## **NEWSLETTER**



# INTERNATIONAL SOCIETY OF CHEMICAL ECOLOGY

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Deadline for the next issue is September 15, 2008.

#### Secretary/Editor's Message



Since this is my final column, after six years as Secretary and Editor of the newsletter, it seems appropriate to recognize all the people who make the society work and who have made my tenure go relatively smoothly.

So, in no order of importance.....

**Webmaster**. Allard Cossé is really *the* person who keeps the society running on a day-to-day basis. He maintains the website, uploads and formats files (including this newsletter), and posts forms on the website; all this in a semianonymous (and largely unsung) capacity. Without question, Allard has made my job a lot easier than it could have been over the last six years.

**Treasurer**. The Treasurer is in charge of the checkbook and handles all the membership renewals, updates, etc! During my time as secretary, I have worked with two treasurers, Steve Teale and Ken Haynes. Both have been efficient and very responsible with the society's money. It is in large part due to their efforts that ISCE is in such a healthy financial situation.

**President**. The President is the CEO of the society. He/she leads the society for one year, communicates formally with sponsors, etc, and performs the various ceremonies at the Annual Meeting. I have worked with six Presidents and each has brought different qualities to the position. However, all have had one thing in common: a dedication and passion for the Society and the field of Chemical Ecology.

**Meeting Organizer.** This is probably the single most involved job in the Society. The meeting organizer has complete responsibility for organizing, managing the budget and ensuring that the conference runs smoothly for all of us attending the annual meeting. This is an exhausting set of tasks – just observe Jim Tumlinson et al., at the conclusion of this year's meeting! It is a testament to the organizers and their assistants that the annual meeting is invariably a success.

**Members.** Members have a valuable role to play in the running of the society. Perhaps the thing that has impressed me most during my tenure as Secretary is how devoted some members are to the health of the society. These people are incredibly active in nominating colleagues for awards, supplying news to the newsletters, participating in business meetings, ensuring archiving of material and even getting awards and certificates minted and printed! While many of this group are "senior" scientists, what every member should realize is that the opportunity is there for ALL members to contribute to the running and future direction of the Society. Such contributions are necessary for the health of the society. All one has to do is email the Secretary or another member of the Executive.

And finally, my best wishes to Erika Plettner as the new secretary!

Stephen Foster Secretary, ISCE

### **Update on Annual Meeting**

Some ISCE student members have contacted Penn State ISCE meeting organizers to find another person(s) to share a room with during the meeting. If you are looking for a roommate to share lodging costs during the meeting, please contact Julie Todd at <u>jlt36@psu.edu</u>.

As part of the registration package, an outing to Black Moshannon State Park is planned for the afternoon of Wednesday, 20 August. There are opportunities for hiking, boating, and swimming, so please pack accordingly if you want to enjoy some of these activities.

The week of 14 July, you will receive individual notification via email concerning the day and time of your poster or talk. The final program for the ISCE meeting at Penn State will be posted as pdf on the society website by the end of July.

#### **Election Results 2008**

#### **Vice President**

Dr. Jeffrey Aldrich was elected Vice President. Jeff works for the USDA-ARS at Beltsville, Maryland, USA. He is best known for his research on the allomones and pheromones of true bugs (Hemiptera: Heteroptera), including identifications of the first pheromones for phytophagous and predacious species in the order. He hosted the 2005 ISCE meeting in Washington, D.C.

#### Secretary



Dr. Erika Plettner was elected Secretary, Erika works in the Department of Chemistry at Simon Fraser University, BC, Canada. Her current research is focused around a general interest in molecular recognition of small molecules by proteins.

Councilors

Dr. Consuelo De Moraes, is currently an Associate Professor in the Department of Entomology at The Pennsylvania State University. Dr. De Moraes's research focuses on chemically mediated interactions among plants and insects.









Dr. Christer Löfstedt is Professor in Ecology at Lund University, Sweden. His research emphasis is on evolutionary analysis of communication systems and questions about population variation, biosynthesis, genetics of pheromone variation, mechanisms of specific pheromone production and response, and phylogenetic reconstruction.

Dr. Nicole van Dam is a senior researcher at the Netherlands Institute of Ecology (NIOO-KNAW). She

studies interactions between above- and below-ground induced defenses in plants.

Dr. Martin Heil is a researcher at CINVESTAV (Centro de Investigación y de Estudios Avancados) in Irapuato, Guanajuato, México. His major research interests are facultative and obligate defensive ant-plant mutualisms, costs of induced resistance to pathogens and herbivores and the signalling processes that underlie plant-insect and plantplant communication.





**Member News** 

Jeremy McNeil was awarded the 2008 Fry Medal by the Canadian Society of Zoologists. "The Fry Award is made to a Canadian Zoologist who has made an outstanding contribution to knowledge and understanding of an area in zoology."

As of August Jeremy will be the Scientific Director of the Biotron, a research facility to address aspects of climate change at the University of Western Ontario. Information about the site may be found at <a href="http://www.biotron.uwo.ca/">http://www.biotron.uwo.ca/</a>



Obituary

In Memory of Dietrich Schneider 30th July 1919 – 10th June 2008

Karl-Ernst Kaissling and Rudolf Alexander Steinbrecht (Translated with permission by Ann Thorsen from *Mitteilungen der Deutschen Zoologischen Gesellschaft 2008*)

On the 10th of June, 2008, Professor Dr. Dietrich Schneider died after a brief period of severe suffering. One of the pioneers of modern olfactory research, he was the first to use electrophysiology to investigate the sense of smell, by directly recording the responses of single sensory neurons to the odour stimulus. His success depended crucially on his choice of the silk moth as experimental animal, because its males are very sensitive to the sexual attractant released by the females — as by now not only experts in the field but also every educated layman knows. This proved to be a model system for olfaction that offered many advantages. The adequate stimulus, the pheromone bombykol, is a relatively simple molecule with obvious biological relevance, and the receiving organ, the male antenna, is optimized to capture even the slightest amounts of odorant. Furthermore, each of the many thousand sensory hairs, which are arranged on the antenna to form an odorant sieve, is readily accessible to the physiologist's electrodes. For the first time a quantitative analysis of the olfactory sense became possible, and the school that Schneider established in Munich, at the Zoological Institute, and then expanded at the Max-Planck-Institute for Behavioural Physiology in Seewiesen, was soon pointing the way towards research that would be carried out by students of olfaction worldwide.

Dietrich Schneider was born in 1919 in Berlin. Having qualified for university admission in 1937, he first studied biology at a teachers' college in Frankfurt on Oder and then in 1938 moved to the University of Berlin, but as early as 1940 he was drafted into military service. In North Africa, in 1943, he began four years as a prisoner of war, during which period he was transferred from Algeria to the USA and England. While a prisoner he was nevertheless able to spend some time continuing his studies, so that in 1949, only two years after returning home, he obtained a PhD in Göttingen with specialties in zoology, botany and physiology. His thesis research, on the electrophysiology of saltatory nerve conduction, was carried out in the laboratory of Hansjochem Autrum. In the same year he married Heidwig Intemann, with whom he had three children. Soon thereafter he was appointed scientific assistant to Alfred Kühn at the MPI for Biology in Tübingen; among the things he investigated here were the field of view of frogs and their escape and predation behaviour, and finally the light-oriented growth of marine Bryozoa.

At this time Peter Karlson and Adolf Butenandt were also working in Tübingen, on the isolation of bombykol, the first chemically characterized insect pheromone. Schneider's interest thus aroused, he began to make electrophysiological measurements of the silk-moth antenna. He recorded the summated responses of the olfactory cells, the electroantennogram, which enabled him to make the first quantitative analysis of the olfactory sense. Soon he began to record the responses of individual, identified olfactory cells. It should not go unmentioned here that the faculty of the University of Tübingen failed to recognize the broad significance of these discoveries and hence did not accept them as grounds for an academic career (hablitation) there. Therefore in 1958 Schneider transferred to the Zoological Institute of the Ludwig-Maximilians-Universität in Munich, where he obtained a professorship in 1959 with his study on the growth and phototropism of the Bryozoa.

In 1962 the Department of Comparative Neurophysiology was established for Dietrich Schneider at the MPI for Psychiatry. In 1964 he became a scientific member of the MPG and was appointed Director of the MPI for Behavioural Physiology in Seewiesen. Then in 1965 he was given the title Honorary Professor at the Ludwig-Maximilians-Universität in Munich. Foremost among his research subjects were insects' peripheral identification and discrimination of odour substances and mixtures thereof, as well as the physiology and structure of the olfactory organs. However,

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his multifaceted approaches to research and the broad spectrum of methods employed also led to work on the production by insects of their own odorants, the structure of the odorant-producing glands, the enzymatic decomposition of odorants in the olfactory organ, the phylogenetic relations between insect species with respect to their pheromones and how they are identified, which nerve centres are used to process the olfactory signals, and the odour-controlled orientation behaviour of insects. Later Schneider again turned to an area, which at that time was largely ignored, the relationships between insects and plants, and became one of the pioneers of chemical ecology. He devoted himself to this fascinating subject with special intensity even after acquiring emeritus status in 1985.

Dietrich Schneider was always a critical and committed partner in discussions of questions related to the politics of science. He spent an especially large amount of time and energy on setting up the International Center for Insect Physiology and Ecology (ICIPE) in Nairobi, Kenya, and was one of the international members of its Governing Board for many years. Until the end, he observed the development of the Max Planck Society with great interest. Although he was rather sceptical about the planned establishment of new Max Planck Institutes in distant foreign countries, he was very much in favour of international collaboration. This is evidenced not only by his many, often several-month research visits abroad, to Sweden, Yugoslavia, many places in the USA, and in Kenya, but also by the impressive number of scientists from all over the world who undertook research as visitors to his institute in Seewiesen, with more than a few of whom he developed close friendships.

Schneider's achievements were soon recognised, and he was offered positions abroad, e.g. in Utrecht or Los Angeles, but these were declined. Throughout his long research career he was honoured in many ways. For instance, beginning in 1962 he was among the organisers of the first International Symposia on Olfaction and Taste; he was a member, e.g., of the American Academy of Arts and Science in Boston (from 1971), the Leopoldina (from 1975), which later awarded him the Cothenius Medaille, and the Bavarian Academy of Sciences (from 1977). He was chosen to be the John Prather Lecturer at Harvard University in Boston, became the First Distinguished Visiting Professor of the Center for Insect Science at the University of Arizona, Tucson, and in 1991 was awarded the Silver Medal of the International Society for Chemical Ecology. In 1992 he became an Honorary Doctor at the University of Regensburg.

He himself, however, never regarded these many awards as very important; grandiloquence and pathos were not his style, and with his mischievous Berlin humour he reduced quite a few big shots — and he encountered many of those — to human proportions. This humour also defused tense situations and created the relaxed professional environment that everyone who had the privilege of living and working under his roof still remembers so fondly today. At the same time he was relentless towards himself in his personal commitment to research, and the same was required of his colleagues. He was not a strict supervisor, believing that incentive must come from within; this was ensured by his own passion and boundless curiosity, combined with his joy and enthusiasm for communicating new findings, opening them to critical discussion and exploring their implications. Thus we, his students and coworkers, enjoyed a degree of freedom in the choice of our research goals, approaches and methods that is hardly imaginable today; all that counted was the result. We are also grateful to him for sending us early onto the international stage, and thus ensuring that we met the major contributors to our field.

A very special experience was going on "safari" with Dietrich Schneider. Prof. Franz Huber, to whom he was bound by a friendship lasting over 50 years, writes "whoever has seen Dietz hunting his butterflies with hat and net, or seen him sitting at the table in his hotel room at 3 a.m. while preparing the pheromone-loaded hair pencils of a moth, will get a slight impression of the commitment of this man, who was driven by curiosity and to whom finding something new meant everything." His wife Heidwig also became "hooked" on Africa, and it was she who while there made the crucial observation that *Danaus* moths acquire the alkaloid precursors of one of their sexual pheromones from wilting heliotrope plants.

Much more could be reported here, because Dietrich Schneider was a sociable man and lively storyteller, and brought his rich research career to life for us with his consistently humorous tales. For — in the words of Gabriel Garcia Márquez — *"life is not what we have lived, but what we can remember, and how we remember ourselves, in order to tell about it."* Our sadness over the death of Dietrich Schneider, which we share with all his family members and friends, is alleviated by the happy knowledge that we were allowed to spend so many years together with him.

Prof. Dr. Karl-Ernst Kaissling Prof. Dr. R.A. Steinbrecht Max-Planck-Institut für Ornithologie (previously MPI für Verhaltensphysiologie) 82346 Seewiesen, GERMANY

#### **Book of interest**

Induced Plant Resistance to Herbivory Schaller, Andreas (Ed.) 2008, XVI, 464 p., Hardcover ISBN: 978-1-4020-8181-1

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