



ISCE

NEWSLETTER

Volume 15, Number 1, February 1998.

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ITHACA '98

15th Annual Meeting

Ithaca, New York, USA

Call for Papers

The 15th annual meeting of the Society will be held a little earlier than usual this year, from June 20-24, on the Cornell University campus in Ithaca, New York. The enclosures provide all the information required for accommodation, registration, and submission of abstracts. The information and forms has also been posted on the website, <http://www.isce.ucr.edu/meetings/98/>.

Abstracts are due by March 31, 1998, to the conference host, Dr. Alan Renwick. Please note that authors must preregister for the meeting (early registration deadline) in order to have their papers or posters accepted. Abstracts can be submitted by Email or by regular mail, preferably with a diskette. Please follow the instructions carefully to minimize the work for Dr. Renwick and his staff in preparing the abstracts for publication.

Preregistration forms and payments are also due March 31, 1998. Please send your filled-out forms with payment to ISCE, 206 Robert Purcell Community Center, Cornell University, Ithaca NY 14853 USA. FAX +1 (607) 255-4722. Please do NOT send your preregistration materials to Dr. Renwick. Payment must accompany the registration form if you plan on giving a poster or oral presentation. Payment must be in US dollars, and can be made by check drawn on a US bank, by international money order (payable in US dollars), or by credit card. On-campus housing will be available, or participants may choose to stay at one of two nearby hotels (see information with registration materials).

Student travel award request forms should be submitted directly to Dr. Murray Isman, the chair of the Student Travel Award committee. Applications must be filled out completely, and must be received no later than March 31, 1998.

The meeting will include sessions that emphasize biodiversity and the importance of as yet undiscovered sources of chemical and genomic diversity. The program committee has recruited prominent speakers to introduce a variety of subjects including microbial chemistry, pheromone diversity, multitrophic interactions, intracellular interactions, chemical diversity and biological activity, medicinal links, and plant-insect interactions (see list below). Contributed papers and posters may be submitted as described above. Guided tours of Ithaca's gorges, Cayuga lake, and other sights have been arranged, along with a post-conference tour of the Finger Lakes wineries. Further meeting details will be posted to the web page as they become available, and a summary of the final arrangements will be provided in the next Newsletter. For further information about the meeting, contact the meeting host, Dr. Alan Renwick, at the Boyce Thompson Institute, Ithaca NY 14853 USA. Email: jar14@cornell.edu.

Future meeting sites are scheduled as follows: 1999, Marseille, France; 2000, Brazil; 2001, Lake Tahoe,

USA; 2002 (tentative), Kenya.

Invited Speakers

Tom Eisner	Ithaca, USA	Chemical Ecology: in retrospect and prospect
Daniel Janzen	Costa Rica	Biodiversity development and conservation in Costa Rica
Jo Handelsman	Wisconsin, USA	Microbial diversity in soil and accessing DNA
Baldomero Olivera	Utah, USA	Cone snail toxins
Walter Leal	Tsukuba, Japan	Diversity in insect pheromones
Jim Tumlinson	Florida, USA	Tritrophic interactions and plant signalling
Ritsuo Nishida	Kyoto, Japan	Chemistry of plant-butterfly associations
John Clardy	Ithaca, USA	Intracellular interactions: mechanisms of activity of medically important natural products
David Cane	Rhode Island, USA	Biosynthetic pathways for bioactive natural products
Koji Nakanishi	New York, USA	Characterization of bioactive molecules
Charles Arntzen	Ithaca, USA	Manipulation of plants: production of edible vaccines
Ashit Ganguly	New Jersey, USA	Industrial applications of chemical ecology

[Webmaster's note: Upto date conference information is always available at the conference [website](#) first, please check there for the latest news.]

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FROM THE EDITOR

- There should be four inserts in the printed Newsletter: Please note that they go to different places and have different deadlines.
(Electronic versions of these forms are available at <http://www.isce.ucr.edu/meetings/98/forms.html>).
 1. Ithaca general information and registration information sheet,
 2. registration form, with on-campus housing form,
 3. abstract submission form, and
 4. Student travel award application.
- If you have not already done so, please pay your 1998 dues. Conference participants who are not paid-up members will be charged the non-member registration rate of \$250, i.e. it is cheaper to pay your dues than pay the non-member surcharge!

Report From The 3rd Asia-Pacific Conference of Entomology

The third meeting of APCE was held during 16-22 November 1997 in Taichung, Taiwan. The Organizing Committee announced that more than 400 scientists from more than 20 countries attended the meeting, with Japan, Taiwan, and South Korea contributing the highest attendance by country. There were 6 symposia, 15 general sessions and a poster program, with the total number of presentations being almost 300. The next (4th) APCE meeting will be held in Malaysia in 2001.

One of the symposia, on insect pheromones, lasted for one and a half days with 15 speakers from 10 countries. More than half of the topics presented (original and review articles) will be published, this coming March, in the new Journal of Asia-Pacific Entomology, to be published by the Korean Society of Applied Entomology (KSAE). Publication was organized and arranged by Prof. K. S. Boo, the President of KSAE. Please communicate with him if you want to receive a copy. His contact information is K. S. Boo at ksboo@plaza.snu.ac.kr; fax +82-331-2942722; tel +82-331-2902461; mailing address, Insect Physiology Lab., Division of Applied Biology & Chemistry, College of Agriculture and Life Sciences, Seoul National University, Suwon 441-744, Korea.

Inauguration of the Asia-Pacific Association of Chemical Ecologists

A new, regional organization for chemical ecology was formally inaugurated in November in Taiwan. After a symposium on insect pheromones during the 3rd Asia-Pacific Conference of Entomology (APCE) in Taichung, Taiwan, the Asia-Pacific Association of Chemical Ecologists (APACE) was formed. Subsequent meetings will take place every two years in the region. Chemical ecologists in the Asia-Pacific region have been discussing such a possibility for some time, since the region is far away from most of the centers of international discussion groups on chemical ecology, and many chemical ecologists, especially young scientists and graduate students, cannot afford to attend most meetings taking place in North America or Europe. Furthermore, Asia-Pacific scientists have not had a common forum to discuss their problems and strategies against pests, even though the region has many insect pests in common.

**Inaugural meeting of
APACE**

Prof. Kenji Mori (now at the Science University of Tokyo, Japan) was elected as the new Association's first president and Prof. Y. S. Chow (Director of the National Museum of Natural Science at Taichung, Taiwan) as the Vice-President at the inauguration meeting. The President has appointed Prof. Shigeru

Matsuyama at The University of Tsukuba, Japan, as its Treasurer, and Prof. Kyung Saeng Boo of Seoul National University, Korea, as its Secretary. These officers will serve the Association for 2 years. Councillors were selected to represent countries in the region. Councillors are currently Drs. R. Vickers (Australia), G. Gries (Canada), C. P. Srivastava (India), N. Angerelli (Indonesia), Y. Kuwahara and W. Leal (Japan), Keng-Hong Tan (Malaysia), J. Clearwater (New Zealand), and T. C. Baker and E. B. Jang (US). A couple of chemical ecologists from mainland China are expected to join soon as new councilors.

Anyone interested is welcome to join the Association. The 2-year membership fee is US \$10 for regular members and US\$5 for student members. This fee will be mainly used for distributing newsletters and correspondence with members. The APACE does not plan to publish its own regular scientific journal, and members from any region of the world are welcome. Its first regular meeting is tentatively scheduled for Shanghai in 1999, and the second in Malaysia in 2001. The secretary is ready to entertain any questions or inquiries on membership, or any other APACE matters.



Please direct your communications to Prof. K. S. Boo at ksboo@plaza.snu.ac.kr; fax +82-331-2942722; tel +82-331-2902461; mailing address, Insect Physiology Lab., Division of Applied Biology & Chemistry, College of Agriculture and Life Sciences, Seoul National University, Suwon 441-744, Korea.

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NOMINATIONS

THE SILVERSTEIN-SIMEONE AWARD

This year, the president of the Society is starting the selection process for the 1999 Silverstein-Simeone award somewhat sooner than has been done in the past, to allow the selection committee more time to review the nominations, and to be able to notify the awardee well in advance of the meeting at which the award will be made.

The Silverstein-Simeone award was established by the ISCE in 1995 to honor Milt Silverstein and John Simeone for their contributions to the field of Chemical Ecology and for their long service as founding editors of the Journal of Chemical Ecology. It is presented each year to someone conducting innovative research on the "cutting edge" of science. The recipient of this award is asked to present a plenary lecture at the annual meeting of the ISCE and to publish a paper on the same topic in the Journal of Chemical

Ecology. To date, the award has been sponsored by Plenum Press, the publisher of the Journal.

The first four scientists to receive this award were:

- 1995- Professor **Wilhelm Boland** of the Institute for Organic Chemistry and Biochemistry at Bonn University, (now director of the newly formed Max-Planck-Institute for Chemical Ecology in Jena, Germany). Lecture title "How to survive with volatiles: plante contre herbivore"
- 1996- Professor **Louise E. M. Vet** of the Department of Entomology at the Agricultural University in Wageningen. Lecture title, "From Chemical to Population Ecology: Semiochemical Use in an Evolutionary Context"
- 1997- Professor **Clarence A. Ryan** of the Institute of Biological Chemistry at Washington State University, Pullman. Lecture title, "Polypeptide signaling for plant defense genes"
- 1998- Professor **Ian Baldwin**, of the new Max-Planck-Institute for Chemical Ecology in Jena ([see story below](#)). A title for his lecture is not yet available.

Please help the society by nominating someone who is doing innovative research in chemical ecology for the 1999 Silverstein-Simeone award. All that is required is a nomination letter explaining why your nominee deserves to be recognized for his/her innovative research, a Curriculum vitae, and a list of publications pertinent to the research on which the nomination is based. Send your nominations to J. H. Tumlinson, President, ISCE, USDA-ARS, CMAVE, P.O. Box 14565, Gainesville, FL 32604 USA, by **15 April 1998**.

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Letter From Jena:

The New Max-Planck-Institute for Chemical Ecology

In January 1997, when I first saw the future site of the newly founded [Max-Planck-Institute of Chemical Ecology](#), I could hardly believe that within nine months all the huge industrial machines for fabricating optical equipment would be dismantled and removed, and replaced by sophisticated analytical equipment for the analysis of ecological interactions mediated by natural compounds. I was standing in a huge gloomy hall on the sixth floor of a factory building of the Carl Zeiss Company in Jena, Germany ([picture 3](#)). An area of ca. 2,600m² was to become the provisional home of the new Max-Planck-Institute, ([picture 4](#)) until the final research facility was ready for occupation in 2001. The official opening of the Institute was October, 1st, 1997, and it just didn't seem possible that the transformation could happen so quickly.

Now, exactly a year after my first visit, I am standing again at the same place, but nothing



reminds me of my earlier visit. The huge gloomy hall is now a bright and modern scientific research facility (pictures 5 and 6). The reconstruction and the installation of all the new facilities were completed within only six months. We rarely get the opportunity to build our laboratories from scratch, and it is mind-boggling to consider the detailed technical requirements. For example, 1,500 electrical outlets and 400 ports connecting instruments to the data network of the Institute had to be installed, along with 1.6km of water lines and 1.8km of gas lines.



The new facility consists of 36 individual labs of different sizes. They are designed for the specific needs of each of the four existing departments (see below). For example, there are organic chemistry labs for synthetic work, biochemistry labs for the purification of proteins or PCR reactions, analytical labs for the identification and quantification of natural products, and ecological labs for examining their function. There are also communal facilities, including an isotope lab for work with radioactive materials, transformation rooms for genetic engineering work on plant and bacteria cells, a photographic lab, and centrifuge, dishwasher, deep-freezer and freeze-drier rooms. Because most of the research in the Institute is focused on plants, there is a large plant-preparation area for potting and harvesting plant material, four plant-growth rooms for rearing *Arabidopsis* and its wild relatives, as well as eight walk-in and ten reach-in plant-growth chambers for plant and insect rearing. A 100m² temporary glasshouse is being designed for use by the end of this summer.

There are two central analytical facilities in the Institute. The mass spectrometry facility (led by Dr. N. Oldham) houses a MS-MS triplequad (Quattro II) that can be coupled with either a GC or LC, a high resolution magnetic sector GC-MS and a MALDI (Micromass TOF Spec 2 E) instrument enabling the identification of a broad variety of different natural components. The NMR facility (led by Dr. B. Schneider) has a 500MHz NMR machine (Avance DRX from Bruker) with probes for ¹⁵N, ¹³C, and ¹H spectral analysis of living samples (in vivo NMR analysis) and the effluent from HPLC, as well as conventional samples.



Most of the departments are equipped with the routine analytical equipment (GC, GC-MS, HPLC). For specific investigations the Department of Bioorganic Chemistry runs a LCQ and a GCQ (Finnigan MAT) and a GC-FTIR system (Equinox from Bruker). The Department of Molecular Ecology has three GC-MS-MS instruments. Since the molecular approach to chemical ecology dominates in the Departments of Molecular Ecology and Plant Biochemistry, their facilities are mainly outfitted with molecular biological

equipment. A modern transformation lab enables the production of genetically manipulated plant or bacteria cells. For protein research there are computerized protein purification systems (FPLC and Gradi-Frac-System from Pharmacia, Biocad from Perseptive Biosystems) and a computerized gel documentation system (Eagle Eye from Stratagene). Facilities in the Department of Molecular Genetics and Evolution are designed for rapid, highly automated collection of molecular genetics data. A pipetting robot (Biomek 2000 system) and two DNA sequencers (ABI 377 HAT fluorescent DNA sequencers) allow a high rate of raw DNA sequencing. DNA quantification is done with a fluorescent plate reader. A photo lab provides an automatic developing system and a phosphor imager.

The administrative staff are housed in their own wing. There is a library that will house a small collection of key scientific journals and books and will develop the first virtual library for chemical ecological research, accessing worldwide literature data banks and developing a new document retrieval system. A seminar room with space for ca. 35-40 people and modern projection equipment enables the presentation of research work.

The overall research objective of the Institute is to use the techniques of molecular biology and chemical ecology to study the functional basis of evolutionary forces shaping chemical ecology. To address this objective, the Institute currently is organized into four departments and one NMR-research group, as follows:



1. Department of Molecular Ecology (Director: Prof. Ian T. Baldwin): Ian Baldwin's group focuses on the transformation of native plant species (especially *Nicotiana*) with genes that code for ecologically-relevant defense traits (alkaloid production, volatile emissions, wound signal transduction cascades). The phenotypes of these transformed plants will be characterized and their effects on Darwinian fitness tested in field and glasshouse environments of altered abiotic and biotic selection regimes.
2. Department of Bioorganic Chemistry (Director: Prof. Wilhelm Boland): Wilhelm Boland's group works on the identification and the biosynthetic pathways of chemical compounds that mediate ecological interactions between different organisms, and the study of signalling pathways in higher and lower plants.
3. Department of Plant Biochemistry and Molecular Biology (Director: Prof. Jonathan Gershenzon): Jonathan Gershenzon's group is investigating the biosynthesis of several classes of plant defensive compounds (glucosinolates, mono-, sesqui- and homoterpenes) to learn more about how plants protect themselves against herbivores and pathogens. Their approach is to characterize key biosynthetic enzymes and isolate the corresponding genes so that the ecology and evolution of these defensive compounds can be explored.
4. Department of Molecular Genetics and Evolution (Director: Prof. Thomas Mitchell-Olds): Research in Tom Mitchell-Olds' group uses the genetic tools of *Arabidopsis* to examine the functional basis of plant resistance to insect herbivores and to unravel the factors maintaining

levels of quantitative variation in natural populations.

5. NMR-research group (leader: Prof. Bernd Schneider): Bernd Schneider's group is studying the metabolism of phenylpropane derivatives in different plant species.

Sixty people are currently working in the Institute, including research scientists, postdocs, and PhD-students, and a support staff of technicians, engineers, and administrative personnel.

The Institute also profits from its close proximity to Friedrich-Schiller University and other local institutes, such as the Hans-Knöll-Institute and the Institute for Molecular Biotechnology. Cooperative projects with the Departments of Botany, Chemistry and Ecology at the University are already emerging. These joint efforts will be encouraged by joint seminars and research projects, shared use of facilities, and joint direction of students.



We will be occupying the temporary facility at Zeiss for the next four years. Meanwhile, the planning process for the Institute's permanent buildings is underway, with ground-breaking in autumn of 1998, and scheduled completion by 2001. The new facility will cost 72 million DM (approx US\$40 million) and will be built on the Beutenberg campus in Jena. The total building area will increase to ca. 7,000m² including a high-tech greenhouse facility of 1,000m². At this time, an Entomology Department will join the existing four Departments, and two additional working groups will be added. At completion about 210 researchers plus a number of guest scientists will be working in the facility. The Institute will have single and double room apartments for researchers visiting for short-term stays.

As I stand in our new Institute, I can hardly remember how it looked a year ago. If our success in transforming a former factory into a modern research facility is a measure of fitness, then I am sure that our Institute has a bright future.

Caroline Liepert, with many thanks to Ian Baldwin.

Pictures 1,2 & 4 courtesy of Carl Zeiss Jena GmbH

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Relaunching Of The Journal Chemoecology

The journal [CHEMOECOLOGY](#), which began publication in 1990 with Thieme Medical Publishers, has recently been relaunched as the international journal CHEMOECOLOGY -Evolutionary, mechanistic & environmental approaches to chemically-mediated interactions. It currently is edited by the Belgian team of editors-in-chief Desire Daloze and Jacques M. Pasteels (University of Brussels), and is published by Birkhäuser Publishers (Basel, Boston, Berlin). CHEMOECOLOGY has changed in scope, as is reflected in its new subtitle, and has the energetic support of a new and renowned international board of editors, associate editors and advisors.

The journal's full papers, reviews and mini-reviews, short communications, news and commentary are intended to promote and stimulate the field of chemical ecology by integrating ecology and chemistry, thereby increasing our understanding of the biological significance of natural products. From 1998 on, the journal will also be available in electronic form.

By special arrangement between the ISCE and Birkhäuser Publishers, ISCE members are entitled to receive a personal subscription for SFR 98 in 1998, a considerable discount from the list price of SFR 338. Please direct inquiries to Sabine Voss, Birkhäuser Verlag AG, FAX +41 61 205 07 91, Email voss@birkhauser.ch.

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MEETINGS

- **Gordon Research Conferences**, Summer 1998, New Hampshire/Rhode Island, USA: Chemical Senses: Taste and Smell. Contact: Gordon Research Center, Phone: +1 401 783 4011, FAX +1 401 783 7644, Email GRC.URI.EDU. Full program is available on the web at [HTTP://WWW.GRC.URI.EDU/](http://www.grc.uri.edu).
- **American Chemical Society**, 215th National meeting, Dallas Texas, March 29-April 2, 1998. Contact: Email natlmtgs@acs.org.
- **Plant Growth Regulation Society of America**. 7-10 July 1998, Chicago IL, USA. Contact: Warren Shafer, Abbott Labs., Agricultural Research Center, 6131 RFD (Oakwood Road), Long Grove IL 60047, USA. <http://members.aol.com/PGRSA98/>.
- **The 3rd Tannin Conference**. Plant Polyphenols: Chemistry and Biology, Bend Oregon, USA, July 20-25, 1998. Contact: Dr. R.W. Hemingway, Email dhemingway@popalex1.linknet.edu.
- **Vth International Conference, Progress in Neuropharmacology and Neurotoxicology**, St. Catherine's College, Oxford, July 28-31, 1998. Contact: Conference Secretariat, Society of

Chemical Industry, 14/15 Belgrave Square, London SW1X 8PS, United Kingdom.

- **IXth IUPAC International Congress of Pesticide Chemistry** (Topic 3: Natural Products), London, UK, August 2-7, 1998. Information: http://chemistry.rsc.org/rsc/9_iupac.htm.
- **VIIth International Congress of Plant Pathology**, Edinburgh, Scotland, August 9-16, 1998. Contact: Dr. R.J. Royle, Chairman, 7ICPP, IACR- Long Ashton, Long Ashton Research Station, Long Ashton, Bristol BS18 9AF, United Kingdom.
- **XIVth International Plant Protection Congress: Where Chemistry Meets Ecology**. Jerusalem Israel, July 25-30 1999. Secretariat: P.O. Box 50006, Tel Aviv 61500, Israel. FAX +972 3 5175674. Email IPPC@Kenes.com.
- **XXI International Congress of Entomology**. Iguassu Falls, Brazil, August 20-26, 2000. Email: ice@sercomtel.com.br.

[Webmaster's note: Additional meeting information of an even more general interest can be found at the ISCE website [meetings page](#)]

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