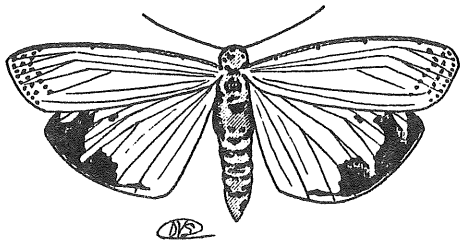
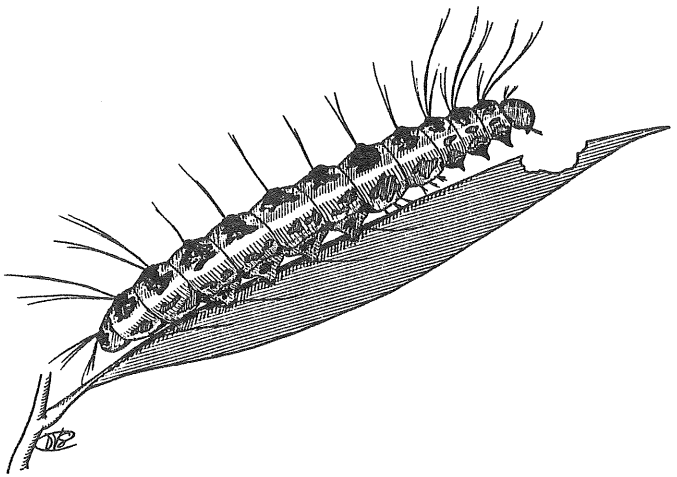


Program

6th Annual Meeting Association for Chemoreception Sciences



April 4-8, 1984
Sarasota, Florida

THE ASSOCIATION FOR CHEMORECEPTION SCIENCES
SIXTH ANNUAL MEETING
PROGRAM

WEDNESDAY EVENING, APRIL 4

6:00 - 11:00pm **Registration,** Hyatt Sarasota The Gallery

6:00 - 8:00pm **Reception and Buffet,** The Gallery

8:00 - 9:00pm **The Sixth Annual Givaudan Lecture** room, Hernando De Soto, South

The Chemical Basis of Obnoxiousness: Survival in Animals and Plants, **Dr. Thomas Eisner,** Jacob Gould Schurman Professor of Biology, Cornell University, Ithaca, NY.

9:00 - 11:00pm Social Hour, The Gallery

THURSDAY MORNING, APRIL 5

8:15am - 2:00pm Registration continues in the Gallery

8:15 - 8:50am Coffee and Donuts, The Gallery

8:50 - 10:20am **Session 1. Sensory-Ingestive Mechanisms** room, Hernando De Soto, South Chair: **R. J. Contreras**

1 Vago-gustatory interactions in the parabrachial nucleus of the rat. **G. Hermann** and **R. Rogers,** Brain Research Institute, UCLA, Los Angeles, CA and Northwestern University, Evanston, IL.

2 Relationships between taste reactivity and intake in the neurologically intact rat. **G. J. Schwartz** and **H. J. Grill,** University of Pennsylvania, Philadelphia, PA.

3 Latency of ingestion and rejection responses to sapid stimuli. **J. B. Travers** and **R. Norgren,** M. S. Hershey Medical Center, Pennsylvania State University, Hershey, PA.

4 Behavior-indicate for quality of taste sensation in nonhuman primates. **J. E. Steiner** and **D. Glaser,** Hebrew University-Hadassah Faculty of Dental Medicine, Jerusalem, Israel and University of Zurich, Zurich, Switzerland.

5 Videotape analysis of insect feeding suppression by an extract of Ziziphus jujuba. **P. J. Canney** and **B. P. Halpern,** Cornell University, Ithaca, NY.

6 Vagal and facial nerve gustatory nuclei have different reflex connections in the brainstem. **T. E. Finger** and **Y. Morita,** University of Colorado School of Medicine, Denver, CO.

10:20 - 10:40am Coffee Break

10:40am - 12:10pm **Session 2. Chemosensory Functions in Behavior** room, Hernando De Soto, South Chair: **R. Mankin**

1 The flehmen response of the stallion: A behavioral, chemical, and endocrinological perspective. **C. C. Stahlbaum** and **K. A. Houpt**, Cornell University, Ithaca, NY and Monell Chemical Senses Center, Philadelphia, PA.

2 Feeding stimulants for herbivorous fish. **M. A. Adams** and **P. Johnsen**, Monell Chemical Senses Center, Philadelphia, PA.

3 Chemical noise: Effects of modified amino acid backgrounds on responses to single amino acid stimuli in the lobster, Homarus americanus. **J. Atema, M. Spalding** and **L. Handrich**, Boston University Marine Program, Woods Hole, MA.

4 Sensory cues used by starlings in discriminating among plant species used during nest construction. **L. Clark** and **J. R. Mason**, Monell Chemical Senses Center, Philadelphia, PA.

5 Role of food flavors and dietary fat in cafeteria feeding: Lipid deposition in rats. **M. Naim, J. G. Brand** and **M. R. Kare**, Hebrew University, Rehovot, Israel and Monell Chemical Senses Center, Philadelphia, PA.

6 Extinction of response to urine odor as a consequence of vomeronasal organ removal in male guinea pigs. **G. K. Beauchamp, C. J. Wysocki** and **J. L. Wellington**, Monell Chemical Senses Center, Philadelphia, PA.

12:10 - 12:30pm Coffee Break

12:30 - 1:30pm **Session 3. The Review and Post-Award Process at the National Institutes of Health**
room, Hernando De Soto, South
Chair: **T. V. Getchell**

1 **T. V. Getchell**, Chairman, Sensory Disorders and Language Study Section, National Institutes of Health, Bethesda, MD.

2 **M. F. Halasz**, Executive Secretary, Sensory Disorders and Language Study Section, National Institutes of Health, Bethesda, MD.

3 **J. Pearl**, Project Officer, Communicative Disorders Program, National Institute of Neurological and Communicative Disorders and Stroke, Bethesda, MD.

4 **A. Hamill**, Grants Management Specialist, National Institute of Neurological and Communicative Disorders and Stroke, Bethesda, MD.

THURSDAY AFTERNOON, APRIL 5

4:45 - 6:45pm **Informal Workshop: Chemosensory Transduction at the Cellular Level: Superstition, Speculation, and Substantiation**
room, Hernando De Soto, South
Chair: **S. D. Roper**

1 Transduction in taste buds: A survey of the central questions. **L. M. Beidler**, Florida State University, Tallahassee, FL.

2 New perspectives on the transduction problem. **J. A. DeSimone**, Medical College of Virginia, Richmond, VA.

3 Trophism and transduction in sensory synapses. **C. Eyzaguirre**, University of Utah College of Medicine, Salt Lake City, UT.

4 Cellular mechanisms of taste transduction in catfish. **J. H. Teeter**, Monell Chemical Senses Center, Philadelphia, PA.

5 Taste transduction: Taking a clue from the neuromuscular junction. **S. D. Roper**, University of Colorado Medical School, Denver, CO.

THURSDAY EVENING, APRIL 5

8:00 - 11:00pm **Session 4. Posters I**
room, Hernando De Soto, North
Chair: **G. K. Beauchamp**

1 The sweetness of binary mixtures of sucrose, fructose, and glucose. **R. L. McBride**, CSIRO Division of Food Research, North Ryde, NSW, Australia.

2 Chemical lavage of the olfactory epithelium produces selective decrements in responding to ketone odorants by tiger salamanders. **J. R. Mason, L. Clark** and **T. H. Morton**, Monell Chemical Senses Center, Philadelphia, PA and University of California, Riverside, CA.

3 An apparatus for the continuous monitoring of feeding by caterpillars. **E. Bowdan**, University of Massachusetts, Amherst, MA.

4 Detection of sugars by fiddler crabs. **G. Dunkel** and **D. Rittschof**, Duke University Marine Laboratory, Beaufort, NC.

5 A quantitative comparison of dorsal flow (open) and closed taste delivery systems. **S. T. Kelling** and **B. P. Halpern**, Cornell University, Ithaca, NY.

6 Effect of multiple-sip drinking upon judged taste intensity. **B. P. Halpern, D. L. Barsky** and **C. F. Kannus**, Cornell University, Ithaca, NY.

7 Odor pleasantness perception related to sensitivity for two odors, cyclohexanone and pyridine. **R. G. Davis**, Veterans Administration Medical Center, Lexington, KY.

8 Rodenticides as conditioned stimuli in food aversion learning. **R. F. Reidinger, Jr., C. N. Stewart** and **J. R. Mason**, U. S. Fish and Wildlife Service, Philadelphia, PA, Franklin and Marshall College, Lancaster, PA and Monell Chemical Senses Center, Philadelphia, PA.

9 Effects of oral chemical irritation on taste. **H. T. Lawless** and **D. A. Stevens**, Monell Chemical Senses Center, Philadelphia, PA and Clark University, Worcester, MA.

10 Clinical investigation of reported taste loss in depressed patients. **N. E. Lohr, A. L. Jacobs** and **D. King**, University of Michigan, Ann Arbor, MI, Washington University, St. Louis, MO and Vanderbilt University, Nashville, TN.

11 Paradoxical sensitivity and aversion of 3 day old rat pups to NaCl, quinine and ammonium chloride. **K. Moe**, University of Pennsylvania, Philadelphia, PA.

12 Orientation reactions by the horseshoe crab, Limulus polyphemus, to chemical stimuli and a newly discovered pheromone. **J. Schlein** and **J. Nahirny**, York College, New York, NY and Cardozo High School, New York, NY.

13 Effect of dietary sodium restriction on taste responses to salted soups. **C. Blais, R. M. Pangborn, M. F. Ferrell, N. Borhani** and **R. Prineas**, University of California, Davis, CA and University of Minnesota, Minneapolis, MN.

14 Why does the clinical odor identification test work? **W. S. Cain, J. Gent** and **F. Catalanotto**, John B. Pierce Foundation and Yale University, New Haven, CT and University of Connecticut Health Sciences Center, Farmington, CT.

15 Conditioned taste aversion generalization across five different rodenticides. **C. N. Stewart, J. R. Mason** and **R. F. Reidinger, Jr**, Franklin & Marshall College, Lancaster, PA and Monell Chemical Senses Center, Philadelphia, PA.

16 The classification of simple taste stimuli by PTC tasters and non-tasters: A reaction time analysis. **R. A. Frank** and **D. Korchmar**, University of Cincinnati, Cincinnati, OH.

17 Diet-taste relationships. **R. D. Mattes**, Monell Chemical Senses Center, Philadelphia, PA.

18 The intensity of flavor. **M. P. Enns** and **D. E. Hornung**, St. Lawrence University, Canton, NY.

19 Effect of stimulus volume on NaCl taste threshold. **B. M. Slotnick, A. Wittich** and **R. Henkin**, The American University, Washington, DC and Georgetown University School of Medicine, Washingon, DC.

20 A computer-controlled automated system for determining olfactory thresholds. **B. M. Slotnick**, The American University, Washington, DC.

21 Saliva alters the oral perception of acids. **C. M. Christensen, D. Malamud, J. G. Brand** and **E. Dweck**, Monell Chemical Senses Center, Philadelphia, PA and University of Pennsylvania School of Dental Medicine, Philadelphia, PA.

22 Some observations on electrogustometry. **R. G. Settle** and **A. L. Jacobs**, University of Pennsylvania Clinical Smell and Taste Research Center, Philadelphia, PA and Philadelphia VA Medical Center, Philadelphia, PA.

23 Lesions in the area postrema in rat alter sensory processing of taste information. **T. Kosten** and **R. J. Contreras**, Yale University, New Haven, CT.

24 Moderated dietary salt reduction and salt taste perception of normotensive individuals with family history of hypertension. **M. M. Chan, J. G. Garey** and **I. Terpenning**, New York University, New York, NY and AT&T Bell Laboratories, Murray Hill, NJ.

25 Chemoreception by the western atlantic ghost crab, Ocypode quadrata (Fabricius): Responses to natural stimuli from fresh and aerobically decomposing tissues. **T. J. Trott**, Boston University Marine Program, Woods Hole, MA.

26 Taste responsivity of neonates as a function of maternal and infant size. **J. A. Grinker** and **A. Drewnowski**, University of Michigan, Ann Arbor, MI.

27 Olfactory cues and pig agonistic behavior: Evidence for a submissive pheromone of adrenal origin. **J. J. McGlone**, University of Wyoming, Laramie, WY.

28 CCK-8 decreases the preference for sweet tastes in rats. **P. M. DiLorenzo** and **D. L. Ralphe**, Smith College, Northampton, MA.

FRIDAY MORNING, APRIL 6

8:15 - 8:50am Coffee and Donuts, The Gallery
8:50 - 10:20am **Session 5. Plasticity and Development**
room, Hernando De Soto, South
Chair: **C. M. Mistretta**

1 An HVEM autoradiography study of cell turnover in the mouse vallate taste bud. **R. J. Delay, J. C. Kinnamon** and **S. Roper**, University of Colorado Health Sciences Center, Denver, CO.

2 IXth nerve fibers routed into the tongue musculature do not reinnervate gustatory papillae. **B. Oakley, E. Keppel** and **S. E. Hughes**, University of Michigan, Ann Arbor, MI.

3 Development of salt and sugar responses in hamster chorda tympani nerve. **D. L. Hill**, University of Toledo, Toledo, OH.

4 Cytochrome oxidase (CO) activity in the olfactory system: Ontogeny and response to peripheral deafferentation. **R. Costanzo, M. T. Shipley** and **S. Van Ooteghem**, Medical College of Virginia, Richmond, VA and University of Cincinnati College of Medicine, Cincinnati, OH.

5 The ontogenetic development of acetylcholinesterase (AChE) activity in the rat olfactory bulb. **S. Van Ooteghem, S. Schumacher** and **M. T. Shipley**, University of Cincinnati College of Medicine, Cincinnati, OH.

6 Olfaction in rats with reinnervated remnants of olfactory bulb. **G. A. Monti Graziadei, P. P. C. Graziadei, B. M. Slotnick** , and **A. B. Butler**, Florida State University, Tallahassee, FL, The American University, Washington, DC and Georgetown University School of Medicine, Washington, DC.

10:20 - 10:40am Coffee Break
10:40 - 11:55am **Session 6. Chemical Senses and Aging**
room, Hernando De Soto, South
Chair: **C. Murphy**

1 Taste preferences in aged male and female gerbils. **M. Cheal, A. M. Foley** and **J. J. Braun**, Arizona State University, Tempe, AZ.

2 Quantitative analysis of lingual taste buds and papillae over the life span of the rhesus monkey. **R. M. Bradley, H. M. Stedman** and **C. M. Mistretta**, University of Michigan School of Dentistry, Ann Arbor, MI.

3 Taste and aging. **L. M. Bartoshuk, L. E. Marks, J. C. Stevens** and **B. Rifkin**, John B. Pierce Foundation Laboratory, New Haven, CT and Colgate-Palmolive Company, Piscataway, NJ.

4 Chemical senses and aging: Taste vs olfaction. **J. C. Stevens** and **L. M. Bartoshuk**, John B. Pierce Foundation Laboratory and Yale University, New Haven, CT.

5 Smell identification ability: Changes with age. **R. L. Doty, S. Applebaum** and **P. Shaman**, University of Pennsylvania, Philadelphia, PA.

11:55am - 12:15pm Coffee Break
12:15 - 1:30pm **Session 7. Human Chemosensory Function**
room, Hernando De Soto, South
Chair: **R. L. Doty**

1 Odor perception in blind persons: A case for superiority. **C. Murphy, W. S. Cain, T. Rachinsky, E. Konowal, M. J. Reed** and **J. Withee**, San Diego State University, San Diego, CA, Pierce Foundation Laboratory and Yale University, New Haven, CT and Monell Chemical Senses Center, Philadelphia, PA.

2 Human olfactory discrimination of mouse strain and H-2 phenotype. **A. N. Gilbert, K. Yamazaki** and **G. K. Beauchamp**, Monell Chemical Senses Center, Philadelphia, PA.

3 The fine structure of human circumvallate taste buds. **S. H. Kubowicz, B. W. Jafek** and **D. T. Moran**, University of Colorado Health Sciences Center, Denver, CO.

4 Clinical laboratory screening tests for patients with chemosensory dysfunction as a primary complaint. **R. B. Goodspeed, J. F. Gent, F. A. Catalanotto, L. M. Bartoshuk, W. S. Cain, J. O. Donaldson, A. Ferris** and **G. Leonard**, Connecticut Chemosensory Clinical Research Center, Farmington, CT.

5 Gustatory evoked potentials in man elicited by chemical stimulation of the tongue. **G. Kobal**, University of Erlangen-Nürnberg, Erlangen, FRG.

FRIDAY AFTERNOON, APRIL 6
5:00 - 6:00pm General Business Meeting of the Association
room, Hernando De Soto, South

FRIDAY EVENING, APRIL 6
8:00 - 11:00pm **Session 8. Posters II**
room, Hernando De Soto, North
Chair: **J. G. Brand**

1 Taste descriptions in English and Japanese. **M. O'Mahony** and **R. Ishii**, University of California, Davis, CA.

2 Monoclonal antibodies against unique surface glycoproteins of frog olfactory cilia. **D. Lancet** and **Z. Chen**, Weizmann Institute of Science, Rehovot, Israel.

3 Stopped-flow analysis for reaction kinetics and intensity-time models of chemoreception. **G. G. Birch** and **F. F. Morpeth**, University of Reading, Whiteknights, Reading, Berks, UK.

4 The canine lingual epithelium actively transports ions. **S. Mierson, G. L. Heck, S. K. Desimone** and **J. A. Desimone**, Medical College of Virginia, Richmond, VA.

5 Suppression of mitotic activity in frog olfactory epithelium by hydroxyurea. **M. S. Lidow, S. J. Kleene** and **R. C. Gesteland**, Northwestern University, Evanston, IL.

6 Quantitive study of morphological development of rat taste bud. **D. S. Gottfried, C. M. Mistretta, R. M. Bradley** and **D. L. Hill**, University of Michigan School of Dentistry, Ann Arbor, MI and University of Toledo, Toledo, OH.

7 Olfactory responses of terrestrial and aquatic tiger salamanders to amino acids. **A. H. Arzt, W. L. Silver** and **J. R. Mason**, Monell Chemical Senses Center, Philadelphia, PA and Hahnemann University, Philadelphia, PA.

8 Taste response in people with Chinese or European backgrounds. **M. Bertino** and **M. Chan**, Monell Chemical Senses Center, Philadelphia, PA and New York University, New York, NY.

9 Cytochrome oxidase histochemistry of the main olfactory bulb (MOB) and accessory olfactory bulb (AOB): Developmental effects and species variation in metabolism. **C. J. Wysocki, G. K. Beauchamp, J. L. Wellington** and **S. Greeley**, Monell Chemical Senses Center, Philadelphia, PA.

10 Sniffing genes for specific anosmias. **C. J. Wysocki**, Monell Chemical Senses Center, Philadelphia, PA.

11 A single gene mutation alters urine odor in mice. **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.

12 High and low peri-sniff air flows have little effect upon stimulus-response relationships. **D. B. Kurtz, M. M. Mozell** and **S. W. Swieck**, Northwestern University, Evanston, IL and SUNY Upstate Medical Center, Syracuse, NY.

13 The hydrolytic susceptibility of the garter snake chemoattractant found in earthworm wash. **D. M. Kirschenbaum, N. Schulman** and **M. Halpern**, SUNY Downstate Medical Center, Brooklyn, NY.

14 Voltage clamping the receptor potential in olfactory receptor cells. **P. A. V. Anderson** and **B. W. Ache**, C. V. Whitney Laboratory, University of Florida, St. Augustine, FL.

15 Early development of the olfactory nerve in the rat. **A. I. Farbman** and **L. M. Squinto**, Northwestern University, Evanston, IL.

16 The development of ciliated dendritic endings of olfactory receptor cells in rat embryos: A scanning electron microscope study. **B. Ph. M. Menco** and **A. I. Farbman**, Northwestern University, Evanston, IL.

17 Selective modification of proteins in the olfactory epithelium. **T. H. Morton** and **J. R. Mason**, University of California, Riverside, CA and Monell Chemical Senses Center, Philadelphia, PA.

18 Simultaneous stimulus and neuron solutions in multidimensional scaling spaces. **J. M. Gill, II** and **R. P. Erickson**, Duke University, Durham, NC.

19 Voltage clamp studies on dog lingual epithelia. **S. A. Simon** and **J. L. Garvin**, Duke University Medical Center, Durham, NC.

20 Development of the olfactory system: Neighboring nuclei project to the bulb at different ages. **S. Schumacher** and **M. T. Shipley**, University of Cincinnati College of Medicine, Cincinnati, OH.

21 Non-invasive recordings of peripheral pain-related electrical potentials in man. **G. Kobal**, University of Erlangen-Nürnberg, Erlangen, FRG.

22 Olfactory placode transplantation in Xenopus laevis. **L. Magrassi** and **P. P. C. Graziadei**, Florida State University, Tallahassee, FL.

23 Transplant of olfactory mucosa in the brain of neonatal and adult rats: An ultrastructural study. **E. E. Morrison** and **P. P. C. Graziadei**, Florida State University, Tallahassee, FL.

24 Structural and ultrastructural observations on the nervus terminalis during development. **G. A. Monti Graziadei, S. Cuccio** and **P. P. C. Graziadei**, Florida State University, Tallahassee, FL.

25 Connectivity of the olfactory axons with forebrain neurons following partial bulbectomy. **P. P. C. Graziadei** and **G. A. Monti Graziadei**, Florida State University, Tallahassee, FL.

26 Olfactory neurons transplantation into the olfactory bulb of neonatal rats. **G. A. Monti Graziadei** and **P. P. C. Graziadei**, Florida State University, Tallahassee, FL.

SATURDAY MORNING, APRIL 7

8:15 - 8:50am Coffee and Donuts, The Gallery
8:50 - 10:20am **Session 9. Receptor and Perireceptor Mechanisms**
room, Hernando De Soto, South
Chair: **B. W. Ache**

1 The application of interactive real-time computer graphics to three-dimensional modelling of taste bud ultrastructure. **J. C. Kinnamon, T. Edwards, T. Sherman** and **S. Roper**, University of Colorado Medical School, Denver, CO and Colorado State University, Ft. Collins, CO.

2 Cholinergic control of glandular secretion in the olfactory mucosa of the salamander. **M. L. Getchell** and **T. V. Getchell**, Wayne State University School of Medicine, Detroit, MI.

3 The transcellular and paracellular routes of ion translocation across the lingual epithelium and their role in transduction. **J. A. Desimone, G. L. Heck, S. Mierson** and **S. K. Desimone**, Medical College of Virginia, Richmond, VA.

4 Role of membrane in paramecium chemoreception. **S. Schulz, M. Denaro, R. Preston** and **J. Van Houten**, University of Vermont, Burlington, VT.

5 Pheromone uptake and processing on moth antennae. **K. E. Kaissling** and **S. Kanaujia**, Max-Planck-Institut für Verhaltensphysiologie, Seewiesen, FRG.

6 Chemosensory stimulation in mudpuppy: KCl evokes impulses in taste cells. **S. Roper** and **M. McPheeters**, University of Colorado Medical School, Denver, CO.

10:20 - 10:40am Coffee Break
10:40 - 11:55am **Session 10. Physiology of Chemosensory Systems**
room, Hernando De Soto, South
Chair: **I. J. Miller, Jr.**

1 Purinergic olfactory receptors: Electrophysiological and behavioral evidence. **C. Derby, W. E. S. Carr** and **B. Ache**, C. V. Whitney Laboratory, University of Florida, St. Augustine, FL.

2 Inhibition of the gerbil's electrophysiological sucrose taste response by para-nitro-phenyl-K-D-glucopyranoside and chloramphenicol. **W. Jakinovich** and **V. Vlahopoulos**, Lehman College, Bronx, NY.

3 Effect of amiloride concentration on reduction of chorda tympani responses to alkali chlorides. **J. G. Brand, J. H. Teeter** and **W. L. Silver**, Monell Chemical Senses Center, Philadelphia, PA.

4 Topographic arrangement and response properties of gustatory neurons in the vagal lobe of the catfish. **J. S. Kanwal** and **J. Caprio**, Louisiana State University, Baton Rouge, LA.

5 Response patterns to odor in olfactory bulb output cells of the hamster: Effects of concentration and involvement of intrabulbar inhibition. **M. Meridith**, Florida State University, Tallahassee, FL.

11:55am - 12:15pm Coffee Break
12:15 - 1:30pm **Session 11. Cellular Biological Approaches to Chemoreception**
room, Hernando De Soto, South
Chair: **J. W. Scott**

1 Developing olfactory receptor cells grow axons in tissue culture. **F. Gonzales** and **A. I. Farbman**, Northwestern University, Evanston, IL.

2 Morphological and electrophysiological differentiation of mouse olfactory cells in culture. **J. H. Teeter** and **N. I. Goldstein**, Monell Chemical Senses Center, Philadelphia, PA and Immunomedics, Inc., Newark, NJ.

3 Peripheral-type benzodiazepine receptors in the central nervous system: Localization to olfactory nerves. **R. R. H. Anholt, K. M. M. Murphy, G. E. Mack** and **S. H. Snyder**, Johns Hopkins University School of Medicine, Baltimore, MD.

4 Stimulation of neuroactive amino acid transport by insulin: A possible mechanism for neuromodulation in the olfactory bulb of the adult rat. **D. Rhoads** and **J. G. Brand**, Monell Chemical Senses Center, Philadelphia, PA.

5 Chemosensory responses of a ciliate to pro-opiomelanocortin peptide hormones. **M. Levandowsky, A. S. Liotta** and **D. T. Krieger**, Haskins Laboratories, Pace University, New York, NY and Mt. Sinai School of Medicine, New York, NY.

SATURDAY EVENING, APRIL 7

8:00 - 11:00pm **Session 12. Posters III**
room, Hernando De Soto, North
Chair: **R. D. Sweazey**

1 The mouse glossopharyngeal and chorda tympani nerves response to NaCl, sucrose, QHCl and citric acid. **M. S. Nejad** and **L. M. Beidler**, Florida State University, Tallahassee, FL.

2 The response profile of the glossopharyngeal and chorda tympani nerves of the mouse (C57BL/6J) to sugars. **L. M. Beidler** and **M. S. Nejad**, Florida State University, Tallahassee, FL.

3 Neurons of the hippocampal formation send collateral projections to both the anterior olfactory nucleus and lateral septum in hamsters. **J. E. Marchand, T. A. Schoenfeld** and **F. Macrides**, Worcester Foundation for Experimental Biology, Shrewsbury, MA.

4 Olfactory bulbectomy suppresses the testicular response to short daylength in the hamster. **A. N. Clancy, F. Macrides, B. D. Goldman** and **A. Bartke**, Worcester Foundation for Experimental Biology, Shrewsbury, MA.

5 A peripheral neural correlate of the human fungiform papillae salty, insipid sensations. **J. C. Boudreau**, University of Texas at Houston, Houston, TX.

6 Changes in catfish olfactory bulb cell responses to amino acids following olfactory tract transection. **H. Thompson** and **J. Caprio**, Louisiana State University, Baton Rouge, LA.

7 Electrophysiological and morphological examination of antennal sensilla on the corn earworm moth. **A. J. Grant, M. S. Mayer** and **R. W. Mankin**, U. S. Dept. Agriculture, Gainesville, FL.

8 Nasal trigeminal chemoreception: Sensitivity and response latencies for aliphatic alcohols. **W. L. Silver** and **J. R. Mason**, Monell Chemical Senses Center, Philadelphia, PA.

9 Bitter electric taste in hamsters. **M. S. Herness** and **C. Pfaffmann**, The Rockefeller University, New York, NY.

10 Origin of olfactory projections to the hypothalamus and thalamus. **J. L. Price, L. S. Sasaki** and **B. M. Slotnick**, Washington University, St. Louis, MO, Grinnell College, Grinnell, IA and The American University, Washington, DC.

11 Chorda tympani responses to salts in Dahl Na sensitive and Na resistant rats fed high- or low-NaCl weaning diets. **F. Ferrell** and **S. D. Gray**, University of California, Davis, CA.

12 Afferent projections of the superior laryngeal nerve in the lamb. **R. D. Sweazey** and **R. M. Bradley**, University of Michigan School of Dentistry, Ann Arbor, MI.

13 Differential laminar projection of palatal and gill arch taste buds in the goldfish. **Y. Morita** and **T. E. Finger**, University of Colorado School of Medicine, Denver, CO.

14 Electron microscopic deoxyglucose autoradiography of quick frozen olfactory bulb. **T. E. Benson, P. E. Pedersen, G. D. Burd, D. M. D. Landis** and **G. M. Shepherd**, Yale University, New Haven, CT, Rockefeller University, New York, NY and Massachusetts General Hospital, Boston, MA.

15 Cytochrome oxidase (CO) activity in the olfactory system: Normal distribution. **M. T. Shipley, S. Van Ooteghem** and **R. Costanzo**, University of Cincinnati College of Medicine, Cincinnati, OH and Medical College of Virginia, Richmond, VA.

16 Nicotinic (N) and muscarinic (M) cholinergic receptors are segregated and coincide with acetylcholinesterase (AChE) localization in rat olfactory bulb. **G. Blaha, W. Blair, W. T. Nickell** and **M. T. Shipley**, University of Cincinnati College of Medicine, Cincinnati, OH.

17 Intracellular recordings in the olfactory bulb of the tiger salamander: Initial results. **K. A. Hamilton** and **J. S. Kauer**, Tufts University, New England Medical Center, Boston, MA.

18 Voltage-sensitive dye recording from the olfactory system of the tiger salamander. **J. S. Kauer, D. Senseman** and **L. B. Cohen**, Tufts University, New England Medical Center, Boston, MA, University of Texas, San Antonio, TX and Yale University Medical School, New Haven, CT.

19 Amiloride does not suppress taste and olfactory responses to amino acids in the catfish. **C. F. Lamb IV, J. Dudek, H. Thompson** and **J. Caprio**, Louisiana State University, Baton Rouge, LA.

20 Dynamic response patterns of taste receptor cells in the lobster, Homarus americanus. **R. Voigt** and **J. Atema**, Boston University Marine Program, Woods Hole, MA.

21 What is the role of narrow tuning in lobster feeding? **P. F. Borroni, L. Handrich** and **J. Atema**, Boston University Marine Program, Woods Hole, MA.

22 Taste receptor cells in the lobster, Homarus americanus, are narrowly tuned even at high stimulus concentrations. **B. R. Johnson, R. Voight, P. F. Borroni** and **J. Atema**, Boston University Marine Program, Woods Hole, MA.

23 Taste responses to water and salts in the rabbit. **I. J. Miller, Jr.**, Wake Forest University, Bowman Gray School of Medicine, Winston-Salem, NC.

24 Responses to olfactory stimuli in the gustatory area of the parabrachial pons of the rat. **P. M. DiLorenzo** and **J. Garcia**, Smith College, Northampton, MA and University of California, Los Angeles, CA.

25 The innervation and chemical specificity of aesthetasc hairs in the lateral antennule of the spiny lobster, Panulirus interruptus. **M. Spencer** and **J. F. Case**, University of California, Santa Barbara, CA.

26 Temporal properties of impulses in sucrose-responsive hamster taste neurons. **M. E. Frank** and **T. P. Hettinger**, University of Connecticut Health Center, Farmington, CT.

27 Innervation patterns of chorda tympani and lingual nerve fibers in hamster fungiform papillae. **M. C. Whitehead**, University of Connecticut School of Dentistry, Farmington, CT.

28 Preliminary evidence for taste buds in the prairie rattlesnake, Crotalus viridis viridis. **J. D. Dickman, D. Duvall** and **D. V. Smith**, University of Wyoming, Laramie, WY.