



Society for Invertebrate Pathology Newsletter

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From the President

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How we perceive a year in time is certainly variable in the world today. For some the year begins January 1 or whatever date the calendar used determines; for some it's the fiscal year... perhaps April 1, or July 1, or October 1; for academics, the year often seems to begin with the return of students for the fall semester. My own year ends at each SIP meeting and the new one begins as we look forward to the next one. There is the science to accomplish that can be shared next year, the recap (and reminiscing) for the past meeting, and the planning that begins immediately for the coming event. SIP is a cornerstone of many of our working lives....and also our personal lives judging by the number of friendly emails that keep popping up long after each meeting has come and gone!



This year's meeting in Trabzon, Turkey was another highlight for SIP. Thanks to all the time and effort that Zihni Demirbag, Basil Arif and the local arrangements and program teams contributed, we were treated to an excellent (brand new) meeting venue and a smoothly running program with enjoyable (and sometimes strenuous) social events. (There for a moment, I was fairly certain that ¾ of the meeting participants were going to end up in the pool in banquet attire but, believe it or not, dancing SIP'ers really can show a little restraint!) For some of us, this was a first visit to the "crossroads between Europe and Asia", and what a warm reception we received. Sumela Monastery was spectacular, the Trabzon shopping bazaar rich in color and fun souvenirs, and the meeting venue on the edge of the Black Sea was lovely. Again, thanks to the organizing and local arrangements team for their always smiling and patient assistance, and thanks to SIP members who brought their outstanding science and enthusiasm to the 2010 meeting.



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Cover page: Graduate student, Zeynep Erbas and Associate Professor, Ismail Demir of Karadeniz Technical University, Trabzon



Kudos to Basil Arif, our 2010 Founders' Lecturer, for his excellent presentation on the life of Mauro Martignoni. It was particularly apropos to honor the scientist whose life is also honored by SIP's most prestigious student award, and to honor one of our most dedicated and talented (and fun-loving!) members. Our congratulations, also, to student travel award and paper/poster award winners for 2010. As usual, your contributions to the meetings were some of the most exciting presentations. Keep up the excellent work and we hope to hear about

more great research results during the coming meetings.

Next year's meeting in Halifax, Nova Scotia, Canada also promises to be a great venue. Meeting organizer Susan Bjornson and program chair Martin Erlandson have begun planning and welcome suggestions and input from members. We are hoping that this meeting will be of particular interest to aquatic invertebrate pathologists- the new Diseases of Beneficial Insects Division is currently working on the potential for an enhanced program. Plans are also in progress for the 2012 meeting in Buenos Aires- our second meeting in South America and a welcome opportunity to meet with many South American invertebrate pathologists.



In his final President's Letter in the June 2010 Newsletter, Mark Goettel spelled out some of the financial issues that SIP is facing. As for many other scientific societies, the global recession has impacted SIP in terms of slightly lower membership rolls and almost non-existent interest rates on our invested funds. There are no significant changes to report in this message (annual meeting finances will be completed soon and provide a better picture), but there are things we can do to continue to weather the financial situation and remain a strong and vital society. First, each SIP member can reach out to others and ask them to join or renew their memberships with the Society- our students, our colleagues and previous members who may have let memberships lapse. Second, if we can afford a little more, perhaps we can manage to pay a second membership for a student (great holiday gift!), or a student of a colleague, or a colleague who may not be able to manage the economic impact of scientific memberships. SIP needs approximately 450 members to be sustaining (completely cover yearly expenses outside of meeting expenses), certainly a number we should be able to maintain. Third, we can individually support SIP meetings with our attendance as well as our students' attendance- we all know that the science is best when as many as possible participate, and our long-term excellence depends on developing the loyalty of our early career members. Behind the scenes, Council will continue to watch for better interest bearing products, particularly for the Martignoni and Lomer Award funds where longer-term instruments are appropriate. We will continue to work with meeting committees to address expenses and provide the best possible meetings for the

cost. SIP has a very strong core of members who understand the value added results of their participation. Communicating that value is a responsibility we can all shoulder. P.S. The auction netted over \$1,200 for the Martignoni and Lomer Awards!

New for SIP is a Facebook site (<http://www.facebook.com/pages/Society-for-Invertebrate-Pathology/106348432763178?ref=mf>). A big thanks to



Bryony Bonning for suggesting and planning this site and getting it up and running. Links from Facebook to the SIP website and vice versa are being added. Log in and join the conversation about SIP! And then there is the Newsletter that is now being ably edited by Surendra Dara. Please send news items, photos, announcements, etc. to

Surendra by the deadlines (usually the 15th of January and May, and 1st of October) for inclusion in the relevant Newsletter. We'll be working with the Publications Committee chaired by David Shapiro-Ilan this year to coordinate these three media outlets.

Finally, we all owe a big thanks to our outgoing SIP Council. Trustees Zhihong (Rose) Hu, who continues serving on various committees, and Jorgen Eilenberg, now SIP Vice-President, significantly contributed to smooth Society operations and were involved and committed Council members. Treasurer Ann Hajek worked with our (then) new Executive Secretary Cecilia Schmitt, to deal with several problems that new banking regulations presented, and Johannes Jehle was not only an integral and contributing member of Council, but managed the Secretary duties with alacrity along with his installation as head of the Institute for Biological Control at the Julius Kühn Institute in Darmstadt, Germany. Wendy Gelernter completes her 6-year rotation (Vice-President, President and Past President) but I can't help hoping that she won't mind answering the occasional question that her excellent business skills and knowledge of institutional history can facilitate. Thank you, Wendy, for a great 'run'. And Mark Goettel, who leaves the Presidency this year, has kept the Society operating in excellent order, overseen great meetings in Utah and Trabzon, and has been a helpful and transparent 'mentor'. His continued presence on Council as Past President will provide a valuable resource and a sense of humor when one is most needed. Cecilia, our now seasoned Executive Secretary

has been a champion for SIP's day-to-day operations and has managed to untangle the banking regulatory issues and keep us legal and safe. Thank you all, thank you

Division officers and Committee members, and thank you, members, for all you do to maintain a vital Society!



2010 SIP Council and Division Chairs



Back row, left to right: Helen Roy, Ed Lewis, Bryony Bonning, Jeff Lord, Johannes Jehle, Mark Goettel, Ann Hajek, Jørgen Eilenberg, David Oi and Juan Luis Jurat-Fuentes. **Front row, left to right:** Surendra Dara, Grant Stentiford, Christina Nielsen-Le Roux, Lee Solter, Zhihong (Rose) Hu, and Hyun-Woo Park



The 43rd Annual meeting was held in Trabzon, Turkey from 11-15 July, 2010. Historically and socio-culturally Trabzon is the most important center in the Eastern Black Sea Region. The conference was held at Prof. Osman Turan Congress Center of Karadeniz Technical University (KTU). KTU is the fourth oldest university and one of the largest educational institutions in Turkey with over 45,000 students.

A total of 340 people, including 84 students attended the meetings. Additionally 53 companions and 20 local attendees also took part in these meetings.

Scientific Program

Meetings were commenced on 12 July by President Mark Goettle, 2010 meeting organizer, Zihni Demirbag and Vice Rector of Karadeniz Technical University, Necati Tuysuz. Opening remarks were followed by a presentation of the Mauro-Martignoni and Chiris Lomer awards by Andreas Linde, and announcing Division Travel Award Winners.

Founders' Memorial Lecture was presented by Basil Arif in honor of Dr. Mauro Martignoni. The plenary symposium, 'Biology of the Tsetse fly: Interactions with Parasites, Pathogens and Symbionts' was held on 12 July and was well attended. Udo Feldmann presented 'Tsetse distribution and biology, and options and strategies for vector control', Peter Holmes discussed 'Tsetse-transmitted trypanosomes - their biology and disease impact', Serap Aksoy presented 'Influences of the Symbiotic Fauna on Host Physiology' and Adly Abd-Alla gave a an informative talk on 'Salivary Gland Hypertrophy Virus (SGHV): Impact on tsetse rearing and potential virus management strategies.' The scientific program included 44 symposia, 11 workshop presentations, 166 contributed oral presentations and 175 posters. Additionally, students held an evening workshop on 'How to prepare for an interview.' All the divisions were able to squeeze their business meetings into a very busy schedule. This year, the Virus Division held a Bioinformatics Workshop on Sunday prior to the main meeting. This workshop was led by Dr. Eric Lyons, organized by Bryony Bonning, and had 21 participants.

Social Program

The social kick-off to the meeting was the mixer on 11 July evening. This was held in the Osman Turan Congress Center and included meal, drinks and nice Turkish music. Attendees were able to reacquaint with old friends and meet new ones. This year, all meals, excursion and banquet were provided as part of the registration fee. Lunches were served at sea side social complex of KTU on the coast of Black Sea. One of the dinners was served in a nice restaurant close to the congress center on 12 July and the other one was arranged at the university

restaurant at sea side complex of the university on 14 July. Very special menu including delicious entries from Turkish cuisine were served during the dinners.

Participants had a special day on 13 July. The 5K Fun Run was started at 6:30 am at the football field of the university. Before leaving for the excursion in the afternoon, a wonderful musical performance from the time of Ottoman Empire was presented by Trabzon Municipality's band. Excursion to the Sumela Monastery was another unforgettable experience. Founded in the year 386 AD during the reign of the Emperor Theodosius I (375 - 395), legend has it that two priests undertook the founding of the monastery on the site after having discovered a miraculous icon of the Virgin Mary in a cave on the mountain. During its long history, the monastery fell into ruins several times and was restored by various emperors. During the 6th Century AD, it was restored and enlarged by General Belisarius at the behest of Justinian. It reached its present form in the 13th century after gaining prominence during the reign of Alexios III (1349 - 1390) of the Komnenian Empire of Trebizond (established in 1204).

After visiting the monastery, participants had a wonderful time at the restaurant by a stream in the valley. Guests were entertained with music and folk dances from Black Sea region of Turkey along with a nice BBQ dinner.

Meetings concluded on 15 July evening with the banquet held in the poolside area at the sea side complex of KTU. Following dinner, a short awards ceremony was held by the new President Lee Solter during which the student winners of the oral and poster presentations were announced. Entertainment was provided by Salim Onder and his band and Huseyin Tahmaz and his folk dance group. Everyone enjoyed a wonderful dinner along with Turkish and western dance.

Zihni Demirbag
Chair of the Organizing Committee



SIP 2010 Business Meeting Minutes

The SIP business meeting was called to order by Mark Goettel at 10:40 a.m.

1. *Welcome and agenda review/approval*

The Agenda was generally approved.

2. *In Memoriam*

No deaths of members or former members were reported to the Council in the previous year and the president asked members from the floor whether any were known. None were reported.

3. *Minutes of 2009 Business meeting*

Johannes Jehle suggested dispensing with the reading of the minutes from the 2009 business meeting as they were published on the SIP website for all to read.

Motion to suspense reading was made by Peter Krell, seconded by Basil Arif, all approved.

Jean-Louis Schwartz moved to approve minutes, seconded by Basil Arif, unanimously approved.

5. *President's Report (Mark Goettel)*

Review of year:

Thanked sponsors for financial support.

Thanked committees' and Division chairs for the work done during last year.

Addressed difficult the financial situation of Society,

- Membership dues do not cover running costs of Society.
- Problems with credit card payments
- low interest rate for certificates of deposit
- deficit from SIP meeting in 2009.

6. *Treasurer's report (Ann Hajek)*

Reviewed the budget of fiscal year 2009/2010.

Decrease of general fund (down to US\$ 79,853), increase of Division funds (US\$ 24,000). Total funds held are at about US\$ 160,000. Similar to 2008 and 2007.

Highlights of draft budget for the calendar year of 2009: Ann reviewed different items including estimated income and estimated expenses. Trying to keep budget balanced. Explained that income of auction is used for the Martignoni Travel Award and the Chris Lomer Travel Award. Reviewed draft budget summary and all funds and total cash available (fiscal year).

Noted unpredictability of meetings' financial outcome; Warwick meeting brought in > US\$ 29,000, Park City lost about US\$ 20,000.

Discussion: Brian Federici asked for reasons for 2009 meeting deficit and whether this could be avoided in the

future. Comments from the floor that this was one of the best meetings SIP ever had.

Mark Goettel identified three reasons that were not predictable: (i) recession and lack of travel funding, (ii) lower than expected number of attendees, (iii) extra costs incurred, incl. reserved accommodation that was not used by the meeting but had to be paid

7. *Auditors Report (Richard Humber)*

Richard Humber presented the auditors' report from R. Humber and John Vandenberg. Auditors were satisfied with the financial report but expressed concern about reliance on meeting profits and budgeting multi-years-membership.

8. *Membership committee Report (Helen Roy)*

Helen Roy reported about membership being down especially student membership. She asked that members contact people who might be interested in joining the Society.

9. *Meetings reports*

Lerry Lacey gave overview on future meetings

2011 will be in Halifax (Canada), hosted by Susan Bjornson.

2012 will be in Buenos Aires (Argentina), hosted by Claudia C. López Lastra and Alicia Sciocco-Cap.

The Meetings Committee seeks for proposals for 2013 in North America.

- Report on 2009 meeting (provided by Rosalind James; presented by Lerry Lacey)

It was a very successful meeting, highly appreciated by attendants; great environment and social programme, however, it resulted in a financial loss.

290 people attended, including 51 students. Scientific programme included 64 symposia, 11 workshops, 111 contributed oral papers and 112 posters.

- Report on 2010 meeting (Zihni Demirbag)

344 registrants + 20 companions made a total of 364 attendees. More than 390 oral presentations and posters. Expects no financial loss to Society.

- Report on 2011 Halifax meeting (Susan Bjornson)

Date: 07-11 August 2011. It will be the 44th annual meeting. Presented overview of meeting. Venue St. Mary's University. Scottish heritage and influence on culture. Many activities around the meeting are possible. Ocean driven climate, around 25°C;

Review of location, historic sites, registration estimated \$475 (CND), accommodation rates on campus around 50CAN\$, off-campus at ~1 km distance, 169 CAN\$ per night, BBQ site (Halifax Fortress Citadel), Banquet site (Pier 21), Excursion ideas (Peggy's cove), items of interest in Nova Scotia.

- Report on 2012 Buenos Aires meeting (Claudia López Lastra).

Date: 05-10 August 2012. Will be called: **2012 International Congress on Invertebrate Pathology and Microbial Control – 45th Annual Meeting of the Society for Invertebrate Pathology.**

Excellent world-wide flight connections. Proposal prepared for Panamericano Hotel, but there are also other options.

10. Division reports

*See Appendix 1

11. New Business

* Hands-on workshop prior to SIP meeting in Halifax is planned. Support from Divisions sought.

* Mark Goettel thanked outgoing Council members and those who did volunteer work. Certificates were presented to the outgoing Council members.

* Mark Goettel introduced the new Council:

President: Lee Solter (USA)

President elect: Jørgen Eilenberg (Denmark)

Secretary: Judith Pell (UK)

Treasurer: Kelli Hoover (USA)

Trustee: Regina Kleespies (Germany)

Trustee: Juan Luis Jurat-Fuentes (USA)

* Mark Goettel stated that it had been a pleasure and an honour to serve the Society during the last two years as President. Then he passed over The Gavel and Roberts' Rules to the new president, Lee Solter.

* Lee Solter made a short address to the plenary. She expressed her gratefulness to the Society, asked members of new Council and the whole Society for continued support to keep the Society vibrant and the most wonderful scientific Society.

* As there were no other items to discuss, a motion to adjourn the meeting was made by Johannes Jehle, seconded by Monique van Oers, and was unanimously approved.

Meeting was adjourned at 12.15 h.

By Johannes Jehle, July 20, 2010

Letter from Martignoni Family

Dear Mark and all of you, learned and kind members of SIP:

I am absolutely overwhelmed with emotion. Thank you, thank you, thank you! It is truly an impressive and elegant (beautifully framed) document in honor of Mauro's scientific work that has just arrived. Mauro's sons and I are in awe of your appreciation and we do thank you and Dr. Becnel's Committee so very much.

Mauro was such a modest man. He would have felt greatly honored by your acknowledgement of his scientific and SIP contributions on a small certificate, framed in plain pine. And I behold this beautiful, luxurious tribute! What pleasure it gives me: I can hardly wait for our sons to admire it. It is so generous of you all and, simply, I thank you from my heart.

With all good wishes to you, Mark, also to Dr. Becnel and his Committee and, of course, to Dr. Arif who must have given an amazing presentation at Trabzon that propelled this fabulous gift!

With ALL good wishes and our sincere appreciation,
Mauro's Lu, Enrico and Matteo
September 13, 2010



Enrico and Lu Martignoni

2010 Student Award Winners

Mauro Martignoni Award winner: Umut Toprak, Canada

Chris Lomer Award winner: Maissa Chakroun, Tunisia

Oral Presentations

- Vicky Hunt – 1st place
- Ke Peng – 2nd place
- Erin Morris – 2nd place
- Celine Blond - honorable. mention

Poster Presentations

- Camila Ochoa-Campuzano - 1st place
- Chikako Ono – 2nd place
- Jianquao Zhou – 3rd place
- Keika Yamada – 3rd place
- Adam Chambers – 3rd place

Student Travel Award Winners – Bacteria Division

- Qi Peng, Chinese Academy of Science
- C. Biviana Flores-Escobar, National University of Mexico (UNAM)

Student Travel Award Winner – Diseases of Beneficial Insects Division

- Nils Cordes, University of Bielefeld

Student Travel Award Winner – Fungus Division

- Vicky Hunt, University of Bath

Student Travel Award Winner – Microsporidia Division

- Katy Peat, Aberystwyth University

Student Travel Award Winner – Microbial Control Division

- Angeles Cancino-Rodezno, UNAM, – 1st place
- Maria Cristina Crava, University of Valencia - 2nd place

Student Travel Award Winners – Virus Division

- Ke Peng, Wageningen University
- Magdalena Biernat, Wageningen University
- Leticia Ferrelli, Universidad Nacional de La Plata-CONICET

Umut Toprak, Martignoni Student Travel Award Winner

Umut Toprak is currently conducting doctoral studies at the University of Saskatchewan in the Department of Biology and at Agriculture and Agri-Food Canada under the supervision of Drs. Hegedus, Erlandson and Gillott. His research is focused on the bertha armyworm, *Mamestra configurata*, a major insect pest of canola, and developing of alternative pest control strategies based on disruption of insect digestive physiology. Umut graduated first in the Department of Plant Protection at Ankara University in July, 2001 and was listed on the Honour List of Graduates. He founded and served as the first president of the "Entomological Student Society of Ankara University (ANEK)". Umut earned a Master's degree at

the Department of Entomology, University of Ankara, where he studied the use of insect viruses as biological control agents. The viruses that he found during this project were evaluated in pilot scale studies for control of cotton pests in Turkey. He graduated from the Graduate School of Natural and Applied Sciences of Ankara University. In 2005, he was accepted to the Department of Biology, University of Saskatchewan, Canada on a Agriculture and Agri-Food Canada research affiliate scholarship. His PhD research on the bertha armyworm is aimed at understanding the molecular architecture of the peritrophic matrix (PM), an important semi-permeable structure composed of chitin and proteins lining the midgut. The PM protects the epithelium from abrasion by food particles, regulates nutrient uptake and serves as a physical barrier to pathogens. Although the presence of the PM has been known for over two centuries, many aspects of its structure and function have remained poorly defined. Umut has characterized proteins associated with the PM and chitin regulatory enzymes and is determining the role of these proteins in insect digestive physiology. Thus far, key structural proteins and enzymes involved in PM synthesis and digestion have been investigated. He is also examining the interaction of PM structural proteins, particularly mucin proteins with insect pathogens, such as baculoviruses. He found that several mucins are targeted during baculovirus infection and are potential targets for



novel insect control strategies that disrupt the function of the PM.

These include: 1) use of RNA interference to knock down the expression of genes

encoding the PM proteins; 2) use of enhancin, a metalloprotease encoded by MacoNPV, a specific viral pathogen of *M. configurata*, which degrades mucins; and 3) use of antisera specific to the protein that blocks passage of nutrients through the PM and results in retardation of larval growth. Umut plans to transfer the knowledge and technology developed from his studies into daily agricultural practices to the benefit of producers and consumers.

Maissa Chakroun, Winner of the 2010 Lomer Award



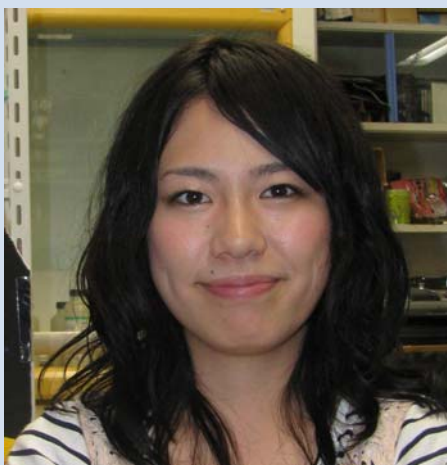
Maissa Chakroun is a doctoral student investigating the mode of action of *Bacillus thuringiensis* Vip3A toxins on *Spodoptera exigua* and the identification of the specific receptors in larvae. She earned her MS degree in molecular and cellular biology for studies on the cry II *Bt* toxin. She is associated with the Laboratory of Biopesticides / Center of Biotechnology of Sfax in Tunisia. Maissa applied for the award because she believed that her participation in the conference would be beneficial for her as an early career scientist. She cited her work with biopesticides based on *Bacillus thuringiensis* and themes for the meeting that were directly related to her present research as her interest in attending the meeting, and was interested in exchanging ideas with researchers and benefitting from their professional experience. Maissa's poster presentation was titled: Investigation of the mode of action of toxins of *Bacillus thuringiensis* Cry1Aa and Cry1Ac and study of their interactions with the intestinal receptors of *Ephestia kuehniella*.



Ke Peng



Jianquao Zhou



Keika Yamada



Celine Blond



Qi Peng obtained her Masters in July, 2008, based on results from research dealing with the function of metabolism related genes in *Bacillus thuringiensis*. This work was conducted at Institute of Plant Protection, Chinese Academy of Agricultural, (CAAS) Beijing, China. She is currently in her third year of PhD on a joint project between the CAAS group (Supervisor Jie Zhang) and a group in France (GME at INRA, (supervisor Christina Nielsen-LeRoux). She is spending 18 months in France, performing research on a new sugar phosphate sensor system in *Bacillus cereus*, and hopes to defend her thesis in June 2011.



C. Biviana Flores-Escobar is a Ph D Student at the Instituto de Biotecnología, National University of Mexico with Dr. Isabel Gómez in Cuernavaca Morelos. Her research focuses on the roll of the aminopeptidase and alkaline phosphatase as receptors of the Cry1A toxins produced by *Bacillus thuringiensis* using RNA interference as a tool in *Manduca sexta*. Her talk at the SIP meetings was entitled “Analysis of *Manduca sexta* aminopeptidase N1 and alkaline phosphatase as receptors of Cry1Ab toxin by gene silencing”.



Erin Morris obtained her BS and MS in Entomology from Ohio State University. Her MS was under Parwinder Grewal’s guidance on controlling adult Japanese beetles with entomopathogenic nematodes. She is doing her PhD at Cornell University under Ann Hajek. Her research involves many aspects of evaluating the relationship between the Sirex woodwasp and its biological control agent, the Sirex nematode.

Adam Chambers graduated in Biotechnology from Oxford Brookes University in 2007. During his course he spent a year working at CEH Oxford on the molecular biology of insect baculoviruses in Professor Bob Possee’s research group. He is currently enrolled at Oxford Brookes University doing an OET sponsored PhD under the supervision of Prof Possee, Prof King and Dr Hitchman. This aims to identify target Occlusion Derived Virus protein function(s) and improve the baculovirus expression system. He is due to complete the PhD at the beginning of 2011.



Magdalena Biernat



Leticia Ferrelli

**Congratulations
to all the
student award
winners!**



Katy Peat is studying for her PhD at Aberystwyth University, UK, investigating the inheritance of gene homologs in the paired nuclei of the diplokaryotic microsporidian *Paranosema grylli*. Her talk, "Discovery of a novel microsporidian infecting commercial cultures of the Mediterranean cricket *Gryllus bimaculatus*" introduced a novel microsporidian found during her investigations. In the future, Katy plans to develop her skills in microscopy, particularly electron microscopy.



Nils Cordes Having had an original enthusiasm for ethology, I found myself drifting to evolutionary and ecological subjects in graduate school. The only commonality became my research organism: all insects! Working on a diploma at the University of Bochum, Germany, I studied learning behavior of termites, honey bees and bumble bees. The dire straits that bumble bees were in over the US instigated me to get a Master's Degree in Entomology, studying the role of pathogens in bumble bee decline. I am currently beginning doctoral research on the evolution of individuality of the lesser waxmoth at the University of Bielefeld.



Angeles Cancino-Rodezno was born in Mexico City. She obtained her bachelor's in Biology from the Faculty of Sciences at the National University of Mexico (UNAM). Later, she moved to the Biotechnology Institute at UNAM for her masters. She is currently doing her PhD under the supervision of Dr. Alejandra Bravo. In Bravo's lab, Cancino-Rodezno participated in the development of a new research line focused in the intracellular response of insect to Cry toxins challenge. She also made several pre-doctoral research visits to University of Tennessee, USA, Genomic Sciences Center, UNAM and Public Health Institute of Mexico that support her training.



Cristina Crava graduated from the University of Milan, Italy. She is currently in the third year of her PhD at the University of Valencia working in Dr. Juan Ferré's group, under the supervision of Dr. Baltasar Escriche. Her interest is focused on the mode of action of the Cry1 toxin in *Ostrinia nubilalis*.



Vicky Hunt received her BSc in Biology from the University of Bath and her MSc in Ecology from the University of Wales, Bangor. She is currently a PhD student in Entomology under the supervision of Professor Keith Charnley at the University of Bath.



Camila Ochoa-Campuzano

STUDENT AWARD WINNERS

A SOURCE FOR BIOPESTICIDE DATA

A U.S.-based organization offers free access to an available biopesticide/organic database designed to help users identify products and sources for specific crops and situations. Known as the **Biopesticide and Organic Database for Integrated Pest Management**, the massive information accumulation has been assembled by the IR-4 Project (originally the Interregional Research Project No. 4) a governmental funded entity "facilitating registration of sustainable pest management technology for specialty crops and minor uses," according to the IR-4 website. The biopesticide database at <http://ir4.rutgers.edu/Biopesticides/LabelDatabase/index.cfm> can be searched by area (U.S. states), crop, or pest problem, or various combinations of these criteria. A search delivers up to 11 information categories including trade name (in alphabetical order), mandated re-entry or pre-harvest waiting periods, active ingredient, and other data. A clickable link to a label (in PDF) is provided as is a link to the manufacturer's website. The information is provided as a guide only and does not constitute a recommendation. While designed for U.S. conditions, the listed data can be a useful initial information source for many other locations -> M.P. Braverman, IR-4 Project Hdqts., Suite 201 W, 500 College Rd. East, Princeton, NJ 08540-6635, USA. M. Braverman, Braverman@aesop.rutgers.edu. Voice: 1-732-932-9575, ext. 4610. Fax: 1-609-514-2612.

Winners of the 5K Race at the 2010 Trabzon Meetings

Women under 35: Jeanne de Waal (1st), Nahoko Nakagave (2nd) and ??? (3rd)

Women over 35: Cheryl Erlandson (1st), Bryony Bonning (2nd) and Karyn Johnson (3rd)

Men under 35: ??? (1st), James Goettel (2nd) and Klaun Becherle (3rd)

Men over 35: Filippo Cestiglie (1st), Neil Crickmore (2nd) and Arne Peters (3rd)

Walkers of all ages and genders: Lee Solter and Surendra Dara

Mysterious winners! Please reveal your identity to include in the next newsletter.

2011 Halifax Meetings

It is our pleasure to invite you to Halifax, Nova Scotia, Canada for the 44th Annual Meeting of the Society for Invertebrate Pathology. The meeting will be held from 07-11 August, 2011 on the campus of Saint Mary's University, within walking distance of historic, downtown Halifax.

We are planning an exciting scientific program to share ideas and the latest findings on diseases of invertebrate animals and to explore fundamental scientific research regarding host-pathogen interactions.

Nova Scotia, known as Canada's Ocean Playground, is located on the east coast of Canada and is almost surrounded by the Atlantic Ocean. No matter where you travel within the province, you will be 67 km (42 mi) from the ocean. Enjoy our hospitality and visit our local historic sites. Plan to stay a few extra days to explore other sites, including the Bay of Fundy (with the highest tides in the world) or the natural beauty of the Cape Breton Highlands.

We look forward to seeing you in Halifax and offering you an informative conference and a warm, maritime experience!

***Susan Bjornson & Christine Norohna, Co-Chairs
Shelley Adamo, Michael Agbeti, James Stewart and Don Stoltz, Local Organizing Committee
Martin Erlandson, Chris Lucarotti and Peter Krell, Scientific Program Committee***



Halifax waterfront (left) and Peggy's Cove (right). Photo courtesy, Destination Halifax

Position Announcements

Position Title: Tenure Track Faculty Position-Cellular Biology

Position location: Abilene, TX

Position Description: McMurry University invites applications for a tenure track faculty position in Cellular Biology. Earned

doctorate required with experience beyond the doctorate preferred. Ability to train undergraduates in molecular methods is essential. Excellent teaching and development of a modest research program with undergraduate students is expected. Qualified individuals working with unicellular eukaryotic systems are encouraged to apply. Teaching to include courses at all undergraduate levels in support of the Biomedical Science program. Must have a strong commitment to teaching and research with undergraduates, and McMurry University's mission and Core Values.



Contact information for applicants: To apply send written letter of application, curriculum vitae, undergraduate and graduate transcripts (official transcripts will be required from final candidate), statement of teaching philosophy, research interests, and three confidential letters of recommendation to: Search Committee, c/o Kellie Merritt, Secretary, Natural & Computational Sciences, McMurry University, McMurry Station Box 57, Abilene, TX 79697-0057. Position may begin as early as January 2011 or as late as August 2011. Review of applications will begin as they are received and continue until the position is filled. For more information visit our website at:

http://www.mcm.edu/newsite/web/human_resources/cellular_biologist.htm.

Webpage: [Http://www.mcm.edu](http://www.mcm.edu)



Position Title: Graduate student

Position location: Ste Anne de Bellevue, Quebec, Canada

Position Description: MSc applicant. Applicant will examine aspects of insect hemocyte innate cellular immunity at the signal transduction level. A background in cell biology but not necessarily entomology is desirable. Canadians or landed immigrant are encouraged to apply in which case the successful applicant will be entirely grant funded. Foreign applicants should have some additional funding sources. Position begins on April 30, 2011.

Contact information for applicants: Gary Dunphy at gary.dunphy@mcgill.ca

Other Announcements

Top Cited Article

The paper *Fungal entomopathogens: new insights on their ecology* is one of the **Top-10** most cited articles published in *Fungal Ecology* (2:149-159; 2009) for the period 2008-2010. The paper, authored by F. E. Vega, M. S. Goettel, M. Blackwell, D. Chandler, M. A. Jackson, S. Keller, M. Koike, N. K. Maniania, A. Monzón, B. H. Ownley, J. K. Pell, D. E. N. Rangel, and H. E. Roy, presents the findings of a July 2008 meeting held at The Rockefeller Foundation Bellagio Study and Conference Center, in Italy. The meeting, entitled "Insect pathogenic fungi in sustainable agriculture: use against insects and beyond," was organized by Fernando E. Vega and Mark S. Goettel to re-examine the potential role of entomopathogenic fungi in light of recent new discoveries linking these pathogens to additional roles in nature, including endophytism, antagonism or pathogenicity to plant pathogens and associations with the rhizosphere.

SIP *Btk* Reference Standard

A 10 g vial of the SIP *Btk* reference standard can be obtained from Dr. Joel Siegel.

Email: joel.siegel@ars.usda.gov

Phones: 559-596-2735 (Office) 559-596-2728 (Lab)

The Facebook logo, consisting of the word 'facebook' in a white, lowercase, sans-serif font on a blue rectangular background.

SIP on Facebook Now

This is where our social and scientific sides meet. Join SIP by searching for Society for Invertebrate Pathology in the Facebook.

<http://www.facebook.com/pages/Society-for-Invertebrate-Pathology/106348432763178?ref=mf>



Looking for Post-doctoral Fellowship

Lara Jaber has recently had her PhD from Georg-August University Goettingen, Germany and graduated with honors “summa cum laude”. She did her PhD studies on endophyte-plant-herbivore interactions in an evolutionary/ecological context, and has published most of her PhD work in high quality journals. She has been working with endophytic/entomopathogenic *Beauveria bassiana* and researching its potential as a biocontrol agent against several insects and pathogen pests.

She is interested in pursuing her studies on “entomopathogens as endophytes” and is currently looking for a postdoctoral position. She is keen on conducting research for the purpose of developing these fungi for use in an innovative management program of economically important crop pests. Lara Jaber can be contacted at Lara.Jaber-1@agr.uni-goettingen.de or lara_ramzi@hotmail.com.

New Online Book from IOBC

The Use and Regulation of Microbial Pesticides in Representative Jurisdiction Worldwide (J. Todd Kabaluk, Antonet M. Svircev, Mark S. Goettel, and Stephanie G. Woo (eds.))

This book provides narrative descriptions and diagrams of regulatory processes, tabular information of registered microorganisms and associated products and target pests, and support systems within international jurisdictions aimed at advancing research, registration, and adoption of microbial pesticides. Represented jurisdictions include China, India, South Korea, European Union with special reference to the United Kingdom; Ukraine, Russia, and Moldova; Argentina, Brazil, Cuba, Canada, United States, Australia, and New Zealand. The chapters were written by recognized researchers and/or regulatory professionals in the field of microbial control. A concluding chapter provides a vision of an idealized regulatory system that would best enable microbial pesticide registration in the context of acceptable risk to humans and the environment. The book is available online through the International Organization for Biological Control of Noxious Animals and Plants (IOBC) website at www.iobc-global.org

Short Course in Insect Pathology



The International Organization for Biological Control (IOBC) and NCERA-125 Midwest Institute for Biological Control sponsored the “Short Course in Insect Pathology” on the campus of the University of Illinois June 7-11, 2010, co-taught by SIP members Richard Humber, Lawrence (Lerry) Lacey and Lee Solter.

The course summarized the infectious diseases of insects, including the morphological, biological and pathological features of these organisms, and their use and potential for use in biological control/IPM programs. A field trip to a prairie/woodland/lake site netted several insects infected with various pathogens and provided a venue for teaching collecting techniques. The 20 course participants were graduate students and researchers from 12 academic, government and industry institutions.

2011 Meeting of the S1024 Microbial Control Group

“Discovery of Entomopathogens and Their Integration and Safety in Pest Management Systems”.



Venue: Marriott University Park Hotel, Tucson, Arizona from 29-31 January, 2011

Organizers: Patricia Stock and Dawn Gouge, University of Arizona

Theme: Incorporating molecular studies into microbial control programs.

We have a block of rooms held for January 29th and 30th 2011 at the Marriott University Park Hotel, 880 E. 2nd Street, Tucson, AZ 85719 at the group rate of \$105.00 per night. Must be reserved by December 30, 2010.

Mention “Entomopathogens” or code ENT ENTA when you reserve the rooms. Call: (520) 792-4100 or 866-596-7897. Or for online reservations:

<http://www.marriott.com/hotels/travel/tusup?groupCode=ententa&app=resvlink&fromDate=1/26/11&toDate=2/2/11>

The meeting should be of great interest to all scientists working in invertebrate pathology and microbial control. Save the dates and plan to be there!

Sincerely,
David Shapiro-Ilan
Chair, S 1024

Book Review

Title: The Ecology of Fungal Entomopathogens

Editors: Helen Roy, Fernando Vega, Dave Chandler, Mark Goettel, Judith Pell and Eric Wajnberg

Although the major thrust of research on entomopathogenic fungi continues to be on their use as biological control agents, it is generally acknowledged that studies on the basic biology and ecology of these fungi, their target insect hosts, and their interactions are critical in the development and delivery of any effective insect control method. It is also recognized that the failure to realize the full potential of these organisms as control agents, despite decades of research, stems in part (or mostly) from serious gaps in fundamental knowledge that are critical in predicting their field performance. To address this shortcoming, the editors compiled 12 chapters (excluding the introductory first chapter) on our current understanding, or lack thereof, of pertinent topics on the ecology of entomopathogenic fungi.

The topics are well selected and are presented in a logical order. Blackwell provides a brief review on the evolution and taxonomy of entomopathogenic fungi in Chapter 2, and Enkerli and Widmer review molecular tools and their applications in population studies in Chapter 3. The latter covers principle of and critical issues in molecular ecological analyses and both cultivation-dependent and -independent analyses. Chapter 4 is on metapopulation and community ecology principles (i.e., competition, food webs, density-mediated and trait-mediated indirect effects) that are useful to studies on fungal entomopathogens (Meyling and Hajek). Chapter 5 is on the challenges of developing models on fungal pathogen-insect host population dynamics in semi-natural populations and takes into account sampling strategies for the insect host and fungal propagules, pathogen specificity (generalist versus specialist), pathogen reservoir, transmission rates and dispersal in heterogeneous environment, and host disease resistance among other variables (Hesketh et al.). Chapter 6 deals with plant-mediated effects on efficacy of fungal entomopathogens, either directly (e.g., plant exudates, leaf topology that could affect spore acquisition, and plant architecture that affect spore persistence) or indirectly via changes in insect condition (e.g., plant quality/nutrition affecting insect disease resistance) (Cory and Ericsson), whereas Chapter 7 is on behavioral response of insects to the presence of fungal pathogens or fungal infection, often avoidance, which can affect efficacy of fungal biocontrol agents (Baverstock et al.).

In Chapters 8 and 9, Bruck and Ownley et al. review the ecology of fungal entomopathogens in the soil and as endophytes, respectively. Rhizosphere-competent

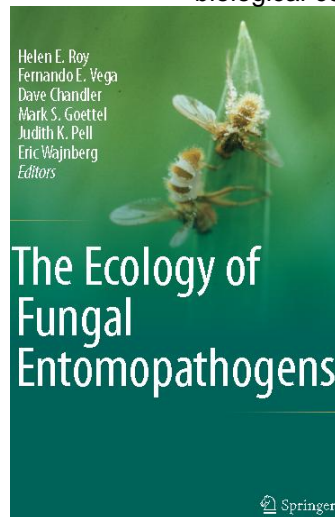
entomopathogenic fungi offer potential for regulating root-feeding pest populations, while endophytic isolates of the fungi, *Beauveria bassiana* and *Lecanicillium* spp., offer biological control of insect pests and also plant pathogens

via induced systemic resistance. Chapters 10 to 13 review ecological considerations in the production of entomopathogenic fungi and in their application as biological control agents. Clearly, the information presented in these last four chapters evidence years of emphasis on applied studies of entomopathogenic fungi. In Chapter 10, Jackson et al. review criteria for selection of fungal propagules, available production techniques for inundative control, and considerations for formulation of these propagules. In Chapter 11, Hajek and Delalibera summarize introductions of fungi as classical biological control agents and provide reviews of ongoing projects, including those of microsporidia against

Lymantria dispar. In Chapter 12, Jaronski reviews environmental factors critical in the inundative use of fungi against foliar and soil-dwelling pests. He uses a wealth of data on the commercial strain, *B. bassiana* GHA, to discuss the effects of sunlight, rainfall, temperature, phylloplane microhabitat and chemistry, among other factors affecting efficacy versus foliar pests. He also covers abiotic factors, such as soil texture and soil temperature, and biotic factors, primarily soil microbiota, that affect efficacy of entomopathogenic fungi in the soil. Finally, in Chapter 13, Pell et al. review environmental factors for consideration in the modification of the environment or management practices to protect and encourage fungal entomopathogens already present in the system (conservation biological control).

A number of chapters underscore the scant or equivocal data on critical aspects in understanding the ecology of entomopathogenic fungi, which make for a very depressing read. But an acknowledgment of what we do not know (or how little we know) should be taken in a positive light, a guide to what research topics need addressing, and where collaboration with scientists of other expertise is needed. This book presents very informative reviews and is recommended to those interested in or working with entomopathogenic fungi. These reviews were first published in a special issue of BioControl, Volume 55, Issue 1, 2010, and thus could be easily availed without purchasing the book. While the book provides a compilation of all the reviews with hard binding, \$180.00 is a hefty price for the book version.

Louela A. Castrillo
Department of Entomology
Cornell University
Ithaca, NY 14853
September 2010





Basil Arif (Founders' Lecturer), James Becnel and Mark Goettel



Audience at the Opening Ceremony



Basil Arif (Founders' Lecturer)



Mark Goettel, Patricia Stock and Andreas Linde with Mauro Martignoni Award winner, Umut Toprak



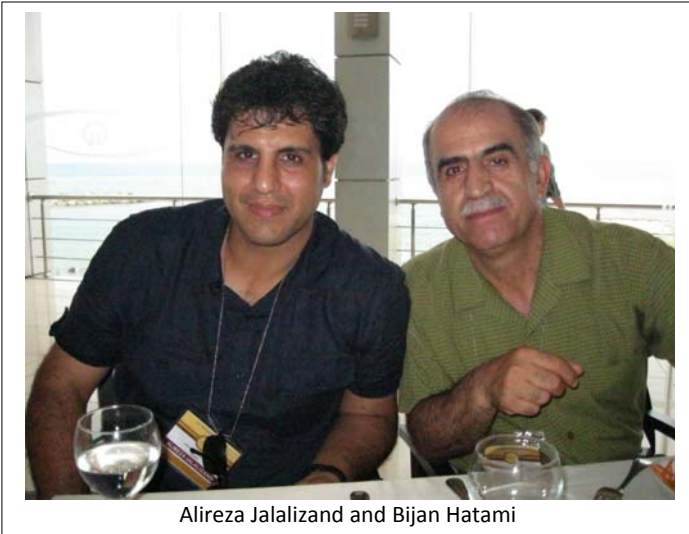
Andreas Linde, Mark Goettel and Patricia Stock with Chris Lomer Award winner, Maissa Chakroun



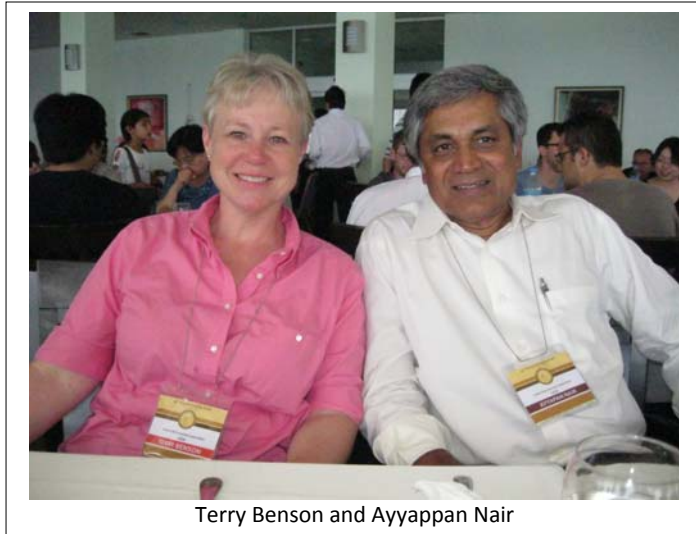
Laceys, Goettels, Demirbag, Arif, Dara, and Yakupoglu



Drauzio Rangel and Fernando Valicente



Alireza Jalalizand and Bijan Hatami



Terry Benson and Ayyappan Nair



Trever Jackson and Sean Moore



ReyhanehEzzati-Tabrizi and Reza Talaei



Cisia Chkhubianishvili, Itamar Glazer and Ralf-Udo Ehlers



James Goettel, Luca Ruiiu, Mark Goettel and Sergio Franceschini



Madoka Nakai and Omaima Khamis



Ed Lewis and Jean maniania



Helen Roy, Yuna Saito, and Masanori Koike



Magdalena Biernat and Vera Ros

Dear SIPers!

Keep sending your articles, announcements, photos or other information for the newsletter. Use Arial font size 10 and single spacing, and minimize other Word suggested formatting. Try to send in a form that requires minimal editing, spelling and grammar check from my end. Deadlines are 15th of January and May for February and June issues, respectively, and 1st October for November issue.

Thank you,
Surendra Dara
skdara@ucdavis.edu