

IS-MPMI

Reporter

International Society for
Molecular Plant-Microbe Interactions

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IS-MPMI REPORTER DEADLINE

**Deadline for submitting items
for the next issue is
March 25, 2004.**

Submission of materials as electronic files, either on disk or as e-mail attachments, will speed processing. Please submit black-and-white or color photos generated from negatives. If your image was created digitally, please submit a laser print of the image and a disk containing the electronic graphics file (.tif and .eps formats are preferred).

For more information on submitting electronic images contact Joel Berg at jberg@scisoc.org.

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Wherefore IS-MPMI?

Jonathan Walton, President, IS-MPMI



Having just concluded its 11th biennial meeting, the International Society for Molecular Plant-Microbe Interactions (IS-MPMI) can no longer be considered a spring chicken among scientific societies. I'm not sure what middle age constitutes for a scientific society, but it's safe to say that the field of plant-microbe interactions, and consequently the Society itself, are in no danger of becoming musty—molecular plant-microbe interactions remain, in my opinion at least, one of the most exciting fields in modern biology. Nevertheless, because it has been some time since the Society was started, I offer this short perspective for the enlightenment of newer members of our Society as well as for those who are not yet

members but participate in its activities. I apologize ahead of time for any errors of fact or emphasis and ask for the forbearance of the founding members of the IS-MPMI, many of whom, I am happy to report, are still active in both the science and Society activities.

IS-MPMI is unique among scientific societies. First, it is unambiguously *international*, not simply a national society that accumulated some foreign members. Second, it is in essence *ecological*, because its members do not restrict their research and teaching to a particular group of organisms in isolation but rather to the *interactions* between organisms. Third, the interests of our Society focus on an understanding of organismal interactions at the cellular and subcellular level, using the (now) firmly established techniques and principles of *molecular* biology.

IS-MPMI grew organically from a series of biennial meetings (called International Symposia), the first of which was held in 1982 in Bielefeld, Germany. In those days, both the field and the meeting were dominated by research on *Agrobacterium* and *Rhizobium* for the logical reason that these were the systems to which the then-new tools of molecular biology were initially most effectively applied. IS-MPMI was officially inaugurated in 1990 at the Fifth International Symposium, held in Interlaken, Switzerland.

Although the origins of IS-MPMI are in research on *Rhizobium* and *Agrobacterium*, as the techniques of molecular biology swept through all areas of biology, the interests of the members of the Society have grown to encompass the diversity of plants and plant-associated microbes, including viruses, prokaryotes, and eukaryotes, all types of wild and domesticated plants, true fungi as well as "former" fungi, and those important pathogenic animals known as nematodes.

Our Society has two main functions. First is the sponsorship of the biennial Symposium on Molecular Plant-Microbe Interactions. The *Proceedings* of the IS-MPMI Symposia have been published in hard copy since the fourth symposium. In keeping with the international nature of our society, the meeting moves between

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IS-MPMI Installs New Board

IS-MPMI is pleased to welcome its new board members for the 2003-2005 term. The new leadership assumed their responsibilities at the conclusion of IS-MPMI's International Congress in St. Petersburg, Russia, July 2003.

Members of the IS-MPMI board include: Jonathan Walton, Michigan State University, president; Adam Kondorosi, CNRS, president-elect; Egbertus (Ben) Lugtenberg, Leiden University, immediate past president; Andrew Bent, University of Wisconsin, secretary; Gary Stacey, University of Missouri, treasurer; Dieter Haas, University de Lausanne, director; Steve Lindow, University of California, director; Michael Djordjevic, Australian National University, director; and Jens Stougaard, University of Aarhus, *MPMI* editor-in-chief.

News from the Dale Bumpers National Rice Research Center

Yeshe Andenow Wamishe completed her Ph.D. on resistance to leaf rust in soft red winter wheat under the direction of Dr. Eugene Milus at the University of Arkansas Department of Plant Pathology. She has recently joined the laboratory of Molecular Plant Pathology at USDA-ARS, Dale Bumpers National Rice Research Center, Stuttgart, Arkansas as a postdoctoral research associate. Her present responsibilities include studies on understanding molecular mechanisms of interactions of rice with hemibiotrophic and necrotrophic pathogens under the supervision of Dr. Yulin Jia, a research molecular plant pathologist.

Yeshe completed her B.S. degree in general biology and M.S. degree in botany in Ethiopia. Yeshe had short-term training on wheat pathology and breeding at CIMMYT, Mexico and on genetics and breeding at USDA-ARS, Cereal Disease Laboratory, Minnesota.

APS Participates with ASM, NAS, and Others in Developing New Guidelines for Publication of Scientific Information

Six months ago, The American Phytopathological Society adopted a new procedure for evaluating manuscripts submitted to its journals. The point was to prevent release of information that could lead to

any use of plant pathology contrary to the welfare of humankind, including the use of plant pathogens as biological weapons. Since that time, no manuscript has been rejected for security reasons or delayed due to elevated bioterrorism concerns. Development of the new procedure was a proactive response to the biosecurity issues raised by federal policy makers. This was our opportunity to develop procedures that we knew could work for us, rather than have procedures imposed upon us by nonscientists. The Publications Board has adopted a procedure that we believe will minimize the additional work required and that will have minimal impact on scientific freedom. At the same time, however, the new system allows for biosecurity concerns to be flagged at several points in the editorial and review process, thus greatly reducing the chance that inappropriate material would be published. We believe that the number of submissions likely to be impacted is very small. The American Society for Microbiology has screened several thousand manuscripts submitted to its 11 journals, and only three were flagged for additional scrutiny. Each of the articles was eventually published.

Statement of the APS Publications Board about APS Publication Policies and Procedures

The APS Publications Board has prepared a set of guidelines (See APS Publication Policies and Procedures page 3) to use for monitoring manuscripts submitted to its journals for content that might constitute the inappropriate use of the science of plant pathology. During the development of these guidelines, the APS Publications Board resolved to emphasize its requirement for the inclusion, within all articles submitted, of all materials relevant to the review and reproducibility of the research contained therein. This requirement includes a provision for the clear indication of the fungi, bacteria, plasmids, viruses, nematodes, and living materials, such as microbial strains and cell lines newly described in the article and that they be made available from a national collection or will be made available in a timely fashion and at reasonable cost to members of the scientific community for noncommercial purposes. The policies and procedures set forth by the APS Publications Board represent in the strongest possible terms an affirmation of the APS Code of Professional Conduct to which all members of the Society subscribe when they join APS.

Policy Guidelines of the Publications Board of The American Phytopathological Society in the Handling of Manuscripts Dealing with Crop Biosecurity and Agricultural Bioterrorism Issues

Statement from APS Council

“The Council of The American Phytopathological Society affirms the long-standing position of the Society that plant pathologists will work for the proper and beneficent application of science and will call to the attention of the public or the appropriate authorities misuses of plant pathology or of information derived from plant pathology research. APS members are obligated to discourage any use of plant pathology contrary to the welfare of humankind, including the use of plant pathogens as biological weapons. Bioterrorism violates the fundamental principles expressed in the APS Code of Professional Conduct and is abhorrent to the APS and its members.”

APS Publications Board Policy and Procedures

As described in the above Council resolution, APS recognizes that there are valid concerns regarding the publication of information in scientific journals that could be put to inappropriate use. Members of the APS Publications Board will evaluate the rare manuscript that might raise such issues during the review process. Research articles must contain sufficient detail to permit the work to be repeated by others. By publishing in an APS journal, the authors agree that any fungi, bacteria, plasmids, viruses, nematodes, and living materials, such as microbial strains and cell lines newly described in the article, are available from a national collection or will be made available in a timely fashion and at reasonable cost to members of the scientific community for noncommercial purposes. It is also expected that newly assigned GenBank/EMBL/DDBJ accession numbers for nucleotide and/or amino acid sequence data will be included in the original manuscript or be inserted when the manuscript is modified and that the data will be released to the public by the time the manuscript is published. Supply of these

materials must be in accordance with laws and regulations governing the shipment, transfer, possession, and use of biological materials and must be for legitimate, bona fide, research needs. Please refer to the appropriate websites about these laws and regulations, which can be found from the American Society for Microbiology (ASM) website (Laws and Regulations Governing the Shipment, Transfer, Possession and Use of Biological Materials). (Note: The APS Publications Board acknowledges ASM and is grateful for their permission to use ASM's publications policies and procedures as guidelines for those developed for APS.)

In order for the Publications Board to comply with the policy statement, ALL Editors of ALL APS journals should take the following course of action:

Ask ALL reviewers to advise the Senior Editor, by use of a confidential cover letter accompanying the review form, or an appropriate check-off box on the review form when it becomes available, if, in their opinion, the manuscript under review describes misuses of plant pathology or of information derived from plant pathology research. The Senior Editor should serve as an initial screen with regard to this matter and may be the point of contact with the author(s). If a reviewer brings such a matter to a Senior Editor's attention, the Senior Editor should provide copies of the manuscript to the Editor-in-Chief, the Chair of the Publications Board, and the APS Director of Publications. The Senior Editor should hold the manuscript and all reviews until contacted by the Editor-in-Chief. The Editor-in-Chief will contact the Chair of the Publications Board, and together they may render a decision or, at their discretion, consult the entire Publications Board to determine whether to resume the review process or to decline the manuscript and return it to the author.

Editors Note: MPMI is a publication of The American Phytopathological Society, as such the policy guidelines on pages 2 and 3 apply to all articles submitted to the journal.

IS-MPMI's diverse membership spans across 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, each issue of the *IS-MPMI Reporter* will profile three members chosen randomly in different career stages.

Student



Preston P. Garcia
University of Connecticut
Storrs, CT, U.S.A.

I am currently a GAANN (Graduate Assistant in Areas of National Need) fellow and Ph.D. student in the Molecular and Cell Biology Department at The University of Connecticut in Storrs, CT, U.S.A. I received my B.S. in biology from James

Madison University in Harrisonburg, VA, U.S.A. Before beginning my graduate work, I worked as an undergraduate with Dr. Bruce Wiggins, studying the use of antibiotic resistance in enterococci to determine the sources of fecal pollution in stream water.

After graduation, I was a research associate at The College of William and Mary in Williamsburg, VA, U.S.A. I had a number of duties there, but the microbiology project I was involved with was transcriptional profiling of a histidine kinase mutant of *Helicobacter pylori*. This research was conducted in the laboratory of Dr. Mark Forsyth. Currently, my research under the guidance of Dr. Daniel Gage is focused on different aspects of the molecular biology of *Sinorhizobium meliloti*, a legume symbiont. While at UConn I have constructed a dicarboxylate acid biosensor that expresses GFP in the presence of organic acids from root exudates. I am also characterizing a phosphorelay system potentially involved in a general stress response in *S. meliloti*.

When I began doing research with *S. meliloti*, I came across many useful articles published in *MPMI*. The symbiotic nature of *S. meliloti* and alfalfa is similar to the research being conducted by many of the current members of IS-MPMI. The focused nature of the society is a perfect fit for the continuation of my research in this field. The society is a great way to be involved with fellow researchers in the field of plant microbe interactions.

Post Doc/Early Career



Dr. Laura Grenville-Briggs
University of Aberdeen
Aberdeen UNITED KINGDOM

I completed a B.S. degree in Applied Biology at Bath University in 1999 and spent a year working for the water-cress industry, focusing on improving agronomical practices and on crop infections.

My honors project involved the study of the watercress pathogen *Spongospora nasturtii* from a phylogenetic perspective under the supervision of Dr. Graeme Down and Dr. John Clarkson. My study of 18S ribosomal DNA sequences led us to the conclusion that *S. nasturtii* was not closely related to true fungi. Our findings were published in *Mycological Research* in September 2002. (Down et al. 2002, *Mycological Research*, 106:1060-1065.)

Having begun my research career working with organisms morphologically similar to true fungi but biologically distinct, I moved from the plasmodiophorids to the oomycetes during my Ph.D. project. I developed an interest in avirulence in *Peronospora parasitica* and contributed to the mapping of the first avirulence gene in *P. parasitica*. (Rehmany et al 2003, *Fungal Genet Biol*, 38 33-42). I then went on to describe several novel avirulence loci in this pathogen and to begin genetic and physical mapping of a further avirulence gene as a prelude to cloning (Grenville-Briggs et al, submitted; Allen et al, submitted).

I took up a post doc research position in the Aberdeen Oomycete Group led by Dr Pieter van West at Aberdeen University, Aberdeen, Scotland in October 2002. The group focuses particularly on the molecular mechanisms of disease caused by major oomycete plant pathogens, particularly *Phytophthora* and *Pythium* species. My current interest is in the early stages of the *Phytophthora infestans* infection process, particularly the appressorial stage. Along with a Ph.D. student in the lab, Catherine Taylor, I have been employing a proteomics approach to accelerate the discovery of novel stage-specific proteins from appressoria as well as from the preceding preinfection stages germinating cysts and zoospores. My work also involves close collaboration with Dr. Anna Avrova and Dr. Paul Birch at the Scottish Crop Research Institute

(SCRI), Dundee, Scotland where Anna has been profiling the *P. infestans* transcriptome, using a subtractive suppressive hybridization (SSH)-based approach. Using these two approaches, we have identified several interesting genes, including a number of amino acid biosynthesis enzymes that appear to be expressed at higher levels in the appressoria compared with mycelia. This work has been validated by real time RT-PCR at SCRI. I was delighted to present these results in a concurrent session at the 11th International Congress on Molecular Plant Microbe Interactions, in St. Petersburg. This work has also recently been submitted for publication. Currently, we are characterizing several other appressorial-specific proteins that were identified by 2D-gel electrophoresis.

I joined IS-MPMI three years ago as a Ph.D. student and attended the 10th International Congress in Madison, WI, U.S.A. I have found both this meeting and the 11th International Congress exciting, informative, and challenging. It is a fantastic opportunity to meet with other members of the oomycete research and wider plant-microbe interaction community, particularly colleagues from other countries with whom regular meetings are not always possible. Since I work in a laboratory housed within the Aberdeen University Institute for Medical Sciences, my personal subscription to MPMI online has been an invaluable resource, allowing me to easily keep up-to-date with recent developments within this field.

Distinguished member



Milton P. Gordon

University of Washington
Seattle, WA, U.S.A.

I received my Ph.D. in Biochemistry at the age of 23 from the University of Illinois, Urbana-Champaign. After graduating, I traveled to New York City for a postdoctoral job. From 1953 to 1955, I worked as a National Cancer Institute

postdoctoral fellow at Sloan-Kettering in New York City and then another two years as a staff research assistant. I studied the metabolism of a compound believed to be a cancer treatment drug—purine riboside—and also taught a graduate biochemistry course at Brooklyn College. From 1957 to 1959, I worked at the University of California-Berkeley's Virus Laboratory as an assistant

research biochemist for Wendell Stanley, 1946 Nobel Prize winner. I studied *Tobacco mosaic virus* (TMV). This research led to my work in plant genetics. Collaborating with colleagues Heinz Fraenkel-Conrat and Bea Singer, we demonstrated that the virus nucleic acid previously believed to consist of small segments was in actuality a single entity. The virus contains one piece of nucleic acid and many copies of one type of protein. I also studied the effectiveness of chemotherapeutic drugs on the replication of the virus.

In 1959, I accepted an assistant professorship in the Department of Biochemistry School of Medicine at the University of Washington. In 1960, I helped establish the journal *Biochemistry*, a leading journal among professional publications in the field. The chair of the Biochemistry Department, Hans Neurath, was the editor, and I, along with other colleagues, served as associate editors. For 31 years while editing the journal, I coordinated the biochemistry courses taught to medical students in Washington, Alaska, Montana, and Idaho. Since 1980, I served as an adjunct professor in the Department of Microbiology, and, since 1999, I also held a joint professorship in the College of Forest Resources at the University of Washington.

For more than 32 years, I have collaborated in research with microbiologist, Eugene Nester. Our research led to the discovery of a simple technique using *Agrobacterium* to introduce foreign genes into plants and give them useful properties, such as increased nutritional value and resistance to pathogens and harmful insects. The technique became the common method for the genetic engineering of plants. We demonstrated that *Agrobacterium tumefaciens* could genetically engineer plants in nature by transferring a piece of its DNA into plant cells. This research forms the basis for developing genetically engineered plants that resist herbicides, insect pests, and viruses. The work also has provided a valuable model for other plant-pathogen interactions. My colleagues Allen Kerr and Gene Nester and I produced an Agro anthology, entitled *Agrobacterium tumefaciens: From Plant Pathology to Biotechnology*. It will be published by APS Press.

Since I retired in September 2003, I expect that IS-MPMI will help me maintain professional contacts. I have found that the Society provides me with good opportunities to meet people with common interests. This is particularly important since I work in a medical school. The publications of the Society are also very helpful.

January 2004, Volume 17

Rhizoremediation: A Beneficial Plant-Microbe Interaction. I. Kuiper, E. L. Lagendijk, G. V. Bloemberg, and B. J. J. Lugtenberg.

Expression of *MsLECI* Transgenes in Alfalfa Plants Causes Symbiotic Abnormalities. L. M. Brill, N. A. Fujishige, C. A. Hackworth, and A. M. Hirsch.

Host Responses to Transient Expression of Individual Genes Encoded by *Tomato leaf curl virus*. L. A. Selth, J. W. Randles, and M. A. Rezaian.

NPR1-Independent Activation of Immediate Early Salicylic Acid-Responsive Genes in *Arabidopsis*. C. Uquillas, I. Letelier, F. Blanco, X. Jordana, and L. Holuigue.

The Phytoalexin-Inducible Multidrug Efflux Pump AcrAB Contributes to Virulence in the Fire Blight Pathogen, *Erwinia amylovora*. A. Burse, H. Weingart, and M. S. Ullrich.

Rme1 is Necessary for *Mi-1*-Mediated Resistance and Acts Early in the Resistance Pathway. O. Martinez de Ilarduya, G. Nombela, C.-F. Hwang, V. M. Williamson, M. Muñiz, and I. Kaloshian.

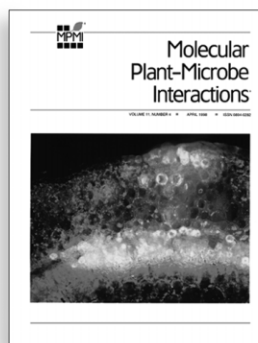
Promoter of the *Vicia faba* L. Leghemoglobin Gene *VfLb29* Is Specifically Activated in the Infected Cells of Root Nodules and in the Arbuscule-Containing Cells of Mycorrhizal Roots from Different Legume and Nonlegume Plants. M. F. Vieweg, M. Frühling, H.-J. Quandt, U. Heim, H. Bäumlein, A. Pühler, H. Küster, and A. M. Perlick.

Early Induction of the *Arabidopsis GSTF8* Promoter by Specific Strains of the Fungal Pathogen *Rhizoctonia solani*. R. Perl-Treves, R. C. Foley, W. Chen, and K. B. Singh.

Analysis of the Involvement of Hydroxyanthranilate Hydroxycinnamoyltransferase and Caffeoyl-CoA 3-O-Methyltransferase in Phytoalexin Biosynthesis in Oat. Q. Yang, H. X. Trinh, S. Imai, A. Ishihara, L. Zhang, H. Nakayashiki, Y. Tosa, and S. Mayama.

Functional Analysis of Genes Involved in the Synthesis of Siringolin A by *Pseudomonas syringae* pv. *syringae* B301D-R. H. Amrein, S. Makart, J. Granado, R. Shakya, J. Schneider-Pokorny, and R. Dudler.

Analysis of Mechanisms Involved in the *Cucumber*



mosaic virus Satellite RNA-mediated Transgenic Resistance in Tomato Plants. F. Cillo, M. M. Finetti-Sialer, M. A. Papanice, and D. Gallitelli.

The Germinlike Protein GLP4 Exhibits Superoxide Dismutase Activity and Is an Important Component of Quantitative Resistance in Wheat and Barley. A. B. Christensen, H. Thordal-Christensen, G. Zimmermann, T. Gjetting, M. F. Lyngkjær, R. Dudler, and P. Schweizer.

Apoplastic pH Signaling in Barley Leaves Attacked by the Powdery Mildew Fungus *Blumeria graminis* f. sp. *Hordei*. H. H. Felle, A. Herrmann, S. Hanstein, R. Hüchelhoven, and K.-H. Kogel.

December 2003, Volume 16, Number 12

Nodulation of *Mimosa* spp. by the Beta-Proteobacterium *Ralstonia taiwanensis*. W.-M. Chen, E. K. James, A. R. Prescott, M. Kierans, and J. I. Sprent.

Induction of the *Habsp17.7G4* Promoter by Root-Knot Nematodes: Involvement of Heat-Shock Elements in Promoter Activity in Giant Cells. C. Escobar, M. Barcala, M. Portillo, C. Almoguera, J. Jordano, and C. Fenoll.

The Glucocorticoid-Inducible GVG System Causes Severe Growth Defects in Both Root and Shoot of the Model Legume *Lotus japonicus*. S. U. Andersen, C. Cvitanich, B. K. Hougaard, A. Roussis, M. Grønlund, D. B. Jensen, L. A. Frøkjær, and E. Ø. Jensen.

A Set of Genes Differentially Expressed Between Avirulent and Virulent *Meloidogyne incognita* Near-Isogenic Lines Encode Secreted Proteins. C. Neveu, S. Jaubert, P. Abad, and P. Castagnone-Sereno.

Three Genes Encoding for Putative Methyl- and Acetyltransferases Map Adjacent to the *wzm* and *wzt* Genes and Are Essential for O-Antigen Biosynthesis in *Rhizobium etli* CE3. I. Lerouge, C. Verreth, J. Michiels, R. W. Carlson, A. Datta, M.-Y. Gao, and J. Vanderleyden.

Nitric Oxide-Mediated Transcriptional Changes in *Arabidopsis thaliana*. A. Polverari, B. Molesini, M. Pezzotti, R. Buonauro, M. Marte, and M. Delledonne.

GacA, the Response Regulator of a Two-Component System, Acts as a Master Regulator in *Pseudomonas syringae* pv. *tomato* DC3000 by Controlling Regulatory RNA, Transcriptional Activators, and Alternate Sigma

Factors. A. Chatterjee, Y. Cui, H. Yang, A. Collmer, J. R. Alfano, and A. K. Chatterjee.

Laminarin Elicits Defense Responses in Grapevine and Induces Protection Against *Botrytis cinerea* and *Plasmopara viticola*. A. Aziz, B. Poinssot, X. Daire, M. Adrian, A. Bézier, B. Lambert, J.-M. Joubert, and A. Pugin.

The *Cre1* and *Cre3* Nematode Resistance Genes Are Located at Homeologous Loci in the Wheat Genome. J. de Majnik, F. C. Ogonnaya, O. Moullet, and E. S. Lagudah.

Depletion of the Photosystem II Core Complex in Mature Tobacco Leaves Infected by the *Flavum* Strain of *Tobacco mosaic virus*. K. Lehto, M. Tikkanen, J.-B. Hiriart, V. Paakkari, and E.-M. Aro.

Oxidative Burst Elicited by *Bacillus mycoides* Isolate Bac J, a Biological Control Agent, Occurs Independently of Hypersensitive Cell Death in Sugar Beet. R. L. Bargabus, N. K. Zidack, J. E. Sherwood, and B. J. Jacobsen.

November 2003, Volume 16, Number 11

Isolation of a Polygalacturonase-Inhibiting Protein (PGIP) from Wheat. G. Kemp, C. W. Bergmann, R. Clay, A. J. Van der Westhuizen, and Z. A. Pretorius.

Nitric oxide Does Not Trigger Early Programmed Cell Death Events but May Contribute to Cell-to-Cell Signaling Governing Progression of the Arabidopsis Hypersensitive Response. C. Zhang, K. J. Czymmek, and A. D. Shapiro.

PhyA, a Secreted Protein of *Xanthomonas oryzae* pv. *oryzae*, Is Required for Optimum Virulence and

Growth on Phytic Acid as a Sole Phosphate Source. S. Chatterjee, R. Sankaranarayanan, and R. V. Sonti.

Interactions in the Tomato Rhizosphere of Two *Pseudomonas* Biocontrol Strains with the Phytopathogenic Fungus *Fusarium oxysporum* f. sp. *radicis-lycopersici*. A. Bolwerk, A. L. Lagopodi, A. H. M. Wijffjes, G. E. M. Lamers, T. F. C. Chin-A-Woeng, B. J. J. Lugtenberg, and G. V. Bloemberg.

Natural Resistance to *Clover yellow vein virus* in Beans Controlled by a Single Recessive Locus. M. Sato, C. Masuta, and I. Uyeda.

Biocontrol Traits of *Pseudomonas* spp. Are Regulated by Phase Variation. D. van den Broek, T. F. C. Chin-A-Woeng, K. Eijkemans, I. H. M. Mulders, G. V. Bloemberg, and B. J. J. Lugtenberg.

Deletion of all *Cochliobolus heterostrophus* Monofunctional Catalase-Encoding Genes Reveals a Role for One in Sensitivity to Oxidative Stress but None with a Role in Virulence. B. Robbertse, O. C. Yoder, A. Nguyen, C. L. Schoch, and B. G. Turgeon.

Restoration of Defective Cross Talk in *ssi2* Mutants: Role of Salicylic Acid, Jasmonic Acid, and Fatty Acids in SSI2-Mediated Signaling. P. Kachroo, A. Kachroo, L. Lapchyk, D. Hildebrand, and D. F. Klessig.

Activity of Class III Peroxidases in the Defense of Cotton to Bacterial Blight. E. Delannoy, A. Jalloul, K. Assigbetsé, P. Marmey, J. P. Geiger, J. Lherminier, J. F. Daniel, C. Martinez, and M. Nicole.

Molecular Analysis of the Pathway for the Synthesis of Thiol Tripeptides in the Model Legume *Lotus japonicus*. M. A. Matamoros, M. R. Clemente, S. Sato, E. Asamizu, S. Tabata, J. Ramos, J. F. Moran, J. Stiller, P. M. Gresshoff, and M. Becana.

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Postdoctoral Position in Fungal Population Biology

The USDA Agricultural Research Service, Microbial Genomics Research Unit, National Center for Agricultural Utilization Research, Peoria, Illinois, U.S.A. is accepting applications for the position of a postdoctoral research associate (geneticist/microbiologist/plant pathologist), with funding for two years. Salary is commensurate with experience (GS-11, \$47,110 per annum plus benefits). The incumbent will investigate the species limits and population biology of an economically important complex of nonindigenous soybean and dry bean pathogens within an evolutionary lineage of the filamentous fungus *Fusarium* recently introduced into the U.S. Research will involve phylogenetic analysis of multilocus DNA sequence data, application of amplified length polymorphism data and microsatellite loci to characterize their population structure, reproductive mode, and the development of a standard set of marker loci for molecular surveillance. A recent Ph.D. in molecular and/or evolutionary genetics/microbiology/plant pathology/mycology or a related field is required. Candidates for this position should have a strong research background in molecular genetics, molecular phylogenetics, and/or population biology. Candidates need not be U.S. citizens, but some restrictions apply. A complete copy of the vacancy announcement [ANNOUNCEMENT NO: RA-016H] and where to apply can be found at www.ars.usda.gov. Please send *curriculum vitae*, resume, or Optional Application for Federal Employment [OF-612] and names of three references to Dr. Kerry O'Donnell, NCAUR/ARS/USDA, 1815 N. University Street, Peoria, IL 61604-3999, U.S.A.; E-mail: kodonnell@sunca.ncaur.usda.gov. USDA/ARS is an equal opportunity provider and employer.

Postdoctoral Positions

Postdoctoral positions are available to study the molecular genetics of *Phytophthora infestans*, an oomycete fungus that causes the late blight diseases of potato and tomato. *P. infestans* is one of the world's most important plant pathogens, with a direct economic impact exceeding \$5 billion per year. Successful applicants will join projects aimed at characterizing genes important in sporulation. Projects will involve using gene silencing to study gene function, enhancing existing methods and vectors associated with transformation, and/or studying the biochemistry and cell biology of spore-relevant genes. Funding for these positions is available for up to three years, starting after January 2004. Additional information about the laboratory is available at <http://138.23.152.128/JudelsonHome.html>. Applicants should have experience in cloning techniques. Training in biochemistry or microscopy would

be a plus but is not essential. Experience with filamentous fungi or oomycetes is not required; scientists with training in other systems (plants, etc.) are welcome to apply. Please send a *curriculum vitae* and the names of three references (including addresses and telephone numbers) to: Dr. Howard Judelson, Department of Plant Pathology, University of California, Riverside, CA 92521, U.S.A.; E-mail: howard.judelson@ucr.edu; Fax: +1.909.787.4294. If you send an e-mail attachment, please label it with your name.

Postdoctoral Positions Available at Michigan State University

Sheng Yang He's group in the Department of Energy Plant Research Laboratory (www.prl.msu.edu), Michigan State University, has postdoctoral positions open to study the molecular basis of *Arabidopsis* susceptibility to *Pseudomonas syringae* infection. This group is currently conducting research in the following three areas: 1) the type III protein secretion mechanism in *P. syringae*, 2) modulation of *Arabidopsis* susceptibility by *P. syringae* type III effector proteins, and 3) modulation of *Arabidopsis* susceptibility by the jasmonic acid-mimicking toxin coronatine. A general description of their research interests can be found at <http://www.prl.msu.edu/he.shtml>. For more information about these positions and their recent unpublished results (especially on type III effector functions inside the susceptible *Arabidopsis* cell), please contact Sheng Yang He by phone (+1.517.353.9181) or by E-mail (hes@msu.edu). For formal application, please E-mail the following documents to hes@msu.edu: 1) a cover letter stating research interests and a desirable starting date, 2) resume, and 3) names and contact information of three references. The applicants, by the time of starting these positions, should hold a Ph.D. degree in a biological science discipline. Experience in molecular biology is essential. Michigan State University is an equal opportunity employer.

Three (3) Assistant/Associate Professor Positions

Michigan State University seeks to hire three faculty members at the assistant or associate professor level who are using integrative and molecular approaches such as functional genomics, proteomics, bioinformatics, metabolic profiling, flux modeling, or subcellular imaging to study important problems in plant biology. Successful candidates will also participate in undergraduate and/or graduate teaching. We seek individuals exploring questions in plant development, cellular organization, nutritional enhancement, response to the environment, or host-pathogen interactions for the following positions:

Assistant/Associate Professor - Jointly appointed between the Department of Biochemistry and Molecular Biology (BMB: www.bch.msu.edu) and the Department of Plant Biology (PLB: www.plantbiology.msu.edu), with potential for recurring research support pending negotiation. For further information contact search committee cochairs: Dr. Christoph Benning (BMB; +1.517.355.1609; benning@msu.edu) and Dr. Katherine Osteryoung (PLB; +1.517.355.4685; osteryou@msu.edu).

Assistant/Associate Professor in Horticulture - (www.hrt.msu.edu) With the option of a joint appointment in biochemistry and molecular biology, crop and soil sciences, entomology, forestry, plant biology, or plant pathology and potential for recurring research support pending negotiation. For further information contact search committee chair: Dr. Rebecca Grumet (+1.517.353.5568; grumet@msu.edu).

Assistant Professor in Plant Pathology - (www.plantpathology.msu.edu) With the option of a joint appointment in biochemistry and molecular biology, crop and soil sciences, entomology, forestry, horticulture, or plant biology. For further information contact search committee chair: Dr. George Sundin (+1.517.355.4573; sundin@msu.edu).

Michigan State University has a large and vibrant community of plant biologists with research interests spanning all major areas in the plant sciences. State-of-the-art analytical core facilities include the Genomics Technology Support Facility, Macromolecular Structure, Sequencing and Synthesis Facility, Mass Spectrometry/Proteomics Facility, and Center for Advanced Microscopy. Because of the opportunity for synergistic appointments, we encourage applications from candidates who are present or potential collaborators. Candidates must have a Ph.D. and postdoctoral experience in relevant areas. The application should include: cover letter (including preferred position[s] or home department[s]), *curriculum vitae*, statement of research interests and future directions, and three or more letters of reference. Application materials for all positions should be addressed to: Plant Sciences Initiative, c/o Ms. Julie Oesterle, Department of Biochemistry & Molecular Biology, Michigan State University, East Lansing MI 48824, U.S.A. Review of application materials will begin on December 10, 2003 and continue until suitable candidates are identified. MSU is an affirmative action, equal opportunity employer.

Assistant Professor, Microbiology & Cell Science

The Department of Microbiology and Cell Science at the University of Florida seeks to fill a tenure-track assistant professor position. Requirements: Ph.D. in microbiology, molecular biology, genetics, plant molecular biology, or closely related field, postdoctoral experience, and research background in molecular genetics/genomics of plant-microbe systems with a demonstrated excellence in research. Areas of research interest include: 1) utilization of the tremendous potential residing in the genomes of microorganisms to alter plants to produce novel products through genetic engineering, and 2) plant-microbe signaling, signal transduction, or genetic exchange between microbes and plants. Expertise in utilization of genome sequence data, global gene expression data and proteomics to address critical biological problems in microbiology and plant cell biology will be an asset. Responsibilities: Develop an extramurally funded, cutting-edge research program, teach an undergraduate and a graduate course in cell and molecular biology, and supervise Ph.D. candidates. For further details visit <http://microcell.ufl.edu>. Applications accepted until December 15, 2003 or until position is filled. Submit letter of application, current *curriculum vitae*, description of research interests, and names and E-mail addresses of three references to F. C. Davis, Chair, Search Committee, Microbiology and Cell Sciences, University of Florida, P.O. Box 110700, Gainesville, FL 32611-0700, U.S.A.; Telephone: +1.352.392.1179; Fax: +1.352.392.5922, E-mail: fcDavis@mail.ifas.ufl.edu. Digitized submissions are preferred. Equal opportunity/affirmative action employer.

Three (3) Postdoctoral/Visiting Scientist Positions in Maize Signal Transduction Research

Pioneer Hi-Bred International, Inc. is the world leader in the discovery, development, and delivery of elite crop genetics, headquartered in Johnston, Iowa, U.S.A. We are seeking postdoctoral research fellows/visiting scientists for a multidisciplinary program aimed at elucidating signaling pathways controlling key traits, including kernel development, disease resistance, and plant architecture in maize. Candidates with research records and hands-on experience in areas of signal transduction, including protein-protein interaction, subcellular localization of proteins using fluorescent tags, and cloning technology are encouraged to apply. A Ph.D. in plant molecular biology, biochemistry, or related area is required. The program has significant internal support and technological infrastructure in an interactive research environment. The program has an external scientific advisory board consisting of

Employment continued on page 10

Employment continued from page 9

Nam-Hai Chua (Rockefeller University), Jeff Dangl (University of North Carolina), Nick Harberd (John Innes Center), Ken Neet (Chicago Medical School), and Natasha Raikhel (UC Riverside). For information on individual positions, see below or visit www.pioneer.com for more complete descriptions.

Biochemist/Molecular Biologist - Job code RES/QP48/WIS - Educational qualifications desired: Ph.D. in plant molecular biology, biochemistry, or related area. Position Description: molecular biologist to study the interaction of different hormone signal transduction pathways on vegetative and reproductive growth patterns in maize, using molecular and cytochemical markers. Experience in microscopy, plant or animal molecular biology, use of expression markers, and signal transduction pathway dissection would be an asset. Relevant references for this project: Peng, J. et al. (1999) *Nature* 400:256-261; Gubler, F. et al. (2002) *Plant Physiology* 129:191-200; Chandler, P. et al. (2002) *Plant Physiology* 129:180-190; Hadden, P. (2002). *Trends in Genetics* 19:5-9; Fu, X. and Harberd, N. (2003). *Nature* 421:740-743; Fu, X. et al. (2002). *Plant Cell* 14:3191-3200; Zentella, R. et al. 2002. *Plant Cell* 14:2289-2301.

Protein Biochemist/Molecular Biologist - Job code RES/QP49/WIS - Educational qualifications desired: Ph.D. in plant molecular biology, biochemistry, or related area. Position description: protein biochemist/molecular biologist to study the signaling pathways leading to disease resistance response in

maize. The successful candidate will characterize early events during response to *R*-gene activation in maize, using biochemical and molecular tools. Experience in protein-protein interaction cloning, signal transduction pathway dissection, and plant molecular biology would be an asset. Relevant references for this project: Bogdanove, A. (2002). *Plant Molecular Biology* 50:989; Mackey, D., et al. (2003). *Cell* 108:743; Jia, Y., et al. (2000). *EMBO Journal* 19(15):4004-4014.

Cell Biologist/Molecular Biologist - Job code RES/QP51/WIS - Educational qualifications desired: Ph.D. in plant molecular biology, biochemistry, or related area. Position description: cell biologist/molecular biologist to study the subcellular location and interaction of newly isolated members of the signal transduction pathway regulating aleurone cell fate specification in maize endosperm. Experience with fluorescence-tagged proteins and different forms of microscopy is required. Experience with confocal microscopy would be an asset. Relevant references for this project: Olsen, O.-A. (2001). *Annu. Rev. Plant Physiol.; Plant Mol. Biol.* 52, 233-267; Lid, S. et al. (2002). *PNAS* 99, 5460-5465; Shen, B. et al. (2003). *PNAS* 100, 6552-6557; Wang, C. et al., *J. Biol. Chem.:* Online M300745200.

You must reference the relevant job code(s) above in order to be considered. Please send a resume/cover letter to: Employment Services, Pioneer Hi-Bred International, P.O. Box 14454, Des Moines, IA 50306-3454, U.S.A., or E-mail: apply@pioneerjobs.com. EOE

Welcome New Members

The following members joined IS-MPMI between September 1, 2003 and November 30, 2003. Please join us in welcoming them to the Society!

Guido V. Bloemberg

Leiden University
Leiden, NETHERLANDS

Saul Burdman

Hebrew University of Jerusalem
Rehovot, ISRAEL

Zhixiang Chen

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Tatyana Erokhina

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Beatrice Scherrer

University of Zurich
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You are the single most important source of new member referrals. Keep the momentum going. Tell a colleague about membership in IS-MPMI.

Information is available online at

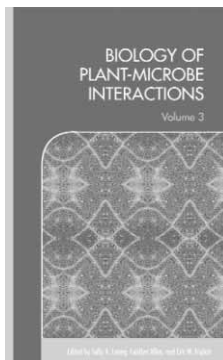
www.ismpminet.org.



International Society for Molecular
Plant-Microbe Interactions

Biology of Plant-Microbe Interactions, Volume 3

Edited by: Sally A. Leong, Caitilyn Allen,
and Eric W. Triplett



Biology of Plant-Microbe Interactions, Volume 3 provides groundbreaking reports on the new studies related to the science of plant-microbe interactions as presented at the 10th International Congress on Molecular Plant-Microbe Interactions. Major themes include: recognition of pathogens by plants, defense signal nematode interactions, secretion of Avr and Vir factors, ecology and population biology of plant-associated microbes, cell biology of plant-microbe interactions, plant-rhizobium interactions, and functional genomics and biotechnology. Forty-nine figures, a subject/author index, and bibliography further enhance this title's emphasis on new research on the molecular basis of disease resistance.

2002; 6" x 9" hardcover; 376 pages; 49 black and white figures; ISBN 0-9654625-2-8; (2 pounds)
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different countries, and by tradition, the symposium has alternated between North America and Europe. Meetings have been held in Germany, Mexico, Switzerland, the United States, Scotland, The Netherlands, and most recently, Russia. The next symposium, scheduled for 2005, will be held in Cancun on the Yucatan peninsula of Mexico. Clearly, the Society does not avoid picturesque and interesting locales; the Yucatan, for example, is famous for its scenic beauty and its archeological sites. Despite its tradition of transatlantic venues, the Society does recognize that our world encompasses more than Europe and North America, and we hope that, in the near future, it will be possible to hold the symposium on one of the other continents. In this regard, anyone interested in sponsoring a future meeting should note that the meeting locale is usually decided three to five years in advance. Potential sponsors or organizers are encouraged to contact members of the IS-MPMI board of directors; the matter is discussed formally at the board of directors' meeting held during the symposia.

The second important function of IS-MPMI is to publish the journal *Molecular Plant-Microbe Interactions*. *MPMI* was first published in 1988 and is now in its 17th volume. It has established itself as a major journal covering its topic area. It competes very favorably in subscriptions and impact factor against other leading plant science journals, which is all the more impressive when one considers that most of the major plant journals are much more generalist than *MPMI*. *MPMI* is published by APS Press under the auspices of The American Society of Phytopathology. The business offices of IS-MPMI are also shared with APS; we reimburse them for the services they provide to our Society. This has been a very amicable and mutually beneficial relationship.

IS-MPMI also publishes three times yearly a newsletter called the *Reporter*. It was edited for many years by Sally Leong, but in 1999, then president of IS-MPMI Jan Leach put the management of the *Reporter* on a more formal footing with appointment of yours truly as Editor-in-Chief for a three-year term and with its own editorial board. As of this issue of the *Reporter* (Spring 2004), Thomas Baum of Iowa State University is the

Editor-in-Chief. The *Reporter* publishes news of interest to its members, including occasional editorials, updates on trends in the field, and advertisements (free of charge) for meetings and employment positions. Contributions of material for the *Reporter* are always welcome.

IS-MPMI is managed by a Board of Directors, elected pursuant to our by-laws (see www.ismpminet.org/about/ismpmibylaws.pdf). The duties of the Board are not onerous, since the Board usually meets only once every two years at the Symposium itself. Typically, the board meeting agenda includes discussion of the budget, the publication of the *Proceedings*, and the site(s) of future symposia. The Editor-in-Chief of *MPMI* is a member of the Board and reports on its status. As at many Societies that publish journals, there have been several discussions in recent years about the impact of electronic publishing on both *MPMI* and the *Proceedings*.

Because our Society is small (currently about 500 members) and is managed in a relatively informal manner, people are always needed and are welcome to help with planning and organizing the symposia, running for election to the board of directors, contributing to the IS-MPMI *Reporter*, and helping with all other aspects of keeping our Society vital. If you are interested in getting involved, contact one of the members of the Board of Directors. The names of the current Board members can be found in most issues of the *Newsletter* or on-line at <http://www.ismpminet.org/about/officers.asp>.

The range and quality of the expertise and topics represented by our Society in its journal and at the IS-MPMI symposia are impressive. The Society provides one of the few venues where eukaryotic and prokaryotic biology mingle and where symbiotic and pathogenic relationships are discussed side-by-side. In our increasingly specialized and fragmented scientific culture, communication across the lines of traditional disciplines is more important than ever before. The prominent contribution that IS-MPMI makes to this dialog bodes well for the continued health of our Society.