Society for Invertebrate Pathology Newsletter

Volume 44 Issue 3 November, 2011

Looking forward from the
44th Annual Meeting of the Society for Invertebrate Pathology,
2011 International Congress on Invertebrate Pathology and Microbial Control
and
OECD Symposium on Disease in Aquatic Crustaceans
August 7-11, 2011 Halifax, Nova Scotia, Canada

Table of Contents

SIP 2011	1
From the President	2
2011 Meeting report	4
Business meeting minutes	5
5K race results from Halifax	8
2011 Award winners	10
Welcome to Buenos Aires	16
Obituaries	17
Members spotlight	18
News and announcements	19
Book reviews	23
New Books	26
2011 Meeting photos	27

From the President

I suppose that most of us have some little 'nugget' of inspiration we keep in mind or perhaps we have a slip of paper in a drawer or pinned to a bulletin board (showing my age here!) that gets us through a day, a month, a year. I have one, too - it's both a yellowed piece of newspaper in my desk drawer and, at this point, indelibly etched in my memory- that made an impression many years ago. A bit of a "carpe diem" thing, it goes like this: "The secret to life is to enjoy it while you're playing it, because you don't get another quarter". (For those of you who are too young to remember pinball, think of it as a video arcade machine that still accepts one quarter…). One pin I'm very happy that my pinball hit is the association with SIP and all it has meant in terms of career and friendships. I plan to keep that game going for as long as my quarter holds out!

SIP 2011- a spectacular success!
SIP… another meeting has come and gone, but they are never forgettable and are never the same year after year. We certainly have our customs, our program format and our culture, but each meeting radiates its own personality and the enthusiasm and uniqueness of the organizing committees, the participants, and the venue. Halifax 2011 was no exception. St. Mary's University was a lovely choice by meeting organizer Susan Bjornson. A small university, St. Mary's offered excellent resources, friendly faces and assistance, and a sense of belonging there on campus, if only for a week. The maritime atmosphere in Halifax was a treat (especially for we land-locked souls); a trip to Peggy's Cove, the BBQ at the Citadel National Historic Site on the hill overlooking the city, and the choice of the Pier 21 Immigration Museum for the banquet were spectacular (and I still chuckle to remember the delighted and surprised applause when 300 huge boiled lobsters appeared on the shoulders of the servers at the BBQ… that was quite a BBQ!).

Susan and her team, Christina Noronha, Michael Agbeti and Thomas Steele; the Program Committee, Martin Erlandson, Chris Lucarotti and Peter Krell; Andreas Linde and the Awards Committee and judges; and all the St. Mary's staff that provided back-up support deserve kudos for a special week. Susan reminds me that Kelli Hoover, Mark Goettel, Cecilia Schmidt,

the Division chairs, committee chairs and our sponsors were also critical to the meeting's success, as was the excellent and very apropos OECD sponsored Symposium on Disease in Aquatic Crustations organized by Grant Stentiford. Enormous thanks to all who worked to make SIP 2011 the wonderful meeting it was, including each and every participant.

SIP 2012 Meeting: Looking forward to Buenos Aires
And now we anticipate the meeting to come in Buenos Aires, "The City of Passion" according to travel writer R. Bolt in *The Telegraph*. Think tango, lovely restaurants, river walks, the vibrant cityscape….and, of course, passionate invertebrate pathologists sharing research, trading stories and catching up with their SIP family once again. Alicia Sciocco-Cap, Victor Romanowski and their organizing and program committees are planning an exciting meeting in excellent facilities along the Rio de la Plata. Mark your calendars now for August 5-9, 2012!

In the meantime, we are at work on some website remodeling, including developing our own meetings web pages that organizers can customize for future meetings, eliminating the need to create a new website annually. You will see the results when Alicia and Victor announce the 2012 meeting in a couple of weeks. For more updates on SIP Business, the Minutes of the 2011 Business Meeting are now posted on the SIP website under the link "Members Only". Also, a sincere "Thank You!" to Drauzio and Alene Rangel for scanning *all* the SIP newsletters so that we now have digital copies.

We will soon be conducting biennial elections for new SIP officers and many, if not all Divisions will also be conducting elections for 2012 officers. A slate of officers nominated for the SIP Board will be presented by the Nominating Committee in the February Newsletter, but nominations from the membership are also accepted with a letter signed by 10 members in good standing on or before January 1, 2012. (See Article II, SIP By-Laws on the SIP website for details). Please support the Society by taking an active leadership role in the Society's business and meetings- and please remember, the members *are* SIP and your participation ensures the continuity of a great scientific society.

By the time you receive the November Newsletter, the winter holiday season will be upon us- fall harvest celebrations, religious celebrations, the New Year. Travel safely and enjoy the holidays.

With best wishes,

Betty Davidson and Susan Bjornson with Sup. Brian Brennan of the Royal Canadian Mounted Police

Citadel Hill in Halifax

SIP 2011 Meeting Report for Halifax, Nova Scotia 2011

The 2011 International Congress on Invertebrate Pathology and Microbial Control, OECD Symposium on Disease in Aquatic Crustaceans, & 44th Annual Meeting of the Society for Invertebrate Pathology was held at Saint Mary's University in Halifax, Nova Scotia, Canada from August 7 to 11, 2011.

The Congress began with a special OECD-Co-operative Research Funded Symposium entitled "*Disease in Aquatic Crustaceans: Problems and Solutions for Global Food Security*". This special symposium (organized and chaired by Dr. Grant Stentiford) was followed by an evening welcome mixer. The scientific program opened on Monday morning with the SIP Founders' Memorial Lecture presented by Dr. Elizabeth Davidson to honor the contributions made by Dr. John Briggs to the field of Invertebrate Pathology. The Memorial Lecture was followed by a Plenary Symposium entitled "*Disease Perspectives from the Global Crustacean Fishery*" followed by several Division symposia. A total of 305 delegates from 28 countries participated in the 2011 Congress; about 70 of these delegates were students. A special pizza lunch was provided for those students who attended the Monday student workshop entitled "*How to Write Grant Proposals*". A total of 182 oral presentations (symposia, contributed papers and special presentations) were made and 120 contributed posters were presented. Division business meetings, held on Monday and Wednesday evenings, were followed by Division workshops.

Nearly 70 delegates took part in the annual 5K run/walk that was held early Tuesday morning in nearby Point Pleasant Park. Approximately 250 delegates took part in Tuesday's excursion to the idyllic fishing village of Peggy's Cove, located on the southern shore of Nova Scotia, stopping along the way to learn about Canada's maple sugar industry. Later that evening, approximately 350 delegates enjoyed a traditional lobster boil at the Halifax Citadel National Historic Site, complete with panoramic views of the city. On the final day of the Congress, 340 delegates enjoyed a banquet of Atlantic salmon at Pier 21 National Historic Site & Canada's Immigration Museum. Our guest speaker Superintendent Brian Brennan of the Royal Canadian Mounted Police (RCMP), and Criminal Operations Officer for Nova Scotia, gave a memorable presentation regarding the history and role of the RCMP in Canada.

On behalf of the Local Organizing Committee, I thank all who attended the meeting and those behind the scenes who selflessly contributed toward making this meeting a success. It was our sincere pleasure to host the 2011 SIP International Congress in Halifax. We hope that those who attended enjoyed an informative meeting and our east coast hospitality. We hope to see you again soon in Atlantic Canada.

Susan Bjornson
Chair, Local Organizing Committee

Peggys Cove taken over by SIP

Guarding the lobster dinner

SIP 2011 Business Meeting Minutes for August 6, 2011

1. *Call to order*

President Lee Solter (LS) called the meeting to order at 10:45 am.

2. In memoriam

Dr. Joel Margalit, Dr. Keio Aizawa and Dr. Fred Hink were honored with a moment of silence.

3. *Minutes of 2010 Business meeting*

LS called for discussion of the 2010 minutes which were printed in the 2010 SIP November Newsletter. There was none. Betty Davidson moved to accept the minutes. The motion was passed.

4 . President's Report (LS)

LS noted that membership is lower than the 450 needed for stability, but that the financial situation had improved and that the energy the membership committee put into recruiting with the potential for growth in the aquatic invertebrate group will help. She thanked the fund raisers and announced that $750 will be provided to the divisions for student travel awards again next year. There are still twice the annual operating expenses in the general fund. The silent auction was successful and raised nearly $1,000. The Martignoni and Lomer funds are still not earning sufficient interest at <1% to be self-sustaining and are being supported from the general fund and auction. It was pointed out that invited speakers increased SIP visibility. LS introduced Eric Haas-Stapleton as the new SIP Newsletter editor and thanked him and the outgoing editor Surendra Dara for their excellent work on the Newsletter. She thanked Zihni Demirbag and the 2010 organizing committee for a successful meeting and Susan Bjornson and the 2011 organizing committee for their efforts in organzing this year's meeting. Finally she also thanked Council, Division officers, Executive Secretary Cecilia Schmidt, and SIP members for a rewarding year.

Drauzio Rangel reported that there have been problems with credit card payments. LS responded that credit card information or checks can be sent to the Executive Secretary Cecelia Schmidt if there are payment problems, and that Cecilia is working to resolve the problems.

There was a request to have a list of meeting attendees made available. LS said that would be done.

Betty Davidson suggested that members should consider leaving something to SIP in their wills.

LS presented a proposal to amend the SIP By-Laws to reflect the fiscal year as reported to the U.S. Internal Revenue Service (May 1-April 30) as discussed and approved in the Council meeting. Below the current bylaws and the amended bylaws are quoted and where changes were suggested (current) or have been made (amended) the section is underlined.

Current By-Laws:

Article X: Section 1. Annual Budget. The Treasurer shall prepare annually an operations budget, in two parts: the present fiscal year (ending March 31), and the coming fiscal year (from April 1 to March 31 of the following year). The Treasurer shall submit the budget to the Council, for approval, 30 days prior to the Council's annual meeting.

Proposed amendment:

Article X: Section 1. Annual Budget. The Treasurer shall prepare annually an operations budget, in two parts: the present fiscal year (ending April 30), and the coming fiscal year (from May 1 to April 30 of the following year). The Treasurer shall submit the budget to the Council, for approval, 30 days prior to the Council's annual meeting.

A motion to approve as read was made by Susanne Thiem, seconded by Don Roberts and passed unanimously.

5. Treasurer's report (Kelli Hoover). Kelli reviewed the report. There is $176,237.49 in the general fund. She mentioned the $6,000 unaccounted for surplus and said that it may be from the change in reporting period and from the $5,000 advance to meeting organizers not having been expensed. The silent auction netted $555 plus $540 for the S. Dara portrait.

6. *Auditors' Report (presented by Lee Solter on behalf of Gernot Hoch and Rudolf Wegensteiner, Audit Committee)* The Audit Committee found all in order but expressed concern that the origin of the $6,000 surplus should be identified. The committee suggested placing funds in a certificate of deposit to earn higher interest. LS explained that a certificate of deposit purchase would be risky at this time due to low interest rates. She also thanked Gernot Hoch and Rudolf Wegensteiner for their work as the audit committee.

SIP 2011 Business Meeting Minutes for August 6, 2011

7. Membership committee report (Nina Jenkins)

Nina reviewed the report. There are 440 members, which is down from 459. There are 316 regular, 14 endowed, 46 student, 13 honorary, and 52 emeritus members. Nina mentioned the boost at the meeting from the aquatic invertebrate group and expressed hope that they would remain with the Society. Strategies for keeping and recruiting members could include automatic renewal by credit card, encouragement of young members to participate in committees etc. Nina urged members to renew even when not attending meetings. There is a new option for automatic annual renewal by check-box on the renewal form. Peter Krell suggested having lifetime memberships. Nina called for nomination of honorary members to be sent to the Secretary and explained the process.

8. Meeting Committee report (Lerry Lacey)

The proposal from Kelli Hoover and Nina Jenkins for the Pittsburg meeting for 2013 was approved by the Council. The committee is looking for a proposal for 2014 outside of North America.

Zihni Demirbag reported on the Trabzon 2010 meeting. There were more than 340 attendees and approximately $6,000 profit.

Victor Romanowski presented a slide show about the 2012 meeting in Buenos Aires. The venue has been changed to reduce costs. The new venue is a convention center that is a lavishly converted warehouse at the Catholic University of Argentina. It has wi-fi and a capacity of 723. There will be lunch provided on Monday, Wednesday and Thursday. Dinners will be “on your own” with many restaurants near-by. The 5 K race will be in a near-by park. There are two excursion options, an “asado” barbeque and the banquet at Palacio San Miguel with music until 2 AM. Three post-conference excursions have been arranged. Basil Arif asked about lodging. Victor noted that there are near-by hotels in all price ranges. Johannes Jehle asked about transport and symposium with the Virus Division of pathogen effects on behavior. Victor said that the hotels are within an easy walk of the convention center. Alicia Sciocco Cap discussed transport from the airport.

9. Division reports

Bacteria. Hyun Woo Park reviewed the report. Ken Nava organized a cross-divisional workshop with Microbial Control on industrial innovations in biocontrol, and there was a symposium on resistance to Bt crops.

Microbial Control. Surendra Dara reviewed the report. There was a symposium on biopesticides in IPM and a workshop with the Bacteria Division.

Fungi. Helen Hesketh reviewed the report. Division fees were raised from $5 to $10 except for students. There is a symposium proposal for insect immune responses and social immunity to fungi. Also a suggested cross-divisional symposium with the Virus Division of pathogen effects on behavior.

Microsporidia. Dörte Goertz reviewed the report. There was a symposium on microsporidian- induced effects on the host. They are trying to plan a locale appropriate workshop for Argentina.

Nematodes. Ed Lewis reviewed the report. Membership is stable, but attendance is down because of the Society of the Nematology 50th anniversary meeting two weeks prior. There is a proposal for a symposium on diseases of nematodes, and they are looking into a cross-divisional student symposium.

Beneficial Invertebrates. Grant Stentiford reviewed the report. They are retaining the current officers for an additional year. They elected not to charge a membership fee for students. Symposium ideas are mollusc diseases, pollution effects and coral.

The Council and Division Chairs planing, planning and more planning.

SIP 2011 Business Meeting Minutes for August 6, 2011

Virus. Monique van Oers reviewed the report. There are proposals for a symposium on field application of viral agents and a cross-divisional symposium with the Fungus Division on pathogen effects on host behavior.

LS discussed the symposium glut due to the number of divisions causing scheduling problems and said that the Council has decided to limit symposia to one Divisional and one cross-Divisional symposium per Division. This will be written into the meeting guidelines.

10. New Business

Harry Kaya announced the new Insect Pathology book with many SIP authors, all of whom donated their honoraria to the Lomer Fund. He will ask the publisher if they will put the book on Kindle.

Brian Federici gave a plea for reviewers for the Journal of Invertebrate Pathology.

Johannes Jehle asked that there be an abstract book for future meetings. LS stated that the cost of publishing an abstract book is in thousands of dollars and that the decision to go with electronic abstracts for Halifax meeting was an experiment. B. Federici said that there is a less expensive way and will look into it.

As there was no other items to discuss a motion to adjourn the meeting was made by Don Roberts, seconded by Drauzio Rangel and unanimously approved.

Meeting was adjourned at 4:55 pm.

Submitted by Jeff Lord for Judith Pell

2011 SIP Council and Division Chairs. From left to right: Monique van Oers, Juan Luis Jurat-Fuentes, Hyun-Woo Park, Jørgen Eilenberg, Leellen Solter, Grant Stentiford, Kelli Hoover, Mark Goettel, Roma Gwynn, Jeff Lord, Regina Kleespies, Albrecht Koppenhöfer, Helen Hesketh, Dörte Goertz, Surendra Dara.

Winners of the 5K Race at the 2011 Nova Scotia Meeting

Under 30: Peter Gaudet (1st), Tanuka Yamaguchi (2nd), and Mike Norris (3rd)
30-45: Joseph Ironside (1st), Grant Stentiford (2nd), and Nicolai Meyling (3rd)
Over 45: Todd Kabaluk (1st), Spencer Greenwood (2nd), and Bryony Bonning (3rd)
Walk: Surendra Dara and Eleanor Groden

Special OECD Symposium organizers and speakers. Left to right: Sean Moss (Oceanic Institute, Hawaii), Jeff Lotz (Gulf Coast Research Lab, USA), Don Lightner (University of Arizona), Frank Morado (NOAA, Seattle), Chris Hauton (NOCS, Southampton), Just Vlak (University of Wageningen, Netherlands), Jeff Shields (VIMS, USA), Lyric Bartholomay (Iowa State University, USA), Don Behringer (University of Florida, USA), Tim Flegel (Mahidol University, Thailand), Grant Stentiford (EURL Crustacean Diseases, UK), Edmund Peeler (Cefas, UK), Melba Reantaso (FAO, Rome), Brian Jones (Department of Fisheries, Western Australia), Hamish Small (VIMS, USA), Douglas Neil (University of Glasgow, Scotland).

2011 Award Winners

Mauro Martignoni Award:
Sebastian Gisder (Germany)

Chris Lomer Award:
Natalia Munteanu (Republic of Moldova)

Oral Presentation Awards

- 1st place: Robert Anderson, Penn State University, USA
- 2nd place: K. Frazer Clare, University of Prince Edward Island, CANADA
- 2nd place: Sebastian Gisder, Institute for Bee Research, GERMANY
- Honorable mention: Julien Theze, University of Tours, FRANCE
- Honorable mention: Peter Gaudet, University of Prince Edward Island, CANADA

Poster Presentation Awards

- 1st place: Juliane Deacutis, University of Kentucky, USA
- 2nd place: Anais Castaginola, University of Tennessee, USA
  3rd place: Lena Poppinga, Institute for Bee Research, GERMANY
- Honorable mention: Philip Houtz, University of Kentucky, USA

Division Travel Awards:

Bacteria Division:	Guillaume Tetreau Maria Cristina Crava Du Lixinm
Virus Division:	Kayvan Etebari Henry Kariithi Darren Underwood
Microbial Control:	Nancy Brill
Fungi Division:	Robert Anderson Anja Amtoft Wynns
Div. Beneficial Inv.:	Kelly Bateman
Nematode Division:	No award this year
Microsporidia Div.:	No award this year

Some award winners and judges. From left to right: Leellen Solter, Andreas Linde, Lena Poppinga, Juliane Deacutis, Sebastian Gisder, Peter Gaudet, Julien Theze and Peter Krell.

2011 Award Winners

Mauro Martignoni Award and 2nd place Oral Presentation Award: Sebastian Gisder

Sebastian Gisder is pursuing his doctoral studies at Länderinstitut für Bienenkunde Hohen Neuendorf e.V. where he is conducting molecular and biochemical analysis of insect pathogens using *in vivo* and *in vitro* infection models. His publication record is strong and includes at least three first-author research papers from 2009 to 2010 and a total of seven research papers since 2007. This work has been focused upon the replication of deformed wing virus (DMV) in the mite *Varroa destructor* and vertical transmission of deformed wing virus in honey bees. More recently, his research interests have turned to investigating the effects of changes in climate on the virulence of the microsporidia, *Nosema ceranae.*

Chris J. Lomer Award: Natalia Munteanu

Natalia Munteanu recently earned her Ph.D. in Entomology from the Moldova Academy of Sciences of the Republic of Moldova where she gained extensive field research experience in ecology and entomology. Currently, Natalia is a postdoctoral fellow at the Institute for Cultivated Plant Protection in the Julius Kuhn Institut at Darmstadt, Germany. She is working with Prof. Andreas Leclerque to discover and characterize bacteria and fungi that may be of commercial use for the microbial control of insect pests. Natalia's scientific interests include molecular co-evolution in host parasite interactions and molecular phylogenetics and phylogeography of insects.

2011 Student Award Winners

1st: Oral Presentation Award and Fungi Division Student Travel Award.
Rob Anderson received his B.S. in biology and B.A. in secondary education from the Richard Stockton College of New Jersey. After teaching junior high school science for seven years, he enrolled in graduate school and earned his M.S. in entomology from the University of Delaware. He is in the final stages of his Ph.D. at Penn State University, under the direction of Professor Matthew Thomas, where he is exploring the impact of behavioral fever on the fitness of house flies that are infected with the entomopathogenic fungus *Beauveria bassiana.* After graduation, Rob will be completing the work he started in Professor Thomas' lab as a post-doctoral researcher, investigating the effects of fungal infection and behavioral fever on house fly vector competence. Rob will then continue his career at Penn State University as a post-doctoral researcher in Assistant Professor David Hughes' lab, where he will investigate novel ways of using entomopathogenic fungi to control carpenter ants in Pennsylvania.

1st: Poster Presentation Award.
Juliane Deacutis earned her B.S in Entomology at Cornell University where she completed a senior honors thesis with Dr. Jeffrey Scott working on spinosad resistance in houseflies. During this period, Juliane received several scholarships and fellowships, including the prestigious Cornell Presidential Research Scholarship. Juliane is currently a Ph.D. candidate at the University of Kentucky where she is working with Dr. Bruce Webb to investigate the effects of cypovirus variants in polydnavirus-containing parasitoid wasps and lepidopteran larvae. In addition to winning first place in 2011 for her poster presentation at the SIP Annual Meeting, Juliane was also awarded the President's Prize during the National Student Poster Competition at the Entomological Society of America National Annual Meeting in 2008.

2011 Student Award Winners

2nd: Oral Presentation Award.
K. Fraiser Clark is a Ph.D. candidate in Microbiology and Pathology at the University of Prince Edwards Island where he is studying the molecular processes that drive the virulence of *Aerococcus viridans* in the American lobster, and is co-principle investigator on a recently funded research project designed to quantify the susceptibility of lobsters to White Spot Syndrome Virus.

2nd: Poster Presentation Award.
Anaïs Castagnola completed her Ph.D. in 2011 at the University of Tennessee (USA) in the lab of Juan Luis Jurat-Fuentes where she is investigating stem cell-mediated regeneration of the midgut intestine in lepidopteran larvae. As a graduate research and marketing assistant, Anaïs performed promotion and recruitment duties for the department, competed with the debate team at the Entomological Society for America meetings, and worked as a marketing consultant for the University of Tennessee Research Foundation's biotechnologies.

3rd: Poster Presentation Award.
Lena Poppinga is pursuing her Ph.D. at the Institute for Bee Research, Hohen Neuendorf, Germany where she is studying the molecular pathogenesis of American Foulbrood Disease in honey bees.

Honorable mention: Oral Presentation Award.
Peter Gaudet is pursuing a Masters of Science in the Atlantic Veterinary College of the University of Prince Edward Island. There he has developed methods for in vitro culture of *Hematodinium spp.* and has applied transmission and scanning electron microscopy in his studies.

2011 Student Award Winners

Honorable mention: Oral Presentation Award.
Julien Theze is a Ph.D. student focused upon computational evolutionary biology at the University of Tours in the lab of Dr. Elisabeth Herniou. Julien's research interests are in using computational approaches to estimate genome diversification and adaptation of insect DNA viruses.

Fungi Division Travel Award.
Anja Amtoft Wynns received her BSc in Biology from Rutgers University and her MSc jointly from The City University of New York and The New York Botanical Garden. She is currently a Ph.D. student of Insect Pathology under the supervision of Jørgen Eilenberg and Annette Bruun Jensen at the University of Copenhagen in the Department of Agriculture and Ecology and Centre for Social Evolution. Anja is presenting the paper "Evidence for self-medication: host plant choice of an oligolectic bee and pathogenic Ascosphaera spp.".

Microbial Control Division Travel Award.
Nancy Brill is a third-year Ph.D. candidate in the Department of Entomology at NC State. Her winning talk was entitled: Optimum external sterilization technique using sodium hypochlorite on *Plectris aliena* grubs (Coleoptera: Scarabaeidae) and effects on behavior. She received her Master's Degree in Horticultural Science in 2005, also at NC State, working with the sweet potato industry. Nancy's experience with agricultural production comes not only from her research, but also from working at a local farm in her hometown of New Jersey. Nancy has two daughters, six and three years old. She hopes to pursue a career in industry to research solutions to global pest problems.

Diseases of Beneficial Invertebrates Division Travel Award.
Kelly Bateman's Ph.D. studies are focused upon the susceptibility of European crustaceans to EC Directive-listed pathogens. She is particularly interested in White Spot Disease and aims to define the relative susceptibility and factors that promote transmission among ecologically important crustaceans residing in freshwater, brackish and marine environments. Kelly has worked for the Centre for Environment, Fisheries and Aquaculture Science with the last 11 years in the Pathology and Parasite Systematic Team. Over this period she has been involved in a variety of projects but her main duties and area of expertise has been the running of the Electron Microscope unit.

2011 Student Award Winners

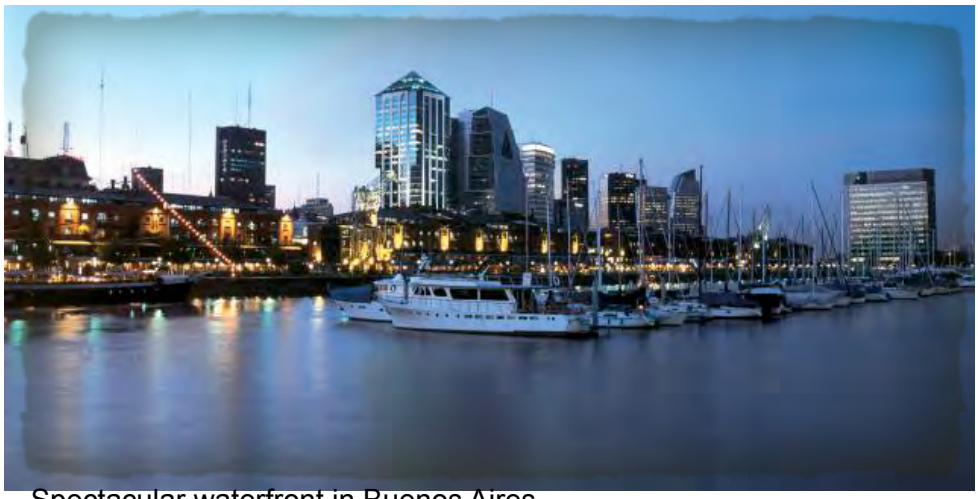
Bacteria Division Travel Award.
Guillaume Tetreau is a Ph.D. candidate in Molecular Ecology and Environment at the University of Grenoble (France) where he is investigating the impact of *Bacillus thuringiensis* persistence on resistance in mosquitoes. He developed tools for detecting *Bti* in soils and litters and for detecting cryptic *Bti* resistance in the field. His oral presentation focused upon the "use of multi-omics approaches to elucidate the bases of resistance to *Bti* in *Aedes aegypti*". Guillaume would like to continue characterizing insecticide behavior in the field and their interactions with target organisms.

Virus Division Travel Award.
Kayvan Etebari is a Ph.D. candidate in Entomology at the University of Queensland where he is studying the transcriptomic responses of *Plutella xylostella* to parasitoid wasp (*Diadegma semiclausum*). He also works on identification of new microRNAs in diamondback moth focusing on microRNAs differentially expressed due to the parasitoid attack and PDV infection.

Honorable mention: Oral Presentation Award: Philip Houtz

Virus Division Travel Awardees. From left to right: Kayvan Etebari, Henry Kariithi and Darren Underwood.

SIP 2012 in Buenos Aires, Argentina



Spectacular waterfront in Buenos Aires.

It is our pleasure to invite you to attend the "2012 International Congress on Invertebrate Pathology and Microbial Control & 45th Annual Meeting of the Society for Invertebrate Pathology". The meeting will be held from August 5-9, 2012 at the Convention Center of the U.C.A. (Universidad Católica Argentina), Buenos Aires, Argentina**.**

The Convention Center is located in Puerto Madero, a neighborhood which represents the latest architectural trends in the City. It is within walking distance of San Telmo neighborhood - the main Tango area - which preserves its characteristic cobblestoned streets, old coffee shops and traditional restaurants.

Puerto Madero is a peaceful place close to commercial districts and a variety of tourist attractions including the *Costanera Sur Ecological Reserve*, an area of 360 hectares by the Rio de la Plata.

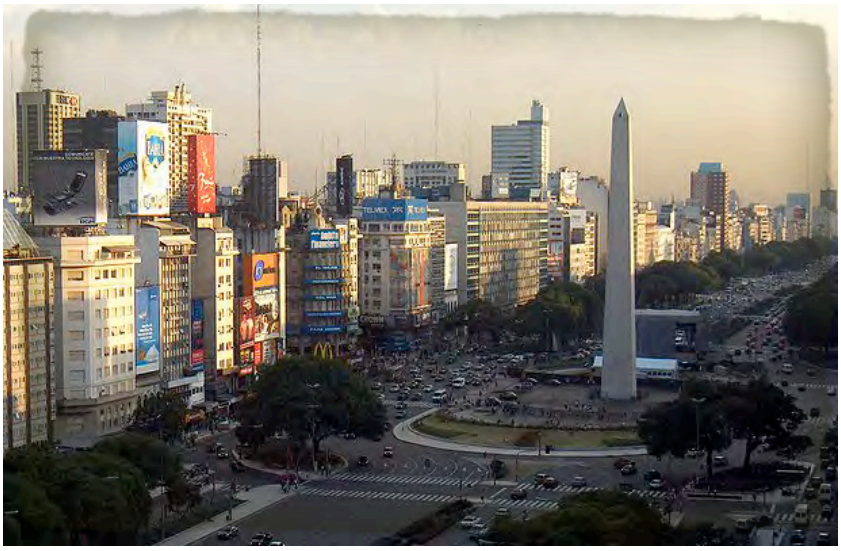
We are planning an interesting scientific program to explore the latest findings in invertebrate pathology, including microbial control of invertebrate pests, diseases in beneficial invertebrates, biotechnological significance of entomopathogens, and fundamental scientific research in host-pathogen interactions.

Buenos Aires serves as a gateway to the varied natural and cultural wonders of this extraordinarily diverse South American country. Plan to stay a few extra days to explore and enjoy other beautiful places.

We look forward to see you in Buenos Aires!

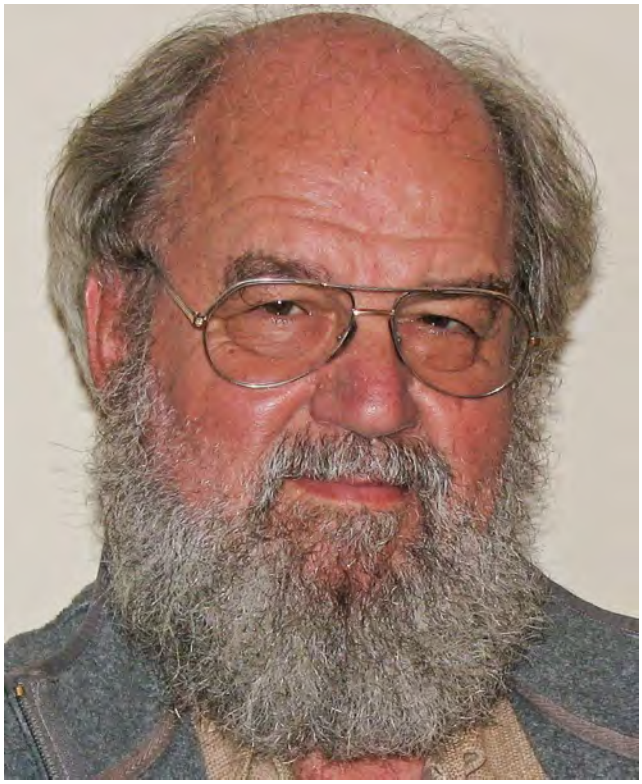
Alicia Sciocco-Cap, Chair; Claudia López Lastra, Co-Chair.

Corina Berón, Graciela Quintana, Marcelo Berretta, Local Organizing Committee



Lively downtown area near the convention center.

IN MEMORIAM: Otto Schmidt (1947-2011)



Professor Otto Schmidt peacefully died at home in Adelaide, Australia on May 31st 2011 after struggling with a brain tumor. Prof. Schmidt was born on July 20th 1947 Karlsruhe, Germany. As an undergraduate, Otto studied biology and chemistry at the University of Freiburg (1969-74). In 1977, he was awarded his Ph.D. from Freiburg, having worked in developmental genetics of the leafhopper *Eusoelis pleb*. From 1978-81, he was a post-doctoral fellow in the Department of Molecular Biochemistry and Biophysics at Yale University, New Haven, working in Dieter Söll's laboratory on gene expression and RNA processing in yeast and *Drosophila* using recombinant DNA technology. He went on to a position of Assistant Professor in the Department of Genetics at Freiburg (1982-88), and worked on the molecular and genetic control of cell proliferation using *Drosophila* tumor mutations as a model system. Having completed his habilitation, in 1989 he went to the Swedish Academy at Stockholm University with a Visiting Scientist Scholarship to work in the field of Microbiology. There he began the work on immune recognition and the evolution of immune evasion in insects that continued until his death. In 1991, he applied for the position of Professor and Head of Department in what was then the Department of Crop Protection at the Waite Campus of The University of Adelaide. He took up this position in 1992, and worked at the Waite until his death this year.

Otto is best known for his discovery of hemolin (an immunoglobulin-like immune protein in insects, published in *Science* in 1990) and its involvement in adhesion, inactivation of microbes and cell-free coagulation reactions (*Annu. Rev. Entomol*. 2008). His work on immune suppression in parasitoid-host interactions culminated in a model explaining immune suppression that accounted for most of the systems studied. Otto was part of the team which first described virus-like particles (VLPs) in *Venturia canescens* and recognised their role in protecting insect parasitoids from encapsulation by the host hemocytes (*Experentia* 1986). This was followed by several discoveries by his team of the molecular structure of VLPs and immunosuppressive genes expressed by symbiotic polydnaviruses. More recently, Otto was investigating the induction and transmission of *Bacillus thuringiensis*-tolerance in insects involving immunity and that the elevated immune status associated with tolerance was transmitted to offspring by a maternal effect.

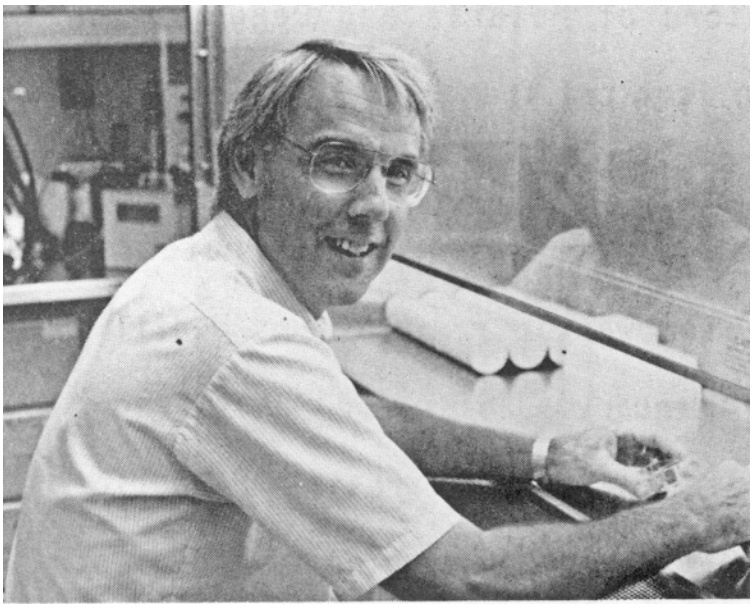
Otto was the sort of supervisor and mentor who inspires enthusiasm, love and respect in his students. The three words which possibly best describe Otto are enthusiasm, optimism and generosity. We honor his lifelong achievements and mentorship in insect immunity and host-parasite interactions.

Sassan Asgari
The University of Queensland
Brisbane, Australia

IN MEMORIAM: Walter Fredric Hink, Jr. (1938-2011)

Dr. Walter Fredric (Fred) Hink was born June 29, 1938 in California, but spent most of his life in Ohio. He received the BSc degree from Ashland College, Ohio and the MSc and Ph.D. degrees from The Ohio State University where he studied under Dr. John D. Briggs. Fred became a member of the Ohio State University Department of Entomology faculty in 1968, where he was a professor for thirty years.

Fred is best known to the field of invertebrate pathology for his groundbreaking research on establishing insect cell cultures and development of new media for these cultures. He established cell lines from *Trichoplusia ni*, *Heliothis zea*, *Carpocapsa pomonella*, and *Anopheles quadrimaculatus*. He also developed cell culture media, including TNM-FH (*Trichoplusia ni* medium-Fred Hink), which is still commercially available. Using these and other cell lines and media, Fred was a pioneer in growing nuclear polyhedrosis viruses *in vitro*, and established the NPV plaque assay in collaboration with Pat Vail. In later years, his work concentrated on ant venoms and chemicals for control of fleas. During his years at Ohio State, Fred mentored a number of students who remained active in the field, and held several offices in the Tissue Culture Association.



Fred courageously fought multiple sclerosis for many years, and passed away on February 23, 2011. He is survived by his wife, Mary Kay, children Kathy Duncan and John Hink, and four grandchildren.

Elizabeth W. Davidson
Arizona State University
Tempe, AZ USA

Member Spotlight

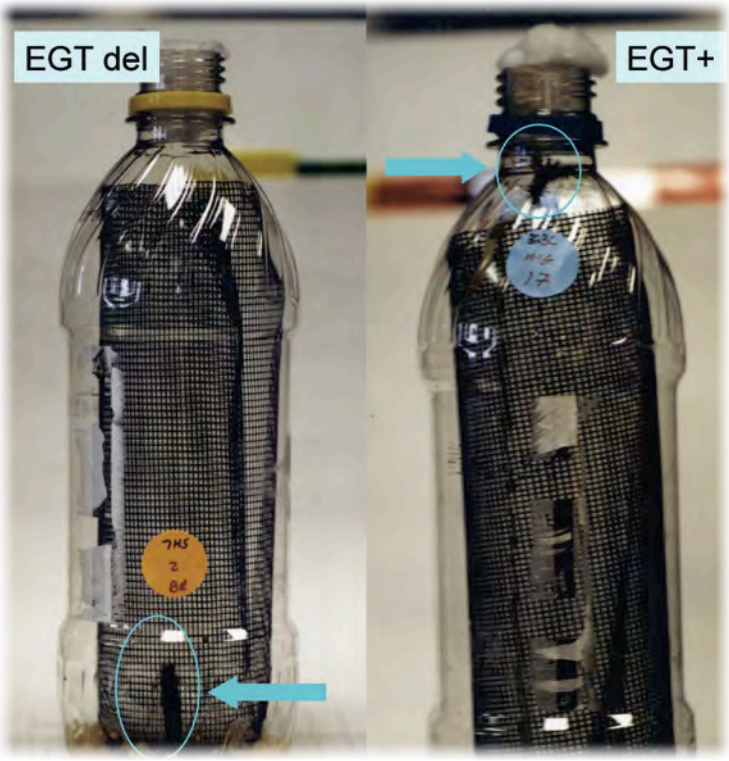
SIP members Kelli Hoover (Penn State), James McNeil (Penn State), Matthew Gardner (Penn State) and James Slavicek (USDA) recently published a highly acclaimed and publicized research article in the September 9 issue of *Science* entitled "A Gene for an Extended Phenotype". This intriguing article demonstrates that a single baculovirus gene (*egt*) extends the phenotype of the virus to alter insect behavior. Their research shows that the presence of *egt* in *Lymantria dispar* nucleopolyhedrovirus (*Ld*MNPV) triggers infected gypsy moth larvae to become unusually mobile and die at an elevated position, which enhances virus transmission to new hosts.

Kelli Hoover

James Slavicek

This article was selected for the Faculty of 1000 (f1000.com), which establishes this work in the top two percent of published articles in biology and medicine listed in its library. Mainstream media has been attracted by this work and the *Ld*MNPV has been given the moniker "zombie virus". It has been featured by several major news outlets, including an engaging interview with Kelli Hoover by Jon Hamilton of NPR (tinyurl.com/6flu6ys) and a news article in National Geographic (tinyurl.com/6jr6ghg).

Healthy gypsy moth caterpillar on a leaf.
Photo credit: James McNeil.



Experimental apparatus. Tall soda bottles were lined with screening for the insect to climb on and contained food at the bottom of the bottle. Larvae infected with the virus lacking *egt* (EGT-) died at the bottom of the containers, while larvae infected with the virus containing *egt* (EGT+) died at the top of containers, similar to what is observed in nature when larvae die and hang from foliage or bark surfaces in elevated positions.
Photo credit: Michael Grove.

Announcements

The discounted Society member subscription to the Journal of Invertebrate Pathology will be $212 for the year 2012, with this increase being in line with inflation over last year. This Society-associated publication remains an excellent value for highly-cited research articles related to invertebrate pathogens!

Nominations for 2012 now being solicited

The Nominations Committee is soliciting your input on the slate of candidates for the 2012 election. Positions that will be filled are:

- Vice-President
- Secretary
- Treasurer
- Trustee x 2

Do you know of worthy individuals who should be considered? Or perhaps you might be interested in running for office yourself?

It is the duty of the Nominations Committee to produce a slate of candidates. However, the Society's by-laws also state that nominations can be contributed by the general membership, following these guidelines:

1. Nominations must be presented to the Secretary, Judith Pell (judith.pell@rothamsted.ac.uk) on or before January 1, 2012.
2. Nominations must be accompanied by a petition with signatures of at least 10 SIP members in good standing. To facilitate electronic communication, these signatures can take the form of a scanned or FAXed letter, on institute letterhead, with the petitioner's signature.
3. A brief biographical sketch of the nominee should also be included.
4. Please also specify the office that the member is being nominated for.

All nominations will be announced in the February, 2012 SIP Newsletter.

Questions? Please contact Mark Goettel, Nominations Committee Chair, at Mark.Goettel@agr.gc.ca

Postdoctoral scholar position wanted to study Insect Pathology and Microbial Control

Rajwinder Singh is seeking a postdoctoral research position in insect pathology or microbial control, preferably in the Northeastern United States. He is currently a Ph.D. candidate at Penn State University in Professor Diana Cox-Foster's lab, is planning to graduate in fall 2011 and is seeking a postdoctoral research position starting in January 2012.

He has good experience working with small RNA viruses and baculoviruses. He has skills in molecular biology, including reverse transcriptase PCR, quantitative PCR, cloning, sequencing, and use of phylogenetic analysis tools. Please contact Rajwinder at rajnandha27@gmail.com

Position Needed: Assistant Professor of Insect Immunology

Cornell University, a world-class environment for Life Sciences Research, invites applications for a Tenure-Track Position in Insect Immunology at the Assistant Professor level. The successful candidate is expected to establish an internationally recognized research program on insect immune systems. We are particularly interested in candidates who combine molecular biological approaches with cellular/organ-level physiology to investigate the mechanistic basis of immune system function and how this translates into insect resistance, susceptibility or tolerance to pathogens, parasites and/or symbionts. Further particulars are available at http://entomology.cornell.edu/jobs. Please contact Ms Westcott by phone at (607) 255-7723 or by email at lew1@cornell.edu with questions.

Microbial Control News

This column aims to regularly announce the registration of microbial insect control agents in a range of countries and regulatory activities. SIP members outside the U.S. and Canada are earnestly encouraged to send announcements of new registrations of insect pathogens in their countries to stefan.jaronski@ars.usda.gov

NAFTA regulatory webinar

In April 2011 USEPA conducted a webinar on biopesticide registration requirements, “2011 NAFTA Biopesticide Registration Improvement Course.” The webinar included Mexican, Canadian and US regulatory updates with regards to biochemicals and microbials and a review of registration data requirements, with tips on improving submissions. An agenda and hyperlinks to uploaded talks is at http://tinyurl.com/835ho7w.

New *Beauveria bassiana* registered in Canada

Strain HF23 received registration as a microbial pesticide from Health Canada to control house flies in poultry production houses in 2010. “The HF23 strain of *B. bassiana* was originally isolated from a house fly in the USA and is reported to be quite specific to house flies and related flies associated with livestock facilities." Registrant is JABB of the Carolinas Inc. and the fungus is being marketed in Canada as balEnce ES. This strain of *B. bassiana* was registered in the US in 2006. The product label claims $5.6x10^8$ viable conidia per ml of an emulsifiable soybean oil. There is also balEnce Biological Fly Bait containing 5×10^{11} conidia per kg of carrier or substrate. A technical grade material is also registered, with a titer of 4.75×10^{11} viable spores/g (97.5% w/w). Further information about the registration and the organism can be found at http://tinyurl.com/7z3fwvm and the registration document itself, at http://tinyurl.com/6w7zw6r. The Canadian pesticide label is at http://tinyurl.com/6u78k7z.

Other registrations in the U.S. 2011

Active ingredient	Uses	Application types	Registrant
Metarhizium anisopliae strain F52	All food commodities	Exemption of a tolerance for residues*	Novozymes Biologicals
Isaria fumosorosea Apopka 97	All food commodities	Exemption of a tolerance for residues*	Certis
Isaria fumosorosea strain FE 9901	In or on vegetable and herb crops grown in glasshouses	Registration petition WITHDRAWN	Natural Industries, Inc.
Lagenidium giganteum	Mosquitoes	Reregistration Review announced	Agraquest

* Exemption from the requirement of a tolerance for residues means that the microbial can be used without restriction on food crops

Microbial Control News

U.S. & Canada new microbial pesticide registrations submitted 2011

Active ingredient	Uses	Application types	Registrant
Bacillus thuringiensis eCry3.1Ab ** protein in corn, as a plant incorporated protectant (PIP)	corn (*Diabrotica*)	Request to temporary exemption from the requirement of a tolerance for residues for Experimental Use Permit	Syngenta Seeds Inc.
Bacillus thuringiensis combined and single trait hybrids with Cry1Ab Cry34Ab1/ Cry35Ab1 Vip3Aa20 Modified Cry3A and Cry1F proteins as PIPs	corn (*Diabrotica*; Lepidoptera)	Request to extend an experimental use permit	Syngenta Seeds Inc
Isaria funosorosea, Strain FE 9901	Vegetable and herb crops (greenhouse)	Co-Review, USEPA & Canada PMRA	Natural Industries, Inc.
Chromobacterium subtsugae PRAA4-1T	Food crops, turf and ornamental		Marrone Bio Innovations
Pasteuria reneformis strain Pr-3	Various food and non-food crops (nematodes)		Pasteuria Bioscience
Pasteuria nishizawae strain PN-1	Soybean (nematodes)		Pasteuria Bioscience
Cry1Ab in cotton Twinlink	Cotton/cotton seed		Bayer
*Cry2Ae i*n cotton Twinlink	Cotton/cotton seed		Bayer
Burkholderia sp. strain A396	Food crops, turf and ornamental (nematodes)	Co-Review, USEPA & Canada PMRA	Marrone Bio Innovations

Rock Monsters - Nick Jessop, Stephen Abolins, Steve Arthurs and Nina Jenkins

Getting Social

The goals of any Society are to engage, promote and connect the members. At SIP, we have historically relied upon this Newsletter and the Annual Meeting to serve these goals. But the pace of research, changes in regulation and the rapid expansion of industry has resulted in a desire for increased speed and dynamism of how we communicate. An expectation of "the connected generation" is for immediate access to information and fluid interaction among one another. To serve this expectation, SIP has sought to integrate the best of the new electronic media.

SIP website remodel and Facebook

We hope that you have explored the engaging offerings on our FaceBook page! More photos from the Annual Meeting will be available in the upcoming weeks. Over the coming months, we will remodel our Society website with the aim of increasing ease of access to Society information and allow members to learn and interact with more ease.

Follow SIP on Twitter @SocInvertPathol

To increase the speed of communication, we have recently established a SIP twitter account. Twitter is a social networking system that allows users to send and read text-based posts of up to 140 characters, which are informally known as "tweets". Twitter can be accessed on the web or via many cell phone applications. Follow SIP on Twitter @SocInvertPathol

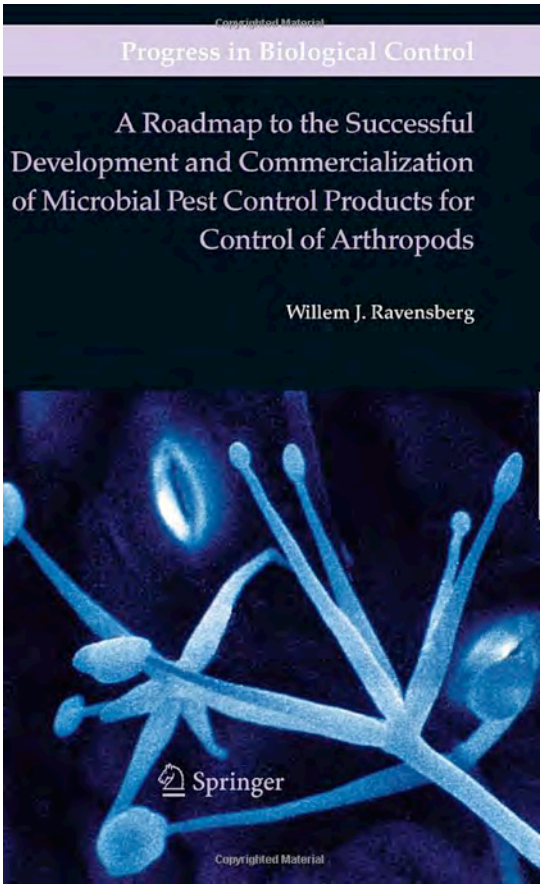
SIP is international, but it all starts with local members sharing the ideas bring us together. Our goal is to tweet information of interest to members, including: research article announcements, informal gatherings of SIPers, and seminars. Showing the Society what's happening in your community may spur others to take similar actions that enhance the overall Member experience.

Members of SIP live all over the planet, and sometimes events are set at the last minute. We can't open the SIP twitter feed for everyone to post, so we are asking well-established Members to contribute in posting SIP tweets. So if you're interested in being an SIP tweeter and have been a member for more than 3 years, please email Eric.Haas-Stapleton@csulb.edu to discuss. If you have something that you would like to have tweeted @SocInvertPathol right now, email your up to 140 character tweet to TweetSIP@gmail.com with the subject line "Tweet SIP" and I'll post it!

Getting social at the Annual Meeting banquet

Book Review

Book Title: A roadmap to the successful development and commercialization of microbial pest control products for control of arthropods
Book Author: Willem J. Ravensberg
Springer, 383 pages, $179.00
ISBN 978-94-007-0436-7



It has been 73 years since the registration of the first commercial microbial biopesticide (the *Bacillus thuringiensis*-based French product, Sporeine), and it is surprising that in all of that time, there have been few efforts devoted to assess the progress in developing microbial biopesticides and what advances we have yet to achieve.

The current situation can be challenging to analyze as it is an exercise in deciding if the glass is half-full or half-empty. For on the one hand, microbial biopesticides are a growing market, with about $750 million (U.S.) in sales globally, and with estimates that sales have tripled or quadrupled in the last decade. On the other hand, even these increased sales still represent only 2-3% of all pesticides sold (McCue, 2011; Crop Protection Monthly, 2011). Although there are hundreds of products on the market, most are based on just a few key microbes, such as *Bacillus thuringiensis* var. *kurstaki*, *Metarhizium anisopliae,* and the granulovirus of the codling moth, *Cydia pomonella*.

In his new book, "A roadmap to the successful development and commercialization of microbial pest control products for control of arthropods." SIP member Dr. Willem J. Ravensberg tackles the difficult questions of where we are now and why, and where we need to go in the future. In doing so, he has not only accurately described many of the technical, marketing, social and even political hurdles to greater success, but has also provided his detailed prescription for more successful efforts in the future. As far as I know, no one has attempted this task in book form, and certainly not in such detail, and with so many real-life examples provided to document the conclusions. For these reasons, this book is a valuable addition to the libraries of university, industrial and government researchers, as well as business persons, policy makers and regulators. Even though it deals primarily with European microbial control products targeted at insects, the concepts can be applied to most facets of applied biological control, in all geographies.

A microbial control researcher and long-time employee of Koppert, the international biological crop protection company, Ravensberg has seen his share of successes and failures in developing and commercializing microbial control products. There are therefore few individuals better qualified to achieve the goal stated in the Preface, "…to produce a complete roadmap for the development and commercialization of a entomopathogenic microbial pest control product, with an emphasis on commercial and economic issues."

The book is the 10th volume in the series, "Progress in Biological Control", published by Springer and overseen by series editor Heikki Hokkanen. Other volumes in the series deal with topics ranging from the environmental impacts of microbial insecticides, to classical biocontrol of whiteflies and diseases of rice. Ravensberg's contribution is an outstanding addition to the series, and the only one to deal specifically with the business and science of microbial control.

Organized into 8 chapters, the book provides extensive documentation in the form of a comprehensive and useful listing of references at the end of each chapter. The first 6 chapters describe the stages in biopesticide development, from strain discovery and selection, to mass

production and quality control, and finally to registration, field testing, marketing and implementation. These chapters provide detailed reviews of academic and industrial activities in each area, as well as instructive examples from Ravensberg's own extensive experience with mycoinsecticides such as Mycotal (based on *Verticillium lecanii*), Vertalec (based on *Lecanicillium longisporum*) and candidate products based on *Aschersonia aleyrodis*. I particularly appreciated Ravensberg's willingness to focus not only on the success stories of microbial control, but also on the failures from which we can all hopefully learn.

The lack of published data on topics such as industrial fermentation, formulation, quality control and marketing has always been a gap in descriptions of the complex process required for getting a new biopesticide to the market. These processes are often zealously protected trade secrets that companies rely on to retain an advantage over their competitors. Ravensberg's, and Koppert's generosity in sharing some details of their own history helps to fill in the record, but there are still gaps in information on the nitty gritty details of product development that this book cannot completely address. This is not a criticism *per se*, but a word of caution to readers who may unrealistically expect that all of the mysteries of industrial biopesticide development will be revealed. This is simply impossible, given today's business world; but this book goes further than others in addressing many issues.

The final two chapters, "Critical factors in the successful commercialization of microbial pest control products" (Chapter 7) and "Roadmap to success and future perspective" (Chapter 8) are the most valuable in the book, as they cover topics that many academic researchers may find unfamiliar, but that are nevertheless important in understanding the history and current status of biopesticide products today. They are valuable also because it is here that Ravensberg pulls together the key themes visited in previous chapters and weighs in with his informed opinions and recommendations for strategies to develop successful products and companies. I found that the sections of the book where the author provides this type of synthesis and opinion were the most enjoyable and also unique.

Particularly enlightening is Ravensberg's evaluation of biopesticide manufacturers and biopesticide products, and the factors common to both successful and failed enterprises. For successful companies, these characteristics range from commitment and entrepreneurship, skillful production methods, appropriate business models and savvy marketing strategies. Mistaken assumptions in the economics and technical challenges involved with producing biopesticides are characteristics that most failed companies seem to share. In a similar vein, Ravensberg analyzes both successful and failed products, identifying the factors shared by each. These analyses are instructive for researchers and companies who are embarking on new projects, though, as Ravensberg cautions, there is no exact prescription for success.

Speaking of success, Ravensberg projects cautious optimism about the potential for microbial biopesticides to go beyond the niche markets that they now occupy, and towards more mainstream acceptance. He is optimistic about the social and political awareness that is driving more demand for safe pest control products, but cautions that over-reliance on these factors alone can lead to failure. We need more effective products that target a broader array of pests that are manufactured more cost effectively. In moving towards these goals, Ravensberg's book will be extremely useful, not just in identifying the many pitfalls to avoid, but in pointing the way forward.

References

1. McCue, M., 2011. The rise of biopesticides: efficacy drives acceptance in IPM. Meister Media Worldwide Special Report, August, 2011. http://riseofbiopesticides.com/ (date accessed: 9/26/11).
2. Crop Protection Monthly, 31 August 2011, issue 261. "Biopesticide market expanding".

Wendy Gelernter
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Principal
Pace Consulting
San Diego, CA

If you have authored or edited a book and would like a review published in the newsletter, please contact the Book Review Editor, Harry Kaya (hkkaya@ucdavis.edu).

Book Review

Book Title: Insect Virology
Book Authors: Sassan Asgari and Karyn Johnson
Caister Academic Press
436 pages, $350
ISBN 978-1-904455-71-4

The volume contains three sections and 18 chapters: DNA viruses (8 chapters), RNA viruses (5 chapters) and diverse topics including structural comparison of insect RNA viruses, the role of RNA silencing and apoptosis in virus-host interactions, and the ecology of baculoviruses (5 chapters). Together, the 435 pages of text provide a comprehensive overview of insect virology circa 2010.

Compared to The Insect Viruses (the last such volume I reviewed [L.K. Miller, and L. A. Ball, eds, New York and London, Plenum Press, 1999]) this volume benefits from a huge leap forward in our understanding of the role of RNA silencing in insect virology. In addition, it contains a plethora of sequence data that suggest previously unknown phylogenetic relationships among insect viruses and their families. These two aspects make the volume especially worthwhile to me, an oldtimer baculovirologist.

RNA silencing is an ancient and pervasive tit-for-tat system of discriminating self from non-self at the RNA level. It is present in vertebrates, invertebrates, plants, fungi and their viruses. Amazingly, we knew very little about this just 11 years ago. RNA silencing is key in understanding vector competence and insect immunity, not to mention gene regulation (host and viral), so this topic was a welcome addition.

Phylogenetic comparisons are woven into the majority of chapters on viruses, but how to think about their meaning is far from straight forward. In the chapter on Nudiviruses (page 160) for example, Johannes Jehle reminds us that nudiviruses HzNV2 and HzNV1 share 94-95% sequence identity, but nonetheless, have very distinct biology and elicit different host pathology. In other words, there is a considerable distance between identifying putative orthologues and understanding their function in the biology of the virus and host. This lesson, so clearly pointed out by Jehle, was not always kept in mind by authors of other virus chapters. Nonetheless, some of the phylogenetic comparisons are very exciting to think about.

Among my favorite revelations was that bracovirus (Polydnaviridae) structural protein genes (expressed in the parasitoid wasp but not in the parasitized host) are “repurposed” nudivirus genes captured by an ancestral parasitoid wasp! This idea makes good sense and adds fodder to the discussion of what constitutes a virus. Perhaps even more intriguing, 14 of the wasp-acquired nudivirus genes are homologues in a core of 20 genes conserved among nudiviruses and baculoviruses. These revelations are thought provoking enough, but when one considers that four baculovirus *per os* infectivity factor (*pif*) genes are among those that are conserved, it makes no sense at all. Baculovirus research has established that *pif* gene products function prior to early gene expression during infection of polarized midgut cells by the occlusion-derived baculovirus. *pif* gene products are dispensable for spread of infection beyond the midgut by the budded form of baculovirus. These facts might lead one to think that PIF proteins function in the highly specialized apical midgut niche, but not so quick. What are the *pif* genes doing for bracoviruses that transduce lepidopteran cells in the hemocoel of the wasp-parasitized host? And what role do they play in HzNV-2 biology when it is transmitted during host moth copulation? Here’s that gap again. Maybe we’ll have the answers in another 11 years.

Loy Volkman
Professor Emerita
University of California
Berkeley, California 94720

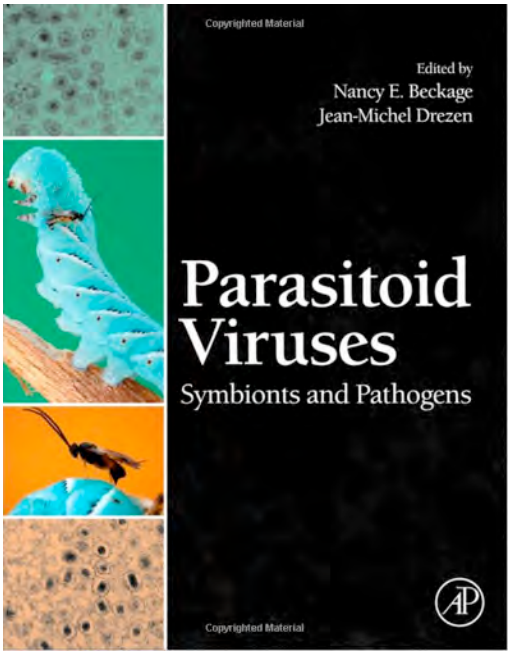
New Books

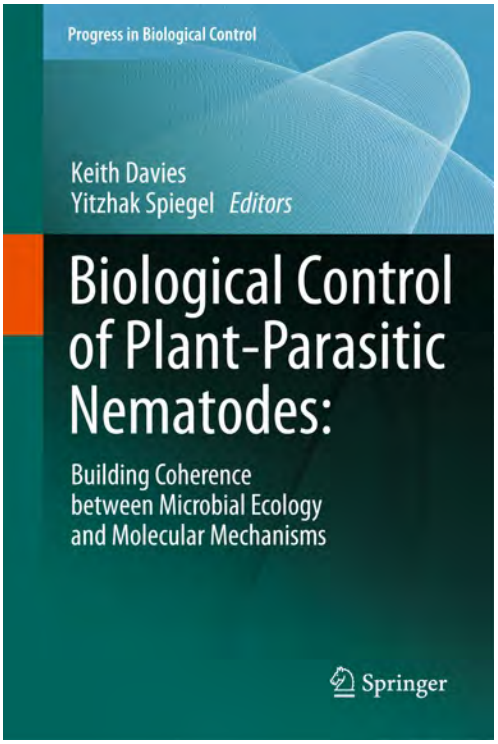
Parasitoid Viruses: Symbionts and Pathogens

Editors: Nancy E. Beckage and Jean-Michel Drezen
Publisher: Academic Press
Publication date: October 28, 2011 (1st edition)

ISBN-13: 978-0123848581
Price: $125 USD
Pages: 312

- Sections focus on both virus evolution and genomics as well as proteomics and functional roles of polydnavirus-encoded gene products.
- Includes content on both symbiotic viruses and pathogenic viruses, plus new research on parasitoid venoms.
- Cutting-edge section on future directions in the field covers the impacts of polydnavirus research on medicine, human health, bioengineering and the economy, increasing the value for researchers and practitioners who need to stay on top of the research in this swiftly moving field.





Biological Control of Plant-Parasitic Nematodes

Editors: Keith Daves and Yitzhak Spiegel
Publisher: Springer
Publication date: July 1, 2011

ISBN-13: 978-1402096471
Price: $179 USD
Pages: 324

Twenty years have elapsed since that last book was published dedicated to biological control of nematodes and to this day a robust commercially successful biological control agent for plant parasitic nematodes is not routinely used. Soil suppressive to plant nematodes is a well established phenomenon and yet we clearly do not understand the ecology of it sufficiently well to manipulated it in a way that we can predicatively control these important plant pests. During the last 20 years there has also been a revolution in molecular biology and we now have many techniques available to us that were only just beginning to be developed when his original book was published.

If you have authored or edited a book and would like it highlighted in the newsletter, please contact the Newsletter editor, Eric Haas-Stapleton@CSULB.edu

Division Photos

Microsporidia Division 2011. Huang,Linde, Jaronski, Cali, Genersch, Kleespies, Bjornson, Stelle, Puckett, Solter, Goertz.

Virus Division 2011. Left to right: (Front) Sokai, Thiem, Erlandson, Romanowski, Bonning, van Oers, Lucarotti, Herniou, Lapointe, Thumbi, Krell, Pang, Passarelli, Haas-Stapleton; (Second) Thielmann, Vlak, Kariithi, Chejanovsky, Hu, Arif, Burand, De, Nokes, Norris, Hodgson, Feng, Yang, Liu; (Third) Jehle, Cheng, Welch, Johnson, Harrison, Demirbag, Eberle, Wennmann, Bitra, Zhang, Jung Kim, Rae Yun, Strand; (Fourth) Cusson, Etebari, Clavijo, Multeau, Abd-Alla, Bergoin, Tyssen, Clem, Liu, Kim, Escasa, Pavlik, Perera; (Fifth) Chateiger, Theze, Louis, Drezen, Beliach, Barretta, Sciocca-Cap, Yuan, Deng, Huang, Chougule, Liu; (Sixth) Graham, Deacutis, Wang, Sun, Houtz, Akatsuka, Yamaguchi, Shinomiya, Zage, Underwood, Yu and Pham.

It would be great if all Divisions could take a group photo at their Business Meeting so that it can be included in next years newsletter.

SIP in Nova Scotia

The Founders' Lecturer Betty Davidson with Harry Kaya

David Theilmann, Martin Erlandson and Monique van Oers

The Virus Division Symposium speakers and organizers: Bryony Bonning, Matt Welch, Zhihong Hu, Lorena Pasarelli, Sassan Asgari, & Eric Haas-Stapleton

Enjoying the research poster session

Johannes Jehle, Zhihong (Rose) Hu & daughter (center) decked out in royal purple for the banquet

Special Virus Division Symposium speakers & organizers: Chris Lucarotti, Kelli Hoover, Basil Arif, Johannes Jehle & Peter Krell

Breakfast breakup

Guarding the fort - Naworaj Acharya

I didn't get the shot, did you?

Virus Division Photo: Take two please (thanks John...)

Some help with an ID please!

Bobblehead-Mark

Peggys Cove Excursion

Ann Hajek and Bryony Bonning gleaming with giddy anticipation of gallivanting via bus

Jenny Cory and Renée Lapointe rock the coast

Shipwrecked - Travis Glare and Nina Jenkins

Surendra Dara charming the lens

Don Roberts and Joanne Kaya enjoying the light breeze

Holding up the Lighthouse - Nick Jessop and David Grzywacz

Photo blitz of Nova Scotia in 2011: Lobstermania!

The room gasps with glee as the lobsters enter!

Natalia Munteanu introduces dinner

Susan Bjornson shows the right way to eat lobster

Sassan Asgari says the lobster is smiling on the inside

Zhihong (Rose) Hu admires Just Vlak's muscles

Lorena, is that lobster tickling your nose?

Banquet in Nova Scotia

Congrats Susan and thank you for an excellent meeting!

Kelli Hoover with Sup. Brian Brennan

Surendra Dara presents Mark Goettel with a fabulous portrait

Terry Couch in a lively discussion

Karyn Johnson and her student, Darren Underwood, enjoying the banquet

Selcuk Hazir & Joanne Kaya

Parting Shots

The sounds of lobster bliss: crunch, crunch, crunch

Feelin' the music!

Leellen, Lorena and Sassan tilting the floor

Make some room for the swinging Jørgen Eilenberg & Annette Jensen

Ann Cali & Don Roberts cut a rug!

The SIPers bid you adieu.