

# PathogeneNews

Winter 2010

Dear Friends, alumni, and colleagues:

Wishing you an early Spring. Fortunately our cold and snowy winter should be winding down soon, we hope! In the meantime let me give you an update on happenings in Plant Pathology and related areas over the past year.

With the general downturn of our economy and reduced tax income to the State of Nebraska, UNL was given a reduced 2009 budget. Our department (and all other IANR departments) were required to reduce state support for technologists not already on grant funds. We are still fortunate to have up to 50% state support for technologists working with faculty on an 0.8 FTE or higher research appointment. Most plant pathology departments in other states have no state support for technologists or GRAs. Further reductions in state support for 2010 in IANR have been handled by placing the Communications and Information Technology Department on a business model, i.e., no state support within 2 years. Services will be billed on a total cost recovery plan where faculty will build CIT staff and operating costs into grant proposals.

Dr. Rich Wilson is settling into the department well. He has two graduate students, an undergraduate UCARE student, and a technologist working on the

*Magnaporthe grisea*, rice blast pathogenesis system. He has submitted NSF and other grant proposals and will begin teaching this year.

Dr. Jim Partridge retired July 2009 but may have an interest in developing an introductory plant pathology course for distance delivery. We hope that he will continue to contribute to the department as an emeritus. His retirement removes 0.75 FTE from our budgeted teaching leaving only 1.0 FTE for all our teaching activities. We will miss not only Jim's high student credit hours generated and the prestige that his accomplishments brought to our department, but the counsel he provided on teaching methods, assessment and general department operations. We know he will enjoy spending time on his acreage with crops and animals, and visiting his family.

In the last newsletter I discussed our plan to add microbiology to our department name to initiate a microbiology major at UNL. As we submitted our proposal to the Academic Planning Committee, some faculty in the School of Biological Sciences were concerned that they would not have enough input in developing the major. Even though the name change proposal was tabled, we used the vigorous discussions it sparked to charge a committee composed of faculty from relevant IANR departments and the School of Biological Sciences to develop a

microbiology major. Dr. Jim Alfano from Plant Pathology is co-chair of that committee which has nearly developed a complete microbiology proposal that will be sent through the system this year. We expect the new major to be operational early next year.

Although our faculty will contribute to teaching a few courses in microbiology, e.g., Dr. Steve Harris has a 3-year contract to teach Biology of Microorganisms - BIOS 110, we are considering a new undergraduate option in invasive organisms under the relatively new Plant Biology major. Like most plant pathology departments, we struggle to obtain undergraduate student credit hours and need to be open to teaching opportunities.

The Doctor of Plant Health is looking for students. Dr. Gary Hein ([ghein1@unl.edu](mailto:ghein1@unl.edu)), the director, should be contacted if you know of any potential students who are interested in consulting, state or federal government regulatory, or other careers in tomorrow's sustainable agricultural systems. We have been successful in obtaining three USDA-NIFA National Needs Fellowships.

The department's Extension Specialization program (unique among plant health programs) received another boost when Dean Dickey allocated a second specialty assistantship for M. S. student Trung Nguyen. Trung is working with Dr. Loren Giesler and Dr. Bob Harveson and will split time between Lincoln and Scottsbluff. We plan to write a National Needs proposal to continue assistantship/fellowship support for the specialty.

Our primary activity as a department in 2010 is a comprehensive 5-year review scheduled for Oct. 5-7. We know that Ann Lichens-Park, USDA NIFA Program Leader, will be the lead reviewer, but the other reviewers have not been identified. This review will provide an opportunity to

discuss our vision for the next 5 to 10 years including our next faculty position hires, undergraduate student credit hour generation, new UNL Life Sciences Initiative, competitiveness for new USDA AFRI & NRI, NSF and other competitive grant programs, Innovation Park, and educating the next generation of plant health scientists.

Best wishes for a productive growing season.

Jim Steadman  
Professor & Head

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## Welcome ☺

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### *Welcome to our new department members:*

**Kim Miller** – research technician in Dr. Jackson's lab

**Casey Schleicher** – research technologist in Dr. Jackson's lab

**Janet Wright** – research technologist in Dr. Wilson's lab

### *Welcome to our new graduate students:*

**Wenjing Guan**  
Advisor: Dr. Jim Alfano

**Trung Nguyen**  
Advisor: Dr. Loren Giesler

**Cristian Quispe**  
Advisor: Dr. Rich Wilson

**Mike Zwingman** (also a technologist for advisor)  
Advisor: Dr. Stephen Wegulo

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## Farewell ☹

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Employees and friends who left the Department of Plant Pathology in 2009:

**Karl Brauer** - MS student in Dr. Tamra Jackson's lab

**Dr. Graciela Godoy-Lutz** was in Dr. Steadman's lab for 4 months this past summer and will return for 2010.

**Dr. Nancy Gonzalez** - PhD student in Dr. Steadman's lab

**Timo Greiner** – Visiting Scientist in Dr. Van Etten's lab

**Dr. Ming Kang** - Research Assistant Professor in Dr. Van Etten's lab

**Gentry Lewis** - PhD student in Dr. Van Etten's lab

**Parakkottil Chothi Madhu** – Visiting Scientist in Dr. Van Etten's lab

**Dr. Jim Partridge** – retired July 2009

**Dr. William Rittenour** - PhD student in Dr. Harris' lab

**Suzanne Rose** - PhD student in Dr. Van Etten's lab

**Jeff Toavs** – Technologist in Dr. Giesler's lab

**Dr. Giane Yanai** - PhD student and post doc in Dr. Van Etten's lab

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## Students on the Move

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The following students have completed degrees in the Department of Plant Pathology.

**2009:**

**Karl Brauer, M.S.** “Corn ear insect damage, fungal infection severity, and mycotoxin concentrations across varying BT

resistance platforms in Nebraska corn fields with natural insect infestation”

Advisor: Dr. Tamra Jackson/Dr. Robert Wright

**William Rittenour, Ph.D.** “Cell surface organization in the wheat pathogen *Fusarium graminearum*”

Advisor: Dr. Steve Harris

**Giane Yanai, Ph.D.** “Transcription analysis of the chlorovirus *Paramecium bursaria* chlorella virus-1”

Advisor: Dr. Jim Van Etten

Congratulations Karl, Bill and Giane!

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## Plant Pathology Student Organization

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The website for the Plant Pathology Student Organization: <http://www.unl.edu/ppso>.

The Plant Pathology Student Organization had T-shirts designed for the department. Please contact Kevin Korus (kevinak333@hotmail.com) to purchase one and support our graduate students – price \$10.

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## Plant Pathology Department Website

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The department website has been converted to the Liferay system standards set up by UNL. The content will need to be updated before our department review. Visit the site at <http://plantpathology.unl.edu> and see the new look!

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## Honors and Awards

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**Jessie Fernandez** – 2009-2010 Milton E. Mohr Fellowship for IANR

**Leny Galvez** – 2009-2010 Widaman Trust Distinguished Graduate Assistant Award

**John Nopsa** – 2009-2010 Shear-Miles Fellowship; 2009 Goss Memorial Scholarship

**Bill Rittenour** – Outstanding Poster Award from the Genetics Society of America at the 2009 Fungal Genetics Conference in Pacific Grove, CA

**Angel Ramirez-Suarez** – ONTA (Organization of Nematologists of Tropical America) Foundation Student Travel Award

**Tania Toruno** – 2009-2010 Milton E. Mohr Fellowship for Biotechnology; 2009 Goss Memorial Scholarship

**Hu Yin** – 2009 Goss Memorial Scholarship

**Tamra Jackson** – 2009 IANR Dinsdale Family Faculty Award; 2009 Extension New Employee Award

**Loren Giesler** and John Wilson – Top Educational Crop Production Program in the Nation by the National Association of County Agricultural Agents

**Loren Giesler** – Promoted to Full Professor

**Jim Partridge** – Certificate of Recognition for Contributions to Students – sponsored by UNL Teaching Council/UNL Parents Association

**Jim Steadman** – 2009 APS Caribbean Division Service Award – American Phytopathological Society; 2009 Award for Excellence - Western Region Multistate Research Technical Committee

**Stephen Wegulo** – 2009 ASHS Award for Extension Publication

**Margaret Denning** – IANR Outstanding Employee Award – Office Service – June 2009

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## 2009 UNL Service Awards

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Congratulations to:

Jim Steadman – 40 years

Amit Mitra – 20 years

Gary Yuen – 20 years

Bob Harveson – 10 years

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## BIOS 968 - Plant Pathology Seminar – Spring 2010

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List of seminar speakers and dates:

Jan. 26 – Wenjing Guan, Ph.D. Student, Alfano Research Group

Feb. 9 - Characterization of the HopA1 type III effector from the bacterial plant pathogen *Pseudomonas syringae* - Tania Toruno, Ph.D. Student, Alfano Research Group

Feb. 16 - Predicting development of Fusarium Head Blight and DON in winter wheat - John Nopsa, Ph.D. Student, Wegulo Research Group

Feb. 23 - Targeting of the rice transcriptome by TAL effectors of *Xanthomonas oryzae* - Adam Bogdanove, Plant Pathology Dept. Iowa State University

March 2 - Regulation of morphogenesis in filamentous fungi - Haoyu Si, Ph.D. Student, Harris Research Group

March 9 - Evaluating diagnostic procedures for the pathogen *Clavibacter michiganensis* subsp. *nebraskensis* causing a re-emergence of Goss's Wilt in Nebraska - Kevin Korus, M.S. Student, Jackson Research Group

March 23 - Role of GATA family transcription factors in *Magnaporthe oryzae* virulence - Cristian Quispe, M.S. Student, Wilson Research Group

March 30 - Biology, systematics and phylogenetic analysis of *Nacobbus aberrans*

in the false root-knot nematode - Angel Ramirez-Suarez, Ph.D. Student, Powers Research Group

April 6 - Broad spectrum virus resistance - Leny Galvez, Ph.D. Student, Mitra Research Group

April 13 - Population genetics of cell-to-cell movement of plant viruses - Melissa Ebeling, M.S. Student, French Research Group

April 20 - Plant disease diagnosticians take the stage - Karen Snover-Clift, Dept. of Plant Pathology and Plant-Microbe Biology, Cornell University

April 27 - Exploring the link between NAD(P)(H) metabolism and fungal virulence in the rice blast fungus - Jessie Fernandez, Ph.D. Student, Wilson Research Group

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## **Extension News/ Diagnostic Clinic**

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### **Statistics from the Diagnostic Clinic for 2009:**

#### **# of Samples per Lab**

Entomology – 64  
Horticulture – 20  
Weed Science – 33  
Corn Nematode – 383  
Plant Disease – 1007  
Total samples processed by the clinic – 1507

#### **Percentage of the total samples processed by each lab**

Entomology – 4.2%  
Horticulture – 1.3%  
Weed Science – 2.1%  
Corn Nematodes – 25.4%  
Plant Disease – 62.7%

#### **Percentage of the clientele who used the clinic**

Agribusiness – 30.8%

Research/Specialist – 20.3%  
Regulatory – 10.9%  
Homeowner – 10.9%  
Grower/Farmer – 8.4%  
Tree Farm – 5.0%  
Crop Consultant – 3.4%  
Extension Educator – 1.6%  
Lawn Care/Landscaper – 1.7%  
Nursery – 0.8%  
Other – 6.3%

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## **Undergraduate Recruitment News**

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Members of the undergraduate recruitment committee and other volunteers in the department have been hard at work sharing information about the Plant Protection Sciences degree program with potential students. Starting with UNL's Big Red Welcome on City Campus in August, we welcomed dozens of new freshmen into the UNL Mobile Plant Diagnostic Lab. At February's Big Red Road Show in Omaha, we met many more students considering all the majors that UNL has to offer. This academic year we have already shared the long list of career options that are available in plant protection with hundreds of students. In addition to all those activities, we still need your help! Students are flooded with so many choices and endless opportunities that smaller degree programs like ours can become lost in the shuffle. So, please take every opportunity that you have to talk to potential students about the great opportunities that are available in our department and your labs and let's help them become a part of it!

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## **Doctor of Plant Health News**

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Doctor of Plant Health program - Dr. Gary Hein, Director, [ghein1@unl.edu](mailto:ghein1@unl.edu).

The Doctor of Plant Health (DPH), a graduate level professional program, which trains plant practitioners across multiple

disciplines with capabilities to address the detection, diagnosis and management of all plant health issues, is pleased and excited to announce that the DPH program has been awarded a USDA-NIFA National Needs Graduate Fellowship grant. This grant will fund three fellowships for students entering the DPH program at the University of Nebraska-Lincoln. The level of funding for each fellowship awarded is \$24,500 per year for three years. Fellowships will be awarded to two students beginning the program fall semester (August 2010), and one fellowship will be awarded to a student beginning the program spring semester (January 2011).

Fellowships will be competitively awarded to citizens or nationals of the United States with superior academic and leadership abilities who have been accepted into the DPH program. Fellowship awardees must have a strong interest in an integrated professional/practitioners doctoral degree with career interests in consulting and advising in tomorrow's sustainable agricultural systems. Evaluation of candidates for the two fall semester fellowships will begin on February 15, 2010 and will continue until suitable candidates are identified. Evaluation for January 2011 award will begin on August 1, 2010.