

MISSION STATEMENT

Investigate and manage plant health problems using innovative methods to protect the environment, maintain a healthy landscape, and ensure a safe food supply.

SERVICE AND RESEARCH

Scientists in the Department of Plant Pathology and Ecology (PP&E) are involved in both service and research activities:

- Diagnose plant health problems
- Conduct workshops, write fact sheets, and participate in outreach programs
- Research to expand understanding of the interactions of plants, pathogens, and their environment

SERVICE:

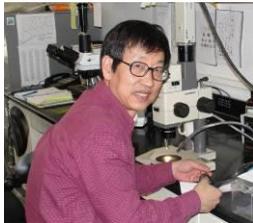
Plant Disease Information Office-

Dr. Yonghao Li

yonghao.li@ct.gov

Disease diagnosis involves visual assessment and microscopic examination of plant samples. Additional traditional, serological, and molecular techniques are used as needed. The lab is a member of the National Plant Diagnostic Network (NPDN). This network was created to enhance national agricultural biosecurity in the U.S.

www.ct.gov/caes/pdio



Seed Testing-

The Connecticut Agricultural Experiment Station is the official seed testing laboratory for the State of Connecticut.

- We cooperate with the Bureau of Regulation and Inspection of the Connecticut Department of Agriculture to test vegetable, crop, and lawn seed for purity and germination.
- Our goals are to protect CT residents from purchasing inferior seed and ensure that seeds comply with the Connecticut Seed Law Regulations and the Federal Seed Act.



Plant Pathogens of Regulatory Concern-

Department scientists work closely with CAES State Regulatory personnel and USDA, Animal and Plant Health Inspection Service-Plant Protection and Quarantine (APHIS-PPQ) on plant pathogens of high consequence or of regulatory concern for Connecticut and the U.S. such as Chrysanthemum White Rust, Ramorum Blight (a.k.a. Sudden Oak Death), Plum Pox, and Ralstonia Wilt.

Outreach-

PP&E staff give presentations and workshops and publish fact sheets and web-based information that complement our basic and applied research programs.



DEPARTMENT OF PLANT PATHOLOGY AND ECOLOGY

The Connecticut Agricultural Experiment Station
New Haven, CT



Plant Disease Information Office:

203.974.8601

www.ct.gov/caes/pdio

Department: 203.974.8606

Statewide Toll Free: 877.855.2237

04-15 revised
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CAES

The Connecticut Agricultural Experiment Station

Putting Science to Work for Society since 1875

www.ct.gov/caes

Research:

Scientists in the Department conduct original basic and applied research focused on all aspects of plant health.

- Topics include the ecology and genetics of plant pathogens, epidemiology of new and emerging diseases, exploring novel methods for disease management, and developing models for predicting the spread of plant pathogens.
- These studies address the needs of our stakeholders and consumers.

Most scientists have multiple research projects—this brochure highlights some of their projects. For more information, feel free to contact each scientist directly.

Scientists disseminate and publish their research findings in peer reviewed scientific journals, in Station publications, and at professional meetings.

Disease Diagnostics/Boxwood Blight: New Disease for North America

Dr. Sharon M. Douglas (Department Head)
sharon.douglas@ct.gov

- Dr. Douglas assists with accurate identification and development of best management practices for recurring and new diseases in the state.
- She and colleagues at CAES have had pivotal roles in research focused on boxwood blight, a destructive new disease, with efforts to manage and minimize further spread of the pathogen and eliminate new introductions from outside the U.S.



Fusarium Diseases/Sudden Vegetation Dieback of Salt Marshes

Dr. Wade H. Elmer
wade.elmer@ct.gov

- Dr. Elmer's research focuses on management, taxonomy, and population structure of diseases caused by *Fusarium* species.
- He recently investigated the role of the newly described species, *F. palustre*, in Sudden Vegetation Dieback of salt marshes and is examining possible contributions of plant stress and herbivory to this decline.



Modeling of Plant Disease Epidemics/Powdery Mildew of Grape

Dr. Francis J. Ferrandino
francis.ferrandino@ct.gov

- Dr. Ferrandino uses his background in physics, meteorology, mathematics, and statistics to develop models to describe and predict epidemics of plant diseases.
- He also maintains weather stations at CAES research farms and uses these data to investigate the epidemiology of grape powdery mildew.



Internal Decay in Living Trees/Population Dynamics in Plant Pathogenic Fungi

Dr. Robert E. Marra
robert.marra@ct.gov

- Dr. Marra's research is breaking new ground in understanding how internal decay in living trees impacts the role that forests play in mitigating against climate change.
- Through the study of DNA sequence variation in natural populations of plant pathogenic fungi, Dr. Marra explores the relationship between genetic structure, mating patterns, and dispersal.



Nitrogen Metabolism in Plants and Microorganisms

Dr. Neil P. Schultes
neil.schultes@ct.gov

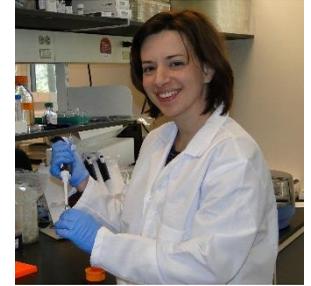
- Nitrogen metabolism is central to plant growth as well as disease processes caused by microorganisms.
- Dr. Schultes' research investigates the transport of nitrogen-rich nucleobases in plants and microorganisms.



Diversity and Virulence Mechanisms in Bacterial Plant Pathogens

Dr. Lindsay R. Triplett
lindsay.triplett@ct.gov

- Dr. Triplett's research uses molecular biology and biochemistry to understand how bacterial plant pathogens modify their plant host environment, and how plants recognize and resist these changes.



Fire Blight—Disease Mechanisms and Management

Dr. Quan Zeng
quan.zeng@ct.gov

- Fire blight, a potentially devastating disease of apples and pears is caused by a bacterial pathogen, *Erwinia amylovora*.
- Dr. Quan's research investigates how the pathogen causes disease and the pathogen's resistance to streptomycin.



Emeritus Scientists: Dr. Sandra L. Anagnostakis, Dr. Donald E. Aylor, Dr. Neil A. McHale, Dr. Richard B. Peterson, and Dr. Israel Zelitch

Post-Doctoral Researcher: Dr. Teja Shidore
Technicians: Michael A. Ammirata, Regan B. Huntley, Lindsay A. Patrick, Pamela Sletten, and Peter W. Thiel

Administrative Assistant: Sandra E. Carney