

List of Abstracts from the Thirty-first Annual Meeting of the Association for Chemoreception Sciences

The full content of these abstracts is available online at www.chemse.oxfordjournals.org.

Givaudan Lecture

Tuning up Circuits: BrainWaves, Immune Genes and Synapse Plasticity

Carla J. Shatz

Gustation

Wnt/B-Catenin Signaling Controls Taste Bud Regeneration in Mice

Linda A. Barlow, Fei Liu, Shoba Thirumangalathu, Elizabeth A. Harvey, Ping Wu and Sarah E. Millar

Fatty Acids Induce Increases in Intracellular Calcium in Type II and a Subset of Type III Mouse Taste Cells

Pin Liu, Bhavik Shah, Hala Hadawar and Timothy Gilbertson

GPR40 Knockout Mice Have Diminished Taste Responses to Fatty Acids

Sami Damak, Cristina Cartoni, Keiko Yasumatsu, Johannes le Coutre and Yuzo Ninomiya

Thermal Taste: Association with Perception of Oral Sensations and Food and Beverage Behavior

Martha R Bajec and Gary J Pickering

TRPA1 Sensory Agonism in Humans: Time Dependence

William S. Cain, Roland Schmidt and J. Enrique Cometto-Muñiz

Oral Disinhibition Varies With Taster Status: Unilateral Anterior Oral Anesthesia Produces Asymmetric Posterior Taste Loss in Nontasters

Derek J. Snyder, Frank A. Catalanotto, Patrick A. Antonelli and Linda M. Bartoshuk

Withdrawn

“Restrained Eaters” Show Abnormal and Differential fMRI Activation to Sucrose and Saccharin

Claire Murphy and Nobuko Kemmotsu

Gender Effects on Olfactory Processing

Axons of Gustatory Receptor 32a Expressing Neurons Extend their Terminal Throughout Adult Lifetime

Tetsuya Miyamoto and Hubert Amrein

Recognition of Sexual Cues in the Urine by Mouse Vomeronasal Organ

Ron Yu, Jie He, Limei Ma, Sangseong Kim and Junichi Nakai

Vomeronasal Reception of a Sex Peptide Pheromone ESP1 in Mice: the Receptor, Neural Circuitry, and Behavior

Kazushige Touhara

Differential Sensory Neuron Activation Underlies Gender Dimorphic Aggressive Behavior

Lisa Stowers, Pablo Chamero, Kelly Flanagan, Fabio Papes, Darren DW Logan, Toby F Marton and Angeldeep Kaur

Opposite-Sex Volatile Urinary Odors Detected by the Main and Processed Via the Accessory Olfactory System Contribute to Mate Recognition in Mice

Michael J. Baum, Ningdong Kang, Kristine M. Martel and James A. Cherry

Neural control of sexually dimorphic behaviors

Nirao Shah

Presidential Symposium: On Beyond Glomeruli

Functional Architecture of Inhibition in the Olfactory Bulb: Glomeruli and Beyond

Michael T Shipley

Olfactory systems theory

Thomas A. Cleland and Christiane Linster

Oscillatory Modes and the Role of Task Structure in Early Olfactory Processing

Leslie M. Kay

Rostral Olfactory Cortex

Kurt R. Illig

Olfaction in the wider world: The cortex and beyond

Joel Price

Development and Plasticity: First Central Chemosensory Relays

Charlotte M. Mistretta and David L. Hill

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Nucleotide-Mediated Signaling in the Olfactory Epithelium

Ivan Manzini, Thomas Hassenklöver, Silvia Kurtanska, Stephan Junek, Ilonka Bartoszek and Detlev Schild

Hyperpolarization-Activated Cyclic Nucleotide-gated Channels in Olfactory Sensory Neurons Mediate Axon Targeting and Glomerular Formation

Arie S Mobley, Alexandra M Miller, Lydia Maurer and Charles A Greer

Virus Infection Increases Mouse Pheromone Production

Koichi Matsumura, Maryanne Opiekun, Kenji Mori, Takuya Tashiro, Hiroaki Oka, Kunio Yamazaki and Gary Beauchamp

Increased Inhibition in the Olfactory Bulb Due to Newborn Neurons Allows Perceptual Learning

Nathalie Mandairon, Melissa Moreno, Christiane Linster, Olga Escanilla, Joelle Sacquet and Anne Didier

Opioid Modulation of Taste Encoding in the Amygdala

Sharif A Taha and Howard L Fields

Taste Cortex Contributes to Odor Quality Coding

Maria G Veldhuizen, Danielle J Nachtigal and Dana M Small

IFF Special Lecture

Keiko Abe

Reciprocal Interactions Between Primary Taste and Olfactory Processing Networks and Higher Cognition**Top-down Modulatory Influences on Central Encoding of Taste and Flavor in Humans**

Dana Small

Roles of Cognition and Attention in the Neural Processing of Taste and Odor

Edmund Rolls

Cognitive Influences on Taste Processing in the Gustatory Cortex, Orbitofrontal Cortex and Amygdala

Alfredo Fontanini

The Piriform Cortex Plays an Active Role in Olfactory-Guided Decision Making

Linda Hermer-Vazquez

Functional Evolution of Chemosensory Receptors**Positive Selection Shapes the Function of an Odorant Receptor for Sex-steroid Derived Odors in Primates**

Hanyi Zhuang, Mingshan Chien and Hiroaki Matsunami

Copy-Number Variation Map Obtained by High-Resolution Genomics Reflects Human Olfactory Receptor Diversity and Evolution

Jan Korb, Yehudit Hasin, Tsviya Olender, Alexander Eckehart Urban, Philip Kim, Jason Affourtit, Timothy Harkins, Michael Egholm, Michael Snyder, Doron Lancet and Mark Gerstein

Sequencing the Entire OR Gene Repertoire (and Other GPCRs) in a Large Number of Individuals

Yoav Gilad

Rapid Evolution of Two Odorant-Binding Protein Genes, *Obp57d* and *Obp57e*, in *Drosophila*

Takashi Matsuo

Bimodal Function of *Drosophila* Odorant Receptors

Dieter Wicher, Ronny Schäfer, Marcus C. Stensmyr and Bill S. Hansson

Making Sense of Fat Taste

Timothy A. Gilbertson

Ligand Specificities to Putative Fat Receptor Candidates**CD36 and GPR120 and Licking Behavior Corresponding to the Ligands in Mice**

Shigenobu Matsumura, Takeshi Yoneda, Ai Eguchi, Yasuko Manabe, Satoshi Tsuzuki, Kazuo Inoue and Tohru Fushiki

Fatty Acid Transduction in Chemosensory Cells

Tian Yu, Bhavik P. Shah, Pin Liu, Timothy A. Gilbertson

Oral Detection of Fatty Acids by Rats

David W. Pittman

Oral Detection of Free Fatty Acids in Humans

Richard D Mattes

Workshop: Computational Problems in Sequential Stages of Odor Processing**Exploring the Interaction between Odorants and Odorant Receptors using Functional and Computational Methods**

Charles W. Luetje, Sarah E. Repicky and Tatjana Abaffy

Modeling Diversity in the Signal Transduction of the Mouse Olfactory Receptor Neuron

Daniel P. Dougherty

Odorant Mixture Interactions in Rat Olfactory Receptor Neurons: Models and Experiments

Jean-Pierre Rospars, Petr Lansky, Michel Chaput and Patricia Duchamp-Viret

Odor Maps in the Mouse Olfactory Bulb

Venkatesh N Murthy, Dinu F Albeanu, Edward R Soucy and Markus Meister

Distributed Lateral Inhibition in the Olfactory Bulb: Anatomical Evidence and Functional Implications of Long-range Interactions of Mitral and Tufted Cells

Matthew E Phillips, Hetal K Patel, David H Kim, Gordon M Shepherd and David C Willhite

A Two-Stage Model of Odor Representation and Processing in the Olfactory Bulb

Thomas A. Cleland

Follow the Head, Not only the Nose: Top-Down Influences on Olfactory Perception**The Nose is Just the Beginning: Patterns, Objects and Experience in Olfaction**

Donald A. Wilson

Learning to Smell: Olfactory Perceptual Learning and its Ecological Impact

Wen Li

Expectations About Health Effects Alter Odor Perception

Monique A. Smeets and Patricia Bulsing

Implications for Remediation of Health Effects from Odor Exposure

Pamela Dalton

Olfaction and Cognitive Information Processing

Denise Chen

GABA in the Developing Olfactory System: From Generation to Differentiation

Harriet Baker

GABA Differentially Modulates Migration of SVZ Progenitor Subpopulations

Adam C Puche

GABA and Glutamate Interplay on Subventricular Zone Cell Production

Angelique Bordey

GABA-Enhanced Differentiation of the Olfactory Bulb Dopaminergic Phenotype

John W Cave, Yosuke Akiba and Harriet Baker

Dynamic Development of Synaptic Inputs on Maturing Interneurons in the Adult OB

Pierre-Marie Lledo, Antoine Nissant, Cedric Bardy, Hiro Katagiri and Kerren Murray

Transsynaptic Tracing Studies Suggest Combinatorial Gating of Olfactory Information is Mediated by GABAergic Interneurons in the Granule Cell Layer

David H Kim, Andrew Y Chang, Matthew E Phillips, Aurelie Pala, Hetal K Patel, Janna C Nawroth, Katherine T Nguyen, Michele Migliore, Gordon M Shepherd and David C Willhite

Olfactory and Vomeronasal Systems**Repertoire of Chemosensory Receptors from the Genome of the Jawless Vertebrate *Petromyzon marinus***

Scot V. Libants, Kevin Carr, John H. Teeter, Yu-wen Chung-Davidson, Curt Wilkerson and Weiming Li

Emx2 Stimulates Odorant Receptor Gene Expression and Controls OSN Axon Growth

Jeremy C. McIntyre, Soma C. Bose and Timothy S. McClintock

Investigations of Olfactory Receptor Internalizations

Sebastian Rasche, Anastasia Mashukova, Hanns Hatt and Eva M. Neuhaus

OMP Deletion Alters Functional Maturation of Single Olfactory Sensory Neurons

Anderson C Lee and Minghong Ma

Sensory Adaptation in the Vomeronasal Organ

Frank Zufall, Silke Hagendorf, Jan Weiss, Marc Spehr, Trese Leinders-Zufall and Jennifer Spehr

First Order Blend Processing in the Moth Antennal Lobe

Linda S. Kuebler, Shannon B. Olsson and Bill S. Hansson

Translation of Olfactory Input into Behavioral Output in the *Drosophila* Larva

Shelby A. Montague, Dennis Mathew and John R. Carlson

Evidence for a Chemosignal in Human Tears

Shani Gelstein, Liron Rozenkranz, Yaara Yeshurun, Yehuda Roth and Noam Sobel

Poster Session I: Chemosensory Disorders, Models and Aging/Central Chemosensory Circuits**Taste Disturbances after Tonsillectomy – Results of a Prospective Study**

Clemens Heiser, Sabine Frey, Karl Hörmann and Boris Stuck

Long-term Olfactory Outcome in Patients with Mild Traumatic Brain Injuries (mTBI)

Faye Pesenti, Alain Ptito and Jelena Djordjevic

Volatile Biomarkers for Human Melanoma Cells

Jae Kwak, Hakan Ozdener, Michelle Gallagher, Charles J Wysocki, Adam Faranda, Amaka Isamah, Steve S Fakharzadeh, Christopher J Miller and George Preti

Olfactory Function in Childhood Maltreatment and Post-Traumatic Stress Disorder

Ilona Croy, Julia Schellong and Peter Joraschky

“Anosmic Smell”: Residual Olfactory Function Following Hemispherectomy

Jelena Djordjevic, Faye Pesenti and Alain Ptito

The perception of malodors: An fMRI Study of Age and Gender Related Differences Between Pre and Post Puberty Subjects

Thomas Hummel, Arianne Baur, Cornelia Hummel and Anita Chopra

Odor Judgments in First Episode and Chronic Schizophrenia Patients

Claudia I. Rupp, Georg Kemmler, Thomas Walch, Arne W. Scholz, Martina Klimbacher, Theresia Lechner, Hartmann Hinterhuber and Wolfgang W. Fleischhacker

Odor Discrimination in Mouse Models of Schizophrenia

Jennifer L. Hellier, Nicole L. Arevalo, Catherine E. Adams and Diego Restrepo

A Timeline for Parkinson’s Disease

Christopher H Hawkes, Kelly Del Tredici and Heiko Braak

Functional MRI (fMRI) in Parkinson’s Disease Patients Reveals Differences According to the Degree of Hyposmia

Antje Welge-Luessen, Elise Wattendorf, Uta Schwerdtfeger, Peter Fuhr, Deniz Bilecen, Thomas Hummel and Birgit Westermann

Scent Marking and Countermarking Behaviors as a Measure of Olfactory Communication in the BTBR T+tf/J Inbred Strain, a Mouse Model of Autism

Florence I. Rouillet, Markus Wöhr, Mu Yang and Jacqueline N. Crawley

Taste Damage Following Radiation Treatment for Head and Neck Cancer

Henrietta L. Logan, Linda M. Bartoshuk, Vicki D. Mayo and William M. Mendenhall

The Use of Odours as Emotional Triggers in the Study of Dysfunctional Brain Regions in Bipolar Disorder –an fMRI Study

Simona Negoias, Emilia Iannilli, Stephanie Krueger, Johannes Gerber and Thomas Hummel

Mind Over Age – SOCIAL Priming and Olfactory Function

Eva C. Alden, Amy R. Gordon, Monica Hernandez, Mats J. Olsson and Johan N. Lundstrom

Faster Cognitive Processing of Olfactory Stimuli in an Active Task, Even in Old Age

Charlie D. Morgan, Krystin M. Corby and Claire Murphy

Functional Connectivity of Olfactory Processing During a Hedonic Evaluation Task in Young and Older Adults

Erin R. Green, Lori Haase and Claire Murphy

Functional Connectivity During an Olfactory Recognition Memory Paradigm is Associated with Task Performance and the e4 Allele of the Apolipoprotein E (ApoE) Gene

Lori Haase, Erin Green and Claire Murphy

Olfactory, But not Gustatory Function, Correlates with BMI and Depressive Symptoms in the Elderly

Sanne Boesveldt, Thomas Hummel, Stacy Tessler Lindau and Johan N Lundstrom

Prevalence of Olfactory Impairment in Adults across the Life Span: The Beaver Dam Offspring Study

Carla R. Schubert, Karen J. Cruickshanks, Elizabeth M. Krantz, Guan-Hua Huang, Barbara E.K. Klein, Ronald Klein and James S. Pankow

ApoE Status and Differences in Olfactory Detection Across the Lifespan

Krystin M. Corby, Charlie D. Morgan and Claire Murphy

Influence of Cognitive Status on Olfactory Threshold Variability

Brittany N. Carlisle, Jason M. Bailie, Lloyd Hastings, Katie Pointer, Katie VanDeGrift and Robert A. Frank

Olfactory Perceptual Correlates of β -Amyloid Plaque Burden in Alzheimer's Disease Mouse Models

Daniel W. Wesson, Efrat Levy, Ralph A. Nixon and Donald A. Wilson

Toxin-Induced Chemosensory Dysfunction: A Case Series and Review

Wendy M. Smith, Terence M. Davidson and Claire L. Murphy

Gene-targeted Deletion of E2F1 Evokes Olfactory Deficits, Memory Loss, and Increased Anxiety

David R. Marks, Ying Wang and Kelly Jordan-Sciutto

Social Anxiety and Reduced Recruitment of Orbitofrontal Cortex to Human Social Chemosensory Cues

Kathy Zhang, Wen Zhou and Denise Chen

***Toxoplasma gondii* Infects Olfactory Structures in the Mouse: a Possible Mechanism for Host Manipulation by Influencing Olfactory Function**

Ann E. Jorgensen, Corrie N. Hiltbrand, Gustavo Arrizabalaga, Mark D. Lavine and Kevin R. Kelliher

Sexual Dimorphism in Olfactory Bulb Structure

Willi Bennegger and Elke Weiler

Heterogeneous Sensory Innervation of Individual Necklace Glomeruli

Renee E. Cockerham, Adam C. Puche and Steven D. Munger

Spatial Analysis of Olfactory Bulb Activity in the Sea Lamprey

Warren W Green, Sana Ahmed, Dominique Derjean, Réjean Dubuc and Barbara S Zielinski

Spatial Representations of Natural Odor Objects Across the Glomerular Layer of the Rat Olfactory Bulb

Brett A. Johnson, Joan Ong and Michael Leon

Analysis of Responses to Musk Odorants in Olfactory Sensory Neurons and in the Main Olfactory Bulb

Mika Shirasu and Kazushige Touhara

Input Driven Synchrony of Oscillating Olfactory Receptor Neurons: A Computational Modeling Study

Il Park, Yuriy V. Bobkov, Kirill Ukhanov, Barry W. Ache and Jose C. Principe

Increase in Number of Androgen Receptor Immunoreactive Cells in the Medial Amygdala of Male Hamsters in Response to Chemosensory Input

Camille B Blake and Michael Meredith

Cytokine Profiles in Nasal Lavage Fluid of Patients with Chronic Rhinosinusitis

M. Hakan Ozdener, Karen K Yee, Beverly J Cowart, Aldona A Vainius, Pu Feng and Nancy E Rawson

Voltage-Sensitive Dye Imaging of Odor Evoked Activity Patterns in the Trigeminal Ganglion *in vivo*

Markus Rothermel, Benedict Ng, Hanns Hatt and Dirk Jancke

Microglial Response in the Nucleus of the Solitary Tract after Chorda Tympani Nerve Injury

Dianna L Bartel and Thomas E Finger

Convergent Innervation Patterns of the Chorda Tympani and Glossopharyngeal Nerves onto Nucleus of the Solitary Tract Projection Neurons

James A. Corson and Alev Erisir

Synaptic Profile of Amygdala Terminals in Rodent Brainstem Gustatory Nuclei

Lydia N. Kullman and Robert F. Lundy

Activation of the Dorsal Motor Nucleus of the Vagus Nerve Modulates Taste Responses of the Neurons in the Parabrachial Nuclei

Cheng-Shu Li

Taste Responsive Multipolar and Elongated Neurons in Hamster Nucleus of the Solitary Tract (NST) Project Differentially to Targets in the Brainstem: An In-Vivo Intracellular Recording, Labeling, and Tracing Study

Cheng-Xiang Li, QiuHong Yang, Cheng-Shu Li, David V. Smith and Robert S. Waters

Analysis of Spike Train Variability in Chemosensory Neurons Within the Rat Geniculate Ganglion

Alexandre A Nikonov, Vernon Lawhern and Robert J Contreras

Neuron Survival and Central Terminal Field Persistence Despite Limited Peripheral Regeneration of the Injured Chorda Tympani Nerve in Adult Rats

Rebecca Reddaway and David L. Hill

A Network Model of Taste Processing in the Nucleus of the Solitary Tract

A.M. Rosen, H. Sichtig, J.D. Schaffer and P.M. Di Lorenzo

Linoleic Acid Does Not Enhance Chorda Tympani Nerve Responses to Sucrose, Citric Acid and Quinine Hydrochloride

Jennifer M Stratford and Robert J Contreras

Improvement of Olfactory Function in Patients Treated for Chronic Rhinosinusitis is Related to Increasing Olfactory Bulb Volume

Volker Gudziol and Dorothee Buschhüter

Terminal Field Organization of the Chorda Tympani, Greater Superficial Petrosal, and Glossopharyngeal Nerves in Nucleus of the Solitary Tract in C57BL/6J Mice

Chengsan Sun and David Hill

Characteristics of Convergent Synaptic Activity Between the Caudal Brainstem Gustatory Nucleus and Neurons in the Chorda Tympani Terminal Field Projecting to the Parabrachial Nucleus

Takeshi Suwabe and Robert M. Bradley

A Murine Model for Induced Allergic Rhinitis

Virginia McM. Carr, Alan M. Robinson and Robert C. Kern

Objective Evaluation of the Impact of Chronic Rhinosinusitis (CRS) on Olfactory Function

Kai Zhao, Edmund A. Pribitkin, Nancy E. Rawson, David Rosen, Christopher T. Klock, Aldona A. Vainius, Pamela Dalton and Beverly J. Cowart

Palinomia: Olfactory Perseveration

Alan R Hirsch

Bimodal Odorant Perception in Anosmic Subject: a fMRI Study

Emilia Iannilli, Thomas Bitter, Hilmar Gudziol, Hartmut Burmeister and Anita Chopra

Poster session II: Chemosensory response to, and control of, feeding/ Neuroethology**The Nutritional Significance of Oral Starch Digestion**

Abigail L. Mandel, Kimberly L. Plank and Paul A.S. Breslin

Characterization of Off-Odor Development in Human Milk During Storage at -18 °C

Johanna Spitzer and Andrea Buettner

Chronic Otitis Media is Associated with a Marker of Taste Damage and Higher Weight Status in Children

Alison K. Ventura, Danielle R. Reed and Julie A. Mennella

Food Liking, Ear Infections and Body Mass Index Among Preschoolers

Kerah Kennedy, Heather L. Harrington, Stephanie Scarmo and Valerie B. Duffy

Odor Intensity, Diet and Nutrition-Related Health Indices Among Females

Katryna R. Minski and Valerie B. Duffy

Taste Loss, Retronasal Olfaction Loss and Reduced Food Liking

Jennifer J. Stamps, Linda M. Bartoshuk and Derek J. Snyder

Bitesize is Affected by Food Aroma Presented at Sub- or Peri Threshold Concentrations

Rene A de Wijk, Ilse A. Polet and Johannes HF Bult

Similarities in Food Cravings and Mood States between Obese Women and Women who Smoke Tobacco

Susana Finkbeiner, M. Yanina Pepino and Julie A. Mennella

PROP Sensitivity and Dietary Intake of Antioxidant-Rich Foods

Yvonne Koelliker, Beverly J. Tepper, James E. Simon and John R. Burgess

Association of a *TAS2R38* Polymorphism and the Eating Behavior Disinhibition in a Female Amish Cohort

Cedrick D. Dotson, Hillary Shaw, Steven D. Munger and Nanette I. Steinle

Modulation of Sweet Taste Sensitivity by Glucagon Signaling in Taste Buds

Amanda E.T. Elson, Cedrick D. Dotson, Josephine M. Egan and Steven D. Munger

Sweet Receptor Gene (*Tas1r2*) Structure and Preference for Sweet Stimuli in Species of Carnivora

Joseph G. Brand, Dieter Glaser, Weihua Li, Gary K. Beauchamp and Xia Li

GABA-A Receptor Activation Influences Consumption of Appetitive and Aversive Tastants

David W. Pittman, Molly McGinnis, Elizabeth Miller, Lindsey Richardson and John-Paul Baird

Conditioned Preferences for Glucose and Fructose in T1R3 KO and TRPM5 KO Mice

Steven Zukerman, Robert F. Margoskee and Anthony Sclafani

Nutrient-Specific Preferences in *trpm5* Knockout Mice

Xueying Ren, Jozelia G Ferreira, Jenny Tong, Catherine W Yeckel and Ivan E de Araujo

Taste Receptor T1R3 is Involved in Detection of Ethanol Flavor in Mice

Vladimir O. Murovets, Vasily A. Zolotarev, Robert F. Margoskee and Alexander A. Bachmanov

Effect of *kokumi* Taste Active Peptides on Amiloride-Insensitive Salt Taste Preference in C57BL/6J Mice

MeeRa Rhyu, Ah-Young Song, Keiko Abe and Vijay Lyall

Responses of *Trpv1* Knockout Mice to Trigeminal Irritants in Two Different Behavioral Assays

CJ Saunders, Winston Y Li, Tuls D Patel, Bo-Shan Xiang and Wayne L Silver

Sweet Stimuli Elicit Differential Responses in the Chorda Tympani Nerve of Obesity-Resistant Rats Compared to Obesity-Prone Rats

Kimberly R. Smith and David W. Pittman

The Perceptual Consequences of Salt Appetite in Rats

Steven J. St. John, Anya C. Marshall and Erin Krauskopf

Rat as a Model for the Study of Multimodal Integration of Flavor

Shree H. Gautam and Justus V. Verhagen

Mouse Strain Differences in Conditioned Taste Aversion Formation, Generalization and Extinction using a Self-administration Paradigm

April R. Glatt, Kenichi Tokita Jr. and John D. Boughter Jr

Beyond *Tas1r3*: Identification of Other Loci Affecting Consumption of Sweet-Tasting Compounds

Natalia P. Bosak, Maria L. Theodorides, Cailu Lin, Zakiyyah Smith, Gary K. Beauchamp and Alexander A. Bachmanov

The Benzamil (Bz)-Insensitive NaCl Chorda Tympani (CT) Taste Nerve Responses Demonstrate Increased Sensitivity to TRPV1 Modulators in Alcohol-preferring (P) Rats

Vijay Lyall, Tam-Hao T. Phan, Shobha Mummalaneni, Pamela Melone, Jamison Coleman and John A. DeSimone

Central Neural Sensitivity to Ethanol and Other Taste Stimuli in Selectively Bred Ethanol-Preferring and Ethanol-nonpreferring Rats

Christian H Lemon and Susan M Brassler

Integrative Studies of the Relationship Between Feeding Condition and the Rat Olfactory Bulb Responses

Anan Li, Xiaoping Rao, Lihong Jiang, Kevin Bahr, Gordon M. Shepherd and Fuqiang Xu

Resistance to Obesity Following *Kv1.3*-gene Targeted Deletion is Inhibited by Olfactory Bulbectomy

Kristal R Tucker, Melissa A Cavallin, J Michael Overton and Debra A Fadool

Experimental Anosmia Abolishes Avoidance of Ethanol Solutions in 129P3/J Mice

Vasily A. Zolotarev, Anastasia O. Shabolina, Vladimir O. Murovets and Alexander A. Bachmanov

Maillard Reacted Peptides (MRPs) Modulate Benzamil (Bz)-insensitive NaCl Chorda Tympani (CT) Taste Nerve Responses and Blood Pressure (BP) in Dahl Salt-sensitive Rats

Shyama Masilamani, Jamison Coleman, Pamela Melone, Shobha Mummalaneni, Tadayoshi Katsumata, John A DeSimone and Vijay Lyall

Regulation of Release of Endogenous Opioids from Duodenal Brush Cells Requires *Trpm5*

Zaza Kokrashvili, Robert F Margoskee and Bedrich Mosinger

Differential Effects of GLP-1 Agonist on Brief- and Long-Access Sucrose Preferences in Lean and High Fat Diet-Induced Obese Rats

Andras Hajnal,, Derek M. Culnan and Robert N. Cooney

State-dependent Yeast Intake in *Drosophila melanogaster*

Osama Ahmed, Beth Gordesky-Gold and Paul A. S. Breslin

A Behavioral Assay using *Drosophila* to Test for Chemesthetic Irritants Activating TRPA1 Channels

Wayne L. Silver, Matthew W. Greene, Paige M. Roe and Erik C. Johnson

Intake of Fructose and Sucrose Solutions as a Function of Concentration

Jennifer A. Cassell, James C. Smith and Thomas A. Houpt

Antennular Waving in Spiny Lobsters is Enhanced by Odorants: A 3D Kinematic Analysis

Peter C. Daniel and Calvin Carter

The Effect of Sniffing Frequency on Odor Behavior

Keiichi Tonosaki

Detailed Analysis of the Effects of Periodic Input on Behavioral Measures of Odor Detection in the Moth *Manduca sexta*

Mandy N. Hatfield, Faizan R. Kalwar and Kevin C. Daly

Periodic Odor Stimulation Affects Antennal Input, Antennal Lobe Processing, and Behavioral Measures of Perception in the Moth *Manduca sexta*

Kevin C. Daly, Shreejoy Tripathy, Erich M. Staudacher, Oakland J. Peters, Mandy N. Hatfield and Faizan R. Kalwar

Attraction of Female Round Gobies to Steroids Released by Males

Matthew R. Kereliuk, Yogesh Katare, Keith Tierney, Alyson Laframboise, Alexander P. Scott and Barbara S. Zielinski

Androstene May Show Pheromonal Activity in Mice

Vera V. Voznessenskaya and Maria A. Klyuchnikova

The Induction of Pregnancy Block in Mice by Saliva via the Vomeronasal Organ

Roger N Thompson, Murtada Taha, Audrey Napier and Kennedy S Wekesa

Sea Hares Chemically Defend Themselves from Predatory Blue Crabs and Bluehead Wrasse using Light-Harvesting Molecules in their Algal Diet

Michiya Kamio, Linh Nguyen, Tiphani V. Grimes, Matthew Nusnbaum, Melissa H. Hutchins, Seyma Yaldiz, Robyn van Dam and Charles D. Derby

Role of Octopamine in Moth Olfaction

Kirk Hillier

Flavor Identification and Memory in Children

Melinda S Brearton, Brittany Carlisle, Katheryn Pointer, Erica Mannea, Konstantin Rybalsky and Robert A Frank

Millisecond Photoactivation of Bombykol Receptor Neurons Expressing Channelrhodopsin-2 Triggers Pheromone Searching Behavior in Male Silkworms

Masashi Tabuchi, Takeshi Sakurai, Hidefumi Mitsuno, Ryo Minegishi, Shuichi S. Haupt, Takahiro Shiotsuki, Keiro Uchino, Hideki Sezutsu, Toshiki Tamura, Kei Nakatani and Ryohei Kanzaki

Olfactory Thresholds of Elasmobranchs

Tricia L Meredith and Stephen M Kajjura

Cycloheximide: an Effective Taste Aversion UCS

Bradley K Formaker, Kumudini Chintalapati, Thomas P Hettinger and Marion E Frank

Enantioselective Odorant Receptor in the Yellow Fever Mosquito, *Aedes aegypti*

Jonathan D. Bohbot and Joseph C. Dickens

Relationships between Early Dietary Experiences and Acceptance of the Basic Tastes during Infancy

Catherine A. Forestell, Gary K. Beauchamp and Julie A. Mennella

How Do Taste and Nutritional Feedback from the Gut Interact to Determine Daily Sugar Intake?

John I Glendinning, Frans Beltran, Sabrina Cheng, Jade Gieseke and Heather N Spain

Intensity of 6-n-propylthiouracil (PROP) Taste, Food Preferences, and Obesity: The Beaver Dam Offspring Study

Karen J Cruickshanks, Carla R Schubert, Derek J Snyder, Linda M Bartoshuk, Guan-Hua Huang, Barbara EK Klein, Ronald Klein and Elizabeth M Krantz

Perception of Threshold and Suprathreshold Taste Stimuli in Obese and Normal-Weight Women

M. Yanina Pepino, Susana Finkbeiner, Gary K. Beauchamp and Julie A. Mennella

Poster session II: Cortical Chemosensory Processing/Receptor Genomics and Molecular Biology**Group III Metabotropic Glutamate Receptors Modulate Transmission of Taste Information in Primary Taste Afferents**

Robert M Hallock

Poster session III: Cortical Chemosensory Processing/Receptor Genomics and Molecular Biology**Odor Quality Coding and Categorization in Human Posterior Piriform Cortex**

James D. Howard, Jane Plailly, Marcus Grueschow, John-Dylan Haynes and Jay A. Gottfried

Anterior Olfactory Nucleus: A Golgi Study of Dendritic Morphology

Peter C. Brunjes and Michael Kenerson

Detecting the Taste-Specific Temporal Type by fMRI – Salty and Sweet-

Yuko Nakamura, Tazuko K Goto, Kenji Tokumori, Takashi Yoshiura, Koji Kobayashi, Yasuhiko Nakamura, Hiroshi Honda, Yuzo Ninomiya and Kazunori Yoshiura

Low Bulbar NE Concentration Modulates Odor Detection Whereas Higher Concentrations Modulate Discrimination

Olga D Escanilla, Matthew Ennis and Christiane Linster

The Effect of Unilateral Naris Occlusion on Gene Expression in the Mouse Olfactory Mucosa and Bulb

David M. Coppola, Yan Zhang and Oswald R. Crasta

Anterior Olfactory Nucleus Projections Target the Olfactory Bulb

Kurt R. Illig

Activation Likelihood Estimation (ALE) Meta-Analysis of Human Functional Brain Imaging Data Following Trigeminal Stimulation of the Nasal Mucosa with Carbon Dioxide (CO₂)

Jessica Albrecht, Rainer Kopietz, Martin Wiesmann, Thomas Hummel and Johan N. Lundstrom

Subnuclear Organization of Parabrachial Taste Neurons Projecting to Reward-Related Forebrain Structures in C57BL/6J Mice

Kenichi Tokita and John D. Boughter

Cloning and Localization of Four Putative Serotonin Receptors in the Primary Olfactory Pathway of the Moth *Manduca sexta*

Wujie Zhang, Mike A. Miller, Akshay Muralidhar, Joel B. Dacks, Andrew M. Dacks and Alan J. Nighorn

OR37 - Receptors: a Unique Subfamily of Olfactory Receptors

Heinz Breer, Hoppe Rainer, Zhang Yongquan and Strotmann Jörg

Perceptual Decision-Making in the Human Olfactory Brain

Nicholas E. Bowman, James D. Howard, Konrad P Kording and Jay A. Gottfried

A Novel Chemical-Informatics Method to Decode Odor Receptor Chemical Space

Sean M Boyle and Anandasankar Ray

Correlation Between Olfactory Function and Volume of Hippocampus / Amygdala

Stefan Puschmann, Dorothee Buschhüter, Martin Smitka, Johannes Gerber and Nancy Honeycutt

Characterizing Olfactory Sub-genome through Custom Microarrays

Xiaohong Zhang, Florencia Marcucci, Dongjing Zou and Stuart Firestein

Next Generation Sequencing as a Tool for Comprehensive Variation Analyses of Human Olfactory Receptor Genes

Yehudit Hasin, Tsviya Olender, Miriam Khen, Ifat Keydar, Hans Lehrach, Marcus Albrecht, Bernd Timmerman, Daniel Reed, Charles J. Wysocki, Jan Korbelt and Doron Lancet

OR5D3P, a Pseudogene with a Functional Activity Potential

Alex Veithen, Magali Philippeau, Françoise Wilkin and Pierre Chatelain

Identification and Characterisation of a Carboxylic Acid-Responding Human OR

Magali Philippeau, Alex Veithen, Françoise Wilkin and Pierre Chatelain

High Incidence of Charged Amino Acids in the Third Extracellular Loop of Olfactory Receptors: Linking Receptor Structure to Olfactory Perception

Hadas Lapid, Rehan Khan, Tsviya Olender, David Harel, Ron Naaman, Doron Lancet and Noam Sobel

Plasticity in Expression of Chemoreceptor Genes in *Drosophila melanogaster*

Shanshan Zhou, Trudy F. C. Mackay and Robert R. H. Anholt

Role of Plasma Membrane Calcium ATPases in Mouse Olfactory Neurons

Samsudeen Ponissery Saidu, Megan S. Valentine, Rona J. Delay and Judith L. Van Houten

Expression of Canine b-Defensin (CBD103) and Olfactory Marker Protein (OMP) in the Canine Nasal Cavity

Edward E. Morrison, Shelly Aono, John C. Dennis and Jishu Shi

Experience-Dependent Modulation of Odor Mixture Coding and Perception

Keng Nei Wu, James D Howard and Jay A Gottfried

Endothelin Modulates both Short-Term Kinetics of Odorant Detection and Long-Term Cellular Population Dynamics in Olfactory Mucosa

Nicolas Meunier, Elodie Gouadon, Didier Durieux, Denise Grebert, Christine Baly, Martine Sautel, Roland Salesses, Monique Caillol and Patrice Congar

Neuroanatomical Correlates of Olfactory Function

Johannes Frasnelli, Johan N Lundstrom, Julie A Boyle, Jelena Djordjevic, Robert J Zatorre and Marilyn Jones-Gotman

Mechanisms of Constitutive and ATP-Evoked Release of ATP from Neonatal Mouse OE Stores

Sebastien Hayoz and Colleen C Hegg

CNGA2 Heterozygous Mice with a Knockout TRPM5 Show Fewer Glomeruli Targeted by OSNs with Nonfunctional CNGA2

David A. Dunston, Wangmei Luo and Weihong Lin

Differences in Matrix Metalloproteinase-2 Expression Following Two Olfactory Injury Models

Steve R. Bakos, James E. Schwob and Richard M. Costanzo

Identification of Taste Bud-Associated Genes

Bryan D Moyer, Peter Hevezi, Na Gao, Min Lu, Fernando Echeverri, Bianca Laita, Dalia Kalabat, Hortensia Soto, Albert Zlotnik and Mark Zoller

Functional Characterization of Two Fatty Acid Activated GPCRs Expressed in the Mammalian Gustatory System

Han Xu, Jason Montez, Stephen Gravina, Mark Dewis, Tian Yu, Bhavik P. Shah and Timothy A. Gilbertson

Genetic and Molecular Basis of Individual Differences in Human Umami Taste Perception

Noriatsu Shigemura, Shinya Shirotsaki, Keisuke Sanematsu, Yoko Ogiwara, Misako Kawai, Ryusuke Yoshida and Yuzo Ninomiya

Genetic Mutations and Bitter Taste Sensitivity to Four Substances

Stephen Wooding, Natacha Roudnitzky, Claudia Batram, Jenny Stehr, Marcel Winnig, Christina Kuhn and Wolfgang Meyerhof

Identification of the Interaction Site for Gymnemic Acid at the Sweet Taste Receptor T1R2+T1R3

Keisuke Sanematsu, Noriatsu Shigemura, Masafumi Jyotaki, Seiji Nakamura, Toshiaki Imoto and Yuzo Ninomiya

The Role of the Visual Cortex in Olfactory Processing: an rTMS Study

Johan N. Lundstrom, Michael Waterston, Jahan Jadaui, Christopher C. Pack and Jelena Djordjevic

TAS1R1-Intronic SNP Associations with Liking for Dietary Sources of Glutamate and for Orosensory Intensity

Shristi Rawal, Margaret R. Wallace, John E. Hayes, Linda M. Bartoshuk, Taimour Y. Langae, Andrew Sholudko and Valerie B. Duffy

Key Amino Acid Residues Involved in Multi-Point Binding Interactions of Sweet Protein, Brazzein, with the T1R2-T1R3 Human Sweet Receptor

Fariba Assadi-Porter, Emeline L Maillet, James Radek, John L Markley and Marianna Max

Orbitofrontal Lesions and Hypersensitivity to Olfactory Stimuli

Julie A. Boyle and Marilyn Jones-Gotman

Structural Requirements for Bitter Taste Receptor Activation

Maik Behrens, Anne Brockhoff, Giovanni Appendino and Wolfgang Meyerhof

Immunohistochemical Analysis of Human Fungiform Papillae

Luba Dankulich-Nagrudny, Nancy Rawson, Frank Kim and Paul A. S. Breslin

Subtypes of T Lymphocytes in Healthy Human Fungiform Papillae

Pu Feng and Paul A.S. Breslin

Neutrophil Infiltration Impairs Peripheral Taste Function

Liqiao Shi and Lynnette McCluskey

Mouse Taste Buds Express Vesicular Glutamate Transporter Type 2

Leslie Stone, Catherine Anderson, Daniel Goldberg and Sue Kinnamon

Serotonin Inhibits ATP Secretion in Mouse Taste Buds

Yijun A. Huang and Stephen D. Roper

Expression of an Inwardly-Rectifying Potassium Channel (ROMK) in Mouse Glial-like Taste Cells

Gennady Dvoryanchikov, Michael Sinclair and Nirupa Chaudhari

Cortical Processing of Learned Aversive Odors in Awake Rats

Chien-Fu F Chen and Donald A Wilson

Strategy for Recombinant Expression of Functional N-Terminal Domain of Human T1R3 Taste Receptor Produced in *Escherichia coli*

Elodie Maitrepierre, Maud Sigoillot and Loïc Briand

Identifying TRPA1 Agonists by Monitoring Intracellular Calcium Levels in HEK Cells

Paige M. Roe, Erik C. Johnson and Wayne L. Silver

In Vitro* Nematocidal Activity of TRPA1 Active Compounds from *Perilla frutescens

Angela Bassoli, Gigliola Borgonovo, Sara Caimi, Gabriella Morini and Francesco D'Errico

Olfactory Rivalry: Competing Olfactory Processing Between the Two Nostrils and in the Cortex

Wen Zhou and Denise Chen

Is There a Difference in Odor Processing in Response to Left vs. Right-Sided Odor Stimulation?

Anna M. Kleemann, Jessica Albrecht, Veronika Schöpf, Rainer Kopietz, Katrin Haegler, Rebekka Zerneck, Marco Paolini, Imke Eichhorn, Jennifer Linn, Hartmut Brückmann and Martin Wiesmann

Brain Representation of Subjective Pleasantness

Yaara Yeshurun, Yadin Dudai and Noam Sobel

Olfactory Intensity Coding: an fMRI Study

Anat Arzi, Yaara Yeshurun and Noam Sobel

Development and Testing of a Neural Recording System for Chemosensory Behavioral Neuroscience

Robert Rennaker and Donald Wilson

The Effect of Learning and Attention on Odor Responses in Piriform Cortex

Jennifer D Whitesell, Wilder Doucette and Diego Restrepo

Mapping Local Inhibitory Circuits in the Rat Piriform Cortex using Photostimulation of Caged Glutamate

Victor M. Luna and Diana L. Pettit

The Olfactory Bulb as Cortical Model System

Thomas A. Cleland

Poster session IV: Chemosensory Transduction and Perireceptor Events**PI3K-Gamma in Olfactory Signal Transduction in Mice**

Daniela Brunert, Kirill Y. Ukhanov, Elizabeth A. Corey and Barry W. Ache

Differential Sensitivity to Monosodium Glutamate in Type II and Type III Taste Cells

Aurelie Vandenbeuch, Catherine B. Anderson and Sue C. Kinnamon

The Second Messenger Pathways in TRPC2 Knockout Mouse Vomeronasal Sensory Neurons

Chun Yang, Peng Zhang and Rona J Delay

PI3K Mediated Signaling in Lobster Olfactory Signal Transduction

Elizabeth A Corey, Adeline Pezier, Katharina Klasen and Barry W Ache

Different Response Properties Between Type II and Type III Taste Bud Cells in Mouse Fungiform Papillae

Ryusuke Yoshida, Toshiaki Yasuo, Yoshihiro Murata, Masashi Jyotaki, Yuchio Yanagawa, Kunihiko Obata, Hiroshi Ueno, Robert F. Margolskee and Yuzo Ninomiya

Receptor-Dependent PIP2 Resynthesis Restores Sweet and Bitter Inhibitions of Potassium Currents

Fang-li Zhao and Scott Herness

Native TRPM5 Currents Recorded from Posterior Rat Taste Receptor Cells

Fangli Zhao, Luc Jaber, Randy Hivley and Scott Herness

Novel Insights into Odorant Recognition: A Computational and Functional Analysis of Ligand Binding to the Human Olfactory Receptor OR2AG1

Lian Gelis, Steffen Wolf, Klaus Gerwert, Hanns Hatt and Eva M. Neuhaus

Olfactory Neuron Response Statistics: a Cross Species Analysis

Rafi Haddad, David Harel and Noam Sobel

Determinants of Agonist Sensitivity in an Insect Olfactory Receptor

Andrew S. Nichols and Charles W. Luetje

Visualization of Assayed Olfactory Chemical Space

Zita Peterlin, Armen Enikolopov and Stuart Firestein

Phosphoinositide-3-kinase Dependent Signaling in Mammalian Olfactory Receptor Neurons

Kirill Ukhanov, Elizabeth A. Corey, Katharina Klasen, Daniela Brunert and Barry W. Ache

The Effects of Membrane Permeant and Impermeant Carbonic Anhydrase Inhibitors on the EOG and NMP Responses to CO₂ in Mice

Lee Coates, Tabitha L. Novosat, Ryan J. Hanson, Shane P. Hennessy and Jessica K. Kenemuth

Identification of a Novel Calcium Activated Chloride Channel in the Cilia of Olfactory Sensory Neurons: TMEM16b

Stefan Kurtenbach, Sebastian Rasche, Bastian Tötter, Jenny Adler, Astrid Tschapek, Hanns Hatt, Bettina Warscheid and Eva M. Neuhaus

Biotransformation of Odorants Modifies the Olfactory Signal

Nicolas Thiebaud, Stéphanie Vélouso Da Silva, Ingrid Jakob, Gilles Sicard, Yves Artur, Jean-Marie Heydel and Anne-Marie Le Bon

Homeostatic Control of Sensory Output in Basal Vomeronasal Neurons: Activity-Dependent Expression of *Ether-à-Go-Go* Related Gene Potassium Channels

Silke Hagendorf, Corinna Engelhardt, Daniela Fluegge and Marc Spehr

Movement of Pheromone Inside Insect Olfactory Sensillae

Thomas M Dykstra

Pathophysiological Role of ENaC in a Mammalian Model of Diabetes

Arian F Baquero, Stephanie Croasdell and Timothy A Gilbertson

Response Latency to Lingual Chemical Stimulation Distinguishes Neuron Types within the Geniculate Ganglion

Joseph M Breza, Alexandre Nikonov and Robert J Contreras

Cell-Cell Communication in Intact Taste Buds Through ATP Signalling

Robin P Dando and Stephen D Roper

Taste Cells Express and Secrete Glucagon-Like Peptide 1

Zaza Kokrashvili and Robert F. Margolskee

Sodium/Calcium Exchangers Selectively Contribute to the Regulation of Cytosolic Calcium Levels in Mouse Taste Cells

Agnieszka I. Laskowski and Kathryn F. Medler

The Multiple PDZ Domain Protein 1 (MUPP1) – Role in the Olfactory Signal Transduction Cascade

Sabrina Baumgart, Ruth C. Dooley, Hanns Hatt and Eva M.

Gurmarin Inhibits the Sweet Receptor by Binding to the Venus Fly Trap Module of T1R3

Emeline L. Maillet, Laura Pelletier, Timothy J. Cardozo, Jeniffer Quijada, Prisca Silie, Baohua Zhao, Yuzo Ninomiya, Marianna Max and Robert F. Margolskee

Effect of Inosine Monophosphate (IMP) on Taste Perception of Methionine and Valine by Mice

Yuko Murata, Alexander A. Bachmanov and Gary K. Beauchamp

Mitigation of Irradiation Effects on Taste Epithelium in the Protein Kinase C Delta Null Mouse

H.M. Nguyen, M.E. Reyland and L.A. Barlow

Effect of Nicotinic Acetylcholine Receptor (nAChR) Blockers, Mecamylamine (Mec) and Dihydro- β -erthroidine (DH β E) on the Chorda Tympani Responses to Nicotine in TRPM5 Knockout (KO) Mice

Albino J. Oliveira-Maia, Tam-Hao T. Phan, Shobha Mummalaneni, Pamela Melone, Miguel A. L. Nicoletis, Sidney A. Simon, John A. DeSimone and Vijay Lyall

 β 1,3-N-Acetylglucosaminyltransferase 1 (β 3GnT1) Regulates Signaling in Olfactory Neurons

Timothy R. Henion and Gary A. Schwarting

Penetrating the Permeability Barrier that Surrounds Mouse Taste Buds

Elizabeth Pereira, Robin Dando, Nirupa Chaudhari and Stephen Roper

Electrophysiological Responses to Tactile Stimulation of the Tongue in the Presence of Oils and Gustatory Stimuli

Thomas C. Pritchard, Erin N. Nedderman, John Coupland and Ralph Norgren

Optimization of the Production of Recombinant Brazzein Secreted by the Yeast *pichia pastoris*

Antoine Rachid, Christine Belloir, Joëlle Chevalier, Catherine Desmetz, Marie-Louise Miller, Nicolas Poirier and Loïc Briand

Autocrine Regulation of ATP Secretion in Mouse Taste Buds

Stephen D. Roper and Yijun A. Huang

Acidic Substances Added in the Oral Cavity Reduce our Bitter Taste Sensation by pH-Dependent Inhibition of hTAS2R Response

Takanobu Sakurai, Takumi Misaka, Toshitada Nagai, Yoshiro Ishimaru, Shinji Matsuo, Tomiko Asakura and Keiko Abe

Unraveling the Signal Transduction Cascade Mediated by the Olfactory Receptor hOR51E2 in Prostate Cancer Cells

Jennifer Spehr, Markus Osterloh, Weiyei Zhang, Lian Gelis, Hanns Hatt and Eva M. Neuhaus

Expression and Functionality of Oxytocin Receptor in Mouse Taste Cells

Michael Sinclair, Gennady Dvoryanchikov, Katsuhiko Nishimori and Nirupa Chaudhari

Inhibition of Bitter Taste Receptors

Jay Slack, Anne Brockhoff, Batram Claudia, Susann Menzel, Caroline Sonnabend, Maik Behrens, Nicole Brune, Ioana Ungureanu, Christopher Simons and Wolfgang Meyerhof

Solitary Chemosensory Cells (SCCs) in the Pancreas

Marco Tizzano, Zaza Kokrashvili, Bedrich Mosinger, Sukumar Vijayaraghavan, Robert F Margolskee and Thomas E Finger

The Prenyl Binding Protein PrBP/d Impedes Trafficking of Golf in Olfactory Sensory Neurons (OSNs)

Mavis A. Irwin, Houbin Zhang, Michelle Stamm, Wolfgang Baehr and Mary Lucero

Odor-Stimulated Phosphoinositide Signaling in Mammalian Olfactory Receptor Neurons

Katharina Klasen, Elizabeth A. Corey, Christian H. Wetzel, Hanns Hatt and Barry W. Ache

A Proteomic Screen of Mouse Ciliary Membranes Reveals TMEM16B as an Olfactory Calcium-Activated Chloride Channel

Aaron B Stephan, Eleen Y Shum, Sarah Hirsh, Katherine D Cygnar, Haiqing Zhao and Johannes Reisert

Withdrawn

TRPM5 Expressed in Solitary Chemosensory Cells is Involved in Regulating Chemical Access to the Vomeronasal Organ

Kurt Krosnowski, Nejat Merdato, Tatsuya Ogura and Weihong Lin

Transient Receptor Potential V1 is Directly Activated by Nickel Ions

Matthias Luebbert, Debbie Radtke, Hanns Hatt and Christian H. Wetzel

Cetylpyridinium Chloride Effects on Sodium and Potassium Taste Stimulus Sensing in Hamster

Clara C. McClenon, Brooke L. Reidy, Victoria M. Stevens and Robert E. Stewart

Establishment and Optimization of Antigen Capture Polymerase Chain Reaction Utilizing the Epithelial Sodium Channel Subtype Delta Antibody

M Hakan Ozdener, Joseph G Brand, Jie Cao and John H Teeter

Direct Evidence of the Role of TRPM5 in Bitter Transduction in Enteroendocrine Cells

Bhavik P. Shah, Pin Liu, Tian Yu, Dane R. Hansen and Timothy A. Gilbertson

Poster Session V: Chemosensory Memory/Central Synaptic physiology/Neurogenesis

ATP Promotes Proliferation of Olfactory Sensory Neuron (OSN) and Sustentacular Progenitor Cells in Adult Mouse Olfactory Epithelium (OE)

Colleen C. Hegg and Cuihong Jia

Sniffing out Fear: Anxiety Enhances Olfactory Discrimination Learning Via Aversive Conditioning

Lucas Novak, Emily Cahill and Wen Li

Expansion, Engraftment and Multi-Lineage Potency of Mouse Neonatal Olfactory Neurospheres

Richard C. Krolewski and James E. Schwob

Comparison of Incidental and Intentional Learning of Olfactory and Visual Stimuli

Per Møller, Dag Piper, Ditte Hartvig and Egon P Köster

Characterizing the Relationship between Odor Memory and Identification Performance using Generalized Linear Modeling

Konstantin A. Rybalsky, Melinda S. Brearton, Erica J. Mannea, Jason M. Bailie, Steven R. Howe and Robert A. Frank

Embryonic Chicks Can Learn the Scent of a Putative Predator

Daisy M. Yuhas, Emma L. Stanley and Julie C. Hagelin

Role of Glucagon-Like Peptide-1 in Conditioned Taste Aversion

John-Paul Baird, Laura H. Turner, Christina Wright, Julia S. Lord and Lindsay A. Grigg

Altered Gene Expression In Brainstem And Forebrain Nuclei Following Acquisition of a Learned Taste Aversion

Siva K. Panguluri and Robert F. Lundy

Expression of Transient Receptor Potential (TRP) Channels in the Mouse Main Olfactory Bulb (MOB)

Hong-Wei Dong, Sheng-Yuan Ding, Qiang Nai, Fu-Ming Zhou and Matthew Ennis

Cholinergic Modulation of Glomerular Circuits

Shaolin Liu and Michael T. Shipley

Synchronization of Spike Activity in Tufted Cells of Mouse Olfactory Bulb

Graeme Lowe and Jie Ma

Adult Neurogenesis in the Mouse Accessory Olfactory Bulb

Alexia Nunez-Parra and Ricardo C. Araneda

Gap Junction Coupling and Granule Cell Connectivity Both Contribute to Long-Range Synchrony in the Olfactory Bulb

Thomas S. McTavish, Diego Restrepo and Nathan Schoppa

Synaptic Markers Show Heterogeneous Mitral and Tufted Cell Synapse Distributions

Matthew E. Phillips, Hetal K. Patel, David H. Kim, Gordon M. Shepherd and David C. Willhite

Neuronal Survival and Replacement in the Neuron-depleted Olfactory System

Huan Liu and Kathleen Guthrie

Glomerular Regulation of Mitral Cell Responses to Sensory Input

Zuoyi Shao, Adam C. Puche and Michael T. Shipley

Characteristics of Spontaneous and Evoked EPSCs of Interneurons in the Superficial External Plexiform Layer of Olfactory Bulb

Yu-Feng Wang and Kathryn A Hamilton

$\alpha 1$ and $\alpha 2$ Noradrenergic Receptor Exert Opposing Effects on the Excitability of Rat Main Olfactory Bulb (MOB) Granule Cells

Qiang Nai, Hongwei Dong, Christiane Linster and Matthew Ennis

Taurine Deficiency Causes Loss of Mitral Cells in the Olfactory Bulb of Mice

Martin Witt, Maria Kammerer, Ulrich Warskulat, Dieter Häussinger and Thomas Hummel

Adult and Developmental Expression of a GABA Transporter by a Subset of Centrally Derived Glial Cells in the Antennal Lobe of the Moth

Lynne A Oland, Nicholas J Gibson and Leslie P Tolbert

Heterogeneous Expression of Pannexin 1 and Pannexin 2 in the Olfactory Epithelium and Olfactory Bulb

Honghong Zhang and Chunbo Zhang

Chloride Imaging in Trigeminal Sensory Neurons of Mice

Debbie Radtke, Nicole Schoebel, Hanns Hatt and Jennifer Spehr

Odor Discrimination by Mice with Long-Term Unilateral Naris Occlusion and Contralateral Bulbectomy

Cathy Angely and David M. Coppola

Characterization of GABA-Induced Responses of Trigeminal Sensory Neurons

Nicole Schoebel, Annika Cichy, Debbie Radtke, Hanns Hatt and Jennifer Spehr

Properties of Rostral Nucleus of the Solitary Tract (rNST) GABAergic Interneurons

Min Wang and Robert M. Bradley

Sox2 Regulation of Neurogenesis in the Adult Olfactory Epithelium

Adam I Packard and James E Schwob

PACAP Enhances Cell Survival in Cultured Slices of Mouse Olfactory Bulb

Mary T Lucero and Shami Kanekar

Cytoarchitecture of Neuroblasts and their Stem Cell Niche Maintaining Adult Neurogenesis in the Olfactory Midbrain of Spiny Lobsters, *Panulirus argus*

Manfred Schmidt and Charles D. Derby

Ectopic Gene Expression by Postnatal Electroporation During Olfactory Interneurons Neurogenesis

Dongjing Zou, Alex Chesler, Claire Le Pichon, Jesse Brann, Ricardo Araneda and Stuart Firestein

Deafferentation Affects Cell Genesis and Neuron Survival in the Olfactory Bulb of Adult Zebrafish

Christine A. Byrd-Jacobs and Ruth Villanueva

Cell Specific Deletion of BDNF Leads to Impairments in Murine Adult Olfactory Neurogenesis

Kevin G Bath, Christine Neeb, Deqiang Jing and Francis S Lee

***In vivo* Optical Imaging of Experience-Induced Olfactory Bulb Glomerular Plasticity**

Max L. Fletcher, Johannes Richter and Wei R. Chen

Maternal Modulation of the Functional Emergence of the Hippocampus in Context Fear Learning in Infant Rats

Charlis Raineke, Parker Holman, Melissa Bugg, Allyson Beasley and Regina M. Sullivan

Rethinking Statistical Analysis of Associative Learning in an Olfactometer

Nicolas Busquet and Diego Restrepo

Changes in Sniffing Patterns During Learning of the Association of Odor with Reward

Vanessa Carmean, Jennifer D Whitesell and Diego Restrepo

Long-Term Reductions of Olfactory Sensitivity Due to Short-Term Exposures to a Peri-Threshold Odorant

Jennifer Chen, Wen Zhou, Meng Zhang and Denise Chen

Learned Preferences for Odours Determined by Individual Variations in Taste Intensity and Hedonics

John Prescott, Martin Yeomans and Natalie Gould

Poster session VI: Chemosensory Development and Psychophysics I

Sonic Hedgehog and Sox2 Expression in Taste Cell Progenitors in Genetic Mouse Models of Gustatory Nerve Transection

Akira Ito, Michelle M. Sims, Jong-Gwan Kim and Christopher A. Nosrat

Expression of Stem Cell Factor and Kit Receptor During Development of the Main and Accessory Olfactory Systems

Thomas K. Knott, Timothy R. Henion and Gary A. Schwarting

Differentiation and Migration of Neurons Derived from the Olfactory Placode

Alexandra M. Miller, Helen B. Treloar and Charles A. Greer

Early GABAergic Specification of Subventricular Derived Progenitors

Celine Plachez and Adam C. Puche

The Positional Variability of the P2, M72, and MOR23 Glomeruli in the Mouse Main Olfactory Bulb in Young and Adult Animals

Ernesto Salcedo, Tuan Tran, Xuan Ly, Kyle Hanson, Eugene Kronberg and Diego Restrepo

Sensory Inputs Modulate Olfactory Receptor Expression Patterns in the Mouse Olfactory Epithelium

Huikai Tian and Minghong Ma

Influences of p53 Gene in the Development of Olfactory Neurons

Honghong Zhang and Chunbo Zhang

How Does Adding Cocoa to Sucrose Affect Pain Tolerance?

Kristina Eggleston and Theresa White

Effects of Chocolate Consumption on Pain Perception and Tolerance

Scott Bonnette, Kristin McCombs, Amanda Stover, Kristian Winters and Bryan Raudenbush

Is Perception of Nasal Patency a Function of Air Temperature, Humidity, Mucosal Heat Loss, Nasal Resistance or Trigeminal Sensitivity?

Kara J. Blacker, Edmund Pribitkin, Yuehao Luo and Kai Zhao

Retronasal and Oral-Cavity-Only Responses to TRPM8 Odorants

Kathleen E. Melville, James C. Navia and Bruce P. Halpern

Eph/Ephrin Expression in the Developing and Adult Taste System

Gennadiy Katsevman, Michael Oleksiak, Natalia Hoshino and M William Rochlin

Investigation of Detection and Pain Thresholds at Different Sites at the Human Nasal Mucosa in Response to Electrical Stimuli

Mandy Scheibe and Annika Schmidt

Time-Intensity Ratings of Nasal Irritation from Pulsed Homologous Alcohols

Paul M Wise, Kai Zhao and Charles J Wysocki

Nasal Biopsy Assessment of Veterinary Students Exposed to Formaldehyde in Anatomy Class

Karen K. Yee, Tamika Wilson, Ryan McDermott, Edmund A. Pribitkin, David Rosen, Christopher Maute and Pam Dalton

Functional and Inflammatory Consequences of Veterinary Gross Anatomy Lab Enrollment: Effects of Formaldehyde on Chemosensation

Ryan D. McDermott, Tamika L. Wilson, Kara J. Blacker, Christopher Maute, M. Hakan Ozdener and Pamela H. Dalton

Development and Evaluation of the Monell Odor Identification Task for the NIH Toolbox

Christopher Maute, Sara Lehmann, Carly Jornlin, William Parkes, Christopher Grindle, James S. Reilly, Allison Steinmeyer, Jill Hersh, Julie A. Mennella and Pamela H. Dalton

Musk Odorants – a Useful Tool for the Study of Olfactory Genetics

Antti J. Knaapila, Danielle R. Reed, Charles J. Wysocki, Gu Zhu, Nicholas G. Martin and Margaret J. Wright

Evaluation of a Forced-Choice, Paired-Comparison Tracking Procedure Method for Determining Taste Preferences Across the Lifespan

Julie A. Mennella, Laura D. Lukasewycz, James W. Griffith and Gary K. Beauchamp

OLFACT-K™: A Test for Assessing Olfactory Function in Young Children

Kathleen M. VanDeGrift and Lloyd Hastings

Comparison of Two Different Olfactory Detection Threshold Tests of the Sniffin' Sticks

Rebekka Zerneck, Birgit Vollmer, Jessica Albrecht, Anna M. Kleemann, Katrin Haegler, Jennifer Linn, Gunther Fesl, Hartmut Brückmann and Martin Wiesmann

Longitudinal Study of Olfactory Preferences During Childhood

Fanny Rinck, Melissa Barkat-Defradas, Fanny Bourgeat, Catherine Rouby and Moustafa Bensafi

Neuronal and Neural Crest Cell Markers Identify Specific Cell Types in Developing Tongue and Taste Papillae

Hong-Xiang Liu, Yoshihiro Komatsu, Yuji Mishina and Charlotte Mistretta

Impact of Proportion on Configural Perception of Odor Mixtures in a Newborn Mammal

Gérard Coureaud, David Gibaud, Elodie Le Berre, Benoist Schaal and Thierry Thomas-Danguin

Correlation between Olfactory Bulb Volume and Olfactory Function in Children

Dorothee Buschhüter, Martin Smitka, Stefan Puschmann, Johannes Gerber and Thomas Hummel

Pregnancy and Olfactory Sensitivity

E. Leslie Cameron and Richard L. Doty

Beliefs About Health Effects from an Odor Alter Sniffing of that Odor

Patricia Bulsing, Monique A. Smeets and Tyler Lorig

Relationship between Odor Properties for Pleasant and Unpleasant Odors

Allana L. Goodman and Jelena Djordjevic

Slight Variations in Components Ratio affect Odor Pleasantness of a Blending Mixture

Elodie Le Berre, Noëlle Béno, Gérard Coureaud, Patrick Etiévant and Thierry Thomas-Danguin

Identification of Odorants Induced by Stress and Deception in Humans

George Preti, Jae Kwak, Christopher Maute and Pamela Dalton

The Recognition Point in Odor Detection

William S. Cain, Roland Schmidt and J. Enrique Cometto-Muñiz

Time Encoded in Smell

Kinneret Weissler, Shulamith Kreitler and Noam Sobel

A View of the World Through the Nose

Lee Sela, Aharon Weissbrod, Elad Schneidman and Noam Sobel

***Wnt5a* has Stage and Location Specific Effects in Embryonic Tongue Epithelium and Mesenchyme**

Charlotte M. Mistretta, Hong-Xiang Liu, Ann M. Staubach Grosse, Katherine D. Walton and Deborah L. Gumucio

Odor Discrimination Is Influenced By Odor Naming Ability

Erica, J. Mannea, Robert, C. Gesteland, Robert, A. Frank, Lloyd Hastings, Konstantin, A. Rybalski, Jason, M. Bailie, Melinda and S. Brearton

Crossmodal Interactions between Odors and Abstract Symbols

Han-Seok Seo, Artin Arshamian, Kerstin Schemmer, Ingeborg Scheer, Thorsten Sander, Guido Ritter and Thomas Hummel

How Big is the Gap Between Detection and Recognition of Aliphatic Aldehydes?

Matthias Laska and Anna Ringh

Comparison of Odor Threshold for Phenylethylalcohol and Butanol

Franziska Krone, Kornelia Lange, Ilona Croy and Thomas Hummel

Human Olfactory Detectability of Homologous 2-Ketones and n-Alkylbenzenes

J. Enrique Cometto-Muniz and Michael H. Abraham

Cigarette Smoking and the Olfactory Detection of Cyanide

Jeneca J. Dovey and David E. Hornung

Retronasal Olfaction Influences Swallowing

Myriam Ebnoether, Antje Welge-Luessen, Markus Wolfensberger and Thomas Hummel

Rapid Plasticity in the Olfactory System Modulates Detection Threshold in an Odorant-Specific Manner

Amy R. Gordon, Fredrik Åhs and Johan N. Lundstrom

Effects of Sub-Threshold Odorants on Rapid Olfactory Adaptation in Human Observers

Ryan R. Keith, Swati Pradeep, Erica M. Rodriguez, Katherine E. Boylan, Danielle A. Broome, Neal R. Delvadia and David W. Smith

Update on Racial and Gender Differences in Odor Perception

Charles J. Wysocki, Danielle R. Reed, Doron Lancet, Yehudit Hasin, Jennifer Louie, Lisa Oriolo and Fujiko Duke

Taste Cell Specific Over-Expression of BDNF Leads to Multiple Fold Increase of Expression Levels of BDNF and Increased Size and Number of Taste Buds

Irina Nosrat, Shailaja Kishan Rao, Weikuan Gu, Robert Margolskee and Christopher Nosrat

Dreams and Smell - The Impact of Nocturnal Olfactory Stimulation on Dreams

Boris A. Stuck, Desislava Atanasova and Michael Schredl

Effects of Septoplasty — A Pre- and Postoperative Study on Trigeminal Sensitivity and Olfactory Performance

Benno Schuster, Stefanie Schulze and Christian A. Mueller

Putative Human Pheromones Increase Women's Observed Flirtatious Behaviors and Ratings of Attraction

James V. Kohl, Linda C. Kelahan and Heather Hoffmann

Effects of Video Game Console and Snack Type on Snack Consumption During Play

Jonathan Kolks, Tim Wright and Bryan Raudenbush

Effects of Peppermint Scent Administration on Increasing Nintendo Wii Guitar Hero Performance

Ryan Hunker, Tim Wright and Kristin McCombs

Deposition of Inhaled Particles in the Olfactory Region in Rat and Human Nasal Cavities During Breathing

Jianbo Jiang and Kai Zhao

The Effects of Orally Administered Capsaicin on Rat Taste Bud Volume and Papillae Morphology Throughout Development

Kaeli K Samson and Suzanne I Sollars

Competitive Effects of GSP and IX Nerve Transection on the Maturation of CT Terminal Field Volume in the Nucleus of the Solitary Tract

Sara L Dudgeon and David L Hill

Postnatal Development of Trigeminal Neuronal Sensitivity to Capsaicin, Nicotine, and Innocuous Cooling

Jiang Xu, Valery Audige, Nancy Rawson and Bruce Bryant

Development of the Olfactory Organ in Fish: a Comparison

Anne Hansen, Peter Bartsch and Eckart Zeiske

Poster session VII: Chemosensory Psychophysics II**The Influence of Suprathreshold Gustatory Stimuli on Resting Respiration in Humans**

Thomas Bitter, Maria Lätzel and Hilmar Gudziol

Selective Inhibition of Taste in Humans by Cathodal Current

Thomas P. Hettinger, Ricardo Abakah and Marion E. Frank

Rare Subjects with the TAS2R38 AVI/AVI "Non-Taster" Diplotype Perceive Propylthiouracil as Bitter: The Quest for the Rescue

Suzie Alarcon, Nelsa Estrella, Anilet Tharp, James Bernhardt, Kathryn Luley and Paul A. S. Breslin

Examination of PROP Taste Recognition Thresholds and Suprathresholds with Edible Taste Strips

Hetvi Desai, Sahbina Ebba and Gregory Smutzer

B6 Mice Display Confusion in Behaviorally Discriminating Between Quinine and Citric Acid

Yada Treesukosol, Clare M Mathes and Alan C Spector

Non Synonymous SNPs in Human *tas1r1*, *tas1r3*, *mGluR1* and Individual Taste Sensitivity to Glutamate

Mariam Raliou, Anna Wiencis, Anne-Marie Pillias, Aurore Planchais, Corinne Eloit, Yves Boucher, Didier Trotier, Jean-Pierre Montmayeur and Annick Faurion

Understanding the Relationship Between Saltiness and Umami

Christopher T. Simons and Kelly Albin

Perceptual Variation in Umami Taste and Polymorphisms in *TAS1R* Taste Receptor Genes

Qing-Ying Chen, Suzie Alarcon, Anilet Tharp, Tiffani A. Greene, Joseph Rucker and Paul A.S. Breslin

Monosodium Glutamate Taste Recognition Thresholds are not Affected by Modulation of Serotonin or Noradrenaline Levels in Healthy Humans

Lucy F Donaldson, Tom P Heath, Ben Feakins, Nathan Jones, Charlotte Kenyan, Shyamal Raichura, Emma Richardson, Leila Rooshenas, Victoria Smith and Jan K Melichar

A Receptor Focused Analysis of Experience Induced Changes in Glucose and Monosodium Glutamate (MSG) Taste Sensitivity

Kristina M Gonzalez, Alison N Le, Todd P Livdahl and Linda M

The Effect of Amiloride on the Taste Quality of Salty Solutions

Kathryn Luley, Anilet Tharp, James Bernhardt and Paul A. S. Breslin

Synchronicity Judgement of Gustation and Olfaction

Tatsu Kobayakawa, Hideki Toda and Naomi Gotow

The Effect of pH on Arginine Enhancement of Salty Taste

Nelsa Estrella and Paul A. S. Breslin

Synergistic Responses to L-Glutamine and IMP in Brief Access Preference Testing in C57BL Mice

Benjamin K. Eschle, Meghan C. Eddy, J. Tyler Van Backer and Eugene R. Delay

Taste Recognition Thresholds for Human Sweet Taste Function

Sahbina A. Ebba, Bradford Speck, Lloyd Hastings and Gregory Smutzer

Sweetness Resists Suppression in Complex Mixtures

Juyun Lim, Floor Oosterhoff and Barry Green

Sucroseoctaacetate Aversion: Preliminary Evaluation of MSM Consomic Mouse Strains for Gene-Mapping

David A Blizard, Tsuyoshi Koide, Toshihiko Shiroishi, Thomas P Hettinger, Marion E Frank and Ayako Ishii

Measurements of Stimulus Preference vs. Stimulus Pleasantness Give Rise to Different Optimally Liked Concentrations of Sucrose

Kristin J Rudenga, Wambura Fobbs and Dana M Small

Taste Damage Associated with Otitis Media

Linda M. Bartoshuk, Frank A. Catalanotto, Valerie B. Duffy, Miriam Grushka, Vicki D. Mayo, Monica C. Skarulis and Derek J. Snyder

Otitis Media and Intensification of Non-Taste Oral Sensations

Frank A Catalanotto, Eric T Broe, Linda M Bartoshuk, Vicki D Mayo and Derek J Snyder

Oral Irritation Elicited by Menthol and Cinnamaldehyde (CA): Self- and Cross-Desensitization

E. Carstens, Mirela Iodi Carstens and Karen Zanotto

Evidence that Repeated Threshold Testing can Alter the Perceived Intensity of Taste

Barry Green and Juyun Lim

Recognizing Taste Stimuli below the Detection Threshold

Timothy G. Shepard, Miao-Fen Wang, Maria G. Veldhuizen and Lawrence E. Marks

Comparing the Distributions of Human TAS2R38 Taste Receptor Genotypes in Philadelphia and in Southern Finland

Mari A Sandell, Saila KE Mattila, Suzanne M Alarcon and Paul AS Breslin

Development of Multichannel Taste Stimulator System

Hideki Toda and Tatsu Kobayakawa