Society for Invertebrate Pathology Newsletter

Volume 47 Issue 1 February, 2014

Important Deadlines:

Student Travel Award Applications

April 1, 2014

Abstract Submission

February 17 - April 1, 2014

Registration

Early - February 17 - April 15.
Regular - April 16 - June 15.
Late/On-site - June 16 - August 3.

Dear SIP members and colleagues,

It is our pleasure to invite you to attend the 2014 International Congress on Invertebrate Pathology and Microbial Control & 47th Annual Meeting of the Society for Invertebrate Pathology. The meeting will be held from August 3rd to 7th, 2014 at the Johannes Gutenberg University in Mainz, Germany.

We are planning an exciting scientific program to explore the latest findings in invertebrate pathology, including microbial control of insect pests, diseases in beneficial invertebrates, medical and biotechnological significance of entomopathogens, and fundamental scientific research in host-pathogen interactions.

Mainz offers a medieval town center including its historical dome and places nearby, and is situated in the south-west of Germany´s most famous region for wine growing. Besides being the capital of the state Rhineland-Palatine it was elected first among the German "Great Wine Capitals". Wine, carnival, tradition and culture are values represented in the city of Mainz, but above all the city is the birthplace of Johannes Gutenberg the inventor of bookprinting with movable letters, and hence the birthplace of modern communication and knowledge. Consequently one can feel the university´s slogan all around the city: "Moving Minds - Crossing Boundaries".

Mainz University Campus

Visitors will be fascinated by the historical sights in Mainz but also by the stunning nature in surrounding areas, e.g. valleys around the Rhine River, which connects Switzerland, France, Germany and the Netherlands and has shaped the scenery and culture of the region for millennia.

Enjoy with us an inspiring and enthusiastic 47th SIP Annual Meeting in beautiful Mainz.

We look forward seeing you!

The Local Organizing Committee

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From the President

Dear SIP Colleagues,

Very recently the ten people that make up the SIP Council held its annual teleconference. They all are enthusiastic, innovative and doing their best to solve problems with consensus, and at the same time being very disciplined. How did we learn that? Well, let's just say that SIP officers are like that .

How does our discipline develop?
The state of our discipline is good and because there is an increasing need for invertebrate pathologists, there is absolutely room for us. A main challenge for us is to communicate with the environment and document where we make a difference. That can be by using invertebrates as models to understand disease agents and their co-evolution with host. It can be by developing new organisms for biological control. It can be by developing international collaborations to protect shrimp and honey bees from detrimental disease. However, unlike more recognized disciplines such as Botany, Marine Biology, Human Pathology, Plant Pathology, and Population Ecology, we face often a small problem. If we introduce ourselves as 'Invertebrate Pathologists', it may look a bit nerdy and call for additional words to explain both in scientific terms and in more common language what we do and why it is important. In my own case, I've found it helpful to add 'Biological control of pests' and 'Protection of insects for food and feed from diseases'. Also, I should mention that when I teach the concepts of diversity to first year bachelor students, they enjoy learning about insect diseases and how they cause behavioral changes and similar appealing tales. Let's hope we can stimulate just a few of the next generation of young students to become 'Invertebrate Pathologists'.

More about language. In an increasingly globalized environment, many research teams become more international. In my own team, we right now have people from Austria, Poland, Finland, USA, France, Tunesia, Brazil, England, and of course Denmark. That's challenging, and I learn a lot. Not only can many of over time improve our English skills, but we can also learn how different terms are used to describe the same situation in different research environments. For example, my own research team is here called 'Insect Pathology and Biological Control', while never 'The Eilenberg lab'. The latter naming including the professor's name is used, I know, e.g. in the USA.

The webpage for the Mainz meeting is now up and running. Move on, register now and have a great time in beautiful Mainz.

Best regards to all,

Jørgen

47TH ANNUAL MEETING

SIP

MAINZ GERMANY 2014

Mainz is a vibrant University City, capital of the State Rhineland-Palatinate and counts about 200,000 inhabitants. As a Roman foundation it looks back on several thousand years of history. More than 2000 years ago, the Romans founded Mainz for its strategic position at the Rhine River. They also brought grapes to Germany. Today, Mainz is the capital of Germany´s largest wine growing State Rhineland-Palatinate.

SIP2014 will be hosted at the Johannes Gutenberg University, which was founded in 1477. The university is named after Johannes Gutenberg, the inventor of book printing with movable letters. Thus, he was one of the founders of science and education!

An exciting scientific program presenting the latest research in invertebrate pathology, microbial control, diseases of beneficial invertebrates and advances in fundamental research on host-pathogen interactions is planned.

Venue

The Johannes Gutenberg University harbors 150 research institutes and counts more than 37,000 students; it is one out of Germany´s ten biggest universities. The university is located about 15 minutes from the city center and can be reached by nearly any bus line. For lunch break we have booked the "**University Canteen**" which can be reached by walk of about 10 min from the conference site.

Scientific Program

The scientific program will open on Monday morning with the Founder´s Lecture, followed by the Plenary Session on "Microbial Control – from bench to business". Monday afternoon through Thursday afternoon symposia and contributed papers will be conducted in simultaneous sessions. The topics that are planned by the Divisions are presented on page 5.

There will be up to four concurrent scientific sessions with oral presentations and posters. Contributed papers and posters on all topics related to invertebrate pathology are welcome. The SIP Division business meetings are scheduled for Monday and Wednesday evenings.

SIP Awards

Attendees may apply for a variety of awards to help defray the costs of attending the annual meeting. Applications for the Mauro Martignoni, Chris J. Lomer and Divisions' student travel awards will be due April 1, 2014. For requirements and application instructions, please visit the SIP awards website (www.sipweb.org/awardinfo.cfm). Awards for the best student oral presentations and poster will be presented out during the banquet. Students wishing to enter student competition shall check the "student competition" box when registering and submitting an abstract.

Social Program

The meeting will start with a mixer on Sunday evening on the University campus. Our Tuesday afternoon excursions will include a marvelous boat trip on the Rhine River passing the UNESCO WORLD HERITAGE "Upper Middle Rhine Valley". There we will see many old castles on prominent hilltops, historic towns and steep vineyards in a dramatic landscape. We will pass the famous Loreley and visit the old Castle "Rheinfels" in St. Goar. There we will have our 5K race and medieval Barbecue in the evening.
The banquet on Thursday evening will be in a historic locomotive service hall.

Travel Information

Visitors who are not European citizens need to check what kind of visa they need to enter Germany. You will find a detailed table of all countries requiring a visa at www.auswaertiges-amt.de/EN.

The Mainz Cathedral

Please check your visa requirements well in advance of the conference. If you require a letter of invitation, a downloadable PDF will be available on the conference website (www.sip2014.mainz.jki.bund.de/).
Mainz is only 20 minutes distance to Frankfurt International Airport and can be easily reached from there by public transportation. Alternatives to reach Mainz are through Frankfurt Hahn Airport (1.5 hours bus drive), by German High Speed trains or by car.

Hotel Reservations
Members attending the conference are responsible for making their own hotel reservations. There is a wide range of opportunities of hotels in Mainz. Reservations have been made for a selected number of 3 - 5 star hotels. Hotel booking can be performed through the conference web page.

Weather
Mainz has a very enjoyable and warm climate. The region is considered as "Germany´s Tuscany". Visitors in August can expect an average temperature of 26 °C (79 °F) by day and 14 °C (57 °F) at nights. August may offer some rain, as the average annual precipitation is 60 mm (10 % of annual average).

Other activities in and around Mainz
Plan to stay a few extra days to explore and enjoy other beautiful places in and around Mainz. There is a wide variety of scenic and cultural opportunities, e.g. the tremendous **St. Martin´s Cathedral** that was built between 975 – 1011 and is a key feature of the city sky line even today**. St. Stephan's Church** and its famous Chagall Windows is a big attraction with a total of 200,000 visitors a year. Tourists from around the world make the hike up to the Stephansberg to see Marc Chagall's sparkling blue windows. You can experience four thousand years of the history of writing and printing from around the world in the **Gutenberg Museum.** See the conference website for details about these and other activities in the Mainz area.

Contact
Please visit the conference website (www.sip2014.mainz.jki.bund.de/) for more information about the conference program, venue, registration and abstract submission procedures. For any questions, please contact sip2014@jki.bund.de.

We look forward to seeing you in Mainz!

For the local organizers,

Johannes Jehle

Johannes Gutenberg University

The Middle Rhine Valley and site of the excursion!

Burg Rheinfels

Scientific Program for the 2014 Annual Meeting of SIP in Mainz, Germany

Plenary Symposium

Microbial control - from bench to business
Organized by Ralf-Udo Ehlers

Divisional Symposia

Bacteria Division
Structure and function of novel insecticidal toxins
Organized by Ken Narva and Colin Berry

Diseases of Beneficial Invertebrates Division
Emerging tools for Aquatic Pathogen Discovery and Description
Organized by Lyric Bartholomay and Grant Stentiford

Fungus Division
Chemical ecology in Arthropod fungi interactions
Organized by Ingeborg Klingen

Microbial Control Division
Developments in the regulation of microbial products: harmonization across jurisdictions
Organized by David Grzywacz

Microsporidia Division
Microsporidiology: Advances in Europe
Organized by Bryony Williams and Carlos Lange

Nematode Division
Chemical signaling in nematodes: Above and below ground interactions
Organized by Raquel Campos Herrera and Fatma Kaplan

Virus Division
Small non-coding RNAs as regulators of insect host-virus interactions and immunity
Organized by Sassan Asgari

Cross Divisional Symposia

Bacteria Division and Diseases of Beneficial Insects Division
Host - pathogen ecology at the molecular level: Gene regulation and environment sensing
Organized by Christina Nielsen-LeRoux and Elke Genersch

Fungus Division and Microbial Control Division
What is meaningful microbial agent efficacy, and how do we realistically measure it?
Organized by Roma Gwynn and Stefan Jaronski

Nematode Division and Bacteria Division
Beyond Agriculture: Nematode and Bacteria Applications in Other Science Disciplines
Organized by Glen Stephens

Workshops

Diseases of Beneficial Invertebrates Division
Significant Pathogen Groups in Crustaceans and Molluscs
Organized by Grant Stentiford

Bacteria Division
Non-target effects on biological pesticides transgenic crops
Organized by Ken Narva and Bill Moar

Photos of Mainz in this Newsletter were kindly provided by Thomas Guthmann

Lee Solter, Chair of the Nominating Committee, presents the nominees for SIP Council

Johannes Jehle – Nominee for Vice President

Education: Diploma in Biology, Munich (Germany), 1988. Six-month field study on medical plants, Mali (West Africa), 1988. M.sc.agr. for Phytopathology, Göttingen (Germany), 1993. PhD Molecular Virology, Braunschweig (Germany), 1994; Thesis: "*The relationship and variability of the genomes of the Cryptophlebia leucotreta granulovirus and the Cydia pomonella granulovirus".*

Academic and Professional Positions: Post-doc with Just Vlak at Wageningen University, The Netherlands,1994-1996 (at the same time – a rather untalented - swimming scholar of Basil Arif); Research Associate at the State Institute for Crop Production and Crop Protection in Mainz, Germany, 1996-1997. Head of the Laboratory of Biotechnological Crop Protection, Agricultural Service Center Palatinate, Neustadt, Germany, 1997-2009. External Assistant and Adjunct Professor for Genetics at the University of Mainz, Germany, 1999-2012. Since 2010 Director of the Institute for Biological Control of the Federal Research Center for Cultivated Plants in Darmstadt; since 2012 affiliated Professor of the Faculty of Biology of the Technical University in Darmstadt.

Research interests
I always seek to combine basic science with applied aspects to merge interesting scientific questions with meaningful practical applications. I began my studies of molecular biology and insect virology during my PhD, and I never left these fascinating fields. To begin my PhD thesis, I investigated the recombination of two different granuloviruses. Just by chance I discovered that transposons horizontally transfer from the host genome into the baculoviruses. When I continued these studies as a Postdoctoral Fellow with Just Vlak, I developed extensive interest in baculovirus phylogeny and evolution. In 1996, I attended the summer school on "Molecular Phylogeny and Evolution" at the Marine Biological Laboratory in Woods Hole, Massachusetts. This outstanding course highly impacted my research over the subsequent next years. In 1996, I took a permanent position at the Plant Protection Agency of the State Rhineland-Palatinate in Mainz, and later in Neustadt. There, I established a research group to study the molecular biology of granuloviruses, evolution and taxonomy of baculoviruses, nudiviruses and hytrosaviruses, as well as risk assessment of *Bt* crops. Beyond the molecular analyses in the laboratory I intensified my interest in field work, investigating and modeling the population dynamics of baculoviruses and also performing efficacy studies.

In 2005, my research got a completely new spin with the worlds first discovery of field resistance in target insects to commercial baculovirus products. The resistance of codling moth to *Cydia pomonella* granulovirus - scientifically interesting and of fundamental importance for both the apple growers and the virus producers – has intrigued me since. With national and European collaborations, we have identified about 40 organic orchards with resistance to CpGV. Together with my students and co-workers we uncovered the mechanism and inheritance of resistance, identified isolates that overcome resistance, and characterized the CpGV gene that is responsible. Despite these achievements, there are still many unsolved questions that will keep us on our toes in the years to come.

Professional activities
Academic and Professional Services
Lecturer of Molecular Virology as well as Biological Control at the University Mainz (1999-2010) and the Technical University Darmstadt (since 2011); Coordinator of the EU project SustainCpGV, 2006-2008; International Committee on Taxonomy of Viruses (ICTV): Member of the Baculovirus Study Group, 2000-2005 and 2010 to present; Chair of the Baculovirus Study Group, 2005-2010; Member of the Hytrosavirus Study Group, 2010 to present; Member of the Invertebrate Virus Subcommittee, 2005-2010. Society of Invertebrate Pathology (SIP): details see below. International Organization of Biological and Integrated Control, West Palaearctic Regional Section (IOBC): Convenor of the Working Group "Insect Pathogens and Entomoparasitic Nematodes", since 2011; ex-officio member of the General Assembly of IOBC. Genome Advisor for Baculoviruses of Genbank (NCBI) (2005-2008); Elected member of the Senate of the Research Centers of the Federal Ministry for Food and

Agriculture, 2012-2014; Appointed Member of the Commission for Safeguarding Good Scientific Practice of the Agricultural Service Station Palatinate Neustadt, since 2011; Delegate member of the OECD Biopesticide Steering Group, since 2010.

Editorial Work
Editor of the IOBC-WPRS Bulletin of the WG Insect Pathogens and Entomoparasitic Nematodes, since 2013. Member of Editorial Boards of the *Journal of General Virology,* 2004-2009; *Recent Patents of DNA and Gene Sequences,* 2007-2012; *Virology,* since 2008; *Viruses,* since 2009; *Journal of Cultivated Plants,* since 2010; *Journal of Invertebrate Pathology,* since 2008.

Outcomes of my research
My scientific activities culminated so far in 65 peer-reviewed papers, another 57 publications in books, proceeding volumes and grower magazines, more than 150 oral presentations at conferences and seminars, and 145 abstracts of oral and poster congress contributions. More important than these figures was the privilege and pleasure to work with so many highly talented, attentive and enthusiastic students, PhD candidates and Postdoctoral fellows in my laboratory.

Service to SIP
The first SIP meeting that I attended as a PhD student was in Heidelberg during 1992. In 1994 I became member of SIP and have rarely missed an annual meeting since. I was pleased to participate in the founding meeting of the Virus Division that was organized by the late Norman Crook in Cordoba in 1996. In the following years I served the Virus Division and the Society in different functions: Secretary/Treasurer of the Virus Division, 1998-2000; Vice Chair and Chair of the Virus Division, 2004-2008; Secretary of SIP, 2008-2010; Member of Meeting Committee, since 2010; Member of Program Committee of Buenos Aires (2012). Organizer of numerous symposia, workshops and convener of contributed paper sessions in Irvine (1999), Guanajuato (2000), Noordwijkershout (2001), Helsinki (2004), Wuhan (2006), and Trabzon (2010). I was delighted to contribute as an invited symposium speaker for the meetings in Banff (1997), Quebec (2007), Halifax (2011), Buenos Aires (2012), and Pittsburgh (2013). I am deeply grateful to SIP for selecting me as Founders´ Lecturer of the meeting in Warwick (2008) to honor André Paillot. Later this year, my German colleagues and I will host the 47th Annual SIP Meeting in Mainz. We hope this meeting will be similarly exciting and thrilling to you, as so many meetings before have been to me.

A few words more…
To me, there is no other Society and no other meeting, which are scientifically more inspiring and exhilarating than SIP. At the same time there is no other Society that offers so much friendship, fun and delight. We as members of SIP are a big family and this is the real strength of our Society. Each annual meeting feels like a family reunion; strong science and new discoveries, enthusiastic juniors and passionate seniors, wonderful memories, tradition and cordial friendship describe the ingredients of these meetings, each topped with unforgettable local flavors. We are still big enough to generate a critical mass of ideas and expertise, and we are sufficiently small to know each other. However, decrease of funding, the ongoing loss of laboratories that work on invertebrate pathology accompanied by a decline of membership is weakening our discipline. The economic crisis, from which many countries suffer and which is not yet overcome, will further threaten it. On the other hand, each change offers new opportunities. Cooperation and communication across the planet is easier than ever and gives our work a real global perspective. The ambition and the dedication of our members have created the basis of manifold solutions during the last decades and contributed to environmentally friendly and sustainable methods of food production. Although more biological control products are used today than any other time in modern history, there is still more that can be done to develop and deploy environmentally sustainable pest control agents. Many challenges remain: urbanization and decline of rural communities, climate change, accelerated spread of agricultural pests and diseases by global trading and traffic, the unprecedented exploitation of natural resources and the decline in biodiversity all demand our attention. SIP has the capacity to contribute solving these problems. This needs to be voiced. Developing solutions, generating new knowledge and transferring our knowledge and expertise to the societies of this world are the finest duties we as SIP members can follow.

Zhihong (Rose) Hu – Nominee for Vice President

Education:
B.Sc. in Virology, Wuhan University, Wuhan China (1986). M.Sc. in Virology with Tianen Xie at Wuhan Institute of Virology, Chinese Academy of Sciences, Wuhan China (1989). Thesis on "Plaque assay of *Buzura suppressaria* nuclear polyhedrosis virus". Ph.D. in Virology with Just Vlak, Wageningen University, Wageningen, the Netherlands (1998). Thesis on "Characterization of the *Buzura suppressaria* single nucleocapsid nucleopolyhedrovirus genome: a (phylo)genetic study".

Experience:
Assistant, Associate and Full Professor, Wuhan Institute of Virology, Chinese Academy of Sciences, Wuhan China 1986 to present. Marie Curie fellowship, Wageningen Agricultural University 1993 (host Just Vlak). Tang-Cornell scholar, Boyce Thompson Institute 2009/2010 (host Gary Blissard). Director General, Wuhan Institute of Virology, Chinese Academy of Sciences 2000-2008.

Research interests:
I have been fascinated with insect pathogens, and particularly baculoviruses, since I began my M.Sc. studies. *Busu*NPV, the virus I focused upon for my graduate studies, had been used during the 1980s as a biopesticide to control tea pests in China. My goal was to genetically engineer baculoviruses to improve them for pest management. I soon became so interested in the molecular mechanisms of baculovirus infection that it has been my primary research focus ever since. Currently, my research is focused upon mechanisms of baculovirus oral infection, host-virus interactions, and modifications of baculovirus genomes to improve them as biocontrol agents and expression vectors. Much of my research is focused upon functional genomics of *Helicoverpa armigera* NPV (HearNPV), which has been widely used in China to control the cotton bollworm. As a virologist, I am astounded by the diversity of viruses and their interaction with hosts. To preserve and disseminate virus specimens, I am leading a virus resource center in China, which has a large collection of viruses.

Professional activities:
Director of Chinese Center of General Virus Culture Collection (since 2011). Deputy director of the State Key Laboratory of Virology (since 2005). Member of temporary advisory group of WHO (2010, 2013). Vice president of the Virology Professional Committee of the Chinese Society for Microbiology (2006-2016). Trustee of the Chinese Society for Microbiology (2001-2016). Editorial board member of *Intervirology* (2012-), *Protein Expression and Purification* (2013-), *Virologica Sinica* (1996-), *Chinese Science Bulletin* (2008-2013), *Chinese Journal of Virology* (2001-2011), *Acta Entomologica Sinica* (2001-2014), *Chinese Journal of Biological Control* (2003-2004).

Service to SIP:
Member of SIP since 1996. Trustee of SIP (2006-2010). Secretary and Treasurer of SIP Virus Division (2006-2008). Member of SIP Founders Lecture Committee since 2007. Member of SIP Meetings Committee since 2011. Co-chair and the Scientific Program Chair of the 2006 SIP meeting in Wuhan.

SIP to me is like a big family. I have cherished this family since the very first meeting I attended in Cordoba. So many SIP members have become my friends and collaborators and in fact, I could not image my career without the society. SIP is unique; through our society, I not only learned science, but also learned how to become a scientist using knowledge to protect the environment and be a collaborative colleague. I come from a country that has a very different structure in their scientific organizations; what I have learnt at SIP encourages me to improve the scientific societies that I am involved with in my home country. The international and collaborative atmosphere, the introduction and warmth to the students and young scientists, the respect and memory of our Founders are strengths of the society that will be passed down through the generations. In this fast changing world, we need to do more to attract young people to the society and to spread SIP spirit through their careers, to the next generations of scientists and among different countries. I believe that the knowledge generated by our Founders and society members have benefited this world and as a society we will continue to understand the nature of invertebrate pathology and to use that knowledge to make a better world.

Ballot and election information will be arriving by email— be sure to watch out for them

Juan Luis Jurat-Fuentes– Nominee for Secretary

Education:
BSc 1995 Biology, Universitat de Valencia, Valencia, Spain.

M.S. 1997 Genetics, Universitat de Valencia, Spain.
Ph.D. 2002 Entomology, University of Georgia, Athens, GA, USA.

Experience:
Post-doctoral Research Associate (2002-2004) Department of Entomology, University of Georgia, Athens (USA)
Assistant Research Scientist (2004-2006) Department of Entomology, University of Georgia, Athens (USA)
Assistant Professor, Insect Physiology (2006-2011) Department of Entomology and Plant Pathology, University of Tennessee, Knoxville (USA)
Associate Professor, Insect Physiology (2011-present), Department of Entomology and Plant Pathology, University of Tennessee, Knoxville (USA)

Professional activities:
I am currently an Editor for PLoS ONE (2013-present), and also serve on the Editorial Board of Applied and Environmental Microbiology (2004-present), Biological Control (2007-present), and The Open Proteomics Journal (2007-present). I was also guest co-editor of a special volume of the Journal of Invertebrate Pathology (Vol 110, Issue 3, 2012 SIP Symposium on Resistance to Bt Crops).

Contributions to SIP:
I have been a member of SIP for 18 years, and during this time, I have attended 14 of the annual meetings. During my membership I have served SIP as:
Trustee (2010-2014)
Bacteria Division Chair (2011-2013), Chair-elect (2009-2011), Member-at-Large (2008-2009)
Member of SIP Membership Committee (2008-2010)
Co-organizer for symposium at the annual meeting in Argentina (2012).
Judged student posters and oral presentations at various meetings.

Areas of interest:
My current research is focused on the mode of action of insecticidal proteins from *Bacillus thuringiensis* (Bt) and on the resistance mechanisms insects may develop against Bt pesticides or transgenic crops expressing Bt toxins. Current research is focused on the characterization of field-evolved resistance to Bt crops and the characterization of the gut defensive response to Cry intoxication and its relevance to resistance against Bt pesticides. Additional projects in my group are focused on the insect gut as a prospecting resource for novel biotechnological applications, the characterization of the mode of action of alternative insecticidal proteins, and the development of gene silencing for insect control.

Memberships:
Society for Invertebrate Pathology (1996-present)
Entomological Society of America (1998-present)
American Society for Microbiology (2001-present)

Mary Barbercheck - Nominee for Secretary

Education:
B.A. (1980) in Environmental Biology, University of California, Santa Barbara; M.S. (1982) in Plant Protection and Pest Management Biology, University of California, Davis; Ph.D. (1990) in Entomology (Insect Pathology), University of California, Davis.

Experience:
1981-82: Agricultural Inspector, California Dept. of Food and Agriculture, Sacramento, CA; 1982: Laboratory Assistant, Dept. Pomology, UC Davis; 1982-85: Agricultural Researcher (Nematology), Plant Protection Research Institute, Stellenbosch, South Africa; 1990-96: Assistant Professor, Dept. Entomology (Soil Entomology), North Carolina State University; 1996-2002: Associate Professor, Dept. Entomology, NCSU; 2002: Full Professor, Dept. Entomology, NCSU; since 2002: Full Professor, Dept. Entomology (Sustainable Agriculture), PSU (.8 Research, .2 Extension).

Professional activities:
SIP Annual Meeting Local Arrangements Committee, 2013; Panel Member, USDA OREI, 2010, 2012; eXtension.org Organic Agriculture Resource Area Leadership Team, 2008 - 2011; PSU Outreach Vice President's Award (Crop Management Extension Group), 2008; Panel Member, USDA NRI Arthropod/Nematode Organismal, 2007; Review Team Member, Cornell Dept. Entomology, 2006; Pennsylvania Certified Organic Outstanding Research Award, 2006; PSU Outreach Vice President's Award for Learning and Community (PA Women's Agricultural Network), 2005; Panel Member, USDA CSREES NRI, Entomology/ Nematology, 2004; Society for Invertebrate Pathology co-organizer Nematode Division Symposium, 2004; Panel Member, USDA CSREES Bio-based Pest Management, 2003; AMA/ NRCS Committee on Organic Cost Share, 2003; Entomological Society of America Distinguished Teaching Award Committee, 2003-2004. USDA T-STAR Panel member (Caribbean Basin Agriculture), 2003; Society for Invertebrate Pathology Auditing Committee, 2003-2004; Pennsylvania Association of Sustainable Agriculture Board of Directors, 2003-12; Society for Invertebrate Pathology Secretary/ Treasurer, Nematode Division 2002-2005; AAAS Biological Sciences Council Member, 2001-07; Carolina Farm Stewardship Assoc. Board of Directors, 2001-03; Equity for Women Award, Council on the Status of Women, NCSU, 2001; Society for Invertebrate Pathology Editorial Board, 2000-2003; NCSU CALS Faculty Resource Development Award, 2000; Entomology Educational Project Award, Board Certified Entomologists of Mid-America, 2000; Instructor, Insect Nematology. Short Course on Insect Pathology for Central America and Mexico. Tegucigalpa, Honduras, Dec. 6-11, 1999; Griswold Lecturer, Cornell University (Jugatae), 1999; USDA CSREES NRI CGP Panel member (Biologically-Based Pest Mgmt.), 1999; Program Chair, Entomological Society of America, 1998; Teaching Excellence Initiative Award, Division of Undergraduate Studies, NCSU, 1996; Certificate of Appreciation, Council on the Status of Women, NCSU, 1997 and 2001; USDA CSREES NRI CGP Panel member (Alternative Pest Management), 1996; USDA CSRS NRI CGP Panel member (Biological Control), 1995; Fulbright Postdoctoral Research Fellowship, 1990 (declined); *Xiphinema barbercheckae* Coomans & Heyns 1985 (Nemata: Dorylaimida)

Memberships:
Entomological Society of America (since 1990), Society for Invertebrate Pathology (since 1990), Society of Nematologists (1989-1996), Soil Ecology Society (1990-1996), Pennsylvania Association for Sustainable Agriculture (since 2002), Pennsylvania Certified Organic (since 2002)

Interests:
Research focus on soil entomology, insect pathology and ecology, effects of agricultural production practices on soil-dwelling insect pathogens (nematodes and fungi), soil arthropod diversity and soil function as related to system sustainability. Also research and extension interest in the area of organic agriculture, women and gender in agriculture, science and technology. Extension focus on the soil food web and soil quality in agricultural production systems, IPM in organic production systems.

Stefan Jaronski- Nominee for Treasurer

Education: Stefan Jaronski obtained his M.S. (1972) in parasitology, and Ph.D. (1978) in entomology (insect pathology and medical entomology) from Cornell University, where he studied Microsporida in blowflies and mosquitoes, respectively, under Dr. John Kramer. In between degrees, Jaronski served as an officer in the U.S. Air Force (1972-1974).

Experience: After receiving his doctorate, Jaronski had two postdoctoral appointments concerning biocontrol of mosquitoes, one project with (then) *Nosema algerae* at the U.S. Army Walter Reed Institute of Research (1978-1980), and a subsequent project at North Carolina State University (1980-1983) concerning mass production and deployment of *Lagenidium giganteum*. In 1983 he did an abrupt left turn in career, leaving the academic community for industry, and changed from medical entomology to agricultural pests. Jaronski worked at Abbott Laboratories from 1983 to 1992, during which time his research involved development of *Beauveria bassiana* and *Bacillus thuringiensis* against a wide variety of insects, including *Diabrotica*. From 1992 until 2000 he worked at Mycotech Corp., Butte MT, a small venture biotech group commercializing *Beauveria*-based mycoinsecticides, and was involved in all aspects of commercial development, from early, basic research through field efficacy trials (all over the U.S., in many pest crop systems) to generation of registration data, from basic mycology to mass production and formulation, from science to marketing, heading up their biopesticide Research and Development (such is life in a small biotech company). In March 2000, Jaronski joined the Agricultural Research Service of the U.S. Department of Agriculture at the Northern Plains Agricultural Research Laboratory in Sidney, Montana, as a Research Entomologist, where he is currently still located.

Research Interests and Activities: Throughout his career, Jaronski has had keen interest in the ecology of the entomopathogenic Ascomycete as it affects efficacy of mycoinsecticides. Jaronski's official USDA research at Sidney centers mainly on microbial control of grasshoppers on U. S. rangeland, but has also included development of mycoinsecticides for sugarbeet root maggot and sundry other insects. He has a pilot scale fungus production facility (created from a mobile home) supplying kilogram quantities of *Beauveria* and *Metarhizium* spores for research uses. His mass production and general applied mycoinsecticide expertise has afforded him consulting opportunities in the Republic of Georgia, Senegal, Azores, New Zealand. Most recently, in 2013, Jaronski taught a two-week course in Ecuador on commercializing microbial agents, from discovery through development to application. In addition, Jaronski is interested in insects as food, and spent part of August 2013 in Uganda, helping with mass production of a tettigonid as food.

Memberships: Jaronski has been a member of the Society for Invertebrate Pathology since the early-1970s. Jaronski has also been a member of the Entomological Society of America since 1977, Mycological Society of America (1984-2002), Phytopathology Society of America (2006-12), North American and Western Palearctic Regional Sections of the International Organization for Biocontrol (since 2001, and since 2010, resp.), and the Society of Sigma Xi (since 1969). He has been involved in the governance of the Nearctic Regional Section of IOBC, since 2001, serving as Secretary-Treasurer (2002-2012), and is currently their Vice-President until the end of 2014.

Service to SIP: During the past 14 years, Jaronski has periodically served the Fungus and Microbial Divisions as Member at Large, Secretary Treasurer, and Chair (Microbial Control Division). At present Jaronski is serving as Acting Chair of the Microbial Control Division for 2014. He has organized several symposia at recent SIP meetings, including "Microbial Control Agents in Integrated Pest Management"; "Duking it Out - Interactions between Introduced Microbial Pest Control Agents and Indigenous Microflora"; and "Trait Stability and Improvement of Insect Pathogens."

Lorena Passarelli – Nominee for Treasurer

Education:
B.S. in Biology from Simmons College in Boston, Massachusetts, in 1982; thesis title: "Cytokinin's transport and antisenescent activity on leaf explants of *Petunia hybrida*". M.S. in Microbiology from The University of Connecticut in Storrs, Connecticut, USA in 1986; thesis title: "Analysis and cloning of genes in the pantothenic acid pathway of *Escherichia coli*". Ph.D. in Genetics from The University of Georgia in Athens, Georgia, USA in 1993 under the mentorship of SIP member and Founders Lecture Speaker (1994) and Honoree (2003) Lois K. Miller; dissertation title: "Functional characterization of *cg30*, a potential regulatory gene, and identification and characterization of genes encoding late gene expression factors of the *Autographa californica* nuclear polyhedrosis virus". Postdoctoral fellowship in poxvirus gene regulation at The National Institutes of Health in Bethesda, Maryland (1994 - 1997).

Academic experience:
1998-present: Research Assistant, Assistant, and Associate Professor at Kansas State University, Manhattan, Kansas, USA; 2008-present: Associate Director for Student Development, Division of Biology at Kansas State University, Manhattan, Kansas.

Professional activities (selected):
Society for Invertebrate Pathology: I have been a member of SIP since 2001 and have attended each of our annual meetings since then. During this time, I have enjoyed a vibrant learning environment and exchange of scientific ideas that have expanded my knowledge on insect pathology. I am fortunate to be part of this family that works energetically to foster active communication and knowledge in the field. I have served the Society as Chair of the Virus Division (2012-present), Chair-elect of the Virus Division (2010-2012), co-organizing multidisciplinary symposia, judging student oral presentations (2006, 2007, 2011), and convening sessions (2005, 2009, 2012, 2013). My students have participated at the meetings and have won the Mauro Martignoni, oral, poster, and travel awards. If elected to Treasurer, I will strive to improve on our financial stability and to work with Council and the Endowment and Financial Support Committee to promote activities that support and enhance the mission of the Society.
Editorial: Virus Genes, section editor (2012-present); Virology, editorial board (2007-present); *ad hoc* reviewer for 23 specialized and general journals
Outreach: Executive Board member, United States Foundation of the University of the Valley of Guatemala (USFUVG; 2012-present). USFUVG is the US-based non-profit foundation that supports the education of students of Mayan decent and others, scholarly initiatives for students and instructors, and infrastructure in educationally changed areas. Fundraising and a $1M award to USFUVG from American Schools and Hospitals Abroad, a USAID program, has helped support students. I am honored to help educate students from a developing country that value education but cannot afford it. My service with USFUVG has taught me about outreach, philanthropy and fundraising. I will use these skills in collaboration with the SIP Endowment and Financial Support Committee.

Interests:
I am interested in the pathogenesis and molecular biology of baculoviruses, large DNA-containing viruses that infect insects. We are investigating a long-standing question of how pathogens gain access from the midgut of an insect to other organs in the hemocoel, bypassing cellular and non-cellular barriers as well as host defense mechanisms. To address this question, we utilize two systems, baculoviruses and mosquito-vectored viruses, Sindbis, dengue, and chikungunya viruses. Although insect pathogens and insect-vectored pathogens may have devised alternative methods to escape from the midgut and infect other tissues, all are faced with the same barriers. Given these parallels, our work is applicable to developing strategies that will curtail vector-borne virus dissemination and produce more effective baculovirus pesticides. We are also determining the specific function of viral genes that are necessary for baculovirus DNA replication, gene transcription, and virus assembly or occlusion. Characterization of these genes has provided a framework to further define these complex processes. In addition to research, I teach at the undergraduate and graduate levels and mentor students at all levels, from high school to postdoctoral students as well as research assistant faculty in research, including women and other underrepresented students. I have received several university, departmental, and regional awards for my mentoring, teaching, service, and scholarly activities.
Professional society memberships:
Full member of the American Society for Virology (1993-present); American Society for Microbiology (2000-present); Society for Invertebrate Pathology (2001-present).

Monique van Oers – Nominee for Trustee

Education: B.S. (1984) and M.S. (1988) in Biology, Utrecht University, NL Major Thesis title: *The measles virus F protein*. Ph.D. (1994) Laboratory of Virology, Wageningen University, NL, Dissertation title: *Functional analysis of the baculovirus p10 protein.* This was my first encounter with insect pathogens.

Experience:
I started postdoctoral research in 1994 with the Department of Biochemistry, Leiden University, NL, and worked to identify plant genes that are required for systemic acquired plant virus resistance. In 1996 I returned to the study of insect viruses as a postdoctoral scholar in the Department of Molecular Cell Biology, University of Utrecht, NL. My project focused on optimizing recombinant protein expression in baculovirus-infected insect cells, and was in collaboration with the Laboratory of Just Vlak in Wageningen University, where I returned in 1999 to continue my postdoctoral research of translational control in baculovirus-infected insect cells. In 2002 I became an Assistant Professor in Insect Virology, Wageningen University, and in 2010 Associate Professor in Insect Virology, in the same university. In 2013 I was appointed as full professor in Virology at Wageningen University.

Professional Activities (selected):
2013-present: Chair of the Laboratory of Virology, Wageningen University.
2010-2012: Chair of the Virus Division of the Society of Invertebrate Pathology (SIP)
2008-2013: Editor for the *Journal of General Virology*.
2011- Guest editor with the *Journal of Invertebrate Pathology* for the topic: Application of baculoviruses for medicine.
2010-current: Member of the Student Awards Committee of the SIP, replacing Andreas Linde for the 2014 meeting as Chair to organize travel grants, presentation and poster awards, and select nominees for Mauro Martignoni and Chris Lomer awards.
2012-current: Member of the Baculoviridae Study Group to advise the International Committee on Virus Taxonomy.

Teaching:
I teach in several courses at Wageningen University: Cell Biology and Health: BSc course, 250 students; Molecular Virology: upper level 70 students; Fundamental and applied Virology: upper level 60 students; Immunotechnology: upper level, 90 students.
BSc and MSc thesis coordinator and examiner for the Laboratory of Virology.
Supervision of PhD students, many of which have presented at SIP meetings.
Influence on study programs via the Biotechnology educational committee of Wageningen University.

Research Interests:
My scientific interest lies in fundamental and applied aspects of insect viruses, in particular in how viruses and insects interact, in host and vector systems. Current fundamental topics include molecular mechanisms behind baculovirus entry and packaging, and functional genomics of large invertebrate DNA viruses. An intriguing research topic is the molecular mechanism behind virus-induced changes in insect behaviour. I have extensive experience in the exploitation of fundamental data to optimize the baculovirus insect-cell expression system for the production of recombinant proteins, such as for vaccines and diagnostics, and for the bio-synthesis of gene therapy vectors. For many of these projects, I have collaborations with researchers around the world.

Albrecht Koppenhöfer – Nominee for Trustee

Education:
M.S. Biology (1989), Friedrich-Wilhelms-University, Bonn, Germany. Thesis: Histology, Histochemistry and Functions of the Salivary Glands of Adult Parasitoids.
PhD(1993), Agricultural Sciences, Justus Liebig University, Giessen, Germany. Dissertation: Investigation of Endemic Natural Enemies of the Banana Weevil in Kenya and its integrated control.

Experience:
1989-1992: Scientific employee, Institute for Plant Pathology, University of Bonn, Germany, and The International Centre of Insect Physiology and Ecology (ICIPE), Kenya.
1993-1999: Visiting Scientist and Postdoc (Kaya and Jaffee labs), Department of Nematology, University of California, Davis.

1999-2004/2004-2009/2009-present: Assistant Professor/Associate Professor/Professor & Extension Specialist, Turfgrass Entomology, Department of Entomology, Rutgers University, New Brunswick.

Professional service:
SIP: Member since 1994. Publications Committee 2002–present. Annual meetings: 20 invited and contributed presentations, student presentation referee (5 times), session moderator (3 times), symposium organizer (1). Division of Nematodes: member since 2000; Secretary/Treasurer, 2000-2002, 2010-2012; Chair-elect & Chair, 2006-2010. Microbial control Division: member since 1994.

Other: Entomological Society of America – Eastern Branch: Chair Nominations committee: 2007-2012. Entomological Soc. of America (National and Eastern Branch): student presentation referee (3 times), session moderator (5 times), symposium organizer (2 times). Multistate Research Project NE1025 (Biology, ecology, and management of pests of annual bluegrass on golf courses): Secretary, 2008; Chair-elect, 2009, Chair 2010. Editorial Board Biological Control 2004–2011. Editorial Board Biocontrol Science & Technology, 2004–present.

Memberships:
Society for Invertebrate Pathology, Entomological Society of America

Interests:
The majority of my research has involved the ecology and application of entomopathogenic nematodes with some research also involving bacteria, viruses, and fungi. The balance of research has involved primarily IPM of turfgrass insect pests. Hence, one of the main objectives of my research over the last 14 years at Rutgers University has been the development of insect pathogens for the management of turfgrass pests and their integration into turfgrass insect IPM. I have authored and co-authored 75 refereed and 27 non-refereed journal articles, 17 book chapters, 2 patents, and numerous extension publications (bulletins, fact sheets, newsletter articles). My teaching is primarily to turfgrass professonals but also includes one class and several guest lectures per year to undergraduate and graduate students. Wherever applicable I include information on microbial control agents and try to further their implementation in turfgrass management.

Zihni Demirbag– Nominee for Trustee

Education:
I earned my Bachelor degree of Science in Biology from Fırat University, Elazığ, Turkey, in 1986 and my Doctor of Philosophy in Biology, on baculovirus (AcMNPV), in 1993 at Texas Tech University, Lubbock, TX, USA.

Experience:
I had post graduate research support from UNESCO to study baculovirus expression vector systems at Wageningen University, The Netherlands (1995) and later from OECD to study immediate-early promoter sequences of iridovirus at Texas Tech University, Department of Biology, Lubbock, TX, USA, (1999). As a Visiting Professor for one year at Department of Molecular Genetics and Microbiology, School of Medicine, University of Florida (2004), I studied the molecular biology of entomopoxviruses.

Professional Activities (selected):
I served as EU European Credit Transfer and Accumulation System (ECTS) / Diploma Supplements (DS) Consular (2003-2004). I have given several seminars in my university and other Turkish Universities regarding the Sixth Framework Program and ECTS/DS. I worked on the preparation of instruments of ECTS/DS at Karadeniz Technical University: ECTS credits, information packages and bilateral agreements.

I have served as Chairman of Department of Biology, Vice Dean of Faculty of Arts and Sciences, and as the Advisor for The President, at Karadeniz Technical University, for 2 years.

As the coordinator of “Office of International Affairs” at Karadeniz Technical University (2002-2004), I was responsible for research and educational programs of European Union in my university. I attended several training seminars regarding EU framework program and Socrates programs.

I have conducted several scientific projects supported by Karadeniz Technical University, The State Planning Organization (DPT) and Turkish Scientific and Technological Research Council (TUBİTAK).

Contributions to society:
I organized several national and international meetings including "43rd Annual Meeting of the Society for Invertebrate Pathology, 10th International Colloquium on Invertebrate Pathology and Microbial Control, and The Final Meeting of COST862: Bacterial Toxins for Insect Control" (2010), "Entomopathogens and Microbial Control" on (2007); the 4th meeting successfully completed last year) and a congress entitled "First Eurasian Congress on Molecular Biotechnology" in Trabzon, Turkey, (2001). In addition, I organized "spring school on molecular biotechnology" 9 times since 2005.

Memberships:
I am the member of Society for Invertebrate Pathology (SIP), the American Society for Microbiology (ASM), American Association for the Advancement of Science (AAAS), American Society for Virology (ASV), and Society for Turkish Biological Control.

Research Interests:
I have established a large group studying entomopathogens including virus, bacteria, fungi and nematode. Currently, I am studying the molecular aspects of entomopoxvirus and iridovirus to understand the virus attachment and entry of *Amsacta moorei* entomopoxvirus and to improve the pathogenicity of *Chilo* iridescent virus.

Italo Delalibera Jr. – Nominee for Trustee

Education:
Ph.D. (2002), Entomology, Cornell University, USA; M.S. (1996), Entomology, University of São Paulo (ESALQ), Brazil; B.S. (1989), Agronomy, Escola Superior de Agricultura de Lavras, Brazil.

Experience and Professional Activities:
2004 – Present: Professor, University of São Paulo. Piracicaba, SP, Brazil; 2002 - 2003: Postdoctoral Research associate, University of Wisconsin Madison. WI, USA; 1993 – 1997: Research Entomologist, Inter-American Institute for Cooperation on Agriculture. Cruz das Almas, BA, Brazil; 1989 – 1992: Research Entomologist, EMBRAPA - Semi-arid Tropical Institute. Petrolina, PE, Brazil. Conducted Research in the International Institute of Tropical Agriculture. Cotonou, Benin and International Center for Tropical Agriculture, Colombia. 47 peer-reviewed journal articles; 6 book chapters on classical biological control; 1 catalogue of classical biological control introductions of pathogens against insects and mites; 133 Submitted papers at various scientific meetings.

Memberships:
Society for Invertebrate Pathology, Entomological Society of America, Entomological Society of Brazil. My involvement with the SIP started in 2001 when I won the first Mauro Martignoni Student Paper Award and the Student paper competition. Since then, I have attended most meetings. In 2012, I presented the Founder's Lecture on behalf of Dr. Moscardi.

Teaching:
Invertebrate Zoology (undergraduate level class of approximately 30 students); Agricultural Zoology and Parasitology (undergraduate level class of approximately 250 students); Invertebrate Pathology and Microbial Control of Arthropods (two graduate level classes of approximately 10 students).

Research Interests:
The emphasis of my research is on pathogens of insects and mites and microbial control with entomopathogenic fungi. My interests are broad, drawing on a number of different types of studies to investigate host/pathogen interactions from molecular to ecological levels to understand how to optimize efficacy of these natural enemies for pest control.

From the Incoming President: Peter Krell

Since my first meeting, as a PhD student, of the Society of Invertebrate Pathology meeting in 1976, held in Kingston Ontario, I felt like I was part of a family and continue to feel so. Students were treated as equals and questions were asked without deference to their status. I was humbled to be elected Vice President and this summer am transitioning to the role of your President. As the cliché goes, I do this on the shoulders of the giants and with huge shoes to fill, the most recent those of Leellen Solter and Jørgen Eilenberg. I hope to be at least as effective as they were in being a steward of the society and promoting its continued health and broad reach, geographically, scientifically and professionally. I will strive to blend both the fundamental and applied aspects of invertebrate pathology and bringing together academic, government and industrial scientists and students for common purpose. I look forward to serving you but I will need more than just your support, I will also need your suggestions to improve your society.

Remembrance

IN MEMORIAM: Samuel Singer (1927-2013)

Dr. Samuel Singer, 86, passed away October 17, 2013 in Clermont, Florida. He is survived by his wife Anita, three children, Mitchell, Elissa and Jonathan, brother Calvin and five grandchildren.

Sam was born in 1927 in Queens, NY. He attended City College, and received his MSc from the University of Kentucky and his PhD from New York University.

Early in his career, Sam worked for BioFirm Company from 1962 to 1968, on early development of fermentation products including *Bacillus thuringiensis*. He later worked on fermentation research for Brown and Williamson Tobacco Co. In 1970 he accepted the position of Assistant Professor in the Biology Department at Western Illinois University, where he taught and did research for 28 years. He explored bacteria for control of mosquitoes in collaboration with the World Health Organization, and traveled to many tropical countries to train local citizens on the discovery and use of these microbials. His research on *Bacillus sphaericus* was critical to development of this bacterium as a mosquito larvicide. Sam published many papers on *B. sphaericus*, and in later years explored microbial control agents for invasive mollusks. Sam collaborated with many scientists in our field, including Allan Yousten, Elizabeth Davidson, Carlo Ignoffo, Martin Shapiro, Fred Hink, Steve Wraight, Dan Molloy, Lerry Lacey, Bill Ramoska, Martin Rogoff, and Nelson Goodman among others. He was also involved in Boy Scouts, Science Club, and other activities in the community.

After his retirement from Western Illinois University, Sam and Anita moved to Clermont Florida.
He was a wonderful scientist, colleague and a great friend.

Microbial Control Working Group (S1052): 2013 Meeting

The Microbial Control Working Group (S-1052) held its annual meeting at the Hilton hotel, Austin Texas, on November 9th 2013. The aim of the working group is to encourage regional collaboration in projects related to microbial control of arthropod pests in 3 major categories: Annual Crops, Perennial Crops and Natural and Urban Landscapes. We had a good turnout, and lively discussions with 21 participants in attendance: Denny Bruck, Juan Luis Jurat Fuentes, Tarryn Goble, Parwinder Grewal, Ann Hajek, Stefan Jaronski, Rogers Leonard, Ed Lewis, Jennifer Lund, David Shapiro-Ilan, Nicolai Meyling, Fernando Vega, Steve Arthurs, Surendra Dara, Robert Behle, Mark Boetel, Lee Solter, Pasco Avery, Shaohui Wu, David Chandler and David Oi. The Microbial Control Working Group also organized a symposium at the Entomological Society of America national meeting, which followed our working group meeting. The theme of our symposium was 'Ecological Services of Microbial Control Agents' and our speakers included Parwinder Grewal, Larry Duncan, Nicolai Meyling, Dave Chandler, and Hsiao-Ling, standing in for Ray St Leger. All speakers gave an excellent overview of their topics, as they related to the theme. We encourage future participation from those involved in applied aspects of insect pathology whether or not you are an official member of the group. The project officially runs through 2017 and if your institution is not already represented our administrative advisor, Rogers Leonard, can advise on how to join and be eligible for travel funds; rleonard@agcenter.lsu.edu. We next plan to meet next in Portland Oregon 15th November 2014, the day before the scheduled ESA meeting. In addition to the annual meeting, we plan to sponsor another ESA symposium on the topic "Thinking outside the Box: Incorporating Microbials into IPM Programs" and hope to have another great attendance.

Steve Arthurs, Bob Behle and Surendra Dara (S-1052 working group committee)

S1052 Group Members in Attendance of 2013 Meeting

Microbial Control News

This column attempts to regularly announce the registration actions for microbial insect control agents in various countries and regulatory activities relating to insect pathogens.

The Canadian Pest Management Centre has been active in the past 6 months, with insect oriented microbial efficacy projects concerning one new organism, a *B. thuringiensis galleriae* for alfalfa weevil, and four projects regarding existing products.

New Microbials			
Bacillus thuringiensis galleriae	boreGONE! (Phyllom BioProducts)	Weevils in Alfalfa	Project initiated
	grubGONE(Phyllom BioProducts)	European chafer, Japanese beetle, June beetle grubs in turf	Project Initiated
Existing Microbial Products – Label expansions			
B. thuringiensis aizawai	Xentari (Valent Biosciences)	Diamondback moth in canola	Submitted to PMRA
Chromobacterium subtsugae	Grandevo (MBI-203) (Marrone Bio-Innovations	Whiteflies in Poinsetta	Data with registrant
		Thrips in greenhouse peppers	Data with registrant
		Hairy chinch bug in turf	Reporting phase
Beauveria bassiana ATCC 74040	Naturalis L (Troy Corp.)	Cherry fruit fly in Cherry	Reporting phase
		Thrips in greenhouse peppers	Reporting phase
		Tarnished plant bug in strawberry	Reporting phase
Metarhizium anisopliae F52	Met52 Granular (Novozymes Biologicals)	Thrips in Chrysanthemum	Registered/on label
		Thrips in onion	Project Complete
Beauveria bassiana GHA	Botanigard 22WP (Laverlam International)	Insects (application by bee vectoring) in greenhouse vegetables	Registered/on label
Paecilomyces lilacinus	MeloCon/Bioact (Certis USA)	Nematodes in strawberry	Project Initiated

United States

The US EPA has received applications at the end of 2013 for registration of three new materials: A new strain of *Chromobacterium subtsugae,* strain SB3872, for commercial ground and aerial applications to food and non-food crops, lawns, golf courses; seed treatments; residential home and garden uses (Marrone Bio-Innovations); a *Beauveria bassiana,* strain ANT-03, as foliar-applied to protect turf, horticultural or agricultural plants in the field or greenhouse (Anatis Bioprotection, Inc.); and *Pseudomonas fluorescens* strain CL145A cells and spent fermentation media application as a molluscicide for Zebra and Quagga Mussel in water bodies and sites for recreational and environmental rehabilitation (Marrone Bio-Innovations).

In 2013 and in January 2014 USEPA approved an Experimental Use Permit for corn events MON 87410 and Mon 87411 in combination with single and combined traits that produce *Bacillus thuringiensis* Cry1A.105, Cry2Ab2, Cry IF, Vip3Aa20, Cry3Bb1, and Cry34Abl/Cry35Abl (targeting Lepidoptera and Diabrotica).

The EUP allows planting through February 28, 2015. Includes a proposed new corn event, MON 87411, containing “a suppression cassette with an inverted repeat sequence (DvSnf7) derived from *Diabrotica virgifera*, resulting in the formation of a double stranded RNA (dsRNA) transcript. Monsanto proposes that when PIP-produced Dv49 dsRNA is consumed by the pest, it down regulates the targeted pest's Snf7 gene, resulting in CRW mortality. MON 87411 also produces the Cry3Bb1 protein to protect against CRW larval feeding.” The Eup encompasses 5385 ha of event combinations containing MON 87411, 2,847 ha of other unregistered Plant Incorporated Protectants (PIP), i.e., transformed maize combinations, and 4,476 ha of registered PIPs to be used in comparators.

SIP members outside the U.S. and Canada are earnestly requested to send news of new registrations of insect pathogens in their countries to Dr. Stefan Jaronski, Research Entomologist, US Department of Agriculture (stefan.jaronski@ars.usda.gov)

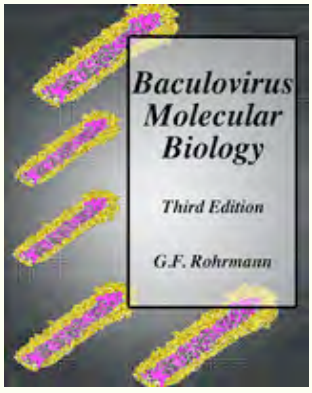
Announcements

Submit a Symposium Proposal / Plenary Speaker Nomination for ICE 2016

The XXV International Congress of Entomology with the theme of “Entomology without Borders” will be held September 25-30, 2016 in Orlando, Florida, USA. www.ice2016orlando.org/ *To ensure that invertebrate pathology is well represented at this meeting, members of SIP are strongly encouraged to submit nominations for plenary speakers via the web site (deadline September 1, 2014), and symposium proposals in the areas of biological control and pathology.* Symposium proposals can be submitted from March 3, 2014 to March 2, 2015. One North American and one international co-chair are required for each symposium. Each attendee will be allowed only one presentation of any type (invited paper, contributed paper, or poster) on the basis that between six- and nine- thousand delegates are expected at this meeting.

The 3rd Edition of Baculovirus Molecular Biology has been published

This is the third edition of a book that was initiated with the annotation of the function of all the genes in the most commonly studied baculovirus, AcMNPV. The second and third editions involved the update of this information and its integration into chapters covering the major processes central to the replication and pathology of baculoviruses. Topics including taxonomy, the application of baculoviruses as insecticides, the molecular basis for the remarkable ability of these viruses to express genes at high levels, and the interrelationships of baculovirus and transposable elements are also covered. The third edition also contains information on the development of bacmid technology. The chapters include 46 figures and 13 tables, all available for download.
It is freely available at: http://www.ncbi.nlm.nih.gov/books/NBK114593/



Memories of SIP in Pittsburgh

The Microsporidia Division all dressed smartly for the Banquet

Ann Cali and Ed Hanranan are all cheer!

Dancin' the night away

Jørgen Eilenberg and Diveena Vijayendran swinging it!

Juan Jurat-Fuentes

Mark Goettel, Lee Solter, Don Roberts, Betty Davidson, Just Vlak, and Jørgen Eilenberg