sip

NEWSLETTER

society for invertebrate pathology

VOLUME 35, NUMBER 2

June, 2002

VIII International Colloquium on Invertebrate Pathology and Microbial Control
35th Annual Meeting of the Society for Invertebrate Pathology,
VI International Conference on *Bacillus thuringiensis* (ICBt)
Fos do Iguassu, Brazil

August 18-23, 2002

The organization of the events for the August meeting is progressing as planned by the Local Organizing Committee. We extended the deadline for submitting abstracts and papers of symposia and workshops to April 30 as there were many requests by participants. This delay, however, will not cause problems regarding our deadlines with the printers of the Program and Abstracts and the Proceedings of full papers. We intend to have the program finalized by the middle of June to make the final program available at the web sites of the event and of the SIP (www.sipweb.org) in early July. The Program and Abstracts, as well as the Proceedings, will be handed to the printers by the end of June to be printed at the end of July. For previous instructions and information regarding the SIP2002, please refer to those contained in the February SIP Newsletter. We provide here the most updated information about the event. For more information about the city and region, please check the official Foz do Iguassu web site (http://www.iguassu.com.br/default_ing.htm)

Social program and activities for accompanying persons: The social program for the event includes the mixer, excursion (fee), barbecue, and banquet. There will be a tourist agency at the event site offering different tour options with different prices to those interested in other excursions and social programs not covered by the event registration fee.

Registration: July 31 is the final date for discounted registration fees.

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Deadline for the next Newsletter is October 15 2002.

SIP Office

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Outside USA Tel and Fax: (919)-841-4133

Note: Toll Free numbers for Canada & USA only

Cancellation reminder: Cancellations will be accepted before July 18, 2002 with a handling charge of US$65.00 plus Brazilian governmental taxes withheld to transfer money abroad. After July 18, returns can not be guaranteed due to the required registrations with the Conference Hotel.

Program

The program is still being finalized, but the list of symposia is presented in this Newsletter. For more updated information please visit the event web site regularly.

Venue

The Hotel Bourbon is a top five-star hotel fully equipped with high-quality conference auditoriums, conference rooms, restaurants, indoor and outdoor recreational facilities, etc. The rooms (single and double) are ample, of top quality and equipped with TV, telephone, air conditioning, and other features of a five-star hotel. For the participants staying at this hotel, the room rate will include a fantastic breakfast and an executive, high-quality lunch. In case the participants of the SIP 2002 occupy at least 250 rooms in the hotel, all the conference facilities used for the SIP events will be free of charge, as well as the coffee breaks. **Therefore, we reaffirm our recommendation to the participants to stay at the Hotel Bourbon, to help reduce the costs of the SIP 2002 organization.**

Hotel Registration

To reserve a room at the Hotel Bourbon, as a participant of the SIP2002, you do not need to pay

SIP NEWSLETTER

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The SIP Newsletter is published 3 times per year and is available on our homepage.

Submissions to the following sections are solicited:

Forum: More substantial articles on current issues of concern, limited to approximately five pages.
Letters to the Editor: Issues of concern can be brought to light here.
Microbial Control News: Information on new discoveries, "News Releases", formation of companies, etc., pertaining to microbial control.

We also depend on our members to supply us with information for the following sections: **Obituaries, Member News** (Retirements, Awards, Promotions), **Members on the Move** (New Addresses), **Positions Available/Wanted, Meeting and Workshop Announcements,** and other **News Items.**

Send all submissions directly to the Editor. Submissions via e-mail or on computer disk (MSWORD, if possible) streamlines publication and saves on costs. Please include a hard copy with any text sent via computer disk.

Deadline for the next Newsletter is October 15, 2002.

for the whole period of stay. You need only pay for the first night upon registration, and the balance upon checkout, according to the instructions at the event website.

Other Hotels
Special arrangements have been made with two hotels nearby the Hotel Bourbon. These are: the **Hotel Don Pedro**, within walking distance from the event venue, and the **Hotel Panorama** (transportation to be provided). Both are providing very reasonable room rates to participants who do not wish to stay at the Hotel Bourbon. For those participants interested in staying at one of these two hotels, please contact PJEventos (see complete address, email, fax and phone at the event web site)

Simultaneous Translation (English to Portuguese during presentations and Portuguese to English during discussions): The Local Organizing Committee has applied for funds for this service to a Brazilian governmental organization (Finep) as well for other services (publications, audiovisual equipment, etc.). This effort is being made to favor the participation of Brazilian scientists and students who are not fluent in the English language. In case additional funds for the simultaneous translation are not approved, we will probably not be able to provide this type of service, as its cost is very high (about US$ 20,000). Unfortunately, we will not know whether we have received funding approval until one month before the event.

Instructions for Poster Presentations
All posters can be set up at the designated sites beginning Monday morning (August 19). Presenting authors should be available at their designated time interval, according to the program. The space for each poster is **90 cm (width)** for **120 cm (height)**. Please prepare your poster accordingly.

Invitation Letters
A standard invitation letter for obtaining visas or funds from governmental and international organizations is available for download at the SIP2002 website, and signed by the Chair of SIP2002, Flávio Moscardi. Those requiring specific letters of invitation, please send an email to Flávio Moscardi (moscardi@cnpso.embrapa.br) or to the Chair of the Scientific Program Committee,
Bonifácio P. Magalhães
email: boni@cenargen.embrapa.br

Presentations
In the registration form you should have indicated whether you will use overhead projection, slide or power point presentation for your oral presentation. This is especially important for power point presentations, which require more expensive equipment. If you have not provided this information in your registration form, please do so at your earliest convenience to PJEventos. This will help us to plan ahead for this type of equipment. If you have not indicated that you will need a power point presentation, we will assume that you are going to present your talk either through overhead projection or slide presentation. Last minute requests for power point presentations may not be possible. Be sure that your power point presentation is in a format for PC and not for Macintosh, as the latter will not be compatible with the equipment available at the meeting.

Visa and Duties
We would like to remind all the participants to check regarding visa requirements for Brazil and for visiting Paraguay or Argentina, which border Foz do Iguassu. From the Argentinian side you can have a different and great view of the Iguassu Falls. Paraguay has a duty free shop zone, but Brazilian Customs Service has several laws about goods bought in from those countries. We advise you to check with the Brazilian Customs Service about the list of illegal products and the limits for goods, as well as the duties charged on goods with values above the established limits. This information will also be provided to the participants at the SIP2002 web site in the near future.

Weather
Please, check on the weather web site http://www.weather.com/weather/local/BRXX0094 for updated weather in the Foz do Iguassu region. During August (winter season) the sun rises at 7:00 am and sets at 6:30 pm. August is generally a dry month (around 10 mm of rain), with mean temperatures ranging from a maximum of 77 to 82^{o}F in the afternoon to a minimum of 77^{o}F during the night. These climatic conditions may vary from year to year during August. The CNN web page (www.cnn.com) also provides reliable information about the weather in different cities of South America, including Foz do Iguassu, with a preview of the expected weather conditions for the next five days in each city.

Final Remarks

We expect to provide the participants of SIP2002 an unforgettable event, in terms of the scientific and social program. We are happy to welcome you to the city of Foz do Iguassu where the Iguassu Falls are located, one of the seven wonders of the world. Only when you visit the Iguassu Falls will you be able to observe how magnificent these falls are. It will be an unforgettable experience to the participants to the SIP2002. Please, be sure to bring your camera.

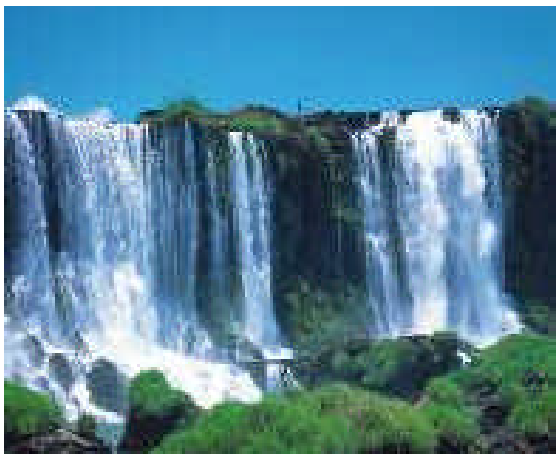
See you in Iguassu!
The Local Organizing Committee for the SIP2002

Contacts for the program and meeting:

Scientific program: Bonifacio P. Magalhaes (boni@cenargen.embrapa.br)

Meeting: Deivis Magi (deivis@pjeventos.com.br), Flavio Moscardi

ANNOUNCEMENTS FOR THE FOS DO IGUASSU MEETINGS



Check the meeting website for the final program- due soon!!
www.pjeventos.com.br/sip2002/Program.htm

SYMPOSIA

Fungi 1
Toward Integration of Fungal Entomopathogens with other Control Agents.
Convenor: Stephen P. Wraight

1. Interactions between fungi and insect predators. J. K. Pell and H. E. Roy
2. Interactions between fungi and insect parasitoids. L. A. Lacey and A. L.M. Mesquita
3. Interactions between fungi and other entomopathogens. T. R. Glare and T. A. Jackson
4. Interactions between fungi and chemical insecticides. P. Neves[1], S. B. Alves[2], J. E. M. Almeida[3], and A. Moino Jr.

Fungi 2
Microecology of Entomopathogenic Fungi
Convenor: Drion G. Boucias

1. Soil Interactions in Field soils.
2. Phylloplane ecology: Moisture – Radiation.
3. Endophytism. W. Maccheroni Jr.
4. Aquatic systems. C. Lopez Lastra

Fungi 3
Genetic Structure of Fungal Populations
Convenor: Daniel R. Sosa Gomez

1. Genetic structure of Phytopathogenic Fungi. M. Milgroom
2. Genetic structure of Entomophthorales. A. B. Jensen
3. Parasexualty and its significance in natural populations of Entomopathogenic Fungi. J. L. Azevedo
4. Methods of study of thegenetic structure of populations.

Virus 1
Arthropod - Borne Viruses in the Americas
Convenor: James Becnel

1. Introduction to arbovirus. J. Becnel
2. Yellow fever in South America. P. F. C. Vasconcelos
3. Dengue in Brazil. P. T. R. Vilarinhos
4. West Nile Virus: An exotic emerging pathogen in the new world. T. G. Andreadis

Virus 2
Prospects for the Use of Viral Pesticides
Convenor: Marlinda Lobo de Souza

1. The successful use of AgMNPV for the control of velvetbean caterpillar in Brazil. F. Moscardi
2. Development of *Spodoptera frugiperda* nucleopolyhedrovirus as a bioinsecticide in Mexico and Central America. T. Williams
3. Development of wild-type and recombinant HaSNPV as viral pesticides for controlling cotton bollworm in China. Z. Hu
4. Use of engineered baculovirus as biopesticides: reality and prospects. J. Cory

Virus 3 (Plenary Lectures)
Baculoviruses and the Bonus of Biotechnology
Convenor: Just M. Vlak

1. Baculovirus genetics and genetic engineering. D. A.

Theilmann
2. Improvements in insect cell culture for recombinant protein production. B. R. Granados
3. Baculovirus molecular pathology. L. E. Volkman
4. Engineered baculovirus insecticides. V. Romanowski

Bacteria 1
Bacterial Insecticidal Proteins: Specificity, Improvement and Novel ToxinS
Convenor: James Baum

1. The diverse armoury of the *B. thuringiensis* crystal. N. Crickmore
2. Revelations from the sequence of the toxin-coding plasmid of *B. thuringiensis* var. *israelensis*: a new two-domain Cyt toxin. C. Berry
3. Structure of the 51 kDa component of the binary toxin from *B. sphaericus*. J. Allen
4. Improvement and implementation of the corn rootworm toxin Cry3Bb1. L. English
5. DNA shuffling of *B. thuringiensis* crystal proteins. T. Yamamoto

Bacteria 2
Bt *Transgenic Plants and Insect Resistance to* B. thuringiensis *Toxins*
Convenor: Juan Ferre and Jeroen Van Rie

1. Current status of *B. thuringiensis* resistance and *B. thuringiensis* resistance-management in Bt cotton in the U.S. W.J. Moar
2. *B. thuringiensis* crystal toxin resistance in the nematode *Caenorhabditis elegans*. J. Griffitts, J. Whitacre, D. Huffman, K. Chien, R. Aroian
3. Managing resistance to *Bt* plants through use of gene and promoter strategies and field tactics. A.M. Shelton, J.-Z. Zhao, E.D. Earle, R.T. Roush, J. Cao
4. Transgenic *Bt* rice expressing a synthetic *cry*1B gene: expression strategies and field protection against the striped stem borer. J.C. Breitler, M. Royer, J.M. Vassal, J. Messeguer, M.M. Catala, B. Segundo, A. Martinez-Izquierdo, D. Meynard, E. Guiderdoni

Bacteria 3
B. thuringiensis *and* B. sphaericus *Mosquitocidal Strains: Use and Necessities*
Convenor: Christina N. LeRoux

1. *Bacillus thuringiensis* and *Bacillus sphaericus* useful tools for mosquito and blackfly control and a short history of two insecticides development. L. Rabinovitch
2. *Bacillus thuringiensis israelensis*: a model for improving microbial insecticides for mosquito control. M.C. Wirth, W. Walton, B. Federici
3. Strains and application strategies for improving the use of *B. sphaericus* and *B. thuringiensis a*gainst mosquitoes. L. Regis, M.H. Silva-Filha, A.M.J. Melo-Santos, C.M.F.Oliveira
4. Molecular characterization of a resistance mechanism to the *B. sphaericus* binary toxin in *Culex pipiens*. I. Darboux, Y. Pauchet, C. Castella, M.H. Silva-Filha, C.N. LeRoux, JF. Charles, D. Pauron

Nematodes 1
Entomopathogenic Nematodes: Current Status
Convenors: Marineide M. Aguillera and Itamar Glazer

1. Worldwide use & market. H.K. Kaya
2. Taxonomy & phylogenetics and biogeography. P. Stock
3. Biological control of citrus weevil: A case study. R. Stuart
4. Research and implementation in Southern countries of South America. M. Aguillera
5. Research and implementation in Central American countries and Mexico. J. Ruiz Vega

Nematodes 2
Entomopathogenic Nematodes: Research Trends
Convenors: Elizabeth De Nardo and Parwinder Grewal

1. Novel insecticidal toxins and other metabolites of *Xenorhabdus* and *Photorhabdus*. D. Bowen
2. Molecular approaches to trait improvement. I. Glaser
3. Ecological genetics: Are there metapopulations? P. Grewal
4. Evaluating non- target effects on below ground invertebrates. E. De Nardo
5. Virulence mechanism of slug- parasitic nematode and its associated bacteria. Li Tan

Microbial Control 1
Solar Irradiation of Fungal Pathogens: Deleterious Effects, and Mitigation through Genetics and Formulation
Convenors: Don Roberts and David Moore

1. Tools of the UV trade: Light sources, filtering, measuring irradiance, and selecting biological weighting factors (action spectra). D. W. Roberts and S. D. Flint
2. Damage to fungi from solar/UV exposure, and genetic and molecular-biology approaches to mitigation. G.U.L. Braga, S.D. Flint, D.E.N. Rangel, C.D. Miller, F. Freimoser, R.J. St. Leger, A.J. Anderson, D.W. Roberts
3. Mitigation of solar damage to microbial control agents through formulation and application technology R. P. Bateman and D. Moore

Microbial Control 2
Microbial Control of Insect Pests of Potato - from Tiera del Fuego to the Great White North
Convenors: Lawrence Lacey and John Vandenberg

1. Introduction. L. Lacey
2. Control of potato tuber moth in South America using granulovirus - an overview. A. Langanou
3. Pilot programs and use of PTM granulovirus by small farmowners.
4. Microbial control of insect pests of potato other than PTM in South and Central America
5. Microbial control of the Colorado Potato Beetle in irrigated desert agroecosystems and its effect on non-target organisms. L. Lacey and M. Goettel
6. Microbial control of the Colorado Potato Beetle in rain-fed potato agroecosystems. S. Wraight, E. Groden
7. Integration of insect and microbial control agents for the biological control of potato pest insects. J. Brodeur
8. Peru (*Beauveria brongniartii*, virus)

Cross Division 1
Bacteria/Insect Interaction: Virulence Aspects
Convenor: Didier Lereclus

1. Environmental sensing in Bacilli: the basis for host specificity and virulence. D.R. Harvie, J.R. Steggles, D.J. Ellar
2. Identification of new *Bacillus thuringiensis* virulence factors by genetic approaches. S. Fedhila-Hamza, P. Nel, M. Gohar, T. Msadek, D. Lereclus
3. An ABC guide to the toxin complexes of *Photorhabdus*: novel alternatives for *B. thuringiensis*. R. French-Constant
4. *Xenorhabdus* and *Photorhabdus* virulence factor and their impact on insect cellular immunity. A. Givaudan
5. Insect / *Serratia* interactions: the question of virulence. T.A. Jackson

Cross Division 2
Microbial Germplasm Repositories: The Legacy, the Problem, the Future
Convenor: Richard A. Humber

1. From Culture Collections to Biological Resource Centers: local and international initiatives. V. P. Canhos
2. Global perspectives on the discovery, isolation, preservation, and exploitation of entomopathogenic fungal germplasm. R.A. Humber
3. Managing Microsporidian Germplasm. L. Solter and J. J. Becnel
4. Entomopathogenic bacterial repositories. R.G. Monnerat
5. Perspectives and challenges facing insect viral germplasm repositories. M.L. de Souza and F. Moscardi

Cross Division 3
The Microsporidia-Fungi Connection
Conveners: James Becnel and Richard Humber

1. Origin and metabolic adaptation of microsporidia. P. Keeling
2. Molecular phylogenetics of Microsporidia: why do different genes tell us different stories. R. P. Hirt
3. Structural, Morphological and Life Cycle Characteristics of the Microsporidia; Reasons to Ponder that Microsporidia are Highly Evolved Fungi. J. J. Becnel
4. Microsporidian roots and branches within the Zygomycetes? Take a number and step in line! R.A. Humber

WORKSHOPS

The Future of Scientific Publications
Convenors: Mark S. Goettel and David Onstad

1. Introduction and Scientific Society's Viewpoint. M.S. Goettel and David Onstad
2. The Publisher's Viewpoint. A.Richford
3. The Electronic Publishing Viewpoint. D. A. L. Canhos
4. The Scientist's Viewpoint. J.D. Vandenberg, Research Scientist
5. The Librarian's Viewpoint. D. Schmidt

Microbiol Control of the Coffee Berry Borer by Entomopathogenic Fungi
Convenor: Pedro Neves

1. Microbiol control of the coffee berry borer in Colombia. F. Posada
2. Microbiol control of the coffee berry borer in Nicarágua. F. Guharay
3. Microbiol control of the coffee berry borer in Brasil. P. Neves, S. Alves & A. Moino Jr.
4. Use of fungal pathogens for the management of coffee berry borer, *Hypothenemus hampei* – the Indian Experience. K. Sreedharan, M.M. Balakrishnan, C.B. Prakasan and R. Naidu

Ethics, legal and regulatory concerns of transgenic plants
Convenors: Jean-Louis Schwartz and William Moar

Preservation of Entompathogenic Fungi
Convenor: Richard Humber

Production Issues, with a Focus on Latin America
Convenors: Jeff Lord and Trevor Jackson

Advances in the Control of Soil Insects
Convenor: Trevor Jackson

Techniques in Microsporidia Research
Convener: Rudolf Wegensteiner

FOUNDERS LECTURE 2002

Dr. Peter Lüthy
2002 SIP Founder's Lecturer

Peter Lüthy graduated in 1963 from the Faculty of Agriculture of the Swiss Federal Institute of Technology (ETH), Zürich, Switzerland. In 1967 he submitted his PhD thesis with an investigation on the in-vitro cultivation of *Bacillus popilliae*. A three-year employment followed in the laboratory of Dr. Thomas A. Angus, at the Great Lakes Forestry Centre in Sault Ste. Marie, Canada where the first contacts with *Bacillus thuringiensis* (*Bt*) research were established. Back at the ETH in Zürich, Peter Lüthy built-up a research team studying the delta-endotoxins of *Bt* and their mode of action. Definitely, the highlight was the proof that the activated delta-endotoxin was binding irreversibly to the cell membranes of the intestine of target insects. In 1986 he obtained the title of Professor.

At present P. Lüthy continues to teach at the Institute for Microbiology of the ETH in the field of microbial control of insects and microbial ecology. His main interests have shifted over the past years towards the field application of *Bacillus thuringiensis*, including assessments of economic and safety aspects. No doubt, the decision to concentrate more on the applied side was influenced by the work for the World Health Organization where P. Lüthy was for many years chairman and member of the Steering Committee for the Biological Control of Vectors.

Dr. Huguette de Barjac
2002 SIP Founders Honoree

Dr. Huguette de Barjac, an Honorary Member of SIP is this year's Founder's Lecture Honoree. Dr. de Barjac studied at the Institut Pasteur and received her Ph.D. from Sorbonne University. She spent most of her 40-year career at the Institut Pasteur in Paris, where she was the youngest and one of the first women to serve as head of laboratory. The laboratory, the Research Unit of Entomopathogenic Bacteria, was a Reference Centre for the World Health Organization for more than 20 years.

Dr. de Barjac's interests are primarily the classification, characterization, action modes and optimization of entomopathogenic sporulated bacteria, characterization of the toxic subunits of crystal protein protoxins of *Bacillus thuringiensis*, separation and definition of the various toxins of *Bacillus sphaericus*, isolation of toxins of *Clostridium bifermentans* ser. *malaysia*, developing more efficient strains by selection, classical mutagenesis or genetic transfer, and biological control of insect pests and vectors. She is best known for her work on the bacteria *B. thuringiensis* and *B. sphaericus*. Her major accomplishments include the following:

-Advances in bacteriological control of lepidopteran pests in agriculture and forestry, and of dipteran insect vectors

-Research and development of bio-insecticides based on *Bt* and other *Bacillus*

-Taxonomy, seriology, biochemistry and entomopathogenic power of *Bacillus* spp. strains, and introduction of the classification of *Bt* and *B. sphaericus* by H flagellar antigens

-Isolation and analysis of bacterial toxins, including isolation and characterization of the first thermostable exotoxin of *Bt*

-First transduction of *Bt*

-Study and establishment of new bacterial strains as biological control agents, including the characterization, denomination and mode of action of *Bt israelensis* (H 14) and *Clostridum bifermentans* ser. *malaysia*

-Biological tritration and standardization of bacteriological products and first production of standard reference powders for bioassays of *Bt* and *B. sphaericus* products

-Work leading to commercialization in Europe of two bio-insecticides based on *Bt:* 'Bactospeine" active in agriculture, and 'Bactimos' active against mosquitoes and blackflies, and one bio-insecticide based on *B. sphaericus*, 'Spherimos', active against mosquitos

-Co-author of several scientific treatises, author of more than 160 publications, and editor of textbooks

In the July, 1996 issue of the SIP Newsletter (Vol 28, 2, p. 11, from which this biography is modified) Dr. Elizabeth Davidson shared a conversation she had with Dr. de Barjac while visiting her in France. Dr. de Barjac expressed her amazement on observing the speed with which *Bt israelensis* killed mosquito larvae. She felt that her most lasting contribution was developing H-antigen serotyping of *Bt* and *B. sphaericus*, and she expressed concern at the possible development of resistance to *Bt.* Dr. de Barjac is currently retired and living in Cannes and Paris, France.

FROM THE PRESIDENT

Time marches forward for each of us, sometimes slowly, sometimes too rapidly it seems. Many members are now in various phases of preparation for the upcoming meetings of the Society, the *Bt* Conference, and the International Colloquium, and will find that although it is still over two months away, that time will melt quickly. All reports from the local arrangements committee say that we already have excellent numbers of registrants and a fully-packed, exciting scientific program.

In this issue, you will see the new officers who will begin their terms after the August meeting. I congratulate each of them and ask that you give them your full support. I wish to thank the current officers for their excellent work in their respective roles- Vice-President Harry Kaya who becomes your new President, Past-President Juerg Huber, Treasurer Mickey McGuire, Secretary Doreen Winstanley, and Trustees Basil Arif, Trevor Jackson, Leellen Solter, and David Ellar. Doreen and Mickey have borne the brunt of much activity in their respective offices. I am also indebted to Peg Rotstein, our Executive Secretary, who keeps the day to day operations of the Society running smoothly. Finally, all the committees that I mentioned in the last issue of the Newsletter plus the Division officers have all met their charges well, continue to do so, and deserve our sincere thanks.

You will also see in this issue that special recognition was given to Dr. John Briggs for his unique and continued service to the Society over the past 35 years. It was my pleasure to be able to participate in this recognition at a dinner held in

John's honor in March. The Society provided a framed certificate to John that outlined many of his contributions.

The meetings of the Society in Iguassu Falls in August will mark the end of my term as your President, and I wish to take this opportunity to thank each of you for your support of the Society. Every member contributes to the strength of our Society in many ways, regardless of the level of activity in Society affairs in which you are able to be involved. The Society, in turn, has contributed much to each of us. When the Society was founded in 1967, the field of invertebrate pathology, while beginning to be seriously recognized as discipline of science, was very much in an early discovery and descriptive phase. Its importance to the fields of entomology, invertebrate health, immunology, microbiology, epizootiology, symbiosis, microbial control, disease management in invertebrate populations, and many more were just beginning to be seriously explored by a growing number of scientists. Much of the credit for the rapid expansion of knowledge in these fields over the past three and a half decades, as well as development of more contemporary studies, can be credited to the Society and its role in serving as a focal point for the exchange and dissemination of knowledge. Our publications have continuously provided for the early distribution of research information and direction. Especially important in this respect have been our annual meeting abstracts and the quadrennial proceedings of our colloquia. Our meetings have served as a melting pot of ideas that have stimulated attendees to think in new directions and have allowed for cross-fertilization among the various topical areas we generally divide ourselves into.

Today, 35 years later, the field of invertebrate pathology has gained a very high level of respect as a unique discipline with many branches of contemporary scientific endeavor in both fundamental and applied arenas. Our work on insect and invertebrate pathogens has fulfilled many of the promises that were envisioned decades ago relative to their use as pest management tools and continue to do so, but in the process we have expanded our knowledge bases and have shown how these pathogens can be used to answer many other questions. In so doing, we have both borrowed from and contributed to many other disciplines. Where our discipline will be 35 years from now is impossible to say, but I am confident that the Society, as judged by the current level of our science and the continuing influx of young, excited, and high quality students and new members, will continue to be a catalyst for discoveries and ideas that will prove to be of key importance to mankind.

Jim Harper

Election Results

President:	Harry Kaya
Vice President	Just Vlak
Secretary	Raymond Akhurst
Treasurer	Suzanne Theim
Trustees (2002-2006)	Alejandra Bravo John Vandenberg
Trustees (2000-2004)	Basil Arif Trevor Jackson

Tellers: David Chandler, Paul Jarrett and Sally Wormleaton.

ANNOUNCEMENTS

New SIP Memorial Fund Ready for Donations

The Society for Invertebrate Pathology Memorial Fund was established in November of last year to provide a means for SIP colleagues, friends or family to honor an SIP member via donations in their name. The first person to be honored with the new Memorial Fund is our colleague Chris Lomer, whose death last October spurred the creation of a fund that will provide grants to support travel to SIP meetings for insect pathologists working in the developing world. Contributions to the Memorial Fund in Chris' name may be made via credit card or wire transfer by following instructions on the _Memorial Fund _ section of the SIP website (http://www.sipweb.org/>www.sipweb.org).
Alternatively, checks or money orders (U.S. dollars) can be mailed to: **SIP,** 7413 Six Forks Road, #114, Raleigh, NC 27615, USA.

MICROBIAL CONTROL NEWS

Database of Microbial Biopesticides

A Biopesticides Database: From a description of microbial biopesticides (MB) including mode of action and spectrum of control, to a global listing of MB manufacturers and suppliers, a newer website offers a wide range of useful information and pertinent links. The "Database of Microbial Biopesticides" (DMB), website: <ippc.orst.edu/biocontrol/biopesticides> developed by W.I. Bajwa, forms one of the newer elements in the suite of data and knowledge bases that comprise the well regarded Database of IPM Resources. DMB includes environmental risk assessment of MBs, a feature on Bt-based pest management, plus brief discussions on a variety of MB-relatedaspects. W.I. Bajwa, <Bajwaw@bcc.orst.edu>

Reprinted from IPM net News, June 2002

***Bt* Corn Poses "No Significant Risk" to Monarchs**

A consortium of federal, university and industry scientists led by the Agricultural Research Service has completed two years of research to answer the question: Does *Bt* corn pose a threat to monarch butterflies? The answer, supported by science, is that there is no significant risk.

The results are discussed at length in a feature story that appears in the February issue of Agricultural Research magazine. ARS, the US Department of Agriculture's primary scientific research agency, also has a Web site about the *Bt* corn-monarch butterfly issue at:
http://www.ars.usda.gov/is/br/btcorn

Bt corn is corn to which genes from the bacterium *Bacillus thuringiensis* have been added so the plant naturally produces proteins that protect it from insect pests such as the European corn borer.

The research found that *Bt* corn pollen levels usually had to be more than 1,000 grains per square centimeter to have any negative impact on monarch caterpillars, let alone mortality. Scientists have concluded that monarch caterpillars in the environment are exposed to levels that come close to that magnitude less than one percent of the time.

ARS entomologist Richard Hellmich is already planning the next round of investigations. He hopes to extend the consortium's work this summer with new collaborative studies, especially field studies, to look at whether there are any effects on monarch caterpillars from long-term or chronic exposure to *Bt* corn pollen. While the data already accumulated show Bt corn pollen does not pose a threat to monarch populations, these new studies should indicate if any minor effects are possible and the nature of those effects if they occur. ARS entomologist Leslie C. Lewis is planning to extend the work to look at whether Bt corn has any impact on non-target ground insects such as beetles. Hellmich and Lewis are both with the ARS Corn Insects and Crop Genetics Laboratory in Ames, Iowa.

You can read more about this in the February issue of Agricultural Research magazine, available on the World Wide Web: http://www.ars.usda.gov/is/AR/archive/feb02/corn0202.htm
Kim Kaplan
ARS News Service
Agricultural Research Service, USDA
mailto:Kaplan@ars.usda.gov

Reprinted from ISB News Report
March 2002

Issues in Science (and food for thought):

The following statement was published in response to the recent controversy regarding cross-pollination of GMO plants with landrace maize (Quist, D. and Chapela, I.H. 2001. Transgenic DNA introgressed into traditional maize landraces in Oaxaca, Mexico. Nature 414:541ˆ543). While this particular study did not concern plants modified with Bt *genes or other microbial organisms or products, the issues raised about appropriate discourse in science are of interest. The editor and SIP do not imply a position on the issue or on the statement reprinted here.*

Joint Statement in Support of Scientific Discourse in Mexican GM Maize Scandal

Recently, several activist organizations and individuals signed a "Joint Statement" charging impropriety and criticizing vigorous scientific debate surrounding controversial GMO research published in Nature. The research supposedly demonstrated that Mexican landrace maize varieties had been "contaminated" with genetic material from maize

varieties improved through biotechnology, presumably through cross pollination (activist statement available at http://www.foodfirst.org).

It is important to recognize that the kind of gene flow alleged in the Nature paper is both inevitable and welcome. It is inevitable because of the nature of maize, and it is welcome as demonstrated by the standard practices landrace custodians have used to improve their varieties for thousands of years - increasing variation by planting seeds of new varieties adjacent to old ones, and then selecting the desired offspring while discarding the rest.

However, several scientists have now challenged the methodology and the results reported in the Nature paper in formal letters to Nature. The editorial board of the journal Transgenic Research found it surprising "that a manuscript with so many fundamental flaws was published in a scientific journal."

These challenges are based on the fact that the key research method employed is highly prone to false positives, and the Nature paper failed to use standard techniques to ensure accuracy and confirm results. The "joint statement" signed by the activists strongly condemns these challenges from fellow scientists as nothing more than "academic intimidation" and "a highly unethical mud-slinging campaign."

It must be stated clearly and unequivocally [that] scientists have a fundamental ethical obligation to rigorously examine the results and methodology of reported research. This is in fact how science corrects mistakes and ever more closely approximates truth and understanding. Far from being "mudslinging" or "intimidation," all scientists worthy of the name understand that relentless double-checking and independent third party evaluations are the cornerstones of the scientific process.

Such relentless criticism and re-examination is perhaps most important when it leads in directions that may conflict with a point of view driven by politics or activism, rather than science.

We the undersigned scientists declare our support for appropriate and necessary scientific discourse and debate, especially in areas marked by widespread misunderstanding and misrepresentation, such as agricultural biotechnology.

(Signature list available at http://www.agbioworld.org/jointstatement.html.)

Reprinted from ISB News Report, March 2002

PUBLICATIONS

SIP Publications Committee Report

The SIP Publications Committee emailed a survey to over 630 members in March, 2002. The committee wanted to learn how the membership felt about publications, electronic publishing, and our Society's web site. Within 1 month, over 180 members or almost 30% of valid email names responded. Mark Goettel will present detailed results at a workshop in Brazil in August. Of the members who responded 94% percent stated that they have used the SIP web site in the last 6 months. All of the sections of the SIP web site are used by members. These include newsletter, meetings, division news, information about members and officers, products and publications, links to other web sites. Several mentioned jobs even though this section was not listed in survey. Each section of the web site is used by at least 25% of the members; two-thirds indicated that they use the SIP web site to learn about meetings and the newsletter. Just under half of our members prefer to receive the SIP newsletter electronically.

David Onstad, Chair
SIP Publications Committee

A Request for Reprints of the Techniques Manual

As several people have noticed, the **Manual of Techniques in Insect Pathology** is out of print. Normally the authors are contacted by the publisher before placing a book in this category to determine if reprinting is warranted. However, during the transition from Academic Press to Harcourt Brace to Elsevier, this process was not started. Over the past several months I have received several inquiries regarding the availability of the book. As far as I know, it will not be available unless it is reprinted. Rather than going through the process of revising the Manual at this time (thereby adding at least another year to reprinting it), I personally would prefer to reprint another 1000 copies and have it available at the upcoming International Colloquium

for Invertebrate Pathology in August. If you know of anyone interested in purchasing the Manual, please let me know (llacey@yarl.ars.usda.gov) and copy Ms. Lisa Tickner at Elsevier (lisa_tickner@harcourt.com).
Lawrence Lacey, USDA-ARS-YARL
Email: llacey@yarl.gov

Carl Nystrom reports that the ***Bacillus thuringiensis*** **toxin specificity database**
http://www.glfc.cfs.nrcan.gc.ca/index-en/research-e/Biotechnology-e/netintro 99-e.html
has been updated and new "user friendly" features added.

The Journal of Insect Science, edited by Henry Hagedorn is an online journal published by the Library of the University of Arizona. It covers all aspects of the biology of insects and other arthropods from the molecular to the ecological. There are no page charges, and color figures, sound and video can be included at no cost. It is freely available online to individuals and institutions at www.insectscience.org. This peer-reviewed journal is indexed in BIOSIS, Chemical Abstracts, Agricola, and CAB.
Fernando Vega
USDA-ARS-IBL
Building 011A, Room 214, BARC-WEST
Beltsville, Maryland 20705 USA

MEMBERS ON THE MOVE

Itamar Glazer has a new email address:
glazeri@int.gov.il

Ian Smith, currently Chair of SIP's Virus Division, has moved from York, U.K. to Japan to take up the position of 'Visiting Lecturer in Scientific English' at Nara Institute of Science and Technology. Despite this change of fields, Ian will continue with his commitments to the Virus Division until John Burand takes over as Chair at this year's meeting in Brazil. He also plans, of course, to keep in touch with the many friends and colleagues that he has met over the years through the Society, and to maintain a close interest in insect virology. Preparations for Ian's recent move coincided with the period covering receipt and processing of applications for two student travel awards, and he would like to record his sincere thanks to fellow members of the Division's Executive Committee - especially John - and to Peter Krell for helping out in various ways during this upheaval! Ian's new contact details are:
Ian R.L. Smith
Room C-102, Nara Institute of Science & Technology, Takayama 8916-5, Ikoma Nara 631-0101 Japan, Tel. (0081) 743-72-5405 (office), (0081) 742-48-5372 (home), E-mail ismith@ad.aist-nara.ac.jp (office), isumisu@nifty.com (home)

Moving??

Please prepare a paragraph including information about past and present postings, new address, telephone, fax and email address and send to your Newsletter Editor for inclusion in the Move Section in the next issue of the Newsletter. The editor's address can be found on page 2.

Please also inform the SIP Office of your new address. The address of the Office is also found on page 2.

MEMBER NEWS

Jim Harper presents Service Award to John Briggs (left).

SIP Presents Award to Dr. John D. Briggs
At last year's meeting in The Netherlands, it was decided that the Society should present an award to Dr. John D. Briggs for his many years of loyal service to the Society. Our President, Jim Harper, arranged for a certificate to be produced for John using the same company in Columbus, Ohio which John has used for many years to produce the beautiful Founder's Lecture certificates. With the

help of Ms. Irene Lenhart, of the Ohio State University Entomology Department, a surprise award dinner was arranged in Columbus on March 9, 2002. John and his wife, Linda, were invited to dinner with Betty Davidson and her sister-in-law, Ann Davidson, but when they arrived they were surprised to find three other former graduate students, Albert Pye, Ann Cali, and Fred Hink, also present, along with Jim Harper, Pat O'Leary, and Dave Denlinger, the chair of Entomology at Ohio State, and family members. The text of the certificate follows:

CERTIFICATE OF APPRECIATION PRESENTED BY THE SOCIETY FOR INVERTEBRATE PATHOLOGY TO
JOHN D. BRIGGS, Ph.D.

IN RECOGNITION OF HIS LOYALTY AND SUPPORT OF THE SOCIETY AND ITS MEMBERS;

OF BEING A FOUNDING MEMBER, PRESENT AT THE CONCEPTION OF THE SOCIETY IN 1967;

OF CONVENING THE SOCIETY'S FIRST ANNUAL MEETING IN 1968 IN COLUMBUS, OHIO;

OF SERVING AS THE FOURTH PRESIDENT OF THE SOCIETY;

OF HIS EFFORTS OVER MANY YEARS IN SECURING TRAVEL FUNDS TO ENABLE MEMBERS TO ATTEND ANNUAL SOCIETY MEETINGS;

OF HIS MANY YEARS OF EFFORT IN PROMOTION OF MICROBIAL CONTROL OF VECTOR INSECTS THROUGH THE WORLD HEALTH ORGANIZATION;

OF ACTING AS THE SOCIETY'S REPRESENTATIVE TO AIBS AND OTHER SCIENTIFIC ORGANIZATIONS;

OF PROMOTING THE SOCIETY'S GOALS THROUGH THE MENTORING OF MANY YOUNG SCIENTISTS;

AND OF PROVIDING THE SOCIETY'S FOUNDERS' LECTURE AWARDS FOR MANY YEARS.

James D. Harper, President
Society for Invertebrate Pathology
NOVEMBER 2001

John Briggs, second from left, with former graduate students (from left) Fred Hinks, Ann Cali, Albert Pye and Elizabeth Davidson

POSITIONS AVAILABLE

Postdoctoral Associate, Lepidopteran Genomics. Available immediately for three years to study functional genomics of the spruce budworm. The project will involve development of expressed sequence tags (ESTs) of genes expressed in specific tissues to study global gene expression using microarray technology. The successful candidate will be expected to construct normalized cDNA libraries, develop ESTs databases, construct macroarray filters and microarray chips, conduct analyses of global gene expression and identify novel genes that can be used as new targets for developing strategies for insect pest control.

Applicants should have a Ph.D. degree in Molecular Biology, Biotechnology, Biochemistry or related disciplines. Self-motivated and independent researcher with demonstrable experiences with genomics and functional genomics is desirable.

The research will be carried at the Great Lakes Forestry Centre of Canadian Forest Service in Sault Ste. Marie, Ontario, Canada, and in cooperation with the University of Guelph. Please send detailed curriculum vitae, research interests, and name and address of three references by email to: Dr. Qili Feng at qfeng@nrcan.gc.ca. Review of applications

will begin on 20 May, 2002, and will continue until the position is filled.
Contact information for applicants:
Dr. Qili Feng
Great Lakes Forestry Centre
Canadian Forest Service
Natural Resource Canada
1219 Queen Street East
Sault Ste. Marie, Ontario,
Canada P6A 2E5
E-mail: qfeng@nrcan.gc.ca

Postdoctoral Researcher: Penn State University. Successful candidate will conduct research in the area of tritrophic interactions among baculoviruses, lepidopteran larvae, and their host plants at the physiological level in collaboration with scientists in the Chemistry Department at Penn State. Responsibilities: design and conduct experiments, produce publications, prepare grant proposals, and assist graduate students with their research. Successful candidate must have a Ph.D. in Entomology, Microbiology, Biochemistry or a related field. Experience in insect pathology and/or plant-insect interactions strongly recommended. Position is available for 2 years and is renewable annually, depending on performance and availability of funding. Salary competitive and commensurate with background and experience. An attractive benefits package is available. Closing date June 15, 2002 or until a suitable candidate is found.
Contact information for applicants:
Dr. Kelli Hoover
Department of Entomology
501 ASI, Box A
University Park, PA 16802
(814) 863-6369; kxh25@psu.edu
Penn State is committed to affirmative action, equal opportunity and the diversity of its workforce.

Graduate students. Two MSc positions, Dept of Natural Resource Sciences, Macdonald Campus of McGill University, Quebec. The laboratory has been examining the relationship between hemocyte attachment to foreign materials and signal transduction in the larvae of the greater wax moth, *Galleria mellonella.*

MSc candidates will determine the contribution of selected microbial antigens to triggering aspects of the signal transduction in isolated types of hemocytes from G. mellonella and from hemocytes of a *Malacosoma disstria* tissue culture system.

Persons with courses in cell biology, biochemistry and microbiology are encouraged to apply. A general entomology background is not required. Expires: 10/31/02
Contact information for applicants:
Gary B Dunphy
email: dunphy@nrs.mcgill.ca
Dept of Natural Resource Sciences
Macdonald Campus of McGill University
Ste. Anne de Bellevue
Quebec, Canada. H9X3V9

Canada Research Chair in Proteomics-Related Mass Spectrometry or Crystallography. University of Guelph, Department of Chemistry and Biochemistry, Department of Microbiology, or Department of Molecular Biology and Genetics. The Canada Research Chair (CRC) Program was established by the Government of Canada to enable Canadian universities to achieve the highest levels of research excellence in the global, knowledge-based economy. Further information on the CRC Program may be found at the program web-site http://www.chairs.gc.ca/

The University of Guelph seeks applications or nominations to fill a Tier II CRC position in an area of proteomics involving the application of mass spectrometry or protein X-ray crystallography, as a key element in a new initiative by the College of Physical and Engineering Sciences and the College of Biological Science to develop a state-of-the-art centre for research and training in the development and application of advanced instrumental techniques to biological and materials science. The appointment may be made at the Assistant or Associate Professor level in the Department of Chemistry and Biochemistry, the Department of Microbiology, or the Department of Molecular Biology and Genetics. Information concerning the departments and the university is available at http://www.uoguelph.ca/. The candidate?s research should complement the University of Guelph Strategic Research Plan, located at http://www.uoguelph.ca/Research /programs/crc/3a.html.

The successful candidate will be expected to maintain a vigorous research program, develop a strong graduate program and teach at both the graduate and undergraduate levels. Candidates for Tier II chairs must be acknowledged by their peers

to have the potential to lead their research field. Applications or nominations should include a curriculum vitae, a five-year research plan and the names of five references. At least one of these should address teaching proficiency. Applications should be addressed to Dr. Peter Tremaine, Dean, College of Physical and Engineering Science, (fax: 519-766-1499); or to Dr. A. Clarke, Acting Dean, College of Biological Science (fax: 519-767-2044), University of Guelph, Guelph, ON Canada N1G 2W1. Evaluation of applicants will begin on June 2, 2002. All CRC appointments are subject to review and final approval by the CRC Secretariat in Ottawa.

The University of Guelph is committed to an employment equity program that includes special measures to achieve diversity among its faculty and staff. We therefore particularly encourage applications from qualified aboriginal Canadians, persons with disabilities, members of visible minorities and women.

A copy is this Ad can be viewed from our Web site at: http://www.micro.uoguelph.ca/micro/employment.htm#posting11
Contact information for applicants:
Dr. Peter J. Krell
Professor and Acting Chair
Department of Microbiology
University of Guelph
Guelph, Ontario, Canada N1G 2W1
Web Site: http://www.micro.uoguelph.ca/micro/employment
Email: pkrell@micro.uoguelph.ca

Postdoctoral Fellow: Genome Canada and the Ontario Genomics Institute have recently funded a 3 year $4.6-million project investigating the genomics of the spruce budworm and its viral pathogens. Coordinated by the Great Lakes Forestry Centre in Sault Ste. Marie, the project involves several affiliated academic institutions. A number of research opportunities are available at the University of Guelph concerning:

Genomics of Lepidopteran viral pathogens
Virus functional genomics
Virus molecular genetics
DNA chip (array) fabrication and analysis

A variety of well-resourced facilities are available including advanced robotics (liquid handling and DNA arrayers), DNA chip readers, capillary sequencers, and mass spectrometers. Trainees will be encouraged to participate in different aspects of these viral "minigenomics" projects, providing a well-rounded overview of modern genomic technologies. Opportunities for collaborations with researchers at affiliated institutions, including the Great Lakes Forestry Centre, will also be available.

Interested persons should provide a curriculum vitae, the names of two people able to provide letters of reference, transcripts and, where appropriate, copies of recent publications. Applicants should have completed an undergraduate degree with training in microbiology, biochemistry, or molecular genetics. Laboratory experience in virology and/or molecular biology would be an asset. Unless otherwise requested, applications may be circulated amongst other researchers participating in this project. Closing date: 10-30-02.
Contact information for applicants:
Dr Peter Krell
Department of Microbiology
Email: pkrell@micro.uoguelph.ca
or
Dr. David Evans
Department of Molecular Biology and Genetics
Email dhevans@uoguelph.ca
The University of Guelph
Guelph, ON, Canada N1G 2W1
Web Sites
http://www.uoguelph.ca/mbnet
http://www.uoguelph.ca/mbgwww

Postdoctoral position. USDA, ARS, Yakima Agricultural Research Lab, Wapato, WA. Develop methods, technologies, and strategies to control insect pests of tree fruit insects using insect pathogens and formulations for maintaining and applying insect pathogens. The incumbent will conduct independent and cooperative research on the biology and application of insect pathogens of tree fruit insects. The incumbent will work with bacteria, viruses, fungi, and nematodes and their combined usage with other interventions under the supervision of a research entomologist. The primary objective is to identify and develop suitable methods and strategies for control of tree fruit insect pests using insect pathogens and to assist with basic and applied research resulting in the eventual use of formulated pathogens by the agricultural community.

Qualification requirements: Ph.D. in entomology; or a related discipline of the biological or physical

sciences that included at least 16 semester hours in entomology is required. It is desirable for the candidate to have the following:
Experience and training in insect pathology especially with insect virus and entomopathogenic nematodes. Knowledge and/or experience with food or pesticide formulation chemistry. Working knowledge of statistics and experimental design. This offer of employment is for U.S. citizens and non-U.S. citizens who are permanent residents (green card) or possess an employment authorization document that does not require formal ARS sponsorship. Closing date: Until filled or 10/15/02.

For information on special requirements, salary, benefits, or application forms, contact: Human Resources Specialist, USDA/ARS/Human Resources Division, 5601 Sunnyside Avenue, Beltsville, MD 20705-5106,Phone: 301-504-1469,Fax: 301-504-1417

For specific information on the duties and responsibilities of this position or to submit an application, contact:
Dr. Lawrence Lacey, Res Entomologist
USDA, Agricultural Research Service,
Pacific West Area
Yakima Agr. Research Lab
5230 Konnowac Pass Road
Wapato, WA 98951
Phone: 509-454-6550
Fax: 509-454-5646
Email: llacey@yarl.ars.usda.gov

Postdoctoral Position: Entomologist. This position is located at the USDA, ARS Western Integrated Cropping Systems Research Unit, Shafter, California. The research assignment is to develop methods, technologies, and strategies to control the glassy winged sharpshooter using insect pathogens. The incumbent will conduct independent and cooperative research on the biology and application of insect pathogens for control of this new-to-California vector of Pierce's disease, a devastating disease of grapes and other crops.

Qualification requirements: Ph.D. in entomology; or a related discipline of the biological or physical sciences that included at least 16 semester hours in entomology.

It is desirable for the candidate to have the following: Experience and training in insect pathology especially with insect fungi. Knowledge of vector biology and ecology. Working knowledge of statistics and experimental design.

Contact Information:
Michael R. McGuire, Research Leader
661-746-8001
mrmcguire@ucdavis.edu
Location of position: Shafter, California, USA

Citizenship required or if you are a permanent resident (green card) or if you have an employment authorization document that does not require formal ARS sponsorship. Non-citizens must be from a country which is a member of a Defense Treaty of which the United States is also a member, e.g., NATO, SEATO, RIO Treaty or by citizens of countries which the U.S. Congress has specifically exempted from the restricting legislation.
THE USDA IS AN EQUAL OPPORTUNITY PROVIDER AND EMPLOYER.

Postdoctoral fellow: A postdoctoral positon is available immediately to study the genomics of the Choristoneura fumiferana entomopoxvius. The incumbent will investigate the functions of fusolin, and the pathogenesis of entomopoxvirus. Successful candidate must have a Ph.D. in Molecular biology, Virology, Biochemistry or a releated field. Experience in insect pathology and/or immunology would be advantage. Position is renewable annually up to three years, depending on performance and availability of funding. Salary is competitive.Interested persons should provide a curriculum vitae, three letters of recommendation and, where appropriate, copies of recent publications.
Contact information for applicants:
Dr. Anthony Pang
Great Lakes Forestry Centre,
Canadian Forest Centre,
NRCan, 1219 Queen Street East,
Sault Ste. Marie, Ontario, Canada P6A 2E5
Email: apang@nrcan.gc.ca

POSITIONS WANTED

Postdoctoral research position wanted: I am a Ph.D. scholar in Agricultural Entomology. I have a rich experience in insect pathology with reference to *Bacillus thuringiensis* proteins. Presently I am

involved in mass culture and bioassay of cotton bollworms(*Helicoverpa armigera*, *Earias vitella* and *Spodoptera litura*) against *Bt* proteins like Cry1Ac, Cry2Aa, Cry2Ac and other local isolates. Developing Cry1Ac-resistance in *H. armigera* and molecular characterisation of the resistance forms another part of my study. I am very much interested to take up a career in insect molecular biology in the future.
B. Gajendra Babu
E-mail: entogaja@yahoo.com
Webpage: myprofile.cos.com/bgbabu

Research associate: Entomologist with research experience studying baculoviruses. Expert in bioassay experiments and would like to develop eco-friendly UV protectants for NPVs. I have worked with Dr. Patrick R. Hughes at BTI, Cornell University, USA, and have some innovative ideas to check UV-inactivation of NPVs at molecular level. Seeking a position in the USA or Europe. Contact information: Sumit Chakrabarti
Email: tisum2001@yahoo.co.in

Post-doctoral Research Position wanted: I am a Ph.D. student majoring in Entomology and Insect Pest Control, and working on entomopathogenic fungi. I have constructed the transformation system of *Beauveria bassiana* mediated by *Agrobacterium tumefaciens*. My Ph.D. dissertation aimed at investigating the infection mechanism of entomopathogenic fungi and improving their virulence by gene engineering. I will receive my degree this year, and am looking for a job related to biocontrol in future.
Weiguo Fang
E-mail: fangwguo@yahoo.com.cn

Graduate Research Assistant or Research Technician. Speciality in biological plant protection. I have worked with different types of industrial and experimental microbial formulations mainly for entomopathogenic and antagonistic fungi for pest control in greenhouses and orchards. I would like to combine the laboratory and field work in the sphere of microbial pest control. Contact information:
Vladislav Gulii
Email: gulii@startmail.ca

FUTURE MEETINGS AND WORKSHOPS

07-13 October: 7th European Congress of Entomology, Thessaloniki, Greece. Contact: Secretariat, Lab. of Appld. Zoo. and Parasitol., Aristotle Univ. of Thessaloniki, 540-06 Thessaloniki, GREECE.
Fax/phone: 31-998-853.
E-mail: Matilda@agro.auth.gr

21-24 October: International Symposium--Improving Biocontrol of *Plutella xylostella*. Montpellier, FRANCE. Contact: C. Lyonnet,, CIRAD-DS/midec, TA 179/02, Ave. Agropolis, 34398 Montpellier cedex, 5, FRANCE.
E-mail: dbm2002@cirad.fr
Fax: 33-0-467-615603
Web: dbm2002.cirad.fr

17-20 November: Entomological Society of America Annual Meeting, Fort Lauderdale, FL, USA. Contact: ESA, 9301 Annapolis Rd., Lanham, MD 20706-3115, USA.
E-mail: meet@entsoc.org
Fax: 1-301-731-4538
Phone: 1-301-731-4535
Website: www.entsoc.org

8-10 April, 2003: Fourth National Integrated Pest Management Symposium/ Workshop
Building Alliances for the Future of IPM
Indianapolis, Indiana
The IPM scene is changing. New challenges and opportunities are appearing. Join your IPM colleagues next spring in Indianapolis to be a part of the 4th National IPM Symposium/ Workshop. The symposium will include sessions for invited speakers, posters, workshops, and informal conferences. The overall goal is to share pest management successes and challenges and build alliances for the future of integrated pest management. All disciplines relating to IPM including weed science, plant pathology, vertebrate management, entomology, nematology, horticulture, agronomy, communications, economics, sociology, etc. are encouraged to participate. We anticipate good representation from a diversity of entities with interests in IPM including government agencies, universities, advocacy groups and IPM practitioners in agricultural and non-agricultural settings as well as people involved in work with sustainable agriculture, IR-4, pesticide applicator training and other pest management areas. This symposium will

launch the National Roadmap for IPM, a vision for IPM for the next 10 years in the U.S.

The symposium will address biological control, risk assessment, invasive species, the building of alliances, urban IPM (landscapes, schools, homes), international IPM, new IPM technologies, IPM for vertebrate pests, communicating and marketing IPM, and transitioning to ecologically-based IPM. We anticipate several concurrent workshops and invited speakers will cover the many topics.

The opportunity exists for related programs (e.g., Regional IPM and Pest Management Centers, IR-4, EPA, etc.) to schedule meetings the day before the symposium on Monday April 7th or after the symposium on April 10th or 11th to save travel costs. Facilities have been reserved to accommodate such meetings. Additional details regarding this national meeting will be forthcoming. Get these dates on your calendar!

Future SIP Meetings

SIP 2002!!
Iguassu Falls, Brazil
August 18-23, 2002

SIP 2003
Burlington, Vermont; August

SIP 2004
Open

SIP 2005
Open, probably USA

SIP 2006
Open

Proposals for hosting future meetings are welcomed. Please contact Mark Goettel, Chair of the Meetings Committee. e-mail: goettel@em.agr.ca

PAST MEETING REPORTS

A Centennial Symposium Commemorating Ishiwata's Discovery of *Bacillus thuringiensis*, Kurume, Japan, 1-3 November, 2001

The Symposium was held November 1-3, 2001 at the city of Kurume for celebration of the discovery of *Bacillus thuringiensis* in 1901 by Dr. Shigetane Ishiwata. The place of the Symposium, Kurume, is an industrialized city, located in Fukuoka Prefecture, northern Kyushu. This area has several biotechnology institutions, represented by Fukuoka Industrial Technology Center, actively working with *B. thuringiensis* and is the type locality of the several serovars of *B. thuringiensis*.

The Symposium brought more than 200 participants from 11 countries, including 22 invited speakers: K. Aizawa, T. Akao, S. Asano, K.-F. Chak, C. Chilcott, D. J. Ellar, B. Federici, S. S. Gill, M. Himeno, H. Hori, K. Kanda, S.-S. Kao, K.-H. Kim, S. Kondo, N. M. Mahadi, E. Mizuki, Y. Nagamatsu, M. Ohba, W. Panbangred, S.-H. Park, H. Sakai, and R. Sato. It started with the opening address of M. Ohba, followed by the addresses of guests. The discourses on many aspects of *B. thuringiensis* research began with "Shigetane Ishiwata: His discovery of sotto-kin (*Bacillus thuringiensis*) in 1901 and subsequent investigations in Japan" reviewed by K. Aizawa with B. A. Federici in the chair. The topics included: (i) mode of action of insecticidal Cry proteins, (ii) characterization of newly found biological activities associated with Cry proteins (selective cytocidal action on human cancer cells and human-pathogenic protozoa, and lectin activity), (iii) improvement of *B. thuringiensis* through genetic manipulation, and (iv) present status of *B. thuringiensis* research and its application in several countries. The Symposium was officially concluded in the evening of November 2 with the closing remarks given by S. S. Gill.

The impressive addresses by D. J. Ellar, B. A. Federici, and W. Panbangred at the banquet strengthened the significance of the Symposium. On November 3, it rained all day, as if Ishiwata was shedding tears of joy, during the excursion to Mt. Aso crater and the Castle of Kumamoto.

After the Symposium, the Organizing Committee built a monument made of basalt to the memory of the Symposium on the grounds of Biotechnology and Food Research Institute, Fukuoka Industrial

Technology Center, Kurume (see photographs). A short sentence (on-ko-chi-shin in Japanese) with the four Chinese characters, carved on the monument, is the handwriting of K. Aizawa. The source of this sentence is the Analectes of Confucius and it is commonly interpreted as "acquire new knowledge by inquiring into the old". The back of the monument has a low relief of a sporangium of the *B. thuringiensis* serovar *sotto* strain T84A1.

Michio Ohba
Chairman, Organizing Committeeof the Symposium
Professor, Kyushu University

Book Reviews for the SIP Newsletter

If you would like to have your book reviewed or if you would like to review a book, please contact our book review editor:

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BOOK REVIEWS

Invertebrate Tissue Culture Methods
by Jun Mitsuhashi,
Springer Lab Manual
Springer-Verlag Tokyo Publishers
2002, 446 pp. 178 figs. Softcover
ISBN 4-431-70313-6
Recommended Retail Price: EUR 99,95

The discipline of invertebrate cell culture that began in the early 1900s and came of age in the late1950s with the first establishment of insect cell lines by Gaw (1959) and Tom Grace (1962) finally has the first manual of invertebrate tissue culture. This impressive tome could only have been written with authority by none other than Jun Mitsuhashi, a pioneer of insect cell culture and active researcher. This contribution is a Springer Lab Manual of invertebrate tissue culture methods and represents a comprehensive review of the techniques for culturing cells from a variety of invertebrate animals. The manual is 446 pages in length and contains 178 figures that will guide the reader through the sometimes highly specific methods necessary to maintain or establish invertebrate cells in culture.

The manual is divided into 4 parts: (1) General Methods, (2) Methods for Setting up Primary Cultures Specific to Animal Groups, (3) Organ Culture, and (4) Related Techniques. In addition, Mitsuhashi included a highly useful appendix that contains the composition of salt solutions and culture media and a comprehensive list of established invertebrate cell lines. This list of invertebrate cell lines is invaluable and will be extremely useful to researchers and students. The manual is generously referenced throughout with many hard to locate journal citations.

Part 1- General Methods; will be very useful for the researcher with little experience in cell culture and in need of an introduction to invertebrate cell culture techniques. This section takes the reader though the steps of equipping and setting up a cell culture laboratory, an introduction to the principles of sterile technique and media composition, and several protocols for cell culture procedures and preparation of culture media.

Part 2- Methods for Setting up Primary Cultures, is probably the most important part of this manual and includes almost 200 pages of detailed culture methods for many invertebrate species. Since insect cell culture has made greater advances than the culture of other invertebrate species, this part is rich in insect cell culture techniques. However, the methods for the culture of arthropods other than insects (crustacea and arachnida) or other invertebrate species are comprehensive and highly informative. For example methods are reported for the culture of non-arthropod species from mollusca,

annelida, nematoda, coelenterata, and others. Each specific primary culture method is followed by a brief discussion of results and specific literature citations.

Part 3 - Organ Culture, is an invaluable approach for the study of physiological and developmental problems in culture. Again, this section includes methods for the organ culture of insect species, arthropods other than insects, and non-arthropod species. This section is only 64 pages long and reflects the greater interest in the study of primary and established cell lines (above). The majority of the organ culture methods in this section pertain to arthropod species. Nevertheless, this is an important section and the culture of invertebrate organs continues to be invaluable since there are few established invertebrate cell lines that retain their *in vivo* properties. Here again, each method is followed by a brief discussion and cited literature.

Part 4- Related Techniques. This section is almost 100 pages in length and covers methods that have general application to invertebrate cell culture. These topics include cell cloning, cell identification, cell viability and enumeration, karyotype analysis of cells, and photography. The procedures for the identification of cells are the most useful and cover molecular approaches such as DNA amplification fingerprinting, and RAPD-PCR. Other topics on gene technology and large-scale culture are by necessity very brief but the cited references will lead the reader to more comprehensive literature.

Appendix. An appendix of 36 pages includes: (1) a comprehensive list of the composition of salt solutions and culture media; (2) a list of reported continuous invertebrate cell lines; and (3) a list of commercially available culture medium products and list of suppliers. The composition of solutions and culture media is an important source of information for researchers who are entering this area of research. The list of invertebrate cell lines is an important database that will be welcomed and used by both beginners and experienced cell culturists. I found only one minor omission of an established cell line in this compilation but the list is very comprehensive.

This is an important methods manual for professionals and graduate students who are conducting research or teaching aspects of insect cell culture, pathology, physiology, and development. This lab manual should also find considerable interests in academic and industrial laboratories working in cell and molecular biology. In particular, this reference text will be an important addition to biotechnology laboratories that are using invertebrate cells for the study of insect and microbial gene function or for the production of recombinant proteins. The manual is modestly priced and the US$119 price is worth the investment.

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The BioPesticide Manual
Second Edition.
Edited by L.G. Copping. British Crop Protection Council, Farnham, UK. 2001. 528 pp.
ISBN 1 901396 29 0
£105 (UK).

This recent edition of The BioPesticide Manual is a good reference book for the library of those interested in biological agents for control of pests. The book covers both the traditional biological control agents and other "biologicals" or biologically-derived active ingredients. The book includes section on: a) microorganisms (including insect pathogens and other microbes used for control of weeds and plant diseases, as well as plant-growth promoters), b) natural products (mostly microorganism-produced chemicals, c) macro organisms (parasites and predators of insects and other arthropod pests), d) semiochemicals (chemicals used to lure insects or to disrupt mating activities), and e) genes (genetic codes used to confer pest-resistance to plants). With such a breadth of information, I concentrated on the microorganism section, and more precisely on the insect pathogens, which I could judge with more authority and on which this review is based.

Although the book does not reach the level of a "world compendium" as announced on its cover, it does bring together information from diverse countries and world regions which would be otherwise very difficult to obtain. According to the book's "Forward" this new edition improves on the first one by adding 30% more active ingredients and doubling the number of products mentioned. The directory of companies presented in the references

section is very useful, but it probably suffers from the volatility of the commercial biopesticide producers. The directory includes several companies from North America and Europe but poorly covers companies from other regions of the world. It is true that information on the small, mostly cottage-industry type producers from some countries may be hard to obtain, but this manual seems to have missed important ones, perhaps by not engaging in some local assistance. Also, some producers mentioned in the text were not included in the directory.

Although the effort required to produce The BioPesticide Manual, must have been enormous, I cannot help wonder what criteria were use to include or not certain biopesticidal active ingredients. For instance, different isolates of some microorganisms are listed as separate entries (e.g. *Metarhizium anisopliae* and *Trichoderma harzianum*) whereas for others, all strains are listed under one entry. There is an entry for *Vairimorpha necatrix* with information on commercialization limited to "under development as a biological agent", however, no entry was included for other agents that would be at similar or higher level of commercial development. The Grand Prize goes to the entry for *Syngrapha falcifera* nucleopolyhedrovirus that includes nothing more than the organism's name.

Within each section, entries follow a set format that includes information on the agent, its production, target pests and crops, as well as information on commercial products. At least for some agents, especially for those with more than one commercial product, information on active ingredients and commercial products may be confusing to the reader. Because information on application, purity, and storage conditions is not always specifically presented for each commercial product, the reader may get the impression that all products have similar characteristics. Also, because product information and most everything else in this book is based on manufacturer information, some details have the characteristic rosy spin seen in commercial literature. This is especially true for information on toxicity, impact and compatibility.

The description of the biological activity of each biopesticidal agent is followed by a series of "key references". For some selected examples with which literature I am familiar, the list of references included some I would not consider keys publications. Some of the cited references may not provide the details the reader wants in terms of how well the products or the active ingredients perform.

The information contained in The BioPesticide Manual has never before been properly consolidated into a single source. This book provides an easy to use, concise compilation of information on biologically based products and their active ingredients. Its usefulness as a reference for researchers and technical personnel is clear. For the practitioner, this book would be more useful if indexed by the target pests. As presented, the information is only easily accessible to those with some knowledge on the biopesticidal agents available for a certain pest problem. Thus, the compendium is not of easy use for organic farmers or other practitioners who want to search for information on biological ways to combat a pest problem.

Although this book has several defects, its main achievement is to compile information that can help those interested in truly integrated pest control, with emphasis on the use of biologically-based pesticidal agents. Hopefully, future editions can be produced often enough to keep up with the fast pace of changes in the biopesticide industry, and to correct problems with the present edition. This book is a strong basis upon which new information can be added to produce the premiere reference on biopesticidal products.

Roberto M. Pereira
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Gainesville, FL, USA.

ERRATUM

The full title for Dr. Irvin Hall (Obituary for Hank Thompson, SIP Newsletter 35 (1), 14) should be Professor of Insect Pathology and Insect Pathologist in the Experiment Station, Emeritus, Division of Biological Control, Department of Entomology, University of California, Riverside. Apologies to Dr. Hall for the omission.

Once again, thanks to Elizabeth Davidson, George Kyei Poku, Peter Krell, Naomi Pye, Don Roberts, Just Vlak and Yu Ziniu for providing photos from SIP 2001.

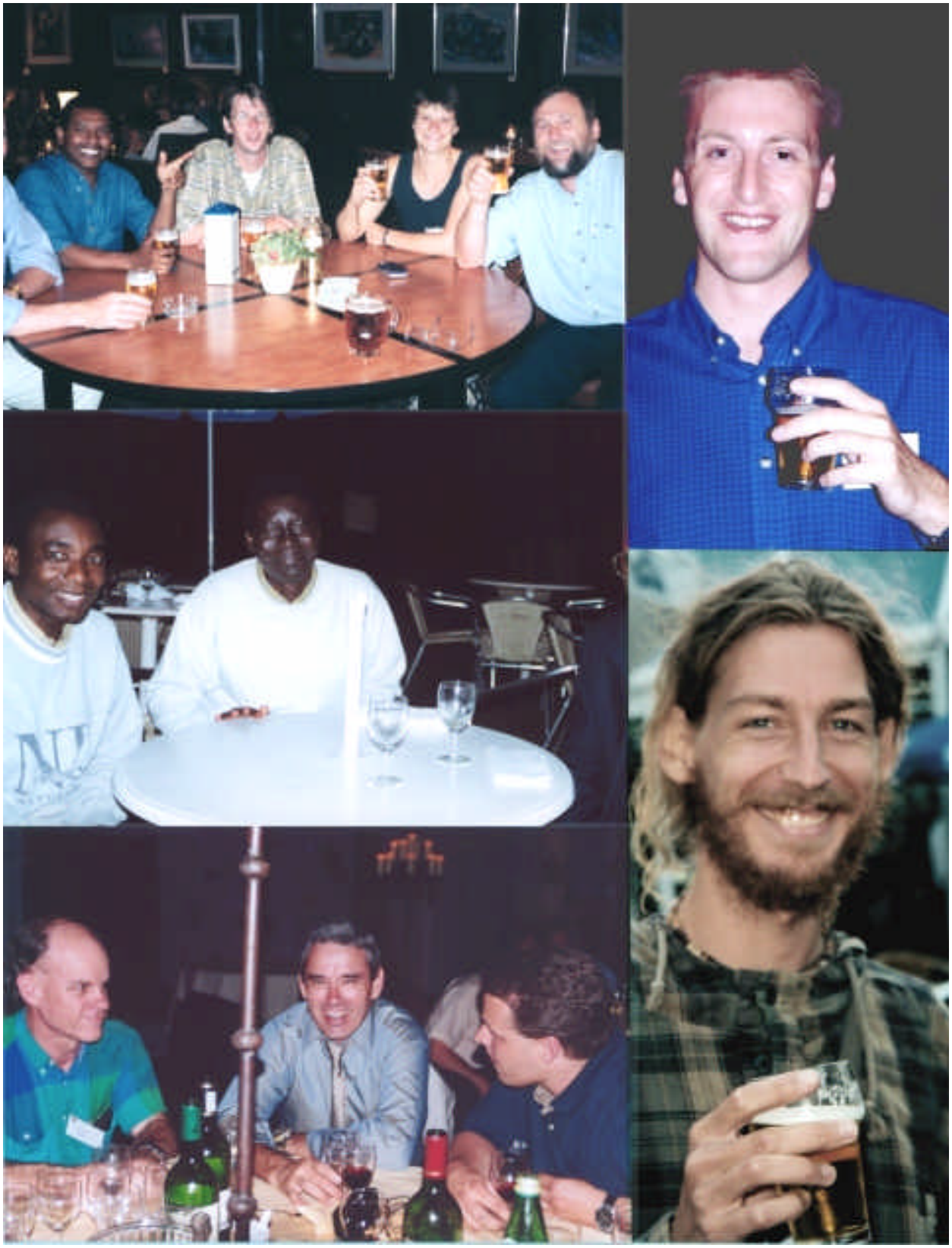
Photos from Noordwijkerhout

1. Judith Pell (UK); 2. George Kyei Poku; 3. Joergen Eilenberg, Denmark; 4. Jenny Cory (UK); 5. Rudolf Wegensteiner (Austria); and 6. Dudley Pinnock (Australia)

Photos from Noordwijkerhout:

SIP'ers dancing, running, dining, cruising, sight-seeing and…….

Photos from Noordwijkerhout:



……SIP-ping. (Here's to SIP!!!)