

Program

5th Annual Meeting
Association for
Chemoreception
Sciences

April 27 - May 1, 1983
Sarasota, Florida

**THE ASSOCIATION FOR
CHEMORECEPTION SCIENCES**

**FIFTH
ANNUAL
MEETING**

**SARASOTA
FLORIDA
APRIL 27 — MAY 1, 1983**

**The Association for Chemoreception Sciences
Fifth Annual Meeting
Program**

WEDNESDAY EVENING, APRIL 27

- 6:00 - 11:00 pm **Registration**, Hyatt Sarasota,
The Gallery
- 6:00 - 8:00 pm **Reception**, The Gallery
- 8:00 - 9:00 pm **The Fifth Annual Givaudan Lecture**,
room Hernando De Soto, South
"In Search of the Odor Aversion Engram".
Dr. John Garcia, Professor of Psychology and
Psychiatry, *University of California, Los Angeles*
- 9:00 - 11:00 pm Social Hour, The Gallery

THURSDAY MORNING, APRIL 28

- 8:15 am - 2:00 pm Registration continues in The Gallery
- 8:15 - 8:50 am Coffee and Donuts, The Gallery
- 8:50 - 10:10 am **Session 1. Gustatory System Anatomy**
room Hernando De Soto, South
Chairman: R.P. Erickson
1. Ultrastructure of taste cells and synapses in mouse vallate taste buds. **J.C. Kinnamon, R. Delay** and **S. Roper**, *University of Colorado Medical Center, Denver, CO.*
 2. Fine structure of taste buds in monkey foliate papillae. **A.I. Farbman** and **G. Hellekant**, *Northwestern University, Evanston, IL and University of Wisconsin, Madison, WI.*
 3. Taste bud distribution in the hamster. **I. Miller, Jr.** and **D.V. Smith**, *Bowman Gray School of Medicine, Winston-Salem, NC and University of Wyoming, Laramie, WY.*
 4. Morphology of taste afferents in the solitary nucleus of the hamster. **M.C. Whitehead**, *University of Connecticut, Farmington, CT.*
 5. Separate gustatory and general visceral sensory pathways in the brains of ictalurid catfish. **J.S. Kanwal** and **T.E. Finger**, *Louisiana State University, Baton Rouge, LA and University of Colorado Medical Center, Denver, CO.*

- 10:10 - 10:30 am Coffee Break
- 10:30 - 11:50 am **Session 2. Clinical Studies of Taste and Smell**
room Hernando De Soto, South
Chairman: R.M. Bradley
1. A clinical trial of systemic corticosteroid therapy in anosmics. **R.B. Goodspeed, J.F. Gent, F.A. Catalanotto, W.S. Cain** and **R.T. Zgraniski**. *University of Connecticut Health Center, Farmington, CT, John B. Pierce Foundation Laboratory and Yale University, New Haven, CT.*
 2. Confusion matrix analysis of olfactory function. **H.N. Wright** and **D.A. Leopold**, *SUNY Upstate Medical Center, Syracuse, NY.*
 3. Olfactory perception in Korsakoff's psychosis: correlation with brain neuroadrenergic activity. **R.G. Mair, R.L. Doty** and **W.J. McEntee**, *V.A. Hospital, Providence, RI and University of Pennsylvania, Philadelphia, PA.*
 4. Olfactory deficits in cystic fibrosis: distribution and severity. **J.M. Weiffenbach** and **V.P. McCarthy**, *National Institutes of Health, Bethesda, MD.*

5. Taste sensitivity and zinc metabolism in patients with multiple sclerosis. **F.A. Catalanotto, P. Dore-Duffy, J. Donaldson, K.M. Ostrom, M. Testa**, and **M. Peterson**, *University of Connecticut Health Center, Farmington, CT.*

11:50 am - 12:10 pm Coffee Break
12:10 - 1:30 pm **Session 3. Functional Aspects of Taste Receptors**
room Hernando De Soto, South
Chairman: J.G. Brand

1. Sweetness-inducing effect of miraculin in the Rhesus monkey. **G. Hellekant**, *University of Wisconsin, Madison, WI.*
2. Studies of the role of the anomeric centre in the sweetness of sugar molecules. **G.G. Birch**, *University of Reading, England.*
3. Specificity of the gerbil's sweet taste inhibitor, methyl 4,6-dichloro-4,6-dideoxy- α -D-galactopyranoside. **V. Vlahopoulos** and **W. Jakinovich, Jr.** *Lehman College, Bronx, NY.*
4. Cyclic nucleotides and sugar reception in the fly. **H. Wiczorek**, *University of Regensburg, Federal Republic of Germany.*
5. Taste cells generate action potentials. **S. Roper**, *University of Colorado Medical Center, Denver, CO.*

THURSDAY EVENING, APRIL 28

8:00 - 10:30 pm **Symposium A. Non-Olfactory Chemoreceptors of the Nose**
room Hernando De Soto, South
Chairman: M. Meredith
Participants:
Barry Keverne, *University of Cambridge, England*
Michael Meredith, *Florida State University, Tallahassee, FL.*
Claire Murphy, *San Diego State University, San Diego, CA.*
Wayne Silver, *Monell Chemical Senses Center, Philadelphia, PA.*
Charles Wysocki, *Monell Chemical Senses Center, Philadelphia, PA.*

This symposium is designed to give a coherent account of recent advances in the understanding of two of the non-olfactory chemoreceptor systems in the nose: the vomeronasal organ and the nasal trigeminal chemoreceptors.

9:15 - 9:30 pm Coffee Break

FRIDAY MORNING, APRIL 29

8:15 - 8:50 am Coffee and Donuts, The Gallery
8:50 - 10:10 am **Session 4. Dynamics of Olfactory Receptors**
room Hernando De Soto, South
Chairman: R.M. Costanzo

1. Anterior to posterior variation in neurogenesis, epithelial thickness and receptor cell density in the olfactory epithelium of the tiger salamander. **A. Mackay-Sim** and **U. Patel**, *University of Wyoming, Laramie, WY and National Institutes of Health, Bethesda, MD.*
2. Physiological and morphological changes in the salamander olfactory epithelium after nerve transection. **L.M. Masukawa, B. Hedlund, T. Benson** and **G.M. Shepherd**, *Yale University School of Medicine, New Haven, CT.*

3. Olfactory receptor field potential variations during regrowth. **R.C. Gesteland, D.L. Director** and **G.D. Adamek**, *Northwestern University, Evanston, IL.*
4. Specific influence of olfactory bulb on olfactory marker protein synthesis in olfactory receptor cells. **M.I. Chuah** and **A.I. Farbman**, *Northwestern University, Evanston, IL.*
5. Olfactory mucosa transplanted into the fourth ventricle. **E.E. Morrison** and **P.P.C. Graziadei**, *Florida State University, Tallahassee, FL.*
6. Transplantation and survival of the olfactory neuroepithelium *in oculo*. **J.A. Heckroth** and **P.P.C. Graziadei**, *Florida State University, Tallahassee, FL.*

10:10 - 10:30 am
10:30 - 11:50 am

Coffee Break
Session 5. Chemosensory Psychophysics
room Hernando De Soto, South
Chairman: **D.H. McBurney**

1. Effects of stimulus duration and concentration on taste perception of MgSO₄ and HCl. **S.T. Kelling** and **B.P. Halpern**, *Cornell University, Ithaca, NY.*
2. Spatial properties of taste perception. **J.F. Gent**, *University of Connecticut Health Center, Farmington, CT.*
3. Sniffing naturally is the best way to perceive odors. **D.G. Laing**, *CSIRO Division of Food Research, Sydney, Australia.*
4. Temporal integration in the common chemical sense. **W.S. Cain** and **J.E. Cometto-Muniz**, *John B. Pierce Foundation Laboratory and Yale University, New Haven, CT.*
5. Olfaction and taste: independent yet interacting. **M.P. Enns** and **D.E. Horning**, *St. Lawrence University, Canton, NY.*

11:50 am - 12:10 pm
12:10 - 1:30 pm

Coffee Break
Session 6. Structure and Function in the Olfactory CNS
room Hernando De Soto, South
Chairman: **J.S. Kauer**

1. Dendritic ramification and axonal branching of mitral and tufted cells in rat olfactory bulb. **E. Orona**, **J.W. Scott** and **E.C. Rainer**, *Emory University, Atlanta, GA.*
2. Odor quality coding in a simple, glomerular-type brain. **C.D. Derby** and **B.W. Ache**, *University of Florida, St. Augustine, FL.*
3. Topographic organization of connections between the main olfactory bulb and pars externa of the anterior olfactory nucleus in the hamster. **T.A. Schoenfeld** and **F. Macrides**, *Worcester Foundation for Experimental Biology, Shrewsbury, MA.*
4. Exuberant locus coeruleus input to rat olfactory bulb. **M.T. Shipley**, **F.R. Halloran** and **J. De La Torre**, *University of Cincinnati College of Medicine, Cincinnati, OH and Northwestern University Medical School, Evanston, IL.*
5. Bursting characteristics of neurons in the nucleus of the horizontal limb of the diagonal band. **J.E. Marchand** and **F. Macrides**, *Worcester Foundation for Experimental Biology, Shrewsbury, MA.*

FRIDAY AFTERNOON, APRIL 29

5:00 - 6:00 pm

General Business Meeting of the Association
room Hernando De Soto, South

FRIDAY EVENING, APRIL 29

8:00 - 11:00 pm

Session 7. Posters I

room Sara De Soto, North and South
Chairman: **W. Jakinovich, Jr.**

1. Fine structure of odor plumes in aquatic environments in relation to chemoreception. **J. Atema**, **B. Bryant** and **M. Murray-Brown**, *Boston University, Woods Hole, MA.*
2. Main and accessory olfactory systems--a reassessment. **R.S. Baab** and **P. Jirik-Babb**, *Iona College, New Rochelle, NY and Institute for Health Maintenance, New York, NY.*
3. Rapid and permanent loss of memory for tastes and odors. **L.M. Barker** and **C.A. Weaver III**, *Baylor University, Waco, TX.*
4. Increased dietary salt increases preferred level of salt. **M. Bertino**, **G.K. Beauchamp** and **K. Engelman**, *Monell Chemical Senses Center and University of Pennsylvania, Philadelphia, PA.*
5. Estrogen treatment of female rhesus monkeys enhances the volatilization of short-chain fatty acids from vaginal secretions. **R.W. Bonsall** and **R.P. Michael**, *Emory University School of Medicine and Georgia Mental Health Institute, Atlanta, GA.*
6. Mammalian facial nerve taste systems. **J.C. Boudreau**, **L. Sivakumar**, **L.T. Do**, **J. Oravec**, **N.K. Hoang** and **T. White**, *University of Texas at Houston, Houston, TX.*
7. Quantitative comparison of non-nutritive sweetener intensities. **L.M. Brand**, *The Procter and Gamble Company, Cincinnati, OH.*
8. Effects of monovalent salts on reduced pyridine nucleotide fluorescence from catfish barbel. **J.G. Brand**, **S.J. Kron** and **D.M. Senseman**, *Monell Chemical Senses Center and University of Pennsylvania, Philadelphia, PA.*
9. Inhibition of behavior and settlement of barnacles by substances from Gorgonians. **E.S. Branscomb**, **D. Rittschof**, **I. Hooper** and **J.D. Costlow**, *Duke University, Beaufort, NC.*
10. The nature of residual associative taste processing capacities in rats lacking gustatory neocortex. **J. Braun** and **N. Bowman**, *Arizona State University, Tempe, AZ.*
11. Unilateral odor deprivation: differential effects due to time of onset; **P.C. Brunjes** and **M.J. Borror**; Unilateral odor deprivation: time-course of neurochemical changes. **L.K. Smith**, **P.C. Brunjes** and **R. McCarty**, *University of Virginia, Charlottesville, VA.*
12. Effects of hemodialysis on chemosensory function and zinc metabolism. **F.A. Catalanotto**, **N. Ryan**, **L. Allen**, **M. Ostrom**, **J. Schlitzer** and **A. Solinsky**, *University of Connecticut Health Center, Farmington, CT.*
13. Patterns of 2-deoxyglucose uptake in snail tentacle and CNS during olfactory stimulation. **R. Chase** and **I. Chin-Yee**, *McGill University, Montreal, Canada.*
14. Vomeronasal organ removal eliminates male hamster copulatory responses to a macromolecular fraction of vaginal discharge. **A.N. Clancy**, **F. Macrides**, **A.G. Singer** and **W.C. Agosta**, *Worcester Foundation for Experimental Biology, Shrewsbury, MA and The Rockefeller University, New York, NY.*
15. Direct scaling of the intensity of basic tastes: a life span study. **B.J. Cowart**, *Clark University, Worcester, MA.*

16. A comparison of olfactory sensitivity with odor pleasantness perception in a large sample of a general population. **R.G. Davis**, *VA Medical College, Lexington, KY*.
 17. Evidence for a Na current in taste: a multidisciplinary approach. **J.A. DeSimone, S.S. Schiffman, F.W. Maes, G.L. Heck, S.K. DeSimone and S. Miersen**, *Medical College of Virginia, Richmond VA and Duke University, Durham, NC*.
 18. Aversive responses to glucose. **R.J. DiRocco**, *Monell Chemical Senses Center, Philadelphia, PA*.
 19. Further development and application of the University of Pennsylvania Smell Identification Test. **R.L. Doty, P. Shaman, D. Dewey, R. Giberson and L. Sikorski**, *University of Pennsylvania, Philadelphia, PA*.
 20. Similar neural responses from regions rich in ciliated and microvillous cells, respectively, in the catfish olfactory epithelium. **J. Erickson and J. Caprio**, *Louisiana State University, Baton Rouge, LA*.
 21. Developmental time course of myelination in chorda tympani nerve of postnatal rat. **F. Ferrell, R. Chole and T. Tsuetaki**, *University of Connecticut Health Center, Farmington, CT*.
 22. The effect of duration of anosmia on nutritional status. **A.M. Ferris, J.L. Schlitzer, M.J. Schierberl, M. Peterson and F.A. Catalanotto**, *University of Connecticut, Storrs, CT and University of Connecticut Health Center, Farmington, CT*.
 23. Comparison of gustatory and fin ray chemosensory pathways in the CNS of the sea robin, *Prinotus carolinus*. **T. E. Finger**, *University of Colorado Medical Center, Denver, CO*.
 24. Temporal relations among sniffing, slow waves in the main olfactory bulb and the limbic θ rhythm in freely behaving rats. **W. Forbes and F. Macrides**, *Worcester Foundation for Experimental Biology, Shrewsbury, MA*.
 25. Comparative anatomy of the olfactory bulb of the sooty shearwater, northern fulmar and rock dove. **V.S. Fox, H. Davidian, B.M. Wenzel and L.V. Hutchison**, *University of California School of Medicine, Los Angeles, CA*.
 26. Altered neural taste responses in the hamster following treatment of the tongue with acid. **M.E. Frank and T.P. Hettinger**, *University of Connecticut Health Center, Farmington, CT*.
 27. Genetic differences among mice in taste psychophysics of sucrose octaacetate. **P. Frye, D.B. Harder, M.E. Rashotte, J.C. Smith and G. Whitney**, *Florida State University, Tallahassee, FL*.
 28. Number of neurons in the rat N.T.S. **J.M. Gill II and R.P. Erickson**, *Duke University, Durham, NC*.
 29. Taste responses to amino acids and quinine HCl in the southern leopard frog, *Rana sphenocephala*. **K.D. Gordon and J. Caprio**, *Louisiana State University, Baton Rouge, LA*.
 30. Neurophysiological and morphological classes of pheromone sensitive sensilla on the antenna of *Trichoplusia ni* (Lepidoptera: Noctuidae). **A. Grant, R. Mankin, M. Mayer and R.O'Connell**; Pheromone detection and discrimination by *Trichoplusia ni* at behaviorally relevant concentrations. **R.W. Mankin, A.J. Grant and M.S. Mayer**, *USDA, Gainesville, FL and The Worcester Foundation for Experimental Biology, Shrewsbury, MA*.
 31. Ultrastructural changes in the external plexiform layer following the loss of mitral cells. **C.A. Greer, N. Halasz and G.M. Shepard**, *Yale University School of Medicine, New Haven, CT*.
 32. The effect of water deprivation on the two bottle taste preference measure. **E.C. Hagstrom**, *University of New Hampshire, Durham, NH*.
 33. Narrowly tuned amino acid receptors: their role in lobster feeding behavior. **L. Handrich, P. Ferme and J. Atema**, *Boston University, Woods Hole, MA*.
 34. Parabrachial nucleus taste responses in prepubertal and adult rats. **D.L. Hill**, *University of Michigan, Ann Arbor, MI*.
 35. PTC taste blindness and caffeine: further considerations. **J.E. Hooper and L.M. Bartoshuk**, *John B. Pierce Foundation Laboratory, New Haven, CT*.
 36. Electron microscopy of olfactory epithelium from dysosmic patients: a pilot study. **B.W. Jafek, D.T. Moran and J.C. Rowley III**, *University of Colorado Medical Center, Denver, CO*.
 37. Response spectra of the antennular chemoreceptors in the american lobster, *Homarus americanus*. **B.R. Johnson and J. Atema**, *Boston University, Woods Hole, MA*.
 38. Sensory attributes of some *Stevia rebaudiana* sweet principles. **S.K. Kamath, M.L. Anderson, N.P.D. Nanayakkara, D.D. Soejarto, A.D. Kinghom and R.C. Gesteland**, *University of Illinois Health Sciences Center, Chicago, IL and Northwestern University, Evanston, IL*.
 39. The effect of chronic formaldehyde exposure on 2-deoxyglucose uptake in the olfactory bulbs of mice. **J.S. Kauer and C.A. Greer**, *Yale University School of Medicine, New Haven, CT*.
 40. Clinical evaluation of taste and olfaction in depressed patients; **A.L. Jacobs, N.E. Lohr and D. King**; Reported taste loss: a diagnostic marker for melancholia; **D. King, A.L. Jacobs and N.E. Lohr**; Dexamethasone suppression test results do not predict reported taste loss in psychiatric patients. **N.E. Lohr, D. King and A.L. Jacobs**, *University of Michigan, Ann Arbor, MI*.
 41. Further characterization of response-eliciting components of earthworm extract. **D.M. Kirschenbaum, L.S. Reformato and M. Halpern**, *Downstate Medical Center, Brooklyn, NY*.
 42. Maintenance of chorda tympani salt taste responses after nerve transection in rats. **Y. Kitada, R.M. Bradley and C.M. Mistretta**, *University of Michigan, Ann Arbor, MI*.
 43. Dissociation of olfactory epithelium of *Rana pipiens*. **S.J. Kleene and R.C. Gesteland**, *Northwestern University, Evanston, IL*.
 44. $\text{Na}^+ - \text{K}^+$ ATPase activity responses of insect antennal and cow olfactory tissue preparations to insect pheromone components. **R.B. Koch, S. Myers, S. Shahsavari and J. Smith**, *Mississippi State University, Mississippi State, MS*.
- 9:15 - 9:45 pm Coffee Break
- SATURDAY MORNING, APRIL 30**
- 8:15 - 8:50 am Coffee and Donuts, The Gallery
8:50 - 10:10 am **Session 8. Chemical Determinants of Behavior**
room Hernando De Soto, South
Chairman: **D.V. Smith**
1. Ionic correlates of chemosensory behavior of the ciliate protozoan, *Tetrahymena*. **L. Gardner and M. Levandowsky**, *Pace University, New York, NY*.
 2. Pheromone plume structure and orientation response. **H.C. von Keyserlingk**, *University of California, Riverside, CA*.

3. Behavioral responses to adenosine 5'-monophosphate and analogs suggest a marine shrimp has external chemoreceptors related to internal adenosine receptors of vertebrates. **W.E.S. Carr** and **H.W. Thompson**, *University of Florida, St. Augustine, FL. and Louisiana State University, Baton Rouge, LA.*
4. Conspecific chemical stimuli in catfish: responses in a social context. **B. Bryant** and **J. Atema**, *Boston University, Woods Hole, MA.*
5. Saliva as a source of gender and genotypic identification: we must remember this, a kiss isn't just a kiss. **R. Bernhard** and **C.J. Wysocki**, *Monell Chemical Senses Center, Philadelphia, PA.*

10:10 - 10:30 am

Coffee Break

10:30 - 11:50 am

Session 9. Taste CNS Neurophysiology

room Hernando De Soto, South

Chairman: **J.C. Boudreau**

1. Comparison of peripheral and brainstem excitatory responses to chemical stimulation of the cat epiglottis. **H.M. Stedman**, **R.M. Bradley** and **C.M. Mistretta**, *University of Michigan, Ann Arbor, MI.*
2. Topographic distribution of taste responsiveness in the hamster medulla. **J.D. Dickman** and **D.V. Smith**, *University of Wyoming, Laramie, WY.*
3. Hepato-gustatory interactions in the brainstem: evidence for overlapping second-order projections in the parabrachial and parvocellular reticular nuclei. **G. Hermann**, **N.J. Kohlerman** and **R.C. Rogers**, *Northwestern University, Chicago, IL.*
4. Taste responses of parabrachial units conditioned with intravenous LiCl. **P.M. Di Lorenzo** and **J. Garcia**, *University of California, Los Angeles, CA.*
5. Gustatory responsiveness of neurons in the hamster thalamus. **A. Mackay-Sim** and **D.V. Smith**, *University of Wyoming, Laramie, WY.*

11:50 a.m. - 12:10 pm

Coffee Break

12:10 - 1:30 pm

Session 10. Factors Affecting Olfactory Function

room Hernando De Soto, South

Chairman: **R.C. Gesteland**

1. Muscarinic cholinergic receptors are present on olfactory receptor cells in the salamander olfactory epithelium. **B. Hedlund**, **L.M. Masukawa** and **G.M. Shepherd**, *Yale University School of Medicine, New Haven, CT.*
2. Histological and histochemical investigations of secretory elements in the olfactory mucosa of the adult salamander. **M.L. Getchell** and **T.V. Getchell**, *Wayne State University, Detroit, MI.*
3. Functional activity in the rat olfactory system *in utero*. **P.E. Pedersen**, **W.B. Stewart**, **C.A. Greer** and **G.M. Shepherd**, *Yale University School of Medicine, New Haven, CT.*
4. Odor responses of hamster olfactory bulb units following recovery from olfactory nerve transection. **R.M. Costanzo**, *Medical College of Virginia, Richmond, VA.*
5. The size and distribution characteristics of mitral cells in the olfactory bulb of rats exposed to different olfactory environments. **H. Panhuber**, **D.G. Laing**, **E.A. Pittman** and **M.E. Willcox**, *CSIRO Division of Food Research and Division of Mathematics and Statistics, Sydney, Australia.*

SATURDAY EVENING, APRIL 30

8:00 - 11:00 pm

Session 11. Posters II

room Sara De Soto, North and South

Chairman: **D.L. Hill**

1. University of Pennsylvania Clinical Smell and Taste Research Center: analysis of patients admitted from 1980 to 1983. **R.L. Doty**, **P. Shaman**, **R.G. Settle**, **V.J. Brightman**, **J.B. Snow, Jr.**, **R. Giberson**, **L. Sikorski**, **D. Dewey**, **A. Sisley** and **I. Nordin**, *University of Pennsylvania, Philadelphia, PA.*
2. Sniffing patterns and main olfactory bulb EEG during open field behaviors in the rat. **W. Forbes**, *Worcester Foundation for Experimental Biology, Shrewsbury, MA.*
3. A parametric study of the stimulation variables affecting the magnitude of the olfactory response II: Testing conclusions drawn from reductions of the 3-variable model. **D.B. Kurtz**, **M.M. Mozell**, **S.W. Swieck** and **D.E. Homung**, *SUNY Upstate Medical Center, Syracuse, NY and St. Lawrence University, Canton, NY.*
4. The effect of the withdrawal of diuretics on the preference for salt, the perception of salt intensity and the sodium intake of well-controlled, free-living hypertensive individuals. **B. Levine** and **M.M. Chan**, *New York University, New York, NY.*
5. Prolonged, exaggerated intake of saccharin induces morphine-tolerance in rats. **I. Lieblich**, **E. Cohen**, **J. Ganchrow**, **E.M. Blass** and **F. Bergman**, *The Hebrew University, Jerusalem, Israel.*
6. Chemical signals of female gender to naive male mice are of rostral origin and have low volatility. **J.C. Maggio** and **G. Whitney**, *Florida State University, Tallahassee, FL.*
7. Magnitude matching of taste intensity: which modalities work? **L.E. Marks**, **J.C. Stevens**, **J.F. Gent** and **L.M. Bartoshuk**, *The John B. Pierce Foundation Laboratory, New Haven and University of Connecticut Health Center, Farmington, CT.*
8. Behavioral and physiological effects of capsaicin in red-winged blackbirds. **J.R. Mason** and **J.A. Maruniak**, *Monell Chemical Senses Center and University of Pennsylvania, Philadelphia, PA.*
9. Chorda tympani nerve responses to taste stimuli in young and aged rats. **M. McBride** and **C.M. Mistretta**, *University of Michigan, Ann Arbor, MI.*
10. Further evidence of taste enhancement with simulated human drinking. **H.L. Meiselman**, **B.P. Halpern** and **S. Kelling**, *U.S. Army Natick Labs, Natick, MA and Cornell University, Ithaca, NY.*
11. Ultra-rapid freezing studies on rat olfactory and nasal respiratory epithelia. **B.P.M. Menco**, *Northwestern University, Evanston, IL.*
12. Vomeronasal lesions before sexual experience impair male behavior in hamsters. **M. Meredith**, *Florida State University, Tallahassee, FL.*
13. The ontogeny of sodium preference in rats. **K. Moe** and **A. Epstein**, *University of Pennsylvania, Philadelphia, PA.*
14. Specificity of glucose satiety in rat. **D.G. Mook**, *University of Virginia, Charlottesville, VA.*
15. Does preferred concentration of NaCl, sucrose or citric acid shift over the life span? **C. Murphy**, *San Diego State University, San Diego, CA.*
16. Simultaneous neural recordings from glossopharyngeal and chorda tympani nerves of the mouse. **M.S. Nejad** and **L.M. Beidler**, *Florida State University, Tallahassee, FL.*
17. Behavioral responses and chorda tympani responses to l- and d- amino acids in the hamster. **G.H. Nowlis**, *University of Connecticut Health Center, Farmington, CT.*

18. A critical period exists for the neural induction of circumvallate taste buds. **B. Oakley** and **M.A. Hosley**, *University of Michigan, Ann Arbor, MI*.
19. Detection thresholds in mice. **R.J. O'Connell, J.C. Walker, S. Parker** and **K. Healy**, *The Worcester Foundation for Experimental Biology, Shrewsbury, MA*.
20. Should all tastes be described in terms of primaries? **M. O'Mahony, L. Rothman, T. Ellison** and **L. Buteau**, *University of California, Davis, CA*.
21. The effect of sucrose, aspartame, and vegetable oil rinses on the recovery of sweet taste after gymnemic acid treatment. **J. Pagnozzi** and **W. Jakinovich, Jr.**, *Lehman College, Bronx, NY*.
22. *Ad libitum* mixing to preference for salts in broths and sucrose in lemonade, compared to hedonic scaling. **R.M. Pangborn, K.S. Braddock** and **L.J. Stone**, *University of California, Davis, CA*.
23. Chemosensory research support: National Institute of Neurological and Communicative Disorders and Stroke. **J. Pearl**, *National Institutes of Health, Bethesda, MD*.
24. Central organization and asymmetry of the olfactory system in the winter flounder, *Pseudopleuronectes americanus*. **P.D. Prasada Rao** and **T.E. Finger**, *University of Colorado Medical Center, Denver, CO*.
25. Ultraviolet effects on olfactory receptor response. **J.O. Pretell** and **J.S. Kauer**, *Harvard Medical School, Boston, MA* and *Yale University Medical School, New Haven, CT*.
26. Increased taste preferences and decreased neural responses in spontaneously hypertensive (SHR) rats. **T.W. Priebs, R.A. Bernard** and **D.A. Maas**, *Michigan State University, East Lansing, MI*.
27. Retention of odorants by the human nose. **M.D. Rabin, E. Commetto-Muniz** and **W.S. Cain**, *John B. Pierce Foundation Laboratory and Yale University, New Haven, CT*.
28. Olfactory bulb lesions and weight gain in neonatal rats. **J.M. Risser** and **B.M. Slotnick**, *The American University, Washington, D.C.*
29. A chemical cue with multiple functions. **D. Rittschof, E.S. Branscomb** and **J.D. Costlow**, *Duke University, Beaufort, NC*.
30. Comparative ultrastructure of olfactory epithelia from three species of marine fish. **J.C. Rowley III** and **D.T. Moran**, *University of Colorado Medical Center, Denver, CO*.
31. Evidence for a CO₂ receptor in the gill spines of the horseshoe crab. *Limulus polyphemus*. **J. Schlein** and **S. Lakatos**, *York College, Jamaica, NY*.
32. A mutant defective in chemoresponse to and binding of folic acid. **S. Schulz, M. DeNaro** and **J. Van Houten**, *University of Vermont, Burlington, VT*.
33. Discrimination inferences from pleasantness ratings of taste stimuli. **R.G. Settle**, *University of Pennsylvania, Philadelphia, PA*.
34. Structure-taste relationship of glutamyl valine, the 'sweet' peptide for the fleshfly. **I. Shimada** and **Y. Maki**, *Tohoku University, Sendai and Yamagata University, Yamagata, Japan*.
35. The effect of concanavalin on a rat olfactory mucosa: preferential inhibition of the receptor for sweaty-smelling fatty acids. **S. Shirley, E. Polak** and **G. Dodd**, *University of Warwick, England*.
36. Searobin chemoreception: responses from the chemoreceptors on the free fin rays. **W.L. Silver** and **T.E. Finger**, *Monell Chemical Senses Center, Philadelphia, PA* and *University of Colorado Medical Center, Denver, CO*.

37. Effects of olfactory deprivation on layers and neural populations in mouse olfactory bulb. **L.C. Skeen, B.R. Due** and **F.E. Douglas**, *University of Delaware, Newark, DE*.
38. Variability in the attractivity of different natural waters to migrating elvers of the American eel; Investigations into the origin of fresh water odors which influence the behavior of migrating elvers. **P. Sorensen**, *University of Rhode Island, Narragansett, RI*.
39. Food and fluid intake patterns in rats as a function of sucrose concentration. **A.C. Spector** and **J.C. Smith**, *Florida State University, Tallahassee, FL*.
40. Saccharin preference and aversion in streptozotocin-diabetic rats. **C.N. Stewart**, *Franklin and Marshall College, Lancaster, PA*.
41. Nervus terminalis. **C.R. Wirsig**, *University of Florida, Gainesville, FL*.
42. Chemosensory recognition of phenotypes determined by the T1a and H-2K regions of chromosome 17 of the mouse. **K. Yamazaki, G.K. Beauchamp, J. Bard, L. Thomas** and **E.A. Boyse**, *Monell Chemical Senses Center, Philadelphia PA* and *Memorial Sloan-Kettering Cancer Center, New York, NY*.

9:15 - 9:45 pm

Coffee Break

SUNDAY MORNING, MAY 1

8:00 - 8:30 am

Coffee and Donuts, The Gallery

8:30 - 10:00 am

Symposium B. Perception of Odor and Taste Mixtures

room Sara De Soto, North and South

Chairman: W.S. Cain

Participants:

Barry Ache, *University of Florida, St. Augustine, FL*.

Linda Bartoshuk, *John B. Pierce Foundation Laboratory, New Haven, CT*.

Murray Blum, *University of Georgia, Athens, GA*.

Marion Frank, *University of Connecticut, Farmington, CT*.

David Laing, *CSIRO Division of Food Research, Sydney, Australia*

Neurophysiological, behavioral and psychophysical effects of odor and taste mixtures in diverse species will be discussed; aims include identifying any common processes of perception across species, discovering whether they are peripheral or central processes, and identifying fruitful areas for future research.

10:00 - 10:30 am

Coffee Break

10:30 am - 12 noon

Symposium C. Effects of Aging on Chemical Senses

room Sara De Soto, North and South

Chairman: L.M. Bartoshuk

Participants:

William Cain, *John B. Pierce Foundation Laboratory, New Haven, CT*.

Leonard Jakubczak, *Chief, Cognitive and Biopsychological Aging, Behavioral Sciences Research Program, National Institute of Aging, Bethesda, MD*.

Charlotte Mistretta, *University of Michigan, Ann Arbor, MI*.

Susan Schiffman, *Duke University, Durham, NC*.

This symposium will review the chemosensory research relevant to aging, considering data from animal models and human psychophysics with simple stimuli as well as foods.

**The Association for Chemoreception Sciences
Executive Committee 1982 - 1983**

<i>Executive Chairperson</i>	Bruce P. Halpern
<i>Executive Chairperson Elect</i>	William S. Cain
<i>Past Executive Chairperson</i>	Gordon M. Shepherd
<i>Secretary</i>	Rose Marie Pangborn
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