

# Stephanie M. Adams

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## Education

**University of Florida** – Gainesville, FL Aug. 2016 – Apr. 2020

PhD in Forest Tree Pathology, School of Forest Resources and Conservation

Major advisors: Drs. Jason Smith and Timothy Martin

Dissertation Title: Effects of Paclobutrazol on the *Raffaelea lauricola*-*Persea* Pathosystem

**University of Georgia** – Athens, GA Aug. 2004 – May 2008

Master of Science in Plant Pathology

Major advisor: Dr. Jean Williams-Woodward

Thesis Title: Surveying for *Phytophthora* species in water and soil in Georgia

**Western Illinois University** – Macomb, IL Aug. 1998 – May 2003

Bachelor of Science in Botany, Urban Forestry minor

**James Cook University** – Townsville, Queensland Australia Feb. 2001 – Jul. 2001

WIU International Study Abroad Program

## Work Experience

**The Morton Arboretum** – Lisle, Illinois

**Plant Health Care Leader** Jun. 2020 – current

- Assisted ten Plant Propagation staff, six Tree Crew staff, and twenty-three Horticulture staff in monitoring, diagnosing, and treating ailing plants in their respective areas of responsibility
- Conducted monthly monitoring of 40-60 woody and herbaceous perennial plant crops in 3 greenhouses and 11 hoopouses
- Worked with Plant Production staff on developing experiments to identify ideal growing conditions for *Quercus georgiana* and *Q. acerifolia*, both IUCN Red List of Threatened Species-classified endangered species
- Monitored, diagnosed, and developed management plans for a three-state, 1800 bur oak (*Quercus macrocarpa*), common garden research project with *Phytophthora* root rot
- Coordinated, taught, and hosted speakers for weekly and monthly hands-on plant health-related training sessions for arboretum horticulture staff
  - Attended 148 times in 2021 and at least 116 times in 2022 and covered at least 19 topics.
- Supervised two employees, Senior Research Scientist in Entomology and an undergraduate intern
- Mentored and supervised one undergraduate university student who collected and tested oak root samples using Agdia *Phytophthora* DAS-ELISA kits as part of a National Science Foundation-funded Research Experiences for Undergraduates
- Developed two internal working groups, totaling 14 people across three departments to network, collaborate, and support plant health care-related arboretum initiatives
- Implemented the use of PClinic, a plant diagnostic record keeping system
- Diagnosed woody and herbaceous plants to the primary and secondary causal agents, developed IPM-based management plans, and trained horticulture staff how to implement management strategies
  - Processed 221 samples in 2020; 340 in 2021; at least 410 samples in 2022
- Trained employees on how to use macro-injection systems for insecticides and nutrient injections, autoclaves, root scanners, root quantification software WinRHIZO, electric conductivity meter, 96-well spectrophotometer
- Trained two laboratory employees how to bait *Phytophthora* from roots onto V8-PARPH media

- Implemented a research program to better understand the current state of oak decline. This involved:
  - Identification of *Phytophthora* root rot through isolation, DNA extraction, and Sanger sequencing
  - Worked with Illinois DNR Forest Health Specialists on surveying oak trees on state lands for *Phytophthora*, *Pythium*, *Phytophythium*, and other related organisms
  - Collaborated with park districts, forest preserves, municipalities, and private landowners to implement a pesticide trial
- Taught The Morton Arboretum's Little Trees program preschool students about fungi and mushrooms (14 students, 5 chaperones)
- Participated in Quarterly Manager's Roundtable discussion coordinated by Human Resources

**Center for Tree Science Research Fellow**

Aug. 2016 – Jun. 2020

**Plant Health Care Research Specialist**

Jan. 2012 – Aug. 2016

**Plant Health Care Technician & Tree Pathologist Research Assistant**

Sep. 2009 – Jan. 2012

**Research Assistant**

Jun. – Sept. 2009

- Supervised volunteers (12 people) and summer interns (2 students)
- Collaborated with the United States Forest Service on *Phytophthora ramorum* water baiting in Iowa and Illinois (2 Iowa locations, 1 Illinois location) by culturing water baits onto V8PARPH
- Extracted fungal DNA for sequencing utilizing Qiagen DNeasy Plant Mini kits
- Cleaned PCR products via ExoSap and Ethanol Precipitation before sequencing
- Propagated American elms (*Ulmus americana*) by seeds and cuttings
- Utilized ELISA kits to detect *Xylella fastidiosa* and *Phytophthora* species
- Performed clinical plant disease diagnostics
- Met on-site with municipal foresters in six local municipalities to support them in tree insect and disease diagnosis and development of management plans
- Recommended chemical and cultural disease and pest management strategies
- Utilized competitive ELISA kit to detect imidacloprid in *Fraxinus pennsylvanica* and *Cercis canadensis*
- Cultured *Ophiostoma novo-ulmi* and inoculated *Ulmus americana* for Dutch elm disease resistance trials

**The College of DuPage – Glen Ellyn, Illinois**

**Adjunct Faculty, Horticulture Department**

Aug. 2013-2014; 2023

- Taught the 16-week Plant Pathology and Entomology courses (average 11 students)
- Covered topics including: Basic plant pathology, Principles of disease management, Diseases caused by true fungi, oomycetes, nematodes, viruses, phytoplasmas, and abiotic agents, Common landscape, turf, nurseries, greenhouses, urban forests, and forestry diseases, Economic impacts of native and introduced pathogens
- Laboratory topics and exercises included: Testing for *Phytophthora* species using Agdia ELISA immunostrips, Isolating *Ophiostoma* species, Clinical disease diagnostics using compound and stereo- microscopes, making wet mounts, utilizing resource material for identification

**University of Florida – Gainesville, Florida**

**Graduate Student Research Assistant**

Aug. 2016 – Jun. 2020

- Taught two sections of the Forest Health portion of Forests for the Future (FOR2262), approximately 160 undergraduate students of non-science backgrounds
- Guest lectured for Foundations in Natural Resources and Conservation (FOR3200C), (60 undergraduate students)
- Volunteered for 4-H Forest Ecology Contest - Forest Health Station
  - Taught students ages 8-18 about forest health topics including diseases, insect pests, and abiotic problems (100 students annually)
  - Created dichotomous keys for all three age groups
- Mentored three undergraduate students in the forest and plant pathological sciences

**Rainbow Treecare – Minnetonka, Minnesota**

**Field Arborist and Root Enhancement Foreman**

Apr. 2008 – Jan. 2009

- Consulted customers on tree care and plant health issues
- Utilized ArborVue and ArcPad 7.0 and Trimble GPS units for GPS/GIS mapping
- Trained fifteen employees on different arboricultural practices
- Operated forklift, Swinger front-end loader, air compressor, and air spade
- Applied pesticides to trees on clients' properties
- Climbed and pruned trees

**University of Georgia – Athens, Georgia**

**Department of Plant Pathology, Graduate Student Assistant**

Aug. 2004 – Apr. 2008

- Baited forest streams, nursery irrigation ponds and soil for *Phytophthora* spp. and *P. ramorum* detection, isolation, and identification
- Taught one Introductory Plant Pathology laboratory
- Trained and supervised three undergraduate laboratory technicians

**University of Georgia – Athens, Georgia**

**Department of Plant Pathology, Research Tech II**

Feb. 2004 – Aug. 2004

- Performed nested PCR for *Phytophthora ramorum* detection
- Performed transformations, restriction digests and PCR on *Escherichia coli* isolates
- Inoculated tomato plants with *Ralstonia solanacearum* isolates

**Bartlett Tree Research Laboratory – Charlotte, North Carolina**

**Research Intern**

May 2003 – Jan. 2004

- Created GPS/GIS map of the Lab's arboretum using a Trimble GPS unit
- Utilized Environmental Systems Research Institute ArcView, ArcMap, ArcCatalog and ArcToolbox software for Lab's arboretum collection

**Davey Tree – Denver, Colorado**

**Plant Health Care Technician**

May 2002 – Aug. 2002

- Scouted for insect pests and safely applied insecticides and fertilizers
- Counseled homeowners in plant health care

**Grants**

- **Tree Fund's** John Z. Duling grant, Principle Investigator, 2009, *Evaluating damage resulting from volcano mulching*, \$7000 (<http://www.treefund.org/archives/287>)
- **Tree Fund's** John Z. Duling grant, Principle Investigator, October 2014, *Assessing horticultural products as alternative treatments for managing fungal foliar infections*, \$7500 (<http://www.treefund.org/archives/9098>)

**Peer-Reviewed Publications**

- Fulton, J. C., Huguet-Tapia, J. C., **Adams, S. M.**, Dufault, N. S., Quesada, T., & Brawner, J. T. 2020. Draft Genome Sequences of Three *Fusarium circinatum* Isolates Used To Inoculate a Pedigreed Population of *Pinus elliotii* Seedlings. *Microbiology Resource Announcements*, 9(30), e00631-20.
- **Adams, S. M.** and J. A. Smith. 2017. In vitro sensitivity of a vascular wilt pathogen, *Ophiostoma novo-ulmi*, to paclobutrazol. *Postharvest Biology and Technology* (7), 145-150.

## Non-Peer Reviewed Publications

- Lilly, S. J., Bassett, C. G., Komen, J., Purcell, L. 2021. Arborists' Certification Study Guide, Fourth Edition. Contributing Subject Matter Expert. **International Society of Arboriculture**.
- Adams, S. M. 2021. National Plant Diagnostic Network. **Illinois Arborist Association Newsletter**. Vol 37, Issue 3. (<https://illinoisarborist.org/services-we-provide/voice-for-the-trees-newsletters/>)
- Adams, S. M. 2021. Diseases of Woody Ornamentals and Trees in Nurseries; Sourwood (*Oxydendrum arboreum*) Diseases book chapter. **American Phytopathological Society**. (in press)
- Adams, S. M. 2021. Diseases of Woody Ornamentals and Trees in Nurseries; Oak (*Quercus*) Diseases book chapter. **American Phytopathological Society**. (in press)
- Adams, S. M. 2021. Diseases of Woody Ornamentals and Trees in Nurseries; Hemlock (*Tsuga*) Diseases book chapter. **American Phytopathological Society**. (in press)
- Williams–Woodward, J. and **Adams, S. M.** 2005. Surveying for *Phytophthora ramorum* in ornamental nurseries, home landscapes, and forests in Georgia. **Phytopathology** 95:S111.

## Presentations, Guest Lectures, Training Workshops (a selection)

### 2023 Presentations

- Adams, S.M. 2023. How to Identify Healthy and Diseased Roots in Nursery Stock and Landscape Plants and Ways to Manage Them. iLandscape, Schaumburg, Illinois, February 2, 2023.
- Adams, S.M. 2023. Hands-on Workshop: Examining the Roots of Container Plants to Identify Root Rot. iLandscape, Schaumburg, Illinois, February 2, 2023.
- Adams, S.M. 2023. Fine Root Health. Joint meeting of the Wisconsin Arborist Association (ISA Chapter) and the Wisconsin Department of Natural Resources. Green Bay, Wisconsin, February 20, 2023.
- Adams, S.M. 2023. Decline of Oak Trees. Joint meeting of the Wisconsin Arborist Association (ISA Chapter) and the Wisconsin Department of Natural Resources. Green Bay, Wisconsin, February 21, 2023.
- Adams, S.M. 2023. Oak Decline. North Cook County Soil & Water Conservation District. Schaumburg, Illinois, March 8, 2023.
- Adams, S.M. 2023. Guest Lecture: Plant Diseases during Climate Change. Associated Colleges of the Chicago Area (ACCA). March 13, 2023
- Adams, S.M. and Miller, F.M. 2023. Oak Decline and Death in Illinois: What Role Does *Phytophthora* Play? 2023 Joint Conference of the Northern Nut Growers Association, Chestnut Growers of America, and Walnut Council. July 23-26, 2023. University of Missouri Center for Agroforestry, Columbia, Missouri.
- Adams, S.M. 2023. Poster: Oak Wilt in Chestnut Orchards. 2023 Joint Conference of the Northern Nut Growers Association, Chestnut Growers of America, and Walnut Council. July 23-26, 2023. University of Missouri Center for Agroforestry, Columbia, Missouri.
- Adams, S.M. 2023. Summary of Diseases Diagnosed on Nursery Stock. American Society of Horticultural Science Conference. August 1-5, 2023. Orlando, Florida.

## Guest Lectures

Western Illinois University (Entomology and Arboriculture), Joliet Junior College (Entomology, Plant Diseases, Introduction to Horticulture), Associated Colleges of the Chicago Area (Economic Botany)

## Workshops Hosted

- Co-coordinator with Dr. Fredric Miller of annual Forest Health Workshops Illinois Department of Natural Resources, which have been attended by approximately 180 people including IDNR District Foresters, municipal foresters and arborists, commercial arborists, APHIS nursery inspectors, and Illinois Department of Agriculture staff in Lisle, Murphysboro, Mt. Vernon, and Springfield, IL. August 2011 – 2013.
- Chainsaw safety and training with Norm Hall and Paul Blome at Western Illinois University for undergraduate Urban Forestry Students, 2010-2014.

### **Memberships, Groups, and Certifications**

- Illinois Pesticide Applicator's Licenses in ornamentals, 2010-current
- International Society of Arboriculture (ISA) 1999 – present, ISA
  - Certified Arborist, 2007 – 2017 (SO-5781A)
  - Board Certified Master Arborist, 2017 – current (SO-5781B)
  - Tree Risk Assessment Qualification, 2013 – 2018
- Board Certified Master Arborist Test Writing Committee – 2018-2024, Chairperson 2021-2024
- Illinois Arborist Association:
  - Member 2009 – present
  - Program Director 2012 – 2015
  - Research Director 2022-2025
    - Developed a Plant Health Care Corner on the showroom at the annual conference
- American Phytopathological Society, member 2009 – present
- Member of Xi Sigma Pi Forestry Honor Society

### **Volunteer Experiences**

- Expanding Your Horizons – taught 6-8<sup>th</sup> grade girls about educational and career opportunities in plant pathology, botany, and arboriculture
- Tree Climbing Competitions:
  - International Society of Arboriculture: throw line scoring judge
  - Illinois and Minnesota ISA Chapters Climbing Competition: Belayed Speed Climb Head Judge (2021-2022), Work Climb timer (2014-2015), Master's Challenge timer (2009-2016 years), Work Climb ground technician (2009)
- Science Fair Judge
  - 2006 – 2008 Plant Science Division, Georgia State Science Fair