## DATES OF FUTURE MEETINGS

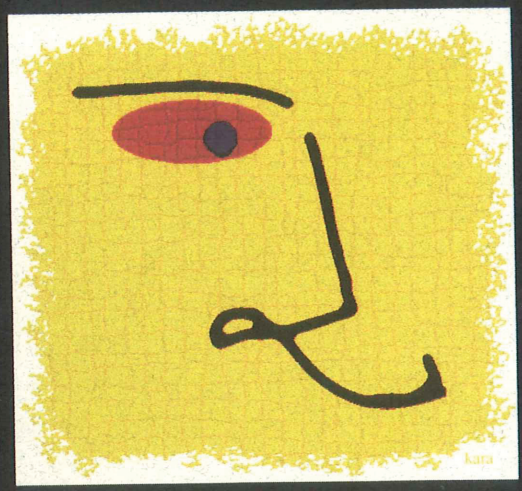
April 9 - 13, 2003

April 21 - 25, 2004

April 13 - 17, 2005

# Program

The Association for Chemoreception Sciences presents the Sensory World of Olfaction and Taste



AChemS 2002

## XXIVth Annual Meeting

April 24-28, 2002 • Sarasota, Florida

The Association for Chemoreception Sciences appreciates grant support from:
***The National Institute on Deafness and Other Communication Disorders, National Institutes of Health***

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# ASSOCIATION FOR CHEMORECEPTION SCIENCES

## XXIV Annual Meeting

### Wednesday, April 24, 2002

| | |
|---|---|
| 10AM - Noon | **Education Outreach** *(Gwiz Science Center)* |
| Noon - 5PM | **Executive Committee** *(Executive Board Room)* |
| 5PM - 7:30PM | **Registration** *(Pre-function area)* |
| 6:30PM - 8PM | **Opening Buffet** *(Salons A & B)* |
| 8PM - 8:30PM | **Welcome & Awards Ceremony** *(Salons C, D, E & F)*<br>Dr. Stuart Firestein, President |
| 8:30 - 9:30PM | **GIVAUDAN LECTURE** *(Salons C,D,E & F)*<br><br>**Dr. Jon Kaas**<br>Vanderbilt University<br><br>REORGANIZATION OF SENSORY MAPS AFTER SENSORY LOSS IN DEVELOPING AND ADULT PRIMATES<br><br>Chairperson: Dr. Alan Spector |
| 9:30 - 10:00PM | **Organizational Meeting for Students with Travel Awards** *(Salon G)*<br>Dr. Alan Nighorn |
| 9:30 – 10:30PM | **Social Gathering and Cash Bar** *(Pre-function area)* |

## Thursday, April 25, 2002

**Continental Breakfast, 7:30 AM - 9:00 AM** *(Prefunction Area)*

### SLIDES

**Thursday - 8:00 AM - 9:45 AM**

**Functional Consequences of Manipulating Chemosensory Systems**
*Chairperson: John Boughter*

8:00 2 SIGNAL TRANSDUCTION OF UMAMI TASTE BY -GUSTDUCIN AND -TRANSDUCIN
He W.[1], Margolskee R.F.[2], Damak S.[1] *[1]Physiology and Biophysics, Mount Sinai School of Medicine, New York, NY; [2]Howard Hugues Medical Institute, New York, NY*

8:15 3 EFFECT OF TRANSGENIC OVER-EXPRESSION OF NR2B ON OLFACTORY MEMORY PERFORMANCE IN THE MOUSE
White T.L.[1], Youngentob S.L.[1] *[1]Neuroscience & Physiology, State University of New York Health Science Center at Syracuse, Syracuse, NY*

8:30 4 ODOR DETECTION AND ODOR DISCRIMINATION IN BILATERALLY OLFACTORY BULBECTOMIZED RATS
Slotnick B.[1], Pickett E.[1], Cockerham R.[1] *[1]Psychology, American University, Washington, DC*

8:45 5 CNGA4 NULL MICE EXHIBIT BEHAVIORAL DEFECTS IN ODOR THRESHOLD SENSITIVITY AND ADAPTATION
Kelliher K.R.[1], Ziesmann J.[1], Munger S.D.[1], Reed R.R.[2], Zufall F.[1] *[1]Dept. of Anatomy and Neurobiology, University of Maryland at Baltimore, Baltimore, MD; [2]HHMI and Dept. of Molecular Biology and Genetics, Johns Hopkins University, Baltimore, MD*

9:00 6 VANASO IS A QUANTITATIVE TRAIT LOCUS FOR DROSOPHILA OLFACTORY BEHAVIOR
Fanara J.J.[1], Robinson K.O.[1], Mackay T.F.[1], Anholt R.R.[1] *[1]W. M. Keck Center for Behavioral Biology, North Carolina State University, Raleigh, NC*





9:15 7 REGULATION OF INSECT OLFACTION BY SENSORY ARRESTINS
Merrill C.E.[1], Riesgo-Escovar J.[2], Pitts R.J.[1], Carlson J.[2], Zwiebel L.J.[1] *[1]Department of Biological Sciences, Vanderbilt University, Nashville, TN; [2]Department of Molecular, Cellular, and Developmental Biology, Yale University, New Haven, CT*

9:30 8 GENETIC MANIPULATION OF ODOR RECEPTORS IN DROSOPHILA
Shiraiwa T.[1], Van Der Goes Van Naters W.[1], Lessing D.[1], Warr C.[2], De Bruyne M.[3], Carlson J.R.[1] *[1]Molecular, Cellular and Developmental Biology, Yale Univ., New Haven, CT; [2]School of Biol. Sci., Monash Univ., Clayton, VIC, Australia; [3]Institut fur Neurobiologie, Freie Univ., Berlin, Germany*

**Mid morning coffee available 9:30 AM - 10:00 AM**

### SYMPOSIUM

**Thursday - 10:00 AM - 12:15 PM**

**Sensory Coding in the Molecular Era: The Neural Representation of Gustatory, Olfactory, and Somatosensory Stimuli**
*Chairperson: Susan P. Travers*

10:00 9 **Susan P. Travers**
INTRODUCTION: SENSORY CODING IN THE MOLECULAR ERA: THE NEURAL REPRESENTATION OF GUSTATORY, OLFACTORY AND SOMATOSENSORY STIMULI.
Travers S.P.[1] *[1]Oral Biology, Ohio State University, Columbus, OH*

10:05 10 **Kenneth O. Johnson**
A COMBINED PSYCHOPHYSICAL AND NEUROPHYSIOLOGICAL STUDY OF THE NEURAL MECHANISMS OF TACTILE TEXTURE PERCEPTION
Johnson K.O.[1], Hsiao S.S.[1], Yoshioka T.[1] *[1]Neuroscience (SOM), Johns Hopkins University, Baltimore, MD*

10:35 11 **Miguel A. Nicolelis**
SIMILARITIES BETWEEN THE DYNAMIC AND DISTRIBUTED NATURE OF NEURONAL ENSEMBLE ACTIVITY IN THE PRIMARY SOMATOSENSORY AND GUSTATORY CORTICES
Nicolelis M.A.[1] *[1]Department of Neurobiology, Duke University Medical Center, Durham, NC*

11:05 12 **David V. Smith**
INDIVIDUAL NEURONS AND TASTE QUALITY CODING
Smith D.V.[1] *[1]Anatomy & Neurobiology, University of Maryland, Baltimore, Baltimore, MD*

11:35 13 **Michael Leon**
OLFACTORY CODING
Leon M.[1], Johnson B.A.[1] *[1]Neurobiology and Behavior, University of California, Irvine, Irvine, CA*

12:05 DISCUSSION

***This symposium was sponsored in part by a grant from the National Institute on Deafness and Other Communication Disorders***

## POSTERS

### Thursday - 8:00 AM - 12:00 PM

### Ion Channels

Th-am-1 14 LIVE CELL IMAGING OF MG2+ INFLUX DURING THE BIOTIN OFF-RESPONSE IN PARAMECIUM
Bell W.E.[1], Green M.H.[1] *[1]Department of Biology, Virginia Military Institute, Lexington, VA*

Th-am-2 15 USE OF REAL-TIME PCR TO QUANTITATE DIFFERENCES IN EXPRESSION OF DELAYED RECTIFYING POTASSIUM CHANNELS IN TASTE CELLS
Hansen D.R.[1], Kwon S.[1], Gilbertson T.A.[1] *[1]Biology, Utah State University, Logan, UT*

Th-am-3 16 EXPRESSION OF THE CLC FAMILY OF CHLORIDE CHANNELS IN TASTE CELLS
Rao S.[1], Hansen D.R.[1], Gilbertson T.A.[1] *[1]Biology, Utah State University, Logan, UT*





Th-am-4 17 THE CA2+-ACTIVATED CL CONDUCTANCE IN RAT OLFACTORY RECEPTOR CELLS
Reisert J.[1], Yau K.[1], Frings S.[2] *[1]Department of Neuroscience, Johns Hopkins School of Medicine, Howard Hughes Medical Institute, Baltimore, MD; [2]Institut für Biologische Informationsverarbeitung I, FZ Juelich, Juelich, Germany*

Th-am-5 18 IP3 RECEPTORS AND OLFACTORY RECEPTOR TRANSDUCTION
Liu G.[1], Badeau R.[1], Tanimura A.[2], Talamo B.[1] *[1]Neuroscience, Tufts U. School of Medicine, Boston, MA, U.S.; [2]Dental Pharmacology, U. of Hokkaido, Japan*

Th-am-6 19 EXPRESSION OF NA+/CA2+/(K+) EXCHANGERS IN OLFACTORY RECEPTOR NEURONS (ORNS)
Pyrski M.M.[1], Margolis J.W.[1], Polumuri S.K.[2], Bell G.[1], Ruknudin A.[2], Schulze D.H.[2], Margolis F.L.[1] *[1]Anatomy & Neurobiology, UMAB, Baltimore, MD; [2]Microbiology & Immunology, UMAB, Baltimore, MD*

Th-am-7 20 CALMODULIN-MEDIATED OLFACTORY ADAPTATION: THE ROLES OF CAMP-GATED CHANNEL SUBUNITS.
Bradley J.[1], Bönigk W.[2], Yau K.[1], Frings S.[2] *[1]Department of Neuroscience, Johns Hopkins University, Baltimore, MD; [2]IBI-1, Forschungszentrum, Jülich, Germany*

Th-am-8 21 MULTIPLE SUBTYPES OF VOLTAGE-GATED SODIUM CHANNELS ARE EXPRESSED BY MOUSE OLFACTORY SENSORY NEURONS
Frenz C.T.[1], Dionne V.E.[1] *[1]Biology, Boston University, Boston, MA*

Th-am-9 22 CALCIUM SENSITIVITY OF A SODIUM-ACTIVATED NON-SELECTIVE CATION CHANNEL IN LOBSTER OLFACTORY RECEPTOR NEURONS
Bobkov Y.V.[1], Ache B.W.[1] *[1]Whitney Laboratory, Center for Smell and Taste, and McKnight Brain Institute, University of Florida, Gainesville, FL*

Th-am-10 23 MOLECULAR AND CELLULAR CHARACTERIZATION OF AN IH-CHANNEL FROM LOBSTER OLFACTORY RECEPTOR NEURONS
Marx T.[1], Bobkov V.[2], Wetzel C.H.[1], Gisselmann G.[1], Ache B.W.[2], Hatt H.[1] *[1]Cell Physiology, Ruhr-University Bochum, Bochum, Germany; [2]Whitney Laboratory, Center for Smell and Taste, and McKnight Brain Institute, University of Florida, Gainsville, Fl*

## Development of the Olfactory System

Th-am-11 24 OVEREXPRESSION OF XDLL3 AND XDLL4 RESULTS IN SIMILAR MORPHOLOGICAL CHANGE IN XENOPUS LAEVIS
Cox J.T.[1], Burd G.D.[1] *[1]Molecular and Cellular Biology, University of Arizona, Tucson, AZ*

Th-am-12 25 REPRESENTATIONAL DIFFERENCE ANALYSIS OF METAMORPHIC CLIMAX VS. PRE-METAMORPHIC XENOPUS LAEVIS NOSES
Walworth E.S.[1], Burd G.D.[1] *[1]Molecular and Cellular Biology, University of Arizona, Tucson, AZ*

Th-am-13 26 IMMUNO-LOCALIZATION OF PACAP IN THE DEVELOPING AND MATURE RODENT VNO
Johnson E.W.[1], Hegg C.C.[2], Lucero M.T.[2] *[1]Biological Sciences, Idaho State University, Pocatello, ID; [2]Physiology, University of Utah, Salt Lake City, UT*

Th-am-14 27 LOCALIZATION OF ALDH 1 IN RAT OLFACTORY GLIA AND EFFECTS OF VITAMIN A-DEFICIENCY ON ITS EXPRESSION
Asson-Batres M.[1] *[1]Biological Sciences, Tennessee State University, Nashville, TN*

Th-am-15 28 GROWING OLFACTORY RECEPTOR AXONS FROM MANDUCA SEXTA DISPLAY DIFFERENT INTERACTIONS WITH CENTRAL AND PERIPHERAL GLIA IN VITRO.
Tucker E.S.[1], Oland L.A.[2], Tolbert L.P.[2] *[1]Cell Biology and Anatomy, University of Arizona, Tucson, AZ; [2]ARL Division of Neurobiology, University of Arizona, Tucson, AZ*

Th-am-16 29 A ROLE FOR EPH/EPHRIN SIGNALING IN DEVELOPING OLFACTORY AXONS
Kaneko M.[1], Nighorn A.[1] *[1]ARLDN, University of Arizona, Tucson, AZ*

Th-am-17 30 DIFFERENCES IN LECTIN-BINDING CONSTITUENTS ON OLFACTORY RECEPTOR AXONS PROJECTING TO ORDINARY AND SEXUALLY DIMORPHIC GLOMERULI IN MALE AND FEMALE MANDUCA SEXTA.
Gibson N.J.[1], Hildebrand J.G.[1], Tolbert L.P.[1] *[1]ARL Div. of Neurobiology, University of Arizona, Tucson, AZ*

Th-am-18 31 NCS-1 IN THE DEVELOPING OLFACTORY SYSTEM.
Treloar H.B.[1], Uboha U.[1], Jeromin A.[2], Greer C.A.[1] *[1]Neurosurgery, Yale University, New Haven, CT; [2]Samuel Lunenfeld Research Institute, Mount Sinai Hospital, Toronto, Canada*





Th-am-19 32 CADHERINS AND CATENINS IN THE DEVELOPING OLFACTORY SYSTEM.
Akins M.R.[1], Treloar H.B.[1], Greer C.A.[1] *[1]Neurosurgery, Yale University, New Haven, CT*

Th-am-20 33 IN VITRO EVIDENCE THAT DIFFUSIBLE FACTOR(S) RELEASED BY OLFACTORY EPITHELIUM PROMOTE DENDRITE EXTENSION OF MITRAL CELLS
Tran H.[1], Posthumus J.C.[1], Gong Q.[1] *[1]Department of Cell Biology and Human Anatomy, University of California, Davis, Davis, CA*

Th-am-21 34 ROLLER TUBE COCULTURE OF OLFACTORY EPITHELIUM AND BULB SUPPORTS CHRONIC NEURON SURVIVAL
Josephson E.M.[1], Linton A.[1] *[1]Anatomy, Physiology, and Pharmacology, Auburn University, Auburn, AL*

Th-am-22 35 DIFFERENTIAL EXPRESSION OF CAMKII IN THE MAIN AND ACCESSORY OLFACTORY BULBS
Zou D.[1], Firestein S.[1] *[1]Dept. Bio. Sci., Columbia Univ., New York, NY*

Th-am-23 36 TELENCEPHALIN EXPRESSION IN THE DEVELOPING MOUSE OLFACTORY BULB
Tookes H.[1], Yoshihara Y.[1], Mori K.[1], Greer C.A.[1] *[1]Neurosurgery/Neurobiology/Neuroscience, Yale University, New Haven, CT*

## Aging

Th-am-24 37 SUPEROXIDE DISMUTASE IMMUNOREACTIVITY IN THE HUMAN OLFACTORY BULB: EFFECT OF AGE IN ALZHEIMER'S DISEASE PATIENTS
Getchell M.L.[1], Buch S.[1], Davis D.G.[1], Shah D.S.[1], Getchell T.V.[1] *[1]Sanders-Brown Center on Aging, U. of KY, Lexington, KY*

Th-am-25 38 APOPTOTIC CELL DEATH IN THE AGING OLFACTORY EPITHELIUM
Robinson A.M.[1], Conley D.B.[1], Shinners M.J.[1], Kern R.C.[1] *[1]Otolaryngology-HNS, Northwestern University, Chicago, IL*

Th-am-26 39 THE IMPACT OF AGING AND MEDICATIONS ON FUNCTIONAL CHARACTERISTICS OF HUMAN OLFACTORY NEURONS.
Rawson N.E.[1], Gomez G.[1], Adamek G.[1], Pribitkin E.A.[2], Cowart B.J.[1] *[1]Monell Chemical Senses Center, Phila., PA; [2]Dept. Otolaryngology, Head and Neck Surgery, Thomas Jefferson Univ., Phila., PA*

Th-am-27 40 MHC-DERIVED ODOR PREFERENCES IN AGING FEMALE RATS
Shaw - Taylor E.[1], Mc Clintock M.K.[1] *[1]Psychology, University of Chicago, Chicago, IL*

Th-am-28 41 ODOR MEMORY IN AGING RATS
Kramer S.[1], Apfelbach R.[1] *[1]Animal Physiology, University of Tubingen, Tubingen, Germany*

Th-am-29 42 ODOR DETECTION THRESHOLDS IN YOUNG AND OLD MICE.
Larson J.[1], Sieprawska D.[1] *[1]Psychiatry, University of Illinois at Chicago, Chicago, IL*

Th-am-30 43 DECREASED ACTIVATION IN PRIMARY OLFACTORY AREAS OF OLDER SUBJECTS IN RESPONSE TO RETRONASAL OLFACTORY STIMULATION: A REGION OF INTEREST ANALYSIS OF FMRI DATA
Cerf-Ducastel B.[1], Martinez G.[1], Murphy C.[1] *[1]Psychology, San Diego State University, San Diego, CA*

Th-am-31 44 ADDITIONAL INSIGHTS INTO THE INFLUENCE OF AGING ON ODORANT QUALITY PERCEPTION
Newlon J.W.[1], Kurtz D.B.[1], Hornung D.E.[2] *[1]Neuroscience and Physiology, State University of New York Upstate Medical University, Syracuse, NY; [2]Biology, St. Lawrence University, Canton, NY*

Th-am-32 45 RELATIONSHIPS BETWEEN FOOD PREFERENCE AND INTAKE ACROSS THE LIFESPAN: NEW FINDINGS FROM NHANES III AND USDA SURVEYS
Snyder D.J.[1], Duffy V.B.[2], Hoffman H.J.[3], Ko C.W.[3], Bartoshuk L.M.[1] *[1]Surgery, Yale Univ., New Haven, CT; [2]Dietetics, Univ. of Connecticut, Storrs, CT; [3]NIDCD, NIH, Bethesda, MD*

Th-am-33 46 AGE-RELATED DIFFERENCES IN FAT PERCEPTION AND DIETARY BEHAVIORS
Chapo A.K.[1], Bartoshuk L.M.[2], Ilich J.Z.[1], Duffy V.B.[1] *[1]Dietetics Program, University of Connecticut, Storrs, CT; [2]Surgery, Yale University, New Haven, CT*

Th-am-34 47 FLAVOUR-TEXTURE INTERACTION IN MODEL CHEESE WAFFLES
Mojet J.[1], Kremer S.[1] *[1]Wageningen Centre for Food Sciences, Wageningen, Netherlands*





## Disease and Clinical Conditions

Th-am-35 48 PARKINSON´S DISEASE AS POSSIBLE CAUSE OF IDIOPATHIC OLFACTORY LOSS
Hummel T.[1], Frasnelli J.[1], Mueller A.[2], Muengersdorf A.[2], Sommer U.[2], Reichmann H.[2] *[1]Otorhinolaryngology, University of Dresden Medical School, Dresden, Germany; [2]Neurology, University of Dresden Medical School, Dresden, Germany*

Th-am-36 49 OLFACTORY DYSFUNCTION IN DEGENERATIVE ATAXIAS
Connelly T.[1], Farmer J.M.[2], Lynch D.R.[3], Doty R.L.[1] *[1]Smell and Taste Center, University of Pennsylvania, Philadelphia, PA; [2]Division of Medical Genetics, University of Pennsylvania, Philadelphia, PA; [3]Neurology, University of Pennsylvania, Philadelphia, PA*

Th-am-37 50 CORRELATES OF ODOR DISCRIMINATION, IDENTIFICATION AND RECOGNITION MEMORY TASK PERFORMANCE IN PATIENTS WITH EPILEPSY
Dulay M.F.[1], Schefft B.K.[2] *[1]Dept of Psychology, Univ of Cincinnati, Cincinnati, OH; [2]Dept of Neurology, Univ Hospital, Cincinnati, OH*

Th-am-38 51 SIGNIFICANT HYPOSMIA IN CYSTIC FIBROSIS
Henriksson G.[1], Hallberg A.[1], Stjärne P.[1], Hjelte L.[2] *[1]ENT-Department, Karolinska Institute, Stockholm, Sweden; [2]Department of Paediatrics, Karolinska Institute, Stockholm, Sweden*

Th-am-39 52 CHEMOSENSORY PERCEPTION IN ELDERLY LUNG CANCER PATIENTS ON CHEMOTHERAPY
Schiffman S.S.[1], Zervakis J.[1], Campagna L.K.[2], Garst J.L.[2] *[1]Department of Psychiatry, Duke University, Durham, NC; [2]Department of Medicine, Duke University, Durham, NC*

Th-am-40 53 SMELL LOSS IN NASAL-SINUS DISEASE
Cowart B.J.[1], Pribitkin E.A.[2], Klock C.T.[1], Rosen D.[2], Rosen M.R.[2], Keane W.M.[2] *[1]Monell Chemical Senses Center, Philadelphia, PA; [2]Otolaryngology-Head & Neck Surgery, Thomas Jefferson University, Philadelphia, PA*

Th-am-41 54 OLFACTORY AND NEUROPSYCHOLOGICAL DEFICITS IN PATIENTS WITH ALCOHOL DEPENDENCE
Rupp C.I.[1], Mair D.[1], Kurz M.[1], Hausmann A.[1], Hinterhuber H.[1] *[1]Department of Psychiatry, University Clinics of Innsbruck, Innsbruck, Austria*

Th-am-42 55 AN UNBLINDED TRIAL OF ALPHA-LIPOIC ACID IN THE TREATMENT OF OLFACTORY LOSS FOLLOWING INFECTIONS OF THE UPPER RESPIRATORY TRACT
Heilmann S.[1], Frasnelli J.[1], Huettenbrink K.[1], Hauswald B.[1], Hummel T.[1] *[1]Otorhinolaryngology, University of Dresden Medical School, Dresden, Germany*

Th-am-43 56 ENVIRONMENTAL ODOR SENSITIVITY IN FEMALES: CAN IT BE INDUCED EXPERIMENTALLY BY REPEATED EXPOSURES TO LOW-LEVEL CHEMICALS?
Smeets M.A.[1], Maute C.[1], Opiekun R.E.[1], Dalton P.[1] *[1]Monell Chemical Senses Center, Philadelphia, PA*

Th-am-44 57 THE MOLECULAR GENETICS OF HUMAN CONGENITAL GENERAL ANOSMIA
Feldmesser E.[1], Halbertal S.[2], Frydman M.[3], Gross-Isseroff R.[1], Lancet D.[1] *[1]Dept. of Molecular Genetics, Weizmann Institute of Science, Rehovot, Israel; [2]Dept. of Otorhinolaryngology, Kaplan Hospital, Rehovot, Israel; [3]Dept. of Genetics, Sheba Medical Center, Tel Hashomer, Israel*

Th-am-45 58 THE CRANIAL I QUICK SNIFF™: A NEW SCREENING TEST FOR OLFACTORY FUNCTION
Gilbert A.N.[1], Popper R.[2], Kroll J.J.[2], Nicklin L.[2], Zellner D.A.[3] *[1]Cranial One Corporation, Upper Montclair, NJ; [2]Peryam & Kroll Research Corporation, Chicago, IL; [3]Psychology Department, Montclair State University, Montclair, NJ*

Th-am-46 59 COMPARATIVE STUDY BETWEEN THE T&T OLFACTOMETER AND THE ODOR STICK IDENTIFICATION TEST FOR THE PATIENTS WITH OLFACTORY DISTURBANCE
Miwa T.[1], Horikawa I.[1], Ishimaru T.[1], Hatanaka S.[1], Furukawa M.[1], Saito S.[2], Takashima Y.[3] *[1]Otorhinolaryngology, Kanazawa University, Kanazawa, Japan; [2]Neuroscience Research Institute, National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan; [3]Publicity Department, Takasago International Corporation, Tokyo, Japan*

Th-am-47 60 FUNGIFORM PAPILLA (FP) NUMBER ASSOCIATES WITH DIETARY FAT BEHAVIORS AND SERUM CHOLESTEROL IN MIDDLE-AGED ADULTS
Duffy V.B.[1], Hutchins H.[1], Allen G.J.[2], Pescatello L.S.[1] *[1]School of Allied Health, University of Connecticut, Storrs, CT; [2]Psychology, University of Connecticut, Storrs, CT*

Th-am-48 61 ARE 6-N-PROPYLTHIOURACIL (PROP) NONTASTERS AT RISK FOR HIGH BLOOD PRESSURE?
Hutchins H.L.[1], Pescatello L.S.[1], Allen G.J.[2], Duffy V.B.[1] *[1]School of Allied Health, University of Connecticut, Storrs, CT; [2]Psychology, University of Connecticut, CT*





**Cash Lunch Carts Available, 12:00 PM - 1:30 PM** *(Prefunction Area)*

**Minority and Clinical Travel Awardee Luncheon, 12:30 PM - 2:00 PM**
*(Executive Board Room)*

**NIH Workshop: Funding Opportunities for New Investigators, 3:30 PM - 5:00 PM** *(Salons E & F)*

**Junior Investigator Cookout, 5:00 PM - 7:00 PM** *(Outdoors)*

## SLIDES

**Thursday - 7:00 PM - 8:00 PM**

**Chemoreceptors: Genes and Proteins**
*Chairperson: Steven Munger*

7:00 62 MOLECULAR EVOLUTION OF THE MOSQUITO ANOPHELES GAMBIAECHEMORECEPTOR GENE SUPERFAMILY
Robertson H.M.[1] *[1]Entomology, University of Illinois at Urbana-Champaign, Champaign, IL*

7:15 63 IDENTIFICATION OF A HUMAN BITTER RECEPTOR
Bufe B.[1], Hofmann T.[2], Krautwurst D.[1], Meyerhof W.[1] *[1]Molekulare Genetik, German Institute of Human Nutrition, Potsdam-Rehbrücke, Germany; [2]German Research Center of Food Chemistry, Garching, Germany*

7:30 64 ODORANT RECEPTOR IDENTITY IMPARTS A SPECIFIC CODE TO AXONS OF OLFACTORY SENSORY NEURONS.
Feinstein P.[1], Hedbacker K.[1], Lee J.[1], Rodriguez I.[1], Vassalli A.[1], Mombaerts P.[1] *[1]Neurogenetics, The Rockefeller University, NYC, NY*

7:45 65 DATA MINING, SEQUENCE ANALYSIS AND MOTIF DISCOVERY OF THE MOUSE OLFACTORY RECEPTORS
Zhang X.[1], Liu A.H.[2], Califano A.[2], Stolovitzky G.[2], Firestein S.[1]
*[1]Biological Sciences, Columbia University, New York, NY; [2]Computational Biology Center, T. J. Watson IBM Research, Yorktown Heights, NY*

**Evening Break 8:00 PM - 8:15 PM**

## SYMPOSIUM

**Thursday - 8:15 PM - 10:30 PM**

**Stem Cells and the Chemical Senses: Analytic and Therapeutic Approaches**
*Chairperson: James E. Schwob*

8:15 66 **James E. Schwob**
INTRODUCTION: STEM CELLS AND THE CHEMICAL SENSES: ANALYTIC AND THERAPEUTIC APPROACHES
Schwob J.E.[1] *[1]Anatomy & Cellular Biology, Tufts University, Boston, MA*

8:20 67 **Arlene Y. Chiu**
NIH POLICY AND FUNDING OF STEM CELL RESEARCH
Chiu A.Y.[1] *[1]Repair and Plasticity Program, NINDS/NIH, Bethesda, MD*

8:40 68 **Mahendra S. Rao**
STEM CELLS AND THE NERVOUS SYSTEM
Rao M.S.[1] *[1]Stem Cell Biology Unit, NIA/NIH, Baltimore, MD*

9:10 69 **Jeffrey D. Macklis**
INDUCTION OF NEUROGENESIS IN THE NEOCORTEX OF ADULT MICE
Macklis J.D.[1] *[1]Neurology and Neuroscience, Harvard Medical School, Boston, MA*





9:40 70 **James E. Schwob**
THE ANALYSIS OF PROGENITOR AND STEM CELL CAPACITY IN THE MAMMALIAN OLFACTORY EPITHELIUM
Schwob J.E.[1] *[1]Anatomy & Cellular Biology, Tufts University School of Medicine, Boston, MA*

10:10 DISCUSSION

***This symposium was sponsored in part by the Taste and Smell Program, National Institute on Deafness and Other Communication Disorders***

## POSTERS

**Thursday - 7:00 PM - 11:00 PM**

**Trigeminal System**

Th-pm-1 71 INTERACTION OF BURN BETWEEN CAPSAICIN, PIPERINE, AND ZINGERONE
Affeltranger M.A.[1], Mcburney D.H.[1], Balaban C.D.[2] *[1]Psychology, University of Pittsburgh, Pittsburgh, PA; [2]Otolaryngology and Neurobiology, University of Pittsburgh, Pittsburgh, PA*

Th-pm-2 72 DESENSITIZATION OF ORAL IRRITATION BY MUSTARD OIL AND RECIPROCAL CROSS-DESENSITIZATION WITH CAPSAICIN
Carstens E.[1], Iodi Carstens M.[1], Simons C.T.[2] *[1]Neurobiology, Physiology and Behavior, University of California, Davis, Davis, CA; [2]Food Science & Technology, University of California, Davis, Davis, CA*

Th-pm-3 73 ASSESSMENT OF OCULAR AND NASAL IRRITATION IN ASTHMATICS RESULTING FROM FRAGRANCE EXPOSURE
Opiekun R.[1], Smeets M.[1], Rogers R.[2], Prasad N.[3], Vedula U.[4], Dalton P.[1] *[1]Monell Chemical Senses Center, Philadelphia, PA; [2]Toxcon, Health Sciences Research Centre, Inc., Edmonton, Canada; [3]University of Alberta, Edmonton, Canada; [4]S.C. Johnson & Son, Racine, WI*

Th-pm-4 74 SENSORY PERCEPTION OF PARTICULATE MATTER FROM MINERALS
Cain W.S.[1], Jalowayski A.A.[1], Kleinman M.T.[2], Lee N.S.[1], Lee B.R.[1], Ahn B.H.[1], Magruder K.[1], Schmidt R.[1], Culver B.D.[3]
*[1]Surgery, University of California, San Diego, La Jolla, CA; [2]Community & Environmental Medicine, University of California, Irvine, Irvine, CA; [3]Medicine, University of California, Irvine, Irvine, CA*

Th-pm-5 75 INDIVIDUAL DIFFERENCES IN NASAL LOCALIZATION FUNCTIONS FOR CARBON DIOXIDE
Wise P.M.[1], Wysocki C.J.[1] *[1]Monell Chemical Senses Center, Philadelphia, PA*

Th-pm-6 76 DOES HABER'S LAW APPLY TO SENSORY IRRITATION?
Shusterman D.J.[1], Matovinovic E.C.[1], Salmon A.G.[2] *[1]Medicine, University of California, San Francisco, San Francisco, CA; [2]Office of Environmental Health Hazard Assessment, California Environmental Protetion Agency, Oakland, CA*

Th-pm-7 77 UNDERGROUND CABLE GNAWING REPELLENT EFFECTS WITH CAPSAICIN TREATMENTS IN NORTHERN POCKET GOPHERS (T. TALPOIDES) AND PLAINS POCKET GOPHERS (G. BURSARIUS).
Shumake S.A.[1] *[1]USDA/APHIS, National Wildlife Research Center, Fort Collins, CO*

Th-pm-8 78 IN VIVO EFFECTS OF CAPSAZEPINE ON TRIGEMINAL NERVE SENSITIVITY TO CARBON DIOXIDE AND NICOTINE
Alimohammadi H.[1], Silver W.L.[1] *[1]Department of Biology, Wake Forest University, Winston-Salem, NC*

Th-pm-9 79 ELECTROPHYSIOLOGICAL CHARACTERIZATION OF P2X-RECEPTORS IN CULTURED RAT TRIGEMINAL NEURONS
Paul J.[1], Wetzel C.H.[1], Hatt H.[1] *[1]Cell Physiology, Ruhr-University Bochum, Bochum, Germany*

Th-pm-10 80 SIMILARITIES BETWEEN CAPSAICIN- AND METHYL ANTHRANILATE-SENSITIVE CHICKEN TRIGEMINAL NEURONS
Kurnellas M.P.[1], Kirifides M.L.[1], Clark L.[2], Bryant B.P.[1]
*[1]Neuroscience, Monell Chemical Senses Center, Philadelphia, PA; [2]Repellents, National Wildlife Research Center, Fort Collins, CO*





## Conditioned Aversions

Th-pm-11 81 BEHAVIORAL EFFECTS OF STATIC MAGNETIC FIELDS ON FREELY MOVING AND RESTRAINED MICE
Lockwood D.R.[1], Kwon B.S.[1], Smith J.C.[2], Houpt T.A.[1]
*[1]Biological Sciences, Florida State University, Tallahassee, FL; [2]Psychology, Florida State University, Tallahassee, FA*

Th-pm-12 82 CONDITIONED TASTE AVERSION INDUCED BY HIGH MAGNETIC FIELDS IN MALE AND FEMALE RATS DEPENDS ON POSITION WITHIN THE FIELD
Houpt T.[1], Riedell A.[1], Golden G.[1], Cassell J.A.[1], Riccardi C.[2], Smith J.C.[2] *[1]Biological Sciences, Florida State University, Tallahassee, FL; [2]Psychology, Florida State University, Tallahassee, FA*

Th-pm-13 83 TASTE PRE-EXPOSURE ATTENUATES BOTH BEHAVIORAL AND NEURAL EXPRESSION OF A CONDITIONED TASTE AVERSION IN RATS.
Tiffany G.J.[1], Kwon B.S.[1], Barranco J.M.[2], Lorch J.H.[1], Houpt T.[1]
*[1]Biological Science, Florida State University, Tallahassee, FL; [2]Psychology, Florida State University, Tallahassee, FL*

Th-pm-14 84 BEHAVIORAL AND NEURAL EXPRESSION OF CONDITIONED CAPSAICIN AVERSION
Lorch J.H.[1], Kwon B.S.[1], Barranco J.M.[1], Tiffany G.J.[1], Houpt T.A.[3] *[1]Biological Science, Florida State University, Tallahassee, FL*

Th-pm-15 85 TASTE-POTENTIATED ODOR AVERSIONS: EFFECTS OF EXCITOTOXIC LESIONS OF THE AMYGDALA, VENTROPOSTEROMEDIAL THALAMIC NUCLEUS AND INSULAR CORTEX IN RATS
Inui T.[1], Yamamoto T.[1] *[1]Division of Behavioral Physiology, Department of Behavioral Sciences, Graduate School of Human Sciences, Osaka University, Suita, Osaka, Japan*

## Tracking and Orientation

Th-pm-16 86 SENSORS AND MOBILE PLATFORM FOR ELECTRONIC OLFACTION
Gelperin A.[1], Dodabalapur A.[2], Katz H.E.[3], Lee D.D.[4] *[1]Biophysics, Monell Chemical Senses Center, Philadelphia, PA; [2]Electrical and Computer Engineering, University of Texas at Austin, Austin, TX; [3]Materials Research, Bell Laboratories, Murray Hill, NJ; [4]Electrical Engineering & Bioengineering, University of Pennsylvania, Philadelphia, PA*

Th-pm-17 87 RESPONSES TO HOST ODOR BY THE LIMULUS WORM
Martel D.A.[1], Atema J.[1] [1]*Boston University Marine Program, Boston University, Woods Hole, MA*

Th-pm-18 88 FERTILIZATION IN THE SEA: THE CHEMICAL IDENTITY OF AN ABALONE SPERM ATTRACTANT
Krug P.J.[1], Riffell J.[1], Zimmer R.K.[1] [1]*Biology, University of California, Los Angeles, Los Angeles, CA*

Th-pm-19 89 THE EFFECT OF ODOR PULSE FREQUENCY ON THE ORIENTATION BEHAVIOR OF THE CRAYFISH, ORCONECTES RUSTICUS.
Kozlowski C.P.[1], Moore P.A.[1] [1]*Biological Sciences, Bowling Green State University, Toledo, OH*

Th-pm-20 90 UNILATERAL LESIONING OF CHEMORECEPTORS DISTINGUISHES BETWEEN RHEOTAXIS AND CHEMOTAXIS
Kraus-Epley K.E.[1], Moore P.A.[1] [1]*Biological Sciences, Bowling Green State University, Bowling Green, OH*

Th-pm-21 91 ORIENTATION IN COMPLEX SENSORY LANDSCAPES: SPATIAL ARRANGEMENT OF ODOR SOURCES MODIFIES ORIENTATION STRATEGIES OF CRAYFISH.
Wolf M.C.[1], Moore P.A.[1] [1]*Biological Sciences, Bowling Green State University, Bowling Green, OH*

Th-pm-22 92 AMERICAN LOBSTERS TRACK AND LOCATE DISTANT "LEAKY" ODOR SOURCES
Voigt R.[1], Basil J.[2], Atema J.[3] [1]*Department of Biological Sciences, Bowling Green State University, Bowling Green, OH;* [2]*Department of Biology, Brooklyn College, Brooklyn, NY;* [3]*Boston Univesity Marine Program, Boston University, Woods Hole, MA*

Th-pm-23 93 DIFFERENT POPULATIONS OF ANTENNULAR CHEMOSENSILLA CAN MEDIATE THE ORIENTATION OF SPINY LOBSTERS
Horner A.J.[1], Derby C.D.[1] [1]*Biology, Georgia State University, Atlanta, GA*

Th-pm-24 94 MODIFICATION OF THE SILKMOTH PHEROMONE-SEARCHING BEHAVIOR BY VISUAL INFORMATION, CIRCADIAN RHYTHMS AND SEROTONIN
Gatellier L.[1], Hill E.S.[1], Iwano M.[1], Nagao T.[2], Kanzaki R.[1] [1]*Inst. Biol. Sci., Univ. of Tsukuba, Tsukuba, Ibaraki, Japan;* [2]*Matto Lab. Human Inform. Syst., Kanazawa Inst. Tech., Kanazawa, Ishikawa, Japan*





Th-pm-25 95 AN EVALUATION OF FACTORS RELATED TO THE DETERMINATION OF THE DIRECTION OF QUARRY MOVEMENT BY EXPERIENCED TRACKING DOGS
Brisbin I.L.[1], Walker D.B.[2], Morrison W.H.[3], Walker J.C.[2] [1]*Savannah River Ecology Laboratory, University of Georgia, Aiken, SC;* [2]*Sensory Research Institute, Florida State University, Tallahassee, Fl;* [3]*Athens, GA*

Th-pm-26 96 MEASURING CANINE OLFACTORY FUNCTION NATURALISTICALLY
Pickel D.P.[1], Walker D.B.[2], Hoadley F.B.[2], Taylor J.L.[2], Walker J.C.[2] [1]*Vonpickel, K-9 Inc., Tallahassee, FL;* [2]*Sensory Research Institute, Florida State University, Tallahassee, FL*

## Neural Coding in the Peripheral Olfactory System

Th-pm-27 97 MODELING OF HUMAN OLFACTORY ADAPTATION
Zhao K.[1], Dalton P.[2], Opiekun R.[2], Coleman D.[2], Scherer P.W.[1] [1]*Bioengineering Dept, University of Pennsylvania, Philadelphia, PA;* [2]*Monell Chemical Senses Center, Philadelphia, PA*

Th-pm-28 98 CONCENTRATION MODULATION OF SNIFFING IN HUMANS REVEALS RAPID OLFACTORY PROCESSING
Johnson B.[1], Mainland J.[2], Sobel N.[2] [1]*Bioengineering, University of California, Berkeley, CA;* [2]*Neuroscience, University of California, Berkeley, CA*

Th-pm-29 99 DOSE-DEPENDENT RESPONSES OF MANDUCA SEXTA "PHEROMONE-SPECIFIC" OLFACTORY NEURONS TO GENERAL ODORANTS
Peterlin Z.A.[1], Rogers M.E.[1], Chesler A.T.[1], Firestein S.J.[1] [1]*Biological Sciences, Columbia University, New York, NY*

Th-pm-30 100 DISRUPTION OF GAP JUNCTIONS IN OLFACTORY NEURONS ALTERS OLFACTORY RESPONSES TO SOME ODORS
Zhang C.[1], Restrepo D.[1] [1]*Department of Cellular and Structural Biology, Neuroscience Program and the Rocky Mountain Smell and Taste Center, University of Colorado Health Sciences Center, Denver, CO*

Th-pm-31 101 COMPLEX ELECTROPHYSIOLOGICAL RESPONSES OF CATFISH OLFACTORY RECEPTOR NEURONS TO AMINO ACID STIMULI
Valentincic T.[1], Koce A.[1], Blejec A.[2], Miklavc P.[1] [1]*Biology, Univ. Ljubljana, Ljubljana, Slovenia;* [2]*Natl. Ins. Biol., Univ. Ljubljana, Ljubljana, Slovenia*

Th-pm-32 102 IN SITU CALCIUM IMAGING FOR SPATIAL ODOR MAPS IN THE MOUSE OLFACTORY EPITHELIUM
Omura M.[1], Sekine H.[2], Shimizu T.[2], Kataoka H.[1], Touhara K.[1]
*[1]Department of Integrated Biosciences, University of Tokyo, Kashiwa, Chiba, Japan; [2]Department of Biochemistry and Molecular Biology,Faculty of Medicine, University of Tokyo, Tokyo, Japan*

Th-pm-33 103 COMBINATORIAL PHEROMONE CODING VISUALIZED IN THE MOUSE MAIN OLFACTORY EPITHELIUM
Ziesmann J.[1], Ma W.[2], Novotny M.V.[2], Zufall F.[1], Leinders-Zufall T.[1] *[1]Anatomy & Neurobiology, University of Maryland, Baltimore, MD; [2]Institute for Pheromone Research and Department of Chemistry, Indiana University, Bloomington, IN*

Th-pm-34 104 MAPPING OLFACTORY RESPONSES TO CO2 IN ADULT RATS
Cecala A.[1], Coates E.[1], Scott J.W.[2] *[1]Neuroscience Program, Allegheny College, Meadville, PA; [2]Cell Biology, Emory University, Atlanta, GA*

## Learning and Cognition

Th-pm-35 105 THE CONTRIBUTION EACH NOSTRIL MAKES TO OLFACTORY PERCEPTION
De Puy K.S.[1], Hornung D.E.[1] *[1]Biology Department, St. Lawrence University, Canton, NY*

Th-pm-36 106 SPECIFIC EFFECT OF ODOR BUT NOT VISUAL IMAGERY ON DETECTION OF WEAK ODORS
Djordjevic J.[1], Boyle J.[1], Zatorre R.[1], Jones Gotman M.[1]
*[1]Neuropsychology, Montreal Neurological Institute, Montreal, Canada*

Th-pm-37 107 PERCEPTION OF ANIMAL ODORS IN SPACEFLIGHT: SENSORY AND COGNITIVE EFFECTS
Gould M.[1], Doolittle N.[1], Bateman T.[2], Dalton P.[1] *[1]Monell Chemical Senses Center, Philadelphia, PA; [2]BioServe Space Technologies, University of Colorado, Boulder, CO*

Th-pm-38 108 MECHANISMS OF OLFACTORY PERCEPTUAL LEARNING
Fletcher M.L.[1], Wilson D.A.[1] *[1]Zoology, University of Oklahoma, Norman, OK*

Th-pm-39 109 MAPPING THE MULTI-DIMENSIONALITY OF OLFACTORY EXPERIENCE AND MEMORY
Koenitzer J.[1], Maute C.[1], Oshida A.[2], Hikichi S.[2], Izumi Y.[2], Dalton P.[1] *[1]Monell Chemical Senses Center, Philadelphia, PA; [2]Kao Corporation, Tokyo, Japan*





Th-pm-40 110 SEX DIFFERENCES IN RECOLLECTIVE EXPERIENCE FOR OLFACTORY AND VERBAL INFORMATION
Larsson M.[1], Lövdén M.[1], Nilsson L.[1] *[1]Dept of Psychology, Stockholm University, Stockholm, Sweden*

Th-pm-41 111 EVIDENCE FOR LEFT:RIGHT DIFFERENCES IN ODOR DISCRIMINATION, BUT NOT IN SHORT-TERM ODOR MEMORY
Doty R.L.[1], Halm A.K.[1] *[1]Smell and Taste Center, University of Pennsylvania Smell and Taste Center, Philadelphia, PA*

Th-pm-42 112 ATTENTION TO GUSTATORY AND OLFACTORY FLAVORS
Ashkenazi A.[1], Marks L.E.[1] *[1]Sensory Neuroscience Group, J. B. Pierce Laboratory, New Haven, CT*

Th-pm-43 113 EFFECTS OF PEPPERMINT ODOR ON INCREASING CLERICAL OFFICE-WORK PERFORMANCE
Grayhem P.[1], Koon J.[1], Whalen A.[1], Barker S.[1], Perkins J.[1], Raudenbush B.[1] *[1]Psychology, Wheeling Jesuit University, Wheeling, WV*

Th-pm-44 114 EFFECTS OF ODORANT ADMINISTRATION ON RATINGS OF PHYSICAL ATTRACTIVENESS AND PERSONALITY CHARACTERISTICS
Corley N.[1], Raudenbush B.[1] *[1]Psychology, Wheeling Jesuit University, Wheeling, WV*

Th-pm-45 115 ALTERING THE EXPERIENCE OF CHEMESTHESIS: INSTRUCTIONAL MANIPULATIONS, ATTENTIONAL FOCUS AND PERCEIVED IRRITATION.
Maute C.[1], Dalton P.[1] *[1]Monell Chemical Senses Center, Philadelphia, PA*

Th-pm-46 116 MODULATION OF PAIN THRESHOLD, PAIN TOLERANCE, MOOD, WORKLOAD, AND ANXIETY THROUGH ODORANT ADMINISTRATION
Raudenbush B.[1], Meyer B.[2], Flower N.[3], Koon J.[1] *[1]Psychology, Wheeling Jesuit University, Wheeling, WV; [2]Counseling, Appalachian State University, Boone, NC; [3]Adolescent Services, Northwood Health Systems, Pittsburgh, PA*

Th-pm-47 117 EFFECTS OF MOTIVATION AND COMPETITIVENESS ON PAIN THRESHOLD AND RESPONSE
Perkins J.[1], Tornifolio B.[1], Gillis K.[1], Mccune A.[1], Zambito K.[1], Raudenbush B.[1] *[1]Psychology, Wheeling Jesuit University, Wheeling, WV*

Th-pm-48 118 A TEST OF ASSOCIATIVE ODOR LEARNING
Herz R.S.[1], Beland S.L.[1] *[1]Psychology, Brown University, Providence, RI*

Th-pm-49 119 MEMORY FOR INDIVIDUAL ODORS IN GOLDEN HAMSTERS: FUNCTIONAL NEUROANATOMY AND ROLE OF PROTEIN SYNTHESIS
Lai W.[1], Chen A.[1], Johnston R.E.[1] [1]*Psychology Dept., Cornell University, Ithaca, NY*

Th-pm-50 120 MEMORY CONSOLIDATION IN THE ONE-TRIAL LEARNING OF NIPPLE-SEARCH ODORS IN RABBIT PUPS
Hudson R.[1], Mendoza A.[1], Couraud G.[1] [1]*Dept. Physiology, Inst. for Biomed. Res., Nacional University of Mexico, Mexico City, Mexico*





## Friday, April 26, 2002

**Continental Breakfast, 7:30 AM - 9:00 AM** *(Prefunction Area)*

## SLIDES

**Friday - 8:00 AM - 9:45 AM**

**Chemosensory Processing in Humans**
*Chairperson: Valerie Duffy*

8:00 121 FLAVOR AND TEXTURE PERCEPTION OF DAIRY PRODUCTS USING PROP CLASSIFICATION AND FREE-CHOICE PROFILING
Kirkmeyer S.V.[1], Tepper B.J.[2] [1]*Flavors, Int'l Flavors & Fragrances, Inc., Dayton, NJ;* [2]*Food Science, Rutgers, The State University of New Jersey, New Brunswick, NJ*

8:15 122 POSTINGESTIVE EFFECTS OF ADDED GLUTAMATE ON LIKING FOR NOVEL FLAVORS
Prescott J.[1] [1]*Sensory Science Research Centre, University of Otago, Dunedin, New Zealand*

8:30 123 EFFECTS OF CAPSAICIN TREATMENT ON TASTE PERCEPTION IN WOMEN
Massaro C.E.[1], Formaker B.K.[1], Frank M.E.[1] [1]*Oral Diagnosis, University of Connecticut Health Center, Farmington, CT*

8:45 124 HORMONAL GATING OF EXPOSURE-INDUCED SENSITIVITY TO ODORS IN WOMEN
Dalton P.[1], Gould M.[1], Basic M.[1], Breslin P.A.[1] [1]*Monell Chemical Senses Center, Philadelphia, PA*

9:00 125 OLFACTORY CODING OF PLEASANTNESS AND INTENSITY IN THE HUMAN AMYGDALOID COMPLEX
Sobel N.[1], Khan R.[1], Stappen I.[1], Anderson A.[1] [1]*Neuroscience, University of California, Berkeley, CA*

9:15 126 CEREBRAL PROCESSING OF BIMODAL ODORANTS
Berglund H.[1], Heden-Blomqvist E.[2], Savic I.[3] [1]*Medicine, Karolinska Institute, Stockholm, Sweden;* [2]*ENT, Karolinska Institute, Stockholm, Sweden;* [3]*Neuroscience, Karolinska Institute, Stockholm, Sweden*

9:30 127 OLFACTORY IMPAIRMENT IN A POPULATION AT RISK FOR DEMENTIA
Murphy C.[1], Schubert C.[2], Cruickshanks K.J.[2] *[1]Psychology, San Diego State University, San Diego, CA; [2]Ophthalmology and Visual Sciences, University of Wisconsin-Madison Medical School, Madison, WI*

**Mid morning coffee available 9:30 AM - 10:00 AM**

## SYMPOSIUM

**Friday - 10:00 AM - 12:15 PM**

**Behavioral Analysis of Chemosensory Function**
*Chairperson: John I. Glendinning*

10:00 128 **John I. Glendinning**
INTRODUCTION: BEHAVIORAL ANALYSIS OF CHEMOSENSORY FUNCTION
Glendinning J.I.[1] *[1]Barnard College, Columbia University, New York, NY*

10:05 129 **Robert J. Dooling**
AVIAN PSYCHOACOUSTICS
Dooling R.J.[1] *[1]Psychology, University of Maryland College Park, College Park, MD*

10:30 130 **Brian H. Smith**
EVOLUTION IN PARALLEL: WHAT BEHAVIORAL STUDIES OF INSECTS TELL US ABOUT OLFACTORY CODES IN GENERAL
Smith B.H.[1] *[1]Entomology, Ohio State University, Columbus, OH*

10:55 131 **Matthias Laska**
WHAT GENES, SECOND MESSENGERS, AND ION CHANNELS CANNOT TELL US.....OR: WHY BEHAVIORAL ANALYSIS OF OLFACTORY FUNCTION IS MORE IMPORTANT THAN EVER
Laska M.[1] *[1]Dep. of Medical Psychology, University of Munich, Munich, Germany*





11:20 132 **John I. Glendinning**
WHAT IS THE BEST STRATEGY FOR ASSESSING TASTE-MEDIATED INGESTIVE RESPONSES IN MICE?
Glendinning J.I.[1] *[1]Department of Biological Sciences, Barnard College, Columbia University, New York, NY*

11:45 DISCUSSION

**Burton Slotnick** *(Discussant)*
*Department of Psychology, American University*

**Steven J. St. John** *(Discussant)*
*Department of Psychology, Reed College*

***This symposium was sponsored in part by a grant from the National Institute on Deafness and Other Communication Disorders***

## POSTERS

**Friday - 8:00 AM - 12:00 PM**

**Chemosensation in Children**

Fr-am-1 133 SWEDISH SMELL IDENTIFICATION TEST FOR CHILDREN (SSIT-C )
Hallberg A.[1], Stjärne P.[1], Larsson M.[2] *[1]Department of Clinical Science, Division of Otorhinolaryngology, Stockholm, Sweden; [2]Department of Phychology, Psychology, Stockholm, Sweden*

Fr-am-2 134 ASSESSMENT OF OLFACTORY FUNCTION IN CHILDREN USING THE SNIFF MAGNITUDE TEST
Niergarth K.A.[1], Dulay M.F.[2], Gesteland R.C.[3], Frank R.A.[2] *[1]Emerging Concepts, Inc., Cin, OH; [2]Dept of Psychology, Univ of Cincinnati, Cin, OH; [3]Dept of Cell Biology, Univ of Cincinnati, Cin, OH*

Fr-am-3 135 BITTER TASTE MODIFICATION BY SODIUM SALTS IN PEDIATRIC POPULATIONS AND ADULTS
Pepino M.Y.[1], Mcfarlane N.[1], Teel T.[1], Breslin P.A.[1], Beauchamp G.K.[1], Mennella J.A.[1] *[1]Monell Chemical Senses Center, Philadelphia, PA*

Fr-am-4 136 TASTE PORE DENSITY ON THE TONGUE AND PROP SENSITIVITY IN CHILDREN
Hutchinson I.[1], Shahbake M.[1], Laing D.G.[1], Jinks A.L.[1] *[1]Centre for Advanced Food Research, University of Western Sydney, Penrith, NSW, Australia*

Fr-am-5 137 GENETIC SENSITIVITY TO 6-N-PROPYLTHIOURACIL (PROP) INFLUENCES ACCEPTANCE OF CERTAIN BITTER AND SPICY FOODS IN PRESCHOOL CHILDREN
Keller K.L.[1], Tepper B.J.[2] [1]*Nutritional Sciences, Rutgers, The State University of New Jersey, New York, NY;* [2]*Food Science, Rutgers, The State University of New Jersey, New Brunswick, NJ*

Fr-am-6 138 THE EFFECTS OF TIMING AND DURATION OF EXPOSURE ON ESTABLISHING FLAVOR PREFERENCES DURING INFANCY
Griffin C.E.[1], Howard J.[1], Beauchamp G.K.[1], Mennella J.A.[1] [1]*Monell Chemical Senses Center, Philadelphia, PA*

Fr-am-7 139 HEIGHTENED SOUR PREFERENCES DURING CHILDHOOD
Liem D.G.[1], Mennella J.A.[1] [1]*Monell Chemical Senses Center, Philadelphia, PA*

Fr-am-8 140 INFLUENCES ON YOUNG CHILDREN´S WILLINGNESS TO TRY NOVEL FOOD
Goldsmith M.[1], Mumme D.[1] [1]*Psychology, Tufts University, Medford, MA*

## Neurogenesis and Proliferation

Fr-am-9 141 STRUCTURAL AND FUNCTIONAL MEASURES OF MATURATION IN CULTURED HUMAN OLFACTORY NEURONS
Gomez G.[1], Rawson N.[1] [1]*Monell Chemical Senses Center, Philadelphia, PA*

Fr-am-10 142 NT-3 INCREASES THE SURVIVAL OF MATURE ORNS AND REDUCES THE PROLIFERATION AND MATURATION OF IMMATURE NEURONS
Wang E.[1], Simpson P.J.[1], Moon C.[1], Samanta-Roy D.[1], Ronnett G.V.[1] [1]*Neuroscience (SOM), Johns Hopkins University, Baltimore, MD*

Fr-am-11 143 SPATIALLY DYNAMIC EXPRESSION OF MECP2 IN RODENTS
Cohen D.[1], Matarazzo V.[1], Palmer A.[1], Khokhar B.[1], Ronnett G.V.[1] [1]*Neuroscience, Johns Hopkins University, Baltimore, MD*

Fr-am-12 144 EXPRESSION OF DLX 1 AND 2 IN THE NEONATAL AND ADULT MOUSE OLFACTORY SYSTEM.
Saino S.[1], Baker H.[1] [1]*Neuroscience, Weill Med. Coll. Cornell, Burke Med. Res. Inst., White Plains, NY*





Fr-am-13 145 PROGENITOR CELLS AND CONTINUAL DEVELOPMENT OF THE LOBSTER'S OLFACTORY ORGAN
Harrison P.J.[1], Cate H.S.[1], Derby C.D.[1] [1]*Biology, Georgia State University, Atlanta, GA*

Fr-am-14 146 HOMOLOGUES OF THE DEVELOPMENTAL GENES HAIRY/DEADPAN AND CYP4 CYTOCHROME P450 IN THE OLFACTORY ORGAN OF SPINY LOBSTER
Liu H.[1], Walthall W.W.[1], Tai P.C.[1], Derby C.D.[1] [1]*Biology, Georgia State University, Atlanta, GA*

Fr-am-15 147 IDENTIFICATION OF DIFFERENTIALLY EXPRESSED GENES AT A SITE OF OLFACTORY NEUROGENESIS
Stoss T.D.[1], Cobb M.[1], Derby C.D.[2], Mc Clintock T.S.[1] [1]*Physiology, University of Kentucky, Lexington, KY;* [2]*Biology, Georgia State University, Atlanta, GA*

Fr-am-16 148 SERINE PROTEASES IN OLFACTION: THEIR FUNCTIONAL EXPRESSION IN THE OLFACTORY ORGAN OF SPINY LOBSTERS
Johns M.E.[1], Tzeng W.[1], Tai P.C.[1], Derby C.D.[1] [1]*Biology, Georgia State University, Atlanta, GA*

Fr-am-17 149 NOTCH SIGNALING GENES ARE COEXPRESSED WITH TASTE RECEPTOR CELL MARKERS, SUGGESTING DISCRETE LINEAGE RELATIONSHIPS.
Seta Y.[1], Stoick C.L.[1], Wooldridge J.K.[1], Barlow L.A.[1] [1]*Dept of Cellular and Structural Biology, University of Colorado Health Sciences Center, Denver, CO*

## Olfactory Pathway Anatomy

Fr-am-18 150 CHARACTERIZATION OF OUTPUT CELLS IN THE ZEBRAFISH OLFACTORY BULB.
Yettaw H.K.[1], Byrd C.A.[1] [1]*Biological Sciences, Western Michigan University, Kalamazoo, MI*

Fr-am-19 151 IMMUNOHISTOCHEMICAL LOCALIZATION OF A TAURINE-SYNTHESIZING ENZYME IN THE RAT OLFACTORY BULB
Kratskin I.[1], Belluzzi O.[2] [1]*Smell and Taste Ceneter, University of Pennsylvania, Philadelphia, PA;* [2]*Department of Biomedical Sciences, University of Ferrara, Ferrara, Italy*

Fr-am-20 152 OLFACTION AND CONNECTIONS BETWEEN THE EPITHELIUM AND OLFACTORY BULB IN 3-METHYL INDOLE-TREATED MICE
Zaiens K.[1], Slotnick B.[1] [1]*Psychology, American University, Washington, DC*

Fr-am-21 153 THE MUSHROOM BODIES OF THE SCARAB BEETLE PACHNODA MARGINATA
Larsson M.C.[1], Hansson B.S.[2], Strausfeld N.J.[3] *[1]ARL Division of Neurobiology, University of Arizona, Tucson, AZ; [2]Dept of Crop Science, Swedish University of Agricultural Sciences, Alnarp, Sweden; [3]ARL Division of Neurobiology, University of Arizona, AZ*

Fr-am-22 154 SELECTIVE RESPONSE TO CHEMOSENSORY STIMULI IN MEDIAL AMYGDALA
Westberry J.M.[1], Meredith M.[1] *[1]Neuroscience, Florida State University, Tallahassee, FL*

Fr-am-23 155 EVIDENCE FOR SEGREGATION OF FUNCTION WITHIN THE HAMSTER AOB
Bath K.G.[1], Johnston R.E.[1] *[1]Psychology, Cornell University, Ithaca, NY*

## Olfactory Transduction

Fr-am-24 156 G-PROTEIN COUPLED RECEPTORS IN THE OLFACTORY SYSTEM: A STRONGLY CONSERVED MECHANISM OF SIGNAL TRANSDUCTION
Frontini A.[1], Zielinski B.[1], Li W.[2], Dakhil C.[1], Yun S.[2] *[1]Biological Sciences, University of Windsor, Windsor, Ont, Canada; [2]Fisheries and Wildlife, Michigan State University, East Lansing, MI*

Fr-am-25 157 BEX-OMP INTERACTION
Koo J.[1], Behrens M.[2], Margolis J.W.[1], Margolis F.L.[1] *[1]Dept. of Anat. & Neurobiol., UMAB, Baltimore, MD; [2]Dept. of Molecular Genetics, Deutsches Institut fuer Ernaehrungsforschung, Potsdam-Rehbruecke, Germany*

Fr-am-26 158 CLONING GUANYLYL CYCLASE ACTIVATING PROTEINS FROM THE OLFACTORY SYSTEM OF MANDUCA SEXTA
Collmann C.[1], Nighorn A.[1] *[1]ARLDN, University of Arizona, Tucson, AZ*

Fr-am-27 159 CHARACTERIZATION OF A DISTINCT CHEMOSENSORY SUBSYSTEM IN THE MAMMALIAN NOSE
Cockerham R.E.[1], Garbers D.L.[2], Reed R.R.[3], Munger S.D.[1] *[1]Dept. of Anatomy and Neurobiology, University of Maryland at Baltimore, Baltimore, MD; [2]Pharmacology, University of Texas Southwestern Medical Center, Dallas, TX; [3]Molecular Biology and Genetics, Johns Hopkins University, Baltimore, MD*





Fr-am-28 160 TRANSGENIC ANALYSIS OF THE MOUSE GUANYLYL CYCLASE-D PROMOTER
Wu K.[1], Fulle H.J.[1] *[1]Dept of Cell & Neurobiology, University of Southern California Keck School of Medicine, Los Angeles, CA*

Fr-am-29 161 REGULATION OF CYCLIC AMP IN THE CILIARY CYTOPLASM OF THE OLFACTORY RECEPTOR CELL
Takeuchi H.[1], Kurahashi T.[1] *[1]Department of Biophysical Engineering Graduated Shcool of Engineering Science, Osaka University, Osaka, Japan*

Fr-am-30 162 CAMP-INDEPENDENT AND CAMP-DEPENDENT RESPONSES OF OLFACTORY NEURONS IN XENOPUS LAEVIS TADPOLES
Roessler W.[1], Manzini I.[1], Peters F.[1], Schild D.[1] *[1]Physiologisches Institut, University of Goettingen, Goettingen, Germany*

Fr-am-31 163 EFFECTS OF CYCLIC NUCLEOTIDES AND BIOGENIC AMINES ON OLFACTORY SENSILLA OF THE HAWKMOTH MANDUCA SEXTA.
Dolzer J.[1], Flecke C.[1], Stengl M.[1] *[1]Biology, Philipps-University of Marburg, Marburg, Germany*

Fr-am-32 164 THE RELATIONSHIP BETWEEN THE ELECTRONIC / STRUCTURAL PROPERTIES AND THE ODOR ACTIVITIES OF PYRAZINE DERIVATIVES
Inoue T.[1], Shimazaki K.[1], Shikata H.[1], Sakakibara K.[2] *[1]Tobacco Science Research Center, Japan Tobacco Inc., Yokohama, Kanagawa, Japan; [2]Applied Chemistry, Yokohama National Univ., Yokohama, Kanagawa, Japan*

## Gustatory Nerves

Fr-am-33 165 DISTRIBUTION OF NERVE FIBERS IN THE SEA CATFISH PLOTOSUS LINEATUS BARBEL
Sakata Y.[1], Tsukahara J.[2], Kiyohara S.[2] *[1]Physiology, Univ.Utah SOM, Salt Lake City, UT; [2]Chemistry and BioScience, Fac. Science, Kagoshima Univ., Kagoshima, Japan*

Fr-am-34 166 DEGENERATION OF TASTE BUDS IN MOUSE FUNGIFORM PAPILLA AFTER CHORDA-LINGUAL NERVE TRANSECTION
Guagliardo N.A.[1], Hill D.L.[1] *[1]Psychology, University of Virginia, Charlottesville, VA*

Fr-am-35 167 SEMIQUANTITATIVE ANALYSIS OF ALTERATIONS IN INTRAGEMMEL NERVE FIBERS IN IRRADIATED TASTE BUDS LABELED WITH GAP/B50 OR SYNAPTIC VESICLE PROTEINS
Nelson G.M.[1], Byars K.E.[1] *[1]Pathology, University of Alabama at Birmingham, Birmingham, AL*

Fr-am-36 168 SIMULTANEOUS CHRONIC RECORDING FROM MULTIPLE SINGLE FIBERS OF THE CHORDA TYMPANI NERVE USING AN IMPLANTABLE SIEVE ELECTRODE ARRAY
Shimatani Y.[1], Nikles S.A.[2], Najafi K.[2], Bradley R.M.[1] *[1]Biologic & Materials Science, University of Michigan, Ann Arbor, MI; [2]Department of Electrical Engineering and Computer Science, University of Michigan, Ann Arbor, MI*

Fr-am-37 169 COMPARISON OF THE RESPONSES OF THE CHORDA TYMPANI AND GLOSSOPHARYNGEAL NERVES TO TASTE STIMULI IN C57BL/J MICE
Danilova V.[1], Hellekant G.[1] *[1]Animal Health and Biomedical Sciences, University of Wisconsin-Madison, Madison, WI*

Fr-am-38 170 ELECTROGUSTOMETRIC THRESHOLDS: RELATIONSHIP TO ANTERIOR TONGUE LOCUS, AREA OF STIMULATION, AND NUMBER OF FUNGIFORM PAPILLAE
Miller S.L.[1], Mirza N.[2], Doty R.L.[3] *[1]School of Dental Medicine, Univ of Pennsylvania, Philadelphia, PA; [2]Otorhinolaryngology: Head and Neck Surgery, Univ of Pennsylvania, Philadelphia, PA; [3]Smell and Taste Center, Univ of Pennsylvania, Philadelphia, PA*

Fr-am-39 171 ORAL PHANTOMS: EVIDENCE FOR CENTRAL INHIBITION PRODUCED BY TASTE
Bartoshuk L.M.[1], Chapo A.[2], Duffy V.B.[2], Grushka M.[1], Norgren R.[3], Kveton J.F.[1], Pritchard T.C.[4], Snyder D.J.[1] *[1]Surgery, Yale University, New Haven, CT; [2]Dietetics Program, University of Connecticut, Storrs, CT; [3]Behavioral Science, Pennsylvania State University, Hershey, PA; [4]Neurosciences and Anatomy, Pennsylvania State University, Hershey, PA*





**Cash Lunch Carts Available, 12:00 PM - 1:30 PM** *(Prefunction Area)*

**Business Meeting, 12:15 PM - 2:00 PM** *(Salons E & F)*

**Taste vs. Smell Softball Game, 2:00 PM - 4:00 PM** *(Fruitville Road Park)*

**Industrial Reception, 5:00 PM - 7:00 PM** *(Salons C & D)*

## SLIDES

**Friday - 7:00 PM - 8:00 PM**

**Responses to Biologically Relevant Odors**
*Chairperson: Trese Leinders-Zufall*

7:00 172 PHEROMONAL SIGNALS IN A TANGERINE-SCENTED SEABIRD
Hagelin J.C.[1], Jones I.L.[2], Rasmussen L.E.[3] *[1]Department of Ecology and Evolutionary Biology, University of Connecticut, Storrs, CT; [2]Department of Biology, Memorial University of Newfoundland, St. John's, NF, Canada; [3]Department of Biochemistry & Molecular Biology, Oregon Graduate Institute, Beaverton, OR*

7:15 173 UNUSUAL PHEROMONE RECEPTOR NEURON RESPONSES IN HELIOTHINE MOTH ANTENNAE DERIVED FROM INTER-SPECIES IMAGINAL DISC TRANSPLANTATION
Ochieng S.A.[1], Poole K.[2], Roelofs W.L.[3], Linn C.[3], Baker T.C.[1] *[1]Entomology, Iowa State University, Ames, IA; [2]NYSAES, Cornell University, Geneva, NY; [3]Entomolgy, NYSAES, Geneva, NY*

7:30 174 SEX DIFFERENCES IN OLFACTORY CROSS-ADAPTATION OF HUMAN SWEAT ODOR
Wysocki C.J.[1], Preti G.[1], Smith L.C.[2], Mcdermott K.[2], Leyden J.J.[3], Louie J.[1], Wise P.[1], Connolly L.[1], Wysocki L.M.[1] *[1]Monell Chemical Senses Center, Philadelphia, PA; [2]Haarmann & Reimer, Teterboro, NJ; [3]Dept Dermatol, Med School, Univ Pennsylvania, Philadelphia, PA*

7:45 175 EFFECTS OF BREASTFEEDING CHEMOSIGNALS ON HUMAN SEXUAL MOTIVATION.
Spencer N.A.[1], Jacob S.[1], Sellergren S.A.[1], Bullivant S.B.[1], Mennella J.A.[2], Mcclintock M.K.[1] *[1]Institute for Mind and Biology, University of Chicago, Chicago, IL; [2]Monell Chemical Senses Center, Philadelphia, PA*

**Evening Break 8:00 PM - 8:15 PM**

## SYMPOSIUM

**Friday - 8:15 PM - 10:30 PM**

**The Presidential Symposium: The Chemicals of the Chemical Senses**
*Chairperson: Stuart Firestein*

8:15 176 **Stuart J. Firestein**
INTRODUCTION: THE CHEMICALS OF THE CHEMICAL SENSES
Firestein S.[1] *[1]Columbia University, New York, NY*

8:20 177 **Peter Atkins**
MAKING MOLECULES MATTER
Atkins P.[1] *[1]Lincoln College, University of Oxford, Oxford, UK*

8:45 178 **Daniel H. Rogers**
USE OF HIGH THROUGHPUT DISCOVERY TECHNIQUES TO CREATE NOVEL FLAVOR AND FRAGRANCE MOLECULES
Rogers D.H.[1] *[1]Associate Director, Synthetic Chemistry, Senomyx, La Jolla, CA*

9:10 179 **Nigel G. J. Richards**
COMPUTATIONAL METHODS IN STRUCTURE-BASED ODORANT DISCOVERY
Richards N.G.[1] *[1]Department of Chemistry, University of Florida, Gainesville, FL*

9:35 180 **Charles Sell**
DESIGNING FRAGRANCE INGREDIENTS
Sell C.[1] *[1]Quest International, Ashford, Kent, England*





9:55 181 **Clint D. Brooks**
MOLECULAR PERFORMANCE AND PERCEPTION INFORMATICS
Brooks C.D.[1] *[1]VP Research and Development, International Flavors and Fragrances, Union Beach, NJ*

10:15 DISCUSSION

***This symposium was sponsored in part by a grant from the National Institute on Deafness and Other Communication Disorders***

## POSTERS

**Friday - 7:00 PM - 11:00 PM**

**Neural Plasticity and Regeneration**

Fr-pm-1 182 PLASTICITY UNDERLYING ANDROSTENONE LEARNING MAY BE MEDIATED CENTRALLY RATHER THAN PERIPHERALLY
Mainland J.D.[1], Bremner E.A.[2], Young N.[1], Johnson B.N.[3], Sobel N.[1] *[1]Neuroscience, University of California, Berkeley, Berkeley, CA; [2]Psychology, University of California, Berkeley, Berkeley, CA; [3]Bioengineering, University of California, Berkeley, Berkeley, CA*

Fr-pm-2 183 ODOR STIMULATION MODULATES APOPTOSIS IN ADULT OLFACTORY (PIRIFORM) CORTEX OF THE RAT
Leung C.H.[1], Wilson D.A.[1] *[1]Department of Zoology, University of Oklahoma, Norman, OK*

Fr-pm-3 184 ABLATION OF BULB NEURONS KILLS PIRIFORM NEURONS BUT NOT SENSORY NEURONS
Guthrie K.[1], Gall C.[2] *[1]Biomedical Sciences, Florida Atlantic Univ., Boca Raton, FL; [2]Anatomy and Neurobiology, Univ. of California, Irvine, CA*

Fr-pm-4 185 AXOTOMY VS. BULBECTOMY:TEMPORAL ANALYSIS OF APOPTOSIS
Shinners M.J.[1], Robinson A.M.[1], Conley D.B.[1], Kern R.C.[1] *[1]Otolaryngology, Northwestern University, Chicago, IL*

Fr-pm-5 186 APOPTOSIS OF OLFACTORY RECEPTOR NEURONS INDUCED BY INFECTION AND OLFACTORY NERVE TRANSECTION IN RAT
Ge Y.[1], Tsukatani T.[2], Miwa T.[2] *[1]ENT, Beijing University, Beijing, China; [2]ENT, Kanazawa University Hospital, Kanazawa, Japan*

Fr-pm-6 187 DOES ESTROGEN PROTECT OLFACTORY RECEPTOR NEURONS FROM APOPTOSIS?
Pitovski D.Z.[1] *[1]Smell and Taste Center, Dept of Otolaryngology, Wake Forest University, Winston-Salem, NC*

Fr-pm-7 188 GLUTAMATE RECEPTOR DISTRIBUTION IN THE OLFACTORY BULB IS ALTERED FOLLOWING NARIS OCCLUSION
Hamilton K.A.[1], Coppola D.[2] *[1]Cellular Biology and Anatomy, Louisiana State University Health Sciences Center, Shreveport, LA; [2]Neuroscience Program, Centenary College, Shreveport, LA*

Fr-pm-8 189 DEVELOPMENTAL ACTIVATION OF EXTRACELLULAR SIGNAL-RELATED KINASE (ERK1/2) IN OLFACTORY BULB GRANULE CELLS IS ALTERED BY NARIS OCCLUSION
Mirich J.M.[1], Brunjes P.C.[1] *[1]Psychology, University of Virginia, Charlottesville, VA*

Fr-pm-9 190 MASH1 AND NEUROD EXPRESSION IN METHYL BROMIDE-LESIONED ADULT RAT OLFACTORY EPITHELIUM.
Manglapus G.L.[1], Youngentob S.L.[1], Schwob J.E.[2] *[1]Dept. of Neuroscience and Physiology, SUNY Upstate Medical University, Syracuse, NY; [2]Dept. Anatomy and Cellular Biology, Tufts University, School of Medicine, Boston, MA*

Fr-pm-10 191 NOGO & NOGO RECEPTOR EXPRESSION IN THE MAMMALIAN OLFACTORY SYSTEM
Iwema C.L.[1], Bartolomei J.C.[1], Strittmatter S.M.[2], Greer C.A.[1] *[1]Neurosurgery, Yale University School of Medicine, New Haven, CT; [2]Neurology, Yale University School of Medicine, New Haven, CT*

Fr-pm-11 192 IMMUNOSTAINING OF APOLIPOPROTEIN E IN MURINE MUCOSA
Kleene N.K.[1], Pixley S.K.[1] *[1]Cell Biology, Neurobiology & Anatomy, University of Cincinnati, Cincinnati, OH*

Fr-pm-12 193 CHEMOKINE-MEDIATED INFILTRATION OF MACROPHAGES INTO THE OLFACTORY EPITHELIUM FOLLOWING TARGET ABALATION
Getchell T.V.[1], Subhedar N.[1], Shah D.S.[1], Hackley G.[1], Partin J.V.[1], Sen G.[1], Getchell M.L.[1] *[1]Sanders Brown Ctr. on Aging, U. of Kentucky, Lexington, KY*

Fr-pm-13 194 INFLAMMATORY CELLS IN THE NORMAL AND DENERVATED LINGUAL EPITHELIUM
Mccluskey L.P.[1] *[1]Physiology, Medical College of Georgia, Augusta, GA*





Fr-pm-14 195 TIME-COURSE OF TASTE BUD REGENERATION AFTER TRANSECTION OF THE GLOSSOPHARYNGEAL AND GREATER SUPERFICIAL PETROSAL NERVES IN THE RAT
St. John S.J.[1], Garcea M.[2], Spector A.C.[2] *[1]Department of Psychology, Reed College, Portland, OR; [2]Department of Psychology, University of Florida, Gainesville, FL*

Fr-pm-15 196 RECOVERY OF SALT TASTE RESPONSES AFTER CRUSH OF THE CHORDA TYMPANI NERVE IN MICE.
Yasumatsu K.[1], Katsukawa H.[2], Sadamitsu C.[1], Shigemura N.[1], Ninomiya Y.[1] *[1]Oral Neuroscience, Kyushu University, Fukuoka, Japan; [2]Physiology, Asahi University, Gifu, Japan*

**Development of the Gustatory System**

Fr-pm-16 197 DEVELOPMENTAL TASTE RECEPTOR CELL KINETICS
Hendricks S.J.[1], Brunjes P.C.[1], Hill D.L.[1] *[1]Psychology, University of Virginia, Charlottesville, VA*

Fr-pm-17 198 SHH PROTEIN IN EMBRYONIC RAT TONGUE AND TONGUE CULTURES
Liu H.[1], Maccallum D.K.[2], Gaffield W.[3], Mistretta C.M.[1] *[1]School of Dentistry, University of Michigan, Ann Arbor, MI; [2]Medical School, University of Michigan, Ann Arbor, MI; [3]Regional Research Center, USDA, Albany, CA*

Fr-pm-18 199 SEMA3A REPELS LATE EMBRYONIC STAGE SENSORY AXONS THAT PENETRATE SEMA3A MRNA-RICH LINGUAL EPITHELIUM.
Dillon T.E.[1], Rochlin M.W.[1] *[1]Biology, Loyola University (Chicago), Chicago, IL*

Fr-pm-19 200 RETINOIC ACID ACTS DIRECTLY TO RESPECIFY OROPHARYNGEAL EPITHELIUM.
Rougas S.[1], Parker M.A.[1], Barlow L.A.[2] *[1]Department of Biological Sciences, University of Denver, Denver, CO; [2]Department of Cell and Structural Biology, University of Colorado Health Sciences Center, Denver, CO*

## Bitter Taste

Fr-pm-20 201 DIFFERENTIAL EFFECTS OF GUSTATORY NERVE TRANSECTION ON QUININE-STIMULATED FOS-LIKE IMMUNOREACTIVITY IN THE PARABRACHIAL NUCLEUS OF THE RAT
King C.T.[1], Dodson S.E.[1], Galvin K.E.[2], Garcea M.[3], Spector A.C.[3]
[1]*Department of Psychology, Stetson University, DeLand, FL;*
[2]*Department of Biology, Stetson University, DeLand, FL;*
[3]*Department of Psychology, University of Florida, Gainesville, FL*

Fr-pm-21 202 DENATONIUM, PROPYLTHIOURACIL AND QUININE ELICIT SIMILAR PATTERNS OF FOS-LIKE IMMUNOREACTIVITY IN THE RAT NUCLEUS OF THE SOLITARY TRACT
Chan C.Y.[1], Yoo J.E.[2], Travers S.P.[2] [1]*Neurosciences Graduate Study Program, Ohio State University, Columbus, OH;* [2]*Oral Biology, Ohio State University, Columbus, OH*

Fr-pm-22 203 SIGNAL TRANSDUCTION PATHWAYS IN BITTER TASTE DETECTION
Richter T.A.[1], Caicedo A.[1], Margolskee R.F.[2], Roper S.D.[1]
[1]*Physiology and Biophysics, University of Miami, Miami, FL;*
[2]*Physiology and Biophysics, Mount Sinai School of Medicine, NY*

Fr-pm-23 204 PHYSIOLOGICAL EXPLORATION OF BITTER AND SWEET RECEPTORS IN RAT TASTE RECEPTOR CELLS.
Zhao F.[1], Lu S.[1], Herness M.S.[1] [1]*Oral Biology, Ohio State University, Columbus, OH*

Fr-pm-24 205 SOA & CAFFEINE FORM NON-NORMAL TASTE DISTRIBUTIONS UNRELATED TO PROP/PTC
Breslin P.A.[1], Tharp C.D.[1], Reed D.R.[2] [1]*Sensory, Monell Chemical Senses Center, Philadelphia, PA;* [2]*Genetics, Monell Chemical Senses Center, Philadelphia, PA*

Fr-pm-25 206 TASTE INTERACTIONS AMONG BINARY MIXTURES OF BITTER COMPOUNDS
Bournazel M.M.[1], Keast R.S.[2], Breslin P.A.[2] [1]*Taste, Firmenich SA, Geneva, Switzerland;* [2]*Taste, Monell Chemicel Senses Center, Philadelphia, PA*

Fr-pm-26 207 CAPSAICIN AS A GUSTATORY STIMULUS
Green B.[1], Schullery M.[1] [1]*Sensory Neuroscience Group, John B. Pierce Laboratory, New Haven, CT*





## Response Properties of Central Olfactory Neurons

Fr-pm-27 208 DYNAMIC GATING OF SPIKE PROPAGATION IN THE MITRAL CELL SECONDARY DENDRITES FOR INTERACTIONS WITH DIFFERENT COMBINATION OF OLFACTORY GLOMERULI
Xiong W.[1], Chen W.R.[1] [1]*Neurobiology, Yale University, New Haven, CT*

Fr-pm-28 209 ODORANT INDUCED EXPRESSION OF ARC MRNA IN MOUSE MOB PERIGLOMERULAR CELLS
Marchand J.E.[1], Yang X.[1] [1]*Anesthesia, Tufts University, Boston, MA*

Fr-pm-29 210 ADAPTOR PROTEINS MODULATE PROTEIN-PROTEIN INTERACTIONS AND BIOPHYSICAL PROPERTIES OF AN OLFACTORY BULB K+ CHANNEL
Cook K.K.[1], Tucker K.R.[1], Fadool D.A.[1] [1]*Prog. in Neurosci. & Mol. Biophysics, Florida State University, Tallahassee, FL*

Fr-pm-30 211 GLOMERULAR, BEHAVIORAL AND BIOPHYSICAL CHANGES IN THE OLFACTORY BULB OF KV1.3 KNOCK-OUT MICE.
Fadool D.A.[1], Colley B.S.[1], Otten D.[1], Kaczmarek L.K.[2] [1]*Prog. in Neurosci. & Mol. Biophysics, Florida State University, Tallahassee, FL;* [2]*Cell & Mol. Physiol, Yale University School of Medicine, New Haven, CT*

Fr-pm-31 212 RESPONSES OF OLFACTORY BULB UNITS IN THE CHANNEL CATFISH TO AMINO ACID ISOMERS
Nikonov A.A.[1], Caprio J.[1] [1]*Biological Sciences, LSU, Baton Rouge, LA*

Fr-pm-32 213 MORPHOLOGICAL AND PHYSIOLOGICAL CHARACTERISTICS DISTINGUISH FOUR CLASSES OF JUXTAGLOMERULAR NEURONS IN THE MAIN OLFACTORY BULB
Karnup S.V.[1], Hayar A.M.[1], Ennis M.[1], Shipley M.T.[1] [1]*Anatomy & Neurobiology, Program in Neuroscience, University of Maryland at Baltimore, Baltimore, MD*

Fr-pm-33 214 ULTRA-LONG-LASTING DEPOLARIZATIONS IN RESPONSE TO OLFACTORY NERVE INPUT IN DEVELOPING MITRAL CELLS.
Puche A.C.[1], Heyward P.M.[1], Shipley M.T.[1] [1]*Anatomy and Neurobiology, Program in Neuroscience, University of Maryland at Baltimore, Baltimore, MD*

Fr-pm-34 215 CRAYFISH PARASOL CELLS EXHIBIT MULTIPLE BURST INITIATION SITES
Mellon D.N.[1] *[1]Biology, University of Virginia, Charlottesville, VA*

Fr-pm-35 216 BACK-PROPAGATING ACTION POTENTIALS ACTIVATE DIFFERENTIAL SPATIAL CALCIUM RESPONSES IN MITRAL CELLS IN RAT OLFACTORY BULB SLICES
Zhou Z.[1], Xia A.[1], Shepherd G.[1] *[1]Neurobiology, Yale University, New Haven, CT*

Fr-pm-36 217 MODELING BISTABILITY AND RESONANCE IN THE MEMBRANE DYNAMICS OF MITRAL CELLS.
Heyward P.M.[1], Izhikevich E.M.[2], Shipley M.T.[1] *[1]Anatomy and Neurobiology, Program in Neuroscience, University of Maryland at Baltimore, Baltimore, MD; [2]The Neurosciences Institute, Neurosciences Research Foundation, San Diego, CA*

Fr-pm-37 218 MEMBRANE BISTABILITY AND SUB-THRESHOLD OSCILLATIONS IN AN OLFACTORY BULB MITRAL CELL MODEL
Davison A.P.[1], Hines M.L.[2], Shepherd G.M.[1] *[1]Neurobiology, Yale University, New Haven, CT; [2]Computer Science, Yale University, New Haven, CT*

## Stimulus Interactions

Fr-pm-38 219 FLAVOR EFFECTS ON PERCEIVED TEXTURE AND FOOD INTAKE
Dewijk R.A.[1], Prinz J.F.[1], Engelen L.[1], Weenen H.[1] *[1]Wageningen Centre for Food Sciences, Wageningen, Netherlands*

Fr-pm-39 220 BITTERNESS AND ASSOCIATED ORAL SENSATIONS IN CHLORHEXIDINE/ETHANOL RINSES
Portmann M.[1], Mcconville P.[1], Alexander S.[1], Breslin P.[2], Beauchamp G.[2], Tharp C.D.[2] *[1]NPD, GlaxoSmithKline Consumer Healthcare, Weybridge, Surrey, United Kingdom; [2]S&P, Monell Chemical Senses Center, Philadelphia, PA*

Fr-pm-40 221 EFFECTS OF CHLORHEXIDINE ON THE TASTE OF CHLORIDE SALTS
Kolesar M.R.[1], Gent J.F.[1], Frank M.E.[1] *[1]Oral Diagnosis, University of Connecticut Health Center, Farmington, CT*

Fr-pm-41 222 GUSTATORY-IRRITANT INTERACTIONS: SUPPRESSION OF TASTE BY ORAL CAPSAICIN
Boucher Y.M.[1], Simons C.T.[2], Carstens E.[3] *[1]Section of Neurobiology, Physiology & Behavior, Univ. of California, Davis, Davis, CA; [2]Food Science & Technology, Univ. of California, Davis, Davis, CA; [3]Neurobiology, Physiology and Behavior, University of California, Davis, Davis, CA*





Fr-pm-42 223 NICOTINE SUPPRESSION OF TASTANT-EVOKED NEURAL ACTIVITY IN THE RAT
Simons C.T.[1], Boucher Y.M.[2], Carstens E.[2] *[1]Food Science & Technology, Univ. of California, Davis, Davis, CA; [2]Neurobiology, Physiology and Behavior, University of California, Davis, Davis, CA*

Fr-pm-43 224 SUCROSE-DENATONIUM AND DULCIN-QUININE ANTAGONISM IN NEURAL RESPONSES TO TASTE MIXTURES
Formaker B.K.[1], Hettinger T.P.[1], Frank M.E.[1] *[1]Oral Diagnosis, University of Connecticut Health Center, Farmington, CT*

Fr-pm-44 225 ROLE OF PRIOR ASSOCIATIONS IN THE SUB-THRESHOLD INTEGRATION OF TASTES AND ODORS
Belanger M.A.[1], Tharp C.D.[1], Breslin P.A.[1], Dalton P.[1] *[1]Monell Chemical Senses Center, Philadelphia, PA*

Fr-pm-45 226 ANALYSIS OF MULTICOMPONENT ODOR MIXTURES BY HONEYBEES
Wright G.A.[1], Smith B.H.[1] *[1]Entomology, Ohio State University, Columbus, OH*

Fr-pm-46 227 ASYMMETRIC INTERACTIONS BETWEEN HETEROGENEOUS RETRONASAL AND ORTHONASAL ODORANT PAIRS
Halpern B.P.[1], Sun B.C. *[1]Psychology and Neurobiology and Behavior, Cornell University, Ithaca, NY*

## Saturday, April 27, 2002

**Continental Breakfast, 7:30 AM - 9:00 AM** *(Prefunction Area)*

## SLIDES

**Saturday - 8:00 AM - 9:45 AM**

**Neural Coding and Circuits**
*Chairperson: John Scott*

8:00 228 SPECIFICITY OF SUCROSE-BEST FIBERS IN RHESUS MONKEY CHORDA TYMPANI DOES NOT DEPEND ON STIMULUS CONCENTRATION
Danilov Y.[1], Danilova V.[1], Hellekant G.[1] *[1]Animal Health and Biomedical Sciences, University of Wisconsin-Madison, Madison, WI*

8:15 229 ROLE OF AMINO ACID NEUROTRANSMITTERS IN TASTE-MOTOR PROCESSING
Travers J.B.[1], Travers S.P.[1], Chen Z.[1] *[1]Oral Biology, Ohio State University, Columbus, OH*

8:30 230 HIGHLY SPECIFIC OLFACTORY RECEPTOR NEURONS SPECIFIC TO NATURALLY PRODUCED ODOR LIGANDS IN DROSOPHILA MELANOGASTER
Hansson B.S.[1], Stensmyr M.C.[1], Giordano E.[2], Angioy A.M.[2]
*[1]Dept of Crop Science, Chemical Ecology, Swedish University of Agricultural Sciences, Alnarp, Sweden; [2]Department of Experimental Biology, University of Cagliari, Monserrato, Italy*

8:45 231 PARALLEL MAPPING OF MULTIPLE STIMULUS FEATURES USING MULTICHANNEL RECORDING ARRAYS IN THE MOTH ANTENNAL LOBE
Christensen T.A.[1], Lei H.[1], Hildebrand J.G.[1] *[1]Arizona Research Labs Div of Neurobiology, University of Arizona, Tucson, AZ*

## Wednesday April 24, 2002

**Educational Outreach**
*GWIZ science center*

**12:00-3:30**
**Executive Committee**
*Executive Board Room*

**5:00-7:30**
**Registration**
*Prefunction Area*

**6:30**
**Opening Buffet**
*Salons A & B*

**Welcome & Awards**

**Givaudan Lecture**
*Salons C, D, E, & F*

**Social Gathering & Cash Bar**
*Prefunction Area*

**Organization meeting for students with travel awards**
*Salon G*

## Thursday April 25, 2002

Continental Breakfast 7:30-9:00

*Slide Session*
**Functional Consequences of Manipulating Chemosensory Systems**
*Salons E & F*

*Symposium*
**Sensory Coding in the Molecular Era: Neural Representation of Gustatory, Olfactory, & Somatosensory Stimuli**
*Salons E & F*

*Poster session*
- Ion Channels
- Development of the Olfactory System
- Aging
- Disease and Clinical Conditions

*Salons A, B, H, & G*

**12:30-2:00**
**Minority and Clinical Travel Awardee Luncheon**
*Executive Board Room*

**3:30-5:00 NIH Workshop**
**Funding Opportunities for New Investigators**
*Salon E & F*

**5:00-7:00**
**Junior Investigator Cookout**
*Outdoors*

*Slide Session*
**Chemoreceptors: Genes & Proteins**
*Salons E & F*

*Symposium*
**Stem Cells and the Chemical Senses: Analytic & Therapeutic Approaches**
*Salons E & F*

*Poster session*
- Trigeminal System
- Conditioned Aversions
- Tracking and Orientation
- Neural Coding in the Peripheral Olfactory System
- Learning and Cognition

*Salons A, B, H, & G*

## Friday April 26, 2002

Continental Breakfast 7:30-9:00

*Slide Session*
**Chemosensory Processing in Humans**
*Salons E & F*

*Symposium*
**Behavioral Analysis of Chemosensory Function**
*Salons E & F*

*Poster session*
- Chemosensation in Children
- Neurogenesis and Proliferation
- Olfactory Pathway Anatomy
- Olfactory Transduction
- Gustatory Nerves

*Salons A, B, H, & G*

**12:15-2:00**
**Business Meeting**
*Salons E & F*

**2:00-4:00**
**Softball Game**
*Fruitville and Lockwood Ridge Road*

**5:00-7:00**
**Industrial Reception**
*Salons C & D*

*Slide Session*
**Responses to Biologically Relevant Odors**
*Salons E & F*

*Presidential Symposium*
**The Chemicals of the Chemical Senses**
*Salons E & F*

*Poster session*
- Neural Plasticity and Regeneration
- Development of the Gustatory System
- Bitter Taste
- Response Properties of Central Olfactory Neurons
- Stimulus Interactions

*Salons A, B, H, & G*

## Saturday April 27, 2002

Continental Breakfast 7:30-9:00

*Slide Session*
**Neural Coding and Circuits**
*Salons E & F*

*Symposium*
**Chemosensation: Psychophysical Measurement in the 21st Century**
*Salons E & F*

*Poster session*
- Taste Receptor Cells
- Olfactory Receptors: Genes & Proteins
- Olfactory Receptor Neurons: Functional Properties
- Salt and Sour Taste
- Chemical Ecology and Behavior

*Salons A, B, H, & G*

**12:15-2:00**
**Clinical Luncheon**
*Salons C & D*

*Slide Session*
**Stimulus Interactions**
*Salons E & F*

*Symposium*
**New Insights into Phosphoinositol Signaling**
*Salons E & F*

*Poster session*
- Assessment of Discrimination & Sensitivity
- Biologically Relevant Odors in Humans
- Neural Coding in the Central Olfactory System
- Brainstem Circuits
- Sweet Taste

*Salons A, B, H, & G*

## Sunday April 28, 2002

Continental Breakfast 7:30-9:00

*Slide Session*
**Ion Channels and Function of Chemosensory Cells**
*Salons E & F*

*Slide Session*
**Ecology of Chemical Signals**
*Salons E & F*

*Poster session*
- Event Related Potentials
- Chemosensory Cortical Processing
- Hedonics
- Umami Taste
- Neurotransmitters & Neuromodulators
- Vomeronasal Organ

*Salons A, B, H, & G*

**NOTES**

**Morning Symposia**
*10:00 am -12:15 pm*
*Salons E & F*

**Evening Symposia**
*8:15-10:30 pm*
*Salons E & F*

**Morning Poster Sessions & Exhibits**
*8:00 am - noon*
*Salons A, B, H, & G*

**Evening Poster Sessions & Exhibits**
*7:00 -11:00 pm*
*Salons A, B, H, & G*

**Continental Breakfast**
*7:30-9:00 Prefunction Area*

**Mid-Morning Coffee Available**
*9:30-10:00 am*
*Prefunction Area*

**Evening Break**
*8:00-8:15 pm*
*Prefunction Area*

**Cash Lunch Cart**
*after morning sessions*
*Prefunction Area*

7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM

9:00 232 RHYTHMIC BURSTING AND SYNAPTIC INTERACTIONS AMONG JUXTAGLOMERULAR (JG) NEURONS MAY TRANSFORM OLFACTORY NERVE (ON) INPUTS INTO SYNCHRONOUS ALL-OR-NONE GLOMERULAR OUTPUT.
Hayar A.M.[1], Karnup S.V.[1], Shipley M.T.[1], Ennis M.[1] [1]*Dept. of Anatomy & Neurobiology, University of Maryland at Baltimore, Baltimore, MD*

9:15 233 SYNTHETIC CODING OF ODORANT MIXTURES IN RAT PIRIFORM CORTEX.
Wilson D.A.[1] [1]*Department of Zoology, University of Oklahoma, Norman, OK*

9:30 234 LANDMINE DETECTION USING AN ARTIFICIAL OLFACTORY SYSTEM
White J.[1], Ray R.N.[2], Waggoner L.P.[2], Kauer J.S.[1] [1]*Neuroscience, Tufts University, Boston, MA;* [2]*Institute for Biological Detection Systems, Auburn University, Auburn, AL*

**Mid morning coffee available 9:30 AM - 10:00 AM**

## SYMPOSIUM

**Saturday - 10:00 AM - 12:15 PM**

**Chemosensation: Psychophysical Measurement in the 21st Century**
*Chairperson: Lawrence E. Marks*

10:00 235 **Lawrence E. Marks**
INTRODUCTION - CHEMOSENSATION: PSYCHOPHYSICAL MEASUREMENT IN THE 21ST CENTURY
Marks L.E.[1] [1]*Epidemiology and Public Health/Psychology, Yale University, New Haven, CT*

10:05 236 **George A. Gescheider**
ABSOLUTE MAGNITUDE ESTIMATION
Gescheider G.A.[1] [1]*Psychology, Hamilton College, Clinton, NY*

10:30 237 **Linda M. Bartoshuk**
THE PERILS OF ACROSS-GROUP COMPARISONS
Bartoshuk L.M.[1] [1]*Surgery, Yale University, New Haven, CT*

10:55 238 **Robert A. Frank**
USING FUNCTIONAL MEASUREMENT TO STUDY CHEMOSENSORY RESPONSES
Frank R.A.[1] *[1]Psychology, University of Cincinnati, Cincinnati, OH*

11:20 239 **Bruce A. Schneider**
NONMETRIC SCALING OF SENSORY EVENTS: ADVANTAGES AND DISADVANTAGES
Schneider B.A.[1] *[1]Psychology, University of Toronto, Mississauga, Ontario, Canada*

11:45 DISCUSSION

**Susan Schiffman** *(Discussant)*
*Department of Psychiatry, Duke University*

***This symposium was sponsored in part by International Flavors and Fragrances, and a grant from the National Institute on Deafness and Other Communication Disorders***

## POSTERS

### Saturday - 8:00 AM - 12:00 PM

### Taste Receptor Cells

Sa-am-1 240 DROSOPHILA OBPS EXPRESSED IN TASTE ORGANS
Smith D.P.[1] *[1]Pharmacology and Center for Basic Neuroscience, University of Texas Southwestern Medical Center at Dallas, Dallas, T*

Sa-am-2 241 CALCIUM PUMP ISOFORMS IN CHEMORESPONSE
Gannon-Muarkami L.[1], Yano J.[1], Rakochy V.[1], Valentine M.[1], Preston R.R.[2], Van Houten J.[1] *[1]Biology, University of Vermont, Burlington, VT; [2]Pharmacology and Physiology, MCP Hahnemann University, Philadelphia, PA*

Sa-am-3 242 IDENTIFICATION OF RAT TASTE CELL TYPES EXPRESSING IP3R3
Clapp T.R.[1], Yang R.[2], Kinnamon S.C.[1], Kinnamon J.C.[2] *[1]Rocky Mountain Taste and Smell Center, University of Colorado Health Sciences Center, Denver, CO, Department of Biomedical Sciences, Colorado State University, Fort Collins, CO; [2]Department of Biological Sciences, University of Denver, Denver, CO*





Sa-am-4 243 ADENYLYL CYCLASES AND CAMP MODULATION IN TASTE BUDS
Abaffy T.[1], Trubey K.R.[1], Chaudhari N.[1] *[1]Department of Physiology, University of Miami, Miami, Fl*

Sa-am-5 244 DETECTION OF TASTE QUALITY IN TASTE BUDS
Caicedo A.[1], Kim K.[1], Roper S.D.[1] *[1]Physiology and Biophysics, University of Miami, Miami, FL*

Sa-am-6 245 ELECTROPYSIOLOGICAL CHARACTERIZATION OF VOLTAGE-GATED CURRENTS IN MOUSE TASTE CELL TYPES
Medler K.F.[1], Margolskee R.F.[2], Kinnamon S.C.[1] *[1]Rocky Mountain Taste and Smell Center, University of Colorado Health Sciences Center, Denver, CO, Dept. of Biomedical Sciences, Colorado State University, Fort Collins, CO; [2]Howard Hughes Med. Inst., Mt. Sinai School of Med. and Dept. of Phys. & Biophy., New York, NY*

Sa-am-7 246 SYNAPTOBREVIN IS ASSOCIATED WITH SYNAPTIC VESICLES AT TASTE CELL SYNAPSES
Yang R.[1], Stoick C.L.[2], Kinnamon J.C.[1] *[1]Department of Biological Sciences, University of Denver, Denver, CO; [2]Department of Cellular and Structural Biology, UCHSC, Denver, CO*

Sa-am-8 247 GENOME-WIDE PROFILING OF INDIVIDUAL TASTE RECEPTOR CELLS
Huang L.[1], Liu Z.[1], Max M.[1], Margolskee R.F.[1] *[1]Physiology and Biophysics, Mount Sinai School of Medicine, New York, NY*

Sa-am-9 248 NEUROTROPHIN RECEPTORS IN RODENT TASTE BUDS
Yee C.L.[1], Ogura T.[2], Farbman A.I.[3], Finger T.E.[1] *[1]Department of Cellular and Structural Biology, University of Colorado Health Sciences Center, Denver, CO; [2]Department of Anatomy and Neurobiology, Colorado State University, Fort Collins, CO; [3]Neurobiology and Physiology, Northwestern University, Evanston, Illinois*

Sa-am-10 249 STRUCTURE AND FUNCTION OF FUNGIFORM TASTE BUDS IN BAX-KNOCKOUT MICE
Yuskaitis C.J.[1], May O.L.[1], Hill D.L.[1] *[1]Psychology, University of Virginia, Charlottesville, VA*

### Olfactory Receptors: Genes and Proteins

Sa-am-11 250 TOWARD A NOMENCLATURE FOR HUMAN AND MOUSE OLFACTORY RECEPTORS
Crasto C.J.[1], Shepherd G.M.[1] *[1]Neurobiology, Yale University, New Haven, CT*

Sa-am-12 251 DEVELOPMENT OF AN IN VIVO EXPRESSION SYSTEM FOR FUNCTIONAL ANALYSIS OF INSECT OLFACTORY PROTEINS
Rogers M.E.[1], Peterlin Z.A.[1], Chesler A.T.[1], Firestein S.[1] [1]*Biological Sciences, Columbia University, New York, NY*

Sa-am-13 252 COMPARISON OF HOMOLOGOUS AND HETEROLOGOUS EXPRESSION SYSTEMS FOR OLFACTORY RECEPTORS
Bieri S.[1], Monastyrskaia K.[1], Valero A.[1], Schilling B.[1] [1]*Bioscience, Givaudan Dubendorf Ltd, Dubendorf, Switzerland*

Sa-am-14 253 FUNCTIONAL CHARACTERIZATION OF MOUSE ODORANT RECEPTOR, MOR-EG: EFFECTS OF RECEPTOR MODIFICATION AND MUTATIONS
Katada S.[1], Tanaka M.[1], Nakagawa T.[1], Kajiya K.[1], Kataoka H.[1], Touhara K.[1] [1]*Department of Integrated Biosciences, University of Tokyo, Chiba, Japan*

Sa-am-15 254 CHARACTERIZATION OF A FAMILY OF CANDIDATE ODORANT RECEPTORS FROM THE MALARIA VECTOR MOSQUITO ANOPHELES GAMBIAE
Fox A.N.[1], Pitts R.J.[1], Robertson H.M.[2], Zwiebel L.J.[1] [1]*Biological Sciences, Vanderbilt University, Nashville, TN;* [2]*Cell & Structural Biology, University of Illinois at Urbana-Champaign, Urbana, IL*

Sa-am-16 255 MOLECULAR STUDIES OF HUMAN OLFACTORY RECEPTOR NEURONS
Wang H.[1], Gomez G.[1], Rawson N.E.[1] [1]*Rawson's lab, Monell Chemical Senses Center, Philadelphia, PA*

## Olfactory Receptor Neurons: Functional Properties

Sa-am-17 256 SINGLE-UNIT RECORDING FROM GOLDFISH OLFACTORY RECEPTOR NEURONS USING A WIDE RANGE OF BIOLOGICALLY RELEVANT ODORANTS SUGGESTS HIGH CHEMOSPECIFICITY
Sato K.[1], Sorensen P.W.[1] [1]*Fisheries, Wildlife, and Conservation Biology, University of Minnesota, St. Paul, MN*

Sa-am-18 257 UPDATE ON POLYAMINES AS OLFACTORY STIMULI IN GOLDFISH
Rolen S.H.[1], Michel W.C.[2], Caprio J.[1] [1]*Biological Sciences, LSU, Baton Rouge, LA;* [2]*Physiology SOM, University of Utah, Salt Lake City, UT*

Sa-am-19 258 METABOLIC PROFILE AND ODOR RESPONSIVENESS OF SQUID OLFACTORY NEURON SUBTYPES
Sitthichai A.A.[1], Michel W.C.[1], Lucero M.T.[1] [1]*Physiology, University of Utah, Salt Lake City, UT*





Sa-am-20 259 STATISTICAL METHOD FOR RAPID ANALYSIS OF OLFACTORY NEURON ACTIVITY
Blejec A.[1] [1]*Department of Invertebrate Physiology, National Institute of Biology, Ljubljana, Slovenia*

Sa-am-21 260 MULTIDRUG RESISTANCE TRANSPORTERS IN OLFACTORY RECEPTOR NEURONS OF XENOPUS LAEVIS TADPOLES
Manzini I.[1], Schild D.[1] [1]*Physiologisches Institut, University of Goettingen, Goettingen, Germany*

Sa-am-22 261 SUPPRESSING OLFACTORY SENSORY NEURON (OSN) ACTIVITY WITH ULTRAVIOLET (UV)-LIGHT
Cheung M.C.[1], Kauer J.S.[1] [1]*Neuroscience, Tufts University, Boston, MA*

Sa-am-23 262 FUNCTIONAL AND BIOCHEMICAL DIFFERENCES BETWEEN MICROVILLAR AND CILIATED OLFACTORY RECEPTOR NEURONS IN CATFISH
Hansen A.[1], Nikonov A.[2], Anderson K.[1], Morita Y.[3], Finger T.E.[1], Caprio J.[2], Sorensen P.W.[4] [1]*Cellular and Structural Biology, University of Colorado Health Sciences Center, Denver, CO;* [2]*Zoology and Physiology, Louisiana State University, Baton Rouge, LA;* [3]*Anatomy and Physiology, Kagawa Prefect. Coll., Kagawa, Japan;* [4]*Dept. of Fisheries, University of Minnesota, MN*

Sa-am-24 263 DIFFERENTIAL RESPONSIVENESS OF CILIATED AND MICROVILLAR OLFACTORY RECEPTOR NEURONS IN GOLDFISH
Sorensen P.W.[1], Caprio J.[2], Hansen A.[3], Anderson K.T.[3], Finger T.E.[3] [1]*Fisheries, Wildlife and Conservation Biology, University of Minnesota, St.Paul, MN;* [2]*Biological Sciences, Louisiana State University, Baton Rouge, LA;* [3]*Cellular and Structural Biology, University of Colorado, Denver, Co*

Sa-am-25 264 CON A SELECTIVELY BLOCKS DETECTION OF CARVONE ENANTIOMERS IN WISTAR RATS
Apfelbach R.[1], Kirner A.[1], Polak E.H.[2] [1]*Dept. of Zoology, University of Tuebingen, Tuebingen, Germany;* [2]*Dept. of Chemistry, University of Warwick, Coventry, UK*

## Salt and Sour Taste

Sa-am-26 265 POLYMORPHISMS IN AN ACID SENSING ION CHANNEL (HFPASIC1) IN HUMAN FUNGIFORM PAPILLAE
Cao J.[1], Huque T.[1], Spielman A.I.[2], Breslin P.A.[3], Brand J.[4] [1]*Neurosci, Monell, Philadelphia, PA;* [2]*Dentistry, New York University, New York, NY;* [3]*Sensory, Monell, Philadelphia, PA;* [4]*Neurosci, Monell Chemical Senses Center, Philadelphia, PA*

Sa-am-27 266 TRANSCRIPTION OF ENAC SUBUNITS IN THE DEVELOPING RAT
Binder D.R.[1], Posner E.D.[1], Hill D.L.[1] *[1]Psychology, University of Virginia, Charlottesville, VA*

Sa-am-28 267 CHARACTERIZATION OF ACID SENSITIVE ION CHANNELS (ASICS) IN MOUSE TASTE CELLS
Buffington N.[1], Medler K.[1], Kinnamon S.C.[1] *[1]Biomedical Sciences, Colorado State University, Fort Collins, CO*

Sa-am-29 268 EVIDENCE FOR EXPRESSION OF TASK-LIKE K+ CHANNELS IN RAT TASTE CELLS
Lin W.[1], Rao S.[2], Kinnamon S.C.[3], Gilbertson T.[2] *[1]Cell and Structural Biology, Univ. of Colorado Health Sciences Center, Denver, CO; [2]Biology, Utah State Univ., Logan, Utah; [3]Anat.& Neurobiol., Colorado State University, Fort Collins, CO*

Sa-am-30 269 ACUTE REGULATION OF RAT NACL TASTE RESPONSES BY PH
Alam R.I.[1], Phan T.T.[1], Russell O.F.[1], Heck G.L.[1], Desimone J.A.[1], Lyall V.[1] *[1]Physiology, Virginia Commonwealth University, Richmond, VA*

Sa-am-31 270 ACUTE REGULATION OF RAT NACL TASTE RESPONSES BY CAMP AND CALCIUM
Russell O.F.[1], Phan T.T.[1], Alam R.I.[1], Heck G.L.[1], Lyall V.[1], Desimone J.A.[1] *[1]Physiology, Virginia Commonwealth University, Richmond, VA*

Sa-am-32 271 CPC-SENSITIVE SALT TASTE RESPONSE IN RAT: DOSE-RESPONSE AND VOLTAGE-SENSITIVITY
Desimone J.A.[1], Heck G.L.[1], Phan T.T.[1], Alam R.I.[1], Russell O.F.[1], Lyall V.[1] *[1]Physiology, Virginia Commonwealth University, Richmond, VA*

Sa-am-33 272 GLOSSOPHARYNGEAL NERVE TRANSECTION DOES NOT COMPROMISE CHLORIDE SALT DISCRIMINATION IN THE RAT
Geran L.C.[1], Spector A.C.[1] *[1]Department of Psychology, University of Florida, Gainesville, FL*





## Chemical Ecology and Behavior

Sa-am-34 273 SOLID PHASE MICROEXTRACTION HEADSPACE ANALYSIS OF URINARY VOLATILES FROM ADULT MALE MOOSE
Whittle C.L.[1], Bowyer R.[2], Preti G.[3], Clausen T.P.[1] *[1]Chemistry & Biochemistry, University of Alaska Fairbanks, Fairbanks, AK; [2]Department of Biology and Wildlife, University of Alaska Fairbanks, Fairbanks, AK; [3]Monell Chemical Senses Center, Philadelphia, PA*

Sa-am-35 274 THE HONEYED MESSAGE OF MUSTH IN ASIAN ELEPHANTS,ELEPHAS MAXIMUS
Rasmussen L.E.[1], Riddle H.S.[2], Goodwin T.E.[3], Krishnamurthy V.[4], Greenwood D.R.[5] *[1]Biochemistry, Oregon Graduate Institute, Beaverton, OR; [2]Riddles Elephant Sanctuary, AR; [3]Chemistry, Hendrix College, AR; [4]Indian Institute of Science, India; [5]HORT Research Institute, New Zealand*

Sa-am-36 275 MECHANISMS FACILITATING SCENT OVER-MARKING IN FEMALE GOLDEN HAMSTERS
Johnston R.E.[1] *[1]Psychology, Cornell University, Ithaca, NY*

Sa-am-37 276 ODORS DETECTED BY GOLDEN HAMSTERS PRIOR TO TWO DAYS OF AGE ARE DIFFERENTIALLY UTILIZED DURING LATER DEVELOPMENT
Larimer S.C.[1], Johnston R.E.[1] *[1]Psychology Dept., Cornell University, Ithaca, NY*

Sa-am-38 277 MAMMALIAN MODEL OF AGGRESSION AND SMELL
Voznessenskaya V.V.[1], Wysocki C.J.[2] *[1]Institute of Ecology & Evolution RAS, Moscow, Russia; [2]MonellChemical Senses Center, Philadelphia, PA*

Sa-am-39 278 PSYCHOPHYSICS OF ODOR DETECTION THRESHOLD IN A MODEL SYSTEM
Krzys G.[1], Daly K.[1], Smith B.[1] *[1]Entomology, Ohio State University, Columbus, OH*

Sa-am-40 279 NOVEL RELEASE MECHANISM FOR A SEA LAMPREY SEX PHEROMONE
Yun S.[1], Siefkes M.[1], Scott S.[2], Zielinski B.[3], Belanger A.[3], Li W.[1] *[1]Department of Fisheries and Wildlife, Michigan State University, East Lansing, MI; [2]Weymouth Laboratory, The Center for Enveronment, Fisheries, & Aquaculture Science, Weymouth, Dorset, United Kingdom; [3]Department of Biological Sciences, University of Windsor, Windsor, Ontario, Canada*

Sa-am-41 280 EXPERIMENTAL EVIDENCE THAT 7 , 12 , 24-TRIHYDROXY-5 -CHOLAN-3-ONE 24-SULFATE FUNCTIONS AS A SEA LAMPREY SEX PHEROMONE
Siefkes M.J.[1], Li W.[1] *[1]Department of Fisheries and Wildlife, Michigan State University, East Lansing, MI*

Sa-am-42 281 RELATING BEHAVIOR TO OLFACTION IN THE ROUND GOBY, NEOGOBIUS MELANOSTOMUS (PERCIFORMES: GOBIIDAE).
Belanger R.M.[1], Smith C.M.[1], Zielinski B.[1], Corkum L.D.[1] *[1]Department of Biological Sciences, University of Windsor, Windsor, ON, Canada*

Sa-am-43 282 THE EFFECT OF EXPOSURE TO DOMINANCE ODOR ON SOCIAL BEHAVIOR IN CRAYFISH, ORCONECTES RUSTICUS
Bergman D.A.[1], Moore P.A.[1] *[1]Biological Sciences, Bowling Green State University, Bowling Green, OH*

Sa-am-44 283 THE EFFECT OF ELEVATED CO2 DETRITUS ON THE FORAGING DECISIONS OF CRAYFISH (ORCONECTES VIRILIS)
Adams J.A.[1], Tuchman N.C.[2], Moore P.A.[3] *[1]Laboratory for Sensory Ecology, Bowling Green State University, Bowling Green, OH; [2]Biology, Loyola University, Chicago, IL; [3]Biological Sciences, Bowling Green State University, Bowling Green, OH*

Sa-am-45 284 INDUCED HOST PREFERENCE IN SPODOPTERA LITTORALIS
Sjoholm M.[1], Anderson P.[1], Hansson B.S.[1] *[1]Crop Science, Swedish University of Agricultural Sciences, Alnarp, Sweden*

Sa-am-46 285 POLLINATION BY DECEPTION - CARRION MIMICRY IN THE DEAD HORSE ARUM
Stensmyr M.[1], Urru I.[2], Collu I.[2], Angioy A.[2], Hansson B.[1] *[1]Crop Science, Swedish University of Agricultural Sciences, Alnarp, Sweden; [2]Department of Experimental Biology, University of Cagliari, Monserrato, Italy*





**Cash Lunch Carts Available, 12:00 PM - 1:30 PM** *(Prefunction Area)*

**Clinical Luncheon, 12:15 PM - 2:00 PM** *(Salons C & D)*

## SLIDES

**Saturday - 7:00 PM - 8:00 PM**

**Stimulus Interactions**
*Chairperson: Pamela Dalton*

7:00 286 BITTERNESS INHIBITION USING THE BITTER COMPOUND UREA
Keast R.[1], Bournazel M.[2], Breslin P.A.[1] *[1]Taste, Monell Chemical Senses Center, Philadelphia, PA; [2]Taste, Firmenich SA / Monell Chemical Senses Center, Philadelphia, PA*

7:15 287 OLFACTORY DETECTABILITY OF SINGLE CHEMICALS AND MIXTURES
Cometto-Muniz J.E.[1], Cain W.S.[1], Abraham M.H.[2] *[1]Surgery (Otolaryngology), University of California, San Diego, La Jolla, CA; [2]Chemistry, University College London, London, United Kingdom*

7:30 288 SYSTEMATIC CHANGES IN THE TYPES OF ODOR INTERACTIONS ARE RELATED TO THE MOLECULAR STRUCTURE OF THE COMPONENTS
Laing D.[1], Jinks A.L.[1], Segovia C.[1], Hutchinson I.[1] *[1]Centre for Advanced Food Research, University of Western Sydney, Penrith, New South Wales, Australia*

7:45 289 DO SOMATOSENSORY TACTILE STIMULI INTERACT WITH TASTE AND AROMA SIGNALS TO MODULATE PERCEPTION?
Cook D.[1], Hollowood T.A.[1], Linforth R.S.[1], Taylor A.J.[1] *[1]Department of Food Science, Nottingham University, Leicestershire, United Kingdom*

**Evening Break 8:00 PM - 8:15 PM**

## SYMPOSIUM

**Saturday - 8:15 PM - 10:30 PM**

**New Insights Into Phosphoinositol Signaling**
*Chairpersons: Barry W. Ache and Sue Kinnamon*

8:15 290 **Barry W. Ache**
INTRODUCTION: NEW INSIGHTS INTO PHOSPHOINOSITOL SIGNALING
Ache B.W.[1], Kinnamon S.C.[2] [1]*Whitney Laboratory, University of Florida, St. Augustine, FL;* [2]*Colorado State University, Fort Collins, CO*

8:20 291 **Donald W. Hilgemann**
THE COMPLEX AND INTRIGUING LIVES OF PIP2 WITH ION CHANNELS AND TRANSPORTERS.
Kang D.M.[1], Feng S.[1], Nasuholglu C.[1], Hilgemann D.W.[1] [1]*Dept. of Physiology, University of Texas Southwestern Medical Center, Dallas, TX*

8:55 292 **Christian Harteneck**
DIVERSITY AND FUNCTIONS OF TRP CHANNEL SUBFAMILIES
Harteneck C.[1] [1]*Institute of Pharmacology, Free University Berlin, Berlin, Germany*

9:30 293 **Barry W. Ache**
3-PHOSPHOINOSITIDE SIGNALING IN OLFACTORY RECEPTOR CELLS
Ache B.W.[1] [1]*Whitney Lab, University of Florida, St. Augustine, FL*





9:55 294 **Sue C. Kinnamon**
PHOSPHOINOSITIDE SIGNALING IN TASTE CELLS
Kinnamon S.C.[1] [1]*Dept. of Anatomy & Neurobiology, Colorado State University, Fort Collins, CO*

10:20 DISCUSSION

***This symposium was sponsored in part by a grant from the National Institute on Deafness and Other Communication Disorders***

## POSTERS

**Saturday - 7:00 PM - 11:00 PM**

**Assessment of Discrimination and Sensitivity**

Sa-pm-1 295 THE PREVALENCE OF ANDROSTENONE ANOSMIA MAY BE LOWER THAN PREVIOUSLY ESTIMATED
Bremner E.[1], Mainland J.[1], Sobel N.[1] [1]*Neuroscience, University of California, Berkeley, CA*

Sa-pm-2 296 DETECTION THRESHOLDS FOR PHENYL ETHYL ALCOHOL USING SERIAL DILUTIONS IN DIFFERENT SOLVENTS
Tsukatani T.[1], Miwa T.[2], Furukawa M.[2], Costanzo R.M.[1] [1]*Physiology, Virginia Commonwealth University, Richmond, VA;* [2]*Otorhinolaryngology, Kanazawa University, Kanazawa, Japan*

Sa-pm-3 297 DETECTION OF GLUTARALDEHYDE IN WATER: CHANGING SENSITIVITY AND SPECIFIC ANOSMIA
Schmidt R.[1], Cain W.S.[1] [1]*Surgery, University of California, San Diego, La Jolla, CA*

Sa-pm-4 298 ORAL FAT EXPOSURE AUGMENTS THE "SECOND MEAL" EFFECT IN HUMANS
Mattes R.D.[1] [1]*Foods and Nutrition, Purdue University, West Lafayette, IN*

Sa-pm-5 299 OLFACTORY DISCRIMINATION OF FATTY ACIDS IN RATS WITH LARGE BILATERAL LESIONS OF THE OLFACTORY BULBS
Bisulco S.[1], Slotnick B.[1] [1]*Department of Psychology, American University, Washington, DC*

Sa-pm-6 300 SENSORY MEASUREMENT OF DYNAMIC FLAVOR PERCEPTION IN ICE CREAM WITH DIFFERENT FAT LEVELS AND FLAVORINGS
Bom Frøst M.[1], Heymann H.[2], Bredie W.[1], Dijksterhuis G.B.[1], Martens M.[1] *[1]Dept. Dairy and Food Science, Royal Veterinary and Agricultural University, Frederiksberg, Denmark; [2]Food Science Dept., University of Missouri, Columbia, Columbia, MO*

Sa-pm-7 301 DETECTING MALINGERERS WITH PSYCHOPHYSICAL TESTING
Linschoten M.R.[1], Harvey Jr. L.O.[2], Mitchell S.M.[1] *[1]Otolaryngology, University of Colorado Health Sciences Center, Denver, CO; [2]Psychology, University of Colorado, Boulder, CO*

Sa-pm-8 302 CORRELATIONS BETWEEN INTRANASAL ANATOMY AND HUMAN OLFACTION
Vent J.[1], Damm M.[1], Schmidt M.[2], Theissen P.[2], Hummel T.[3] *[1]Otorhinolaryngology, University of Cologne Medical Center, Cologne, Germany; [2]Nuclear Medicine, University of Cologne Medical Center, Cologne, Germany; [3]Otorhinolaryngology, University of Dresden Medical School, Dresden, Germany*

Sa-pm-9 303 INTEGRATED STORAGE AND COMPOUND MANAGEMENT SYSTEM TO SUPPORT HIGH THROUGHPUT DISCOVERY
Kell E.[1] *[1]Chemistry, Senomyx, La Jolla, CA*

## Biologically Relevant Odors in Humans

Sa-pm-10 304 DETECTION THRESHOLDS FOR 4,16-ANDROSTADIEN-3-ONE
Olsson M.J.[1], Lundstrom J.N.[1], Hicks A.S.[1] *[1]Psychology, Uppsala University, Uppsala, Sweden*

Sa-pm-11 305 THE SMELL OF EMOTION: OLFACTORY COMMUNICATION OF EMOTION IN HUMANS
Chen D.[1], Mcclintock M.K.[1] *[1]Psychology Department and Institute for Mind and Biology, University of Chicago, Chicago, IL*

Sa-pm-12 306 PSYCHOLOGICAL EFFECTS OF SUBTHRESHOLD EXPOSURE OF 4,16-ANDROSTADIEN-3-ONE ON WOMEN
Lundstrom J.N.[1], Olsson M.J.[1] *[1]Psychology, Uppsala University, Uppsala, Sweden*





Sa-pm-13 307 ANDROSTADIENONE AFFECTS COURTSHIP-LIKE BEHAVIORS IN WOMEN
Wilson P.[1], Haviland-Jones J.[2], Wysocki C.J.[3], Warrenburg S.[1], Christensen C.[1] *[1]Research & Development, International Flavors & Fragrances, Union Beach, NJ; [2]Psychology, Rutgers, The State Univesity of New Jersey, Piscataway, NJ; [3]Monell Chemical Senses Center, Philadelphia, PA*

Sa-pm-14 308 PHYSIOLOGICAL AND PSYCHOLOGICAL EFFECTS OF TWO PUTATIVE HUMAN PHEROMONES
Brown W.[1], Johnson B.[2], Mainland J.[3], Bremner E.[3], Tsutsui T.[1], Moguel S.[1], Bensafi M.[3], Sobel N.[3] *[1]Psychology, University of California, Berkeley, CA; [2]Bioengineering, University of California, Berkeley, CA; [3]Neuroscience, University of California, Berkeley, CA*

Sa-pm-15 309 CROSS-CULTURAL INVESTIGATION OF BODY ODOR
Huebener F.[1], Ayabe-Kanamura S.[2], Laska M.[1], Kobayakawa T.[2], Saito S.[2] *[1]Department of Medical Psychology, University of Munich, Munich, Germany; [2]Institute of Neuroscience, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki, Japan*

Sa-pm-16 310 HUMAN AXILLARY ODORS FORMED BY ENDOGENOUS BACTERIA
Preti G.[1], Sweigert K.L.[1], Zeng X.N.[1], Mcginley K.[2], Foglia A.[1], Leyden J.J.[3] *[1]Monell Chemical Senses Center, Philadelphia, PA; [2]Dermatology, Univ. Pennsylvania, Philadelphia, PA*

## Neural Coding in the Central Olfactory System

Sa-pm-17 311 ANALYSIS OF DOSE-RESPONSE FUNCTIONS IN THE ANTENNAL LOBE OF THE MOTH SPODOPTERA LITTORALIS
Carlsson M.A.[1], Hansson B.S.[1] *[1]Department of Crop Sciences, Swedish University of Agricultural Sciences, Alnarp, Sweden*

Sa-pm-18 312 SENSORY PROCESSING OF ENVIRONMENTAL-CO2 INFORMATION IN THE MOTH NERVOUS SYSTEM
Guerenstein P.G.[1], Christensen T.A.[1], Hildebrand J.G.[1] *[1]ARL Div. of Neurobiology, University of Arizona, Tucson, AZ*

Sa-pm-19 313 REPRESENTATION OF PHEROMONE BLENDS BY PROJECTION NEURONS IN HELIOTHINE MOTHS
Kleineidam C.[1], Vickers N.J.[1], Linn, Jr C.E.[2] *[1]Biology, University of Utah, Salt Lake City, UT; [2]Entomology, Cornell University, Geneva, NY*

Sa-pm-20 314 SYNCHRONY AND SPATIOTEMPORAL ODOR CODES IN ANTENNAL LOBES OF THE MOTH MANDUCA SEXTA
Daly K.C.[1], Wright G.A.[1], Smith B.[1] [1]*Entomology, Ohio State University, Columbus, OH*

Sa-pm-21 315 ANALYSIS OF ODOR SELECTIVITY IN THE MOTH ANTENNAL LOBE USING NEURAL-ENSEMBLE RECORDING
Lei H.[1], Christensen T.A.[1], Hildebrand J.G.[1] [1]*Arizona Research Labs Div. of Neurobiology, University of Arizona, Tucson, AZ*

Sa-pm-22 316 RELATIONSHIP BETWEEN RECEPTOR NEURON INPUT AND INTRINSIC OPTICAL SIGNALS IN THE MOUSE OLFACTORY BULB
Cohen L.B.[1], Wachowiak M.[1] [1]*Cell. & Molec. Physiol., Yale University, New Haven, CT*

Sa-pm-23 317 REGULATION OF RECEPTOR NEURON INPUT TO THE MOUSE OLFACTORY BULB MEDIATED BY SUPPRESSION OF PRESYNAPTIC CALCIUM INFLUX
Wachowiak M.[1], Heyward P.M.[2], Puche A.C.[2], Shipley M.T.[2] [1]*Dept. Cell. & Molec. Physiol., Yale University, New Haven, CT;* [2]*Dept. Anat. & Neurobiol., Program in Neuroscience, University of Maryland at Baltimore, Baltimore, MD*

Sa-pm-24 318 A CODE FOR COMPLEX OBJECTS: EMERGING PRINCIPLES FOR NATURAL ODOR REPRESENTATION IN THE MOUSE BRAIN
Schaefer M.L.[1], Restrepo D.[1] [1]*Cell & Structural Biology, University of Colorado Health Sciences Center, Denver, CO*

Sa-pm-25 319 DISTINCT ACTIVITY PATTERNS EVOKED BY ACTIVATION OF MITRAL/TUFTED CELL AND CENTRIFUGAL FIBER INPUTS TO MAIN OLFACTORY BULB (MOB) GRANULE CELLS.
Laaris N.[1], Ennis M.[1] [1]*Dept. of Anatomy & Neurobiology, University of Maryland at Baltimore, Baltimore, MD*

Sa-pm-26 320 COMPUTATIONAL TOOLS FOR MAPPING THE GLOMERULAR LAYER OF THE OLFACTORY BULB.
Salcedo E.[1], Schaefer M.L.[1], Restrepo D.[1] [1]*Cellular and Structural Biology, University of Colorado Health Sciences Center, Denver, CO*

Sa-pm-27 321 DISTRIBUTION OF CORRELATED ACTIVITY IN THE OLFACTORY BULB OF RATS FROM SIMULTANEOUS MULTIELECTRODE RECORDINGS
Lehmkuhle M.J.[1], Normann R.A.[1], Maynard E.M.[1] [1]*Bioengineering, University of Utah, Salt Lake City, UT*





## Brainstem Circuits

Sa-pm-28 322 NEUROBIOLOGY OF THE RAT INFERIOR SALIVATORY NUCLEUS
Kim M.[1], Cheigo Jr. D.J.[2], Bradley R.M.[2] [1]*Nursing, Chonnam University Medical School, Gwangju, Korea;* [2]*Biologic & Materials Science, University of Michigan, Ann Arbor, MI*

Sa-pm-29 323 LATERAL HYPOTHALAMUS AND AMYGDALA MODULATE TASTE RESPONSES OF PARABRACHIAL NEURONS
Li C.[1], Cho Y.K.[1], Smith D.V.[1] [1]*Anatomy & Neurobiology, University of Maryland, Baltimore, Baltimore, MD*

Sa-pm-30 324 CONVERGENCE OF FOREBRAIN INFLUENCES ON TASTE NEURONS OF THE SOLITARY NUCLEUS
Cho Y.K.[1], Li C.[1], Smith D.V.[1] [1]*Anatomy & Neurobiology, University of Maryland, Baltimore, Baltimore, MD*

Sa-pm-31 325 MODULATION OF PONTINE TASTE ACTIVITY BY CENTRIFUGAL INPUTS UNDER TASTE
Tokita K.[1], Karadi Z.[2], Shimura T.[1], Yamamoto T.[1] [1]*Division of Behavioral Physiology, Department of Behavioral Science, Graduate School of Human Sciences, Osaka University, Suita, Osaka, Japan;* [2]*Institute of Physiology, Pecs University, Medical School, Pecs, Hungary*

Sa-pm-32 326 VARIABILITY OF TASTE RESPONSE MAGNITUDE IN THE NUCLEUS OF THE SOLITARY TRACT WITH STIMULUS REPETITION
Di Lorenzo P.M.[1], Victor J.D.[2] [1]*Psychology, Binghamton University, Binghamton, NY;* [2]*Neurology and Neuroscience, Weill Medical College of Cornell University, New York, NY*

Sa-pm-33 327 EFFECTS OF GLOSSOPHARYNGEAL ANESTHESIA ON TASTE RESPONSES IN THE NUCLEUS OF THE SOLITARY TRACT OF THE RAT
Reich C.G.[1], Di Lorenzo P.M.[1] [1]*Psychology, Binghamton University, Binghamton, NY*

Sa-pm-34 328 GURMARIN SUPPRESSION OF SUCROSE RESPONSES IN RAT SOLITARY NUCLEUS NEURONS
Ndubuizu O.[1], Lemon C.H.[1], Imoto T.[2], Smith D.V.[1] [1]*Anatomy & Neurobiology, University of Maryland, Baltimore, Baltimore, MD;* [2]*Physiology, Tottori University, Yonago, City, Japan*

Sa-pm-35 329 AN ARTIFICIAL NEURAL NETWORK MODEL OF TASTE INFORMATION PROCESSING
Lemon C.H.[1], Smith D.V.[1] [1]*Anatomy & Neurobiology, University of Maryland, Baltimore, Baltimore, MD*

Sa-pm-36 330 ELECTRICAL STIMULATION OF THE PBN ELICITS INGESTIVE OROMOTOR BEHAVIORS IN CONSCIOUS RATS: A TOPOGRAPHIC ANALYSIS.
King M.S.[1], Dykes R.E.[1], King C.T.[2] [1]*Biology, Stetson University, Deland, FL;* [2]*Psychology, Stetson University, DeLand, FL*

## Sweet Taste

Sa-pm-37 331 IONIC CONTROL OF SWEET TASTE QUALITY
Haywood K.A.[1], Giraud D.A.[2], Birch G.G.[1] [1]*School of Food Biosciences, The Universty of Reading, Reading, Berkshire, United Kingdom;* [2]*ENSBANA, University of Burgundy, Dijon, Bourgogne, France*

Sa-pm-38 332 WHERE ARE THE CRITICAL REGIONS FOR BRAZZEIN´S SWEET TASTE? HUMAN PSYCHOPHYSICAL AND MONKEY ELECTROPHYSIOLOGICAL RESPONSES TO BRAZZEIN MUTANTS
Jin Z.[1], Danilova V.[1], Markley J.[2], Hellekant G.[1] [1]*AHABS, University of Wisconsin-Madison, Madison, WI;* [2]*Biochemistry, University of Wisconsin-Madison, Madison, WI*

Sa-pm-39 333 GYMNEMA SYLVESTRE SWEET-BLOCKING EFFICACY ON TONGUE TIP VS. WHOLE MOUTH
Delwiche J.F.[1], Beilstein C.[2] [1]*Food Science, Ohio State, Columbus, OH;* [2]*Psychology, OSU, Columbus, OH*

Sa-pm-40 334 MIMICRY OF SUCROSE TASTE WITH NON-CALORIC SWEETENERS
D'Angelo L.L.[1], King G.A.[1], Dubois G.E.[1] [1]*Technical Division, The Coca-Cola Company, Atlanta, GA*

Sa-pm-41 335 DISCRIMINATION OF GLUCOSE AND FRUCTOSE AFTER ADAPTATION BUT NOT BEFORE
Tharp C.D.[1], Breslin P.A.[1] [1]*Sensory, Monell Chemical Senses Center, Philadelphia, PA*

Sa-pm-42 336 GENERALIZATION OF A CONDITIONED AVERSION TO LICK-CONTINGENT ELECTRICAL STIMULATION OF THE NUCLEUS OF THE SOLITARY TRACT TO A NATURAL TASTE
Hallock R.[1], Di Lorenzo P.M.[1] [1]*Psychology, Binghamton University, Binghamton, NY*

Sa-pm-43 337 DIFFERENTIAL EFFECTS OF ESTROGEN ON LICKING RATES AND INGESTION OF SUCROSE AND NACL SOLUTIONS
Curtis K.S.[1], Davis L.M.[1], Therrien K.[1], Contreras R.J.[1] [1]*Psychology, Florida State University, Tallahassee, FL*





Sa-pm-44 338 USE OF AN OPERANT SIGNAL DETECTION TASK TO ASSESS SUCROSE SENSITIVITY IN INBRED MOUSE STRAINS DIFFERING IN SUGAR PREFERENCE
Eylam S.[1], Spector A.C.[1] [1]*Department of Psychology, Univ. of Florida, Gainesville, FL*

Sa-pm-45 339 GUSTATORY RESPONSES TO POLYCOSE IN FOUR SPECIES OF NONHUMAN PRIMATES
Laska M.[1], Kohlmann S.[1], Hernandez-Salazar L.T.[2], Rodriguez-Luna E.[2] [1]*Department of Medical Psychology, University of Munich, Munich, Germany;* [2]*Instituto de Neuro-Etologia, Universidad Veracruzana, Xalapa, Mexico*

Sa-pm-46 340 POLYMORPHISMS OF THE MOUSE TAS1R3 GENE ARE RELATED TO SWEETENER PREFERENCES IN 30 STRAINS OF MICE
Bachmanov A.A.[1], Li S.[1], Li X.[1], Lu K.[1], Tordoff M.G.[1], West D.B.[2], Ohmen J.D.[2], Reed D.R.[1], Beauchamp G.K.[1] [1]*Monell Chemical Senses Center, Philadelphia, PA;* [2]*Pfizer Global Research and Development, Alameda, CA*

Sa-pm-47 341 DROSOPHILA SWEET-TASTE GENE TRE IS IDENTICAL TO A GUSTATORY RECEPTOR GENE GR5A.
Morita H.[1], Ueno K.[2], Matsubayashi H.[3], Isono K.[4] [1]*Information Biology, Tohoku University, Sendai, Japan;* [2]*Institute for Behavior Sciences, Gunma University School of Medicine, Maebashi, Japan;* [3]*Drosophila Genetic Resource Center, Kyoto Institute of Technology, Kyoto, Japan;* [4]*Information Biology, Tohoku University Graduate School of Information Sciences, Sendai, Japan*

Sa-pm-48 342 A GR RECEPTOR IS REQUIRED FOR RESPONSE TO THE SUGAR TREHALOSE IN TASTE NEURONS OF DROSOPHILA.
Dahanukar A.[1], Van Der Goes Van Naters W.[1], Foster K.[1], Carlson J.R.[1] [1]*MCDB, Yale University, New Haven, CT*

## Sunday, April 28, 2002

**Continental Breakfast, 7:30 AM - 9:00 AM** *(Prefunction Area)*

### SLIDES

**Sunday - 8:30 AM - 10:00 AM**

**Ion Channels and Function of Chemosensory Cells**
*Chairperson: Scott Herness*

8:30 343 CALCIUM PUMPS, LIPID RAFTS AND GPI ANCHORED PROTEINS IN CHEMORESPONSE
Yano J.[1], Rakochy V.[1], Preston R.R.[2], Van Houten J.[1] *[1]Biology, University of Vermont, Burlington, VT; [2]Physiology and Pharmacology, MCP Hahnemann University, Philadelphia, PA*

8:45 344 CHORDA TYMPANI (CT) NEURONS EXPRESS NEUROTROPHIN RECEPTOR GENES DIFFERENT FROM GREATER SUPERFICIAL PETROSAL (GSP) NEURONS
Farbman A.I.[1], Sollars S.[2], Guagliardo N.[3], Hill D.[3] *[1]Neurobiology and Physiology, Northwestern University, Evanston, IL; [2]Psychology, University of Nebraska at Omaha, Omaha, NE; [3]Psychology, Univ. of Virginia, Charlottesville, VA*

9:00 345 THE ROLE OF CAMP AND CA2+ IN THE EXCITATION AND ADAPTATION OF TASTE RESPONSES TO HCL
Lyall V.[1], Alam R.I.[1], Phan T.T.[1], Vinnikova A.K.[2], Desimone S.K.[1], Heck G.L.[1], Desimone J.A.[1] *[1]Physiology, Virginia Commonwealth University, Richmond, VA; [2]Internal Medicine, Virginia Commonwealth University, Richmond, VA*

9:15 346 EXPRESSION OF EPITHELIAL SODIUM CHANNELS (ENACS) IN HUMAN FUNGIFORM PAPILLAE
Huque T.[1], Wysocki L.[1], Bayley D.[1], Breslin P.A.[2], Spielman A.[3], Brand J.[1] *[1]Neurosci, Monell Chemical Senses Center, Philadelphia, PA; [2]Sensory, Monell Chemical Senses Center, Philadelphia, PA; [3]College of Dentistry, New York University, New York, NY*





9:30 347 PACAP MODULATES POTASSIUM CURRENTS AND PROMOTES SURVIVAL OF OLFACTORY RECEPTOR NEURONS
Han P.[1], Hegg C.C.[1], Roskams A.J.[2], Lucero M.T.[1] *[1]Physiology, University of Utah, Salt Lake City, UT; [2]Centre for Molecular Medicine, Univ. of British Columbia, Vancouver, BC, Canada*

9:45 348 MECHANISM UNDERLYING ODOR INHIBITION IN TOAD OLFACTORY RECEPTOR NEURONS.
Madrid R.[1], Bacigalupo J.[1] *[1]Sensory Physiol. Lab., Millenium Institute CBB, Santiago, Chile*

**Mid morning coffee available 9:30 AM - 10:00 AM**

### SLIDES

**Sunday - 10:00 AM - 11:00 AM**

**The Ecology of Chemical Signals**
*Chairperson: Charles Derby*

10:00 349 THE SCENT OF DANGER: CHEMICAL ALARM SIGNALS AND ESCAPE FROM CANNIBALISM IN NEWTS
Schar D.W.[1], Krug P.J.[1], Zimmer R.K.[1] *[1]Biology, UCLA, Los Angeles, CA*

10:15 350 CHEMICAL ATTRACTANTS AS CHEMICAL DEFENSES
Johnson P.M.[1], Paul V.J.[2], Cruz-Rivera E.[2], Derby C.D.[1] *[1]Biology, Georgia State University, Atlanta, GA; [2]University of Guam, Marine Laboratory, Mangilao, GU*

10:30 351 LARVAL REEF FISH COULD USE ODOR FOR DETECTION, RETENTION AND ORIENTATION TO REEFS
Atema J.[1], Kingsford M.J.[2], Gerlach G.[3] *[1]Boston University Marine Program, Boston University, Woods Hole, MA; [2]School of Biological Sciences, University of Sydney, Sydney, NSW, Australia; [3]Marine Resources Center, Marine Biological Laboratory, Woods Hole, MA*

10:45 352 ODOR PLUMES AND HYDRODYNAMICS: HOW CRAYFISH FIND ODOR SOURCES
Moore P.A.[1] *[1]Biological Sciences, Bowling Green State University, Bowling Green, OH*

## POSTERS

### Sunday - 8:00 AM - 12:00 PM

### Event Related Potentials

Su-am-1 353 INTRAINDIVIDUAL CORRELATION OF CHEMOSENSORY EVENT RELATED POTENTIALS
Welge-Lüssen A.C.[1], Wille C.[2], Renner B.[2], Kobal G.[2] [1]*ENT - Department, University Hospital Basel, Basel, Switzerland;* [2]*Department of Clinical and Experimental Pharmacology, University of Erlangen-Nürnberg, Erlangen, Germany*

Su-am-2 354 APOLIPOPROTEIN E E4-POSITIVE INDIVIDUALS SHOW INCREASED OLFACTORY EVENT-RELATED POTENTIAL LATENCIES AT 2-YEAR FOLLOW-UP
Wetter S.[1], Zizak V.[2], Broman D.[3], Murphy C.[2] [1]*Psychology, San Diego State University/University of California, San Diego, San Diego, CA;* [2]*Psychology, San Diego State University, San Diego, CA;* [3]*Psychology, Umea University, Umea, Sweden*

Su-am-3 355 A STUDY OF HYPOADDITIVITY USING DICHORHINAL STIMULATION
Jacob T.J.[1], Fraser C.S.[1], Wang L.[1] [1]*Biosciences, Cardiff University, Cardiff, United Kingdom*

Su-am-4 356 STEREOSPECIFICITY OF ELECTROPHYSIOLOGICAL AND SUBJECTIVE RESPONSES OF NICOTINE
Gullotta F.P.[1], Hayes C.S.[2] [1]*Worldwide Scientific Affairs, Philip Morris U.S.A., 13065 Hill Club Lane, Ashland, VA 23005;* [2]*Product Design and Evaluation, Philip Morris U.S.A., Richmond, VA*

Su-am-5 357 TRIGEMINAL EVENT-RELATED POTENTIALS: RELATION TO STIMULUS DURATION AND INTENSITY
Frasnelli J.[1], Loetsch J.[2], Hummel T.[1] [1]*Otorhinolaryngology, University of Dresden Medical School, Dresden, Germany;* [2]*Clnical Pharamacology, University of Frankfurt/Main, Frankfurt/Main, Germany*

### Chemosensory Cortical Processing

Su-am-6 358 OLFACTORY PROCESSING AND MEDIAL FRONTAL CORTEX: ELECTROPHYSIOLOGICAL APPROACH
Bouret S.[1], Kublik E.[1], Wilson D.A.[2], Sara S.J.[1] [1]*Neuromodulation & Processus Mnésiques, Univ P & M Curie, Paris, France;* [2]*Department of Zoology, University of Oklahoma, Norman, OK*





Su-am-7 359 NEURAL CORRELATES OF CORTICAL ODOR HABITUATION
Best A.R.[1], Wilson D.A.[1] [1]*Department of Zoology, University of Oklahoma, Norman, OK*

Su-am-8 360 OLFACTORY MEMORY AND THE MEDIAL FRONTAL CORTEX IN THE RAT
Tronel S.[1], Sara S.J.[1] [1]*Neuromodulation et Processus Mnésique, Univ P & M Curie, Paris, France*

Su-am-9 361 TASTE, TEXTURE, AND FAT REPRESENTATIONS IN THE PRIMATE ORBITOFRONTAL CORTEX
Verhagen J.V.[1], Rolls E.T.[1], Kadohisa M.[1] [1]*Experimental Psychology, University of Oxford, Oxford, United Kingdom*

Su-am-10 362 TEMPORAL ASPECTS OF GUSTATORY CODING OBTAINED FROM CORTICAL ENSEMBLES IN AWAKE RATS
Katz D.B.[1], Simon S.A.[1], Nicolelis M.A.[1] [1]*Neurobiology, Duke University, Durham, NC*

Su-am-11 363 DIFFERENT REACTION OF HUMAN BRAIN TO THE INVIGORATING AND RELAXING ODORS
Wang J.[1], Eslinger P.J.[2], Smith M.B.[1], Yang Q.X.[1], Ansari R.[3] [1]*Radiology, Pennsylvania State University, Hershey, PA;* [2]*Neurology, Pennsylvania State University, Hershey, PA;* [3]*Technical Affairs, Quest International Fragrances Company, NJ*

Su-am-12 364 TEMPORAL LOBE OLFACTORY CORTEX ACTIVATION DURING SNIFFING AND VELOPHARYNGEAL CLOSURE
Sabri M.[1], Kareken D.A.[1], Hector D.[2], Claus E.D.[1], Hutchins G.D.[3] [1]*Neurology, Indiana University School of Medicine, Indianapolis, IN;* [2]*Psychology, Indiana University, Bloomington, IN;* [3]*Radiology, Indiana University School of Medicine, Indianapolis, IN*

Su-am-13 365 REDUCED TASTE INTENSITY PERCEPTION IN PATIENTS WITH IPSILATERAL OR BILATERAL INSULAR ATROPHY DUE TO PRIMARY PROGRESSIVE APHASIA
Srinivasan R.[1], Small D.[1] [1]*Neurology, Northwestern University Medical School, Chicago, IL*

Su-am-14 366 OLFACTORY MARKER PROTEIN IS EXPRESSED IN THE VISUAL CORTEX OF RATS AND CATS
Weiler E.[1] [1]*Neurophysiology, Ruhr-University, Bochum, NRW, Germany*

## Hedonics

Su-am-15 367 CEPHALIC PHASE SALIVARY RESPONSE DIFFERENCES CHARACTERIZE LEVEL OF FOOD NEOPHOBIA
Meyer B.[1], Raudenbush B.[2], Kozlowski A.[2], Corley N.[2], Flower N.[3]
*[1]Counseling, Appalachian State University, Boone, NC; [2]Psychology, Wheeling Jesuit University, Wheeling, WV; [3]Adolescent Services, Northwood Health Systems, Pittsburgh, PA*

Su-am-16 368 GENERALIZABILITY VS. SPECIFICITY OF PSYCHOPHYSICAL RATINGS MADE BY FOOD NEOPHOBICS AND NEOPHILICS ACROSS ALL SENSORY DIMENSIONS
Kozlowski A.[1], Raudenbush B.[1], Tornifolio B.[1] *[1]Psychology, Wheeling Jesuit University, Wheeling, WV*

Su-am-17 369 REFRESHMENT IS DISTINGUISHED BY A DISCRETE SUBJECTIVE CHANGE
Schooler J.W.[1], Halpern D.V.[2] *[1]Psychology/Learning Research and Development Center, University of Pittsburgh, Pittsburgh, PA; [2]Psychology, University of Pittsburgh, Pittsburgh, PA*

Su-am-18 370 MODULATION OF THE HUMAN ACOUSTIC STARTLE REFLEX BY TEA AROMAS: A COMPARISION OF ASIAN AND NON-ASIAN SUBJECTS
Aspen J.M.[1], Kaviani H.[2], Scott D.S.[1], Gray J.A.[2] *[1]Beverages Innovation, Unilever R & D, Sharnbrook, Bedford, United Kingdom; [2]Dept. of Psychology, Institute of Psychiatry, London, United Kingdom*

Su-am-19 371 EFFECTS OF AMBIENT FLORAL ODORS ON FAMILY ACTIVITIES AND SELF PERCEPTIONS
Hirsch A.R.[1] *[1]Neurological Director, The Smell & Taste Treatment and Research Foundation, Chicago, IL*

Su-am-20 372 AMELIORATING AGRICULTURAL ODORS: DOWN ON THE FARM
Louie J.[1], Wysocki C.J.[1], Preti G.[1], Pitcher P.[2], Kim J.J.[1], Connolly L.[1] *[1]Monell Chemical Senses Center, Philadelphia, PA; [2]Sch Vet Med, University of Pennsylvania, Kennett Sq., PA*





## Umami Taste

Su-am-21 373 BEHAVIORAL EVIDENCE FOR A ROLE OF GUSTDUCIN IN UMAMI TAST
Ruiz C.[1], Delay E.[2], Margolskee R.[3], Kinnamon S.C.[1] *[1]Rocky Mountain Taste and Smell Center, University of Colorado Health Sciences Center, Denver, CO, Department of Anatomy & Neurobiology, Colorado State University, Fort Collins, CO; [2]Neuroscience Program, Regis University, Denver, CO; [3]Howard Hughes Medical Institute, The Mount Sinai School Of Medicine, New York, NY*

Su-am-22 374 DISCRIMINATION BETWEEN TASTES OF MONOSODIUM GLUTAMATE AND GLUTAMATE AGONISTS IN RATS.
Delay E.R.[1], Sewczak G.M.[1], Stapleton J.R.[1], Roper S.D.[2] *[1]Neuroscience Program, Regis University, Denver, CO; [2]Dept. Physiology & Biophysics and Neuroscience Program, University of Miami School of Medicine, Miami, FL*

Su-am-23 375 GENERALIZATION OF CTA BETWEEN MONOSODIUM GLUTAMATE AND SWEET SUBSTANCES IN RATS.
Tran L.H.[1], Heyer B.R.[1], Delay E.R.[1] *[1]Neuroscience Program, Regis University, Denver, CO*

Su-am-24 376 DOUBLE-LABELING C-FOS MRNA AND PROTEIN IN THE RAT SOLITARY NUCLEUS AFTER SUCROSE AND MSG INGESTION.
Gropp J.K.[1], Stapleton J.R.[1], Barnes C.L.[2], Delay E.R.[1] *[1]Neuroscience Program, Regis University, Denver, CO; [2]Physical Therapy, Regis University, Denver, CO*

Su-am-25 377 HUMAN RECEPTORS FOR SWEET AND UMAMI TASTE
Li X.[1], Staszewski L.[1], Xu H.[1], Adler E.[1] *[1]Department of Biology, Senomyx, Inc., La Jolla, CA*

## Neurotransmitters and Neuromodulators

Su-am-26 378 NITRIC-OXIDE AS A POSSIBLE GAIN CONTROL IN THE OLFACTORY SYSTEM
Cousins M.A.[1], Daly K.C.[1], Smith B.[1] *[1]Entomology, Ohio State University, Coulmbus, OH*

Su-am-27 379 NO ACTS AS A COMPLEX MODULATOR OF RAT OLFACTORY RECEPTOR NEURON ACTIVITY
Diaz J.[1], Schmachtenberg O.[1], Bacigalupo J.[1] *[1]Sensory Physiol. Lab., Millenium Institute CBB, Santiago, Chile*

Su-am-28 380 SYSTEMIC L-NAME ATTENUATED LITHIUM-INDUCED C-FOS EXPRESSION IN THE BRAIN, BUT NO EFFECT ON THE ACQUISITION OF LITHIUM-INDUCED CONDITIONED TASTE AVERSION IN RATS.
Jahng J.W.[1], Lee J.H.[2], Houpt T.A.[3] *[1]Pharmacology, Yonsei University College of Medicine, Seoul, Seoul, South Korea; [2]Oral and Maxillofacial Surgery, Seoul National University College of Dentistry, Seoul, Seoul, South Korea; [3]Biological Sciences, Florida State University, Tallahassee, FL*

Su-am-29 381 EXPLORING NEURONAL AND MOLECULAR MECHANISMS THAT MEDIATE ODORANT-STIMULATED NITRIC OXIDE PRODUCTION IN THE ANTENNAL LOBE OF MANDUCA SEXTA
Wilson C.[1], Collmann C.[1], Nighorn A.[1] *[1]ARLDN, University of Arizona, Tucson, AZ*

Su-am-30 382 EXPRESSION AND FUNCTION OF NPY IN THE RAT OLFACTORY BULB
Blakemore L.J.[1], Alshingiti A.M.[1], Levenson C.W.[1], Trombley P.Q.[1] *[1]Program in Neuroscience, Florida State University, Tallahassee, FL*

Su-am-31 383 ACTIVATION OF PURINERGIC RECEPTOR SUBTYPES DIFFERENTIALLY MODULATES MOUSE ORN ODOR RESPOSIVENESS
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Su-am-32 384 DOPAMINE INHIBITS ODOR RESPONSIVENESS AND EXCITABILITY IN MOUSE ORNS
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Su-am-33 385 ELECTROPHYSIOLOGICAL, IMMUNOCYTOCHEMICAL, AND MOLECULAR ANALYSES OF KAINATE RECEPTORS IN THE RAT OLFACTORY BULB
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Su-am-34 386 MECHANISM OF GLUTAMATE EXCITATION OF THE SOMA AND PROXIMAL DENDRITE OF MITRAL CELLS
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Su-am-35 387 IONOTROPIC GLUTAMATE RECEPTOR ACTIVATION SELECTIVELY DEPLETES GABA LEVELS IN ZEBRAFISH OLFACTORY BULB
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Su-am-36 388 PHARMACOLOGICAL CHARACTERIZATION OF IONOTROPIC GLUTAMATE RECEPTORS IN THE ZEBRAFISH OLFACTORY BULB
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Su-am-37 389 METABOTROPIC GLUTAMATE RECEPTOR MGLUR1 DIRECTLY AND POTENTLY ACTIVATES MITRAL CELLS IN MAIN OLFACTORY BULB SLICES
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Su-am-38 390 EXPRESSION OF SEROTONIN RECEPTORS IN RAT TASTE RECEPTOR CELLS.
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Su-am-39 391 GABAERGIC CELLS IN THE GOLDFISH VAGAL LOBE
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Su-am-40 392 CCK-8 POTENTIATES THE SYNAPTIC RESPONSE TO AFFERENT STIMULATION IN THE PRIMARY GUSTATORY NUCLEUS OF GOLDFISH
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Su-am-41 393 INVESTIGATION OF THE SIGNAL TRANSDUCTION PATHWAY IN VOMERONASAL RECEPTOR NEURONS OF THE RAT
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Su-am-42 394 NETRIN-1 REGULATES THE MIGRATION OF LHRH NEURONS TO THE BASAL FOREBRAIN
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Su-am-43 395 IMMUNOHISTOCHEMISTRY OF THE VOMERONASAL ORGAN IN CALLITRICHIDS AND PROSIMIANS: AN ONTOGENETIC STUDY
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Su-am-44 396 ASSESSMENT OF OLFACTORY FUNCTION AND ANDROSTENONE ODOR THRESHOLDS IN MAN WITH OR WITHOUT COVERING THE VOMERONASAL DUCT
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Su-am-45 397 EXPRESSION OF SECOND MESSENGER PATHWAYS IN THE VOMERONASAL ORGAN
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Su-am-46 398 PHEROMONAL ACTIVATION OF VOMERONASAL NEURONS IN PLETHODONTID SALAMANDERS
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