Program

4th Annual Meeting
Association for
Chemoreception
Sciences

NEXT MEETING
April 27–May 1
1983
Sarasota

April 14-18, 1982
Sarasota, Florida
THE ASSOCIATION FOR
CHEMORECEPTION SCIENCES

FOURTH
ANNUAL
MEETING

SARASOTA
FLORIDA
April 14 - 18, 1982
The Association for Chemoreception Sciences  
Fourth Annual Meeting Program

WEDNESDAY EVENING, APRIL 14  
7:00 - 10:00 pm  Registration, Hyatt Sarasota  
Lower Lobby

THURSDAY MORNING, APRIL 15  
8:00 - 11:00 am  Registration continues in Lower Lobby  
8:30 - 10:30 am  Session 1. Morphology I, room Hernandez DeSoto, South  
Chair: W.B. Stewart

1. The ontogeny of the fly’s taste hairs. K. Hansen, E. Hansen-Delkeskamp and G. Waldhorst, University of Regensburg, West Germany.

2. Scanning and transmission electron microscopy of the olfactory rosette of the Brown Trout. J.C. Rowley III and D.T. Moran, University of Colorado School of Medicine, Denver, CO.

3. An ultrastructural study of olfactory receptor differentiation in embryonic rainbow trout, Salmo gairdneri. B. Zielinski and T.J. Hara, University of Manitoba, Canada.

4. Fluorescent studies of the frog’s olfactory epithelium. D.B. Michael and T.V. Getchell, Wayne State University School of Medicine, Detroit, MI.


6. Radioimmunoassay of olfactory marker protein in organ cultures of rat olfactory tissues. M.I. Chuah and A.I. Farbman, Northwestern University, Evanston, IL.


8. Intranasal photography and its uses in clinical nasal studies. D. Leopold, Upstate Medical Center, Syracuse, NY.

10:30 - 11:00 am  Coffee Break

11:00 am - 12:30 pm  Session 2. Morphology II, room Hernandez DeSoto, South  
Chair: T.V. Getchell

1. Common chemical sense in the fish, Prionotus: Spinal sensory pathways and neuropeptides. T.E. Finger, University of Colorado Medical School, Denver, CO.

2. Sensory deprivation affects the synapses but not the size or number of mitral cells. T.E. Benson and J.W. Hinds, Yale University School of Medicine, New Haven, CT. and Boston University School of Medicine, Boston, MA.

3. Mitral cell degeneration in the neurologically mutant mouse PCD. C.A. Graer and G.M. Shepherd, Yale University School of Medicine, New Haven, CT.

4. Intracellular filling of mitral and tufted cells with horseradish peroxidase confirms their identification by antidromic activation. S.P. Schneider, J.W. Scott and E. Orona, Emory University, Atlanta, GA.

5. Transsynaptic control of substance P and dopamine expression in the main olfactory bulb of the hamster. B.J. Davis, F. Macrides, R. Kraam, T. Kawano and F.L. Margolis, Worcester Foundation for Experimental Biology, Shrewsbury, MA. and Roche Institute of Molecular Biology, Nutley, N.J.


THURSDAY AFTERNOON, APRIL 15  
2:00 - 3:30 pm  Session 3. Structure-Activity Relationships I, room Hernandez DeSoto, South  
Chair: B. Mookerjee

1. Influence of solvent properties on magnitudes of the taste response. I.J. Miller, Jr., Bowman Gray School of Medicine, Winston-Salem, NC.

2. Evidence for an amiloride-sensitive ion channel in canine lingual epithelium. J.A. Desimone, G.L. Heck and S.K. Desimone, Medical College of Virginia, Richmond, VA.


5. Ingestion of glucose, 3-0-methyl glucose and 2-deoxy-D-glucose in the rat. R.J. DiRocco, Monell Chemical Senses Center, Philadelphia, PA.


3:30 - 4:30 pm  Coffee Break

4:00 - 5:30 pm  Session 4. Structure-Activity Relationships II, room Hernandez DeSoto, South  
Chair: T.J. Caprio


3. Effect of chemical and physical modifications on the assay of an oyster drill chemotactic response. D. Kleber, D. Rittschof and R.G. Shepherd, University of Delaware, Lewes, DE.
4. Effects of trypan blue and aniline on development, hatching, and prey chemoreception of the predatory muricid gastropod, *Urosalpinx cinereus*, G.L. Gruber, A.B. Ducharme and D. Rittschof, University of Delaware, Lewes, DE.

5. Isolation, purification, and characterization of a peptide marine phagotactant. R.G. Shepherd, K. Mopper and D. Rittschof, University of Delaware, Lewes, DE.

6. A chemical characterization of the freshwater attractants of the American eel. P.W. Sorensen, University of Rhode Island, Narragansett, R.I.

THURSDAY EVENING, APRIL 15

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:30 - 7:30 pm</td>
<td>Stanley K. Freeman Award Dinner</td>
</tr>
<tr>
<td>7:30 pm</td>
<td>Dinner, room Hernando DeSoto Speaker: Lewis Thomas, MD Chancellor, Memorial Sloan-Kettering Cancer Center, New York, NY.</td>
</tr>
</tbody>
</table>

FRIDAY MORNING, APRIL 16

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 - 10:30 am</td>
<td>Session 5. Physiology of Chemoreception, room Hernando DeSoto, South Chair: M.E. Frank</td>
</tr>
<tr>
<td>10:30 - 11:00 am</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>11:00 am - 12:45 pm</td>
<td>Session 6. Chemosensation and Perception, room Hernando DeSoto, South Chair: C.L. Murphy</td>
</tr>
<tr>
<td>10:30 - 11:00 am</td>
<td>Coffee Break</td>
</tr>
</tbody>
</table>

FRIDAY AFTERNOON, APRIL 16

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:15 - 3:15 pm</td>
<td>General Business Meeting of the Association room Hernando DeSoto, South</td>
</tr>
<tr>
<td>3:15 - 3:30 pm</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>3:30 - 6:00 pm</td>
<td>Symposium I. Development of the Chemical Senses: Taste and Smell, room Hernando DeSoto, South Chair: Charlotte MISTRETTA and A.I. Farbhan Participants: David Hill, University of Michigan, Ann Arbor, MI. Development of Taste Function Robert G. MAIR, V.A. Hospital, Providence, RI. Development of Olfactory Sensation Michael SHIPLEY, Northwestern University, Chicago, IL. Development of Central Connections in the Olfactory and Limbic Systems</td>
</tr>
</tbody>
</table>
FRIDAY EVENING, APRIL 16
8:00 - 10:30 pm  Symposium II. David G. Moulton Memorial Symposium. Olfactory Coding Mechanisms, room Hernando DeSoto, South
Chair: Richard L. Doty
Participants:
John L. Kubie, Downstate Medical Center, SUNY, Brooklyn, NY.
Alan Mackay-Sim, University of Wyoming, Laramie, WY.
John S. Kauer, Yale University School of Medicine, New Haven, CT.
Michael Meredith, Florida State University, Tallahassee, FL.
Discussant: Maxwell M. Mozell, Upstate Medical Center, SUNY, Syracuse, NY.

This symposium, in honor of the late David G. Moulton, summarizes and evaluates his contributions and those of his students in the area of olfactory coding mechanisms, particularly those related to the notion that olfactory quality may be coded, in part, by spatial patterns developed within the olfactory system. John Kubie will provide an introduction to the notion of spatial coding within the olfactory system and will summarize his work, carried out in conjunction with David Moulton, on the anterior/posterior distribution of receptive fields in the sensory epithelium. Alan Mackay-Sim will review his own work, carried out with David Moulton and Muriel Nathan, on regional analyses of the responsiveness of the olfactory epithelium to specific odorants. John Kauer will review his own work related to spatial coding at the bulbar level, followed by Michael Meredith’s presentation on temporal coding mechanisms in the olfactory system and speculations on olfactory coding in general. Maxwell Mozell will serve as discussant for this symposium, summarizing the aforementioned presentations and discussing the relation of his work to that presented by the participants.

SATURDAY MORNING, APRIL 17
8:30 - 10:30 am  Session 7. Behavioral Regulation by Chemosensory Stimuli, room Hernando DeSoto, South
Chair: B.M. Wenzel
1. A 2-DG study of behavioral plasticity in odor dependent suckling. P.E. Pedersen, C.A. Greer, W.B. Stewart and G.M. Shepherd, Yale University School of Medicine, New Haven, CT.
2. Maturation of olfactory exploration in hamsters is correlated with late afferentation of the olfactory tubercle. T.A. Schonfeld and J.V. Corwin, University of Florida College of Medicine, Gainesville, FL.
6. Investigation of and preference for conspecific odors by gerbils treated with psychotrophic drugs. M. Cheal, McLean Hospital and Harvard Medical School, Belmont, MA.
7. Species differences in testosterone effects on social odor investigation. C.A. Cornell-Jones and K.R. Zahn, Princeton University, Princeton, NJ.

10:30 - 11:00 am  Coffee Break

11:30 am - 12:30 pm  The Fourth Annual Givaudan Lecture, room Hernando DeSoto, South
This year’s speaker is Dr. Carl Pfaffmann, Vincent and Brooke Astor Professor, Rockefeller University. His lecture is entitled “De Gustibus, Praeclaris, Praeens, Futurus.”

SATURDAY AFTERNOON, APRIL 17
12:30 - 2:00 pm  Luncheon, Poolside

SATURDAY EVENING, APRIL 17
7:00 - 9:00 pm  Screening of a new series of short, educational films on the human senses, room Gallery
7:00 - 11:00 pm  Session 8. Posters I, room Hernando DeSoto, North
Chair: D. Hornung


7. Chemosense disturbance in melancholia: Preliminary results of a questionnaire study. L.D. King and N. Lhor, University of Michigan Medical Center, Ann Arbor, MI.


11. Distance chemoreception in adult Stylochus ellipticus. P. Daniel, D. Rittschof and T. Cole, University of Maryland, Cambridge, MD and University of Delaware, Lewes, DE.


16. Behavioral bioassay as a sensitive indicator of sublethal effects of marine pollutants. C. Merrill, University of Delaware, Lewes, DE.

17. Prey odors and phagotactic thresholds in oyster drills. D. Rittschof, C. Merrill, D. Kiefer and A. Ducharme, University of Delaware, Lewes, DE.


19. Rapid recovery from taste aversion as the result of postconditioning forced taste experience. A.C. Spector, J.C. Smith and G.R. Hollander, Florida State University, Tallahassee, FL.

20. Responses of olfactory bulb units in channel catfish to amino acids. H. Thompson and J. Caprio, Louisiana State University, Baton Rouge, LA.

21. Degeneration of the distal stump of the olfactory nerve severed from the cell bodies. P. Cancalon, Florida State University, Tallahassee, FL.

22. Changes in olfactory epithelium following bulbectomy in hamster. R.M. Costanzo and P.P.C. Graziadei, Medical College of Virginia, Richmond, VA and Florida State University, Tallahassee, FL.

23. EOG variations during ZnSO4-induced degeneration and subsequent regeneration of olfactory receptors in the channel catfish. J.R. Erickson and J. Caprio, Louisiana State University, Baton Rouge, LA.


25. Aberrant olfactory projection to the telencephalon in a bullfrog. P.P.C. Graziadei and M.M. Mozell, Florida State University, Tallahassee, FL and Upstate Medical Center, Syracuse, NY.

26. Receptor cell contribution to olfactory mucosal odorant uptake. D.E. Hornung, S.L. Youngentob and M.M. Mozell, St. Lawrence University, Canton, NY and Upstate Medical Center, Syracuse, NY.

27. Early IXth nerve removal prevents development of rat vallate taste buds. M.A. Hosley and B. Oakley, University of Michigan, Ann Arbor, MI.

28. Topographic relations are maintained in the projection from the olfactory epithelium to the bulb in the salamander. A. Mackay-Sim and M.H. Nathan, University of Wyoming, Laramie, WY and University of Pennsylvania, Philadelphia, PA.

29. Topographic coding of odorant quality is maintained at different concentrations in the salamander epithelium. A. Mackay-Sim and P. Shaman, University of Wyoming, Laramie, WY and University of Pennsylvania, Philadelphia, PA.

30. Characterization of olfactory fiber bundles in the lamina propria of salamander olfactory epithelium. T.E. O'Hara, Jr., J.A. Rafols and T.V. Getchell, Wayne State University School of Medicine, Detroit, MI.

31. The effect of intranasal zinc sulfate treatment on sucking behavior and odor-induced activity in the neonatal rat olfactory bulb. W.B. Stewart, C.A. Greer and M.H. Telchir, Yale University School of Medicine, New Haven, CT.

32. The functional and histological maturation of a modified glomerular complex in the neonatal rat olfactory bulb. W.B. Stewart, C.A. Greer, M.H. Telchir, P.E. Pedersen and G.M. Shepherd, Yale University School of Medicine, New Haven, CT.

15. Chemical characterization of the sex pheromone of Callinectes sapidus: Initial results. R.A. Gleeson and M.A. Adams, Monell Chemical Senses Center, Philadelphia, PA and University of Florida, St. Augustine, FL.


19. Developmental changes in taste responses from rat solitary nucleus. D.L. Hill, C.M. Mistretta and R.M. Bradley, University of Michigan, Ann Arbor, MI.

20. Suppression of bitterness of QHCl in mixtures: Possible mechanisms. L.M. Bartoshuk and J.P. Seibyl, John B. Pierce Foundation Laboratory, New Haven, CT.


22. Influence of varying concentration, temperature and duration of stimuli on gustatory persistence. A.M. Calvino, LIS, University of Buenos Aires, Argentina.

23. Salivary sodium levels and salt perception. C. Christensen, M. Bertino, G. Beauchamp and M. Navazesh, Monell Chemical Senses Center, Philadelphia, PA.


25. PCT: Considerations in threshold determination of taste status. J.E. Hooper, J.F. Gent, and L.M. Bartoshuk, John B. Pierce Foundation Laboratory, New Haven, CT.

26. Use of the signal detection paradigm in the study of chemoreception. D.W. Ingersoll, Fordham University, Bronx, NY.


29. Simultaneous recording of taste intensity and parotid flow in response to salt and to acid stimuli. R.M. Pangborn, C.M. Chung, and M.B. Norris, University of California, Davis, CA.

31. Measurement of olfactory sensitivity in human beings. M.D. Rabin, R. Isseroff and W.S. Cain, John B. Pierce Foundation Laboratory and Yale University, New Haven, CT.


33. Chemosensory properties of acids. R.G. Settle and K. Meehan, University of Pennsylvania and VA Medical Center, Philadelphia, PA.

34. Stimulus volume and taste detection thresholds. J.M. Weiffenbach and R. Taylor, National Institute of Dental Research, Bethesda, MD.


The Association for Chemoreception Sciences
Executive Committee 1981-1982

Executive Chairperson Gordon M. Shepherd
Executive Chairperson Elect Bruce P. Halpern
Past Executive Chairperson Linda M. Bartoshuk
Secretary Rose Marie Pangborn
Treasurer Thomas V. Getchell
Membership James C. Smith
Program William S. Cain
Councillors Robert J. O'Connell
                                        John A. DeSimone

Program Committee 1981-1982

Robert M. Bradley, William S. Cain (Chair), Janneane F. Gent, David Hornung, Foteos Macrides, and John Teeter.

The Association gratefully acknowledges the generous financial support provided by its corporate members:

The Phillip Morris Corporation
The Proctor and Gamble Company
The Ralston Purina Company
The R.J. Reynolds Tobacco Company

The Association also acknowledges the generous contributions of the following companies for special events on the AChemS IV program:

The Givaudan Corporation (Givaudan lecture)
International Flavors and Fragrances, Inc.
(Stanley K. Freeman Award and Dinner)