S-MPM

Reporter International Society for Molecular Plant-Microbe Interactions

XIII International Congress **Update!**

The next International Congress on Molecular Plant-Microbe Interactions will be held in Sorrento, Italy in 2007. Preregistration begins July 2006, with abstracts due by February 2007. Details on page 5.

Farewell, Thomas Baum

After two years as member editor of the IS-MPMI Reporter, Thomas Baum will be moving on to chair the Department of Plant Pathology at Iowa State University. Thank you for your hard work and dedication to our Society!

IS-MPMI REPORTER DEADLINE

Deadline for submitting items for the next issue is April 17, 2006.

Submission of materials as electronic files, either on disk or as e-mail attachments, will speed processing. For information on submitting electronic images contact Joel Berg at jberg@scisoc.org.

Until a new editor-in-chief is named, please send your submissions to:

Karen Deuschle IS-MPMI Headquarters 3340 Pilot Knob Road St. Paul. MN 55121 U.S.A. Phone: +1.651.994.3804 Fax: +1.651.454.0766 E-mail: kdeuschle@scisoc.org

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Mérida Aftermath— A Message from the Congress Organizer



Federico Sanchez at the XII International Congress on Molecular Plant-Microbe Interactions.

At last, after two major hurricanes—two of the most destructive in the Caribbean region in decades—and many discouraging incidents, the XII International Congress on Molecular Plant-Microbe Interactions was held from Wednesday, December 14 to Sunday, December 19, 2005, in the beautiful and peaceful city of Mérida in Yucatán, Mexico.

We had around 160 presentations in plenary, concurrent, and minisymposia sessions. Additionally, over 450 posters were displayed during the entire congress.

We had 538 total attendees from around the world: 6 from Argentina, 8 from Australia, 9 from Belgium, 1 from the Czech Republic, 10 from Brazil, 30 from Canada, 2 from Colombia, 3 from Denmark, 1 from Finland, 36 from France, 27 from Germany, 1 from Israel, 6 from Italy, 33 from Japan, 10 from Korea, 65 from Mexico, 3 from New Zealand, 37 from The Netherlands, 1

each from Poland, Peru, and Russia, 10 from Spain, 1 from South Africa, 2 from Sweden, 7 from Switzerland, 41 from the U.K., 185 from the U.S.A., and 1 from Venezuela.

We had a feast of great science with topics including many reports on i) receptors, new and exciting key elements in the signaling pathways leading to plant resistance for viral, viroid, bacterial, and fungal pathogen infections, and the robustness of the plant innate immune system; ii) novel plant receptors, new signaling molecules and downstream signaling elements participating in the establishment of a successful symbiotic relationship of plants with Rhizobium with mycorrhizal fungi, and nematodes; and iii) new bacterial and fungal effectors injected into the plant. A plenary session on the animal innate immune response was a highlight.

The fact that this congress actually happened and was a scientific success is due to the strong will and commitment of many members of the IS-MPMI Society and attendees who came to Mérida in spite of added personal and economic costs because of the hurricanes. This is a clear sign of the scientific robustness and maturity of the MPMI community, which defeated extremely adverse conditions and the temptation to surrender.

In fact, this congress represented the integration of valuable individual efforts. Thanks to those who wrote grants for student scholarships; who took as a personal task, far beyond duty, twice printing and pasting the book of abstracts; who enthusiastically organized a workshop for young scientists in careers choices and opportunities; and those who wrote and collected funds from governmental and private, local and international agencies. Thanks to the IS-MPMI headquarters' staff, the authorities of UNAM and CINVESTAV, the two major educational institutions in Mexico who partially supported the Congress and to colleagues from CICY, the local research center in Mérida. Thanks to our local committee, to the excellent secretarial support from Teresa Castillo,

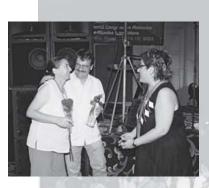
Mérida Aftermath continued on page 2

Images from the

XII International Congress on Molecular Plant-Microbe Interactions

Pictures taken by the professional photographer at the Congress are available for viewing online at www.ismpmi.org/meetings/.

If you would like a high resolution copy of any of the photos, e-mail Jonathan Walton at walton@msu.edu.















Mérida Aftermath continued from page 1

and to our students and young scientists, who enthusiastically assisted the sessions. Thanks to those colleagues involved in collecting and editing the congress proceedings, and thanks to many heroic individual actions that contributed to the fulfillment of this major task. Last but not least, a special mention to those colleagues, students, and postdoctoral scientists who came

Mérida in December because of health, adverse weather conditions, or other personal and economic reasons but who, nevertheless, invested effort, time, and money. In some cases, refunds of registration fees were not requested, as a conscious, altruistic contribution to sustain the congress. All these individual efforts and donations were extremely valuable because this congress experienced double expenses and was produced with half the resources originally planned and received for the Cancun event.

From Jonathan Walton, immediate past president of IS-MPMI:

"It is hard to add anything to Federico's heartfelt synopsis of the meeting. Rarely has one person done so much in the interest of our scientific community. From all of the Congress attendees and members of IS-MPMI, thank you, Federico."

The true success of this congress was the strengthening of the unity and respect that each sector of our community has for each other, the value of which should be conserved, enhanced, and cultivated; we all need to listen and appreciate each other's work, a success in the plant-pathogen interaction field is a success and opportunity for everyone in the plant-symbiotic interaction field.

In summary, I deeply thank each one of you who invested additional effort, with enthusiasm and commitment, to make this congress a successful scientific event and thanks to Carmen Quinto, my wife and colleague—who actively stood by me and not only survived two hurricanes but my temper too!

See you in Sorrento, in two years! *Federico Sanchez*.

Meet IS-MPMI Members

IS-MPMI's diverse membership spans the globe and includes professionals who have been in their field for decades as well as those who are just starting out. To help members learn more about their colleagues, the *IS-MPMI Reporter* includes profiles of randomly chosen members at different career stages.

Student



Patrick Frettinger

Center for Environmental Research (UFZ), Department of Soil Ecology Halle, Germany

I am currently a Ph.D. student attached to the University of Nancy (France) under the direction of Frédéric Lapeyrie from INRA-Nancy center. I obtained my master's degree in Forest Biology at this university in 2002. My first

lab contact with plant-microbe interaction occured in 2000 during a training period, when I participated in the localization of an ectomycorrhiza related QTL in poplar. Since then, my lab work has been related to ectomycorrhizal symbiosis. For my master's degree, I followed gene expression regulation in tobacco in the presence of auxins and/or ectomycorrhizal fungal hormone.

At the end of 2002, I took the opportunity to earn a Ph.D. degree in Germany in François Buscot's group, which has recently moved to the UFZ Halle (Germany). My work focuses on gene-expression regulation during the ectomycorrhizal symbiosis establishment in oak. In vitro culture of an oak clone and controlled ectomycorrhization were previously performed in Buscot's lab. Plant morphological effects related to the presence of the mycobiont were detected prior to the formation of any symbiotic structure. Thus, my work was to study the oak root transcriptome regulation during this premycorrhizal stage. This work offered the chance to collaborate with several labs in France (the Tree-Microbe Interactions Unit of Francis Martin in INRA-Nancy, the Gene Diversity Unit of Christophe Plomion in INRA-Bordeaux) and, in particular, with German labs (Institute of General Botany and Plant Physiology of Ralf Oelmüller in Jena), where I did a large part of my experiments.

To understand the impact of molecular cross talking events between oak roots and mycorrhizal fungus, I first compared the effects of exogenous auxin on a low number of mycorrhizal-related plant genes. I found a low impact of this hormone on gene regulation. Then, I looked for oak genes that are regulated during the presymbiotic stage. To perform my investigations, I used

classical transcriptomic techniques such as macroarray analyses, Northern blot, real-time RT-PCR, and all statistical-associated tools, during untargeted (using an EST library) and targeted (using degenerated primers to isolate genes of interest) approaches.

Interestingly, I showed that the presence of an ectomycorrhizal fungus stimulates the expression of several genes known to respond to pathogenic interactions. For example, I demonstrated that chitinases are differentially regulated before the hyphal adhesion to oak roots. In the light of my lab results, the frontier between mutualistic and parasitic interactions appeared to me very thin.

Naturally, the best way to increase my knowledge in plant-microbe interactions and also to follow successful research strategies was to join IS-MPMI. The *MPMI* journal was very helpful in the redaction of my own papers, because it was possible to relate my results during mycorrhizal symbiosis to nodulation and also to parasitic interactions. Now, my Ph.D. studies will end soon, and 2006 will be the time to start a new lab adventure, and I hope to continue in the field of interactions between plants and microbes. The benefit offered by IS-MPMI to learn about job opportunities and to relate to scientists provides motivation to read the different reports published.

Postdoctoral



Grisel Ponciano, PhDSan Francisco State University
San Francisco, CA

My science education started in Guatemala, where I received my B.S. degree in biochemistry. My undergraduate research work with a disease of coffee plants inspired me to continue learning more about the responses of plants to biotic stress. Thus, I received my

Ph.D. in plant pathology at Kansas State University in Dr. Jan Leach's research program. My dissertation work consisted of a functional characterization of avirulence genes from *Xanthomonas oryzae* pv. *oryzae*, the bacterial blight pathogen of rice. These genes are involved in the mediation of disease resistance and disease establishment in rice.

Meet IS-MPMI Members continued on page 4

Meet IS-MPMI Members continued from page 3

I am currently a fellow at San Francisco State University (SFSU) in a unique postdoctoral program funded by the National Institute of Health. The program is known as PROF (Professors of the Future; www.prof.ucdavis.edu) and is a joint program between SFSU and the University of California at Davis. It is a special career development program with the goal of making underrepresented minority postdoctoral scholars competitive for faculty positions. The PROF program provides exceptional training in teaching, research, and other professional development activities, such as grant writing and mentoring. Through my postdoctoral fellowship, I am further expanding my research on interactions between rice and X. oryzae pv. oryzae by integrating the host side into my knowledge base in collaboration with Dr. Maureen Whalen at SFSU and Dr. Pamela Ronald at UC Davis. The main objective of my research project is to understand resistance to bacterial blight disease, mediated by the resistance gene Xa21, and the developmental stage of rice.

It was during my graduate school years that I learned about IS-MPMI, and I have been a member ever since. The specialized subject area of the society is what keeps me as a member. When I need to know the most current research advances in plant-microbe interactions, I know that, by visiting the IS-MPMI website, I can get updates that impact my research. Additionally, the international nature of the society enriches my development as a scientist by sponsoring interactions with scientists around the world to learn about their research.

My undergraduate and graduate education provided the credentials to be a scientist. My postdoctoral training is preparing me to be an effective scientist and science educator. It is my hope that, through my science, I will inspire students and the community at large to also discover and enjoy the wonders of science.

Distinguished member



Seiji Ouchi Kinki University Nara, Japan

My undergraduate degree was obtained from Kagawa Agricultural College, Japan, where I specialized in plant pathology after being charmed by the hyaline conidiophores and crystalline conidiospores of *Peronospora spinaciae*. I obtained my M.S. and Ph.D. degrees in plant

pathology from Kyoto University under the guidance of Professor Shigeyasu Akai, my honorable mentor. For additional graduate training, I attended Southern Illinois University (SIU), where I specialized in yeast genetics under the guidance of Professor Carl C. Lindegren. My coursework focused on bacterial, mycotic, viral, and rickttsial infection of man and also immunology, which

led to the tendency to compare and contrast pathogen strategies and host-defense mechanisms in animal and plant diseases. While at SIU, I discovered an unlinked regulatory gene that actively suppressed the induction of $\alpha\text{-glucosidase}$ in yeasts. This was exciting because the Jacob-Monod operon theory had recently been described as a gene regulatory system for bacteria. The comparative systems involving animal and plant pathology and suppressor gene functions in yeasts were later the basis for my hypothesis that pathogens exert elaborate means to suppress the host defenses, perhaps by interfering with recognition or subsequent expression of resistance genes.

My first academic appointment was as an assistant professor at Kyoto University. I discovered that UV inactivation of Tobacco mosaic virus resulted from uracil dimerization and that quantum yield drastically changes as one-tenth of the coat protein is removed. I then moved to Okayama University as an associate professor, and it was there that Professor Unji Hiura invited me to work on powdery mildew with cultivars and corresponding races he had bred. A series of studies with this system led me to propose the concept of 'accessibility,' which is defined as host-cell conditioning for the establishment of pseudo-symbiotic associations between the pathogen and host plants. In this context, I defined pathogen as a biotic entity that is genetically equipped to negate or suppress the function of specific or nonspecific resistance genes of the host plants. Experimental evidence and implications of this concept have been published in many national and international journals and have been reviewed in the Annual Review of Phytopathology and in various book chapters.

Subsequently, I moved to Kinki University as a Professor of Plant Pathology and became Professor Emeritus upon my retirement in 2002. I am also an affiliate faculty member in the Department of Botany and Plant Pathology at Oregon State University. Aside from my academic work at Kinki University, I also served as Director of the Institute of Comprehensive Agricultural Science, Associate Dean of Student Affairs, Dean of the Agricultural Science Division of the Graduate School, and performed various other administrative tasks. I was a council member of the International Society of Plant Pathology, a member of the executive committee of the 5th International Congress of Plant Pathology (ICPP), and most recently, vice-president of the Asian Conference of Plant Pathology. I am a member of the Japan Academy of Agricultural Sciences and have been president and now am an honorary member of the Phytopathological Society of Japan. I had the honor of receiving several awards, including being named a Fellow of the Phytopathological Society of Japan (1986), Fellow of the American Phytopathological Society (1996), recipient of the Japan Agricultural Science Prize (2002), and the Yomiuri Agricultural Science Prize (2002).

My most memorable contribution to the science of plant pathology, however, is the privilege of attending all nine of the U.S.-Japan Seminars held between 1966 and 2003, in the role as interpreter, participant, coorganizer, organizer, and observer. I have attended the 2nd through the 7th ICPP

and many international symposia. Through attendance at these meetings, I have become acquainted with so many great scientists from all over the world who have helped in one way or another to make my academic career most meaningful and commemorative.

Because of my training in microbial genetics and biochemistry, I anticipated the foundation of an organization dealing with molecular plant-pathogen interactions. Thus, I joined the IS-MPMI upon its inception and have attended some of their meetings. Integration of the symbiosis group

into this Society opened a new avenue of research for understanding intricate molecular interactions between microbes and host plants. In retirement, I read the *MPMI* journal with great interest, although some papers are difficult to follow because of my lack of familiarity with newer technologies. This is a positive sign, though, because the discipline of plant pathology is moving forward at a rapid pace, and I am fully confident this journal will enjoy its continued outstanding international reputation.

IS-MPMI Installs New Board

IS-MPMI is pleased to welcome its new board members. The new leadership assumed their responsibilities at the conclusion of IS-MPMI's International Congress in Mérida, Mexico, December 2005.

Members joining the IS-MPMI board are: Pierre de Wit, Wageningen University, president; Kim Hammond-Kosack, IACR, director; Federico Sanchez, University of Mexico, director; and Felice Cervone, University La Sapienza, director. Members returning to the board are: Jonathon Walton, University of Michigan, immediate past-president; Gary Stacey, University of Missouri, treasurer; Andrew Bent, University of Wisconsin, secretary; Michael Djordjevic, Australian National University, director; Dieter Haas, University of Lausanne, director; and Jens Stougaard, University of Aarhus, MPMI Editor-in-Chief.

Watch for the MPMI Survey Coming in March

MPMI has published much of the important research in molecular plant science. As the journal approaches

its 20th anniversary volume, the Society wants to make sure the journal meets the needs of scientists in the decades to come. Please help us reach that goal by participating in the MPMI survey coming to you via an e-mail announcement in March 2006. Editor-



Molecular

Plant-Microbe

in-chief Jens Stougaard is working to develop the survey, which will be distributed to all IS-MPMI members. Members will be asked to complete the survey in March. An overview of the results will be shared in a future issue of the IS-MPMI Reporter. Thank you in advance for your participation!

Make Plans for the XIII International Congress in Sorrento, Italy

The XIII International Congress on Molecular Plant-Microbe Interactions will be held in beautiful Sorrento, Italy in the gulf of Naples, July 21 - 27, 2007. The Congress will take place at the Hilton Sorrento Palace, a first class hotel. Special room rates will be offered to Congress delegates. For more information contact the local committee at committee@mpmi2007.org, Matteo Lorito at lorito@mpmi2007.org or info@mpmi2007.org. Congress Website: www.mpmi2007.org.

Important Deadlines: July 15, 2006 online preregistration. February 15, 2007 - deadline for early registration and abstract submission. February 15, 2007 - deadline for hotel reservations. Second announcement will be distributed by E-mail as a PDF file in October 2006. To be sure to receive upcoming announcements, please preregister at the Congress website. The registration form will be available by October 2006.

Main scientific topics: Plant-pathogen recognition, signaling, plant responses, plant interactions with pathogenic fungi and bacteria, plant-virus interactions, symbiotic plant-microbe interactions, plant nematode and insect interactions, plant endophyte interactions, mechanism of resistance to microbes, biocontrol interactions, microbe-microbe interactions.

Sorrento: Sorrento is perched high on the cliffs overlooking the Gulf of Naples offering breathtaking views of the spectacular landscape, which captivate visitors. The town gives its name to the Sorrentine peninsula, a large area of land extending from Vico Equense to Massa Lubrense, suspended between green mountains and transparent blue sea. The town has been a popular vacation and cultural destination of the Campania region in southern Italy for centuries. It offers a wide selection of accommodations in hotels of different categories. The convenient geographical location makes it an ideal departure point for excursions to Capri, Ischia, Pompeii, Amalfi, Positano, Herculaneum, Paestum, and the Vesuvius, all located within a distance of 50 km.

Welcome New Members

The following members joined IS-MPMI between September 16, 2005 and January 15, 2006. Please join us in welcoming them to the Society!

Seyed M. Alavi

INRA UMR Pave Beaucouze Cedex, FRANCE

Teresa R. De Kievit

Univ of Manitoba Winnipeg, MB, CANADA

Jane Glazebrook

Univ of Minnesota St Paul, MN, U.S.A.

Caroline Gutjahr

Univ of Geneva Geneva, SWITZERLAND

Hideo Ishii

Natl Inst for Environmental Sciences Tsukuba, Ibaraki, JAPAN

Jing Jin

Iowa State Univ Ames, IA, U.S.A.

Young Soon Kim

Korea Kumho Petrochemical Co Ltd Kwangju, KOREA

Xinyan Li

Kansas State Univ Manhattan, KS, U.S.A.

Xin Li

Univ of British Columbia Vancouver, BC, CANADA

Hua Lu

Univ of Chicago Chicago, IL, U.S.A.

Kazuhiko Saeki

Nara Women's Univ Osaka, JAPAN

Takuro Shinano

Hokkaido Univ Sapporo, Hokkaido, JAPAN

Anoop Sindhu

Iowa State Univ Ames, IA, U.S.A.

Wenxian Sun

Univ of Wisconsin Madison, WI, U.S.A.

Jennifer D. Tedman-Jones

Southern Crop Prot and Food Res Centre London, ON, CANADA

Kristylea L. Thompson

Marquette Univ Milwaukee, WI, U.S.A.

Martinus F. M. Van De Mortel

Iowa State Univ Ames, IA, U.S.A.

Yuelin Zhang

University of British Columbia Vancouver, BC, CANADA

Thanks To You,

IS-MPMI Is

Growing!

You are the single most important source of new member referrals.

Keep the momentum going.

Tell a colleague about memership in IS-MPMI.

Information is available online at **www.ismpminet.org**



International Society for Molecular Plant-Microbe Interactions

Postdoctoral Position

Comparative and functional genomics of host and tissue specificity among plant pathogenic xanthomonads We recently have obtained draft genome sequences of Xanthomonas oryzae pv. oryzicola (Xoc) BLS256 and X. campestris pv. armoraciae (Xca) 756C. Closure of both genomes is in progress. Together with the published genomes of X. oryzae pv. oryzae (Xoo; two strains) and X. campestris pv. campestris (Xcc; two strains), these provide paired sets of genomes of vascular and non-vascular pathogens of rice (Xoo and Xoc) and Arabidopsis (Xcc and Xca), enabling a comprehensive comparative genomics approach to understanding host-and tissue-specificity in bacterial pathogenesis of plants using the leading models for monocot and dicot biology. A creative and diligent individual with a strong record of productivity, excellent communication skills, and keen motivation to address important problems in plant pathology through fundamental research is sought to: 1) identify differences in gene content that correlate with host and tissue specificity using a combination of computational tools and molecular biology to compare sequenced isolates and a diverse set of isolates not yet sequenced; and 2) functionally characterize candidate determinants of specificity by mutagenesis and heterologous expression, as well as in planta expression, biochemistry, and other approaches, as appropriate. The individual also will have the opportunity to contribute to other, ongoing projects, including but not limited to: 1) isolating and characterizing the component(s) required for differential hrp gene expression observed between Xoo and Xoc; 2) elucidating the mechanism of inhibition of R gene mediated defense in rice by Xoc that we have recently described (Makino et al; MPMI in press); and 3) characterizing plant determinants of tissue specificity by mutant analysis and profiling of plant responses to vascular vs non-vascular pathogens. To apply, send one pdf file containing a statement of research interests and experience and long term goals, a curriculum vitae including a list of publications, and contact information for three references to ajbog@iastate.edu, or send a hard copy of these documents to Adam Bogdanove, Department of Plant Pathology, Iowa State University, Ames, IA 50011 USA. Applications will be accepted until the position is filled. To guarantee consideration, application must be received by February 1, 2006.

Postdoctoral Position

Plant-Microbe Interaction—Department of Plant Pathology, Michigan State University. A postdoctoral position is available beginning July 1, 2006 in the laboratory of Dr. Brad Day at Michigan State University. Research in the Day Laboratory studies the molecular genetics of disease resistance, particularly focused on *Arabidopsis thaliana-Pseudomonas syringae* (Day et al., 2005. The Plant Cell); however, the expansion of our research into other plant-pathogen systems is possible. The successful candidate will use a variety of molecular biology and biochemistry techniques to study the mechanisms of defense signaling in response to perception of *P. syringae*. Applicants should

have received their Ph.D. degree in biochemistry, genetics, plant molecular biology, molecular plant pathology or a closely related field. Candidates with experience in biochemistry, protein purification and the structural/genetic analysis of protein-protein interactions are especially encouraged to apply. Michigan State University offers state-of-the-art research facilities in genomics and the plant sciences, with more than 125 plant research faculty. Salary will be based on qualifications and experience. Michigan State University is an equal opportunity/affirmative action employer. Application Instructions: Applications will be considered until the position is filled. Applicants should submit a cover letter, a brief summary of past and current research, including a description of specialized techniques, if applicable; a short statement of future research interests, a CV, and the names and contact information for three references. Questions regarding this position or electronic submission of applications should be directed to bday@nature.berkeley.edu, or materials may be sent to: Brad Day, Department of Plant Pathology, 107 CIPS, Michigan State University, East Lansing, MI 48824-1311.

Postdoctoral Molecular Plant Pathologist

Twelve month, non-tenure track position. Located at the Dale Bumpers National Rice Research Center in Stuttgart, AR. Planning, conducting and publishing basic and applied research on the examination of stability of rice blast resistance and development of molecular strategies to control rice blast and sheath blight diseases. Major duties: The selected candidate is expected to use modern molecular and plant pathology techniques to identify and characterize novel resistance genes for rice improvement through biotechnology. Qualifications: A Ph.D. in molecular genetics or related field with research experience in gene mapping, cloning, expression and marker identification. Experience in PCR cloning, DNA analysis by southern blot and by using vector NTI software etc, gene expression by RT-PCR, Northern blot, GUS or GFP, western blot, disease infection assays, tissue culture and plant regeneration. A team approach to problem solving is essential. Closing Date: February, 2006 or until a suitable candidate is found. Salary: Commensurate with qualification and experience. Interested applicants should send their resume, official college transcript and three letters of recommendation from knowledgeable associates to be forwarded to: Dr. Yulin Jia, University of Arkansas, Rice Research & Ext. Center, 2900 Hwy 130E, Stuttgart, AR 72160.

Graduate Student Assistantship (Ph.D. or M.Sc.)

Study Quorum Sensing in Symbiosis at the University of Florida. Full assistantships (Ph.D. or M.Sc.) are available to study the role of quorum sensing and QS signal-mimics from plants in legume-*Rhizobium* symbiosis. The full assistantship includes tuition waiver and a stipend plus allowance for health insurance. A successful candidate will have interest in studying plant-bacterial interactions, and some understanding of bacterial genetics, molecular biology and biochemistry. More information on the application process is on the departmental website:

http://soils.if as.ufl.edu/academics/application.html.

 $\textbf{Employment}\ continued\ on\ page\ 8$

Employment continued from page 7

Potential applicants are encouraged to contact Dr. Max Teplitski (maxtep@ufl.edu) for more information on the project. All qualified candidates are encouraged to apply.

Faculty Position—Plant Molecular, Cellular, and Developmental Biology

The Genetics, Development, and Cell Biology Department (GDCB) at Iowa State University (ISU) seeks to fill a tenure-track faculty position at the Assistant Professor level in plant molecular, cellular, and developmental biology with research and teaching interests in the area of plant responses to biotic stress, especially pathogens. ISU provides state-of-the-art facilities and competitive startup and salary packages, and the successful applicant will be eligible for affiliation with the Plant Sciences Institute (www.plant sciences.iastate.edu), an umbrella organization for plant research at ISU. For more information on GDCB and ISU visit www.gdcb.iastate.edu. Candidates will be expected to establish a vigorous, extramurally funded research program and to contribute to the department's undergraduate and graduate teaching mission. A Ph.D. in biological sciences or related field, postdoctoral experience, and evidence of innovative research accomplishments are required. Preferred qualifications include proven ability to obtain external grant funding; university level teaching experience; strong publications in internationally recognized journals; recognized research interests and experience in plant molecular, cell, and/or developmental biology that complement existing strengths at ISU. Review of applications will begin on December 1, 2005, and will continue until the position is filled. To apply, send curriculum vitae and statements of research and teaching interests to, and have three professional reference letters sent to: GDCB Plant Search, 1210 Molecular Biology Building, Iowa State University, Ames, IA 50011. E-mail: GDCBsearch@iastate. edu. Iowa State University is an Equal Opportunity/ Affirmative Action Employer. Applications from women and minority candidates are especially encouraged.

Senior Scientist

We are seeking an energetic, results-oriented senior scientist to lead the development of an organic agriculture technology platform. This individual will be focusing on identifying, isolating, and understanding mechanisms of important microbe/plant interactions that can be subsequently commercialized. Leadership and project management skills are essential to manage the new product development process from concept through testing to commercialization. The successful candidate should have excellent communication, interpersonal, and mentorship skills. Requirements: (1) Ph.D. in biology specializing in plant microbe interactions or plant pathology; (2) Strong analytical skills and proficient with statistics and statistical software; (3) Ability to work independently and effectively manage multiple projects simultaneously; (4) Excellent oral and written communication skills as will be required to present and publish research; (5) Ability to work successfully in a team environment with demonstrated ability to interact effectively within and across departmental lines; (6) Ability to work in the U.S. without sponsorship;

(7) Relocation assistance may be available to qualified candidates. Novozymes Biologicals offers an attractive starting salary and comprehensive benefits package. Qualified candidates are invited to submit a resume with salary requirements to: NZBNA-JOBS@novozymes.com, Job Code – SS-IS. *EOE*, *M/F/D/V*, *Drug-Free* (www.novozymes.com/microorganisms).

Assistant or Associate Professor - Fungal Biologist

Department of Plant Pathology, College of Agricultural, Food and Environmental Sciences, University of Minnesota, St. Paul, MN. Appointment: Nine-month tenure-track appointment, 70% Research and 30% Teaching. Responsibilities: The successful candidate will conduct basic research on the primary causal agents of plant disease, the filamentous fungi. Incumbents will be expected to utilize contemporary approaches directed toward an understanding of the true fungi or the Oomycetes including cell biology, biochemistry, molecular biology, host-pathogen interactions, genomics, ecology, population genetics, or evolution. The incumbent is expected to develop strong extramural support for their research program incorporating graduate student and postdoctoral research. Potential research topics may include but are not limited to: fungal biodiversity in natural and agro-ecosystems, evolutionary dynamics of pathogenic and non-pathogenic fungi, fungal fitness in the environment, molecular basis of fungal interactions with their hosts, functional genomics of fungal pathogens, comparative genomics of fungi, or proteomics and biochemistry of fungal toxins in food. Teaching responsibilities may include an introductory graduate level course on the biology of fungi, a generalAundergraduate biology course for non-majors or a graduate course in the incumbent's research specialty. Qualifications: Required: Ph.D. in plant science, plant pathology or relevant biological sciences. Strong research experience in contemporary areas of fungal biology. Strong recent publication record in fungal biology in internationally recognized journals. Excellent communication skills. Preferred: Grant writing experience. Postdoctoral experience strongly preferred. Experience in research on plant pathogenic fungi. Teaching experience at the university level. Application closing date: Review of applications will begin on January 31, 2006 and continue until a suitable candidate is identified. Application: Send curriculum vitae, college transcripts, up to three reprints of recent publications, a written statement of research, teaching and career goals and three letters of recommendation to the Chair of the Search Committee. Questions concerning the position may be directed to: Dr. Corby Kistler, Chair, Fungal Biologist Search Committee, 495 Borlaug Hall, 1991 Upper Buford Circle, University of Minnesota, St. Paul, MN 55108; Phone: 612-626-7269; Fax: 612-625-9728; E-mail: hckist@umn.edu. The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, color, creed, religion, national origin, sex, age, martial status, disability, public assistance status, veteran status, or sexual orientation.

Postdoctoral Positions in Plant-Pathogen Interactions

Three postdoctoral positions are open to study the molecular basis of plant disease resistance and susceptibility using as a model system the interaction of tomato leaves with the bacterial pathogen Pseudomonas syringae pv. tomato. Our laboratory studies various aspects of plant-bacterial interactions including: a) molecular basis of bacterial pathogenesis, especially the role of type III effector proteins in disease susceptibility; b) early host events underlying plant immunity, especially those events involving the Pto kinase and the Prf NB-LRR protein; and c) host signal transduction events underlying basal and Pto/Prf-mediated defense responses. 1) Biochemical characterization of bacterial type III effector protein AvrPtoB, an E3 ubiquitin ligase. The project goals are to identify and characterize substrates of AvrPtoB E3 ubiquitin ligase activity, examine the role of differential subcellular localization of AvrPtoB cleavage products, and use AvrPtoB to identify novel components of host programmed cell death (PCD) pathways. (see: Kim et al., (2002) Cell 109:589 and Abramovitch et al., (2003) EMBO J. 22:60). 2) MAP kinase signaling in plant defense. This project studies the molecular mechanisms underlying the role of MAPKKKa in host cell death. Specific goals are to identify and characterize host proteins that act upstream of MAPKKKa in Pto-mediated resistance, investigate the extent to which host disease resistance and

susceptibility pathways share the same signaling components, and examine the role of MAPKKKa-mediated cell death in host responses to virulent biotrophic and necrotrophic pathogens. (see: del Pozo et al., (2004) EMBO J. 23:3072 and Pedley et al., (2004) J. Biol. Chem. 279:49229). 3) Exploiting natural variation in tomato to investigate plant basal defense responses. This project is employing a collection of *P. syringae* pv. tomato mutants and a series of assays of host basal defenses in order to identify natural variation present in tomato that controls responses to P. syringae. P. syringae response (PSR) loci will be molecularly cloned and characterized. Applicants must have a strong publication record and, depending on the position, demonstrated expertise in protein biochemistry, molecular plant pathology, plant molecular biology, microbiology, and/or plant genetics and map-based cloning. Experience with protein purification and mass spectrometry is an advantage for the AvrPtoB project. To apply, send a cover letter, a statement of research interests, and a CV including the names of three references to: Gregory B. Martin, Boyce Thompson Institute for Plant Research, Tower Road, Ithaca, NY 14853. Email: gbm7@cornell.edu. Applications will be reviewed beginning on January 10, 2006 and the positions will remain open until filled. For more information see: http://ppathw3.cals.cornell.edu/ppath/FacultyInfo/ Martin.html or http://bti.cornell.edu/EOE M/F/D/V

COMING EVENTS

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Applications via http://cwp.embo.org/w06-17 Deadline: February 28, 2006

XIII Congress on Molecular Plant-Microbe Interactions

July 21-27, 2007 Sorrento, Italy www.mpmi2007.org

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Evolution of an Avirulence Gene, *AVR1-CO39*, Concomitant with the Evolution and Differentiation of *Magnaporthe oryzae*. Y. Tosa, J. Osue, Y. Eto, H.-S. Oh, H. Nakayashiki, S. Mayama, and S. A. Leong.

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IS-MPMI

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IENS STOUGAARD

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Department of Plant Pathology and Microbiology Texas A&M University College Station, Texas, U.S.A. E-mail: herscho@tamu.edu

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