ASSOCIATION FOR CHEMORECEPTION SCIENCES NEWSLETTER

VOLUME 1, NUMBER 1 JANUARY, 1983

MESSAGE FROM THE EXECUTIVE CHAIRPERSON

With the fifth annual meeting approaching, AChemS is becoming well known in the U.S. and abroad. The establishment of AChemS by Maxwell Mozel, his wise guidance in the initial years, and the leadership provided by subsequent chairpersons, Linda Bartoshuk and Gordon Shepherd, have brought us to the present solid and respectable position. It is clear that there was a need for an organization which would provide interaction among the chemosensory community. At the same time, we offer a representative forum when public or private bodies require consultation on broad questions related to chemosensory sciences. Of course, encouragement from government and industry was crucial during the formation of AChemS, and is even more so now.

Science is an international enterprise by its basic nature. Therefore, it follows that AChemS is international. While the majority of the members are American, we welcome and encourage membership by relevant individuals from any country. The annual meetings are likely to remain in North America for some time, and probably will not move outside the Americas. As a regional organization, we actively seek cooperation with other regional groups in chemoreception sciences. We jointly sponsor the journal, Chemical Senses, with ECRO (European Chemoreception Research Organization). [Linda Bartoshuk and Thomas Getchell are AChemS representatives on the board of Executive Editors.] The Japanese Association for Study of Taste and Smell (JASTS) may join this cosponsorship.

Meetings on chemoreception sciences are held by a number of organizations. Some focus on special topics, and attendance is by invitation or by selection from applicants, such as the triennial International Symposium on Olfaction and Taste (ISOT) or the Gordon Conference on the Chemical Senses. The AChemS annual meetings are designed to allow volunteer papers on a range of topics, to provide symposia and lectures on questions of general interest, and to permit individuals from universities, industry, and government to actively learn from each other. Consequently, our annual meetings, and those of ECRO and JASTS are complementary to the ISOT and Gordon Conference meetings.

In these times, when the world economy is restricted, research funds often are reduced, or even withdrawn from some areas. These actions have serious negative consequences for national and international development and progress. Each of us has the opportunity to inform others of the central role of chemoreception sciences in maintaining and improving the environment, in increasing our knowledge of the widespread but poorly understood chemosensory communication, and in enhancing the quality of human life.

Bruce P. Halpern
Osaka, Japan
November 18, 1982

MARK YOUR CALENDAR

AChemS V. April 27 - May 1, 1983.
Sarasota, Florida

Meeting begins Wednesday evening, April 27, with a lecture and ends with a symposium on Sunday morning, May 1.

For hotel reservations, contact Hyatt Sarasota Hotel, 1000 Boulevard of the Arts, Sarasota, Florida 33577 (813/366-9000). AChemS rates are $48 single, $56 double.

Pre-registration $5 less than at meeting until March 30. (Member $20, Non-Member $35, Student $10).

ABSTRACTS ARE DUE JANUARY 15, 1983

Marion E. Frank, Program Chairman, AChemS V, Oral Biology, Univ. Conn. Health Center, Farmington, CT 06032 (203/674-3354)

The AChemS mascot was designed by Michael Meridith, FSU, Tallahassee.

AChemS EXECUTIVE BOARD, 1982-83

EXECUTIVE CHAIRPERSON:

Past:

Gordon M. Shepherd (203/432-4729)
Yale University
333 Cedar Street
New Haven, Conn. 06510

Present:

Bruce P. Halpern (607/256-6433/3834)
Psychology and Neurobiology & Behavior
Uris Hall, Cornell University
Ithaca, NY 14853

Elect:

William S. Cain (203/562-9901)
John B. Pierce Found. Laboratory
Yale University
290 Congress Avenue
New Haven, Conn. 06519

TREASURER:

John Caprio (504/388-1132)
Department of Zoology & Physiology
Louisiana State University
Baton Rouge, LA 70803

SECRETARY:

Rose Marie Pangborn (916/752-2168)
Food Science & Technol., Chem. Annex
University of California
Davis, CA 95616

MEMBERSHIP:

Charlotte M. Mistretta (313/763-1080)
Oral Biology, School of Dentistry
University of Michigan
Ann Arbor, MI 48109

COUNCILORS:

Robert J. O'Connell (617-842-8921)
Worcester Fdn. Exper. Biology, Inc.
222 Maple Avenue
Shrewsbury, MA 01545

Michael Meredith (904/664-3427)
Biological Sciences, Unit 1
Florida State University
Tallahassee, FL 32306

PROGRAM, 1983*

Marion E. Frank (203/674-3354)
University of Conn. Health Center
Dept. Oral Biology
Farmington, Conn. 06032

*Program Committee: J. G. Brand, F. A. Catalanotto, R. M. Costanzo, J. F. Gent, D. L. Hill, W. Jackinovich, Jr., J. S. Kauer, and W. L. Silver.

GORDON CONFERENCE, JULY 9-13, 1984

Dr. Bruce Oakley, Chairman
Div. of Biological Sciences
University of Michigan
Ann Arbor, MI 48109

ECRO EXECUTIVE BOARD, 1982

Prof. J. Solms (President)
Dept. of Food Science
Swiss Federal Institute of Technology
CH - 8092 Zurich, Switzerland

Prof. A. Holley (Vice-President)
Lab d'Electrophysiologie
Université Claude Bernard
F - 69622 Villeurbanne CEDEX, France

Claudine Masson (General Secretary)
Lab. de Neurobiologie
Sensorielle de l'Insecte
C.N.R.S./I.N.R.A.
F - 91440 Bures sur Yvette, France

Dr. D. Glaser (Executive Secty/Treasurer)
Universität Zürich-Irchel
Winterthurestrasse 190
CH - 8057 Zurich, Switzerland

Prof. G. Birch
Food Studies, University of Reading
Whiteknights, GB - Reading Berks
RG6 2BX, England

Prof. K. E. Kaissling
Max-Planck-Institut für
Verhaltensphysiologie
D - 8131 Seewiesen, Germany

Dr. M. Lindley (Editor, Newsletter)
Tate and Lyle Group, R & D
Whiteknights, GB - Reading
RG6 2BX, England

Prof. H. van der Starre
Dept. of Animal Physiology
P. O. Box 9516
NL - 2300 R A Leiden, The Netherlands

Dr. H. van der Wel
Unilever Research Laboratory
NL - Vlaardingen, The Netherlands

COUGH UP YOUR DUES!

AChemS dues for 1983 calendar year ($20 regular; $10 student) should be mailed by Feb. 1, 1983 to Dr. C. M. Mistretta, Dept. Oral Biology, School of Dentistry, Univ. Michigan, Ann Arbor, MI 48109. Send check (payable to AChemS), business address, and telephone number, and your areas of interest in: (1) The chemical sense(s) - taste, olfaction, vomeronasal, etc., and (2) The method(s) and animal(s) you study. This information will be printed in a directory, to be distributed to dues-paying members in 1983.

YNGVE ZOTTERMAN, 1898 - 1982

Eminent sensory neurophysiologist; pioneering investigator in thermal and gustatory sensitivity; professor and head of the Dept. of Physiology and Pharmacology of the Royal Veterinary College, Stockholm, from 1946 to 1965.

The Annual Chemical Senses Dinner of the Society for Neuroscience held in Minneapolis on Nov. 4, 1982, was devoted to: YNGVE ZOTTERMAN: THE LEGEND AND THE LEGACY. The evening was dedicated to the style and contributions that made Zotterman an unforgettable legend.

Carl Pfaffmann remarked on Zotterman's collaboration with E. D. Adrian at the dawn of sensory electrophysiology when valve amplifiers and the development of the cathode ray tube permitted faithful recording of nerve impulse activity. Pfaffmann drew a vivid image of the excitement of that moment when Zotterman's clever idea to snip away small pieces of the frog sternocutaneous muscle resulted in a single functional muscle spindle whose discharges revealed the basic principles of intensity coding and sensory adaptation.

Linda Bartoshuk spoke of international collaboration and the impact of the human chorda tympani nerve recording experiments on perspectives in human psychophysics. She neatly characterized the influence of Zotterman's enthusiasm and warmth on young investigators by recalling the Rockefeller ISOT meetings when Zotterman embraced her and said, "I know you were in my session, I can't remember what you said, but it must have been brilliant!"

Göran Hellekant described the character of Swedish science and society as Zotterman lived it and contributed to it. Although finding a suitable niche required years of patience and fortitude, Zotterman ultimately had the good fortune to compete successfully in the elaborate and ritualized Swedish selection procedure for a Professorship at a time when a new chair had just been created at the Royal veterinary School. His vigor and cosmopolitan outlook let "the winds of the international scientific community breathe through the somewhat inbred Veterinary School faculty." Even after his halcyon at the Veterinary School, Zotterman continued to be fully active in scientific affairs, well beyond his retirement. In fact, one of Zotterman's proverbs was: "When you rest, you rust." Hellekant treated the audience to a transcription of a 1938 recording of a frog glossopharyngeal nerve, as narrated by Zotterman.

Bruce Oakley concluded with some social and scientific images of postdoctoral experiences with Zotterman in the early 1960s. Zotterman put down the roots which anchor much of sensory physiology today; the legacy of his contributions will continue to influence the intellectual course of the chemical senses.

JAPANESE ASSOCIATION, TASTE/SMELL

The Japanese Association for the study of taste and smell (JASTS) was organized 15 years ago by Prof. Y. Kawamura of Osaka University. The interdisciplinary society has attracted members from schools of medicine, dentistry, pharmacology, agriculture, technology and science. There has been increasing interest by oral physiologists and otorhinolaryngologists. In 1981, JASTS had 430 registered members. Prof. Y. Hiji organized the 1981 meetings at Yonago, Tottori Univ. School of Medicine where 47 papers were presented; proceedings were published (in Japanese) in March, 1982.

Bruce Halpern attended the 16th annual meeting on Sept. 3 & 4, 1983 at Chou Univ., Tokyo, organized by Prof. Y. Yoshida. Approx. 150 people attended, with 45 presentations. A special lecture on mechanisms of taste transduction was given by Prof. Y. Kurihara. Papers ranged from receptor ultrastructure and histochemistry to psychophysical studies. About 20% of the papers were on clinical topics, including effects of diseases, analysis of measurement techniques such as cortical evoked potentials in humans to olfactory stimulation, study of utility of direct chemical stimulation of the tongue vs. electrogustometry measurement (EGM) for diagnosing tumors, etc. Amino acids were a very popular stimuli in a number of experiments. Proceedings will be available four months after the meeting.

Bruce Halpern discussed with the JASTS Councillors, the possibility of their joining AChemS and ECRO in sponsorship of Chemical Senses.

DAVID G. MOULTON MEMORIAL FUND

Our colleague, Dr. David G. Moulton, met an untimely death in January, 1981. A memorial fund has been established to support worthy endeavors in the chemical senses to commemorate Moulton's unique scientific contributions to olfaction. [See Chemical Senses, Vol. 6, No. 4, 1981, which was dedicated to Moulton.]

Those who wish to contribute to this fund may do so through AChemS, in care of the Treasurer, Dr. John Caprio.

NINCDS NEWS

The National Institute of Neurological and Communicative Disorders and Stroke awarded eight new Teacher Investigator Development Awards, including:

"Orofacial Motor Unit Organization and Control," Claudia Blair, Univ. Wisconsin

and six Research Career Development Awards including:

"Two Gustatory Channels: Neurotransmitters and Growth," Thomas Finger, Univ. Colorado.

Deadlines for applications for these awards are Oct. 1, Feb. 1, and Jun. 1 of each year. Additional information available from:

Dr. Donald H. Luecke, Deputy Director
Extramural Activities Program
NINCDS, NIH
Bethesda, MD 20205 (301/496-4188)

An 11-page report on Chemosensory Research Support of the NINCDS lists the categories of research support for chemosenses, the administrating organizations which provide support for chemosensory research, the dollar amount awarded by year, as well as training and fellowship awards in the chemosenses. Copies are available through:

Dr. Jack Pearl
Health Scientist Administrator
Communicative Disorders Program
NIH, Fed. Bldg., Room 1C-14
7550 Wisconsin Ave.
Bethesda, MD 20205

NINCDS Notes, a monthly newsletter written by staff of the Office of Scientific and Health Reports, NINCDS, to keep professionals informed of current developments in Institute programs. To be placed on the mailing list, contact:

Lynn Trible, Deputy Chief
Office of Scientific & Health Reports
NINCDS, Room 8A-06, Bldg. 31
Bethesda, MD 20205

SENSORY EVALUATION SHORTCOURSE

Tragon is sponsoring a shortcourse on principles of sensory evaluation at the Holiday Inn-Stanford, on March 7, 8, and 9, 1983. Contact:

Dr. Herbert Stone, President
Tragon Corporation
750 Welch Road, Suite 210
Palo Alto, CA 94304

OTOLARYNGOLOGY CHEMOSENSORY SYMPOSIUM

A symposium on the Chemosenses will open the 1983 Mid-Winter meeting of the Association for Research in Otolaryngology on Jan. 24 at the Dolphin Beach Resort in St. Petersburg Beach. Topics include: "The anatomy of olfactory cells" (Graziadei); "Functional anatomy of the gustatory system" (Norgren); "Olfaction: What is its use to humans?" (Engen); "Multiple neural inputs for the sensation of smell and testing of human smell sensations in the lab. or clinic" (Cain); "Evaluation, characterization and treatment of gustatory dysfunctions" (Bartoshuk); "Nasal mechanisms basic to olfactory perception" (Mozell); "Taste and smelling considered as active, exploratory sensory processes" (Halpern), and a round table discussion (Snow).

SEE YOU AT ISOT IN MELBOURNE

The 8th International Symposium on Olfaction and Taste will be held at Latrobe University, Melbourne, Australia, Aug. 23-26, 1983, as an official satellite symposium of the 29th Congress of the International Union of Physiological Sciences, which will be at Sydney, Aug. 28 - Sept. 3, 1983. The scientific program, consisting of invited lectures, symposia round table discussions and free communications with both oral and poster presentations, will evolve around: (1) Peripheral and central mechanisms in olfaction and taste; (2) Psychophysical and sensory coding; (3) Molecular basis of chemoreception; (4) Neurophysiology and neuroanatomy of chemoreception; (5) Chemoreception in insects, aquatic animals and birds; (6) Applied chemosensory physiology; (7) Ontogeny and phylogeny of olfaction and taste; (8) Pharmacological aspects of olfaction and taste.

The 8th ISOT is being held simultaneously at Latrobe University with the 8th International Conference on the Physiology of Food and Fluid Intake and there will be one day of Conjoint session. Topics include: (1) Taste aversions and food intake; (2) Salt appetite; (3) Hedonic elements of ingestion; (4) Satiety; (5) Human taste and ingestive behavior; (6) Pheromones.

Final date for receipt of abstracts is Feb. 28, 1983. Contact:

Dr. M. J. McKinley
Howard Florey Institute
University of Melbourne
Parkville, Vic. 3052
Australia

SMELL AND TASTE CENTER

The Clinical Smell and Taste Research Center of the University of Pennsylvania had a dedication of its new facility on Oct. 6, 1982. The opening lecture was presented by Dr. Carl Pfaffmann, Vincent and Brooks Astor Professor, Rockefeller University. Founded in 1980 with the support of the NIH, the center focuses on understanding the mechanisms underlying smell and taste and their disturbances. The Center provides for the training of basic scientists and clinical investigators through participation in research projects, seminars, and workshops.

Examples of the programs of the center include: Development of clinical smell and taste tests; Gustatory glucose sensitivity in diabetes; Neurophysiological analysis of olfactory and trigeminal chemosensitivities; and Studies of the pathophysiology of oral sensory abnormalities in xerostomia.

For further information, contact:

Dr. Richard L. Doty, Scientific Director
3400 Spruce Street
Philadelphia, PA 19104

A SPIRITED SYMPOSIUM

The Sensory Panel of the Society of Chemical Industry Food Group will hold an international symposium on "Flavour of Distilled Beverages," at Stirling University, Scotland, June 1-4, 1983. The objective is to bring together researchers interested in the origin and development of flavor in distilled beverages. Short oral and poster contributions are invited. Single-page abstracts are due May 1, 1983. Registration is requested by March 1. Contact:

Dr. John R. Piggott
Food Science Department
University of Strathclyde
Glasgow, Gl 1SD, Scotland

Postdoctoral Research Associate sought to study central organization of gustatory and other chemosensory systems in fish. Techniques to be used include EM, immunocytochemistry, HRP- and dye-tracing methods, and thymidine autoradiography. Minimum salary is $15,000, but adjustable depending on experience. Contact:

Dr. Thomas E. Finger
Dept. of Anatomy, B-111
Univ. of Colorado Medical School
4200 E. 9th Avenue
Denver, CO 80262

DEAR FELLOW SLAWKENBERGIANS:*

Thank you for your patience as we struggle through a first attempt to compile a newsletter to bring items of general interest to the diverse membership of AChemS. While it was fun to "nose out" news for this issue, it also was very disappointing that so few members volunteered items, or responded to direct request for material. Please be more responsive to your next Secretary, else this may be the first and last issue. Let the next Secretary know what additional types of information you would like to see included in future issues.

Meanwhile, happy new year, pay your dues, and see you in Sarasota in April.

Rose Marie Pangborn (Editor)

---

* Hafen Slawkenbergius was an imaginary author with an extremely long nose, who was an authority on noses, in Laurence Sterne's "Life and Opinions of Tristram Shandy, Gent," 1760.

JOBS, GLORIOUS JOBS!

POSTDOCTORAL NEUROBIOLOGIST POSITION available for study of development and maintenance of synapses in autonomic nervous system and/or for investigation of vertebrate taste reception. Background should include either electrophysiology (intracellular recording) or electron microscopy. Starting date flexible: salary consistent with NIH guidelines. Research will emphasize underlying mechanisms studied at the cellular level. Contact:

Dr. S. Roper
Dept. of Anatomy, Box B-111
Univ. of Colorado School of Medicine
4200 E. Ninth Avenue
Denver, CO 90262

TWO NEUROBIOLOGY POSITIONS: (1) Research on pre- and postnatal development and plasticity of olfactory circuitry, including pathway tracers, histo- and immunocytochemistry, and receptor binding; (2) research on neurophysiology of insular and olfactory cortex, including single-unit recording, experience with mini-computer, and role in setting up new lab. Three-yr. positions as Research Assist. Prof., at $18,000 - 20,000 per yr. Contact:

Dr. M. T. Shipley
Dept. of Anatomy and Cell Biology
Univ. of Cincinnati College of Medicine
ML #521, Cincinnati, OH 45267

READ ANY GOOD BOOKS LATELY?

ACHE, B. W., Chemoreception and thermoreception, In: "Neurobiology of Crustacea, Vol. 3: Structure and Function," Academic Press, 512 pp. ($59), 1982.

ASLIN, R. N., ALBERTS, J. R. & PETERSEN, M. R. (eds.), "Development of Perception: Psychobiological Perspectives. Vol. 1: Audition, Somatic Perception, and the Chemical Senses," Academic Press, 463 pp. ($39), 1981.

BARKER, L. M. (ed.), "The Phychobiology of Human Food Selection," Avi Publ., Westport, CN, 262 pp. ($27.50), 1982.

BLUM, M. S., "Chemical Defenses of Arthropods," Academic Press, 562 pp. ($55), 1981.

BREIPOHL, W. (ed.), "Olfaction and Endocrine Regulation," IRL Press, Arlington, VA, 409 pp. ($26), paper, 1982.

CAGAN, R. H. & KARE, M. R. (eds.), "Biochemistry of Taste and Olfaction," Academic Press, 528 pp. ($38.50), 1981.

COTMAN, C. W. & McGAUCH, J. L., "Behavioral Neuroscience. An Introduction," Academic Press, 813 pp. ($19.50), 1979.

ENGEN, T., "The Perception of Odors. Cognition and Perception," Academic Press, 202 pp. ($24), 1982.

FRANK, R. M. & LEACH, S. A. (eds.), "Surface and Colloid Phenomena in the Oral Cavity, Methodological Aspects," IRL Press, Arlington, VA, 276 pp. ($24) paper, 1982.

NORRIS, D. M. (ed.), "Perception of Behavioral Chemicals," Elsevier, North Holland, NY, 328 pp. ($95), 1981.

ORNSTON, L. N. & SLIGAR, S. G. (eds.), "Experiences in Biochemical Perception," Academic Press, 382 pp. ($47), 1982.

ROLLS, B. J. & ROLLS, E. T., "Thirst," Cambridge Univ. Press, London, 192 pp., 1982.

STEINER, J. & GANCHROW, J. R. (eds.), "Determination of Behaviour by Chemical Stimuli," IRL Press, Arlington, VA, 287 pp. ($24), soft, 1982.

THEIMER, E. T. (ed.), "Fragrance Chemistry: The Science of the Sense of Smell", Academic Press, 635 pp. ($89.50), 1982.

WRIGHT, R. H., "The Sense of Smell," CRC Press, Inc., Boca Raton, FL, 248 pp. ($69.50), 1982.

ANCIENT WISDOM

Several thousand years ago, Chinese physicians stated in "Huang Ti nei Ching su Wen," (The Yellow Emperor's Classic of Internal Medicine): Excessive ingestion of SWEET causes aches in the bones; heart energy will be full; kidneys will be unbalanced, and hair on the head will fall out. Excess SOUR toughens the flesh; is injurious to the muscles; the flesh hardens and wrinkles; the lips become slack; the liver produces excess saliva, and the force of the spleen will be cut short. Excess SALT causes the great bones to become weary; muscles and flesh become deficient; The mind becomes despondent; hardens the pulse; tears appear, and the complexion changes; Excess BITTER causes spleen energy to become dry; and stomach energy becomes dense; withers the skin, and body hair falls out.

MODERN WISDOM

To the Editor: "We are blessed with five senses - or are we? Four senses are functionally very important: the sense of taste, however, is absolutely unnecessary. Taste is a cultivated sense that varies from nation to nation, region to region, and person to person. Once developed, it certainly would be a nuisance to lose it; but how would our lives be affected if we were born without this luxury? I am sure we would be much better off. We would eat to live. Eating would be a necessary chore performed to satisfy hunger, rather than a gustatory delight. Obesity and other disorders caused by dietary indiscretions would be markedly reduced or eliminated. The economic impact would be beyond comprehension; however, the savings in money and human effort could then be directed toward something more constructive. Food shortages would not be a problem; we would just wash and eat nonpoisonous plants, leaves, and meats. Our Stone Age ancestors survived without benefit of modern doctoring of basic foodstuffs. The sense of taste does not have any protective effect. Sight and smell are adequate for that purpose. A deadly poison can be made more palatable, and a nutritious food or a beneficial medication can be extremely unpalatable. The quality of life could improve if future generations were born without the luxury of the sense of taste."

Aslam R. Siddiqui, M.D.
Indiana Univ. Medical Center
Indianapolis, IN 46223

Reprinted from: The New England Journal of Medicine, 307, 15, p. 958, Oct. 7, 1982.