fungi and/or other microorganisms in sterile culture
- Experience with molecular biology/PCR, field work, and/or greenhouse/plant care
- Any modeling, coding, computer science, and/or bioinformatics skills
- Experience or desire to work with stakeholders and practitioners
- Plant and/or fungal identification in the field

Responsibilities

- Teaching assistantship (TA/GA) and/or research assistantship (RA) ~ 20 hours per week
- Complete required coursework
- Set and work toward your professional development goals under guidance of a mentor
- Design, carry out and repeat experiments (with a high level of planning and organization)
- Publish and present results to the scientific community and the public
- Seek outside funding for your research
- Maintain positive working relationships and communication with colleagues

Compensation

- Full tuition waiver and living wage (stipend) supported by TA/GA/RA
- Benefits package including health insurance
- A high-quality educational, social, and professional experience in a vibrant community

Lab Culture and Values

The lab values work-life balance and is committed to supporting students from all backgrounds and abilities in their pursuit of graduate level education and future careers in forest health. This includes a) maintaining an open and welcoming space devoid of harassment and b) taking on accountability for equal and equitable representation of all forms of diversity in communities of practice and leadership in forestry and forest health disciplines as a graduate-level educator.

About SUNY ESF and the Graduate School (amended from the website)

ESF is the only U.S. institution of higher learning dedicated solely to the study of the environment, located in Syracuse, central New York state and one of two programs in the

country with an undergraduate program in forest health. SUNY ESF has a long history of forest pathology research and counts some of the great names in the modern era of forest pathology among its prior faculty, including Paul Manion and James Worrall. ESF is also one of the oldest forestry schools in the country, having originated as the land-grant New York State College of Forestry at Cornell before splitting off and moving to Syracuse in 1911 (only twelve years after the Biltmore School). From the basic and applied sciences to engineering, design, and planning of both natural and human communities, ESF helps prepare leaders and collaborators.

The Graduate School at ESF advances environmental leadership by enabling graduate and professional students to create knowledge and develop skills to improve our world. The Graduate School at ESF is committed to sustained learning, action and accountability to continually improve our environment for equity, diversity, justice and access. Graduate academic programs at ESF share a foundation of rigorous science and dedication to wise use of natural resources. ESF offers graduate programs at several levels, from Certificates of Advanced Studies, to various types of Master's programs and a Doctor of Philosophy degree. Each program provides a unique opportunity for you to further your education with professors who are dedicated to both their teaching and research endeavors.

Ecosystems all over the world benefit from the professionalism and expertise of ESF graduates and the faculty members at the College of Environmental Science and Forestry. You will study with professors whose work improves and sustains the environment from the Yucatan Peninsula to Alaska and whose expertise is sought by government and corporations. That same faculty will be personally concerned with your progress. The professors' cutting-edge research will become part of your classes, and your classes will merge with the world beyond the College.

The Graduate School awards degrees of Master of Science (M.S., both thesis and non-thesis tracks) and Doctor of Philosophy (Ph.D.) in Environmental Biology with Research Areas in Mycology and Forest Pathology, Molecular Biology & Ecology, Indigenous Peoples and the Environment, and Ecology and Evolution; as well as in Forest Resources Management and Natural Resources Management with Research Areas in Ecology and Ecosystems, Economics, Governance and Human Dimensions, Forest Management & Silviculture, and Monitoring, Analysis, and Modeling.

How to apply

1. Send a) CV; b) one paragraph of research interests (include top choices of research areas and study systems); and c) one paragraph highlighting qualifications and background to Dr. Geoff Williams at geoffreywilliamsfs640@gmail.com **ASAP (pref. by 5 Jan. 2026)**.

2. **Request information** about graduate programs by contacting esfgrad@esf.edu ASAP for additional information on the application process and the graduate school.

3. **Apply to the graduate school** at https://www.esf.edu/graduate/prospective/index.php by clicking the green “Apply Today” button, and then “Create an account” at the bottom of the page. **Submit applications by January 15** for consideration for TA/GA positions. Additional opportunities may become available for RA positions by April 30.