Interview with Felice Cervone
New IS-MPMI President-Elect

Felice Cervone, Univ La Sapienza, Rome, Italy, has been named president-elect of IS-MPMI by the Board of Directors. Cervone, a current director of IS-MPMI, will start his term as president after the Congress in Québec City, Canada, in July 2009.

The IS-MPMI Reporter had the opportunity to interview Cervone in its continuing effort to better acquaint the membership with the leadership of their society. Please feel free to contact the leaders of IS-MPMI with any questions or concerns; a list of the members of the board with their contact information is printed in every issue. You can find the list on page 16.

Q: Tell us about yourself and your work.

A: I coordinate a group of young students and post-docs working on plant-pathogen interactions at the Department of Plant Biology, University of Rome la “Sapienza”. Four other faculty members (G. De Lorenzo, D. Bellincampi, B. Mattei, and S. Ferrari, recently appointed) work in the same department and contribute to form a particularly collaborative environment with continuous exchanges between our laboratories. My teaching duties at La Sapienza include classes of plant physiology and biotechnology and the chair of the biology faculty members. At the national level, I am president of the Italian Society of Plant Physiology.

After my initial studies on bacterial and animal allosteric enzymes, I have been working for years on polygalacturonases and their inhibitors PGIPs. Amazingly, the complexity of the polygalacturonase-PGIP recognition system and the downstream signaling events still attract my interest after so many years. At the beginning of my career in Naples, I started working on fungal polygalacturonases because of my experience in enzymology and the well-known pathogenic characteristics of these enzymes as macerating factors.

Impact Factor of MPMI Journal Continues to Rise

MPMI’s 3.936 Impact Factor in the most recent ISI rankings (2006) is evidence that the journal is doing extremely well and that it is effectively competing even against journals that cover a broader range of scientific topics. “Our Impact Factor ranks tenth overall among all 147 journals in the category of ‘Plant Sciences’,” according to Jonathan Walton, editor-in-chief of MPMI. “Furthermore, it holds the enviable position of sixth among plant science journals that publish original, peer-reviewed research and not just reviews.” The recent addition of MPMI’s new online features and custom content alerts should help continue the trend of increasing impact. Additionally, MPMI research is now fully open-access within just 12 months of publication. Visit http://apsjournals.apsnet.org/loi/mpmi to learn more about publishing in MPMI.
The concept of PAMP recognition had not been introduced yet and my initial basic hypothesis was that plants could have evolved the ability of recognizing key pathogenicity factors like polygalacturonases to determine the outcome of an interaction. This is why I started assessing whether a fungal polygalacturonase is absorbed differentially by different plant tissues. The tools of biochemistry were poor at that time and the absorption of polygalacturonase by a plant tissue was a way to follow a protein-protein interaction.

My biochemical studies continued with an EMBO fellowship (1977) at the Imperial College of London (R. K. S. Wood) and on my return to Italy. By following the absorption of fungal polygalacturonases to plant tissues, I came across PGIP, a protein that physically interacts with the enzyme and could be purified by affinity chromatography. Characterization of the enzyme-PGIP complex and the demonstration that the interaction helps the release of elicitor-active oligogalacturonides from pectin came later in Rome with the collaboration of my young colleague Giulia De Lorenzo (later my wife). To define the biochemical terms of the polygalacturonase-PGIP interaction and the subsequent formation of oligogalacturonides, I also took advantage of the invaluable advice of Peter Albersheim in Georgia, where I spent a very fruitful sabbatical (1988). Next steps of the study were the cloning of polygalacturonase and oligogalacturonides, I also took advantage of the invaluable advice of Peter Albersheim in Georgia.
PGIP genes and the definition of the 3D structure of both proteins; PGIP is the first plant LRR protein ever characterized and cloned.

Today, we have much, but not yet complete, information about the two genes and their products; how they interact and evolve remain a model for the recognition function of plant LRR proteins in general. We are also starting to have important information about the mode of action and the effects of oligogalacturonides in plant defense and development.

Q: When and why did you first join the society?
A: If I remember well, I joined the society after my first MPMI congress in Interlaken (Switzerland). It was for me a natural choice to be a member of the society, and since then I have been attending all subsequent IS-MPMI congresses.

Q: Which IS-MPMI congress did you first attend? What was the experience like?
A: My first MPMI congress was in Interlaken. In contrast with other congresses I had attended before, every single session of the Interlaken meeting had something interesting for me. The overall content of the meeting was intense and I had a great scientific experience. Also, the social part was remarkable—I drove my car with a few colleagues from Rome and I met friends and colleagues from all over the world in Interlaken.

Q: Do you think it is important that Ph.D. and post-doc students in your lab are IS-MPMI members? What can/should IS-MPMI offer young scientists in our field?
A: It is generally important for young scientists to be members of scientific societies and develop the sense of belonging to a scientific community. IS-MPMI represents the community of a continuously growing and advanced research field; I encourage my Ph.D. students and post-docs to follow the activity of the society because it is a favorable observation point for those who want to continue with plant research and look for opportunities for their careers.

Q: What drew you to plant-microbe interactions?
A: A faculty position to work on plant-microbe interactions with a biochemical approach was open at the Institute of Plant Pathology-University of Naples soon after my post-doc at the International Institute of Genetics and Biophysics. I was a young and promising (I guess) biochemist but did not know much about plants and pathogens. My application for the position was successful and I started learning.

Q: What inspired you most in your career?
A: I will say “who” rather than what: Noel Keen and Peter Albersheim; I met them at a NATO Advanced Institute in Sardinia at the beginning of my career. Then I have been inspired by a crowd of scientists who have used the sophisticated tools of molecular genetics and biochemistry to shed light on the mechanisms of plant-microbe interactions. They have contributed to our modern vision of MPMI but are too many to be listed.

Q: What’s the most exciting paper you read recently?
A: “The structural basis for activation of plant immunity by bacterial effector protein AvrPto” by Xing et al. in Nature.

Q: What is the next “big thing” in plant-microbe interactions?
A: I do not expect only one but several “big things.” Among these I would like to see the dissection and the elucidation of the intricate ways and cross-talks between the plant defense and the hormonal system.

Q: What’s your favorite gene?
A: PGIP.

Q: What are your favorite activities outside the lab?
A: Cinema and dining out. Both activities are easy in Rome.

Q: What book are you reading these days?
A: Gomorra by Roberto Saviano and Fastnet, Force 10 by John Rousmaniere.

Q: What’s your favorite vacation?
A: Sailing is one of my favorite ways of spending the free time but I also like traveling all over the world. I have enjoyed sailing vacations and cruises on my boat in the company of some distinguished members (and dear friends) of the IS-MPMI.
Recruit New Members and Win!

Now there are even more reasons to tell your colleagues about the benefits of membership! Beginning in January, IS-MPMI members who recruit new members through December 31, 2008, will be entered into a drawing for free registration to the XIV International Congress! Members who bring in five or more new members will receive free membership renewal for 1 year.

For each new member you recruit, your name will be entered into the drawing; so the more recruits you bring in, the higher your chances are of winning! Members who recruit new members will receive recognition in news capsules, on IS-MPMI-net, and in the IS-MPMI Reporter.

Visit the Member-Get-A-Member webpage on IS-MPMI-net to learn more and to download special membership applications, or complete the online referral form and an e-mail will be sent to your colleague. Be sure to write your name, or ask your recruit to write your name, in the member referral area of the application. New members will receive a special discount of $10 off 1 year of membership or 20% off 2 years of membership.

Contact the IS-MPMI membership department at +1.651.454.7250 or ismpmiinfo@scisoc.org with questions regarding this special campaign.

Start recruiting new members today!

MPMI Increases Visibility Through PubMed Linkouts

MPMI is pleased to announce the introduction of a new feature that makes accessing MPMI online articles even easier. When you do a search in PubMed, on the resulting abstract page you will now see an icon in the upper right corner that allows you to link directly to the article with just one click. This will function for articles published in the past 10 years in MPMI. The linkout feature increases the ease with which researchers can move from PubMed to the full text articles in MPMI, thereby increasing the visibility of works published in the journal.

FREE Access to MPMI’s Spotlight Article Through February 15

When an article is identified by editors as being of special interest to a broad readership, it is selected to be a Spotlight article. This month, MPMI spotlights “Characterization of natural and induced variation in the LOV1 gene, a CC-NB-LRR gene conferring victorin sensitivity and disease susceptibility in Arabidopsis” by Teresa Sweat et al. Read this article for FREE today at http://apsjournals.apsnet.org/doi/abs/10.1094/mpmi-21-1-0007.

Diane Cuppels and the History of Pseudomonas syringae pv. tomato DC3000

Interview by Mark Gijzen

Q: How did you start work on Pseudomonas syringae pv. tomato DC3000?

A: In the mid-1980s, very little was known about the pathogenicity genes of phytopathogenic bacteria. Thus, I methodically went through my Pst strain collection, looking for ones that were able to accept foreign DNA and could serve as the basis of a genetic study. I tried a number of different plasmids and transfer methods. Most strains proved unsuitable. However, I did find four strains that could serve as recipients. The transfer frequency for three of these strains was extremely low. The fourth strain, DC52, was not too bad, so I generated a rifampicin-resistant form of the strain, named it DC3000, and proceeded with the generation of Tn5 mutants of the strain (later screening them for auxotrophy and pathogenicity).

Later, when its genome was being sequenced, I was asked if I knew the origin of the strain. I dug back into my files and found that it had originally come from Guernsey, Channel Islands, United Kingdom (isolated in 1960), and had an NCPPB number (NCPPB 1106).

Q: Why did you name it DC3000?

A: Why DC3000? It sounded nice and I needed a base number from which I could start to label my mutants (e.g., DC3661, etc.).

Q: How did the strain become so important and widely used as a model and a tool in molecular plant pathology?

A: DC3000 was first described in my Applied and Environmental Microbiology paper (51:323-327; 1986). Brian Staskawicz telephoned me and asked for the strain and the rest is history. I believe the popularity of this strain stemmed from the excellent work that Brian did, using this strain as part of a model system. Brian was the one who found that it could infect Arabidopsis.

Q: What is the best way to eat tomatoes?

A: Sliced fresh with herbs.

Dr. Diane Cuppels is a research scientist at Agriculture and Agri-Food Canada in London, Ontario.
The XIII International Congress on Molecular Plant-Microbe Interactions was held in the Hilton Palace Hotel, Sorrento, in July 2007. This was an ideal venue to promote Molecular Plant Pathology (MPP, and we organized a couple of events, including a best poster prize. However, we hadn’t realized what a mammoth task this would be. The sheer scale of the conference (around 1,200 delegates and 1,000 posters) meant that the posters were split into two sessions over the week. The daunting task of judging went to MPP Senior Editors Jim Alfano, Mary Beth Mudgett, and Thorsten Nuremberger. Our judging criteria were that the winning poster had to grab them both visually and scientifically.

Armed with pen and paper, we sent our senior editors off into the massed ranks of poster boards. We really must commend our senior editors on a heroic effort. The posters were spread far and wide in different areas of the hotel and the ambient temperature in some places was way above comfortable. Air conditioning is a wonderful thing, but it was not able to cope with lots of people and lots of poster boards. It reached 30°C (87°F) in one of the poster halls and bottled water had to be brought in to revive wilting delegates. When we reconvened, Gary Foster, editor-in-chief, and Diane Hird, journal administrator, were anticipating a lengthy debate; but on both occasions the judges picked a clear winner and the decisions were swift.

We had originally planned to have a first and second prize; but having seen the quality of both winning posters, it seemed silly to rank them. Instead we awarded two first prizes, one from each session. Both posters contained interesting science presented in a strong and stimulating way. The MPP best poster prize was awarded jointly to:

Poster 106, “Isolation and characterisation of the pepper BS3 resistance gene” by Patrick Römer, Simone Hahn, Tina Jordan, Tina Strauss, Heidi Scholze, Ulla Bonas, and Thomas Layhayse. Department of Biology Martin-Luther University, Halle-Wittenberg, 06120 Halle, Germany.

Poster 518, “AVRPTOB mediates the degradation of the host Fen kinase to promote disease susceptibility” by Tracy R. Rosebrock1,2, Lirong Zeng1, Jennifer J. Brady1, Robert B. Abramovitch1,2, Fangming Xiao1, and Gregory Martin1,2. ‘Boyce Thompson Institute for Plant Research and 2Department of Plant Pathology, Cornell University, Ithaca, New York, U.S.A.

Gary Foster awarded cash prizes and certificates to the recipients at the conference closing ceremony followed by a large round of applause.
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

Elisabeth Stes

VIB Department of Plant Systems Biology, Ghent University
Ghent, Belgium

I am currently working as a Ph.D. student in the plant-microbe interaction group of Marcelle Holsters at Ghent University, Belgium. Besides a profound interest in legume symbiosis, our group studies the plant-pathogenic actinomycete Rhodococcus fascians and its interaction with host plants. Typically, a symptomatic plant shows excessive proliferation of shoots due to an activation of existing meristems and de novo meristem formation. These malformations are caused by spatiotemporal controlled secretion of morphogens by the colonizing bacteria.

During my undergraduate studies in biotechnology at Ghent University, I was given the opportunity to carry out research at the plant-microbe lab of Marcelle Holsters. The main focus of my project was to clarify the auxin production of R. fascians at a molecular level. I was elated to start my Ph.D. work in the same lab in 2006, since my interest for this fascinating phytopathogen and its possible use of auxin as a colonization and virulence factor was sparked. Previous research showed that infected plants can contain up to 40 times more auxin than control plants, and a detailed morphological description pointed out that some aspects of the symptoms provoked by this pathogen are reminiscent of typical auxin effects. My Ph.D. project aims to further elucidate the role of auxin in symptom development upon infection of Arabidopsis thaliana.

To evaluate the contribution of bacterial auxin production to symptom development, I am trying to isolate the key auxin biosynthesis gene indole-3-pyruvate decarboxylase in the R. fascians chromosome. Since biochemical data indicate that R. fascians produces auxin via the indole-3-pyruvate pathway, mutating this key gene will allow us to assess the role of bacterial auxin in the colonization capacity and virulence of this pathogen by infecting tobacco and Arabidopsis plants.

On the plant side, I’m investigating which molecular pathways involving auxin perception, biosynthesis, and signal transduction are modulated upon infection of A. thaliana. Interestingly, a couple of Arabidopsis auxin signaling mutants show a dramatically decreased response to R. fascians infection. While the colonization and expression of its virulence genes remain unaltered on the mutant plants, the typical misexpression of KNOX and cytokinin-related genes in infected tissue does not occur, which indicates that the perception or downstream signaling of the bacterial virulence determinants is hampered in these mutants.

I joined IS-MPMI in 2006 and I’m looking forward to attend the next meeting in Québec, Canada. Reading the journal and the IS-MPMI Reporter keeps me informed about the recent progress in the plant-microbe field. Furthermore, the society offers a great platform for interaction with international colleagues, of which I am planning to make even more use of during the congress.

Post-Doctoral/Early Career

Marcus Constantine Chibucos

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

Currently I am an oomycete genome annotator post-doctoral associate in the laboratory of Brett M. Tyler at the Virginia Bioinformatics Institute (VBI). My research involves plant-associated microbe gene ontology (PAMGO) and genomics of oomycete plant pathogens. Prior to working on genomics and gene ontology, I studied the biology and physiology of the oomycete pathogen Phytophthora sojae. This naturally followed from my interest in microbiology, ecology, and evolution as an undergraduate biology major at Knox College, IL, U.S.A. Although I now study pathogen genomics and biology, I still find philosophy (my other undergraduate major) very interesting, as well as quite relevant, including the areas of ethics, philosophy of science, and ontology.

My work on PAMGO involves collaborating with people from multiple institutions, including VBI, Wells College, Cornell University, North Carolina State University, University of Wisconsin, and JCVI (formerly TIGR). The PAMGO interest group was formed to develop gene ontology (GO) terms describing processes, functions, and cellular components involved in diverse microbe-host interactions. Annotating gene products of diverse microbes with the structured language of GO facilitates comparative genomics and allows exploration of mechanisms underlying microbe-host interactions in areas spanning from mutualism to pathogenesis. Thus far, 585 terms have been developed by PAMGO, most of which are “multi-organism process” terms in the biological process ontology. Now PAMGO groups are annotating gene products from the bacterial pathogens Erwinia chrysanthemi, Pseudomonas syringae pv. tomato, and Agrobacterium tumefaciens; the fungus Magnaporthe
grisea; the oomycetes Phytophthora sojae and Phytophthora ramorum; and the nematode Meloidogyne hapla. My participation in developing a systematic way to describe plant-microbe interactions has given me a much deeper understanding of molecular plant-microbe interactions. Contributing to a PAMGO jamboree that resulted in generating 472 of the aforementioned terms was very challenging but fun!

Now I am working on annotating the recently sequenced genome of Hyaloperonospora parasitica, an oomycete and obligate biotroph pathogen of Arabidopsis thaliana. VBI recently hosted an H. parasitica annotation jamboree, and I found it very interesting to see some characteristics of the genome revealed firsthand. I have been using bioinformatics-based approaches, including phylogenetics and pairwise alignments, to detect orthologs among H. parasitica and other genomes. Determining true orthology among eukaryotic genomes is an interesting problem because of their size, complexity, and evolutionary history. Further, there are unique genes that cannot be adequately characterized based on sequence comparison alone. Nevertheless, I am excited to be using bioinformatics to contribute to the annotation of a newly sequenced genome.

I completed my Ph.D. degree at Bowling Green State University, Ohio, U.S.A., in the laboratory of Paul F. Morris, who works on oomycete genomics and membrane transporters. Because northwest Ohio is an important soybean-growing region, we studied Phytophthora sojae, the causative agent of soybean root rot. My doctoral work focused on the biology of polyamines (ubiquitous, aliphatic polycations) in P. sojae. After showing that P. sojae hyphae and zoospores contain significant levels of polyamines, I demonstrated for the first time that swimming zoospores (infective propagules) take up polyamines from the environment, followed by determining uptake kinetics for putrescine and spermidine transport. This work was a prelude to our eventual cloning of P. sojae polyamine transporters and heterologous expression in yeast. Finally, during my doctoral work, I demonstrated for the first time that intact soybean roots exude significant levels of the diamine cadaverine into the rhizosphere, but not putrescine, despite roots containing large amounts of putrescine internally.

I originally joined IS-MPMI in 2001, but my first society meeting was the XIII International Congress on Molecular Plant-Microbe Interactions in Sorrento in 2007. I was fortunate to give my first international talk at this meeting, as part of a PAMGO workshop. I found the meeting a very intense and rewarding experience, with a huge variety of talks and posters on diverse aspects of plant-microbe interactions. Being immersed in this environment for a week was a great opportunity to discuss the latest research in my field and to learn about entirely new and intriguing areas. To me, the best benefit of IS-MPMI membership is this opportunity to meet people and connect. I would strongly recommend attending a meeting. I plan to attend the 2009 meeting in Québec; maybe I’ll see you there!

Meet IS-MPMI Members continued on page 14

Distinguished

L. C. “Kees” Van Loon
Department of Biology, Utrecht University
Utrecht, The Netherlands

As a young child, I experienced the “Dutch famine” in occupied Holland during the severe winter of 1944–1945 of World War II. This made one reason why I went to study at Wageningen Agricultural University (WAU), where I obtained an M.Sc. degree in plant pathology in 1966 and went on for a Ph.D. degree at the Department of Virology. I used the by-then novel technique of polyacrylamide gel electrophoresis to examine the proteins in Tobacco mosaic virus-infected tobacco and found four new protein components that appeared to be associated not only with hypersensitive resistance but also with systemic acquired resistance (SAR). These proteins were the first of many that are now known as pathogenesis-related (PR) proteins.

At the time, the significance of these findings was far from clear, because the biochemistry of plants was still an emerging field. To better understand the physiology of virus-infected plants, I joined the newly established Department of Plant Physiology at WAU as an assistant professor in 1970 and additionally spent the year 1973 as a research associate at the Plant Research Laboratory, Michigan State University. For the next 18 years, I stayed at Plant Physiology, WAU, where I concentrated on the characterization of the PR proteins of tobacco and the regulation of their induction. In 1983, I started the three-yearly workshops on PR proteins, which continue to this day. Given the physiological and biochemical similarities between leaves displaying symptoms of various diseases and senescence, I also studied the regulation of aging and senescence in tobacco and oat leaves and, particularly, the role of ethylene.

The development of molecular-biological techniques allowed results to be interpreted as effects of specific genes. To implement such an approach in my research, I spent a sabbatical at Leiden University and at UCLA in 1987–1988. I also started work on Arabidopsis. In 1992, I was offered the position of professor of plant pathology at Utrecht University. It had just been demonstrated that not only pathogens but also nonpathogenic, root-colonizing bacteria can induce systemic resistance. Starting from the idea that PR proteins would be involved, we quickly found that this was not the case and that this rhizobacteria-mediated induced systemic resistance (ISR) depends on jasmonate and ethylene signaling. My plant-physiological experience served me well here! Together with my coworkers Corné Pieterse and Peter Bakker,
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](http://apsjournals.apsnet.org/loi/mpmi)

**November 2007, Vol. 20, Number 11**

TECHNICAL ADVANCE—Stability of *Barley stripe mosaic virus*–Induced Gene Silencing in Barley.

Sensitivity and Speed of Induced Defense of Cabbage (*Brassica oleracea* L.): Dynamics of BoLOX Expression Patterns During Insect and Pathogen Attack.

Salicylic Acid Is Important for Basal Defense of *Solanum tuberosum* Against *Phytophthora infestans*.

Genome-Wide Transcript Analysis of *Bradyrhizobium japonicum* Bacteroids in Soybean Root Nodules.

Transcriptome Analysis of Trichothecene-Induced Gene Expression in Barley.

Expression of Stress-Response Proteins Upon Whitefly-Mediated Inoculation of *Tomato yellow leaf curl virus* in Susceptible and Resistant Tomato Plants.

Defense Against *Sclerotinia sclerotiorum* in *Arabidopsis* Is Dependent on Jasmonic Acid, Salicylic Acid, and Ethylene Signaling.

*Brassica napus* 29K Movement Protein Is the Elicitor of Extreme and Hypersensitive-like Resistance in Two Cultivars of *Solanum tuberosum*.

Signaling Pathways Controlling Induced Resistance to Insect Herbivores in *Arabidopsis*.


Basal Resistance Against *Pseudomonas syringae* in *Arabidopsis* Involves WRKY53 and a Protein with Homology to a Nematode Resistance Protein.

Induction of *p*-Coumaroyldopamine and Feruloyldopamine, Two Novel Metabolites, in Tomato by the Bacterial Pathogen *Pseudomonas syringae*.

The *TIR-NB-LRR* Gene *SNC1* Is Regulated at the Transcript Level by Multiple Factors.

**December 2007, Vol. 20, Number 12**

**SPOTLIGHT**—Expression Profiles of Genes Encoded by the Supernumerary Chromosome Controlling AM-Toxin Biosynthesis and Pathogenicity in the Apple Pathotype of *Alternaria alternata*.

Regulation of a Virus-Induced Lethal Disease in Tomato Revealed by LongSAGE Analysis.

**January 2008, Vol. 21, Number 1**

**SPOTLIGHT**—Characterization of Natural and Induced Variation in the *LOVI* Gene, a CC-NB-LRR Gene Conferring Victorin Sensitivity and Disease Susceptibility in *Arabidopsis*.

Identification of *Plum pox virus* Pathogenicity Determinants in Herbaceous and Woody Hosts.

The Arabidopsis Gain-of-Function Mutant ssi4 Requires RAR1 and SGT1b Differentially for Defense Activation and Morphological Alterations.

Defects in Rhizobial Cyclic Glucan and Lipopolysaccharide Synthesis Alter Legume Gene Expression During Nodule Development.

Genetic Dissection of Resistance to Anthracnose and Powdery Mildew in Medicago truncatula.

Hessian Fly (Mayetiola destructor) Attack Causes a Dramatic Shift in Carbon and Nitrogen Metabolism in Wheat.

Distinct Mechanisms Govern the Dosage-Dependent and Developmentally Regulated Resistance Conferred by the Maize Hm2 Gene.

Transformation-Mediated Complementation of a FUM Gene Cluster Deletion in Fusarium verticillioides Restores both Fumonisin Production and Pathogenicity on Maize Seedlings.


Ubc2, an Ortholog of the Yeast Ste50p Adaptor, Possesses a Basidiomycete-Specific Carboxy Terminal Extension Essential for Pathogenicity Independent of Pheromone Response.

Responses of Two Contrasting Genotypes of Rice to Brown Planthopper.

Dynamic Regulation of GacA in Type III Secretion, Pectinase Gene Expression, Pellicle Formation, and Pathogenicity of Dickeya dadantii (Erwinia chrysanthemi 3957).

February 2008, Vol. 21, Number 2

REVIEW—Two-Component Signal Transduction Systems of Xanthomonas spp.: A Lesson from Genomics.

Welcome New Members

The following members joined IS-MPMI between September 1, 2007, and December 31, 2007. Please join us in welcoming them to the society!

Raffaella Maria Balestrini
Univ of Torino, Torino, Italy

Daguang Cai
Univ Kiel, Kiel, Germany

Milena E. Roux
The Sainsbury Laboratory
Norwich, United Kingdom

Klaus Schmidt
Planta Gmbh, Einbeck, Germany

Hakeem O. Shittu
Univ of Guelph, Guelph, ON, Canada

Eleftherios C. Tjamos
Agric Univ of Athens, Athens, Greece

Barbara Valent
Kansas State Univ, Manhattan, KS, U.S.A.
**PEOPLE**

**Gitta Coaker** has recently been appointed assistant professor at the University of California, Davis. Coaker obtained her Ph.D. degree from The Ohio State University in 2003 under the guidance of David Francis. In 2004, Coaker began a post-doctoral fellowship in the laboratory of Brian Staskawicz at the University of California, Berkeley.

Her research program is currently focused on elucidating the prevalence and significance of bacterial effector activation inside host cells. Her group is also employing protein biochemistry to identify components of resistance complexes using native, biologically relevant protein expression levels.

**Thomas Mitchell** joined The Ohio State University Department of Plant Pathology on October 1, 2007, as an assistant professor, with a research focus of fungal molecular biology, fungal parasitism, and pathogen-host interactions. Mitchell’s scientific career started at Penn State University as an undergraduate student studying shiitake mushrooms and developing RAPD markers. From there, he joined the laboratory of Ralph Dean at Clemson University as one of his first graduate students.

For his Ph.D. degree, he moved to North Carolina State University to work with Margo Daub on the degradation of the fungal toxin cercosporin by bacteria. Following graduation, he again worked with Dean just as he was moving to North Carolina State University to create a large fungal genomics and bioinformatics program. For nearly 8 years he served that program as a senior research scientist and research assistant professor.

Mitchell intends to extend beyond genome sequencing and gene expression studies to mapping the networks of protein-protein and protein-nucleic acid interactions that underpin fungal virulence and host associations. Some of his current projects include the creation of a transcription factor protein chip in collaboration with Heng Zhu at Johns Hopkins School of Medicine and Dean, ChIP-chip studies to identify transcription factor binding sites, and the characterization of protein interactions that function during fungal vegetative fusion-anastomosis.

**Jurriaan Ton** has accepted a new position as research fellow at Rothamsted Research in the United Kingdom. Ton started his research career in 1994 as a M.Sc. student in the laboratory of Kees van Loon at Utrecht University. Ton graduated and moved to the University of Neuchâtel in Switzerland, where Brigitte Mauch-Mani had just started her research group. Ton began a second post-doc position in the laboratory of Ted Turlings. In 2004, he returned to Corne Pieterse’s laboratory in The Netherlands, having been granted a fellowship from the Dutch government to study the molecular mechanisms of priming for defense.

Ton feels the multidisciplinary character of this large agricultural research institute will provide an excellent environment to continue his study on the molecular mechanisms and ecological implications of priming, with the long-term objective to develop novel agricultural strategies to optimize the plant’s innate immune system against harmful microbes and insects.

The Sainsbury Laboratory is delighted to announce that, following the recent appointment of Volker Lipka to develop his work on nonhost resistance to fungal pathogens, the laboratory’s research portfolio has been further strengthened by the recruitment of Cyril Zipfel to head a group studying how plants recognize conserved microbial molecules as triggers for the activation of defense. Zipfel has also been appointed as adjunct faculty to the Disease and Stress Biology Department of the John Innes Centre.

“Ever since he started in the Boller laboratory, Cyril has consistently made contributions at the highest level to our understanding of plant-microbe interactions. He is now forging ahead using genetics to identify new plant components involved in defense signaling,” said Jonathan Jones, head of the Sainsbury Laboratory.

Zipfel commented, “I am very pleased and honored to be part of the Sainsbury Laboratory, an institute that has such an outstanding international reputation. I am looking forward to developing my research program and to having stimulating interactions with my colleagues here and at the John Innes Centre. This is probably one of the best places to start my career as a principal investigator.”

Have news you want to share with the society? Submit it online at www.ismpminet.org/newsletter/submissionform.asp
XIV International Congress
July 19-23, 2009
Québec City, Canada

Make plans now to attend the XIV International Congress on Molecular Plant-Microbe Interactions in beautiful Québec City!

Visit www.ismpminet.org for Congress updates.

We’ll see you in 2009!
Post-Doctoral Positions in Soybean Porteomics and Metabolomics

Two post-doctoral research associate positions are available immediately at the University of Missouri-Columbia to investigate the soybean proteome and metabolome. This is a collaborative project with Prof. Dong Xu, who is an expert in bioinformatics and computational biology. The successful candidates will employ GC-MS and LC-MS systems to profile proteins and metabolites in soybean seed and root tissues. Applicants should have a Ph.D. degree in chemistry, biochemistry, or a related discipline reflecting a strong background in GC-MS or LC-MS analysis applied to proteomics or metabolomics. Expertise in plant biochemistry is highly desirable. **Deadline:** Applications will be considered until suitable candidates are identified. **Salary:** Commensurate with experience and qualifications. **To Apply:** Applicants should provide a letter of interest, a complete CV, and contact information for three references, to be sent to: Dr. Henry T. Nguyen (nguyenhe@missouri.edu) and/or Dr. Gary Stacey (staceyg@missouri.edu), National Center for Soybean Biotechnology, 271 Christopher S. Bond Life Sciences Center, University of Missouri, Columbia, MO 65211 U.S.A. The University of Missouri is an equal opportunity/ADA institution.

Assistant or Associate Professor Plant Molecular Biology

The Division of Biology at Kansas State University (KSU) invites applications for a tenure-track assistant or associate professor position beginning in the 2008–2009 academic year. We seek an individual who will establish an outstanding, extramurally funded research program within the general area of plant molecular biology. The successful candidate will complement existing strengths in molecular, cellular, and plant biology on campus and will also contribute to graduate and undergraduate instruction to a diverse population in the Division of Biology. Minimum requirements for an appointment at the assistant professor rank include a Ph.D. degree and post-doctoral experience. Minimum requirements for an appointment at the associate professor rank include a Ph.D. degree and post-doctoral experience, plus an independent, nationally recognized research program, with current extramural funding, and demonstrated excellence in teaching. The Division of Biology (www.ksu.edu/biology) features a diverse, collegial, and interactive faculty who collectively bring in more than $10 million per year in extramural research funding and includes a research and graduate training program in molecular, cellular, and developmental biology (www.ksu.edu/mcdb). KSU is a major research university with excellent research facilities and is located in Manhattan, a pleasant college town of roughly 50,000 people in the rolling Flint Hills region of northeast Kansas. **Salary:** The position includes a competitive salary and startup package. **Deadline:** Review of applications will begin December 10, 2007, and continue until the position is filled. **To Apply:** Applicants should indicate how their expertise fits this interdisciplinary focus, and an explanation of how they meet the expectations of this position; your curriculum vitae; and the names, addresses, and phone numbers of three professional references. Women and minorities are encouraged to apply. Please forward nominations, applications, and interests, and representative publications and have three letters of reference sent to: Dr. Ruth Welti, Chair; Plant Molecular Biology Search Committee; Division of Biology; 116 Ackert Hall; Kansas State University; Manhattan, KS 66506-4901 U.S.A. **E-mail:** kbiology@ksu.edu. KSU is an equal opportunity/affirmative action employer and actively seeks diversity among its employees.

Assistant in Soil Molecular Microbiology

The Soil and Water Science Department (SWSD) at the University of Florida (UF), Institute of Food and Agricultural Sciences (IFAS), Gainesville, FL, is seeking an assistant in soil molecular microbiology. This 12-month position in the rank of a non-tenure-track faculty carries a 100% research commitment (Florida Agricultural Experiment Station). The incumbent, in collaboration with scientists at the UF SWSD and the UF Genetics Institute, will carry out a research program focused on the role of bacterial quorum sensing signals in legumee-rhizobium symbiosis. The incumbent will also be expected to contribute to the multidisciplinary efforts on the development of other projects related to plant-bacterial interactions. Areas of expertise may include genetic analysis of microbial in situ gene expression, quorum sensing, and plant-bacterial signal exchange. Familiarity with methods for analysis of bacterial gene expression (RIVET, IVET, RT-PCR, reporter assays), microscopy, construction and screening of genomic and promoter probe libraries is essential. The incumbent will be expected to contribute to the supervision and advising of graduate/undergraduate students and post-doctoral scientists working on the same research project. The incumbent will be located in Room 330E of the Genetics Institute. Basic qualifications include a Ph.D. degree in soil and water science, microbiology, molecular biology, plant biology, or a closely related field. Post-doctoral experience and a track record of successful research are highly desirable. This person must have the desire and ability to foster and engage in interdisciplinary, collaborative research. Excellent communication skills are required. UF is located in Gainesville, a city of 110,000 residents in north-central Florida. SWSD is a leader in teaching, research, and extension/outreach programs in management and restoration of natural resources. The interdisciplinary nature of SWSD programs provides students and faculty an opportunity to conduct basic and applied research at multiple (molecular to landscape) scales to solve environmental problems and protect and manage land and water resources. Details about SWSD can be found at http://soils.ifas.ufl.edu. **Salary:** Commensurate with qualifications and experience. **Deadline:** Formal review of applications will begin on January 15, 2008, and will continue until the position is filled. **To Apply:** Submit a letter of intent, including statements of research interest, a description of how your expertise fits this interdisciplinary focus, and an explanation of how you meet the expectations of this position; your curriculum vitae; and the names, addresses, and phone numbers of three professional references. Women and minorities are encouraged to apply. Please forward nominations, applications, and
Graduate Fellowships

Excellence in Plant Molecular Biology/Biotechnology Graduate Fellowship Program at OSU

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 Ohio State. 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. 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. The fellowships provide up to 4 years of support, including stipend ($25K/year), full benefits, tuition and fee waivers, and travel opportunities.

To Apply:
Application forms and detailed information, including a directory of PMBB faculty and participating graduate programs, is available at www.ag.ohio-state.edu/%7Epmbb/. OSU encourages applications from individuals with disabilities, minorities, veterans, and women. EEO/AA. Deadline: February 29, 2008.

Share the Value of Membership

IS-MPMI is nearly 700 members strong. Help IS-MPMI continue to grow by recruiting your colleagues to join the society today.

Current members who successfully recruit new members through December 31, 2008 will be entered into a drawing for free registration to the XIV Congress! Members who bring in 5 or more new members will receive free membership renewal for one year.

For each new member you recruit, your name will be entered into the drawing, so the more new members you bring in, the higher your chances are of winning!

Visit www.ismpminet.org/members/refermember.asp to download special membership applications or complete the online referral form and an e-mail will be sent to your colleague.

Contact the IS-MPMI membership department at +1.651.454.7250 or ismpmiinfo@scisoc.org with questions regarding this special campaign.

Start recruiting new members today!
I further elucidated the molecular basis of the induction, signal-transduction, and expression of systemically induced resistance against pathogens and insects, thereby characterizing a form of induced resistance that appears complementary to SAR.

During this period, I joined IS-MPMI and found it the perfect meeting ground for those studying interactions of plants with both harmful and beneficial microorganisms. The journal MPMI is highly relevant and I found the biennial meetings—of which I was able to attend four—most pleasant and inspiring. I always encouraged our Ph.D. students and post-docs to attend whenever possible, and this has become a tradition in the lab.

I officially retired on October 1, 2006, with Corné Pieterse succeeding me as group leader. I am still (co)supervising Ph.D. students, finishing up by writing papers, and active on several committees. I have seen plant pathology develop from a discipline studying primarily plant attackers into a science centering on the diseased plant and interconnected with plant physiology, biochemistry, biophysics, molecular biology, and genetics. Plants have been shown to react far more dynamically to their environment than we could imagine 40 years ago. That leaves the challenge to the next generation to further understand plant defensive mechanisms and exploit that knowledge for sustainable plant protection.

COMING EVENTS

2008
February 10-15
Keystone Symposium on Plant Innate Immunity
Keystone, CO, U.S.A.
www.keystonesymposia.org/Meetings/ViewMeetings.cfm?MeetingID=932

April 23-25
VIII Symposium on Plant Biotechnology
Santa Clara, Villa Clara, Cuba
http://simposio.ibp.co.cu

July 26-30
The American Phytopathological Society
Centennial Meeting
Minneapolis, MN, U.S.A.
www.apsnet.org/centennial

August 17-22
16th Congress of the Federation of European Societies of Plant Biology (FESPB)
Tampere, Finland
www.fespb2008.org

August 20-22
4th International Symposium on Rhizoctonia
Berlin, Germany
www.rhizoctonia.org

August 24-29
9th International Congress of Plant Pathology
Torino, Italy
www.icpp2008.org

August 30-September 2
10th International Fusarum Workshop
Alghero, Sardinia, Italy
http://www.ars.usda.gov/Main/docs.htm?docid=9850

2009
July 19-23
XIV International Congress on Molecular Plant-Microbe Interactions
Québec City, Québec, Canada
www.ismpminet.org/meetings

October 25-30
9th International Plant Molecular Biology Congress
St. Louis, MO, U.S.A.
www.ipmb2009.org

Include your meeting in IS-MPMI’s printed and online event calendar. Submit online at www.ismpminet.org/meetings/calsubmit.asp.

Meet IS-MPMI Members continued from page 7
Cynthia Damasceno set up her **FREE** personal profile at APS Journals Online

**She saved a “custom search”** that includes the terms *Phytophthora*, cell wall, secretion, effector, and innate immunity; she named it, and now receives e-mail alerts when new articles are published in this area.

**She added these articles to her “favorites”** titled *Phytophthora Genomics: The Plant Destroyers’ Genome Decoded* (166 times) from *Molecular Plant-Microbe Interactions* in Dec. 2006, pages 1295-1301 and *Early Signaling Events Induced by Elicitors of Plant Defenses* from *Molecular Plant-Microbe Interactions* in Jul. 2006, pages 711-724.

**She signed up for “table of contents alerts”** for *MPMI* and is alerted monthly to browse new research.

**She “tracks citations”** for articles titled *Large-Scale Gene Discovery in the Oomycete Phytophthora infestans Reveals Likely Components of Phytopathogenicity Shared with True Fungi* from *Molecular Plant-Microbe Interactions* Mar. 2005, pages 229-243 and *Salicylic Acid Is Important for Basal Defense of Solanum tuberosum Against Phytophthora infestans* from *Molecular Plant-Microbe Interactions* Nov. 2007, pages 1346-1352.

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