

NPDN Projects Funded Through the 2012 Farm Bill

STAR-D Project Awarded Funding

Karen L. Snover-Clift, Cornell University



The NPDN STAR-D project was awarded funding to continue the development of the NPDN laboratory accreditation program. The award provides funding for Karen Snover-Clift to serve in a half time commitment as the NPDN National Quality Manager. Dawn Dailey O'Brien will continue to serve in a half time commitment as the NPDN National Quality Coordinator. Five audits will be scheduled to give the NPDN auditors (trained in 2011) practice at conducting audits at five different laboratories; likely at the regional centers. The practice audits will not only provide the much needed, continued training and honing of the auditor's skills but will also allow for improvements and enhancements to the STAR-D program and the requirements and standards that have been developed by the STAR-D working group over the past year. The National Plant Protection Laboratory Accreditation Program (NPPLAP), the "sister" program to STAR-D that provides certification of laboratories to perform diagnostic testing for significant pathogens, hopes to schedule another quality management workshop in Ames, Iowa, for those who were unable to attend this training offered in April of 2011. The goal is to procure additional funding for 2013–2014 to train additional auditors, to begin conducting real audits and to begin accrediting NPDN laboratories.

NPDN-Beltsville Workshop Participation

Karen L. Snover-Clift, Cornell University

The NPDN-Beltsville Workshops were awarded funding to cover the travel expenses of NPDN diagnosticians for significant pathogen identification workshops. This will be the third year that this project has been funded through the Farm Bill. Finding a means to cover the expenses of traveling to Beltsville to participate in these workshops has been difficult over the past few years as funding to the laboratories has decreased. Most of our members agree that professional development is extremely important to maintain our readiness capabilities but, unfortunately,

Issue Highlights

- Recap 2012 advanced diagnostic workshops
- Citrus pests resource tool
- New website-workgroup CPHST diagnostic methods
- Diag tip – sampling and shipping protocols for *Dothistroma*
- Systematic internship program
- SPN workshop in Dallas
- New Plant Heroes website
- IT updates
- In *Regional News*: SAPW in TX

our reduced funding has eliminated their ability to designate a portion of their allocation to this activity. Fortunately, the Farm Bill funding has filled that void in our continued preparedness as a team and a network. In 2012, the Farm Bill funding allowed us to train 52 diagnosticians at 10 workshops on 5 topics (refer to the article in this newsletter to learn more about the 2012 workshops). The funding provided for 2013 will allow us to cover the travel expenses for at least 30 members to participate in workshops. Since 2003, NPDN and USDA-APHIS-PPQ-CPHST-NPGBL collaborations have trained 304 diagnosticians at 45 workshops on 13 topics. This continuous effort has been a benefit to both organizations, to collaborators such as the National Plant Board and the United States Forest Service, and to agriculture and natural systems in the United States.

Incorporation of the Standard Scientific Name for Fungi into the NPDN Pest Dictionary

Nancy F. Gregory, University of Delaware

The National Repository, maintained by the Center for Environmental and Regulatory Information Systems (CERIS) at Purdue University, contains diagnostic pathogen data uploaded from all five regions of the NPDN. A subset of the members of the NPDN National Database Program Area Committee will take on the task of revising the NPDN fungi list (approximately 2,900 total entries). Correct proper name will be determined in cooperation with USDA/ARS Systematic Mycology and Microbiology Laboratory taxonomists, as we move toward "One Name for Fungi." Diagnosticians and taxonomists will work with the NPDN IT staff based at CERIS to ensure that the updated standard fungal names are used and associated synonyms are properly stored in order to provide consistent and accurate search capabilities and reporting methods.

Sentinel Plant Network Receives Phase II Funding

Dan Stern, APGA, and Rachel McCarthy, NEPDN, Cornell University



The Sentinel Plant Network (SPN) is a partnership between the American Public Gardens Association (APGA) and NPDN that engages public garden professionals, volunteers and visitors in the early detection of high-consequence plant pests and pathogens. Phase I of the program launched in January 2011 and now has over 120 member gardens across the country. Phase II funding will include the development of additional training modules for gardens to use in enlisting and instructing First Detectors as well as other resources to facilitate pest / disease monitoring and enhance the diagnostic capacity of SPN gardens. Phase II will also enable SPN to expand the scope of the K-12 educational website, Plant Heroes and produce new interpretive materials for member gardens to use to engage garden visitors about the threats posed by plant pests and diseases, the importance of early detection efforts and how they can get involved.

2013 Systematic Internship Program

Amanda Hodges, University of Florida

See page 11 in Training and Education

Collaborative and Enhanced First Detector Training for Florida and California

Amanda Hodges, University of Florida; Rick Bostock and Dick Hoenisch, University of California at Davis; Eileen Luke, Purdue University

Florida and California are high risk states for new, invasive plant

pest establishment due to favorable environmental conditions and numerous ports of entry. As such, the Florida and California NPDN First Detector programs jointly identified a need for enhanced, multi-agency invasive species education. Amanda Hodges (University of Florida), Stephanie Stocks (University of Florida), Leroy Whilby (Florida Department of Agriculture and Consumer Services, Division of Plant Industry), Rick Bostock (University of California-Davis), Richard Hoenisch (University of California-Davis) and Eileen Luke (Purdue University) were funded for \$165,000 based on the 10201 Farm Bill suggestion entitled "Collaborative and Enhanced First Detector Training for Florida and California". Funding includes the development and delivery of multi-agency invasive species extension educational materials for Florida and California. Specifically, six training

sessions will occur in each state. In addition to integrally including USDA-APHIS-PPQ cooperators, state departments of agriculture and Cooperative Agricultural Pest Survey (CAPS) personnel will be included in planning educational events. Also, close communication between Florida and California will occur in order to ensure uniformity of educational program delivery and post-training assessments. Some target audiences may include public botanical gardens (i.e. for enhanced, state-focused NPDN-Sentinel Plant Network education) and Master Gardeners. Stay tuned for updates regarding this project and other Farm Bill 10201 efforts that further opportunities and impact for NPDN Training and Education! 🌿

Interested in learning more about the Farm Bill? Visit the APHIS website at www.aphis.usda.gov/plant_health/plant_pest_info/pest_detection/farm_bill.shtml



This represents only a partial listing of NPDN projects funded through the FY12 Farm Bill.

Did you receive FY12 Farm Bill 10201 funds for an NPDN related project?

Send Rachel McCarthy your news at rachel.mccarthy@cornell.edu

The NPDN + USDA-APHIS-PPQ-CPHST-NPGBL + the Farm Bill = A Very Successful Workshop Season!

Karen L. Snover-Clift, Cornell University, Mark Nakhla, USDA-APHIS-PPQ-CHPST-NPGBL and Kurt Zeller, USDA-APHIS-PPQ-CHPST-NPGBL

The NPDN Diagnostics Program Area Committee and members of USDA-APHIS-PPQ-CHPST-National Plant Germplasm and Biotechnology Laboratory (NPGBL) with funding support from the Farm Bill collaborated to provide numerous workshops from February through May of 2012. Workshop topics for this year included Bioinformatics Part I and Part II [new

this year], Citrus Greening-HLB (*Candidatus Liberibacter asiaticus*, *Candidatus Liberibacter africanus*, and *Candidatus Liberibacter americanus*), Citrus Leprosis with Sweet Orange Scab (*Elsinoë australis*) and Citrus Black Spot (*Guignardia citricarpa*) [new this year], Phytophthora 101 with focus on *P. ramorum* and *P. kernoviae*, and Potato Wart (*Synchytrium endobioticum*).

The NPDN offered this training to all its 52 state and territory members and collaborators. The NPGBL staff members committed to a very

ambitious schedule of workshops that was developed from a survey sent out in the fall of 2011 requesting topic suggestions and providing advanced notification of tentative training dates. The advanced notification was deemed of high importance by many diagnosticians and this year's announcement giving diagnosticians a few months notice resulted in 6 of the 10 sessions reaching full capacity and the other four were very close to filling up. In all, fifty-two diagnosticians participated in 10 workshops on 5 topics this spring. The planning for next year has already begun. Be sure to look for announcements about next year's workshops in future newsletter articles and through your regional listservs'.

BIOINFORMATICS PART I, FEB 21–22

Participants: Clarissa Balbalian, Mississippi State University; Mahfuzur Rahman, West Virginia University; Tim Murray, Washington State University; Karen Rane, University of Maryland; Aaron Palmateer, University of Florida; Meg Williamson, Clemson University; Jen Olson, Oklahoma State University, Sergei Subbotin, California Department of Food and Agriculture.

BIOINFORMATICS PART II, FEB 22–23

Participants: Shawn Butler, North Carolina State University; Mahfuzur Rahman, West Virginia University; Tim Murray, Washington State University; Karen Rane, University of Maryland; Aaron Palmateer, University of Florida; Meg Williamson, Clemson University; Jen Olson, Oklahoma State University, Sergei Subbotin, California Department of Food and Agriculture.

CITRUS GREENING (HLB), FEB 28–MARCH 1

Participants: Mike Melzer, University of Hawaii; Ying Guo, California Department of Food and Agriculture; Shouhua Wang, Nevada Department of Agriculture; Paul Vincelli, University of Kentucky; Kassie Conner, Auburn University; Lee Zhang, Auburn University.



Citrus Greening-HLB, February 28–March 1 (left to right): Mike Melzer, Ying Guo, Shouhua Wang, Kate Rappaport, Lee Zhang, Kassie Connor, University, John Roscoe, Kirk Martin, Paul Vincelli and Wenbin Li.



Citrus Leprosis, March 12–15 (left to right): Gang Wei, Raghuvinder (Nick) Singh, Ping Yang, Wendy Sueno, Kevin Ong, Heidi Bowman, Kurt Zeller, Mike Melzer, Karen Snover-Clift, Mark Nakhla, Cheryl Blomquist, Anne Vitoreli and Suzanne Latham.

CITRUS LEPROSIS, SWEET ORANGE SCAB & CITRUS BLACK SPOT, MARCH 5–8

Participants: Karen Snover-Clift, Cornell University; Anne Vitoreli, University of Florida; Raghuwinder (Nick) Singh, Louisiana State University AgCenter; Michael Melzer, University of Hawaii; Cheryl Blomquist, California Department of Food and Agriculture; Suzanne Latham, California Department of Food and Agriculture; Wendy Sueno, Hawaii PPQ; Kevin Ong, Texas A&M University.

CITRUS LEPROSIS, SWEET ORANGE SCAB & CITRUS BLACK SPOT, MARCH 12–15

Participants: Mann Ko, Hawaii Department of Agriculture; Clarissa Balbalian, Mississippi State University; Patricia Lopez, University of Florida; Kassie Conner, Auburn University; Madhura Babu Kunta, Texas A&M University; Sheila McBride, Texas A&M University, Fanny Iriarte, Kansas State University.

BIOINFORMATICS PART I, MARCH 20–21

Participants: Tom Creswell, Purdue University; Dimitre Mollov, University of Minnesota; Angie Madeiras, University of Massachusetts; Katie Coats, Washington State University; Anette Phibbs, Wisconsin Department of Agriculture; John Bienapfl, University of Maryland; Danielle Martin, United States Forest Service; Rob Wick, University of Massachusetts.

BIOINFORMATICS PART II, MARCH 21–22

Participants: Tom Creswell, Purdue University; Anne Alvarez, University of Hawaii; Dimitre Mollov, University of Minnesota; Angie Madeiras, University of Massachusetts; Katie Coats, Washington State University; Anette Phibbs, Wisconsin Department of Agriculture; John Bienapfl, University of Maryland; Danielle Martin, United States Forest Service; Rob Wick, University of Massachusetts.

PHYTOPHTHORA 101 FOCUSING ON P. RAMORUM & P. KERNOVIAE, MARCH 26–29

Participants: Mike Munster, North Carolina State University; Dimitre Mollov, University of Minnesota; Shouhua Wang, Nevada Department of Agriculture; Sandra Jensen, Cornell University; Molly Swartwood Towne, Cornell University; Luz Serrato-Diaz, Texas A&M University.

PHYTOPHTHORA 101 FOCUSING ON P. RAMORUM & P. KERNOVIAE, APRIL 16–19

Participants: Mahfuzar Rahman, West Virginia University; Ram Sampangi, University of Idaho; Jen Olsen, Oklahoma State University; Monty Botschner, North Dakota State University; Fanny Iriarte, Kansas State University; Kassie Conner, Auburn University; Raghuwinder (Nick) Singh, Louisiana State University AgCenter.

POTATO WART, MAY 15–17

Participants: Shouhua Wang, Nevada Department of Agriculture; Jan Byrne, Michigan State University; Viviana Rivera-Varas, North Dakota State University.

If you are interested in participating in future workshops, please contact Karen Snover-Clift at kls13@cornell.edu. 🌱



Citrus Leprosis, March 12–15 (left to right): Patricia Lopez, Clarissa Balbalian, Sheila McBride, Kurt Zeller, Kassie Conner, Kunta Madhura Babu, Mann Ko and Fanny Iriarte.



Bioinformatics, March 20–22 (left to right): John Bienapfl, Anette Phibbs, Danielle Martin and Tom Creswell.



Phytophthora 101, April 16–19 (left to right): Molly Swartwood Towne, Mike Munster, Ping Yang, Kurt Zeller, Sandra Jensen, Luz Serrato-Diaz and Shouhua Wang.

Citrus Pests Resource Released

Submitted by Amanda Hodges, University of Florida

Authors: Sarahlynnne Guerrero, Jennifer Weeks, Amanda Hodges, Kirk Martin and Norman Leppla

CPHST's Identification Technology Program is pleased to announce the release of the final Citrus Resource tool, Citrus Pests. Developed through collaboration among CPHST, University of Florida, and Southern Plant Diagnostic Network, Citrus Pests offers screening support for over 50 important insect pests of citrus. Citrus Pests is aimed primarily at extension agents, inspectors, and other plant professionals with access to a light microscope and hand lens. It is designed to help users determine which type of citrus insect pest they have encountered by featuring an interactive key coupled with illustrated, descriptive fact sheets for each pest. Citrus Pests

Citrus Resource now offers users a comprehensive identification resource for citrus commodity surveys. The resource was created to provide growers, the industry, and those associated with citrus pest and disease detection an easily accessible site to assist with their identification needs. Citrus Resource includes three stand-alone tools to support citrus commodity surveys: Citrus Pests, a symptom-based tool for diseases (Citrus Diseases), and one for over 500 citrus cultivars grown in the United States (Citrus ID). Each tool includes an interactive matrix-based key, fact sheets, an image gallery, and other pages designed with the user in mind. Citrus Resource links directly to all three tools, offers instant access to each tool's filterable image gallery, and includes background information about citrus as a commodity in the United States.

Citrus is one of the most important commercially grown agricultural products in the United States. Additionally, many citrus varieties are backyard crop plants, providing important sources of food at a local community level. As a result, citrus is one of the most economically important groups of plants. Numerous insect pests threaten the citrus industry

and backyard citrus trees through feeding damage, while other pests vector diseases that are potentially lethal. Citrus Pests aims to help mitigate the threat posed by these pests by supporting the screening and identification of many of the most important pests.

Citrus Pests HOME ABOUT KEY FACT SHEETS GLOSSARY GALLERY MORPHOLOGY

Southern citrus root weevil

Seychelles scale

About This Tool
Numerous insect pests threaten citrus through feeding damage, while others vector diseases that are potentially lethal.

Insect Morphology
An illustrated overview of the morphology of citrus insect pests is provided for those less familiar with insects.

View The Gallery
A comprehensive image gallery is included and is searchable by type of insect, offering users an image-based option.

Visit The Key
Screening is facilitated through an illustrated matrix-based key specifically designed with non-experts in mind.

UF SPDN CPHST
Citrus Pests June, 2012
Search Fact Sheets

<http://idtools.org/id/citrus/pests>

New Website-Workgroup for Accessing CPHST Diagnostic Methods


Renee DeVries, APHIS-PPQ-CPHST

USDA-APHIS-PPQ-CPHST has been working for several years to find a mechanism to improve the management, control and distribution of CPHST diagnostic methods (e.g. Work Instructions) but still provide web access to non-federal individuals.

Less than a year ago we made our final selection to use the new portal (a central place for making information accessible) of the USDA-APHIS-NAHLN. (NAHLN stands for the National Animal Health Laboratory Network and includes State/University laboratories that perform routine diagnostic tests for endemic animal diseases, as well as targeted

surveillance and response testing for foreign animal diseases.)

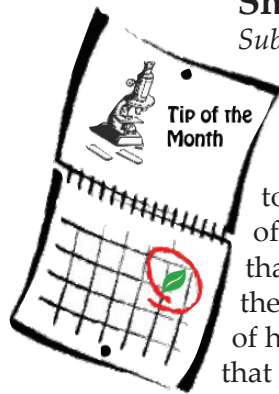
Our Molecular Diagnostics (Plant & Insect) workgroup was created and currently there are 26 members, who have '24/7' access to a secure web site/portal that stores electronic documents, such as CPHST Diagnostic Work Instructions. Workgroup members no longer have to request and wait for documents, do a web search and find outdated documents, or wonder if a document is still up-to-date. (Group members will be notified by e-mail whenever a new revision has been released of a previously accessed document.)

If you are not yet a member and are interested in membership please contact Renee DeVries, renee.m.devries@aphis.usda.gov 

Diagnostic Updates

National *Dothistroma* Collection - Sampling & Shipping Protocol

Submitted by Tom Creswell,
Purdue University



The objective of this protocol is to describe the types of sample collections that are requested and the preferred methods of handling samples so that they will be optimally useful to assess geographic

and host ranges of *Dothistroma* species on conifer needles in the USA, and to minimize the risk of releasing exotic biota. Shipment of samples using the following protocol has been approved by the North Dakota State Plant Health Director, APHIS-PPQ under the permit held by the North Dakota State University Plant Diagnostic Laboratory.

Questions or Mailers: If you have questions about collections, or you need mailers, contact: Jim Walla, 701-231-7069, j.walla@ndsu.edu

MOST IMPORTANT

1. Mail the samples the same day as collected or keep them cool after collection in the field, and then freeze them until they are shipped.
2. Ship samples only in double tyvek envelopes. The samples can be in other containers, which are then placed within double tyvek envelopes, or the double tyvek envelopes can be shipped inside another container (but pre-addressed tyvek envelopes would not be needed for that).
3. The samples should be shipped to the NDSU Diagnostic Lab, not to Jim Walla, because the lab has the permit and the appropriate isolation facilities.

Sample locations: Samples of needles that may have *Dothistroma* needle blight (DNB) are being requested from as many different states as possible to cover the whole geographic range of the USA. In addition, we would like to obtain collections from many different types of sites (e.g., geographic, environmental, stand type) and from as many different host species in each type of site as possible. If you have, can obtain, or can arrange for collection of a sample of DNB, and that sample represents a different state, site type (e.g., altitude, stand type) within a state, or host within a site type, we want it, even if the locations are in close proximity to each other. If you have questions about whether a collection would be appropriate, either make a collection and send it, or contact us with your questions.

Hosts: We want as many host genera and species represented in the sampling as possible within each sampling location. It is likely that every pine species in the USA could have DNB. In addition to pines, DNB has been reported on several spruce species (*Picea*), on Douglas-fir (*Pseudotsuga*), and on larch (*Larix*). The latter hosts are most likely to be infected if there are heavily infected pines nearby.

What and when to collect: Needles with symptoms similar to those caused by DNB (Figure 1) and with fruiting bodies (Figure 2) should be collected. Optimum sample size is about 50 needles, at least some of which have fruiting bodies similar to those of *Dothistroma* (fungal mass/conidiomata pushing up through the needle surface). The needles for a single collection should all be from the same tree, but they can come from different age classes or different branches on the same tree. Needles should be collected during or near the growing season. Samples can be collected at least through Fall, 2012 whenever someone finds a symptomatic tree and needles with fruiting bodies, and they have the

means to either collect and mail them the same day or keep the samples in cold storage until mailed.

What NOT to send: Needles with disease symptoms distinct from those of DNB and needles harboring obvious insects should not be submitted. If there is an unusual or high priority sample that appears to be DNB, but there are also other diseases or insects on the same branches or needles, separation of needles with putative DNB should be done. This may be done by sorting needles or selecting the portion of needles with DNB symptoms.

Other information: Photographs of diseased sites, trees, and needles on branches would be useful. Notes regarding severity of the disease, patterns of disease incidence, and hosts on which DNB was not found (where DNB is present on another host) would be valuable.

Submission of samples: Place all the needles from one collection into a plain tyvek envelope and seal that inner envelope. Place the inner envelope into the outer tyvek envelope and seal the outer envelope. Record as much of the requested information on the back of the outer envelope as possible, and keep a record of your collections. Mail the sample the same day as collected, or keep the samples in a freezer (preferred) or cooler until shipping. Multiple inner envelopes can be placed in a single outer envelope, but the mailing permit is only for up to 3 ounces, so weigh the package if you want to include multiple inner envelopes. Also, write needed/available collection information on the inner envelopes in this case.

If you will use your own tyvek envelopes, address the envelope to: NDSU Plant Diagnostic Lab, NDSU Dept 7060, PO Box 6050, Fargo, ND 5810806050.



Figure 1. Tree, shoots and needles with symptoms and signs of *Dothistroma* needle blight. Infected needles tend to be on the lower portion of a tree, on a protected side of a tree and on the oldest attached age-classes of needles.

Symptoms and signs of *Dothistroma* needle blights on pines:

Symptoms: *Dothistroma* species cause a necrotic band or spot on needles, followed by death of the needle distal to the band. The band or region with fruiting bodies may have distinct, faint, or no red coloration.

Signs: The presence of a dark stroma pushing up the needle epidermis in a spot, band, or near the base of or within dead areas on a needle is indicative of either *Dothistroma* or brown spot.

Alternative causes: Brown spot is a very similar disease. Hosts tend to differ, but there is considerable overlap. Insect damage may also cause similar symptoms. Various stresses, e.g., winter damage, high salts, and drought can cause distal ends of needles to die. Those tend to result in relatively uniform dieback patterns, while location of pathogen infection on a needle tends to be more random. 🌿

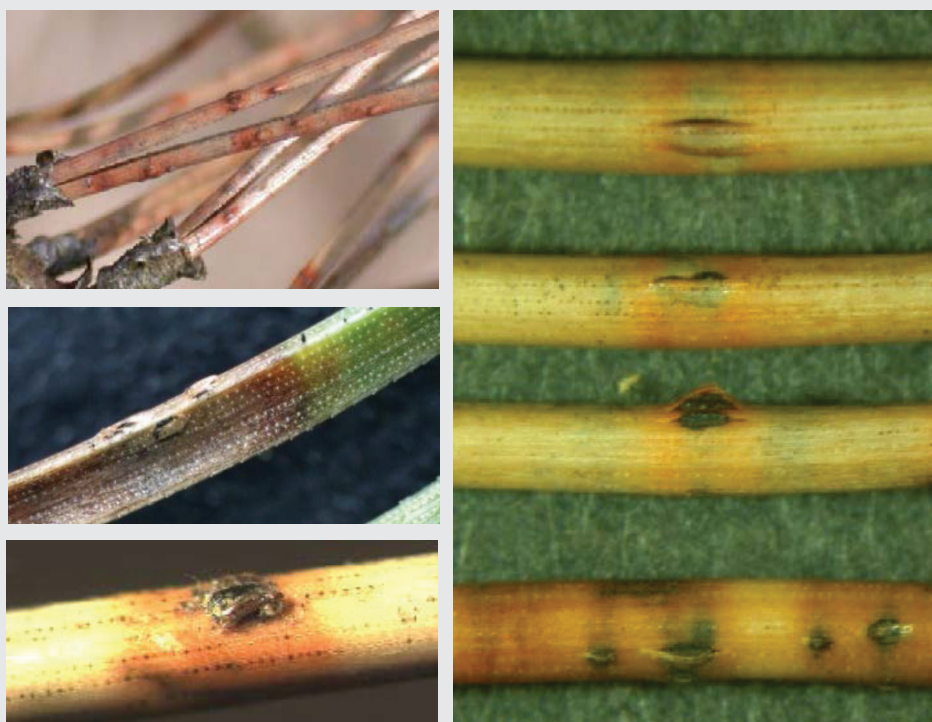


Figure 2. Needles with symptoms and signs of DNB. Fruiting bodies are black pustules that push up through the needle surface. Fruiting bodies may occur in areas with distinct, faint or no red pigment. They may occur in bands, at the basal end of necrosis or within dead areas of needles.

2013 Systematic Internship Program, Call for Applications

Amanda Hodges, Entomology and Nematology Department, University of Florida

Are you a graduate student or early career professional interested in Systematics?

Then the 2013 Systematic Internship Program may be for you!

Where? Various U.S. locations.

When? Summer of 2013.

Applications are due by 5pm EST on Monday, October 1, 2012

Who Can Apply? Graduate students and/or professionals in the field of plant pathology and entomology in need of targeted, individual self-study with systematic specialists. The program is specifically focused on providing traditional taxonomic identification skills to professionals with a molecular diagnostic background. Priority will be given to graduate students and early career professionals. Only U.S. citizens may apply.

Training Topics:

- **Fusarium species**
- **Scolytine Bark Beetles**
- **Brevipalpus mites**
- **Exotic Fungal Plant Pathogens**

Need More Information? Please visit the program website at: <http://entnemdept.ifas.ufl.edu/hodges/SIP/index.html>



Funded through the FY12 Farm Bill 10201

Training and Education



2013 SYSTEMATIC INTERNSHIP PROGRAM



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Training Topics and Mentors

Fusarium species, Pennsylvania State University, University Park, PA
David Geiser, Ph.D., Professor and Director of the Fusarium Research Center

As Director of the Fusarium Research Center at Penn State, Dr. Geiser curates the world's largest collection of cultures of *Fusarium*, one of the most important genera of toxigenic and pathogenic fungi. Dr. Geiser's lab focuses on the molecular evolutionary genetics of fungi, mostly in the realm of molecular phylogenetics and systematics at the species level. Dr. Geiser's lab applies these tools mostly to identify and better understand the fungal culprits in plant and animal diseases and toxicoses. Unfortunately, identifying fungi using traditional micromorphological tools is very difficult, and tends to lead to species concepts that are too broad. The tools of multilocus molecular phylogenetics are used to recognize and identify species, which provides a much more objective and reliable framework for understanding the biology of these fungi.



David Geiser, Ph.D.

Scolytine Bark Beetles, Michigan State University, East Lansing, MI
Anthony Cognato, Ph.D., Associate Professor, Michigan State University

Dr. Cognato is an Associate Professor of insect systematics and the Director of the A.J. Cook Arthropod Research Collection. He and his students study biodiversity and utilize morphological and molecular characters to reveal the historical relationships of insects. This research focuses on bark beetles and these results provide for a better understanding of the distribution, biology, and evolution of local, national, and international forest pests.



Anthony Cognato, Ph.D.

Adult Microlepidoptera, Mississippi State University, Mississippi State, MS
Richard Brown, Ph.D., Director of the Mississippi Entomological Museum

Richard Brown is a microlepidopterist and Director of the Mississippi Entomological Museum at Mississippi State University. Richard is a specialist on systematics of Tortricidae and also has mentored graduate student research on Gelechiidae, Crambidae, and Yponomeutoidea. Richard has had much experience with all families of moths in collecting, mounting specimens, dissecting genitalia, and identifying species.



Richard Brown, Ph.D.

Brevipalpus mites, Florida Department of Agriculture and Consumer Services, Division of Plant Industry, Gainesville, FL
Cal Welbourn, Curator of Acari, Florida State Collection of Arthropods

Dr. Welbourn has been active in mite systematics for more than 35 years. He has been an instructor at the annual Ohio State University Acarology Summer Program since 1979. Dr. Welbourn was Curator of the Acarology Laboratory at The Ohio State University from 1978 to 1994. In 1994 he took his current position with the Florida Department of Agriculture and Consumer Services, Division of Plant Industry in Gainesville, Florida where he is curator of Acari and specializes in plant feeding mites and their predators. Other research interests include systematics of the Prostigmata, especially the terrestrial Parasitengona (velvet mites and chiggers). Dr. Welbourn has traveled extensively and has worked with acarologists from around the world.



Cal Welbourn, Ph.D.

Exotic Fungal Plant Pathogens, Systematic Mycology and Microbiology Laboratory, Beltsville, MD
John McKemy, Ph.D., USDA-APHIS-PPQ Mycologist

Dr. McKemy is a mycologist with the USDA-APHIS-PPQ systematic mycology and microbiology laboratory in Beltsville, MD. Dr. McKemy is responsible for identifying fungi on agricultural material entering the United States.



John McKemy, Ph.D.

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Dallas Arboretum Hosts SPN Workshop

Rachel McCarthy, Department of Plant Pathology and Plant-Microbe Biology

The Sentinel Plant Network (SPN) sponsored another workshop for public garden professionals working in the south central United States at the Dallas Arboretum and Botanical Garden. This was the fifth SPN workshop aimed at engaging public gardens in the early detection of high-consequence plant pests and pathogens.




(Top) Dr. Casey Sclar shows participants eriophyid mites. (Bottom) Jimmy Turner, Senior Director of Gardens, leads the pest and pathogen walk. Photos courtesy of Rachel McCarthy, Cornell University.

The south central education team was made up of Rachel McCarthy and Amanda Hodges from the NPDN, Dan Stern, SPN Manager for the American Public Gardens Association (APGA) and Casey Sclar, APGA's Executive Director. Carlos Bogran, Associate Professor and Extension Specialist, Entomology-Plant Pathology & Microbiology, Texas A&M University presented on local, regionally significant insect pests and plant pathogens and Jason French, diagnostician from New Mexico State University, was instrumental in the

sample submission exercises and discussions.

Eleven institutions participated in this workshop representing public gardens from Arizona, Arkansas, Missouri, New Mexico, Oklahoma and Texas. Regional workshops have already been conducted in the northeast, Midwest, west and southeastern regions. To date 120 gardens have joined the SPN and of those gardens 80 have sent staff to participate in a regional workshop.

For more information on the Sentinel Plant Network please contact Rachel McCarthy (rachel.mccarthy@cornell.edu) or visit the SPN website at www.publicgardens.org/content/sentinel-plant-network. 

Plant Heroes – a New Website for Young Learners

Dan Stern, American Public Gardens Association

Last month, APGA launched its first educational website, the Plant Heroes!

The site is specifically designed for young learners and aims to increase their knowledge about plant pests and diseases and ultimately engage them in protecting the plants in their own yards, neighborhoods, and communities from emerging threats. As such, it is a valuable resource for public garden professionals, parents, and educators looking for innovative ways to teach K-12 audiences about this important subject.



“APGA developed the Plant Heroes website to extend the resources of the Sentinel Plant Network (SPN) to the public. SPN is a partnership between APGA and the National Plant Diagnostic Network (NPDN) that results in a premier program focused on engaging public garden professionals, volunteers,

and visitors in the early detection of high-consequence plant pests and pathogens,” said APGA Executive Director Casey Sclar.

The Plant Heroes website features four teenage characters from different parts of the country whose passion for nature and interest in science have brought them together to form a



www.plantheroes.org/

others in your community! For more information about Plant Heroes, contact SPN Manager, Daniel Stern, at dstern@publicgardens.org 

super team and combat threats to plants throughout North America such as the Asian longhorned beetle, emerald ash borer, laurel wilt, and ramorum blight. The Plant Heroes website uses creative storytelling to introduce these topics and provides a wealth of related educational content about plants, beneficial insects, pest and disease identification and life cycles, and invasive species biology. Users are able to test their knowledge through several online interactive games that use Adobe’s Flash Player and can also print a variety of coloring pages, puzzles, and activity sheets from the site.

Anyone can use the Plant Heroes website, so tell your colleagues, integrate it into the public programming at your organization, and share the news about this terrific new resource with

IT News



National Repository CERIS

IT Updates: What's New and Exciting?

*Mike Hill and Eileen Luke,
CERIS, Purdue University*

In the diagnostic lab, many of your finds are simply routine diagnostics, but they are important. Often IT has a similar outcome as well. We get excited with the new releases and the

'cool' reports and features that you have asked for, but some of the necessary IT 'stuff' simply isn't as exciting. However, many IT developments have been taking place recently.

First of all, the GPDN portal is now being hosted on the Purdue server with open source technology, completing the national and all of the regional web sites migration. Thanks to the efforts of Karen Scott, Sharon Dobesh and Jim Stack, the GPDN portal was moved into production on June 1, 2012.

The next two items involve data quality and robustness of the data. Is your lab

management system phase 2 compliant? It's important to note that compliance does not require collecting phase 2 fields, but that the data is formatted in a specific way to meet the guidelines specified in the Phase 2 XML schema. Phase 2 compliance allows for better standardization and quality control. At present, PDIS, DDDI, CDFA, Iowa State, NC State, and the direct upload feature on the national web site are all phase 2 compliant. The University of Kentucky is currently in the process of becoming phase 2 compliant.

Finally, we are working on quality control issues of the early NPDN data primarily in 2004 and 2005 which address such matters as duplicates, old data formats which are now invalid, etc. We also have other parallel activities taking place and will be reporting on them in the months to come. As always, if you have any questions or would like to verify if your lab is phase 2 compliant, please feel free to contact Mike Hill (765) 494-9854 or Eileen Luke at (765) 494-6613. 🌿

GPDN is pleased to announce that we have hired Aisal Brown as our newest PDIS team member! Aisal began working June 25. Aisal has a background in computer science with web development, database programming, application development and end-user support. Join us in welcoming Aisal to the team!!

Aisal and Judy can be reached at pdis@ksu.edu.



Visit the NPDN homepage at www.npdn.org for more information on specific Program Area Committees.
Login and password required

DIAGNOSTICS COMMITTEE

Diagnostics Committee

Anne Vitoreli, Committee Chair, University of Florida, Department of Plant Pathology

The Diagnostics Committee held a conference call on June 14, 2012, and the following agenda items were discussed:

- Impact survey – we need more states to respond if possible (contact Mary Burrows for more information)
- *P ramorum* Sample Flow PASS policy (please see conference call notes for changes to sample routing)

- Training updates
- Gainesville lab audit
- NPDN survey

Please refer to the Diagnostics Committee website, www.npdn.org/diagnostics, for complete minutes of this meeting. The next conference call will be held on July 12, 2012.

NATIONAL DATABASE

National Database Committee

Nancy Gregory, Committee Chair, University of Delaware, Department of Plant and Soil Sciences

Following the last newsletter, the Database Committee held a conference call on June 13, 2012.

Topics covered on the call included:

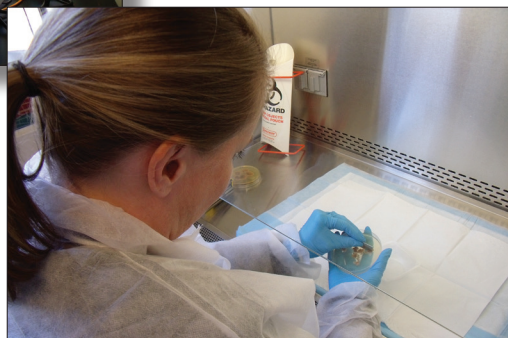
- change submissions
- pest grouping
- Farm Bill award for One Name for Fungi
- insect pest lists

Please refer to the website, www.npdn.org/national_database for complete minutes (login and password is required).

The next meeting will be held on July 11, 2012.



Photos from the 2012 advanced diagnostic workshops in Beltsville



From left: Nick Singh and Suzanne Latham working on a DNA extraction during the citrus leprosis with CBS and SOS workshop. Cheryl Blomquist and Wendy Sueno loading the Cepheid Smartcyclers during the citrus leprosis with CBS and SOS workshop. Anne Vitoreli selecting fungal material from isolation plates during the citrus leprosis with CBS and SOS workshop. Photos courtesy of Karen Snover-Clift, Cornell University.

Regional News

South American Palm Weevil Found in TX

On June 15, 2012 APHIS announced the first detection of South

American palm weevil (SAPW), *Rhynchophorus palmarum*, in the state of Texas. APHIS confirmed the detection in Alamo, Texas on May 3. This detection was the result of a multi-state delimitation survey initiated in response to

detections of SAPW in California in 2011.

On May 11, 2012, a second SAPW was detected in the same general geographic

area of Alamo, Texas. Both detections were found within 5 miles of the U.S.-Mexico border. APHIS is working closely with the Texas Department of Agriculture (TDA) and Texas A&M University to survey the area of concern to determine the extent of the distribution and next steps.

SAPW is considered an important pest of palms, specifically date and coconut palms. Sugarcane is also considered a host for this pest. Although SAPW is a vector of the nematode, *Bursaphelenchus cocophilus*, which can cause red-ring disease in coconut and oil palms, the nematode, was not present in the detected weevils.

Additional information on *Rhynchophorus palmarum* or *Bursaphelenchus cocophilus* can be found at: http://www.aphis.usda.gov/plant_health/plant_pest_info/palmweevil/index.shtml or by contacting Eileen Smith, APHIS National Emergency Response Coordinator, at (301) 851-2155. 🌿



South American palm weevil adult extracted from a canary island palm in Laguna Beach in Orange County, CA. Photo courtesy of Mark Hoddle, CISR.

Job Opportunities

Commonwealth of Pennsylvania State Civil Service Commission

VACANCY: Plant Pathologist, PA Department of Agriculture

TEST ANNOUNCEMENT NUMBER 2012-059, ISSUED JUNE 27, 2012

POSITION WORKING TITLE: CAPS Program Coordinator

POSITION PURPOSE: Cooperative Agricultural Pest Survey (CAPS) Coordinator and Program lead for at least one significant area of plant health programs: botany/weed, nematology, virology, mycology, bacteriology or disease diagnostics. 🌿

National Events

July 23–26, 2012

National Plant Board 2012 Annual Meeting
Mystic, CT

August 4–8, 2012

2012 APS Annual Meeting
Providence, RI

November 11–14, 2012

Entomology 2012, ESA 60th Annual Meeting
Knoxville, TN

Upcoming Events