NPDN Operations Committee Meets at Cornell: GAP Audit and STAR-D Update, Implications of the Budget Cuts, and Strategies for a Way Forward

Richard Bostock, NPDN Executive Director and WPDN Director, Department of Plant Pathology, University of California at Davis

The NPDN Operations Committee met on May 18-19 at Cornell University, hosted by our colleagues at the NEPDN regional center. Twenty-one members of the committee representing the five regions and CERIS/Purdue University participated in the meeting and were joined by members of the STAR-D accreditation team. The first day of the meeting focused on STAR-D, the lab accreditation program under development for NPDN laboratories, and the GAP Audit of the NEPDN regional center diagnostic laboratory at Cornell held earlier in the week (see article on page 3). Karen Snover-Clift (NEPDN) presented excellent overviews of the progress made on the STAR-D documents, which are essentially complete, and the recent accreditation training in April attended by 27 NPDN diagnosticians that was conducted by members of the National Animal Health Laboratory Network (NAHLN) and the American Association of Veterinary Laboratory Diagnosticians (AAVLD) at the National Center for Animal Health in Ames, Iowa. Karen was joined by other members of the accreditation team – Dawn Dailey O’Brien (NEPDN), Anne Vitoreli (SPDN), Ray Hammerschmidt (NCPDN), Kitty Cardwell (USDA-NIFA), and Pat Shiel and Kathy Burch (APHIS-PPQ) – who shared with the Operations Committee the highlights of the Iowa training and discussed the outcome of the GAP audit, a trial run of the STAR-D process. On all accounts, the team felt that both activities were positive and productive experiences and, based on the

Issue Highlights:
- STAR-D GAP audit at Cornell

NPDN National Meeting 2011
Preview Workshops & Tours
- Bugwood: new stats for impact and outreach
- National Repository new diagnostic lab methods
- Regional News: early detection in Hawaii
feedback, the attendees at Ames were extremely pleased with the outcome of the accreditation workshop.

The recent 40% cut to the NPDN budget created the backdrop and drive for the focus of discussion for the remainder of the meeting. The budget cut will profoundly change the way the NPDN operates in the near future and, understandably, has created significant anxiety and uncertainty about the long-term sustainability of the NPDN. Members of the Operations and Executive committees acknowledged the importance of and critical roles played by each of the Network’s various programmatic efforts, including diagnostics, training and education, various IT functions including the data repository, public relations, exercises and epidemiology. However, it was also recognized that it will be impossible to maintain the status quo with the reduced funding. The committee engaged in brainstorming to prioritize the key activities within each of the various program functions. The committee was unanimous in its view that diagnostics is the core function of the Network, and that resources should be allocated to preserve, to the extent possible, our capacity in this area. So a prioritization process has begun, and additional details can be found in the meeting minutes that will be posted on the national website.

For the upcoming fiscal year, each of the regional centers has completed their plans of work and budget adjustments in the aftermath of the cut. There remains much uncertainty about what will follow at the end of the next fiscal year, which will mark the end of our current cooperative agreement with USDA-NIFA. If NPDN is renewed, it was felt that although broad Network priorities will be established at a national level, each region will determine the details as to how to meet their programmatic needs within any new fiscal constraints.

Strategies and a process for advocacy of the NPDN were discussed at length. The Executive Committee is fully committed to the Network and a process to restore funding to continue our important role in the security of U.S. agriculture. Fact sheets and talking points are being prepared, lists of stakeholders and Congressional advocates assembled, and a coordinated plan will be drawn up to convey our message in a way that achieves maximum impact. In our message it will be important to convey how the relatively modest investment in the NPDN has significant economic impacts, which include identifying new pathogens and pests before they become problematic and thus securing the country’s position to export agricultural products, and the creation and preservation of jobs realized as a result of having healthy plant industries. We will also aggressively pursue competitive funding opportunities that enable us to partner with others to leverage our collective expertise to support our programs. We have much to be proud of and a great story to tell and there is no doubt we will have support from many colleagues and stakeholders, who see the award-winning NPDN program as an important resource for the country. It will be important, in the months ahead, to deploy our most important resource, the people who make up the NPDN, to help formulate and convey our message.

Many thanks to the NEPDN regional center staff for their effort in coordinating and hosting the meeting and for their tremendous hospitality during our stay in Ithaca.
A small team of STAR-D personnel met at Cornell University in Ithaca, NY on May 16-17, 2011. This two-day meeting was held in conjunction with the NPDN Operation Committee Meeting on May 18-19, 2011. Dawn Dailey O’Brien, NEPDN Quality Manager, and Karen Snover-Clift, NEPDN Associate Director and Director of the Plant Disease Diagnostic Clinic from Cornell University have been working on the NPDN STAR-D program and documents since October of 2010. Dawn and Karen, with guidance from the NPDN STAR-D working group and USDA-APHIS-PPQ-CPHST colleagues, felt they were at a point in the development of the document templates that a face-to-face review by others associated with the project could be very advantageous. Dawn and Karen hosted the team members which included Anne Vitoreli (University of Florida and the SPDN), Kitty Cardwell (USDA-NIFA), Ray Hammerschmidt (Michigan State University and the NCPDN) and Pat Shiel and Kathy Burch (USDA-APHIS-PPQ-CPHST). The first day of the meeting began with Karen presenting the current status of the projects to the team. The presentation included the challenges of creating the system, the structure of the program, and the numbering system of the documents. Afterwards, the team members jumped into reviewing the NPDN STAR-D Requirements and Standards document and comparing it to the NPDN STAR-D Quality Manual Template. These two documents are the core materials needed to produce a quality management system at the individual laboratories. A quality management system requires the laboratory personnel to develop a system where they say what they do, do what they say, prove it, and improve it. One of the goals of the STAR-D program is to provide our members with templates that will make this process a smooth and easy transition. Reviewing the Standards and the Quality Manual template materials took the majority of the meeting time on the first day.

On day two, the group continued document review and focused on the NPDN STAR-D Accreditation Process, Application and External Audit Procedures document, the NPDN STAR-D Laboratory Accreditation External Auditor Checklist and the NPDN STAR-D Application form. After review of the system documents, the group continued with the quality procedures (QP), work instructions (WI), and forms created for each of the focus areas provided in the Standards and Quality Manual template documents. Due to time constraints, not all the QPs, WIs and Forms were reviewed. The group also reviewed a number of completed Cornell lab documents and toured Cornell’s diagnostic facility. Dawn and Karen are not quite finished creating the templates but are very close with only one more focus area to complete. The morning of day three, the team members reported their progress.
So what’s next for STAR-D? First Dawn and Karen will make changes as recommended by the GAP Audit team members. Next, the documents and templates will be reviewed by the NPDN STAR-D Laboratory Accreditation Working Group members. After applying the changes from the working group, the documents will be reviewed by our colleagues in the American Association of Veterinary Laboratory Diagnosticians (AAVLD) members who have volunteered to help with this endeavor. After all this reviewing by various individuals is completed, the documents will be posted on the “STAR-D Lab Accreditation” section of the NPDN website. At which time, Dawn and Karen will provide informational and instructional webinars to help our members become familiar with the website format and location of the documentation, with the content of the documentation and with starting a quality management system.
New Statistics for Showing Impact and Outreach Through Bugwood Images
Joseph LaForest, Center for Invasive Species & Ecosystem Health, University of Georgia

Documenting the amount of use that images posted in the Bugwood Image Database receive continues to evolve as we look at how users access the sites and use new features. In the January NPDN newsletter, we demonstrated many of the basic statistics that we offered to report how often images were being used. We’ve recently added two new statistics to the reports available to photographers at http://images.bugwood.org: Image Direct Downloads and Photographer Profile Page Views.

Image Direct Downloads
We have always had the ability for a user to directly download an image in the “Available Images Resolutions” section of the Image Detail page. Strangely, we were not recording how often the images were directly downloaded or the resolutions that were being requested. These reports are now available and are actually quite surprising. In the first week since we enabled this reporting, there were almost 81,000 direct downloads of images!

Photographer Profile Page Views
In the April NPDN newsletter, we showed how a photographer could make a profile page to let people know more about them and the work they do. We’ve added a small section on the “Views of Image Detail Page” report that shows how many times the profile page for a photographer is visited. While this does not necessarily directly relate to the use of images, it does show how much exposure the photographer and their organization are getting from having a presence on the different image sites hosted by the Bugwood Image Database.

We hope that these new reporting
features will help make it easier for diagnosticians, extension agents, and other people who are capturing great images as part of their normal responsibilities to show additional impact and outreach through the images they have shared.

Visit the NPDN homepage at [www.npdn.org](http://www.npdn.org) for more information on specific Program Area Committees. Login and password required

**Program Area Committee Highlights Will Return in June.**
WORKSHOPS: all workshops will take place at the Dominican University of California on November 6, 2011

**Bacterial Diagnostics: Let’s Start with the Basics (Morning Session – 3 ½ Hours)**
Co-organizers: Tom Creswell and Karen Snover-Clift, representing the NPDN Associated Programs Committee and Meg Williamson and Eric Honeycutt, representing the APS Diagnostics Committee

The Basics workshop will follow a lecture and demonstration format. The speakers will introduce participants to bacterial disease symptoms with examples of current bacterial problems in California. Additional topics will include the detection of signs, isolation techniques, basic characterization techniques, historical taxonomic divisions and changes, and a discussion on determining how far to go for an identification. Demonstrations will include several basic techniques and some specialized tests.

**Bacterial Diagnostics: Advanced Topics & Methods (Afternoon Session – 3 ½ HRS)**
Co-organizers: Tom Creswell and Karen Snover-Clift, representing the NPDN Associated Programs Committee and Meg Williamson and Eric Honeycutt, representing the APS Diagnostics Committee

The Advanced workshop will follow a lecture and demonstration format. The speakers will discuss methods of working with specific genera; including the Agrobacterium story to include current taxonomy, isolation methods and identification and *Xanthomonas* fingerprinting. Demonstrations will include the LAMP technique and other identification technologies.

**Light Brown Apple Moth / European Grapevine Moth (Morning Session)**
Co-organizers: Mark Epstein, Obie Sage, CDFA and Todd Gilligan, Colorado State University

The LBAM/EGVM morning session will start out with an introduction to the biology and identification of North American and exotic leaf rollers (Tortricidae), including the light brown apple moth (LBAM), European grapevine moth (EGVM) and others that have not been found in the U.S. Molecular methods used in identification will be briefly touched on. Students will have an opportunity to work with and take home the Lucid keys for Lepidoptera and leaf rollers. Participants will also receive a tool box of specialized instruments for use in identifying moths.

**Light Brown Apple Moth / European Grapevine Moth (Afternoon Session)**
Co-organizers: Mark Epstein, Obie Sage, CDFA and Todd Gilligan, Colorado State University

The LBAM/EGVM afternoon session will focus on identification of larval and adult stages of LBAM, EGVM and non-target species. Participants will have the opportunity to remove moths from sticky traps, dissect genitalia and learn specialized techniques for larval identification. They will receive preserved adult specimens to take home with them as reference materials and it is advised that they bring their own laptop computers to use in identifying specimens with the Lucid keys.
FUNDAMENTAL & ADVANCED APPLIED NEMATOLOGY (FULL-DAY WORKSHOP)
Co-organizers: John Chitambar, Ke Dong, and Sergei Subbotin. California Department of Food and Agriculture, Nematology Laboratory, Plant Pest Diagnostics Branch, Sacramento, California

The workshop will include lecture, demonstration, hands-on applications and discussions.

In the morning session participants will be introduced to a general biology of plant parasitic nematodes, plant disease signs and symptoms, general sampling procedures, nematode extraction techniques, and an introduction to nematode morphology. Hands-on applications will cover preparation of temporary whole mounts of nematodes, perennial patterns of root-knot female nematodes, and vulval cones of cyst nematodes for microscopic examination. Also, included will be microscope identification of certain regulatory and economic important species of plant parasitic nematodes.

In the afternoon session participants will be introduced to basic molecular diagnosis of plant parasitic nematodes. This will include lecture and demonstration of the PCR technique for DNA identification. The remainder duration will be allotted to hands-on preparations of whole mounts of nematodes, perennial patterns, vulval cones and microscope identification of certain regulatory and economic important species of plant parasitic nematodes, as introduced in the morning session.

BOTRYOSPHAERIA WORKSHOP (HALF DAY)
Co-organizers: Cheryl Blomquist, Susanne Latham, CDFA and Jose Urbez-Torres, Agriculture and Agri-food Canada

Species in the genus Botryosphaeria occur worldwide and cause cankers, dieback, leaf blights, and fruit rots on a wide variety of hosts. Participants in this workshop will be introduced to the morphological and molecular biological techniques used to identify and characterize species in this genus. The workshop will emphasize identification of the anamorphic species of Botryosphaeria including Neofusicoccum, Diplodia, Lasiodiplodia, and Dothiorella. After an introductory lecture, ample time will be spent in the laboratory learning how to identify the more commonly encountered species using microscopy. Participants will also isolate from infected host tissue and learn techniques to get some of the more difficult species to produce spores in culture.

TOURS: tours will take place on Wednesday, November 9, 2011

PHYTOPHTHORA RAMORUM / REDWOODS TOUR - MARIN COUNTY
This all day tour will begin with a visit to the National Ornamentals Research Site at Dominican University of California (NORS DUC) facility where research is conducted on Phytophthora ramorum. NORS-DUC is the first research site in the United States dedicated to the study of pests and diseases affecting the health of ornamental plants. NORS-DUC is a secure site modeled to reflect a nursery for the purpose of performing studies on nursery stock in a “real world” environment while ensuring high level safeguards to prevent the escape of pests that affect plant health. We will visit a stream baiting demonstration and hear presentations from Forest Service, Fire, Cooperative extension, state and federal officials on how Phytophthora ramorum has impacted the west coast. In the afternoon we will then travel to Muir Woods National Monument to walk amongst the huge redwoods and see this disease in action. Travel by bus will offer spectacular views of the San Francisco Bay and Pacific Ocean.
Port of Oakland – San Francisco Port Inspection Station Tour

Travel by bus from the hotel to the Port of Oakland to see the busy inspection process first hand. The Port of Oakland occupies 19 miles of waterfront on the eastern shore of San Francisco Bay, with about 900 acres devoted to maritime activities and another 2,600 acres devoted to aviation activities, the San Francisco Port handles over 1 million containers each year. While there we will see an inspection facility and witness cargo examinations including the canine team sniffing out suspicious cargo. In the afternoon we will travel across the bay to the San Francisco APHIS Port Inspection Station where suspect cargo samples are diagnosed while the cargo is held at the port. This tour is limited to 20 people and registration will close on or before September 1, 2011. All participating individuals will need to be vetted and provide the following information (full name, date of birth, identification number such as driver’s license or passport number) at least 60 days in advance. Once registered, you will be contacted for this information. Participants will need to show a picture ID and will be issued a visitor badge upon arrival.

Insects, Weeds and Diseases of the CA Wine Country – Napa / Sonoma Counties

This scenic tour will make stops in vineyards to learn about the challenges of the wine industry. Speakers will cover light brown apple moth, European grapevine moth, glassy wing sharp shooters, Pierce’s disease, grape leafroll virus, Eutypa, bot canker, orange tortix and vine mealybug. See sophisticated IPM practices designed to protect water quality, prevent pesticide resistance, and promote beneficial plant and insect populations. After lunch we will tour a winery to watch the crush in action and taste some fine North Coast Wine.

Thousand Cankers Disease / CDFA Lab Tour – Yolo / Sacramento Counties

This all day tour will travel from Berkeley east into the Central Valley of CA, to see thousand cankers disease on native black walnut and other Juglans species. We will also visit a walnut packing shed. Then we will travel eastward to Sacramento to visit the California Department of Food and Agriculture’s Plant Pest Diagnostic Center, with over 20 full time diagnosticians conducting seed, weed, nematode, insect, and pathogen identification, it is one of the largest plant diagnostic laboratories in the country! We will get to hear from the diagnosticians themselves as they share their high-throughput methodologies and strategies. We’ll also get a look at some fascinating equipment and collections housed there.

Special thanks to Carla Thomas, Department of Plant Pathology, University of California at Davis and members of the Associated Programs Committee for providing these descriptions.
New Diagnostic Lab Methods Available
Mike Hill & Eileen Luke, CERIS, Purdue University & Karen Snover-Clift, Cornell University

As of May 12, 2011, two new lab methods were added to the National Repository at the request of the Diagnostics Committee. The two new methods are Electron Microscopy and Incubation and are highlighted in the screenshot below.

Currently, the National Repository allows only one lab method to be uploaded per record; however, lab management systems such as PDIS allow multiple lab methods to be selected. PDIS users should be familiar with the priority of the lab methods and recognize that the method with the highest priority will be the one that is uploaded to the National Repository whenever multiple methods are selected. The priority of lab methods in PDIS is shown in the table below.

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<thead>
<tr>
<th>PDIS Priority</th>
<th>Lab Method</th>
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<td>1.</td>
<td>PCR</td>
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<td>2.</td>
<td>Molecular Analysis</td>
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<td>3.</td>
<td>Serological</td>
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<td>4.</td>
<td>Biochemical</td>
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<td>5.</td>
<td>Culture</td>
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<td>Bioassay</td>
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<td>7.</td>
<td>Inclusion Body</td>
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<td>8.</td>
<td>Microscopic</td>
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<td>9.</td>
<td>Nematode Extraction</td>
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<td>10.</td>
<td>Soil Analysis</td>
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<td>11.</td>
<td>Visual Observation</td>
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<td>12.</td>
<td>Image</td>
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PDIS members should remember that selecting multiple lab methods is encouraged as the total lab methods used each year is needed when completing their laboratory’s accomplishments summary. Creating a lab methods report with the appropriate time frame enables the diagnostician to produce these numbers quickly and easily.
Introducing Navya Kooram
Amanda Hodges, Department of Entomology & Nematology, University of Florida

Navya Kooram (Nav-ya or Na-vi-ya) has joined the Southern Plant Diagnostic Network as a Software Application Developer to assist with the SPDN and the NPDN training websites. Navya received her Master’s degree in Computer Engineering from University of Florida and Bachelor’s in Computer Science and Engineering, JNTU, India.

During her Master’s, she worked at IFAS / Office of Information Technology at University of Florida as an OPS Application Developer on various projects like IFAS Directory, Florida SART, ECMS, DDIS. During her Bachelors she has worked at IdeaLabs Inc., Hyderabad, India as a Software Intern and developed Session Initiation Protocol (SIP) Real time Messenger and Online Recruitment Portal projects in Java/J2EE environment.

Navya Kooram, SPDN’s new Software Application Developer.

Regional News

NCPDN Regional Meeting Recap
Ray Hammerschmidt, Department of Plant Pathology, Michigan State University

Both Land Grant and State Department of Agriculture diagnosticians came to the campus of Iowa State University on April 4-6 for the annual NCPDN regional meeting. Once again, the meeting focused on educational programs presented by local experts. Topics included a discussion of “diagnostics and what can go wrong” that was presented by the Iowa SPRO, Robin Prusiner. This was followed by an overview of tick biology and ID by Ken Holscher and corn and soybean disease diagnostics by Alison Robertson. The afternoon of the first day included a tour of the Iowa State Seed Science Center and a presentation by Mark Gleason on the many causes of flyspeck and sooty blotch of apple. Tom Harrington completed the education program with an update on burr oak blight that included some hands on activities. The second day of the meeting included an IT update for the NPDN National Repository by Eileen Luke and the annual business meeting led by Ray Hammerschmidt. The meeting concluded with updates from each of the states and a showing of “a Year in the Life of a Plant Disease Diagnostician” by Gail Ruhl. Thanks again to Laura Jesse and everyone at ISU for hosting an excellent meeting.

(Photo top) the NCPDN group with George Washington Carver at the ISU Seed Science Center. (Photo bottom) learning about burr oak blight. Photos courtesy of Ray Hammerschmidt, Michigan State University.
Early Detection in the Hawaiian Islands: Important Pest Introduction Avoided
Fred Brooks, Department of Plant & Environmental Protection Sciences, University of Hawaii at Manoa

On February 2, 2011, a man and his wife in Pearl City, Oahu, opened a shipping crate in their driveway. The packing material contained about 40 adult insects, both alive and dead. The couple collected ten or so in a jar and killed the rest. The insects were brought to the Hawaii Department of Agriculture and identified by the insect taxonomist Bernarr Kumashiro as *Halyomorpha halys*, the brown marmorated stink bug.

This announcement will be featured in the June issue of the *Pacific Pest Detector News*. All issues are linked and archived at [www.wpdn.org/newsletters](http://www.wpdn.org/newsletters).

Brown marmorated stink bug nymphs (*left*) and adult (*right*). Photos courtesy of David R. Lance, USDA APHIS PPQ, Bugwood.org.

### Job Opportunities

**Insect Diagnostician**
Department of Plant Sciences & Plant Pathology, Montana State University
Search Number: 11157-33

This appointment is a full-time, grant funded annual appointment contingent on funding, need and performance.

To view the complete job description visit [http://www.montana.edu/jobs/research/11157-33](http://www.montana.edu/jobs/research/11157-33)

Electronic submissions in PDF format are preferred. Submit materials to:
Dr. Mary Burrows
Department of Plant Sciences & Plant Pathology
PO Box 173150
119 Plant BioScience Building
Montana State University
Bozeman, MT 59717-3150
mburrows@montana.edu
Extension Plant Pathologist, Assistant Professor
Northwest Research and Outreach Center (NWROC), University of Minnesota, Crookston, Minnesota

This appointment is a 9-month tenure track/faculty position in the Department of Plant Pathology, University of Minnesota, St. Paul, Minnesota.

Requisition number: 171741

To view the complete job description visit: https://employment.umn.edu/applicants/jsp/shared/position/JobDetails_css.jsp

For additional information, contact Dr. Dean Malvick (dmalvick@umn.edu, 612-625-5282) or Dr. Carol Windels (cwindels@umn.edu), 218-281-8608), Co-Chairs of the Extension Plant Pathologist Search Committee. The position is open until filled. Initial screening of applicants will begin July 8, 2011.

National Events

August 6-10, 2011
APS-IPPC Joint Meeting
Honolulu, HA

August 7-11, 2011
National Plant Board 2011 Annual Meeting
Denver, CO

November 6-9, 2011
NPDN National Meeting
Berkeley, CA

November 13-16, 2011
ESA 59th Annual Meeting
Reno, NV