

# ISCE NEWSLETTER

Vol. 4, No. 1, Spring 1987

International Society of Chemical Ecology

## From the Editor

The time has come for me to pass the secretarial and editorial positions of the ISCE Newsletter to Professor Nancy Targett, who is profiled in this issue of the Newsletter. I enjoyed working with the Society in this capacity, and I wanted to thank all the members of ISCE for their support and contributions to the Newsletter. I also want to give a hearty thank you to Dr. David Jones for hosting our first ISCE meeting abroad. Included in this Newsletter is the information for the ISCE Fourth Annual Meeting which promises to be an interesting one. (Remember that one pound Sterling is worth \$1.57 U.S.!)

I extend my best wishes to Dr. James Nation, ISCE treasurer, and last, but certainly not least, to Dr. Jean Langenheim who is steering ISCE into a brighter future for Chemical Ecology.

Eloy Rodriguez

## President's Message

It is a pleasure to be at the helm of a young but such a vigorous organization as ISCE. Our truly international membership now represents just under 50 countries, and increasingly encompasses more diverse elements of our interdisciplinary field. Both the enthusiasm and international perspective are clearly indicated by the schedule of our current central activity—the annual meeting. Although we have begun in the United States—Texas (1984), Wisconsin (1985) and California (1986), now it is England (1987), back to Georgia (1988), Sweden (1989), and we already have an offer from Israel for 1992. Our three previous meetings have spanned a range of topics from insects, terrestrial plants, and mammals to marine organisms and their interactions, and covered a wide array of chemicals. There have been the more chemically slanted presentations and the more ecologically—but with the goals being of an understanding of the chemical mediation of interactions. It indeed is this provision of a forum and informal meeting structure for chemists and ecologists to learn from each other, to discuss even what "interdisciplinary" means in terms of combining methodologies and philosophies and to then perhaps establish collaborative projects, that gives our Society its special impact. These opportunities are then, of course, reinforced

by having the *Journal of Chemical Ecology* affiliated with the Society.

To try to insure advice from our worldwide constituency we have a Council whose leadership now falls in the hands of the immediate Past Presidents. We not only encourage the Council members to come to us with ideas for Society activities, but urge you to make creative suggestions to them. They also can be used as a local focus for engaging members in a dialogue of ideas and information. Perhaps even local chapters of the society could develop, which could include recruitment of new members and could especially assist students in interacting with researchers. We do hope to spread more the good news about the Society and increase our membership. Additionally, we would like to have your input to the *Newsletter* that could be generated individually or through Council members—reports from activities of people in your area, ideas regarding generation of funds, listing of job opportunities (including postdoctorals) *et al.* With the potential importance of the Council, I want to point out the members for 1985-1990, thus including those who will start their terms following the meeting at Hull in July:

### ISCE COUNCILORS 1985-1990

Yoko Naya	Japan
Lincoln Brower	USA (Florida)
Jacques Pasteils	Belgium
Murray Blum	USA (Georgia)
Larry Gilbert	USA (Texas)
Gunnar Bergström	Sweden
Ana Luisa Anaya	Mexico
Clive Jones	USA (New York)
Wittko Franche	West Germany
Martine Rowell-Rahier	Switzerland
Jerry McNeil	Canada
Arnon Shani	Israel
Remy Brossut	France
Keith Brown	Brazil
Jean Langenheim	USA (California)
Martin Obin	USA (Florida)

We are pleased to report the acceptance of nomination for Vice President by Jerrold Meinwald, Cornell University and for Secretary by Nancy Targett, University of Delaware. Jim Nation, University of Florida, Gainesville, has agreed to continue as Treasurer. David Jones, University of Hull, will automatically assume the Presidency from his Vice Presi-

dent's position. The Executive Committee has decided that it is time to present a change in the Bylaws at the Hull meeting to extend the term of office to three years for both the Secretary and Treasurer. It is clear that those positions need the stability of a period longer than a year to publish the *Newsletter* and to manage Society funds.

Although interest from our "perpetual fund" derived from Life Memberships has provided us with monies to support special activities, such as grants for graduate student research in chemical ecology as well as travel for them to attend our meetings and to assist international members with travel funds for meetings, we need to obtain additional sources of funding to offer assistance at the level desired—as well as to expand to other worthwhile activities. This is a point emphasized by our past two presidents. Although some efforts have been made both in the U.S. and in Europe to obtain corporate funds, we have yet to reap a harvest. To pursue these possibilities even more vigorously, Gerald Rosenthal has accepted the leadership role for the next year. Any suggestions you may have should be directed to him. Increased sources of revenue would also enable us to print regularly the Membership Directory and thus have an updated version available for members. We would also like to publish an expanded *Newsletter*, perhaps to be put out more often, also including

*Continued on page 4*

### INDEX

4TH ANNUAL ISCE MEETING	2
GENERAL ISCE MEETING INFO	3
ISCE PROFILE	3
EMPLOYMENT OPPORTUNITIES	4
UPCOMING MEETING	4

Editor: Eloy Rodriguez

#### Associate Editor:

Helena Maria Viramontes

ISCE NEWSLETTER, which will be published bi-annually, is financed through contributions from members of the INTERNATIONAL SOCIETY OF CHEMICAL ECOLOGY, Inc. None of the material contained herein may be reprinted without the proper written acknowledgement of the editor. Address all correspondence and Newsletter submissions to Dr. Nancy M. Targett, University of Delaware, College of Marine Studies, 700 Pilottown Road, Lewes, DE, 19958. Deadline for Fall issue is August 1, 1987.

## INTERNATIONAL SOCIETY OF CHEMICAL ECOLOGY, INC. FOURTH ANNUAL MEETING

July 13–17, 1987

Lawns Halls, The University of Hull, England

Deadline for reservations is **June 15, 1987**

Participants are reminded of the custom of the Society that contributed papers last for 12 minutes, including questions. Slide projectors and overhead projects will be available. As for posters, there is no deadline for the submission of title and abstract for a poster presentation. Given that the abstract arrives before June 15th, you can be assured that it will appear in the meeting program. You should plan your poster to occupy no more than one square metre of space.

### SYMPOSIA PROGRAM

#### Tuesday, July 14

##### THE VERACITY OF BIOASSAYS IN CHEMICAL ECOLOGY

Jane L. Wolfson  
Purdue University

Bioassays: just what are we trying  
to test?

Gerald R. Leather  
USDA, Frederick,  
Maryland

The bioassay of naturally occurring  
compounds for phytotoxicity.

Stephen L. Sinden  
USDA, Beltsville,  
Maryland

Bioassays of segregating plants: a  
strategy for studying chemical  
defenses.

Reinhold Charpentier  
Sveriges  
Lantbrukuniversitet,  
Alnarp

Host plant selection by the pollen  
beetle *Meligethes aeneus* response to  
various dilutions of nine  
glucosinates, pure and combined  
with glucose.

#### Wednesday, July 15

##### CHEMICAL ECOLOGY AND PLANT PROTECTION

John A. Pickett  
Rothamsted  
Experimental Station

Development of plant-derived  
antifeedants for arable agriculture.

Peter W. Greig-Smith  
MAFF, Surbiton

Bullfinches and Ash Trees—Do plant  
chemicals control herbivore damage  
in a long-lived species.

Edwin Haslam  
University of Sheffield

Plant polyphenols — fact and fiction.

#### Thursday, July 16

##### THE APPLICATION OF CHEMICAL ECOLOGY

Christopher J. Knowles  
University of Kent

Microbes and cyanide — title to be  
confirmed.

Clive Wall  
Rothamsted  
Experimental Station

Pea moths and pheromone trapping  
— title to be determined.

Frank A. Einhellig  
University of  
South Dakota

Potentials for exploiting allelopathy to  
enhance crop production.

Donald J. Gerhart  
Duke University

Chemical ecology and the search for  
marine anti-foulants: studies of a  
predator-prey symbiosis.

Heinrich Arn  
Wädenswil  
Switzerland

Mating disruption in European  
orchards and vineyards: Present  
and Future

#### Friday, July 17

##### BIOCHEMICAL MECHANISMS AND DEFENSE COMPOUNDS

Lena B. Brattsten  
Rutgers University

Enzyme adaptations in foliage-feeding  
insects to host plants.

Dale M. Norris  
University of Wisconsin

Insect perception of phytochemical  
naphthoquinones as allelochemicals.

Michael Ryan  
University College,  
Dublin

Plant defense compounds as  
inhibitors of acetylcholinesterase.

Roxanne M. Broadway  
Washington State  
University

Oligosaccharide signalling of  
proteinase inhibitor genes.

**International Society of  
Chemical Ecology  
Fourth Annual Meeting**  
July 13-17, 1987  
Lawn Halls,  
University of Hull, England

Deadline for all reservations is **June 15, 1987.**

**GENERAL INFORMATION**

**Travel**

a) *Public Transport.* The train services to and from Hull are reasonable, but the rolling stock ranges from Mainline Inter-City 125 to 2 car rail-cars. Most of you will probably have to change either at Doncaster or at Selby. On Monday afternoon and early evening and after lunch on Friday, a free shuttle service will run to and from the Lawns Halls and Hull Station.

Buses run from Hull Station to Cottingham — Nos. 104, 105. It is possible to travel by train from Hull Station to Cottingham Station but you will have a fair walk to the other side of the village.

b) *Car.* The roads to Hull are excellent. Except for people arriving from York or by North Sea Ferries, most of you will approach along the A63 (from the M62). In 1985 a new section was opened and you may not find it marked on your road maps. SO:— After the gantry traffic lights the road climbs to pass through a cutting. Immediately you leave the cutting, you will have your first sight of the whole of the Humber Bridge. You now need to take the next run-off to the left. At the next two roundabouts, you go more or less straight on. At the roundabout at the bottom of the hill (there is a footbridge over the roundabout), turn left (north) and follow the signs to Cottingham. The Lawns are at the northwest edge of the village. There is plenty of free car parking at the Lawns, but you will have to park outside the Lawns Centre.

**REGISTRATION:**

From 14.00 on Monday, July 13 in the Lawns Centre. The duty porter will check you in, give you a key to your room and tell you where to find it. Late arrivals should also see the duty porter.

**TELEPHONE:**

Lawns Centre: (0482) 847671  
Telex: Univerisity of Hull Library: 592530  
UNIHUL G  
Pay phones for outgoing calls are available.  
University telephone (0482) 465181

**PAYMENT:**

Please complete and return the booking form, with remittance, as soon as possible and certainly not later than Monday, June 15, 1987 to:

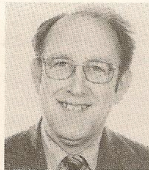
Professor David A. Jones,  
Department of Plant Biology and Genetics,  
University of Hull,  
Hull HU6 7RX,  
England

Make cheques payable to **David A. Jones**  
re: **ISCE 1987**

Prepayment is essential and I will not be able to make a reservation for you until full payment for your requirements is received. If you can pay in pounds sterling, so much the better, but it is not essential.

We look forward to welcoming you to Hull (or **Kingston upon Hull** — which is the official name of the city).

**ISCE Member  
Profiles**



**Dr. David A. Jones** is Professor of Genetics and Head of the Department of Plant Biology & Genetics in the University of Hull, England. His first degree was in Genetics and he was the first person with such a degree to be appointed to a professorship of Genetics in the U.K.

Professor Jones' main research is in practical population biology. Although based on ecological genetics it now ranges from chemical ecology to plant breeding. At an early stage in his research career he demonstrated how cyanogenesis in *Lotus corniculatus* acts as a chemical defense against herbivores—slugs, snails and voles (*Nature* 193, 1109, 1962). These experiments were based on qualitative and quantitative differences for cyanogenesis between plants and eventually were used to establish the criteria for proving chemical defense. As the theory of allelochemical interactions between plants and animals is based largely on the assumption of chemical defense and there remain very few proven examples of chemical defense, the work on cyanogenesis underpins one of the fundamental tenets of chemical ecology.

Professor Jones' other research is on the genetics of cyanogenesis in the seeds of almonds, *Vicia sativa* and other polymorphic species, on the breeding system of the primrose (*Primula vulgaris*), on the genetics of grain maize growing at low temperatures, on the genetics of resistance in barley to *Rhynchosporium secalis*, and on alien forms of common plant species growing in new roadside verges.

Work in the U.K. by Professor Jones and his students, particularly Dr. S.G.A. Compton, has shown that insect herbivores cause less damage to *Lotus corniculatus* in natural habitats than do molluscs. What happens on mainland Europe is another matter and warrants detailed investigation.

Professor Jones and Dr. T.J. Crawford are studying the chemo-ecological genetics of variation in the colour of the keel petals of *Lotus corniculatus* in Western Europe. As

they now have data on over 120,000 wild plants they probably have the best documented genetic polymorphism in any plant. Again, insect herbivores are not an important influence on the polymorphism while pollinating bees do not appear to distinguish between the different keel colours. Most of this research is still in progress and is making a continuing contribution to improving our understanding of selection in natural populations of animals and plants.

Dr. Jones has published over 60 articles in chemical ecology and ecological genetics and is Vice President of ISCE for 1986-87 and will be President from July 1987 to 1988.



**Professor Nancy McKeever Targett**, University of Delaware, College of Marine Studies, focuses on the role of naturally produced chemical metabolites in mediating interactions between and within species in the marine environment. In studying various aspects of these subtle, regulatory interactions she has worked with microbial/plant, plant/animal, and animal/animal marine systems, in tropical as well as temperate regions.

One of Dr. Targett's primary areas of research interest is biofouling. In the marine environment where hard substrate is at a premium, biofouling is an ever-present problem. In this study she examines a group of sessile organisms, gortonian corals, to elucidate information on natural antifouling strategies. Because sessile and sedentary marine organisms are continuously subject to biofouling in their natural habitats and many have surfaces that could support biofoulers, these organisms have often developed mechanisms or strategies to control or prevent the attachment of biofoulers. Studies of organism antifouling strategies could provide new insights into biofouling control. To date, Dr. Targett has been concerned primarily with natural chemical antifouling mechanisms, although it is likely that a synergistic interaction of chemical and physical factors is operative.

Dr. Targett's other areas of laboratory research involve: (1) the study of bivalve feeding regulators from marine microalgae, wherein she seeks to identify the chemical cues that stimulate bivalves to initiate and maintain feeding on selected microalgal species, (2) the role of allelochemical interactions in competition for space between selected sponge-coral species, and (3) the role of macroalgal secondary metabolites as chemical defense against fish predators.

Dr. Targett has published over 18 articles in marine chemical ecology and her research has been supported by NOAA Sea Grants and the Office of Naval Research. She is also a member of the American Chemical Society, American Society of Limnology and Oceanography and Association for Women in Science.

*Continued from page 1*

beyond what we have published such items as small review articles on current important topics and letters and debate on controversial ones. Both the Directory and expanded *Newsletter* have been repeatedly requested by members.

We all are anticipating the exciting prospects of the meeting at the University of Hull, England, July 14-17, (as announced fully in this *Newsletter*) assuming that proximity will bring many Europeans who have not found it possible to attend meetings in the United States. Of course, we are hoping for as many members as possible from other continents. I am sure that this meeting will again be a pleasant but stimulating and productive experience for us all. Looking forward to seeing you there.

*Jean H. Langenheim*

## Résumé Service for Graduate Students and Postdoctorals

In an attempt to facilitate the interaction between job candidates and prospective employers/collaborators in the field of chemical ecology, a résumé table will be provided at the annual ISCE meeting in Hull, England. Résumés from ISCE members currently seeking research or academic positions will be available to prospective employers/collaborators. Marty Obin will accept résumés at the meeting in Hull, England; check for details at the time of registration. If you are not planning to attend the meeting, you may send your résumé to Peter White, Dept. of Zoology, Oxford, U.K. OXI 3P5. In order to organize the résumé table we are requesting that you attach a brief note with your résumé indicating a general area of training (i.e., chemist w/plant biology background, etc.).

The success of this service depends on the participation of those members who are offering employment in the field of chemical ecology; therefore, we urge members to take the time to study the résumés presented at this year's meeting.

## Employment Opportunities

Dr. W.S. Bowers, University of Arizona, is currently seeking 2 postdoctoral research associates to investigate the metabolism, mode of action and synthetic optimization of new insect anti-juvenile hormonal agents. Contact: Dr. Bowers, Dept. of Entomology, University of Arizona, Tucson, AR 85721.

Opening for a Research Associate/Postdoctoral position who is trained in the phytochemistry, chemical synthesis and structural determination of flavonoid sulfates using modern spectroscopic techniques. Contact: Dr. R. Ibrahim, Plant Biochemistry Lab, Dept. of Bio. Concordia University, 1455 De Maisonneuve Blvd. West, Montreal, Quebec, Canada H3G 1M8.

Assistant Professor—Plant Bio.-Microbio., Ph.D. Contact: Dr. R. Hays, Program in Biology, Transylvania University, Lexington, KY 40508.

Assistant Professor—Plant Biology Ph.D. in vascular plant taxonomy. Contact: Dr. Stern, Bio Dept. Univ. of Miss, Kansas City, 5100 Rockhill Rd. Kansas City, MO 64100.

Plant Scientists—Biology, Biochem. physiol. genetics. Contact: Dr. J. Ehleringer, Dept. of Biology, Univ. of Utah, Salt Lake City, UT 84122.

## Upcoming Meetings

June 22-26, 1987 **Phytochemical Society of North America**. Opportunities for Phytochemistry in Plant Biotechnology. Contact: Dr. D. Mansell, Dept. of Biology, Univ. of South Florida, Tampa, FL 33620.

July 19-22, 1987 **1st International Conference of the Chemistry & Biology of Naturally Occurring Acetylenes and Related Compounds**. Contact: Dr. Jorgen Lam, Dept. of Chemistry, University of Aarhus, DK-8000 Aarhus, Denmark.

August 31-September 3, 1987 **2nd International Symposium on Flavonoids in Bio. and Med.** Contact: Dr. Alain Beretz, Centre de Transfusion Sanguine de Strasbourg, F-67085 Strasbourg Cedex, France; or Dr. Jeffrey Harborn, Plant Sciences Lab., Univ. of Reading, Reading U.K.

September 20-24, 1987 **35th Annual Congress of the Gesellschaft für Arzneipflanzenforschung**. Contact: Dr. A. Baerheim Svendsen, Div. of Pharmacognosy, Ctr. for Bio-Pharmaceutical Sciences, Leiden Univ. Forlaeus Lab., P.O. Box 9502, 2300 RA Leiden, the Netherlands.

October 4-11, 1987 **XIth Conference on Isoprenoids**. Pec Pod Snezkou, Czechoslovakia. Contact: Dr. Ladislav Kohout, Institute of Organic Chemistry & Biochemistry, Czechoslovak Academy of Sciences, Flemingovo nam 2, 166 10 Prague 6, Czechoslovakia.

November 15-21, 1987 **Meeting of the Latin American Society for Phytochemistry**. Contact: Dr. L.J. Corcuera, Dept. de Biología, Universidad de Chile, Casilla 653, Santiago de Chile.

Dr. Eloy Rodriguez, Editor  
ISCE Newsletter  
Dept. of Developmental & Cell Biology  
University of California  
Irvine, CA 92717  
U.S.A.