

DATES OF FUTURE MEETINGS

April 24-28, 2002

April 9 - 13, 2003



A c h e m S

Association for Chemoreception Sciences

XXIIIrd Annual Meeting

April 25-29, 2001

Sarasota, Florida

Program

The Association is very grateful for the generous support of our Corporate Sponsors

Twenty-Third Givaudan Lectureship
Givaudan Corporation

Sixteenth Annual Takasago Award for Research in Olfaction
Takasago Corporation

Tenth Annual Moskowitz Jacobs Award for Research in Psychophysics of Taste and Olfaction
Moskowitz Jacobs Incorporated

Eighth Annual Award to Promising Young Researchers in the Field of Gustation
Ajinomoto USA

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Wednesday, April 25, 2001

ASSOCIATION FOR CHEMORECEPTION SCIENCES

Twenty-Third Annual Meeting

10:00-12:00PM	Educational Outreach (<i>Gwiz Science Center</i>) <i>Organized by J. Stewart</i>
12:00-3:30 PM	Executive Committee (<i>Executive Board Room</i>) <i>Organized by J. Caprio</i>
5:00-7:30 PM	Registration (<i>Prefunction Area</i>)
6:30-8:00 PM	Opening Buffet (<i>Salons A & B</i>)
8:00-8:30 PM	Welcome, Opening Remarks & Awards Ceremony (<i>Salons C, D, E, & F</i>) <i>Dr. Steven Roper, President</i>
8:30-9:30	Givaudan Lecture (<i>Salons C, D, E, & F</i>) Dr. Rüdiger Wehner <i>Ant Navigation: Mini Brains–Mega Tasks–Smart Solutions</i> <i>Chairperson: J. Scott</i>
9:30 PM	Social Gathering and Cash Bar (<i>Prefunction Area</i>)
9:30 PM	Organizational Meeting for Students with Travel Awards (<i>Salon G</i>) <i>Organizer: A. J. Nighorn, Student Services Coordinator</i>

Thursday, April 26, 2001**Continental Breakfast 7:30-9:00 AM****SLIDES****Thursday Morning - 8:15 AM - 9:30 AM****II. Gustatory Development***Chairperson: Theresa Harrison*

- 8:15 AM **2** CELL CONTACT-DEPENDENT MECHANISMS SPECIFY TASTE BUD NUMBER EARLY IN EMBRYONIC DEVELOPMENT
Parker M.A.,^{1,2} Barlow L.A.^{1,2} ¹*Biological Science, Univ. of Denver, Denver, CO;* ²*Rocky Mountain Taste and Smell Center, UCHSC, Denver, CO*
- 8:30 AM **3** SONIC HEDGEHOG IS AN INHIBITOR OF TASTE PAPILLA DEVELOPMENT
Hall J.M.,¹ Helms J.A.,² Finger T.E.¹ ¹*UCHSC, Denver, CO;* ²*UCSF, San Francisco, CA*
- 8:45 AM **4** SHH ACTIVE IN TASTE PAPILLA DEVELOPMENT FROM TONGUE FORMATION THROUGH ADVANCED PAPILLA MORPHOGENESIS IN EMBRYONIC TONGUE CULTURES
Mistretta C.M.,¹ Gaffield W.,³ Edwards C.,² MacCallum D.K.² ¹*School of Dentistry, Univ. Michigan, Ann Arbor, MI;* ²*Medical School, Univ. Michigan, Ann Arbor, MI;* ³*ARS, USDA, Albany, CA*
- 9:00 AM **5** AUTODIFFERENTIATION OF TASTE BUDS IN PHARYNGEAL ENDODERM DEPENDS UPON EARLY SIGNALS FROM THE NOTOCHORD
Barlow L.A.^{1,2} ¹*Biological Sciences, Univ. of Denver, Denver, CO;* ²*Rocky Mountain Taste and Smell Center, UCHSC, Denver, CO*
- 9:15 AM **6** DEVELOPMENTAL CHANGES IN NEUROTROPHIN RECEPTORS IN GENICULATE GANGLION NEURONS
Rozenblat A., Brann J., Buchholz J.A., Farbman A.I. *Neurobiology & Physiology, Northwestern University, Evanston, IL*

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

10:00 AM - 12:00 PM **SYMPOSIUM: III. Mechanisms of Differentiation and Migration of Progenitor Cells in the Olfactory System**
Chairperson: Harriet Baker/Frank Margolis

- 7** 10:00 AM **Baker H.,¹ Margolis F.L.²**
¹*Burke Med. Res. Inst., Weill Med. Coll., Cornell Univ., White Plains, NY;* ²*Dept. of Anatomy, Univ. Maryland Sch. Med., Baltimore, MD*
"MECHANISMS OF DIFFERENTIATION AND MIGRATION OF OLFACTORY PROGENITORS"

- 8** 10:05 AM **Wray S.**
Cellular & Developmental Neurobiology, NINDS, NIH, Bethesda, MD
"MOLECULAR MECHANISMS FOR DIFFERENTIATION AND MIGRATION OF PLACODALLY-DERIVED GNRH NEURONS"
- 9** 10:30 AM **Anderson S.A., Marin O., Yun K., Long J., Garel S., Rubenstein J.**
Dept. of Psychiatry, UCSF, San Francisco, CA
"DETERMINATION OF CELL FATE WITHIN THE TELEN-CEPHALON"
- 10** 10:55 AM **Luskin M.B.**
Cell Biology, Emory University School of Medicine, Atlanta, GA
"FACTORS CONTROLLING THE PROLIFERATION AND DIFFERENTIATION OF THE NEURONAL PROGENITOR CELLS IN THE ROSTRAL MIGRATORY STREAM"
- 11** 11:20 AM **Fasolo A.**
Dipartimento di Biologia Animale, University of Turin, Turin, Italy
"GLIAL MESHWORK AND CELL MIGRATION IN THE ROSTRAL MIGRATORY STREAM (RMS)"

This symposium was supported in part by a grant from the National Institute of Deafness and Communication Disorders.

POSTERS**Thursday Morning - 8:00 AM - 12:00 PM****IV. Bitter Taste**

- P1** **12** AMELIORATION OF BITTERNESS AND ORAL SENSATIONS OF CHLORHEXIDINE DIGLUCONATE BY SODIUM GLUCONATE AND SODIUM PROPIONATE SALTS
Portman M.,¹ McConville P.,¹ Alexander S.,¹ Breslin P.,² Beauchamp G.²
¹*SmithKline Beecham Consumer Healthcare, Weybridge, United Kingdom;* ²*Monell Chemical Senses Center, Philadelphia, PA*
- P2** **13** A RAPID AND REPRODUCIBLE METHOD TO MEASURE BITTER TASTANT ACTIVATION OF THE GUSTDUCIN/TRANSDUCIN DEPENDENT TASTE TRANSDUCTION PATHWAY
Gravina S.A., McGregor R.A. *Linguagen Corp, Paramus, NJ*
- P3** **14** TASTE MATCHING AMONG FIVE BITTER COMPOUNDS: CONTINUING STUDIES
Lindsey A.T., Breslin P.A. *Monell Chemical Senses Center, Philadelphia, PA*

- P4 15 THE EFFECTS OF IXTH NERVE TRANSECTION ON SHORT-TERM TASTE RESPONSES TO BITTER-TASTING STIMULI IN INBRED AND CONGENIC MICE
Ndubizu O.,^{1,2} St. John S.J.,¹ Smith D.V.,¹ Boughter J.D.¹ ¹Anatomy & Neurobiology, University of Maryland School of Medicine, Baltimore, MD; ²University of Maryland Baltimore County, Baltimore, MD
- P5 16 IMPACT OF CHLORHEXIDINE ON HUMAN BITTER TASTE PERCEPTION
Tharp C.D., Breslin P.A. Monell Chemical Senses Center, Philadelphia, PA
- P6 17 RATS CANNOT BE TRAINED TO DISCRIMINATE QUININE HYDROCHLORIDE FROM DENATONIUM BENZOATE
Kopka S.L., Spector A.C. Department of Psychology, Center for Taste and Smell, University of Florida, Gainesville, FL
- P7 18 BITTER TASTE TRANSDUCTION INVOLVES CALCIUM INFLUX AS WELL AS CALCIUM RELEASE FROM INTRACELLULAR STORES
Ogura T.,^{1,3} Margolskee R.F.,² Kinnamon S.C.^{1,3} ¹Department of Anatomy & Neurobiology, Colorado State University, Fort Collins, CO; ²Howard Hughes Medical Institute, Mount Sinai School of Medicine, New York, NY; ³The Rocky Mountain Taste and Smell Center, University Colorado Health Sciences Center, Denver, CO
- P8 19 TASTE CELLS THAT DISCRIMINATE BITTER STIMULI
Caicedo A., Roper S.D. Physiol and Biophys, U Miami, Miami, FL

V. Hedonics

- P9 20 ODOR HEDONICS VERSUS ODOR INTENSITY
Radil T.,^{1,2} Wysocki C.J.² ¹Institute of Physiology, Czech Academy of Sciences, Prague, Czech Republic; ²Monell Chemical Senses Center, Philadelphia, PA
- P10 21 SENSORY ACCEPTABILITY AND SWEET TASTE QUALITY OF SOFT DRINKS
Roozen J.P. Agrotechnology and Food Sciences, Wageningen University, Wageningen, Netherlands
- P11 22 DIFFERENCES IN JUDGMENT OF UNPLEASANT VS. PLEASANT ODORS
Bensafi M.,¹ Rouby C.,¹ Farget V.,¹ Vigouroux M.,¹ Holley A.^{1,2} ¹Neurosciences et Systemes Sensoriels, CNRS UMR 5020 et Universite Claude Bernard Lyon, Villeurbanne, France; ²Centre Europeen des Sciences du Gout, CNRS, Dijon, France
- P12 23 FLAVOR EXPERIENCES DURING FORMULA FEEDING ARE RELATED TO CHILDHOOD PREFERENCES
Garcia P., Simon C., Beauchamp H.K., Mennella J. Monell Chemical Senses Center, Philadelphia, PA

- P13 24 EFFECT OF DELIVERY ON THE HEDONICS OF COMMON ODORS AND ANDOSTERONE
Stiassny K.,¹ Temmel A.F.,¹ Quint C.,¹ Tschugguel W.² ¹ENT, University of Vienna, Vienna, Austria; ²Obs & Gyn, University of Vienna, Vienna, Austria
- P14 25 VOLATILES IN THE ENVIRONMENT: PERCEPTION OF GASOLINE ODORS
Opiekun R.E.,^{1,2} Kelly-McNeil K.,² Knasko S.,³ Liroy P.,² Fiedler N.² ¹Monell Chemical Senses Center, Philadelphia, PA; ²Environmental and Occupational Health Sciences Institute, Piscataway, NJ; ³Unilever Research, Edgewater, NJ
- P15 26 FOOD AVERSIONS, FOOD NEOPHOBIA, AND DISGUST: INTERRELATIONS AND GENDER DIFFERENCES
Broman D.A., Nyroos M., Nordin S. Department of Psychology, Umeå University, Umeå, Sweden
- P16 27 GENETIC VARIATION IN TASTE: ASSOCIATIONS WITH CREAMY SENSATIONS, PREFERENCE FOR AND INTAKE OF HIGH FAT FOODS
Phillips M.N.,¹ Bartoshuk L.M.,² Peterson J.M.,¹ Duffy V.B.^{1,2} ¹Allied Health, Univ. of Connecticut, Storrs, CT; ²Surgery, Yale Univ. School of Medicine, New Haven, CT
- P17 28 LIFE-SPAN DEVELOPMENT IN ODOR PERCEPTION: HEDONICS, EDIBILITY AND NAMING
Nordin S.,¹ Lundborg C.² ¹Department of Psychology, Umeå University, Umeå, Sweden; ²Center for Smell and Taste Studies, Göteborg University, Gothenburg, Sweden
- P18 29 ODOR REINFORCEMENT OF NON-NUTRITIVE SUCKING IN PRETERM INFANTS
Bingham P.M.,¹ Sivieri E.M.,² Abbasi S.,² Finnegan K.,² Mennella J.A.³ ¹Neurology/Pediatrics, University of Vermont, Burlington, VT; ²Section of Newborn Medicine, Pennsylvania Hospital, Philadelphia, PA; ³Monell Chemical Senses Center, Philadelphia, PA
- P19 30 FLAVOR PREFERENCES DURING CHILDHOOD
Liem D.G., Mennella J.A. Monell Chemical Senses Center, Philadelphia, PA
- P20 31 AMELIORATING AGRICULTURAL ODORS: SENSORY AND ANALYTICAL APPROACHES
Wysocki C.J.,^{1,2} Preti G.,^{1,3} Pitcher P.,² Parsons T.,² Connolly L.,¹ Louie J.,¹ Kim J.J.¹ ¹Monell Chemical Senses Center, Philadelphia, PA; ²Sch Vet Med, Univ of Penn, Philadelphia, PA; ³Sch Med, Univ of Penn, Philadelphia, PA
- P21 32 IMPAIRMENT OF ODOR HEDONICS IN MALE PATIENTS WITH SCHIZOPHRENIA
Moberg P.J., Turetsky B.I., Lourea B.L., Doty R.L., Gur R.C., Gur R.E. Psychiatry; Otorhinolaryngology: Head & Neck Surgery, University of Pennsylvania School of Medicine, Philadelphia, PA

VI. Spatial and Temporal Processing in Olfaction

- P31 33 STATISTICAL METHOD FOR DETECTING THE ACTIVITY CHANGES OF SPONTANEOUSLY ACTIVE OLFACTORY NEURONS
Blejec A. *National Institute of Biology, Ljubljana, Slovenia*
- P32 34 A MODEL OF NETWORK INTERACTIONS IN THE OLFACTORY BULB
Davison A.P.,¹ Feng J.² ¹*Section of Neurobiology, Yale University School of Medicine, New Haven, CT;* ²*School of Cognitive and Computing Sciences, University of Sussex, Brighton, United Kingdom*
- P33 35 IMAGING OF SPATIALLY AND TEMPORALLY DISTRIBUTED ACTIVITY IN THE MOUSE OLFACTORY BULB
Alkasab T.K., Mitin T., Marchand J.E., White J., Kauer J.S. *Department of Neuroscience, Tufts University School of Medicine, Boston, MA*
- P34 36 SPATIAL REPRESENTATION OF SMALL-MOLECULE ODORANTS IN THE RAT OLFACTORY BULB
Ho S.L., Johnson B.A., Leon M. *Department of Neurobiology and Behavior, University of California, Irvine, Irvine, CA*
- P35 37 ODORANT-INDUCED PERIPHERAL WAVES MODULATE OLFACTORY BULBAR ACTIVITY
Nikonov A.A., Parker J.M., Caprio J. *Biological Sciences, Louisiana State University, Baton Rouge, LA*
- P36 38 POLYAMINES AS OLFACTORY STIMULI IN GOLDFISH
Rolen S.H.,¹ Finckbeiner S.M.,¹ Poling K.,² Mattson D.,² Sorensen P.W.,² Caprio J.¹ ¹*Biological Sciences, Louisiana State University, Baton Rouge, LA;* ²*Fisheries & Wildlife, University of Minnesota, St. Paul, MN*
- P37 39 CALCIUM IMAGING OF ODOR-EVOKED INPUT TO THE MOUSE OLFACTORY BULB
Wachowiak M.,^{1,2} Cohen L.B.^{1,2} ¹*C&M Physiol., Yale University, New Haven, CT;* ²*Marine Biological Laboratory, Woods Hole, MA*
- P38 40 THE GOLDFISH OLFACTORY BULB ENCODES PHEROMONE INFORMATION USING AT LEAST TWO SPATIAL MAPS
Masterman R., Hanson L.R., Sorensen P.W. *Fisheries & Wildlife, U of MN, St. Paul, MN*
- P39 41 CHANGES IN SPATIO-TEMPORAL PROPERTIES OF ODOR RESPONSES FROM MULTIPLE ODOR PRESENTATIONS IN THE TURTLE BULB
Zochowski M., Cohen L., Wachowiak M. *Department of C&M Physiology, Yale University School of Medicine, New Haven, CT*

- P40 42 ZONAL EXPRESSION PATTERNS OF OLFACTORY RECEPTORS IN SALAMANDER EPITHELIUM USING GENE SPECIFIC PROBES
Marchand J.E.,^{1,2} Yang X.,¹ Kauer J.S.³ ¹*Anesthesia Research, Tufts University School of Medicine, Boston, MA;* ²*Anesthesiology, New England Medical Center, Boston, MA;* ³*Neuroscience, Tufts University School of Medicine, Boston, MA*
- P41 43 SENSOR RESPONSE KINETICS AS A BASIS FOR CHEMICAL RECOGNITION IN AN ARTIFICIAL OLFACTORY SYSTEM
White J., Kauer J.S. *Neuroscience, Tufts Medical School, Boston, MA*
- P42 44 FAILURE TO SEE LARGE PERIPHERAL WAVES DRIVING OLFACTORY BULB OSCILLATIONS IN THE RAT
Scott J.W., Sherrill L. *Department of Cell Biology, Emory University, Atlanta, GA*

VII. Trigeminal Nerve

- P43 45 TRIGEMINAL DETECTABILITY OF SINGLE CHEMICALS AND MIXTURES
Cometto-Muniz J.E.,¹ Cain W.S.,¹ Abraham M.H.,² Gola J.M.² ¹*Chemosensory Perception Laboratory, Surgery (Otolaryngology), University of California-San Diego, La Jolla, CA;* ²*Chemistry, University College London, London, United Kingdom*
- P44 46 ORBITAL REFLEX AS INDEX OF NASAL IRRITATION
Jalowsky A.A.,¹ Johnson B.N.,² Wise P.M.,¹ Schmid-Schönbein G.W.,² Cain W.S.¹ ¹*Chemosensory Perception Lab, Surgery (Otolaryngology), UCSD, La Jolla, CA;* ²*Bioengineering, UCSD, La Jolla, CA*
- P45 47 NICOTINIC EXCITATION OF NOCICEPTIVE NEURONS IN TRIGEMINAL SUBNUCLEUS CAUDALIS (VC): DESENSITIZATION AND CROSS-DESENSITIZATION OF RESPONSES TO STRONG ACIDS AND SALTS
Sudo S., Sudo M., Carstens E. *Neurobiology, Physiology & Behavior, UC Davis, Davis, CA*
- P46 48 ANIMAL MODEL OF ORAL IRRITATION
Gogineni A.G., Simons C.T., Carstens E. *Neurobio, Phys & Beh, UC, Davis, CA*
- P47 49 COMPARISON OF NSAID ORO-SENSORY PROFILES: EVIDENCE FOR A PHENYLPROPANOIC ACID PATHWAY AND A MEFENAMIC ACID VANILLOID-LIKE PATHWAY
Belanger M.A., Breslin P.A. *Monell Chemical Senses Center, Philadelphia, PA*
- P48 50 THE EFFECTS OF ACETAZOLAMIDE ON TRIGEMINAL SENSITIVITY TO NICOTINE AND CARBON DIOXIDE
Alimohammadi H., Silver W.L. *Biology, Wake Forest University, Winston-Salem, NC*

- P49 51 EFFECT OF TETRACAIN APPLIED INTRANASALLY ON OLFACTORY FUNCTION
Welge-Luessen A.C.,¹ Wolf S.,² Wille C.,¹ Kobal G.¹ ¹*Experimental Pharmacology, University of Erlangen, Erlangen, Germany;* ²*Otorhinolaryngology, University of Erlangen, Erlangen, Germany*
- P50 52 COMPARISON OF SENSORY EFFECTS OF NICOTINE IN HUMANS FOLLOWING BOTH NASAL STIMULATION AND CIGARETTE SMOKING
Kaegler M.,¹ Renner B.,² Thuerlauf N.,² Kobal G.,² Gullotta F.³ ¹*INBIFO GmbH, Cologne, Germany;* ²*University of Erlangen, Germany;* ³*Philip Morris USA, Richmond, VA*
- P51 53 THE NEGATIVE MUCOSAL POTENTIAL (NMP) DETECTS SMALL VARIATIONS IN STIMULUS CONCENTRATION
Thuerlauf N.,¹ Günther M.,² Kornhuber J.,¹ Kobal G.³ ¹*Department of Psychiatry, University of Erlangen-Nürnberg, Erlangen, Germany;* ²*Department of Surgery, University of Regensburg, Regensburg, Germany;* ³*Department of Pharmacology, University of Erlangen-Nürnberg, Erlangen, Germany*
- P52 54 SOLITARY CHEMORECEPTOR CELLS IN THE NASAL RESPIRATORY EPITHELIUM OF RATS AND MICE
Bottger B., Hansen A., Finger T.E. *Rocky Mountain Taste & Smell Center, University of Colorado Health Sciences Center, Denver, CO*
- P53 55 SENSITIVITY OF CULTURED TRIGEMINAL NEURONS TO ACIDIC PH AND INNOCUOUS COOLING
Bryant B.P. *Monell Chemical Senses Center, Philadelphia, PA*
- P54 56 INCREASES IN INTRACELLULAR CALCIUM TO BOTH METHYL ANTHRANILATE AND CAPSAICIN IN CULTURED CHICK TRIGEMINAL NEURONS
Kirifides M.L., Kurnellas M.P., Bryant B.P. *Monell Chemical Senses Center, Philadelphia, PA*

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

NIH Workshop Funding Opportunities for the New Investigator 3:30-5:00 (*Salon E & F*)

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

SLIDES

Thursday Evening - 7:00 PM - 8:00 PM

VIII. Bitter Taste

Chairperson: Paul Breslin

- 7:00 PM 57 STUDIES ON COMPOUNDS THAT BLOCK BITTER TASTE
McGregor R.A., Gravina S.A. *Linguagen Corp., Paramus, NJ*
- 7:15 PM 58 PAPILLAE NUMBER VS. INTENSITY WITHIN & BETWEEN INDIVIDUALS
Delwiche J.F.,^{1,2} Buletic Z.,² Breslin P.A.² ¹*Food Science, Ohio State Univ., Columbus, OH;* ²*Monell Center, Philadelphia, PA*
- 7:30 PM 59 TOTAL BITTER-BLINDNESS: A NOVEL GUSTATORY FAMILIAL TRAIT
Breslin P.A.,¹ Tharp C.D.,¹ Reed D.R.,¹ Huque T.,¹ Brand J.G.,¹ Beauchamp G.K.,¹ Spielman A.I.² ¹*Monell Chemical Senses Center, Philadelphia, PA;* ²*College of Dentistry, New York University, New York, NY*
- 7:45 PM 60 IDENTIFICATION OF A NEW SUBFAMILY OF PUTATIVE MAMMALIAN BITTER RECEPTORS
Bufe B., Robert C., Meyerhof W. *Molecular Genetics, German Institute of Human Nutrition, Potsdam-Rehbruecke, Germany*

8:00 PM - 10:20 PM **SYMPOSIUM: IX. Genomics of Chemosensory Receptors**

Chairperson: Peter Mombaerts

- 61 8:00 AM **Mombaerts P.**
The Rockefeller University, New York, NY
"VOMERONASAL RECEPTORS IN MOUSE AND HUMAN"
- 62 8:35 AM **Lancet D., Glusman G., Yanai I., Rubin I., Fuchs T., Khen M., Gross-Isseroff R., Menashe I., Gilad Y.**
Department of Molecular Genetics & Crown Human Genome Center, Weizmann Institute of Science, Rehovot 76100, Israel
"THE COMPLETE HUMAN OLFACTORY SUB-GENOME: FROM SEQUENCE TO PHENOTYPE"
- 63 9:10 AM **Adler E.**
Howard Hughes Medical Institute, University of California, San, La Jolla, CA
"MAMMALIAN TASTE RECEPTORS"
- 64 9:45 AM **Axel R.**
Department of Biochemistry and Molecular Biophysics, College of Physicians and Surgeons, Columbia University, New York, NY
"DROSOPHILA CHEMOSENSORY RECEPTORS"

X. Aging

- P1 65 PREVALENCE OF OLFACTORY IMPAIRMENT IN THE YOUNG OLD AND THE OLDEST OLD: RESULTS OF AN EPIDEMIOLOGICAL STUDY
Murphy C.,¹ Schubert C.,² Cruickshanks K.J.² ¹*Psychology, SDSU/UCSD Joint Program, San Diego, CA;* ²*Ophthalmology and Visual Sciences, University of Wisconsin Medical School, Madison, WI*
- P2 66 REDUCTION OF BRAIN ACTIVATION IN OLD SUBJECTS IN RESPONSE TO ODORANTS DELIVERED IN AQUEOUS SOLUTIONS TO THE MOUTH
Cerf-Ducastel B., Ferdon S., Urich K., Murphy C. *Psychology, San Diego State University, University of California Medical Center, San Diego, CA*
- P3 67 THE INFLUENCE OF AGING ON ODORANT QUALITY PERCEPTION
Newlon J.W.,¹ Kurtz D.B.,¹ Hornung D.E.^{1,2} ¹*Neuroscience and Physiology, Upstate Medical U, Syracuse, NY;* ²*Biology, St. Lawrence U, Canton, NY*
- P4 68 AGE-RELATED CHANGES IN GENE EXPRESSION IN THE OLFACTORY MUCOSA
Robinson A.M., Conley D.B., Kern R.C. *Otolaryngology, Northwestern University, Chicago, IL*
- P5 69 SENSORY AND COGNITIVE PREDICTORS OF ODOR IDENTIFICATION IN YOUNG AND OLD AGE
Larsson M.,^{1,2} Öberg C.,³ Bäckman L.^{2,3} ¹*Department of Psychology, Stockholm University, Stockholm, Sweden;* ²*Neurotec, Karolinska Institute, Stockholm, Sweden;* ³*Department of Psychology, Uppsala University, Uppsala, Sweden*
- P6 70 A COMPARATIVE STUDY OF THE AGING MOUSE OLFACTORY BULB
Mirich J.M., Williams N.C., Berlau D.J., Brunjes P.C. *Psychology, University of Virginia, Charlottesville, VA*
- P7 71 FOOD PREFERENCES VARY WITH AGE AND SEX: A NEW ANALYSIS USING THE GENERAL LABELED MAGNITUDE SCALE
Snyder D.J.,¹ Duffy V.B.,^{1,2} Fast K.,¹ Hoffman H.J.,³ Ko C.W.,³ Weiffenbach J.M.,⁴ Bartoshuk L.M.¹ ¹*Surgery, Yale Univ. School of Medicine, New Haven, CT;* ²*Allied Health, Univ. of Connecticut, Storrs, CT;* ³*NIDCD, Bethesda, MD;* ⁴*NIDR, Bethesda, MD*
- P8 72 THE EFFECT OF AGE ON SNIFFING BEHAVIOR, TASK COMPLETION TIME, AND THE ABILITY TO SELF-IDENTIFY SMELL LOSS
Reinhard T., Dulay M.F., Frank R., Gesteland R. *Psychology, University of Cincinnati, Cincinnati, OH*
- P9 73 AGING AND BODY ODOR
Osada K.,^{1,2} Yamazaki K.,¹ Curran M.,¹ Beauchamp G.K.¹ ¹*Monell Chemical Senses Center, Philadelphia, PA;* ²*Taisho Pharm.CO.LTD., Omiya, Japan*

- P10 74 DIFFERENCES IN OLFACTORY ACTIVATION IN REGIONS OF INTEREST IN THE CEREBELLUM OF THE YOUNG AND ELDERLY DETECTED WITH FMRI
Ferdon S.,¹ Wiser A.,¹ Cerf-Ducastel B.,¹ Murphy C.^{1,2} ¹*San Diego State University, San Diego, CA;* ²*University of California Medical Center, San Diego, CA*

XI. Assessment of Discrimination and Sensitivity

- P11 75 COMPOUND-SPECIFIC INDUCTION OF EXTREME SENSITIVITY TO ODORS IN FERTILE WOMEN
Dalton P., Doolittle N., Breslin P.A. *Monell Chemical Senses Center, Philadelphia, PA*
- P12 76 SNIFF MAGNITUDE AS A CLINICAL MEASURE OF OLFACTORY ACUITY: A COMPARISON TO THRESHOLDS, THE UPSIT AND THE ALCOHOL SNIFF TEST
Dulay M.F., Reinhard T., Gesteland R., Frank R. *Psychology, University of Cincinnati, Cincinnati, OH*
- P13 77 ODOR DETECTABILITY EXPLICITLY DEFINED AND MEASURED
Walker J.C.,¹ Kendal-Reed M.,¹ Walker D.B.,¹ Hall S.B.,² Niu X.² ¹*Sensory Research Institute, Florida State University, Tallahassee, FL;* ²*Dept. of Statistics, Florida State University, Tallahassee, FL*
- P14 78 "MICROSMATIC" PRIMATES REVISITED : OLFACTORY SENSITIVITY IN SQUIRREL MONKEYS AND PIGTAIL MACAQUES
Laska M., Seibt A. *Dep. of Medical Psychology, University of Munich, Munich, Germany*
- P15 79 DIFFERENCE OF AN INDIVIDUAL COMPONENT CONTRIBUTION TO THE INTENSITY OF ODOR IN A MIXTURE
Chida M., Sone Y., Nagata H., Monobe T., Shikata H. *Japan Tobacco Inc., Yokohama, Japan*
- P16 80 ARE TWO NOSTRILS BETTER THAN ONE?
Frasnelli J.F.,^{1,2} Livermore A.,^{2,3} Soiffer A.,⁴ Hummel T.² ¹*ENT, University Vienna, Vienna, Austria;* ²*ENT, Dresden Medical School, Dresden, Germany;* ³*School of Social Sciences and Liberal Studies, Charles Sturt University, Bathurst, Australia;* ⁴*Smell and Taste Center, University of Pennsylvania, Philadelphia, PA*
- P17 81 MALODOR SNIFF WAVEFORM VARIATIONS AMONG SUBJECTS
Gesteland R.,^{1,2} Dulay M.,² Reinhard T.,² Frank R.² ¹*Emerging Concepts Inc, Cincinnati, OH;* ²*Univ of Cincinnati, Cincinnati, OH*
- P18 82 EVIDENCE FOR LEFT:RIGHT DIFFERENCES IN ODOR DISCRIMINATION, BUT NOT IN SHORT-TERM ODOR MEMORY
Hahn A.K., Mehra S., Connelly T., Doty R.L. *Smell & Taste Center, University of Pennsylvania, Philadelphia, PA*

- P19 **83** OLFACTORY LEARNING IN YOUNG RATS: DETECTION, DISCRIMINATION AND ACQUISITION OF A REVERSAL LEARNING SET
Salem, Jr. N.,² McBride K.M.^{1,2} ¹*Dept. of Psychology, American University, Washington, DC, DC;* ²*Laboratory of Membrane Biochemistry and Biophysics, National Institute on Alcohol Abuse and Alcoholism, National Institutes of Health, Rockville, MD*
- P20 **84** AFFECTS OF THE HERBICIDE METOLACHLOR ON PERCEPTION OF CHEMICAL STIMULI BY CRAYFISH, *ORCONECTES RUSTICUS*
Wolf M.C., Moore P.A. *Laboratory for Sensory Ecology, J.P. Scott Center for Neuroscience, Mind and Behavior, Bowling Green State University, Bowling Green, OH*
- P21 **85** SMELL OF MARIJUANA AS PROBABLE CAUSE
Hastings L., Doty R.L. *Otorhinolaryngology, University of Pennsylvania, Philadelphia, PA*
- P22 **86** GENERALIZATION OF CONDITIONED FEEDING RESPONSE TO ODORS REVEALS OVERLAPPING ODOR REPRESENTATIONS IN THE MOTH, *MANDUCA SEXTA*
Daly K.C., Chandra S., Smith B. *Entomology, Ohio State University, Columbus, OH*

XII. Cellular Differentiation in Development

- P31 **87** A COMPARATIVE IMMUNOCYTOCHEMICAL STUDY OF THE RAT VOMERONASAL SYSTEM IN DEVELOPMENT AND REGENERATION AFTER NERVE TRANSECTION
Matsuoka M.,^{1,4} Osada T.,^{2,4} Yoshida-Matsuoka J.,^{3,4} Ikai A.,² Norita M.,¹ Costanzo R.M.,⁵ Ichikawa M.^{3,4} ¹*Department of Neurobiology and Anatomy, Niigata University School of Medicine, Niigata, Japan;* ²*Department of Life Science, Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology, Yokohama, Japan;* ³*Department of Developmental Morphology, Tokyo Metropolitan Institute for Neuroscience, Fuchu, Japan;* ⁴*CREST, Kawaguchi, Japan;* ⁵*Department of Physiology, Virginia Commonwealth University, Richmond, VA*
- P32 **88** NEUROGENESIS OF RAT VOMERONASAL NEURONS *IN VITRO*
Osada T.,^{1,3} Ikai A.,¹ Takigami S.,² Ichikawa M.^{2,3} ¹*Life Science, Tokyo Institute of Technology, Yokohama, Japan;* ²*Anatomy and Embryology, Tokyo Metropolitan Institute for Neuroscience, Tokyo, Japan;* ³*CREST, Japan Science and Technology Corporation, Tokyo, Japan*
- P33 **89** LIMITS AND POTENTIAL OF BASAL CELL TRANSPLANTATION
Chen X., Murrell J.R., Hunter D.D., Schwob J.E. *Anatomy & Cellular Biology, and*

- Neuroscience, Tufts University School of Medicine, Boston, MA*
- P34 **90** DEVELOPMENTAL CHANGES OF SEROTONIN RECEPTOR 5-HT3 SUBUNIT mRNAs IN THE RAT OLFACTORY EPITHELIUM: INVOLVEMENT IN NEUROGENESIS?
Lobitz N., Weiler E., Wetzel C.H., Hatt H. *Cell Physiology, Neurophysiology, Ruhr-Univ., Bochum, Germany*
- P35 **91** FUNCTIONAL ANALYSIS OF *XDLL3* IN OLFACTORY SYSTEM DEVELOPMENT
Cox J.T., Sander B.M., Burd G.D. *Molecular and Cellular Biology, University of Arizona, Tucson, AZ*
- P36 **92** TRANSCRIPTS ENRICHED IN THE PROLIFERATION ZONE OF THE LOBSTER OLFACTORY ORGAN
Stoss T.D.,¹ Derby C.D.,² McClintock T.S.¹ ¹*Physiology, University of Kentucky, Lexington, KY;* ²*Biology, Georgia State University, Atlanta, GA*
- P37 **93** CELL DYNAMICS IN THE SEPTAL ORGAN OF MASERA
Weiler E., Farbman A.I. *Neurobiology & Physiology, Northwestern University, Evanston, IL*
- P38 **94** GENES UP-REGULATED AT METAMORPHOSIS IN *XENOPUS LAEVIS* NASAL CAPSULES
Walworth E.S., Burd G.D. *Molecular and Cellular Biology, University of Arizona, Tucson, AZ*
- P39 **95** VITAMIN A DEFICIENCY LEADS TO INCREASED CELL PROLIFERATION IN OLFACTORY EPITHELIUM OF MATURE RATS
Savchenko V.,¹ Zeng M.,² McKanna J.,¹ Asson-Batres M.A.² ¹*Cell Biology, Vanderbilt University, Nashville, TN;* ²*Biological Sciences, Tennessee State University, Nashville, TN*

XIII. Recognition by Chemosensory Signals

- P40 **96** IS CHIN-MARKING IN THE RABBIT MEDIATED BY THE ACCESSORY OLFACTORY SYSTEM?
Hudson R.,¹ Arteaga M.L.,² Pérez E.,¹ Martínez-Gómez M.,^{1,2} Lucio R.A.² ¹*National University of Mexico, Mexico D F, Mexico;* ²*Autonomous University of Tlaxcala, Tlaxcala, Mexico*
- P41 **97** ATTRACTION OF CONSPECIFICS TO MOLTED ODOR SIGNALS IN CRAYFISH (*ORCONECTES RUSTICUS*)
Adams J.A., Moore P.A. *Biological Sciences, Bowling Green State University,*

Bowling Green, OH

- P42 98 PREDATOR ODORS AND REPRODUCTION IN RODENTS
Voznessenskaya V.,¹ Naidenko S.,¹ Feoktistova N.,¹ Miller L.,² Clark L.² ¹*Institute of Ecology & Evolution, Moscow 117071, Russian Federation;* ²*National Wildlife Research Center, Fort Collins, CO*
- P43 99 MOLECULAR ANALYSIS OF OLFACTION AND HOST PREFERENCE IN THE MALARIA VECTOR MOSQUITO *ANOPHELES GAMBIAE*
Merrill C.E., Fox A.N., Pitts R.J., Zwiebel L.J. *Department of Biological Sciences, Vanderbilt University, Nashville, TN*
- P44 100 PRELIMINARY EVIDENCE FOR CANINE OLFACTORY DETECTION OF MELANOMA
Pickel D.P.,¹ Cognetta A.B.,² Manucy G.P.,³ Walker D.B.,⁴ Hall S.B.,⁵ Walker J.C.⁴ ¹*VONPICKEL K-9 inc, Tallahassee, FL;* ²*Dept. of Dermatology, University of Florida, Gainesville, FL;* ³*Morninglo Goldens, Tallahassee, FL;* ⁴*Sensory Research Institute, Florida State University, Tallahassee, FL;* ⁵*Dept. of Statistics, Florida State University, Tallahassee, FL*
- P45 101 REMOVAL OF THE VOMERONASAL ORGAN DOES NOT DISRUPT RECOGNITION OF MHC-DETERMINED INDIVIDUAL ODORTYPE
Wysocki C.J., Yamazaki K., Curran M., Wysocki L.M., Beauchamp G.K. *Monell Chemical Senses Center, Philadelphia, PA*
- P46 102 ELECTROPHYSIOLOGICAL INVESTIGATION OF THE CARBON DIOXIDE SENSITIVITY IN THE BITING MIDGE
Grant A.J.,¹ Kline D.L.² ¹*American Biophysics, East Greenwich, RI;* ²*USDA, Gainesville, FL*
- P47 103 A BEHAVIORAL PARADIGM FOR STUDYING OLFACTORY INDIVIDUAL RECOGNITION IN GOLDEN HAMSTERS
Lai W.S., Johnston R.E. *Psychology Department, Cornell University, Ithaca, NY*
- P48 104 WINNER AND LOSER EFFECTS ARE DEPENDENT UPON OLFACTION IN CRAYFISH (*ORCONECTES RUSTICUS*)
Bergman D.A., Moore P.A. *Laboratory for Sensory Ecology and J.P. Scott Center for Neuroscience, Mind and Behavior, Bowling Green State University, Bowling Green, OH*
- P49 105 KIN RECOGNITION BY ODORS IN GOLDEN HAMSTERS
Johnston R.E. *Psychology, Cornell University, Ithaca, NY*

Friday, April 27, 2001

Continental Breakfast 7:30-9:00 AM

SLIDES

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

XIV. Chemosensory Transduction

Chairperson: Trese Leinders-Zufall

- 8:00 AM 106 EVALUATION OF T2R1 AS A CANDIDATE GENE FOR THE PTC/PROP TASTE POLYMORPHISM
Reed D.R.,¹ Chen Z.,¹ Duffy V.B.,^{2,3} Bartoshuk L.M.³ ¹*Monell Chemical Senses Center, Philadelphia, PA;* ²*Allied Health, University of Connecticut, Storrs, CT;* ³*School of Medicine, Yale University, New Haven, CT*
- 8:15 AM 107 CLONING AND EXPRESSION OF ASIC1 FROM HUMAN FUNGIFORM PAPILLAE
Huque T.,¹ Nguyen N.D.,¹ Puchalski R.B.,¹ Spielman A.I.,^{1,2} Breslin P.A.,¹ Mackler S.A.,³ Brand J.G.^{1,3} ¹*Monell Center, Philadelphia, PA;* ²*NYU Coll.Dentistry, NY, NY;* ³*U. Penn & VAMC, Philadelphia, PA*
- 8:30 AM 108 UPTAKE OF AMPHIPATHIC TASTANTS BY TASTE CELLS
Rodin S., Shaul M., Nir S., Naim M. *The Hebrew University of Jerusalem, PO Box 12, Rehovot, Israel*
- 8:45 AM 109 IDENTIFICATION AND EXPRESSION OF CANDIDATE TASTE-RECEPTORS IN *DROSOPHILA*
Dunipace L., Meister S., Amrein H. *Genetics, Duke University, Durham, NC*
- 9:00 AM 110 A COMPARISON OF SODIUM CHLORIDE TASTE DETECTION IN C57BL/6J AND DBA/2J MICE
Eylam S., Spector A.C. *Dept. of Psychology and Center for Smell and Taste, Univ. of Florida, Gainesville, FL*
- 9:15 AM 111 MOLECULAR ORIGINS OF THE SWEET TOOTH: A NOVEL TASTE RECEPTOR CONTROLLING THE AVIDITY FOR SUCROSE AND SACCHARIN IN MICE
Li X.,¹ Bachmanov A.A.,¹ Reed D.R.,¹ Li S.,¹ Chen Z.,¹ Tordoff M.G.,¹ Beauchamp G.K.,^{1,2} de Jong P.J.,^{3,4} Wu C.,⁴ West D.B.,⁴ Chatterjee A.,⁴ Ross D.A.,⁴ Ohmen J.D.⁴ ¹*Monell Chemical Senses Center, Philadelphia, PA;* ²*University of Pennsylvania, Philadelphia, PA;* ³*Children's Hospital Oakland Research Institute,*

Oakland, CA; ⁴Pfizer Global Research and Development, Alameda, CA

- 9:30 AM 112 GPI ANCHORED PROTEINS IN THE CHEMORESPONSE OF PARAMECIUM TO FOLATE
Yano Y.,¹ Hruska M.,¹ Garner K.,¹ Rakochy V.,¹ Tweten R.,² Van Houten J.L.¹
¹Biology, University of Vermont, Burlington, VT; ²University of Oklahoma, Oklahoma City, OK

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

- 10:00 AM - 12:00 PM **SYMPOSIUM: XV. Functional Genomics in Neural Systems**
Chairperson: Tim McClintock
- 113 10:00 AM **McClintock T.S.**
Department of Physiology, University of Kentucky, Lexington, KY
"HIGH-THROUGHPUT ANALYSIS OF MRNA ABUNDANCE"
- 114 10:10 AM **Geschwind D.**
Department Neurology, UCLA School of Medicine, Los Angeles, CA
"DNA MICROARRAYS FOR NEURODEVELOPMENTAL GENE DISCOVERY—CLONE CHOICE, ANALYTICAL PATHWAYS AND DOWNSTREAM CONFIRMATION"
- 115 11:00 AM **Prolla T.**
Departments of Genetics and Medical Genetics, University of Wisconsin-Madison, Madison, WI
"THE GENE EXPRESSION PROFILE OF THE AGING PROCESS AND ITS RETARDATION BY CALORIC RESTRICTION"

This symposium was supported in part by a grant from the National Institute of Deafness and Communication Disorders and by Affymetrix Corporation.

XVI. Cognitive and Mood Effects in Olfaction

- P1 116 EFFECTS OF OBSERVER NEGATIVE AFFECTIVITY ON PERCEIVED STRESS AND HEALTH SYMPTOMS TO AN AMBIGUOUS ODOR EXPOSURE
Maute C., Dalton P., Smeets M. *Monell Chemical Senses Center, Philadelphia, PA*
- P2 117 OLFACTORY FUNCTIONING AND COGNITIVE ABILITIES: A TWIN STUDY
Finkel D.,¹ Pedersen N.L.,^{2,3} Larsson M.^{4,5} ¹Division of Social Sciences, Indiana University Southeast, Indiana, IN; ²Department of Medical Epidemiology, Karolinska Institute, Stockholm, Sweden; ³Department of psychology, University of Southern California, Los Angeles, CA; ⁴Department of Psychology, Stockholm University, Stockholm, Sweden; ⁵Neurotec, Karolinska Institute, Stockholm, Sweden
- P3 118 IS THERE PERCEPTUAL PRIMING IN OLFACTORY MEMORY?

Olsson M.J., Faxbrink M., Jönsson F.U. *Psychology, Uppsala University, Uppsala, Sweden*

- P4 119 METACOGNITIVE ASPECTS ON ODOR KNOWLEDGE
Jönsson F.U., Olsson M.J. *Psychology, Uppsala University, Uppsala, Sweden*
- P5 120 PSYCHOLOGICAL EFFECTS OF 250µM ANDROSTADIENONE: MOOD, STATE AND TRAIT ANXIETY
Lundström J.N., Goncalves M., Olsson M.J. *Psychology, Uppsala University, Uppsala, Sweden*
- P6 121 ODOURS IDENTIFICATION AND DISCRIMINATION : INFLUENCE OF CULTURE AND TYPICALITY ON PERFORMANCE
Thomas-danguin T.,¹ Rouby C.,¹ Sicard G.,¹ Vigouroux M.,¹ Johansson A.,² Bengtson A.,² Hall G.,² Ormel W.³ ¹Neurosciences et Systèmes Sensoriels, CNRS UMR 5020 et Université Claude Bernard Lyon 1, Villeurbanne Cedex, France; ²The Swedish Institute for Food and Biotechnology, SIK, Gothenburg, Sweden; ³Division of Human Nutrition and Epidemiology, Wageningen agricultural University, Wageningen, Netherlands
- P7 122 ODOR IMAGERY AND DETECTION OF PERI-THRESHOLD ODORS
Djordjevic J., Jones-Gotman M., Petrides M., Zatorre R. *Psychology, Montreal Neurological Institute, Montreal, PQ, Canada*
- P8 123 EPISODIC ODOR RECOGNITION – THE INFLUENCE OF SUBJECTIVE ODOR EXPERIENCE
Öberg C.,^{1,3} Larsson M.,² Bäckman L.^{1,3} ¹Department of Psychology, Uppsala University, Uppsala, Sweden; ²Department of Psychology, Stockholm University, Stockholm, Sweden; ³Neurotec, Karolinska Institute, Stockholm, Sweden
- P9 124 THE EFFECT OF TASK REQUIREMENTS ON P300 HABITUATION IN THE OLFACTORY EVENT-RELATED POTENTIAL (OERP)
Calhoun-Haney R.,¹ Murphy C.^{1,2} ¹Joint Doctoral Program in Clinical Psychology, SDSU/UCSD, San Diego, CA; ²UC San Diego Medical Center, San Diego, CA
- P10 125 INFLUENCE OF ODORANT EXPOSURE ON REMEMBERED ODORANT QUALITY
Kurtz D.B.,¹ White T.L.,¹ Hornung D.E.^{1,2} ¹Neuroscience and Physiology, SUNY UMU, Syracuse, NY; ²Biology, St. Lawrence U, Canton, NY
- P11 126 HUMAN OLFACTORY DISCRIMINATION BETWEEN NEUTRAL AND EMOTIONAL STATES
Chen D., McClintock M.K. *Institute for Mind & Biology, University of Chicago, Chicago, IL*
- P12 127 THE EFFECTS OF HEMISPHERIC LATERALISATION OF ODOUR PROCESSING ON TASK PERFORMANCE AND MOOD

Evans M.T., van Toller S. *Psychology, University of Warwick, Coventry, United Kingdom*

XVII. Modulation of Chemosensory Systems

- P13 **128** CAPSAICIN MODULATES VOLTAGE-GATED NA, K, AND CA CHANNELS
Liu L., Simon S.A. *Neurobiology, Duke University, Durham, NC*
- P14 **129** EPHAPTIC INTERACTIONS IN THE MAMMALIAN OLFACTORY SYSTEM
Bokil H., Laaris M., Blinder K., Ennis M., Keller A. *Anatomy & Neurobiology, University of Maryland School of Medicine, Baltimore, MD*
- P15 **130** DIRECT EVIDENCE FOR THE PRESENCE OF A CA2+ DEPENDENT K+ CHANNEL IN OLFACTORY CILIA
Delgado R., Saavedra V., Sierralta J., Bacigalupo J. *Department of Biology, Faculty of Sciences and Millennium Institute for Advanced Studies in Cell Biology and Biotechnology, University of Chile, Santiago, Chile*
- P16 **131** PONTINE GUSTATORY PROCESSING: MODULATION BY DIFFERENT SOURCES OF CENTRIFUGAL INPUT
Lundy Jr. R.F., Norgren R. *Behavioral Science, Penn State College of Medicine, Hershey, PA*
- P17 **132** NEURAL ACTIVITY IS MODULATED BY METABOTROPIC GLUTAMATE RECEPTORS IN RAT OLFACTORY BULB SLICES
Heinbockel T., Hayar A., Heyward P.M., Shipley M.T., Ennis M. *Anatomy & Neurobiology, Univ. of Maryland, Baltimore, MD*
- P18 **133** BRAIN-DERIVED NEUROTROPHIC FACTOR (BDNF) MODULATES ELECTRICAL PROPERTIES OF OLFACTORY BULB NEURONS
Tucker K., Fadool D.A. *Prog In Neurosci & Mol Biophys, Florida State University, Tallahassee, FL*
- P19 **134** PHYSIOLOGICAL ACTIONS OF CHOLECYSTOKININ ON RAT TASTE RECEPTOR CELLS
Zhao F.L., Lu S.G., Herness S. *Oral Biology, Ohio State University, Columbus, OH*
- P20 **135** TASTE-RESPONSIVE NEURONS IN THE HAMSTER SOLITARY NUCLEUS ARE MODULATED BY THE LATERAL HYPOTHALAMUS
Cho Y.K., Li C.S., Smith D.V. *Anatomy & Neurobiology, University of Maryland School of Medicine, Baltimore, MD*
- P21 **136** INFLUENCE OF THE AMYGDALA ON TASTE NEURONS IN THE SOLITARY NUCLEUS OF THE HAMSTER
Li C.S., Cho Y.K., Smith D.V. *Anatomy & Neurobiology, University of Maryland School of Medicine, Baltimore, MD*
- P22 **137** ZINC HAS EXTRACELLULAR AND INTRACELLULAR EFFECTS ON RAT OLFACTORY BULB GLYCINE RECEPTORS

Hill B.J., Trombley P.Q. *Biological Science, Florida State University, Tallahassee, FL*

- P23 **138** METHIMAZOLE ALTERS GLUTATHIONE DEPENDENT-ENZYME EXPRESSION AND ACTIVITY IN THE MOUSE OLFACTORY MUCOSA
Etienne L.A.,¹ Maruniak J.A.,² Walters E.¹ ¹*Genetics, Howard University, Washington, DC;* ²*Biological Sciences, University of Missouri, Columbia, MO*

XVIII. Psychophysics

- P31 **139** THE QUALITY CLASSIFICATION OF ODORS IN A 3D OLFACTORY SPACE
Laffort P.,¹ Héricourt P.,¹ Valentin D.,² Callegari P.¹ ¹*Centre des Sciences du Goût, CNRS, Dijon, France;* ²*ENSBANA, University of Bourgogne, Dijon, France*
- P32 **140** A HIGH-THROUGHPUT METHOD FOR ASSESSING TASTE FUNCTION IN INDIVIDUAL MICE
Gresack J.,¹ Guerassio S.,¹ Spector A.S.,² Glendinning J.I.¹ ¹*Biological Science, Barnard College, New York, NY;* ²*Psychology, University of Florida, Gainesville, FL*
- P33 **141** A PAPER TEST FOR PROP TASTER CLASSIFICATION THAT MINIMIZES EXPOSURE TO PROP
Zhao L.,¹ Kirkmeyer S.V.,² Tepper B.J.¹ ¹*Food Science, Rutgers Univ., New Brunswick, NJ;* ²*Int'l Flavors and Fragrances, Dayton, NJ*
- P34 **142** MODELING THE TIME COURSE OF BURN PRODUCED BY CAPSAICIN, PIPERINE, ZINGERONE, AND MENTHOL
Affelttranger M.A.,¹ Balaban C.D.,^{2,3} McBurney D.H.¹ ¹*Departments of Psychology, University of Pittsburgh, Pittsburgh, PA;* ²*Otolaryngology, University of Pittsburgh, Pittsburgh, PA;* ³*Neurobiology, University of Pittsburgh, Pittsburgh, PA*
- P35 **143** FUNCTIONAL MEASUREMENT OF CATEGORY AND LABELED DISSIMILARITY SCALES IN JUDGMENTS OF SWEETNESS
Blot K.J., Stevens D.A. *Psychology, Clark University, Worcester, MA*
- P36 **144** THE CEPHALIC PHASE SALIVARY RESPONSE: ROLES AND RELATIONS
Mattes R.D. *Foods and Nutrition, Purdue University, W. Lafayette, IN*
- P37 **145** REMEMBERED INTENSITIES OF TASTE AND ORAL BURN CORRELATE WITH PROP BITTERNESS
Fast K.,¹ Green B.G.,^{1,2} Snyder D.J.,¹ Bartoshuk L.M.¹ ¹*Surgery, Yale Univ Sch of Medicine, New Haven, CT;* ²*John B. Pierce Laboratory, New Haven, CT*
- P38 **146** DO INDIVIDUAL ODOR DETECTION THRESHOLDS PREDICT SUPRATHRESHOLD SCALING DATA?
Matovinovic E.C., Shusterman D.J. *Medicine, Univ. of Calif., San Francisco, San Francisco, CA*
- P39 **147** GENERALIZATION OF CONDITIONED TASTE AVERSION BETWEEN

SACCHARIN AND MONOSODIUM GLUTAMATE IN RATS

Delay E.R., Tran L.H. *Neuroscience Prog., Dept. Psychology, Regis University, Denver, CO*

- P40 **148** EFFECTS OF LABELED MAGNITUDE SCALE INSTRUCTIONS ON TASTE PERCEPTION OF NA-SACCHARIN, ACESULFAME-K AND 6N-PROPYL 2-THIOURACIL
 Spasato D.J., Horne J., Speirs W.F., Lawless H.T. *Food Science, Cornell University, Ithaca, NY*
- P41 **149** DISCRIMINATION BETWEEN THE TASTES OF N-METHYL-D-ASPARTATE AND MONOSODIUM GLUTAMATE IN RATS
 Stapleton J.R.,¹ Roper S.D.,^{2,3} Delay E.R.¹ *Neuroscience Program, Regis University, Denver, CO; ²Neuroscience Program, University of Miami School of Medicine, Miami, FL; ³Rocky Mt. Taste & Smell Center, UCHSC, Denver, CO*
- P42 **150** ASSESSMENT OF THREE METHODS FOR PROP TASTER STATUS CLASSIFICATION
 Godinot N., Rankin K.M., Christensen C.M. *GSCS, International Flavors and Fragrances, Union Beach, NJ*
- P43 **151** SELF- AND CROSS-ADAPTATION AMONG FOUR ODORANTS
 Wise P.M., Schmidt R., Warren C.B., Polak E.H., Cain W.S. *Surgery(Otolaryngology), U.C. San Diego, La Jolla, CA*

XIX. Salt Taste

- P44 **152** TASTE PROPERTIES OF CALCIUM SALTS AND MIXTURES
 Rapacki F.M.,¹ Hayes A.D.,² Wang G.C.,¹ Lawless H.T.¹ *Food Science, Cornell University, Ithaca, NY; ²Food Science, Pennsylvania State University, University Park, PA*
- P45 **153** THE TRANSCELLULAR TRANSDUCTION PATHWAY IS SUFFICIENT FOR NA+ RECOGNITION FOLLOWING ACUTE NA+ DEPLETION
 Geran L.C., Spector A.C. *Dept. of Psychology and Center for Smell and Taste, Univ. of Florida, Gainesville, FL*
- P46 **154** EFFECTS OF CHLORHEXIDINE ON THE TASTE OF A SERIES OF SALTS
 Friedberg J.R., Frank M.E., Hettinger T.P., Gent J.F. *Taste and Smell Center, UConn Health Center, Farmington, CT*
- P47 **155** NaCl THRESHOLDS: RELATIONSHIP TO ANTERIOR TONGUE LOCUS, AREA OF STIMULATION, AND NUMBER OF FUNGIFORM PAPILLAE
 Doty R.L., Bagla R., Morgenson M., Mirza N. *Smell & Taste Center, University of Pennsylvania, Philadelphia, PA*
- P48 **156** CETYLPYRIDINIUM CHLORIDE IS BOTH AGONIST AND ANTAGONIST OF THE RAT AMILORIDE-INSENSITIVE CHORDA TYMPANI RESPONSE TO

NaCl, KCl, AND NH₄Cl

DeSimone J.A.,¹ Lyall V.,¹ Heck G.L.,¹ Phan T.H.,¹ Feldman G.M.^{1,2} *Physiology, Virginia Commonwealth University, Richmond, VA; ²McGuire Veterans Affairs Medical Center, Richmond, VA*

- P49 **157** SALT INTENSITY AND BEHAVIORS: ASSOCIATIONS WITH BITTERNESS OF 6-N-PROPYLTHIOURACIL (PROP)
 Chapo A.K.,¹ Bartoshuk L.M.,² Peterson J.M.,¹ Phillips M.N.,¹ Duffy V.B.^{1,2} *Allied Health, Univ. of Connecticut, Storrs, CT; ²Surgery, Yale Univ. School of Medicine, New Haven, CT*
- P50 **158** AMILORIDE-SENSITIVE COMPONENT OF THE CHORDA TYMPANI NERVE RESPONSE REDUCED BY LOW NaCl DIET IN ADULT RATS
 Pittman D.W., Contreras R.J. *Department of Psychology, The Florida State University, Tallahassee, FL*

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

Softball Game: Taste vs. Smell 2:00- 4:00 PM (Fruitville and Lockbridge Rd.)

Workshop: Receptor Classification 4:00-6:00 PM (Sarasota Room)

P. Mombaerts, coordinator

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

P. Attar Coordinator

Sponsored by Avon Products, Inc.

SLIDES

Friday Evening - 7:00 PM - 8:00 PM

XX. Molecular Biology of Olfaction

Chairperson: Steve Munger

- 7:00 PM **159** OMP IS A BETA-CLAM
 Margolis F.L.,¹ Margolis J.W.,¹ Omotosho P.A.,¹ Volkman B.F.,² Baldisseri D.M.³ *Anat. & Neuro., Univ. Maryland, Baltimore, MD; ²Biochem., Univ. Wisc., Madison, WI; ³Biochem. & Molec. Biol., Univ. Maryland, Baltimore, MD*
- 7:15 PM **160** WHY DO ODORANT BINDING PROTEINS BIND ODORANTS?
 Lazar J.,¹ Greenwood D.,² Prestwich G.D.,¹ Rasmussen L.E.³ *Medicinal Chemistry, University of Utah, Salt Lake City, UT; ²Hort Research, Auckland, New Zealand; ³Chemistry, Oregon Graduate Institute, Beaverton, OR*

- 7:30 PM **161** ATP EVOKES Ca^{2+} INCREASES AND INWARD CURRENTS IN MOUSE OLFACTORY RECEPTOR NEURONS
Hegg C.C., Lucero M.T. *Physiol., Univ. of Utah, Salt Lake City, UT*
- 7:45 PM **162** THE CYCLIC NUCLEOTIDE-GATED CHANNEL SUBUNIT OCNC2 IS ESSENTIAL FOR OLFACTORY ADAPTATION
Munger S.D.,^{1,2} Lane A.P.,¹ Zhong H.,⁴ Leinders-Zufall T.,¹ Zufall F.,¹ Reed R.R.^{2,3}
¹Anatomy and Neurobiology, University of Maryland Sch. Med., Baltimore, MD;
²Howard Hughes Medical Institute, Johns Hopkins Sch. Med., Baltimore, MD;
³Molecular Biology and Genetics, Johns Hopkins Sch. Med., Baltimore, MD;
⁴Neuroscience, Johns Hopkins Sch. Med., Baltimore, MD

Evening Break 7:45-8:15 PM

- 8:00 PM - 10:00 PM **PRESIDENTIAL SYMPOSIUM: XXI. Seeing is Believing: Imaging Cellular Function in the Chemical Senses**
Chairperson: Steve Roper
- 163** 8:00 PM **Roper S.D.**
Physiology and Biophysics, and Program in Neuroscience, University of Miami School of Medicine, Miami, FL
"INTRODUCTION TO "SEEING IS BELIEVING: IMAGING CELLULAR FUNCTION IN THE CHEMICAL SENSES""
- 164** 8:15 PM **Caicedo A.**
Physiology and Biophysics, University of Miami School of Medicine, Miami, FL
"VISUALIZING RESPONSES TO NEUROTRANSMITTERS AND TASTE STIMULI IN TASTE CELLS"
- 165** 8:50 PM **Rubin B.**
Neurobiology, Duke University, Durham, NC
"OPTICAL IMAGING OF INTRINSIC SIGNALS IN THE OLFACTORY BULB"
- 166** 9:25 PM **Sobel N.,¹ Stappen I.,² Anderson A.K.²**
¹Hellen Wills Neuroscience Institute, Univ Calif Berkeley, Berkeley, CA;
²Dept. of Psychology, Stanford University, Stanford, CA
"FUNCTIONAL IMAGING OF THE HUMAN BRAIN: WHAT HAS IT TAUGHT US AND WHAT CAN IT TEACH US ABOUT OLFACTION?"

This symposium was sponsored in part by AromaSys, Inc.

XXII. Genetics and Genomics

- P1 **167** PERIPHERAL GUSTATORY SYSTEM IN BDNF/NT-3 DOUBLE KNOCKOUT MICE

Nosrat I.V.,¹ Agerman K.,² Gaball M.,¹ Ernfors P.,² Nosrat C.A.¹ ¹*Biologic and Materials Sciences, Sch. Dentistry, University of Michigan, Ann Arbor, MI;*
²*Molecular Neurobiology, Department of Medical Biochemistry and Biophysics, Karolinska Institutet, Stockholm, Sweden*

- P2 **168** PREPARATION AND INITIAL CHARACTERIZATION OF MICE WITH TARGETED DELETION OF THE OLFACTORY MUCOSA-SPECIFIC *CYP2G1* GENE
Zhao X., Swiatek P., Collins D.N., Ding X. *Wadsworth Center, NYSDOH, Albany, NY*
- P3 **169** WHAT MAKES A SUPERTASTER?
Bartoshuk L.M.,¹ Duffy V.B.,^{1,2} Fast K.,¹ Kveton J.F.,¹ Lucchina L.A.,³ Phillips M.N.,² Prutkin J.M.,¹ Reed D.R.,⁴ Snyder D.J.¹ ¹*Surgery, Yale Univ Sch of Medicine, New Haven, CT;* ²*Allied Health, Univ of Connecticut, Storrs, CT;* ³*Unilever, Edgewater, NJ;* ⁴*Monell, Philadelphia, PA*
- P4 **170** FUNGIFORM PAPILLAE AND CIRCUMVALLATE TASTE BUDS ARE LOST IN MICE LACKING THE NEUROTROPHIN RECEPTOR p75
Krimm R.F.,¹ Davis B.M.,² Albers K.M.^{1,2} ¹*Pathology, University of Kentucky, Lexington, KY;* ²*Neurobiology and Anatomy, University of Kentucky, Lexington, KY*
- P5 **171** HIGH-RESOLUTION GENETIC MAPPING OF THE *SOA* LOCUS
Li S.,¹ Li X.,¹ Neira M.,² Beauchamp G.K.,¹ Azen E.A.,² Bachmanov A.A.¹
¹*Monell Chemical Senses Center, Philadelphia, PA;* ²*Departments of Medicine and Medical Genetics, University of Wisconsin-Madison, Madison, WI*
- P6 **172** C57BL/6J AND C57L/J MICE DIFFER IN THEIR ACID TASTE SENSITIVITY: EVIDENCE FROM BEHAVIORAL AND PHYSIOLOGICAL STUDIES
Boughter J.D.,¹ Inoue M.,² Ndubizu O.,¹ Beauchamp G.K.,³ Bachmanov A.A.³
¹*Anat. & Neurobiol., Univ. Maryland, Baltimore, MD;* ²*Laboratory of Cell. Biol., Tokyo University of Pharm. and Life Sci., Hachioji, Tokyo, Japan;* ³*Monell Chemical Senses Center, Philadelphia, PA*
- P7 **173** PTC TASTERS OUTPERFORM PTC NON-TASTERS ON A TEST OF REGIONAL (CN VII AND CN IX) TASTE IDENTIFICATION
Connelly T., Hastings L., Palecanda B., Doty R.L. *Smell & Taste Center, University of Pennsylvania, Philadelphia, PA*

XXIII. Gustatory Development

- P8 **174** NOTCH SIGNALING GENES EXPRESS IN DEVELOPING TASTE PAPILLA
Seta Y.,¹ Seta C.,¹ Barlow L.A.¹ ¹*Department of Biological Sciences, University of Denver, Denver, CO;* ²*Rocky Mountain Taste and Smell Center, University of*

Colorado Health Sciences Center, Denver, CO

- P9 175 SURVIVAL AND NEUROPHYSIOLOGY OF EMBRYONIC RAT GENICULATE GANGLION NEURONS ARE ALTERED BY NEUROTROPHINS
Al-Hadlaq S.M.,¹ Bradley R.M.,¹ MacCallum D.K.,² Mistretta C.M.¹ ¹Dentistry, Univ. Michigan, Ann Arbor, MI; ²Medical School, Univ. Michigan, Ann Arbor, MI
- P10 176 ALPHA-GUSTDUCIN IMMUNOREACTIVITY IN DEVELOPING HAMSTER TASTE BUDS
Pullen R.N., Hemmings C.H., Hoot N.R., Stewart R.E. *Psychology and Program in Neuroscience, Washington and Lee University, Lexington, VA*
- P11 177 A POSSIBLE LIGAND-BASED ROLE FOR NEUROPILIN-2 IN CRANIAL SENSORY NERVE PATHFINDING
Ramilo R.C.,¹ Kim K.,¹ Farbman A.I.,² Rochlin M.W.¹ ¹Biology, Loyola University Chicago, Chicago, IL; ²Neurobiology and Physiology, Northwestern University, Evanston, IL
- P12 178 NEURON-TARGET MATCHING IN DEVELOPING TASTE BUDS IS ACCOMPLISHED BY INCREASES IN TASTE CELL NUMBER
Hendricks S.J., Hill D.L. *Psychology, University of Virginia, Charlottesville, VA*
- P13 179 PLACODALLY DERIVED SENSORY FIBERS GROW PREFERENTIALLY, BUT NOT EXCLUSIVELY, TOWARD OROPHARYNGEAL ENDODERM
Gross J.B.,^{1,2} Barlow L.A.^{1,2} ¹Department of Biology, University of Denver, Denver, CO; ²Rocky Mountain Taste and Smell Center, University of Colorado Health Sciences Center, Denver, CO
- P14 180 CHARACTERIZATION OF WHOLE CHORDA TYMPANI NERVE TASTE RESPONSES DURING DEVELOPMENT IN THE C57BL/6J MOUSE
April O.L., Hill D.L. *Psychology, University of Virginia, Charlottesville, VA*

XXIV. Neurotransmitters

- P15 181 WITHDRAWN
- P16 182 DISTRIBUTION OF CCK, CGRP, NPY, AND GALANIN IN THE PRIMARY GUSTATORY NUCLEUS OF THE GOLDFISH
Farrell W.J., Finger T.E. *Cellular and Structural Biology, University of Colorado Health Sciences Center, Denver, CO*
- P17 183 SEROTONERGIC MODULATION OF PUTATIVE IONOTROPIC GABA RECEPTORS IN CRAYFISH OLFACTORY PROJECTION NEURONS
Tan Z., Mellon D. *Biology, University of Virginia, Charlottesville, VA*

- P18 184 SUBSTANCE P AND GNRH COLOCALIZE IN THE NERVUS TERMINALIS OF SALAMANDER
Ebadifar B.,¹ Wirsig-Wiechmann C.R.² ¹Zoology, University of Oklahoma, Norman, OK; ²Cell Biology, University of Oklahoma, Oklahoma City, OK
- P19 185 DO KAINATE RECEPTORS MEDIATE PRE- AND POSTSYNAPTIC EFFECTS?
Davila N.G., Horning M.S., Trombley P.Q. *Biological Science, Florida State University, Tallahassee, FL*
- P20 186 EVIDENCE OF PRESYNAPTIC ACETYLCHOLINE RECEPTORS ON ZEBRAFISH OLFACTORY SENSORY NEURONS
Edwards J.G., Michel W.C. *Department of Physiology, University of Utah, SLU, UT*

XXV. Olfactory Plasticity and Development

- P31 187 LIF mRNA UPREGULATION IN MACROPHAGES AND OLFACTORY RECEPTOR NEURONS FOLLOWING TARGET ABLATION
Getchell T.V., Shah D.S., Partin J.V., Subhedar N., Getchell M.L. *Sanders-Brown Ctr. on Aging, U of KY, Lexington, KY*
- P32 188 DOES INTRANASAL APPLICATION OF ZINC SULFATE PRODUCE ANOSMIA IN MICE?
McBride K.M.,^{1,2} Slotnick B.,¹ Margolis F.³ ¹Department of Psychology, American University, Washington, DC; ²Laboratory of Membrane Biochemistry and Biophysics, National Institute on Alcohol Abuse and Alcoholism, National Institutes of Health, Rockville, MD; ³School of Medicine, University of Maryland, Baltimore, MD
- P33 189 RETINOIC ACID ENHANCES THE RATE OF RECOVERY OF OLFACTORY FUNCTION FOLLOWING NERVE TRANSECTION
Yee K.K., Rawson N.E. *Monell Chemical Senses Center, Philadelphia, PA*
- P34 190 ENHANCED ORN EXPRESSION OF HSP25 FOLLOWING OLFACTORY BULBECTOMY
Carr V.M., Farbman A.I. *Neurobiology & Physiology, Northwestern University, Evanston, IL*
- P35 191 PERIPHERAL DEAFFERENTATION CAUSES APOPTOSIS IN THE OLFACTORY BULB OF ADULT ZEBRAFISH
Byrd C.A., VanKirk A.M. *Biological Sciences, Western Michigan University, Kalamazoo, MI*
- P36 192 OLFACTION IN OLFACTORY BULBECTOMIZED RATS
Pickett E.M.,¹ Cockerham R.,² Slotnick B.¹ ¹Psychology, American University, Washington, DC; ²Anatomy, University of Maryland School of Medicine, Baltimore, MD

- P37 **193** NARIS OCLUSION CAUSES ENHANCED OLFACTORY MARKER PROTEIN IMMUNOREACTIVITY: THE EFFECT OF AGE AT OCLUSION AND LENGTH OF DEPRIVATION
Coppola D.,^{1,2} Hamilton K.A.,² Cherry J.,³ ¹Neuroscience Program, Centenary College, Shreveport, LA; ²Cellular Biology and Anatomy, Louisiana State University Health Sciences Center, Shreveport, LA; ³Psychology, Boston University, Boston, MA

XXVI. Reproductive Odors

- P38 **194** A BILE ACID FUNCTIONS AS A MALE SEX PHEROMONE IN THE SEA LAMPREY (PETROMYZON MARINUS)
Li W.,¹ Scott A.P.,² Siefkes M.J.,¹ Yun S.,¹ Yan H.,³ Liu Q.,³ Gage D.,³ ¹Fisheries and Wildlife, Michigan State University, East Lansing, MI; ²The Center for Environment, Fisheries & Aquaculture Science, Weymouth, United Kingdom; ³Department of Biochemistry, Michigan State University, East Lansing, MI
- P39 **195** MALE AXILLARY EXTRACTS EFFECT LUTENIZING HORMONE (LH) PULSING IN FEMALE RECIPIENTS
Preti G.,^{1,2} Wysocki C.J.,¹ Barnhart K.,³ Sonheimer S.J.,³ Leyden J.J.,² ¹Monell Chemical Senses Center, Philadelphia, PA; ²Dept. of Dermatology, University of Pennsylvania, Philadelphia, PA; ³Dept. of Obstetrics and Gynecology, University of Pennsylvania, Philadelphia, PA
- P40 **196** PHEROMONES IN URINE OF RUTTING MALE MOOSE
Whittle C.L.,¹ Bowyer R.T.,¹ Drew K.,¹ Preti G.,² Clausen T.P.,¹ ¹Chemistry & Biochemistry, and Wildlife Biology, University of Alaska Fairbanks, Fairbanks, AK; ²Biology & Wildlife, University of Alaska Fairbanks, Fairbanks, AK; ³Institute of Arctic Biology, University of Alaska Fairbanks, Fairbanks, AK; ⁴Monell Chemical Senses Center, Philadelphia, PA; ⁵Chemistry & Biochemistry, University of Alaska Fairbanks, Fairbanks, AK
- P41 **197** THE SPATIAL ORGANIZATION OF THE PERIPHERAL OLFACTORY ORGAN IN THE ROUND GOBY (NEOGOBIOUS MELANOSTOMUS), A TELEOST FISH
Belanger R.M., Corkum L.D., Zielinski B. *Biological Sciences, University of Windsor, Windsor, ON, Canada*
- P42 **198** PREFERENTIAL ACTIVATION OF NEURONS IN ROSTRAL ACCESSORY OLFACTORY BULB (AOB) OF MALE HAMSTERS BY FEMALE ODORS
Bath K.G., Johnston R.E. *Psychology, Cornell University, Ithaca, NY*
- P43 **199** HORMONAL REGULATION OF SYNTHESIS AND DISCHARGE OF A FEMALE NEWT-ATTRACTING PHEROMONE, SODEFRIN
Kikuyama S.,¹ Iwata T.,¹ Toyoda F.,² Tanaka S.,³ Yamamoto K.,¹ ¹Biology, School of Education, Waseda University, Tokyo, Japan; ²Physiology, Nara Medical University, Kashihara, Japan; ³Biology, Shizuoka University, Shizuoka, Japan

- P44 **200** HUMAN PHEROMONES AND A MAMMALIAN MODEL OF MATE PREFERENCE
Kohl J.V. *Laboratory, Grover C. Dils Medical Center, Caliente, NV*
- P45 **201** CONTEXT AFFECTS ANS AND PSYCHOLOGICAL RESPONSES TO PUTATIVE HUMAN PHEROMONES
Hayreh D., Jacob S., McClintock M. *Institute for Mind and Biology, University of Chicago, Chicago, IL*

XVII. Sweet Taste

- P46 **202** COMPARATIVE TASTE RESPONSES IN VERTEBRATES TO COMPOUNDS SWEET IN HUMANS
Glaser D.,¹ Tinti J.M.,² Nofre C.,² ¹Anthropological Institute, University of Zürich, Zürich, Switzerland; ²Faculty of Medicine of Lyon Laennec, University of Lyon 1, Lyon, France
- P47 **203** COMPUTATIONAL STUDIES OF SWEET TASTING COMPOUNDS
Hattotuwigama C.K.,¹ Drew M.G.,¹ Morini G.,² Barker J.S.,¹ ¹Department of Chemistry, University of Reading, Whiteknights, Reading, RG6 6AD, United Kingdom; ²Dipartimento di Scienze Molecolari Agroalimentari, Università di Milano, Via Celoria, 2-I20133, Milano, Italy
- P48 **204** TASTE DEFECTS IN DROSOPHILA NORPA MUTANTS
Chyb S. *Department of Biology, Imperial College of Science, Technology and Medicine, London, United Kingdom*
- P49 **205** HYDRATION PROPERTIES AND PROTON EXCHANGE IN AQUEOUS SUGAR SOLUTIONS STUDIED BY TIME DOMAIN NUCLEAR MAGNETIC RESONANCE (TD-NMR)
Mathlouthi M., Aroulmoji V. *Laboratoire de Chimie Physique Industrielle, Université de Reims, B.P.1039, Reims, France*
- P50 **206** SWEET RECEPTOR MECHANISMS: STIMULATING EFFECTIVENESS OF HIGH INTENSITY SWEETENERS AND ENANTIOMERS FOR FLY BEHAVIORAL AND SUGAR RECEPTOR CELL RESPONSES
Higgins T.T.,¹ Kennedy L.M.,¹ ¹Biology, Clark University, Worcester, MA; ²Chemical Senses, National Science Foundation, Arlington, VA
- P51 **207** CATION EFFECTS IN CYCLAMATE SWEETENERS
Haywood K.A.,¹ Spillane W.J.,² Walsh R.,² Coyle C.,² Birch G.G.,¹ ¹School of Food

Biosciences, The University of Reading, Reading, United Kingdom; ²Department of Chemistry, National University of Ireland, Galway, Ireland

- P52 208 A RATIONAL DESIGN OF NEW INTENSIVE SWEETENERS FROM NATURAL COMPOUNDS
Bassoli A., Borgonovo G., Merlini L., Morini G. *Scienze Molecolari Agroalimentari (DISMA), Università di Milano, Milano, Italy*

Saturday, April 28, 2001

Continental Breakfast 7:30-9:00 AM

SLIDES

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

XXVIII. Systems Analysis of Gustatory Function

Chairperson: Janneane Gent

- 8:00 AM 209 NEUROPHYSIOLOGICAL TASTE RESPONSES OF SINGLE GENICULATE GANGLION CELLS RECORDED *IN VIVO* IN THE RAT
Sollars S.I., Hill D.L. *Psychology, University of Virginia, Charlottesville, VA*
- 8:15 AM 210 CALCIUM DEPRIVATION ALTERS GUSTATORY-EVOKED ACTIVITY IN THE RAT NUCLEUS OF THE SOLITARY TRACT
McCaughey S.A., Tordoff M.G. *Monell Chemical Senses Center, Philadelphia, PA*
- 8:30 AM 211 HAMSTER STIMULUS GENERALIZATION PATTERNS FOR TASTE MIXTURES
Frank M.E., Hettinger T.P., Formaker B.K. *Oral Diagnosis, UCONN Health Center, Farmington, CT*
- 8:45 AM 212 MULTIMODAL MONOSODIUM L-GLUTAMATE (MSG) SENSITIVITY IN HUMAN
LUGAZ O.,^{1,2} PILLIAS A.M.,^{1,2} FAURION A.,^{1,2} *¹Neurobiologie Sensorielle, CNRS/E.P.H.E., MASSY, France; ²EA359, Paris7, PARIS, France*
- 9:00 AM 213 DYNAMIC AND MULTIMODAL RESPONSES IN RAT GUSTATORY CORTICAL SINGLE NEURON ENSEMBLES
Katz D.B., Simon S.A., Nicolelis M.A. *Neurobiology, Duke University, Durham, NC*
- 9:15 AM 214 CROSS ADAPTATION AND BITTER SUPPRESSION OF L-TRYPTOPHAN AND L-PHENYLALANINE: FURTHER SUPPORT FOR COMMON TRANSDUCTION MECHANISM
Keast R.S., Breslin P.A. *Monell Chemical Senses Center, Philadelphia, PA*

- 9:30 AM 215 TASTE-TASTE AND TASTE-SMELL INTERACTIONS LIMIT THE PERCEPTION OF COMPONENTS AND INPUT TO FLAVOR
Laing D.G., Link C., Jinks A.L., Hutchinson I. *Centre For Advanced Food Research, University of Western Sydney, Richmond, Australia*

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

- 10:00 AM - 12:00 PM **SYMPOSIUM: XXIX. Signal Transduction in the Vomeronasal Organ**
Chairperson: Frank Zufall
- 216 10:00 AM **Halpern M.**
Anatomy and Cell Biology, SUNY Downstate Medical Center, Brooklyn, NY
"SIGNAL TRANSDUCTION IN THE VOMERONASAL EPITHELIUM OF MAMMALS AND REPTILES"
- 217 10:30 AM **Dulac C.**
Molecular and Cellular Biology, Harvard University, Cambridge, MA
"MOLECULAR MECHANISMS OF PHEROMONE DETECTION IN MAMMALS"
- 218 11:00 AM **Zufall F.**
Anatomy and Neurobiology, University of Maryland School of Medicine, Baltimore, MD
"PHEROMONE TRANSDUCTION BY MOUSE VOMERONASAL NEURONS"
- 219 11:30 AM **Liman E.R.**
Neurobiology, University of Southern California, Los Angeles, CA
"A MEMBER OF THE TRP FAMILY OF ION CHANNELS APRIL MEDIATE VNO SENSORY TRANSDUCTION"

XXX. Cortical Processing in Chemosensory Systems

- P1 220 REPEATED TRIGEMINAL STIMULI RESULT IN A CONSTANT OR EVEN SENSITIZED SII ACTIVITY WHILE OLFACTORY RELATED ACTIVITY GENERALLY SHOWS ATTENUATION
Kettenmann B.,¹ Francis S.,² Aspen J.,³ Renner B.,¹ McGlone F.,⁴ Kobal G.,¹ Bowtell R.² *¹Pharmacology, Univ. of Erlangen-Nuremberg, Erlangen, Germany; ²Magnetic Resonance Centre, Univ. of Nottingham, Nottingham, United Kingdom; ³Colworth Laboratory, Unilever Research, Bedford, United Kingdom; ⁴Port Sunlight*

Laboratory, Unilever Research, Wirral, United Kingdom

- P2 221 OLFACTORY EVENT-RELATED POTENTIALS TO ORTHO- AND RETRONASAL STIMULATION
Heilmann S., Hummel T. *Otorhinolaryngology, University of Dresden Medical School, Dresden, Germany*
- P3 222 INSULAR NEURONS ENCODE SALIENCE OF TASTE CUES IN AN ORAL DUAL-REINFORCER SELF-ADMINISTRATION PARADIGM
Anstrom K.K., Woodward D.J. *Physiology and Pharmacology, Wake Forest Univ Sch of Medicine, Winston-Salem, NC*
- P4 223 ENHANCED CHOLINERGIC SUPPRESSION OF PREVIOUSLY STRENGTHENED SYNAPSES ENABLES THE FORMATION OF SELF-ORGANIZED REPRESENTATIONS IN OLFACTORY CORTEX
Linster C., Maloney M., Patil M.M., Hasselmo M.E. *Psychology, Boston University, Boston, MA*
- P5 224 THE ROLE OF ACETYLCHOLINE IN ODOR DISCRIMINATION AND CROSS-HABITUATION BY ANTERIOR PIRIFORM CORTEX NEURONS
Wilson D.A. *Zoology, University of Oklahoma, Norman, OK*
- P6 225 THE INFLUENCE OF CONTEXT ON PRIMARY OLFACTORY PROCESSING
Kay L.M.,^{1,2} Laurent G.¹ *¹Inst. for Mind & Biology, Univ. of Chicago, Chicago, IL; ²Biology Div., Caltech, Pasadena, CA*
- P7 226 INTRA-CLASS CORRELATION COEFFICIENTS FOR BETWEEN-SESSION MEASUREMENTS OF THE OLFACTORY EVENT-RELATED POTENTIAL
Thesen T.,¹ Murphy C.^{1,2} *¹Department of Psychology, San Diego State University, San Diego, CA; ²School of Medicine, University of California, San Diego, San Diego, CA*
- P8 227 ODORANT DISCRIMINATION USING OLFACTORY EVENT-RELATED POTENTIALS
Gullotta F.P.,¹ Hayes C.S.,¹ Kobal G.² *¹Philip Morris USA, Richmond, VA; ²U. Erlangen-Nuremberg, Erlangen, Germany*
- P9 228 MAGNETOENCEPHALOGRAPHIC ANALYSES OF CORTICAL GUSTATORY RESPONSES IN HUMANS
Yamamoto C.,^{1,3} Nagai H.,^{2,3} Takahashi K.,¹ Nakagawa S.,³ Yamaguchi M.,³ Tonoike M.,³ Kurihara Y.,⁴ Yamamoto T.¹ *¹Human Sciences, Graduate School of Osaka Univ., Osaka, Japan; ²Res. Center, Suntory Ltd., Osaka, Japan; ³LERC, Electrotechnical Lab., Osaka, Japan; ⁴National Food Res. Inst., Tsukuba, Japan*
- P10 229 ODOR-EVOKED CELLULAR ACTIVITY DETECTED BY FOS IMMUNOCYTOCHEMISTRY IS IN PRINCIPAL CELLS IN PIRIFORM

CORTEX

- P11 230 TRANSIENT EXCITABILITY CHANGES IN PIRIFORM CORTEX PRODUCED BY ACTIVATION OF CORTICAL ASSOCIATION FIBERS
Illig K.R., Haberly L.B. *Anatomy Dept, University of Wisconsin, Madison, WI*
- P12 231 SIMULTANEOUS RECORDING OF EOG, OERP AND "BULBAR" POTENTIALS IN HUMANS
Jacob T.J., Hari C., Wang L. *School of Biosciences, Cardiff University, Cardiff, United Kingdom*

XXXI. Disease and Chemical Senses 1

- P13 232 OLFACTORY TESTING WITH SNIFFIN' STICKS IN IDIOPATHIC PARKINSONISM
Kobal G.,¹ Lang C.J.² *¹Pharmacology, University Erlangen-Nuremberg, Erlangen, Germany; ²Neurology, University Erlangen-Nuremberg, Erlangen, Germany*
- P14 233 SCREENING OF OLFACTORY FUNCTION USING A 4 MINUTE ODOR IDENTIFICATION TEST: RELIABILITY, NORMATIVE DATA, AND INVESTIGATIONS IN PATIENTS WITH OLFACTORY LOSS
Konnerth C.G.,¹ Hummel T.,¹ Rosenheim K.,¹ Kobal G.² *¹Otorhinolaryngology, University of Dresden Medical School, Dresden, Germany; ²Pharmacology, University of Erlangen-Nuernberg, Erlangen, Germany*
- P15 234 DAILY LIFE IMPACT OF OLFACTORY LOSS
Temmel A.F.,¹ Quint C.,¹ Pabinger S.,¹ Schickinger-Fischer B.,¹ Stoller E.,² Rosenheim K.,² Hummel T.² *¹ENT, University of Vienna, Vienna, Austria; ²ENT, University of Dresden Medical School, Dresden, Germany*
- P16 235 HEALTH SYMPTOMS FROM EXPOSURE TO ODOROUS CHEMICALS: PHYSIOLOGICAL VERSUS COGNITIVE EFFECTS
Smeets M., Dalton P., Maute C. *Monell Chemical Senses Center, Philadelphia, PA*
- P17 236 OLFACTORY DEFICITS IN ALCOHOLICS
Rupp C.I., Mair D., Kurz M., Hinterhuber H. *Psychiatry, University Clinics of Innsbruck, Innsbruck, Austria*
- P18 237 PRIMING EFFECT ON OLFACTORY FUNCTIONS IN PATIENTS WITH SEASONAL ALLERGIES
Schickinger-Fischer B.,¹ Temmel A.F.,¹ Quint C.,¹ Toth J.,¹ Hummel T.² *¹ENT-Department, University of Vienna, Vienna, Austria; ²ORL-Department, University of Vienna, Dresden, Germany*

- P19 238 A NEW SCREENING TEST FOR OLFACTORY DISORDERS BASED ON RETROPHARYNGEAL SMELLING
Renner B., Dreier J., Kobal G. *Pharmacology, University of Erlangen-Nuremberg, Erlangen, Germany*

XXXII. Olfactory Development

- P20 239 IMMUNOCYTOCHEMICAL AND FUNCTIONAL IDENTIFICATION OF PACAP IN DEVELOPING AND ADULT OLFACTORY EPITHELIUM
Lucero M.T., Hegg C.C. *Physiology, University of Utah, Salt Lake City, UT*
- P21 240 ONTOGENY IN OLFACTION: COMPARISON OF TURNOVER IN THE OLFACTORY SYSTEM OF POST-LARVAL AND ADULT SPINY LOBSTERS
Derby C.D., Maskol K., Cate H.S., Steullet P., Harrison P.J. *Biology, Georgia State University, Atlanta, GA*
- P22 241 MOLECULAR CLONING, CHARACTERIZATION, CELLULAR LOCALIZATION AND POSSIBLE FUNCTION OF A NOVEL CUB SERINE PROTEASE IN THE OLFACTORY ORGAN OF THE SPINY LOBSTER PANULIRUS ARGUS
Levine M.Z., Walthall W.W., Tai P.C., Harrison P.H., Derby C.D. *Biology, Georgia State University, Atlanta,, GA*
- P23 242 A STUDY OF MAMFAS II EXPRESSION IN THE NORMAL AND LESIONED RAT OLFACTORY SYSTEM
Fang H., Hamlin J.A., Schwob J.E. *Anatomy and Cellular Biology, Tufts University School of Medicine, Boston, MA*
- P24 243 OLFACTORY PLACODE DEVELOPMENT AND CELL DEATH IN THE MASTERBLIND MUTANT
Sanders L.H., Whitlock K.E. *Genetics and Development, Cornell University, Ithaca, NY*
- P25 244 EXPRESSION OF GALECTIN-1 AND GALECTIN-3 IN THE HUMAN VOMERONASAL ORGAN
Witt M.,¹ Hummel T.,² Heilmann S.,² Kasper M.¹ ¹*Anatomy, Tech. Univ. Dresden, Dresden, Germany;* ²*Otorhinolaryngology, Tech. Univ. Dresden, Dresden, Germany*
- P26 245 NOGGIN AND BMP EXPRESSION IN THE SEL OF ADULT MICE
Peretto P.,¹ Modena C.,¹ Fasolo A.,¹ Margolis F.L.² ¹*Human and Animal Biology, University, Torino, Italy;* ²*Anat. & Neurobiol., University of MD, Baltimore, MD*
- P27 246 NADPH DIAPHORASE IS DEVELOPMENTALLY REGULATED IN RAT OLFACTORY EPITHELIUM
Schmachtenberg O.,¹ Bicker G.,² Bacigalupo J.¹ ¹*Department of Biology, Faculty of Sciences and Millennium Institute for Advanced Studies in Cell Biology and*

	Wednesday April 25, 2001	Thursday April 26, 2001	Friday April 27, 2001	Saturday April 28, 2001	Sunday April 29, 2001	
7:00 AM						7:00 AM
8:00 AM		Continental Breakfast 7:30-9:00	Continental Breakfast 7:30-9:00	Continental Breakfast 7:30-9:00	Continental Breakfast 7:30-9:00	8:00 AM
9:00 AM		Slide Session <u>II</u> , Gustatory Development Salons E & F	Poster session <u>IV</u> , Bitter Taste <u>V</u> , Hedonics <u>VI</u> , Spatial Temporal Processing in Olfaction <u>VII</u> , Trigeminal Nerve Salons A, B, H, & G	Slide Session <u>XXVIII</u> , Systems Analysis of Gustatory Function Salons E & F	Slide Session <u>XLIV</u> , Olfactory Cells and Pathways Salons E & F	9:00 AM
10:00 AM				Poster session <u>XXX</u> , Cortical Proc. in Chemosensory Systems <u>XXXI</u> , Disease and Chemical Senses 1 <u>XXXII</u> , Olf. Develop. <u>XXXIII</u> , Functional Studies Olf. Glom. <u>XXXIV</u> , Transduction in Olf. and Vomeronasal Receptor Cells <u>XXXV</u> , Orientation to Chemical Stimuli Salons A, B, H, & G	Poster session <u>XLVI</u> , Disease and Chemical Senses 2 <u>XLVII</u> , Glomerular Organization <u>XLVIII</u> , Multimodal Interactions <u>XLIX</u> , Functional Characteristics of Sensory Cells <u>L</u> , Taste Cells <u>LI</u> , Second Messengers Salons A, B, H, & G	10:00 AM
11:00 AM	Educational Outreach GWIZ science center	Symposium <u>III</u> , Mechanisms of Differentiation and Migration of Progenitor Cells in the Olfactory System Salons E & F	Symposium <u>XV</u> , Functional Genomics in Neural Systems Salons E & F	Symposium <u>XXIX</u> , Signal Transduction in the Vomeronasal Organ Salons E & F	Slide Session <u>XLV</u> , Olfactory Development Salons E & F	11:00 AM
12:00 PM						12:00 PM
1:00 PM	12:00-3:30 Executive Committee Executive Board Room	12:30-2:00 Minority and Clinical Travel Awardee Luncheon Executive Board Room	12:00-2:00 Business Meeting Salons E & F	12:00-2:00 Clinical Luncheon Salons C & D		1:00 PM
2:00 PM						2:00 PM
3:00 PM			2:00-4:00 Softball Game Fruitville and Lockbridge Rd		Locations Slide and Symposium Sessions Salons E & F (All morning symposia begin at 10:00AM All evening symposia begin at 8:00 PM)	3:00 PM
4:00 PM		3:30-5:00 NIH Workshop Funding Opportunities for the New Investigator Salon E & F				4:00 PM
5:00 PM		5:00-7:00 Junior Investigator Cookout Outdoors	4:00-6:00 Workshop: Receptor Classification Sarasota Room	4:30-6:00 Workshop <u>XXXVI</u> , Molecular & Functional Mapping of the Olfactory Bulb Salons C & D		5:00 PM
6:00 PM	5:00-7:30 Registration Prefunction Area		5:00-7:00 Industrial Reception Salons C & D		Poster Sessions & Exhibits Salons A, B, H, & G	6:00 PM
7:00 PM	6:30 Opening Buffet Salons A & B					7:00 PM
8:00 PM	Welcome & Awards	Slide Session <u>VIII</u> , Bitter Taste Salons E & F	Slide Session <u>XX</u> , Molecular Biology of Olfaction Salons E & F	Slide Session <u>XXXVII</u> , Olfactory Processing Salons E & F	Continental Breakfast 7:30-9:00 Prefunction Area MidMorning Break 9:30-10:00 Prefunction Area	8:00 PM
9:00 PM	I. Givaudan Lecture Salons C, D, E, & F	Symposium <u>IX</u> , Genomics of Chemosensory Systems Salons E & F	Presidential Symposium <u>XXI</u> , Seeing is Believing: Imaging Cellular Function in the Chemical Senses Salons E & F	Symposium <u>XXXVIII</u> , Odor/Taste Interactions and Flavor Perception Salons E & F	Evening Break Prefunction Area 7:45-8:15 Cash Lunch Bar after morning sessions Prefunction Area	9:00 PM
10:00 PM	Social Gathering & Cash Bar Prefunction Area					10:00 PM
	Organization meeting for students with travel awards Salon G					

Biotechnology, University of Chile, Santiago, Chile; ²Institute of Animal Ecology and Cell Biology, Veterinary Medical School, Hannover, Germany

XXXIII. Functional Studies of Olfactory Glomeruli

- P31 247 A SINGLE FUNCTIONAL UNIT IN RAT OLFACTORY BULB: FUNCTIONAL MRI STUDY
 Xu F.,¹ Kida I.,¹ Hyder F.,¹ Shulman R.G.² ¹*Department of Diagnostic Radiology, Yale Medical School, New Haven, CT; ²Molecular Biophysics & Biochemistry, Yale Medical School, New Haven, CT*
- P32 248 MOLECULAR DISSECTION OF URINE ODOR EVOKED RESPONSE IN THE MAIN OLFACTORY BULB
 Schaefer M.L., Restrepo D. *Cell & Structural Biology, University of Colorado Health Science Center, Denver, CO*
- P33 249 INHIBITION OF BURST FIRING AND BACKPROPAGATING ACTION POTENTIALS IN THE DENDRITES OF MITRAL CELLS
 Lowe G. *Monell Chemical Senses Center, Philadelphia, PA*
- P34 250 GLUTAMATE TRANSPORTERS AND ODOR PROCESSING IN THE OLFACTORY GLOMERULUS
 Josephson E.M. *Anatomy, Physiology and Pharmacology, Auburn University, Auburn University, AL*
- P35 251 NITRIC OXIDE MODULATES ODOR-EVOKED ACTIVITY PATTERNS IN THE GLOMERULI OF THE MOTH ANTENNAL LOBE
 Lei H., Christensen T.A., Nighorn A.J., Hildebrand J.G. *Arizona Research Labs Div. of Neurobiology, University of Arizona, Tucson, AZ*
- P36 252 SYNCHRONOUS BURSTING AMONG JUXTAGLOMERULAR NEURONS OF THE RAT MAIN OLFACTORY BULB (MOB) IN VITRO
 Hayar A., Karnup S., Shipley M.T., Ennis M. *Anatomy and Neurobiology, University of Maryland, Baltimore, MD*

XXXIV. Transduction in Olfactory and Vomeronasal Receptor Cells

- P37 253 CONTRIBUTION OF CYCLIC-NUCLEOTIDE-GATED CHANNELS TO THE RESTING CONDUCTANCE OF OLFACTORY RECEPTOR NEURONS
 Pun R.Y., Kleene S.J. *University of Cincinnati, Cincinnati, OH*
- P38 254 CHEMOSIGNAL-ACTIVATED WHOLE-CELL CURRENTS IN THE VOMERONASAL (VN) ORGAN
 Fadool D.A.,¹ Wachowiak M.,² Brann J.H.¹ ¹*Prog In Neurosci & Mol Biophys, Florida State Univ, Tallahassee, FL; ²Dept of Cell & Molecular Physiology, Yale Univ School Med, New Haven, CT*

- P39 255 IONIC CURRENTS AND ODOR RESPONSES OF CULTURED OLFACTORY RECEPTOR NEURONS FROM ANTENNAE OF THE HONEYBEE
Laurent S.,¹ Jakob I.,¹ Masson C.² ¹CNRS, Centre Europeen des Science du Gout, DIJON, France; ²CNRS, ESPCI, PARIS, France
- P40 256 PHOSPHATIDYLINOSITOL 3-KINASE-DEPENDENT SIGNALING IN RAT OLFACTORY RECEPTOR NEURONS
Ache B.W.,¹ Spehr M.,² Wetzel C.H.,² Hatt H.² ¹Whitney Laboratory, University of Florida, St. Augustine, FL; ²Cell Physiology, Ruhr University Bochum, Bochum, Germany
- P41 257 CO₂-SENSITIVE OLFACTORY RECEPTORS IN RATS
Cecala A.L., Hammers D.B., Coates E.L. Neuroscience Program, Allegheny College, Meadville, PA
- P42 258 CL AND K CURRENTS UNDERLIE HYPERPOLARIZING RECEPTOR POTENTIALS IN LOBSTER OLFACTORY RECEPTOR NEURONS
Doolin R.E.,^{1,2} Ache B.W.^{2,3} ¹Whitney Lab, Univ. Florida, St. Augustine, FL; ²Neuroscience, Univ. Florida, Gainesville, FL; ³Zoology, Univ. Florida, Gainesville, FL
- P43 259 BIOSYNTHESIS AND LOCALIZATION OF TAURINE IN THE NASAL MUCOSA
Kratskin I.L., Hao Y.P., Hastings L. Smell and Taste Center, University of Pennsylvania School of Medicine, Philadelphia, PA
- P44 260 PRIMARY CULTURE OF LOBSTER (*HOMARUS AMERICANUS*) OLFACTORY RECEPTOR NEURONS
Stepanyan R., McClintock T.S. Physiology, University of Kentucky, Lexington, KY
- P45 261 PATCH-CLAMP RECORDINGS FROM HUMAN OLFACTORY NEURONS
Lischka F.,¹ Rawson N.E.,¹ Lowry L.D.,² Pribitkin E.,² Teeter J.¹ ¹Monell Chemical Senses Center, Philadelphia, PA; ²Thomas Jefferson Hospital, Philadelphia, PA
- P46 262 CELL TYPE SPECIFIC EXPRESSION OF OLFACTORY-ENRICHED MRNAS IN THE LOBSTER OLFACTORY ORGAN
Hollins B., McClintock T.S. Physiology, University of Kentucky, Lexington, KY
- P47 263 PHOSPHORYLATION OF VOLTAGE-GATED ION CHANNELS IN RAT OLFACTORY RECEPTOR NEURONS
Hatt H., Spehr M., Wetzel C.H. Cell Physiology, Ruhr-Univ. Bochum, Bochum, Germany

XXXV. Orientation to Chemical Stimuli

- P48 264 HABITAT STRUCTURE, HYDRODYNAMICS, AND CHEMICAL ORIENTATION IN STREAM SYSTEMS
Moore P.A.^{1,2} ¹Laboratory for Sensory Ecology, Bowling Green State University, Bowling Green, OH; ²J.P. Scott Center for Neuroscience, Mind & Behavior, Bowling Green State University, Bowling Green, OH
- P49 265 JUVENILE HAWAIIAN GOBIID FISH EMPLOY ODOR CUES TO LOCATE FRESHWATER STREAMS FROM THE OCEAN AND TO GUIDE THEM UP THEIR TERMINAL WATERFALLS
Sorensen P.W. Fisheries & Wildlife, U of MN, St. Paul, MN
- P50 266 THE EFFECTS OF ANTENNAL LESIONS ON ORIENTATION BEHAVIOR OF THE CRAYFISH, *ORCONECTES RUSTICUS*
Kraus-Epley K.E., Moore P.A. Laboratory for Sensory Ecology and the J.P. Scott Center for Neuroscience Mind and Behavior, Bowling Green State University, Bowling Green, OH
- P51 267 CONDITIONED TASTE AVERSION AND LOCOMOTOR CIRCLING INDUCED BY MAGNETIC FIELDS
Smith J.C.,¹ Pittman D.W.,¹ Barranco J.M.,² Brooks E.H.,¹ Houpt T.A.² ¹Psychology, Fla. St. Univ., Tallahassee, FL; ²Biology, Fla. St. Univ., Tallahassee, FL
- P52 268 TRACKING STUDIES IN THE AMERICAN LOBSTER: EFFECT OF DISTANCE FROM A LEAKY ODOR SOURCE
Voigt R.,¹ Basil J.,² Atema J.¹ ¹Boston University Marine Program, Boston University, Woods Hole, MA; ²Department of Psychology, Brooklyn College (CUNY), New York, NY; ³Boston University Marine Program, Boston University, Woods Hole, MA
- P53 269 CATFISH POSSESSING A SMALL PORTION OF A REGENERATED OLFACTORY ORGAN CAN DISCRIMINATE AMINO ACIDS
Stenovec M., Valentincic T. University of Ljubljana, Ljubljana, Slovenia
- P54 270 ATTRACTION TO MATERNAL ODOR BY JUVENILE CRAYFISH, *ORCONECTES RUSTICUS*
Long K.L., Moore P.A. Laboratory for Sensory Ecology, Bowling Green State University, Bowling Green, OH
- P55 271 BOUNDARY-LAYER EFFECT ON THE CHEMICAL SIGNAL MOVEMENT ALONG THE BODY OF A MODEL BROWN BULLHEAD (*AMEIURUS NEBULOSUS*)
Sherman M.L.,^{1,2} Moore P.A.^{1,2} ¹Laboratory for Sensory Ecology, Bowling Green State University, Bowling Green, OH; ²J.P. Scott Center for Neuroscience, Mind and Behavior, Bowling Green State University, Bowling Green, OH

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- P56 272 GNRH, MIGRATORY BEHAVIOR AND OLFACTORY SENSITIVITY IN HOMING PACIFIC SALMON
Dittman A.H. *Integrative Biology Program, Northwest Fisheries Science Center, Seattle, WA*

Clinical Luncheon 12:00-2:00

C. Murphy, coordinator
(Salons C & D)

WORKSHOPS**Saturday Evening - 4:30 PM - 6:00 PM****XXXVI. Molecular & Functional Mapping of the Olfactory Bulb (Salons C & D)**

- 273 MOLECULAR & FUNCTIONAL MAPPING OF THE OLFACTORY BULB
Finger T.,¹ Restrepo D.,¹ Shepherd G.M.² ¹Dept. Cellular & Structural Biology, Univ. Colorado Health Sci. Ctr., Denver, CO; ²Section of Neurobiology, FMB236, Yale University Medical School, New Haven, CT

SLIDES**Saturday Evening - 7:00 PM - 8:00 PM****XXXVII. Olfactory Processing**

Chairperson: Chuck Derby

- 7:00 PM 274 ODOR ELICITED ACTIVITY PATTERNS IN THE MOUSE OLFACTORY BULB REVEALED BY FMRI
Xu F., Kida I., Hyder F., Greer C.A., Rothman D., Shepherd G.M. *Department of Neurobiology and Neurosurgery, and MRC, Yale Medical School, New Haven, CT*
- 7:15 PM 275 BEHAVIORAL DISCRIMINATION OF SEX PHEROMONE MIXTURES CORRESPONDS WITH PHYSIOLOGICAL PROFILES OF PROJECTION NEURONS
Poling K., Hanson L., Sorensen P. *Fisheries & Wildlife, Univ. of Minnesota, Saint Paul, MN*
- 7:30 PM 276 SINGLE-UNIT RECORDING DEMONSTRATES THAT PHEROMONES ARE DISCRIMINATED BY A COMBINATION OF LABELED-LINE AND POPULATION CODING IN THE GOLDFISH OLFACTORY BULB

Hanson L.R., Sorensen P.W. *Grad Program in Neuroscience, U of MN, St. Paul, MN*

- 7:45 PM 277 RESPONSE OF MALE *DROSOPHILA* TO FEMALE PHEROMONES
Pikielny C.W., Park S.K., Falowski S., Xu A., Kolski-Andreaco A., Linares T., Kim E., Wang Q. *Neuroscience and Cell Biology, Robert Wood Johnson Med Sch, Piscataway, NJ*

Evening Break 7:45-8:15 PM

- 8:00 PM - 10:00 PM **SYMPOSIUM: XXXVIII. Odor/Taste Interactions and Flavor Perception**
Chairperson: John Prescott/Paul Breslin

- 278 8:00 PM **Hollowood T.A., DeGroot L., Davidson J.M., Linforth R.S., Taylor A.J.**
Food Science, Nottingham University, Sutton Bonington, United Kingdom
"INVESTIGATING TASTE AND AROMA INTERACTIONS IN FOODS"

- 279 8:20 PM **Scott T.R.**
Psychology, San Diego State University, San Diego, CA
"INTERACTION OF THE SENSES IN THE CONSTRUCTION OF FLAVOR"

- 280 8:40 PM **Small D.M.,^{1,2} Jones-Gotman M.K.²**
¹Cognitive Brain Mapping Group, Northwestern University, Chicago, IL; ²Neurology and Neurosurgery, McGill University/Montreal Neurological Institute, Montreal, PQ, Canada
"NEURAL SUBSTRATES OF TASTE/SMELL INTERACTIONS AND FLAVOUR IN THE HUMAN BRAIN"

- 281 9:00 PM **Frank R.A.**
Psychology, University of Cincinnati, Cincinnati, OH
"A JUDGMENT MODEL FOR RATINGS OF COMPLEX CHEMOSENSORY STIMULI"

- 282 9:20 PM **Breslin P.A., Doolittle N., Dalton P.**
Monell Chemical Senses Center, Philadelphia, PA
"SUBTHRESHOLD INTEGRATION OF TASTE AND SMELL: THE ROLE OF EXPERIENCE IN FLAVOR INTEGRATION"

- 283 9:40 PM **Prescott J.**
Sensory Science Research Centre, University of Otago, Dunedin, New

Zealand

"COGNITIVE INFLUENCES ON ODOR/TASTE INTERACTIONS IN MIXTURES"

This symposium was sponsored in part by International Flavors and Fragrances, Inc.

XXXIX. Development of Olfactory Glomeruli

- P1 284 CO-LOCALIZATION OF 5-HT_{2A} RECEPTORS AND β 1-ADRENOCEPTORS IN THE MAIN OLFACTORY BULB OF THE RAT
McLean J.H., Yuan Q., Harley C.W. *Div. of Basic Medical Sciences, Memorial University of Newfoundland, St. John's, NF, Canada*
- P2 285 THE OMP-LACZ TRANSGENE MIMICS THE UNUSUAL EXPRESSION PATTERN OF OR-Z6, A NEW ODORANT RECEPTOR GENE: IMPLICATION FOR LOCUS-DEPENDENT GENE-EXPRESSION
Pyrski M.M.,¹ Xu Z.,¹ Walters E.,² Gilbert D.J.,³ Jenkins N.A.,³ Copeland N.G.,³ Margolis F.L.¹ ¹*Anatomy & Neurobiology, University of Maryland Baltimore, Sch. of Med., Baltimore, MD;* ²*Biochemistry & Molecular Biology, Howard University Med. Coll., Washington, DC;* ³*Mouse Cancer Genetics Program, NCI-Frederick, Frederick, MD*
- P3 286 CARBOHYDRATES AS AXON GUIDANCE MOLECULES IN THE OLFACTORY SYSTEM
St John J.A., Key B. *Anatomical Sciences, University of Queensland, Brisbane, Australia*
- P4 287 EFFECT OF ANTENNAL GRAFTS BETWEEN TWO MOTH SPECIES ON OLFACTORY PROCESSING OF SEX PHEROMONES
Linn C.E.,¹ Vickers N.J.² ¹*Entomology, Cornell University, Geneva, NY;* ²*Biology, University of Utah, Salt Lake City, UT*
- P5 288 *IN VITRO* ANALYSIS OF INTERACTIONS BETWEEN OLFACTORY RECEPTOR GROWTH CONES AND CENTRALLY DERIVED GLIA
Tucker E.S., Oland L.A., Tolbert L.P. *Dept. of Cell Biology & Anatomy, and ARL Div. of Neurobiology, University of Arizona, Tucson, AZ*
- P6 289 DEVELOPMENT OF OLFACTORY GLOMERULI: THE ROLE OF EXTRACELLULAR MATRIX MOLECULES
Treloar H.B., Shay E.L., Greer C.A. *Neurosurgery, Yale Univ. Sch. Med., New Haven, CT*
- P7 290 BOTH AN EPH-LIKE RECEPTOR TYROSINE KINASE (RTK) AND ITS LIGAND, EPHRIN, ARE EXPRESSED IN THE DEVELOPING OLFACTORY SYSTEM OF THE MOTH, *MANDUCA SEXTA*
Kaneko M., Nighorn A. *ARLDN, University of Arizona, Tucson, AZ*
- P8 291 BEHAVIOR OF OLFACTORY RECEPTOR AXONS GROWING NEAR AND

IN EXPLANTS OF THE AXON SORTING ZONE OF THE MOTH OLFACTORY SYSTEM

Oland L.A., Pott W.M., Tolbert L.P. *Arizona Research Laboratories Division of Neurobiology, University of Arizona, Tucson, AZ*

XL. Perireceptor Processes

- P9 292 RETRONASAL PERCEPTION AND THE TEMPORAL PROCESSING OF ODORANTS
Wilkes F.J., Laing D.G., Monteleone E., Hutchinson I., Jinks A.L. *Centre For Advanced Food Research, University of Western Sydney, Richmond, Australia*
- P10 293 IDENTIFICATION OF PROTEINS THAT MEDIATE PHEROMONE RECOGNITION IN COCKROACHES
Robinson K., Schal C., Anholt R. *W. M. Keck Center for Behavioral Biology, N. C. State Univ., Raleigh, NC*
- P11 294 ALBUMIN-AN IDEAL PHEROMONE CARRIER PROTEIN
Rasmussen L.E.,¹ Lazar J.,² Greenwood D.R.,³ Prestwich G.D.² ¹*Dept. of Biochemistry, Oregon Graduate Inst., Beaverton, OR;* ²*Dept. of Medicinal Chemistry, Univ. of Utah, Salt Lake City, UT;* ³*Mt. Albert Research Centre, Auckland, New Zealand*
- P12 295 RETRONASAL AND ORTHONASAL ODORANT INTERACTIONS: MASKING
Sun B.C., Halpern B.P. *Psychology and Neurobiology & Behavior, Cornell University, Ithaca, NY*
- P13 296 OLFACTORY SPECIFIC SNMPS OF LEPIDOPTERA DEFINE A UNIQUE FAMILY OF INVERTEBRATE CD36-LIKE RECEPTOR PROTEINS
Rogers M.E.,^{1,3} Krieger J.,² Vogt R.G.¹ ¹*Biological Sciences, University of South Carolina, Columbia, SC;* ²*Institute of Physiology, University of Stuttgart-Hohenheim, Stuttgart, Germany;* ³*Biological Sciences, Columbia University Carolina, New York, NY*
- P14 297 DIFFERENTIAL EXPRESSION OF CLUSTERED OBP GENES: A COMPARATIVE STUDY OF THE DISTRIBUTION OF PBP AND GOBP2 IN *MANDUCA SEXTA*
Vogt R.G.,¹ Bohbot J.,¹ Rogers M.E.^{1,2} ¹*Biological Sciences, University of South Carolina, Columbia, SC;* ²*Biological Sciences, Columbia University, New York, NY*
- P15 298 THE IMPACT OF MUCOSAL SOLUBILITY ON CHANGES IN ODORANT PERCEPTUAL INTENSITY
Spicer S.M., Hornung D.E., Kurtz D.B., Newlon J.W. *Upstate Medical University, Syracuse, NY*
- P16 299 CHARACTERIZATION OF GLUTATHIONINE S-TRANSFERASES

EXPRESSION AND ACTIVITY IN THE OLFACTORY EPITHELIUM

Weech M.C.,¹ Morrison E.E.,² Walters E.,¹ Logan G.K.¹ ¹*Biochemistry and Molecular Biology, Howard University, Washington, DC;* ²*Department of Anatomy Physiology and Pharmacology, Auburn University, Auburn, AL*

XLI. Receptors and Ligands

- P17 **300** THE OLFACTOROME: EXAMINING THE GENE EXPRESSION REPERTOIRE OF OLFACTORY MUCOSA
Genter M.B.,¹ Ebert C.L.,² Williams S.S.,² Aronow B.J.² ¹*Environmental Health, Univ. of Cincinnati, Cincinnati, OH;* ²*Children's Hospital Medical Center, Cincinnati, OH*
- P18 **301** MOLECULAR EVOLUTION OF THE INSECT CHEMOSENSORY RECEPTOR SUPERFAMILY
Robertson H.M. *Department of Entomology, University of Illinois, Urbana, IL*
- P19 **302** RECONSTITUTION OF OLFACTORY RECEPTORS THAT RECOGNIZE OVERLAPPING SETS OF ODORANTS WITH DIFFERENT SPECIFICITY
Kajiya K., Tanaka M., Kataoka H., Touhara K. *Integrated Biosciences, The University of Tokyo, Tokyo, Japan*
- P20 **303** REPERTOIRE OF HUMAN OLFACTORY RECEPTORS
Echeverri F., Nguyen T., Zozulya S. *Senomyx, Inc., La Jolla, CA*
- P21 **304** FUNCTIONAL ANALYSIS OF A RECOMBINANTLY EXPRESSED HUMAN ODORANT RECEPTOR
Spehr M., Gisselmann G., Hatt H., Wetzel C.H. *Cell Physiology, Ruhr-Universitaet Bochum, Bochum, Germany*
- P22 **305** FUNCTIONAL EXPRESSION AND CHARACTERIZATION OF A *DROSOPHILA* ODORANT RECEPTOR IN A HETEROLOGOUS CELL SYSTEM
Wetzel C.H.,¹ Behrendt H.J.,¹ Gisselmann G.,¹ Störtkuhl K.F.,² Hovemann B.,² Hatt H.¹ ¹*Cell Physiology, Ruhr University, Bochum, Germany;* ²*Molecular Cell Biochemistry, Ruhr University, Bochum, Germany*
- P23 **306** SEQUENCE HOMOLOGY OF OLFACTORY RECEPTORS CLONED FROM MOUSE GOMERULAR TISSUE PUNCHES
Yang X.,¹ Kauer J.S.,³ Marchand J.E.^{1,2} ¹*Anesthesia Research, Tufts University School of Medicine, Boston, MA;* ²*Anesthesiology, New England Medical Center, Boston, MA;* ³*Neuroscience, Tufts University School of Medicine, Boston, MA*
- P24 **307** CORRELATION OF ODOUR RECEPTOR ACTIVITIES BY COSMO-RS

 σ -MOMENTS

Klamt A.,¹ Finke A.,² Sonnenberg S.,² Blanco M.,³ Goddard W.A.³ ¹*COSMOlogic GmbH&CoKG, Leverkusen, Germany;* ²*Haarmann & Reimer GmbH, Holzminden, Germany;* ³*California Institute of Technology, Pasadena, CA*

XLII. Taste Pathways

- P31 **308** ELECTRICAL AND CHEMICAL STIMULATION OF SPECIFIC REGIONS OF THE PBN ELICITS INGESTIVE OROMOTOR BEHAVIORS IN CONSCIOUS RATS
King M.S., Graham J.N., Koepnick K.K., Townsend J.M., Thomas L.A. *Biology, Stetson University, DeLand, FL*
- P32 **309** EFFECTS OF GLOSSOPHARYNGEAL NERVE TRANSECTION AND REGENERATION ON QUININE-STIMULATED FOS-LIKE IMMUNOREACTIVITY IN THE PARABRACHIAL NUCLEUS OF THE RAT
Deyrup L.D.,¹ King C.T.,¹ Garcea M.,² Spector A.C.² ¹*Psychology, Stetson University, DeLand, FL;* ²*Psychology, Center for Smell and Taste, University of Florida, Gainesville, FL*
- P33 **310** TASTANT EVOKED ACTIVITY IN THE PRIMARY GUSTATORY NUCLEUS OF GOLDFISH
Sharp A.A., Farrell W.J., Finger T.E. *Department of Cellular and Structural Biology, UCHSC, Denver, CO*
- P34 **311** CORRELATION BETWEEN THE PLASMA ZINC CONCENTRATION AND THE CHORDA TYMPANI NERVE RESPONSES TO VARIOUS TASTE STIMULI IN ZINC-DEFICIENT RATS
Goto T.,¹ Komai M.,¹ Suzuki H.,^{2,3} Furukawa Y.¹ ¹*Lab of Nutr, Grad Sch of Agr Sci, Tohoku University, Sendai, Japan;* ²*Sch of Sci and Eng, Ishinomaki-Senshu University, Ishinomaki, Japan;* ³*Photodynamics Res Ctr, RIKEN, Sendai, Japan*
- P35 **312** FOS REACTIVITY TO MSG AND SUCROSE IN SOLITARY NUCLEUS OF THE RAT
Gropp J.K.,¹ Stapleton J.R.,¹ Barnes C.B.,² Delay E.R.¹ ¹*Neuroscience Program, Regis University, Denver, CO;* ²*Physical Therapy Dept., Regis University, Denver, CO*
- P36 **313** ALDOSTERONE ATTENUATES NACL RESPONSES IN RATS WITH UNILATERAL CHORDA TYMPANI SECTION
Guagliardo N.A., April O.L., Hill D.L. *Psychology, University of Virginia, Charlottesville, VA*
- P37 **314** TEMPORAL PATTERN OF LICK-CONTINGENT ELECTRICAL STIMULATION IN THE NUCLEUS OF THE SOLITARY TRACT PREDICTS BEHAVIORAL REJECTION

Hallock R.M., Kennedy D.P., Di Lorenzo P.M. *Psychology, SUNY at Binghamton, Binghamton, NY*

- P38 315 EFFECTS OF GLOSSOPHARYNGEAL ANESTHESIA ON TASTE RESPONSES IN THE NTS OF THE RAT
Reich C.G. *Psychology, Binghamton University, Binghamton, NY*

XLIII. Transduction in Sensory Cells

- P39 316 POPULATION OF CHEMORECEPTORS AND CHEMOSENSITIVITY IN ADULT RED SEA BREAM *PAGRUS MAJOR*
Mana R.R. *Lab of Fish Ethology, Kagoshima University, Kagoshima, Japan*
- P40 317 RECEPTOR AND SYNERGISTIC MECHANISMS FOR UMAMI AND SWEET SUBSTANCES IN WISTAR RATS
Sako N.,¹ Tokita K.,² Sugimura T.,¹ Yamamoto T.² ¹*Oral Physiol., Asahi Univ., Sch. Dent., Gifu, Japan;* ²*Behav. Physiol., Fac. Human Sci., Osaka Univ., Suita, Japan*
- P41 318 RELATIVE EXPRESSION OF DELAYED RECTIFYING K⁺ CHANNEL SUBTYPES DIFFERS IN THE THREE TYPES OF LINGUAL TASTE BUDS
Nikonova L.,² Kim I.,² Hansen D.R.,¹ Gilbertson T.A.² ¹*Biology, Utah State U, Logan, UT;* ²*Pennington Biomed Res Ctr, LSU, Baton Rouge, LA*
- P42 319 GLUTAMATE RECEPTOR AGONISTS AND RAT CT RESPONSES
Formaker B.K.,¹ Frank M.E.,¹ Roper S.D.² ¹*UConn. Health Ctr, Farmington, CT;* ²*U Miami Med Sch, Miami, FL*
- P43 320 IMMUNOHISTOCHEMICAL LOCALIZATION OF ICTACALCIN AND CALBINDIN IN CATFISH OLFACTORY EPITHELIUM
Porta A.R. *Biological Sciences, Kean University, Union, NJ*
- P44 321 ELECTROPHYSIOLOGICAL CHARACTERIZATION OF TASTE CELLS EXPRESSING GUSTDUCIN
Medler K.F.,^{1,2} Margolskee R.F.,³ Kinnamon S.C.^{1,2} ¹*Anatomy & Neurobiology, Colorado State University, Ft. Collins, CO;* ²*Rocky Mountain Taste and Smell Center, University of Colorado Health Sciences Center, Denver, CO;* ³*Howard Hughes Medical Institute, The Mount Sinai School of Medicine, New York, NY*
- P45 322 CARBONIC ANHYDRASE INHIBITOR, MK-927, MODULATES TASTE NERVE FIBER RESPONSES TO BASIC TASTES AND CO₂ IN SD RATS
Komai M.,¹ Yabuki H.,¹ Suzuki H.,^{2,3} Bryant B.P.,⁴ Goto T.,¹ Furukawa Y.¹ ¹*Grad Sch Agr Sci, Tohoku Univ, Sendai, Japan;* ²*Sch Sci and Eng, Ishinomaki-Senshu Univ, Ishinomaki, Japan;* ³*Photodynamics Res Ctr, RIKEN, Sendai, Japan;* ⁴*Monell Ctr, Philadelphia, PA*
- P46 323 MODULATION OF BASOLATERAL NA⁺/H⁺ EXCHANGE ACTIVITY IN POLARIZED TASTE RECEPTOR CELLS BY PH, CA²⁺ AND CAMP
Lyall V., Alam R.I., Heck G.L., DeSimone J.A. *Physiology, Virginia*

Commonwealth University, Richmond, VA

- P47 324 CALCIUM REGULATED IONIC CHANNELS IN CHEMOSENSORY NEURONS OF A FAMOUS SOIL NEMATODE
Nickell W.T., Kleene S.J. *Cell Biology, Neurobiology and Anatomy, University of Cincinnati College of Medicine, Cincinnati, OH*
- P48 325 KNOCKOUT MOUSE MODELS FOR THE STUDY OF TASTE SIGNAL TRANSDUCTION
He W.,^{1,2} Rong M.,^{1,2} Margolskee R.F.,^{1,2} Damak S.¹ ¹*Physiology and Biophysics, Mount Sinai School of Medicine, New York, NY;* ²*The Howard Hughes Medical Institute, New York, NY*
- P49 326 PHARMACOLOGICAL PROFILE OF TASTE-MGLUR4 DETERMINED BY EXPRESSION AND CALCIUM IMAGING IN HEK293 CELLS
Roper S.D., Feldman L.A., Chaudhari N. *Physiol/Biophys, U Miami Med., Miami, FL*

Sunday, April 29, 2001

Continental Breakfast 7:30-9:00 AM

SLIDES

Sunday Morning - 8:30 AM - 10:15 AM

XLIV. Olfactory Cells and Pathways

- 8:30 AM 327 OMP-DIRECTED UBIQUITOUS EXPRESSION OF AN ODORANT RECEPTOR IN MOUSE OLFACTORY NEURONS
Zhao H., Reed R. *Howard Hughes Medical Institute, Department of Molecular Biology and Genetics, Johns Hopkins School of Medicine, Baltimore, MD*
- 8:45 AM 328 ODOR DETECTION THRESHOLDS IN MICE WITH UBIQUITOUS OLFACTORY EXPRESSION OF THE OR I7 RECEPTOR
Hanford L.S.,¹ Slotnick B.,¹ Reed R.,² Zhao H.² ¹*Psychology, American University, Washington DC, DC;* ²*Molecular Biology and Genetics, Johns Hopkins School of Medicine, Baltimore, MD*
- 9:00 AM 329 PARALLEL ANTENNULAR CHEMOSENSORY PATHWAYS FOR ODOR-MEDIATED BEHAVIORS IN THE SPINY LOBSTER *PANULIRUS ARGUS*

- 9:15 AM 330 Cate H.S., Derby C.D. *Biology, Georgia State University, Atlanta, GA*
DISCRIMINATING ODORS THROUGH SYNCHRONY IN GLOMERULAR CIRCUITS: NEW DATA FROM MULTICHANNEL NEURAL-ENSEMBLE RECORDINGS
Christensen T.A., Lei H., Pawlowski V.M., Hildebrand J.G. *Arizona Research Labs - Div. of Neurobiology, University of Arizona, Tucson, AZ*
- 9:30 AM 331 MODULAR REPRESENTATIONS OF AROMATIC ODORANTS IN THE RAT OLFACTORY BULB
Johnson B.A., Leon M. *Dept. of Neurobiology and Behavior, Univ. of California, Irvine, Irvine, CA*
- 9:45 AM 332 OLFACTORY RECEPTOR DISTRIBUTION AND OLFACTORY BULB RECEPTIVE FIELDS IN THE SALAMANDER
Kauer J.S.,¹ Yang X.,² Marchand J.E.² ¹Neuroscience, Tufts School of Medicine, Boston, MA; ²Anesthesia Research, Tufts School of Medicine, Boston, MA
- 10:00 AM 333 GENOMIC ANALYSIS OF THE MOUSE CHROMOSOME-6 VNO RECEPTOR GENE CLUSTER REVEALS COMMON PROMOTER MOTIFS AND A HISTORY OF LOCAL DUPLICATION
Lane R.P.,¹ Cutforth T.,² Friedman C.,¹ Axel R.,² Trask B.J.,¹ Hood L.³ ¹Fred Hutchinson Cancer Research Center, Seattle, WA; ²College of Physicians and Surgeons, Columbia University, New York, NY; ³The Institute for Systems Biology, Seattle, WA

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

SLIDES

Sunday Morning - 10:15 AM - 11:30 AM

XLV. Olfactory Development

Chairperson: Virginia Carr

- 10:15 AM 334 FROM FUNCTIONAL GENOMICS TO FUNCTION OF THE GENOME IN OLFACTORY NEURON DEVELOPMENT
Cheng J.,¹ Hendrich B.,² Bird A.,² Roskams J.I.¹ ¹CMMT, University of British Columbia, Vancouver, BC, Canada; ²Institute of Cell and Molecular Biology, University of Edinburgh, Edinburgh, United Kingdom
- 10:30 AM 335 IMMUNOCYTOCHEMICAL AND MOLECULAR ANALYSIS OF OLFACTORY PROGENITOR CELLS IN VITRO
Khan M.,^{1,2} Bieri S.,¹ Cunningham A.M.^{1,2} ¹Sensory Neurobiology, Garvan Institute of Medical Research, Darlinghurst, Australia; ²School of Women's and Children's Health, University of NSW, Sydney, Australia

- 10:45 AM 336 POSTEMBRYONIC PROLIFERATION OF OLFACTORY RECEPTOR NEURONS IN SPINY LOBSTERS IS MODULATED BY CENTRAL AND PERIPHERAL FACTORS
Harrison P.J., Cate H.S., Steullet P., Derby C.D. *Biology, Georgia State University, Atlanta, GA*
- 11:00 AM 337 PROGENITORS OF GNRH CELLS LIE OUTSIDE THE OLFACTORY PLACODE
Whitlock K.E., Wolf C.D. *Genetics and Development, Cornell University, Ithaca, NY*
- 11:15 AM 338 X-INACTIVATION OF THE OCNC1 CHANNEL GENE REVEALS A ROLE FOR ACTIVITY-DEPENDENT COMPETITION IN THE OLFACTORY SYSTEM
Reed R., Zhao H. *Howard Hughes Medical Institute, Department of Molecular Biology and Genetics, Johns Hopkins School of Medicine, Baltimore, MD*

POSTERS

Sunday Morning - 8:30 AM - 12:00 PM

XLVI. Disease and Chemical Senses 2

- P1 339 REMOVAL OF THE INFERIOR THIRD OF THE SUPERIOR TURBINATE IS NOT ASSOCIATED WITH A SIGNIFICANT DECREASE IN HUMAN OLFACTORY ABILITY
Say P., Leopold D.A., Cochran G., Greiner T. *Otolaryngology, UNMC, Omaha, NE*
- P2 340 PEROXYNITRITE-MEDIATED OXIDATIVE STRESS IN OLFACTORY BULBS FROM PATIENTS WITH ALZHEIMER'S DISEASE
Getchell M.L., Shah D.S., Davis D.G., Subhedar N., Getchell T.V. *Sanders-Brown Ctr. on Aging; Departs. of Anat. /Neurobiol. & Pathol., U of KY, Lexington, KY*
- P3 341 OLFACTORY FUNCTION IN HIV-POSITIVE SUBJECTS
Mueller C.,¹ Temmel A.,¹ Quint C.,¹ Rieger A.² ¹Dept. of ENT, University, Vienna, Austria; ²Dept. of Dermatology, University, Vienna, Austria
- P4 342 SHIFT OF AMINO ACIDS: A POSSIBLE EXPLANATION FOR SMELL DYSFUNCTION IN CIRRHOTIC PATIENTS
Pabinger S.,¹ Temmel A.F.,¹ Quint C.,¹ Munda P.,² Ferenci P.,² Stöckler S.³ ¹Department of ENT, University of Vienna, Vienna, Austria; ²Department of Gastrohepatology, University of Vienna, Vienna, Austria; ³Department of Paediatrics, University of Vienna, Vienna, Austria
- P5 343 OLFACTORY FUNCTION CORRELATES WITH DOPAMINE TRANSPORTER UPTAKE WITHIN THE BASAL GANGLIA IN PARKINSON'S DISEASE AND

MULTIPLE SYSTEM ATROPHY

Li C.,¹ Mozley D.P.,¹ Mozley H.M.,¹ Doty R.L.¹ ¹Smell & Taste Center, University of Pennsylvania, Philadelphia, PA; ²Departments of Radiology & Psychiatry, University of Pennsylvania, Philadelphia, PA

- P6 344 ARE NONTASTERS AT RISK FOR CARDIOVASCULAR DISEASE (CVD)?
Duffy V.B.,^{1,2} Bartoshuk L.M.,² Peterson J.M.,¹ Phillips M.N.¹ ¹Allied Health, Univ. of Connecticut, Storrs, CT; ²Surgery, Yale Univ. School of Medicine, New Haven, CT
- P7 345 TASTE AND OLFACTION IN PATIENTS WITH PRIMARY HYPERPARATHYROIDISM
Quint C.,¹ Temmel A.F.,¹ Kou S.S.,¹ Prager G.,² Niederle B.² ¹ENT, University of Vienna, Vienna, Austria; ²Surgery, University of Vienna, Vienna, Austria
- P8 346 STUDIES OF OLFACTORY FUNCTION IN PARKINSON'S PATIENTS RECEIVING ELECTROTHERAPY FOR CONTROL OF EXTRAPYRAMIDAL SYMPTOMS
Deems D.A.,¹ Kaplan P.,² Schumaker J.,² Doty R.L.³ ¹University ENT Associates, Sarasota Memorial Hospital, Sarasota, FL; ²Neurological Associates, Sarasota Memorial Hospital, Sarasota, FL; ³Smell and Taste Center, University of Pennsylvania, Philadelphia, PA
- P9 347 EFFECT OF DENTAL DEAFFERENTATION ON GUSTATORY SENSITIVITY
Boucher Y., Fahrang F., Azérad J., Faurion A. *Neurobiologie Sensorielle, University Paris7, Paris, France*

XLVII. Glomerular Organization

- P10 348 EXPRESSION OF NEURONAL GAP JUNCTION SUBUNIT CONNEXIN 36 IN THE OLFACTORY SYSTEM
Zhang C., Restrepo D. *Cellular and Structural Biology, University of Colorado Health Sciences Center, Denver, CO*
- P11 349 ESTIMATING THE NUMBER OF GLOMERULI IN THE HAMSTER MAIN OLFACTORY BULB WITH THE PHYSICAL FRACTIONATOR
Schoenfeld T.A. *Physiology, UMass Medical School, Worcester, MA*
- P12 350 A PREPARATION OF THE PATHWAY OF OLFACTORY RECEPTOR AXONS FOR DYNAMIC IMAGING
Frontini A., Zielinski B. *Biological Sciences, University of Windsor, Windsor, ON, Canada*
- P13 351 GUANYLYL CYCLASE-D GENE ORGANIZATION AND UPSTREAM REGULATORY ELEMENTS
Fülle H.J., Gallardo E.M. *Dept of Cell & Neurobiology, Keck School of Medicine, University of Southern California, Los Angeles, CA*

- P14 352 α CAMKII EXPRESSION PATTERNS IN THE MOUSE MAIN OLFACTORY BULB
Zou D.J.,¹ Greer C.A.,² Firestein S.J.¹ ¹Dept. Bio. Sci., Columbia Univ., New York, NY; ²Dept. Neurosurgery, Yale Univ. Sch. Med., New Haven, CT
- P15 353 ULTRASTRUCTURAL LOCALIZATION OF THE GAP JUNCTION PROTEIN CONNEXIN43
Hamilton K.A., Allen D.M. *Cellular Biology and Anatomy, LSU Health Sciences Center, Shreveport, LA*
- P16 354 DIFFERENTIAL EXPRESSION OF G-PROTEINS IN THE OLFACTORY SYSTEM OF A REFLEX OVULATOR, THE PINE VOLE
Williams J.S., Wekesa K.S. *Biological Sciences, Alabama State University, Montgomery, AL*
- P17 355 LOCALIZATION OF A LECTIN TO OLFACTORY NERVE ENSHEATHING AND SCHWANN CELL GLIA
Lipscomb B.W., Treloar H.B., Greer C.A. *Neurosurgery, Yale University, New Haven, CT*
- P18 356 DISTRIBUTION OF GO AND GOLF IMMUNOREACTIVITY IN THE OLFACTORY BULBS OF CATFISH
Anderson K.T.,¹ Hansen A.,¹ Morita Y.,² Finger T.E.¹ ¹UCHSC, Denver, CO; ²Kagawa Prefectural College of Health Sciences, Kagawa, Japan

XLVIII. Multimodal Interactions

- P19 357 GUSTATORY SENSITIVITY IN PATIENTS WITH ANOSMIA
Hummel T.,¹ Nesztler C.,¹ Kallert S.,² Kobal G.,² Bende M.,³ Nordin S.⁴
¹Otorhinolaryngology, University of Dresden Medical School, Dresden, Germany;
²Pharmacology, University of Erlangen-Nurnberg, Erlangen, Germany;
³Otorhinolaryngology, Municipal Hospital, Skovde, Sweden; ⁴Psychology, University of Umea, Umea, Sweden
- P20 358 EFFECT OF ORAL CAPSAICIN ON PERCEPTUAL RESPONSES TO TASTANTS
Simons C.T.,^{1,2} OMahony M.,¹ Carstens E.² ¹Food Sci. & Tech., UC, Davis, CA; ²Neurobio. Phys. Beh., UC, Davis, CA
- P21 359 ENHANCING ATHLETIC PERFORMANCE THROUGH THE ADMINISTRATION OF PEPPERMINT ODOR
Raudenbush B.,¹ Corley N.,¹ Eppich W.² ¹Psychology, Wheeling Jesuit University, Wheeling, WV; ²Physical Therapy, Wheeling Jesuit University, Wheeling, WV
- P22 360 ODORS INFLUENCE SPEED OF TASTE NAMING
White T.L.,¹ Prescott J.² ¹Neuroscience & Physiology, SUNY Upstate University, Syracuse, NY; ²Sensory Science Research Centre, University of Otago, Dunedin, New Zealand

- P23 361 SENSORY FLAVOR-TEXTURE INTERACTIONS IN CUSTARD DESSERTS
de Wijk R.A., Rasing F., Wilkinson C.L., Mojet J. *Wageningen Centre for Food Sciences, 6700 AN Wageningen, Netherlands*
- P24 362 MISLOCALIZATION OF TASTES ACCOMPANIED BY TACTILE STIMULATION
Green B.G.,^{1,2} Schullery M.T.¹ *¹John B. Pierce Laboratory, New Haven, CT; ²Section of Otolaryngology, Yale School of Medicine, New Haven, CT*
- P25 363 ACQUISITION OF TEXTURAL AND TEMPERATURE AVERSIONS IN RATS WITH PARABRACHIAL NUCLEUS LESIONS
Smith P.L.,¹ Norgren R.,² Scalera G.,³ Smith J.C.,¹ Grigson P.S.² *¹Psychology, The Florida State University, Tallahassee, FL; ²Behavioral Science, Pennsylvania State School of Medicine, Hershey, PA; ³Biomedical Science, University of Modena, Modena, Italy*
- P26 364 EFFECT OF ORAL STIMULATION ON POSTPRANDIAL THERMOGENESIS IN HUMANS
Tittelbach T.J., Mattes R.D. *Foods and Nutrition, Purdue University, West Lafayette, IN*
- P27 365 AGE-DEPENDENCY OF SUCROSE-ANALGESIA IN NEONATAL RATS
Anseloni V.Z.,¹ Weng H.J.,² Terayama R.,² Letizia D.,¹ Ren K.,² Davis B.J.,¹ Dubner R.,² Ennis M.¹ *¹Anat. & Neurobiol., Univ. Maryland, Baltimore, MD; ²Oral and Craniofacial Biological Sci., Univ. Maryland, Baltimore, MD*
- P28 366 A REVIEW OF THE INFLUENCES OF CARDIOVASCULAR AGENTS ON TASTE AND SMELL PERCEPTION
Reddy K.P., Doty R.L. *Smell & Taste Center, University of Pennsylvania, Philadelphia, PA*

XLIX. Functional Characteristics of Sensory Cells

- P31 367 THE SEPTAL ORGAN, AN ATTRACTIVE MODEL SYSTEM FOR OLFACTORY CODING STUDY
Ma M.,¹ Greer C.A.,^{1,2} Shepherd G.M.¹ *¹Neurobiology, Yale Medical School, New Haven, CT; ²Neurosurgery, Yale Medical School, New Haven, CT*
- P32 368 RESPONSES OF SINGLE CHORDA TYMPANI TASTE FIBERS OF THE CALF
Danilova V., Hellekant G. *Animal Health and Biomedical Sciences, University of Wisconsin, Madison, WI*
- P33 369 ELECTRICAL PROPERTIES OF FOUR TYPES OF CELLS IN THE BULLFROG FUNGIFORM PAPILLAE
Takeuchi H.,¹ Tsunenari T.,² Kurahashi T.,¹ Kaneko A.³ *¹Biophysical engineering, Osaka University, Toyonaka, Japan; ²Neuroscience, Johns Hopkins University School of Medicine, Baltimore, MD; ³Electrophysiology, Keio University School of Medicine, Tokyo, Japan*

- P34 370 IS ROMK1 (K_{IR}1.1) THE ELUSIVE APICAL K⁺ CHANNEL IN MAMMALIAN TASTE CELLS?
Gilbertson T.A.,¹ Hansen D.R.,¹ Foley C.E.,¹ Nikonova L.,² Kim I.² *¹Biology, Utah State U, Logan, UT; ²Pennington Biomed Res Ctr, LSU, Baton Rouge, LA*
- P35 371 LONG TERM RECORDINGS FROM SINGLE CHORDA TYMPANI NERVE FIBERS IN THE RAT
Shimatani Y., Bradley R.M. *Biologic & Materials Sciences, University of Michigan, Ann Arbor, MI*
- P36 372 ELECTROPHYSIOLOGICAL AND CHEMOSENSORY PROPERTIES OF CULTURED TRIGEMINAL NEURONS
Paul J., Hatt H., Wetzel C.H. *Cell Physiology, Ruhr-Universitaet Bochum, 44780 Bochum, Germany*
- P37 373 EXPOSURE TO ODORS OR THE PDE4 INHIBITOR ROLIPRAM INDUCES PHOSPHORYLATION OF CREB IN THE MOUSE OLFACTORY BULB
Pho V., Cherry J.A. *Psychology, Boston University, Boston, MA*
- P38 374 INHIBITORY ODOR RESPONSES RECORDED EXTRACELLULARLY FROM TOAD OLFACTORY EPITHELIUM
Diaz J., Madrid R., Bacigalupo J. *Department of Biology, Faculty of Sciences and Millennium Institute for Advanced Studies in Cell Biology and Biotechnology, University of Chile, Santiago, Chile*
- P39 375 THE USE OF FRESH CADAVERIC HUMAN OLFACTORY EPITHELIUM FOR PHYSIOLOGIC STUDY
Morrow B.W.,¹ Jafek B.W.,¹ Restrepo D.² *¹Otolaryngology, UCHSC, Denver, CO; ²Cellular Structural Biology, UCHSC, Denver, CO*

L. Taste Cells

- P40 376 KERATIN 18 EXPRESSION IN LIGHT CELLS OF RAT TASTE BUDS
Christy R.C., Boughter J.D., Lemon C.H., Smith D.V. *Anatomy & Neurobiology, University of Maryland School of Medicine, Baltimore, MD*
- P41 377 IMMUNOHISTOCHEMICAL AND ULTRASTRUCTURAL STUDIES OF PGP 9.5 IN THE TASTE BUDS OF RAT CIRCUMVALLATE PAPILLAE
Yang R.,^{1,2} Yee C.,^{2,3} Stoick C.L.,^{1,2} Finger T.E.,^{2,3} Kinnamon J.C.^{1,2} *¹Dept. Biological Sciences, University of Denver, Denver, CO; ²Rocky Mountain Taste and Smell Center, Denver, CO; ³Dept. Cellular and Structural Biology, UCHSC, Denver, CO*
- P42 378 BONE MORPHOGENIC PROTEIN 4 (BMP-4) IS PRESENT IN TASTE CELLS OF ADULT MICE
Yee C.L., Finger T.E. *Cellular and Developmental Biology, UCHSC, Denver, CO*
- P43 379 IMMUNOCYTOCHEMICAL ANALYSIS OF TASTE CELLS INFECTED WITH

VIRAL VECTORS

Stone L.M.,^{1,2} Wilcox C.L.,³ Kinnamon S.C.^{1,2} ¹*Anatomy and Neurobiology, Colorado State University, Fort Collins, CO;* ²*Rocky Mountain Taste and Smell Center, University of Colorado Health Sciences Center, Denver, CO;* ³*Microbiology, Colorado State University, Fort Collins, CO*

- P44 **380** GUSTDUCIN IMMUNOREACTIVE TASTE CELLS IN MOUSE CIRCUMVALLATE PAPILLAE DO NOT EXPRESS SNAP-25
Stoick C.L.,^{1,2} Yang R.,^{1,2} Kinnamon J.C.^{1,2} ¹*Biological Sciences, University of Denver, Denver, CO;* ²*Rocky Mountain Taste and Smell Center, Denver, CO*
- P45 **381** CLONING OF FUCOSYLTRANSFERASES RELATED TO LEWIS^B FROM A RAT TASTE ENRICHED CDNA LIBRARY
Pumplin D.W. *Anatomy/Neurobiology, Univ. of Maryland, Baltimore, Baltimore, MD*
- P46 **382** CHARACTERISTICS OF FUNGIFORM TASTE BUDS AND CELLS 7-17 DAYS FOLLOWING EXPOSURE TO β -RADIATION
Nelson G.M. *Pathology/Division of Neuropathology, University of Alabama at Birmingham, Birmingham, AL*
- P47 **383** AMINO ACID IMMUNOREACTIVITY OF CHANNEL CATFISH PERIPHERAL TASTE SYSTEM
Eram M., Michel W.C. *Physiology, University of Utah School of Medicine, Salt Lake City, UT*

LI. Second Messengers

- P48 **384** CHEMORESPONSE IN PARAMECIUM: INVOLVEMENT OF THE CALCIUM PUMP
Gannon-Murakami L.,¹ Yano J.,¹ Raokchy V.,¹ Preston R.R.,² Van Houten J.L.¹ ¹*Biology, University of Vermont, Burlington, VT;* ²*Pharmacology and Physiology, MCP Hahnemann Univ., Philadelphia, PA*
- P49 **385** CHEMOSIGNAL TRANSDUCTION IN THE VOMERONASAL ORGAN OF GARTER SNAKES: CHEMOATTRACTANT-INDUCED IP₃-MEDIATED CALCIUM RELEASE
Cinelli A.R.,¹ Wang D.,² Chen P.,³ Liu W.,⁴ Halpern M.⁵ ¹*Anatomy and Cell Biology, SUNY Downstate, Brooklyn, NY;* ²*Biochemistry, SUNY Downstate, Brooklyn, NY;* ³*Biochemistry, SUNY Downstate, Brooklyn, NY;* ⁴*Anatomy and Cell Biology, SUNY Downstate, Brooklyn, NY;* ⁵*Anatomy and Cell Biology, SUNY Downstate, Brooklyn, NY*

- P50 **386** PHYSIOLOGICAL, AND PHARMACOLOGICAL EVIDENCE FOR ODOR STIMULATED PHOSPHATIDYLINOSITOL 3-KINASE IN LOBSTER OLFACTORY RECEPTOR NEURONS
Herlihy J.D.,^{1,2} Zhainazarov A.B.,¹ Doolin R.E.,^{1,2} Ache B.W.^{2,3} ¹*Whitney Laboratory, St. Augustine, FL;* ²*Neuroscience, University of Florida, Gainesville, FL;* ³*Zoology, University of Florida, Gainesville, FL*
- P51 **387** IMMUNOHISTOCHEMICAL IDENTIFICATION OF COMPONENTS OF THE CHEMOATTRACTANT SIGNAL TRANSDUCTION PATHWAY IN VOMERONASAL BIPOLAR NEURONS OF GARTER SNAKES
Wang D.,¹ Jia C.,² Chen P.,³ Halpern M.⁴ ¹*Biochemistry, SUNY Downstate Medical Center, Brooklyn, NY;* ²*Anatomy and Cell Biology, SUNY Downstate Medical Center, Brooklyn, NY;* ³*Biochemistry, SUNY Downstate Medical Center, Brooklyn, NY;* ⁴*Anatomy and Cell Biology, SUNY Downstate Medical Center, Brooklyn, NY*
- P52 **388** SIGNAL TRANSDUCTION PATHWAYS IN ODORA CELLS
Liu G., Badeau R.M., Talamo B.R. *Neuroscience, Tufts U. Medical School, Boston, MA*
- P53 **389** TRP-T, A NOVEL TRP RELATED PROTEIN EXPRESSED IN TASTE RECEPTOR CELLS
Perez C.A.,^{1,2} Huang L.,^{1,2} Rong M.,^{1,2} Kozak J.A.,^{1,3} Max M.,² Margolskee R.F.^{1,2} ¹*HHMI, Mount Sinai School of Med., New York, NY;* ²*Physiology & Biophysics, Mount Sinai School of Med., New York, NY;* ³*University of California, Irvine, CA*
- P54 **390** SIGNALING COMPONENTS OF THE IP₃ PATHWAY IN RODENT TASTE CELLS
Clapp T.R.,^{1,2} Stone L.M.,^{1,2} Margolskee R.F.,³ Kinnamon S.C.^{1,2} ¹*Anatomy/Neurobiology, Colorado State University, Fort Collins, CO;* ²*Rocky Mountain Taste and Smell Center, University of Colorado Health Sciences Center, Denver, CO;* ³*Howard Hughes Medical Institute, The Mount Sinai School of Medicine, New York, NY*
- P55 **391** MIXTURE SUPPRESSION AND ODOR SUPPRESSION OF CAMP-INDUCED CURRENT IN OLFACTORY RECEPTOR NEURONS
Yamada H., Nakatani K. *Biological Sciences, University of Tsukuba, Tsukuba, Japan*
- P56 **392** IMMUNO-LOCALIZATION OF INOSITOL TRISPHOSPHATE RECEPTORS IN MOUSE VOMERONASAL OLFACTORY EPITHELIUM
Lin W.,^{1,2} Restrepo D.^{1,2} ¹*Cellular and Structural Biology, University of Colorado HSC, Denver, CO;* ²*Rocky Mountain Taste and Smell Center, University of Colorado HSC, Denver, CO*
- P57 **393** ODOR RECEPTOR GENE EXPRESSION AND G PROTEINS IN THE OLFACTORY SYSTEM OF THE GOLDFISH
Birkholz D.A., Anderson K.T., Finger T.E. *Dept. Cellular & Structural Biology,*

Univ. Colorado Health Sci. Ctr., Denver, CO

- P58 **394** IMMUNOHISTOCHEMICAL AND ULTRASTRUCTURAL IDENTIFICATION OF G-PROTEINS IN THE OLFACTORY EPITHELIUM OF CATFISH
Hansen A., Anderson K.T., Finger T.E. *UCHSC, Denver, CO*
- P59 **395** RECONSTITUTION OF AN OLFACTORY RECEPTOR-ACTIVATED cAMP SIGNALLING PATHWAY IN A MAMMALIAN CELL LINE
Chirokova E.,¹ Bedner P.,² Niessen H.,² Willecke K.,² Krautwurst D.¹ *¹Molekulare Genetik, Deutsches Institut fuer Ernaehrungsforschung, 14558 Potsdam-Rehbruecke, Germany; ²Institut fuer Genetik, Universitaet Bonn, 53117 Bonn, Germany*

Conference Adjourns 12 noon

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