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Deadline for submitting items  
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**The XIV International Congress in Vibrant, Historic  
Québec City**

Photo by J-F Bergeron, Enviro Foto

The XIV International Congress on Molecular Plant-Microbe Interactions will be held July 19–23, 2009, in Québec City, Québec, Canada. Members of the local organizing committee from Laval University, Agriculture and Agri-Food Canada, and the Centre Sève have put together a cutting-edge scientific program that will attract the best scientists in the field to this historic and charming location. Attending the IS-MPMI congress is the best way to ensure that you are in touch with recent trends and developments in the field and also an incredibly important venue for making personal connections that will last throughout your career.

**The Sessions**

The meeting will consist of eight plenary sessions on numerous topics, including pathogenic interactions, symbiotic interactions, common host mechanisms, signaling and molecular dialogues, dynamics of plant responses to microbes, plant-microbe interactions and technology transfer, RNA silencing, and plant immunity. In addition, several concurrent sessions on related topics and recent developments in the science will be presented throughout the meeting.

**The Technical Program**

The 2009 XIV International Congress Scientific Planning Board is soliciting papers and poster submissions for the meeting in Québec City, Québec, Canada, from **January 15 to March 2, 2009**. Presenting a paper at the XIV International Congress is the best way to ensure that you are doing all you can to remain active in your field and receiving the critical feedback that you and your research deserve.

The technical program is being planned to provide the latest scientific information and technologies. Poster presentations will be reviewed for acceptance in the program. Early submissions are encouraged to avoid delays on the last day.

**The Location**

Québec City was founded in 1608 and just finished celebrating its 400th anniversary. As the only walled city in North America north of Mexico, Québec City and its surroundings offer unique, historical charm; beautiful July weather; and outdoor activities, including whale watching, camping, and mountain hiking.

IS-MPMI has reserved a limited number of rooms with negotiated rates at three hotels—the Delta Québec, Loews Le Concorde Québec, and Hotel Chateau Laurier Québec. Staying at these hotels with other congress attendees is the best way to make the most of your time with peers and industry experts at the congress.

**More Information**

For more information on the preliminary program, submission of abstracts, and accommodation and travel information, visit the XIV International Congress website at [www.mpmi2009.ulaval.ca/apropos-mpmi.html](http://www.mpmi2009.ulaval.ca/apropos-mpmi.html). We're looking forward to see everyone in Québec City this July!

## A Message from the President



Federico Sanchez

### Winds of Change

In the last 4 months, the world as we knew it has drastically changed. In my country, as in many others, the economy has slowed down to the levels of a flagrant recession. Major world economic consortiums, banks, and transnational companies have collapsed or have been declared to be at the edge of bankruptcy.

Wall Street, Dow Jones, NASDAQ, international oil prices, jobs, our personal investments, and research and education grants are as unstable and ephemeral as a leaf being chewed by a crowd of insatiable insect larvae. Globalization has great advantages and certainly many other faces, such as this disastrous economic tsunami. Global warming, pollution, and the oil-economy-food crisis, in conjunction with this recession, will aggravate social inequity, biodiversity loss, and environmental degradation. These effects will be accentuated in developing countries since the global economic crisis will bring serious constraints to the budgets allocated to science, education, and governmental programs directed toward preserving human health and toward environmental degradation.

Although the forecast seems to be stormy and uncertain, there is always hope and renewed possibilities derived from human creativity, collaboration, and enthusiasm, which have always been antidotes and cures for an afflicted humankind during troubled times of disaster and conflagration. Think for a moment of Copernicus, Galileo, Leonardo da Vinci, Mendel, Darwin, Einstein, and many other famous or anonymous intellects whose theories and actions—often at their personal risk—have provided a turning point for humankind. I cannot anticipate why we scientists with innovative approaches, together with artists, school teachers, and conscientious politicians, could not again respond in accordance to the enormous challenges imposed by these new/old threats and series of calamities that we face at the dawn of this new millennium. We are at war, a war to stop the annihilation of our own species together with thousands of others. This is a battle to fight hunger, inequity, ignorance, and violence—the four apocalyptic riders that need to be vanquished by the advancement of knowledge, international collaboration, focused work, and good will at the personal, societal, and global levels.

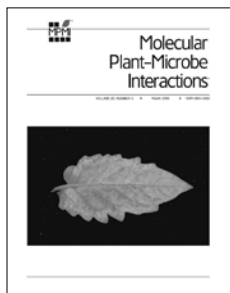
Where does our responsibility lie in this crusade, as persons and as scientists, to defeat inequity, ignorance, and corruption? How do we not only educate our children and train young scientists to fight this fierce battle, but also educate politicians, journalists, and authorities?

Certainly, we have to put renewed interest and passion into our particular professions. As mentors and research scientists, we try to teach and understand life, to solve technological puzzles, and to expand our areas of influence by educating our society. Now, more than ever, our authorities need to know that we have clues and the potential to increase plant productivity by unraveling the ways plants defend themselves against pathogenic microorganisms, establish beneficial interactions, and attract pollinators and natural enemies of their predators. Our work, fundamental or applied, is essential in alleviating the food crisis and the degradation of the environment caused by the use of pesticides and the excessive use of fertilizers that pollute the rivers and lakes, destroy coral reefs, and ruin underground water reservoirs. Plant productivity, arable land, and watering resources constitute key elements of an unresolved equation in which plant-microbe interactions have valuable elements to be considered in resolving the puzzle. Science needs to be funded more than ever by our governments and the knowledge generated needs to be applied, shared, and explained to others quickly and openly.

The year 2009 has arrived and winds of change might start to bring hope and blow away the cloudy, overcast skies of a severe recession. The International Society for Molecular Plant-Microbe Interactions will be staging its XIV International Congress in Québec City, Canada, July 19–23, 2009. On the agenda for the biennial event are eight plenary and 18 concurrent sessions. The congress will offer the chance to participate in and witness science at the cutting edge and a kaleidoscope of discoveries in plant-pathogenic and plant-symbiotic interactions that will provide new important elements to fight hunger, inequity, and ignorance; alleviate the degradation of the environment; and preserve biodiversity. We attendees will profit from the fact that the charm and beauty of Québec City has been recently enhanced on the occasion of its 400th anniversary.

Last but not least, 2009 is the bicentenary of Darwin's birth and the 150th anniversary of the publication of his seminal work, *On the Origin of Species*, probably one of the most important scientific publications in human history. A series of events to celebrate this occasion are being planned in many countries, scientific journals, and societies. Reading Darwin and his legacy is a great opportunity to ease these troubled times.

## Don't Miss the Top 10 Most-Read Papers of 2008 from MPMI Online



1. Plant Receptor-Like Serine Threonine Kinases: Roles in Signaling and Plant Defense. May 2008 (<http://apsjournals.apsnet.org/doi/abs/10.1094/MPMI-21-5-0507>)
2. *Nicotiana benthamiana*: Its History and Future as a Model for Plant-Pathogen Interactions. August 2008 (<http://apsjournals.apsnet.org/doi/abs/10.1094/MPMI-21-8-1015>)
3. Recent Fungal Diseases of Crop Plants: Is Lateral Gene Transfer a Common Theme? March 2008 (<http://apsjournals.apsnet.org/doi/abs/10.1094/MPMI-21-3-0287>)
4. Characterization of Natural and Induced Variation in the LOV1 Gene, a CC-NB-LRR Gene Conferring Victorin Sensitivity and Disease Susceptibility in Arabidopsis. January 2008 (<http://apsjournals.apsnet.org/doi/abs/10.1094/MPMI-21-1-0007>)
5. Endophytic Actinobacteria Induce Defense Pathways in Arabidopsis thaliana. February 2008 (<http://apsjournals.apsnet.org/doi/abs/10.1094/MPMI-21-2-0208>)
6. Signaling Pathways That Regulate the Enhanced Disease Resistance of Arabidopsis "Defense, No Death" Mutants. October 2008 (<http://apsjournals.apsnet.org/doi/abs/10.1094/MPMI-21-10-1285>)
7. A Genome-Wide Meta-Analysis of Rice Blast Resistance Genes and Quantitative Trait Loci Provides New Insights into Partial and Complete Resistance. July 2008 (<http://apsjournals.apsnet.org/doi/abs/10.1094/MPMI-21-7-0859>)
8. Global Switches and Fine-Tuning—ABA Modulates Plant Pathogen Defense. June 2008 (<http://apsjournals.apsnet.org/doi/abs/10.1094/MPMI-21-6-0709>)
9. Roadmap to New Virulence Determinants in *Pseudomonas syringae*: Insights from Comparative Genomics and Genome Organization. June 2008 (<http://apsjournals.apsnet.org/doi/abs/10.1094/MPMI-21-6-0685>)
10. Discovery of ADP-Ribosylation and Other Plant Defense Pathway Elements Through Expression Profiling of Four Different Arabidopsis-Pseudomonas R-avr Interactions. May 2008 (<http://apsjournals.apsnet.org/doi/abs/10.1094/MPMI-21-5-0646>)

## Phytopathology Joins MPMI in PubMed Central

*Phytopathology* is now indexed in PubMed Central (PMC). Currently, *Molecular Plant-Microbe Interactions*, *Molecular Plant Pathology*, and the *Annual Reviews of Phytopathology* are the only other plant pathology journals included in PMC. Look for *Phytopathology* articles in your PubMed search results or recommend that your library subscribe to *Phytopathology* along with MPMI at [www.apsnet.org/journals/library\\_recommend.aspx](http://www.apsnet.org/journals/library_recommend.aspx).

## Keiko Yoshioka Recruited New Members, and Won!

All IS-MPMI members were invited to encourage their colleagues to join the society in 2008. Thanks to the efforts of seven members, the first member-get-a-member program encouraged 14 new members to join.

Anyone who successfully referred a new member was entered into a drawing to win free registration to the 2009 XIV International Congress in Québec City, Canada. **Keiko Yoshioka** was the winner of the drawing and will be attending the congress for free! Anyone who helped five or more people join IS-MPMI also received free membership renewal.

Sharing IS-MPMI is particularly important this year! While the member-get-a-member campaign is over, be sure to tell your colleagues about the congress; the esteemed journal, *MPMI*; the important networking opportunities; and all the activities that are going on in the society. Your referral is the most important way prospective members learn about IS-MPMI. Please help our community of scientists grow!

*Thank You*

Thanks to these IS-MPMI members  
for their recruiting success!

Peter Dodds

Frederique Van Gilsegem

Pradeep Kachroo

Eva Kondorosi

Aline Maria da Silva

Jens Stougaard

Keiko Yoshioka



## 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



Tania Toruño

#### Tania Toruño

University of Nebraska  
Lincoln, NE, U.S.A.

I am originally from Managua, Nicaragua, and I received my B.S. degree in agronomy/plant pathology in 2005 from Zamorano University, Honduras. From February 2006, I worked in the laboratory of **Saskia Hogenhout** in the Department of Entomology at The Ohio Agricultural

Research and Development Center (OARDC) at The Ohio State University. The Hogenhout research group studies molecular plant-microbe-insect interactions focusing on the model organism phytoplasma, a bacterial plant pathogen that belongs to the class *Mollicutes* that diverged from gram-positive bacteria through loss of the outer cell wall and genome reductions. Phytoplasmas cause severe symptoms, such as stunting, phyllody, witches'-broom, yellowing, and yield losses, in more than 300 economically important plant species worldwide. These mollicutes are transmitted to plants by leafhoppers. Phytoplasmas replicate in plants and insects and establish beneficial and pathogenic interactions with these hosts. While in the Hogenhout laboratory, I characterized phytoplasma mobile units (PMUs) in the aster yellows phytoplasma strain witches'-broom (AY-WB). PMUs contain genes for DNA replication and recombination, transposable elements, specialized transcription factors, membrane proteins, and candidate effector proteins. Thus, PMUs are possibly involved in phytoplasma virulence as pathogenicity islands and are likely to be important for the diversification of phytoplasmas.

Currently, I am a Ph.D. student in the laboratory of **James Alfano** in the Department of Plant Pathology at the University of Nebraska-Lincoln. The Alfano laboratory studies the strategies bacterial pathogens use to cause diseases on plants. The research is specifically focused on the assessment of the mechanisms employed by the gram-negative bacterium *Pseudomonas syringae* to cause disease on plants. These pathogens use their type III secretion system and repertoire of type III effector proteins for pathogenicity. *P. syringae* infects a variety of plant species typically producing necrotic and chlorotic lesions on aerial plant tissues. Our main research goal is to understand how the type III secretion system of *P. syringae* works and to determine what the effectors proteins do inside the plant cell to promote pathogenesis.

My research focuses on the characterization of the *P. syringae* effector protein, HopA1, previously named HopPsyA or HrmA. When HopA1 is expressed in a

virulent pathogen of tobacco, *P. syringae* pv. *tabaci*, it causes it to become avirulent. In addition, transient expression of HopA1 in tobacco elicits a hypersensitive response (HR), a programmed cell death associated with defense. I am particularly interested in HopA1 because two different homologues of HopA1, HopA1<sub>Psy61</sub> and HopA1<sub>Psy3000</sub>, both elicit HR in *N. tabacum* cv. Xanthi, but only HopA1<sub>Psy6</sub> elicits HR in *N. benthamiana*. Since HopA1 is differentially recognized by plants, it might play a role in host specificity. This leads to the question of what type of selection is acting on this protein. For that, several *hopA1* alleles have been cloned and sequenced and this will enable me to determine whether HopA1 has evolved via diversifying or purifying selection. It will also help to elucidate HopA1's roles in host specificity and pathogenicity.

I joined IS-MPMI in 2006 and had the opportunity to attend the XIII International Congress in Sorrento, Italy. This was my first conference as a member of IS-MPMI and I believe it was a great experience. I learned about many systems and tools used to study molecular plant-microbe interactions and met with professors, post-docs, and students in this important field. IS-MPMI also provided me with some funds I needed to attend this conference. I am looking forward to the XIV International Congress in Québec City, Canada.

### Post-Doctoral/Early Career



Martijn van de Mortel

#### Martijn van de Mortel

Monsanto Company  
Huxley, IA, U.S.A.

Looking back, the path to my current career situation has been rewarding, winding, and rich with teachings from some excellent scientists and mentors. My first exposure to molecular plant-microbe interactions was in 1994 in the laboratory of **Carroll Vance**

at the University of Minnesota in St. Paul and the field of research has intrigued me since. I was working in the Vance lab on my senior thesis research project, a requirement for a degree in technical microbiology from the School of Higher Education in Laboratory Sciences in Venlo, the Netherlands. Typically, students from that Dutch program end up in the pharmaceutical industry, but I was fascinated by understanding plant-microbe interactions after working with Vance and **Debbie Samac** and their talented teams. The goal of the research project was to elucidate the role of enzymes involved in nitrogen fixation in the alfalfa-*Sinorhizobium meliloti* interaction and I worked in Samac's lab on the transformation and analysis

of alfalfa. After my graduation, I returned to Minnesota and worked another year in Vance's plant genetics lab and Samac's plant pathology lab while I settled on graduate school.

For my master's education, I moved down the hallway and studied plant breeding and genetics with a minor in plant pathology in the labs of **David Somers** and **Richard Zeyen**. My research involved the evaluation of transgenic oat lines that were created in the Somers' lab. The oat lines I used in my research expressed exogenous chitinase and glucanase aimed at finding resistance to the biotrophic fungal pathogen *Blumeria graminis* f. sp. *avenae*, causing powdery mildew. After stably expressing oat lines were selected over several generations, we found elevated levels of disease resistance in some of these oat lines. My coursework was heavily focused on molecular biology, which complemented my research interests.

After obtaining my master's degree in 1999, I went to Iowa State University (ISU) for my Ph.D. degree with **Larry Halverson**. Halverson's lab research focuses on unsaturated bacterial biofilms to study one of the most important and probably least understood factors determining bacterial activity in terrestrial habitats, water availability. The goal of my dissertation research was to identify traits that contribute to maintaining a functional cell envelope when cells are exposed to water-limiting conditions by dehydration (matric stress) compared with thermodynamically equivalent solute (osmotic) stress. Using *Pseudomonas putida* as a model, I found that most of the water deprivation-controlled (*wdc*) genes were specifically induced by matric stress, indicating that bacteria respond differently to a matric stress than to a solute stress. In terms of biological processes, we observed a shift in metabolic activity, transport capabilities, oxidative stress response, envelope stress response, and repression of motility in cells grown under water-limited conditions compared with cells grown in saturated conditions, which contribute to survival in low-water-content habitats. We also observed that biofilm cells are more desiccation-tolerant than planktonic cells and that matric stress is more stressful to cells than solute stress. Through my Ph.D. work I gained a great appreciation of the importance of basic research.

Toward the end of my Ph.D. work, I started looking around for a post-doc position to get more firmly back into the field of molecular plant-microbe interactions, so late in the summer of 2004, I signed on to work on the molecular analysis of Asian soybean rust (ASR) with **Steven Whitham** and **Thomas Baum** in the Plant Pathology Department at ISU. ASR had proved to be a potentially devastating disease that threatened soybean production across the world's soybean-growing regions and was now laying on the doorstep of the United States. With very little known about the disease at the molecular level, we formed a team that was in the perfect position to tackle this type of disease research. As I was preparing for my Ph.D. defense, ASR was found in the United States.

Starting in January of 2005, I researched a hot topic in an untypical post-doc position since I could not work with the fungus in Iowa and therefore had to rely on several very successful collaborations. Initially, I went to Brazil, where we collaborated with **Ricardo Abdelnoor** and **Álvaro Almeida** at Embrapa-soja. Together we set up a large experiment to isolate RNA from infected soybeans, which I brought back to Iowa and hybridized to microarrays. The time course spanned the early infection processes through the development of symptoms in both the compatible and incompatible interactions. In both time courses we observed a biphasic response in which gene expression peaks early but then subsides back to the gene expression levels of uninfected plants. A second burst of gene expression is observed around the time fungal feeding structures (haustoria) are formed and this burst happens earlier in the incompatible than the compatible reaction. Once the story unfolded itself to us, it became apparent that *MPMI* was the journal we wanted to publish our results in, since it has the readership we wanted to get our story out to as fast as we could. We continued our gene expression studies in other soybean genotypes with the group at the USDA-ARS in Ft. Detrick, MD, lead by **Reid Frederick** and his post-doc **Kathy Schneider**, which we are currently analyzing. The post-doc experience at ISU will remain a bright spot in my CV for several reasons: the expectations placed on me were high, but I had all the tools necessary to complete the projects, including strong support from advisors, collaborators, and funding sources; the field was so wide open that uncovering novel scientific findings were a given; and the high-profile nature of the project allowed me opportunities to speak and work with seasoned scientists that were simply not available on previous projects. It is very rewarding to see the ASR research project maturing, and I feel proud of my role in establishing successful collaborations with researchers from various domestic and international research institutions.

As I write this, I realize that I am the first early career professional writing for this section who is not at a university or research institute, but rather at a private company. I applied for and pursued positions in all the three avenues of research: academia, government, and industry. In the end a wonderful opportunity was offered to me by the Monsanto Company, where I was offered a position to enhance my experiences in plant breeding. As a corn trait conversion breeder, I am responsible for working with multidisciplinary teams to support commercial product development pipelines and manage the introgression of corn traits into inbred corn lines. I am learning about marker-assisted backcrossing, suitability of inbreds for commercial use, and evaluation of agronomic performance in both hybrids and inbred lines, and I am still amazed with the infrastructure and technologies available to rapidly move projects forward. The scale and speed at which research is performed in a company and at which technology can be put to work is mind-altering. I have been in this position for several months now and am excited about the steep learning curve ahead. I anticipate

that I will be able to apply my molecular plant-microbe interaction skills on projects that will be a great benefit to producers and consumers.

Once it became clear to me that I wanted a successful career in the field of molecular plant-microbe interactions, I became a member of the society. It provides me with a network of friends all over the world with similar interests. In addition, *IS-MPMI Reporter* and *MPMI* keep me up to date with the latest information in the field. I value membership to the society and view it as an enrichment of my career.

### Post-Doctoral/Early Career



Hemanth K. N. Vasanthaiah

#### **Hemanth K. N. Vasanthaiah**

Plant Biotechnology Laboratory,  
Center for Viticulture and Small Fruit  
Research, Florida A & M University  
Tallahassee, FL, U.S.A.

Thank you for inviting me to write on my profession. The service provided by the society through conferences with several revered members and the high-quality papers published in *MPMI* fascinated me to become a member of IS-

MPMI. I have benefited from these services. Presently, I am working as a post-doctoral research associate at **Sheikh M. Basha's** Plant Biotechnology and Biochemistry Laboratory, Florida A&M University. The overall goal of our lab is to determine biochemical and molecular factors involved in disease tolerance, nutraceutical, and enological characteristics of grapes.

I am involved in several projects related to functional genomics and proteomics of disease resistance, ripening physiology, and nutraceutical value of grape. In these projects, I have successfully standardized RNA isolation procedures for different tissues of the grape plant, especially from necrotic, diseased, and mature leaf and xylem tissues. I have made significant progress toward identification and characterization of several genes and proteins associated with Pierce's disease (PD) and anthracnose disease in grapes. PD is a very serious disease in grapevine caused by the bacterium *Xylella fastidiosa*. More challenging is that it is xylem confined. PD has prevented the growth of European grapes in southeastern United States. Florida hybrid bunch grapes are resistant to PD but are susceptible to anthracnose, which is of great concern to both grape growers and industry in Florida. We are also working on stilbene synthase, chitinase, chalcone synthase, and other pathogenesis-related (PR) genes to address these problems in grapes to cut down the cost of cultivation and maximize profit. We have successfully isolated these genes upon challenging them with pathogens causing PD and anthracnose disease. Thanks to the Florida State Department of Agriculture/Viticulture Advisory Council sponsored by the Florida Grape Growers Association and USDA for their continuous

support. We have isolated six isoforms of stilbene synthase genes from muscadine for the first time. Muscadine is native to southeastern United States and is tolerant to most of the diseases. Interestingly, two isoforms have shown promising results and are unique to muscadine. One of the isoform is expressing at higher levels in PD- and anthracnose-tolerant cultivars compared with the *Vitis vinifera* stilbene synthase gene, showing the potentiality to suppress the pathogen growth. Further, studies are in progress before introducing this gene to fulfill the dream of growing European grapes in the southeastern United States region. Stilbene synthase gene codes for resveratrol, a phenolic compound found at higher levels in muscadine having versatile characteristics. Our laboratory results have shown that the certain muscadine berry extract can suppress both breast and lung cancer cells by 60% compared with other grape species. To differentiate resveratrol expressed in other plant species, we coined the term muscaveratrol for muscadine grape resveratrol. Apart from my regular research, I am also involved in teaching and training students.

I received my master's and doctoral degrees from the University of Agricultural Sciences, GKVK campus, Bangalore, Karnataka, India, under the guidance of the late **Suresh N. Sondor** and **P. Narayanaswamy** at the Plant Molecular Biology Laboratory, Division of Horticulture. During this period, I worked on the mango crop, which is considered "king of tropical fruits" and the "national fruit of India." My master's thesis research work on estimation of genetic diversity in mango and its hybrids inspired me to continue my work on mango. For the first time, genetic diversity of 50 mango cultivars from different regions of India were studied. While I was working on the spongy tissue problem as a senior research fellow at the Department of Plant Physiology and Biochemistry and Department of Biotechnology, Indian Institute of Horticultural Research, Hessarghatta, Bangalore, under the supervision of **K. V. Ravishankar** and **K. S. Shivashankara**, I was exposed to the intricacies of this issue. Alphonso mango is one of the finest mango fruit in the world, which is of international demand. As this problem was unanswered for 4 decades, it motivated me to work on this research for my Ph.D. thesis. This was the first molecular work to determine the cause of spongy tissue, a physiological disorder in Alphonso mango and a national problem in India. This malady renders the fruit unfit for human consumption and hence has become a bottleneck in its export and expansion of its cultivation. It is visible only when the fruit is cut open. It is predominantly present in the ripe fruits and is a ripening disorder.

Being a part of IS-MPMI has really helped me to keep updated on the latest discoveries and advancements in plant-microbe interactions. It has also helped me to address some of the problems that I am dealing with in different ways. I hope the contributions that we make to the scientific world will pay off one day for the survival of life forms on this beautiful planet, the earth.

## People



Jo Handelsman

**Jo Handelsman**, a professor in the Department of Plant Pathology at the University of Wisconsin, Madison, has received the 2009 American Society for Microbiology (ASM) Carski Foundation Distinguished Undergraduate Teaching Award. This award recognizes an educator for outstanding teaching of microbiology to undergraduate students.

Handelsman has taught more than 1,100 undergraduates and even more educators. In 2002, she was named a Howard Hughes Medical Institute (HHMI) professor for her scientific teaching project, which brought together the teaching rigor, experimentation spirit, and creativity of scientific research. Her project was focused on changing the educational experiences of undergraduates in the classroom. With the support of HHMI, she founded the Wisconsin Program for Scientific Teaching (WPST) to enhance undergraduate biology education by training a new generation of scientific teachers. She also created the "Summer Symbiosis Program," a 10-week research experience for undergraduates who are paired with WPST Mentoring Program graduate and post-doctoral students.

Under her leadership, the HHMI-National Academy of Sciences (NAS) Summer Institute, which is a collaboration between WPST, HHMI, and NAS, was developed to provide a place to learn about biology instruction in the context of the research university and applications for the undergraduate classroom. Since its inception in 2003, 205 faculty have participated; collectively, they teach 90,000 undergraduates.

Handelsman earned her Ph.D. degree in molecular biology at the University of Wisconsin, Madison, where she joined the faculty in 1985. She is a fellow of the American Academy of Microbiology.

The Carski Foundation Distinguished Undergraduate Teaching Award will be presented during the 109th General Meeting of the ASM, May 17–21, 2009, in Philadelphia, PA. ASM is the world's oldest and largest life science organization and has more than 43,000 members worldwide. ASM's mission is to advance the microbiological sciences and promote the use of scientific knowledge for improved health and economic and environmental well-being.

### Have News? Send it to the **REPORTER!**

As the primary source of society information, the *IS-MPMI Reporter* is the best way to keep members informed of your activities. Send details about your latest meeting, award, presentation, publication, organization, or any newsworthy item you feel members would like to read.

Submit your articles for the next issue of the *Reporter* by April 15. You can e-mail [ismpmireportereditor@scisoc.org](mailto:ismpmireportereditor@scisoc.org) or submit your item online at [www.ismpminet.org/newsletter/submissionform.asp](http://www.ismpminet.org/newsletter/submissionform.asp).



## Welcome New Members

The following members joined IS-MPMI between September 1 and December 31, 2008.

Please join us in welcoming them to the society!

**Alia Dellagi**

Scottish Crop Research Inst  
Dundee, U.K.

**Rae-dong Jeong**

Univ of Kentucky  
Lexington, KY, U.S.A.

**Ye Xia**

Univ of Kentucky  
Lexington, KY, U.S.A.

**Chuck S. Farah**

Univ de Sao Paulo  
Sao Paulo, SP, Brazil

**Chengli Long**

Wilfrid Laurier Univ  
Waterloo, ON, Canada

**Shuangchun Yan**

Virginia Tech  
Blacksburg, VA, U.S.A.

**Qing-Ming Gao**

Univ of Kentucky  
Lexington, KY, U.S.A.

**Henok K. Mulat**

Leibniz Univ of Hannover  
Hannover, Germany

**Keshun Yu**

Univ of Kentucky  
Nicholasville, KY, U.S.A.

**Ken Shirasu**

RIKEN  
Yokohama, Japan

## Recently published research in *Molecular Plant-Microbe Interactions*

Find complete abstracts online with links to full-text articles at <http://apsjournals.apsnet.org/loi/mpmi>

### November 2008, Volume 21, Number 11

The C-Terminal Half of the HrpN Virulence Protein of the Fire Blight Pathogen *Erwinia amylovora* Is Essential for Its Secretion and for Its Virulence and Avirulence Activities.

High Level Expression of a Virus Resistance Gene, *RCY1*, Confers Extreme Resistance to *Cucumber mosaic virus* in *Arabidopsis thaliana*.

The Genetic Network Controlling the *Arabidopsis* Transcriptional Response to *Pseudomonas syringae* pv. *maculicola*: Roles of Major Regulators and the Phytotoxin Coronatine.

Characterization of Nonhost Resistance of *Arabidopsis* to the Asian Soybean Rust.

The Flagellar Sigma Factor FliA Is Required for *Dickeya dadantii* Virulence.

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Niche-Specificity and the Variable Fraction of the *Pectobacterium* Pan-Genome.



Suppression of Reactive Oxygen Species and Enhanced Stress Tolerance in *Rubia cordifolia* Cells Expressing the *rolC* Oncogene.

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Galactinol Is a Signaling Component of the Induced Systemic Resistance Caused by *Pseudomonas chlororaphis* O6 Root Colonization.

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SPOTLIGHT—Global Gene Expression Profiling During *Medicago truncatula*–*Phymatotrichopsis omnivora* Interaction Reveals a Role for Jasmonic Acid, Ethylene, and the Flavonoid Pathway in Disease Development.

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High-Affinity Copper Transport and Snq2 Export Permease of *Saccharomyces cerevisiae* Modulate Cytotoxicity of PR-10 from *Theobroma cacao*.

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*GmRAR1* and *GmSGT1* Are Required for Basal, *R* Gene-Mediated and Systemic Acquired Resistance in Soybean.

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### February 2009, Volume 22, Number 2

CURRENT REVIEW—Emerging Concepts in Effector Biology of Plant-Associated Organisms.

TECHNICAL ADVANCE—Development and Use of an Efficient DNA-Based Viral Gene Silencing Vector for Soybean.

TECHNICAL ADVANCE—Transformed Hairy Roots of *Arachis hypogea*: A Tool for Studying Root Nodule Symbiosis in a Non-Infection Thread Legume of the Aeschynomeneae Tribe.

Discovery of Pathogenicity Genes in the Crucifer Anthracnose Fungus *Colletotrichum bigginsianum*, Using Random Insertional Mutagenesis.

The TIR Domain of TIR-NB-LRR Resistance Proteins Is a Signaling Domain Involved in Cell Death Induction.

Activation of the Salicylic Acid Signaling Pathway Enhances *Clover yellow vein virus* Virulence in Susceptible Pea Cultivars.

Allelic Variants of the *Pseudomonas syringae* Type III Effector HopZ1 Are Differentially Recognized by Plant Resistance Systems.

Transcriptome Profiling in Hybrid Poplar Following Interactions with *Melampsora* Rust Fungi.

Constitutive Expression of *OsGH3.1* Reduces Auxin Content and Enhances Defense Response and Resistance to a Fungal Pathogen in Rice.

Silencing of *Kex2* Significantly Diminishes the Virulence of *Cryphonectria parasitica*.

Inactivation of the Lipoxygenase *ZmLOX3* Increases Susceptibility of Maize to *Aspergillus* spp.



## Share the Knowledge, Share the Experience

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## Employment

### Post-Doctoral Position

A post-doctoral position is available in the laboratory of Brad Day at Michigan State University (MSU) to study the genetic and biochemical processes involved in disease resistance of plant-pathogen interactions. Research in our laboratory focuses on the model host-pathogen system *Arabidopsis thaliana*-*Pseudomonas syringae*, with an interest in host defenses required for resistance to bacterial infection. The current position will work in the area of biochemistry and genetics, specifically in the area of elucidating the role of the actin skeleton in plants, and its role in defense responses. The incumbent should possess a Ph.D. degree in molecular biology, plant biology, or biochemistry and have working knowledge of bacterial or fungal pathogenesis, as well as plant biochemistry and molecular biology. A recent Ph.D. degree is preferred. Interested applicants should send a CV, a copy of at least one recent paper, and the names and contact information of three people who can provide a letter of reference. MSU offers state-of-the-art research facilities, with more than 150 plant biology faculty engaged in various aspects of plant genetics, biochemistry, and physiology. MSU is committed to affirmative action, equal opportunity, and diversity of its workforce. Women and minorities are especially encouraged to apply. **Closing Date:** The position will remain open until filled. Initial appointment is for 1 year, with funding for renewal up to 2 years, minimum. **Contact:** Brad Day, Michigan State University, Department of Plant Pathology, 104 CIPS, East Lansing, MI 48824-1311, U.S.A. **E-mail:** bday@msu.edu.

### Post-Doctoral Research Associate

A post-doctoral position is available immediately in the Department of Plant Pathology at Michigan State University (MSU) to study downy mildew on cucumber caused by the oomycete *Pseudoperonospora cubensis*. The primary research focus will be on the broad area of pathogen genomics and population diversity, with an emphasis on pathogen variability (phenotypic and genetic), population genetics, and evolution, as well as host range specificity. The successful candidate will work with a large multidisciplinary group focused on various aspects of microbial genomics, plant genetics, and biochemistry, as well as field biology related to downy mildew in cucumber. A recent Ph.D. degree in the area of microbiology or molecular plant pathology is preferred. A strong background in molecular biology is required. Experience with oomycetes and/or obligate pathogens is desirable but not essential. The initial appointment will be for 1 year, according to university guidelines, with reappointment based on productivity. Job materials to be sent by candidate include a CV, a copy of at least one recent paper, and the names and contact information of three people who can provide a letter of reference. Please send application materials to both Sheila Linderman at linderm2@msu.edu and Brad Day at bday@msu.edu. MSU offers a diversity of research experiences, with more than 150 plant biology faculty on the main campus. In addition, state-of-the-art sequencing and proteomic instrumentation

is available to all faculty, staff, and students. MSU is committed to affirmative action, equal opportunity, and diversity of its workforce. Women and minorities are especially encouraged to apply. **Salary:** Salary is commensurate with experience. **Closing Date:** Open until position is filled. **Contacts:** Sheila Linderman and Brad Day. **E-mail:** linderm2@msu.edu and bday@msu.edu; **Web:** www.plantpathology.msu.edu.

### Excellence in Plant Molecular Biology/Biotechnology Graduate Fellowship Program

The Plant Molecular Biology/Biotechnology (PMBB) Program at The Ohio State University (OSU) is being dramatically expanded as a Targeted Investment for Excellence initiative by OSU. PMBB is an interdisciplinary group that includes faculty members from the Colleges of Biological Sciences and Food, Agriculture and Environmental Sciences. PMBB research programs conduct molecular studies on the cutting edge of plant science, including plant development, plant signaling, plant metabolic engineering, photosynthesis biochemistry, and plant-pathogen interactions. For the third straight year, PMBB invites outstanding students seeking to earn a Ph.D. degree in plant science from any of the participating graduate programs at OSU to apply for the newly established Excellence in Plant Molecular Biology/Biotechnology Graduate Fellowships. **Salary:** The fellowships provide up to 4 years of support, including stipend (\$25K/year), full benefits, tuition and fee waivers, and travel opportunities. Application instructions and detailed information, including a directory of PMBB faculty and participating graduate programs, is available at [www.ag.ohio-state.edu/~pmbb/](http://www.ag.ohio-state.edu/~pmbb/). OSU encourages applications from individuals with disabilities, minorities, veterans, and women. EEO/AA. **Closing Date:** February 27, 2009. **Web:** [www.ag.ohio-state.edu/~pmbb/](http://www.ag.ohio-state.edu/~pmbb/).

### Research Group Leader—Genetic Control of Crop Disease

The Sainsbury Laboratory (TSL) is evolving its scientific mission so that TSL not only provides fundamental biological insights into plant-pathogen interactions but also delivers novel, genomics-based solutions that will significantly reduce losses from major diseases of food crops, especially in developing countries. TSL seeks an outstanding individual to lead this component of its mission. The successful candidate will have an excellent track record of research leadership and innovation in a relevant area and will be highly skilled and strongly motivated to apply new scientific insights and new technologies to deliver effective disease control in crops. The appointment comes with generous support from the Gatsby Charitable Foundation and the successful candidate will join four other research group leaders based in the laboratory's state-of-the-art research facilities on the site of the John Innes Centre in Norwich. TSL is a charitable company of 70 research scientists and support staff and a world leader in plant science. We are based on the Norwich Research Park, funded by the Gatsby Charitable

Foundation, and closely linked to University of East Anglia and the John Innes Centre. Please e-mail formal applications with a CV, names of three referees, and a two-page statement of research interests to HR@tsl.ac.uk quoting the reference number TSL+01/2009. **Closing Date:** Applications will be reviewed beginning February 1, 2009. Applications will be accepted until a suitable candidate is found. **Contacts:** Sophien Kamoun or Jonathan Jones. **E-mail:** sophien.kamoun@tsl.ac.uk or jonathan.jones@tsl.ac.uk; **Web:** www.tsl.ac.uk.

#### Faculty Position

The Department of Plant Pathology, Physiology, and Weed Science at Virginia Tech seeks applicants for a tenure-track position at the assistant professor level. We seek an ambitious and creative individual who will employ cellular, molecular, and/or genomic approaches to understand interactions between plants and microbes. We are interested in scientists who investigate cellular biology of plant-microbe interactions, particularly those involving

viruses. However, we will consider any candidate with exceptional potential to complement our existing strengths in functional and comparative genomics of oomycetes, fungi and bacteria, and mechanisms of host resistance and innate immunity. The successful candidate will 1) develop an extramurally funded, internationally recognized research program; 2) contribute to graduate-level courses in plant-microbe interactions; and 3) mentor students. The candidate will participate in a strong interdepartmental Molecular Plant Science Graduate Program. Applicants are to submit an online application for position #081133 at <https://jobs.vt.edu/>. A complete application must include a cover letter, curriculum vitae, a research and teaching statement, and names and complete contact information of three references. **Closing Date:** Review of applications began on December 15, 2008, and will continue until the position is filled or the search is closed. **Web:** www.ppws.vt.edu; www.molplantsci.org.vt.edu/.

## COMING EVENTS 2009

March 17-22

#### 25th Fungal Genetics Conference

Pacific Grove, CA, U.S.A.

[www.fgsc.net/25thFGC/FGC25.htm](http://www.fgsc.net/25thFGC/FGC25.htm)

April 1-3

#### AAB Int. Conference: Advances in Plant Virology

Harrogate, U.K.

[www.aab.org.uk/contentok.php?id=73&basket=](http://www.aab.org.uk/contentok.php?id=73&basket=wwsshowconfdets)

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May 12-16

#### 5th IOBC working group meeting on "Induced Resistance in Plants Against Insects and Diseases"

Granada, Spain

[www.fccee.uji.es/](http://www.fccee.uji.es/)

May 17-22

#### The 8th International Plant Growth-Promoting Rhizobacteria (PGPR) Workshop

Portland, OR, U.S.A.

<http://capps.wsu.edu/pgpr/>

May 31-June 4

#### 14th International Sclerotinia Workshop

Wilmington, NC, U.S.A.

[www.cals.ncsu.edu/sclerotinia\\_conference/index.html](http://www.cals.ncsu.edu/sclerotinia_conference/index.html)

June 28-July 2

#### Ascochyta 2009: 2nd International Ascochyta Workshop

Pullman, WA, U.S.A.

<http://capps.wsu.edu/conferences/ascochyta/>

July 5-10

#### XXI International Conference on Virus and Other Graft Transmissible Diseases of Fruit Crops

Neustadt an der Weinstrasse, Germany

[www.phytomedizin.org/index.php?id=193/](http://www.phytomedizin.org/index.php?id=193/)

July 8-10

#### Plant ROS 2009

Helsinki, Finland

<http://pog2009.org/>

July 19-23

#### XIV International Congress on Molecular Plant-Microbe Interactions

Québec City, Québec, Canada

[www.ismpminet.org/meetings](http://www.ismpminet.org/meetings)

August 1-5

#### APS Annual Meeting

Portland, OR, U.S.A.

<http://meeting.apsnet.org>

September 13-16

#### 22nd New Phytologist Symposium: Effectors in Plant-Microbe Interactions

Paris, France

[www.newphytologist.org/effectors/default.htm](http://www.newphytologist.org/effectors/default.htm)

October 25-30

#### 9th International Plant Molecular Biology Congress

St. Louis, MO, U.S.A.

[www.ipmb2009.org](http://www.ipmb2009.org)

Include your meeting in IS-MPMI's printed and online event calendar. Submit online at [www.ismpminet.org/meetings/calsubmit.asp](http://www.ismpminet.org/meetings/calsubmit.asp)

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