



# AChemS

Association for  
Chemoreception Sciences

*Fostering Chemical Senses Research and Understanding Smell and Taste in Health and Disease*

## NEWSLETTER

Spring 2008

# Message from the President

*Diego Restrepo, PhD*

I have the honor of serving as President of AChemS during the year that we host the XV International Symposium on Olfaction and Taste (ISOT). It has been enormously satisfying to serve in this organization whose goal is to promote chemosensory research. I have been fortunate to have help from an outstanding Executive Committee. The Past and Elected Presidents, Leslie Tolbert and Peter Brunjes have played an essential role in providing support throughout the year and Tom Finger, the Program Chair, has played an excellent role at organizing the ISOT meeting. I also would like to thank the rest of the Executive Committee: Linda Barlow and Nirupa Chaudhari as Counselors, Carol Christiansen as Treasurer, Chuck Derby, Senior Advisor, Scott Herness as Secretary, Nancy Rawson as Membership Chair and Don Wilson as Program Chair-Elect. In addition, the assistance from the various standing and other committees was essential. In particular, the Industrial Liaison Committee that continues to be lead by Mike Meredith has been active in maintaining a dynamic relationship with our industrial sponsors in a year with a challenging economic environment. The Grant Committee members have played a key role in the year we host ISOT. Barry Ache and Judy Van Houten wrote and obtained funding for the competitive

renewal of the AChemS NIH conference grant and Tom Finger joined them in writing a conference grant to NSF for ISOT that was also funded. In addition, Claire Murphy who leads the Clinical Relations Committee obtained funding from NIA for the ISOT meeting. On behalf of AChemS I would like to thank them. Of course, my work could not be accomplished without the outstanding steady support provided by L&L. Tisha Kehn, Executive Director of AChemS, has provided invaluable support to our society in a year where management involved increased efforts due to hosting of ISOT. Finally, it has been a pleasure to see how involved the membership is in AChemS. I appreciate your involvement in our society because it makes it a dynamic entity that plays a positive role in the future of the chemosensory community.

### Chemical Senses

As you may know, AChemS appoints two of the Executive Editors and several members of the Editorial Board of Chemical Senses (ECRO and JASTS appoint the other Executive Editors and Board members). As of January 1st, 2008 we have the fortune of welcoming Timothy McClintock as a new Executive Editor of the journal. Tim joins Susan Travers as an AChemS-appointed Executive Editor. We look forward to

continued excellence by the journal. In addition, we thank Denis Drayna, Barry Green, Mark Stopfer and Leslie Vosshall who joined the Editorial Board last year as well as John Glendinning and Steve Roper and Matt Wachowiak who joined the board this year. Finally, we would like to give Barry Ache a very special thank you for his service as Executive Editor from 1999 to 2007.

*President's Message continued on page 2*

### Have you heard? Our history is now online!

The Programs and Abstracts from ALL of the previous AChemS meetings are now available on the AChemS website. Just click on "Past AChemS Meetings" on the left navigation bar of the AChemS homepage. Check out the abstracts from the inaugural AChemS meeting!

### THIS ISSUE INCLUDES

- Job Listings
- Prelude of ISOT XV
- Pictures of AChemS XXIX
- AChemS 2007 Awardees

### Federal Funding

At a meeting of stakeholders held by the Center for Scientific Review (CSR) at the NIH last year where Leslie Tolbert and I represented AChemS, the head of CSR Tony Scarpa remarked how important it is to maintain effective communication between NIH and scientific societies. In order to make the relationship between AChemS and federal agencies more effective, the Executive Committee decided to create the Federal Liaison Committee. This committee will provide an effective liaison with the NIDCD, NIA and CSR, as well as with other federal agencies with interest in chemoreception. The committee includes senior members of AChemS with solid experience in interactions with federal agencies. Charles Greer has agreed to serve as Chair and Barry Ache, John Hildebrand, Michael Leon, Charlotte Mistretta, John Ngai and I serve as members of the committee. We look forward to more efficient communication with the NIH and other federal agencies at a time when support for research continues to tighten.

### Future Meetings

During the past few years it became evident that our society was outgrowing the Hyatt Sarasota. Before the last AChemS meeting Tisha Kehn and I scouted several potential venues for our meeting. Following a discussion in Sarasota last April the Executive Committee decided that the AChemS meeting would stay in Sarasota for 2009, and then it would move to the TradeWinds in St. Petersburg Beach for two years (2010 and 2011). The TradeWinds is a resort on the beach with newly renovated meeting facilities including a large pavilion for poster sessions, a large conference room for plenary sessions and smaller rooms for socials and workshops. The

TradeWinds is only a half hour from the Tampa International Airport and is within 15 minutes of St. Petersburg.

### 2008 ISOT Meeting

This year AChemS hosts the XV International Symposium on Olfaction and Taste (ISOT). I would like to thank Dr. Thomas Finger, Tisha Kehn and Christina Douville of L&L, and the organizing committee for preparing a wonderful international meeting that, in the tradition of AChemS, but with increased participation of members from JASTS and ECRO, will serve as an efficient catalyst of exchange of ideas. I would like to thank the corporations who have already committed major support for the meeting, including Givaudan, Firmenich, IFF, Pepsi, Aromasys, and particularly Ajinomoto, without whose help some parts of the meeting might not have been possible. Finally, I would like to thank Tisha Kehn and Christina Douville from L&L for the outstanding handling in helping organize this demanding meeting. I cannot help but remark on the Presidential Symposium that I have organized around the theme of critical examination of the question of how the olfactory system gives rise to the perception of a smell at a time where research is bringing together complementary approaches to examine this question (molecular, awake behaving, anesthetized recording, whole brain and slice recordings). To what extent does the Heisenberg uncertainty principle of Physics –that boils down to the fact that specific experimental approaches have limitations and modify the biology of the system - apply to olfaction? I look forward to an active exchange of ideas at the meeting relating to the outstanding series of symposia and poster presentations in the beautiful city of San Francisco. ❖

## AChemS on TV!

The Canadian program on CBC TV called 'The Nature of Things' with host Dr. David Suzuki featured an episode on Smell and Taste recently. Several AChemS members (such as Charles Greer) were interviewed on the very interesting show which focused especially on the lives of a supertaster chef and an anosmic person and the possible neuroanatomical explanations for their abilities/disabilities. More information may be found at:

<http://www.cbc.ca/natureofthings/scienceofthesenses/smell.html>

Re-airing June 14th at 7pm on CBC-TV.

## Application for and Renewal of Membership

Questions concerning membership should be addressed to the AChemS Executive Office

5841 Cedar Lake Road  
Suite 204  
Minneapolis, MN 55416  
952-646-2035  
Fax: 952-545-6073

Please visit  
<http://www.achems.org>  
to become a member or to renew your membership online.

## Student Travel Awards and Polak Junior Scientist Awards

For the 2007 meeting, the Association provided funds to support the attendance of 43 students to our annual meeting. These awards included 27 travel awards, ranging from \$300 to \$600, and 16 housing awards at the Hyatt Hotel. The total contribution of society for student travel totaled \$10,000.

2007 was the second year the Association was able to provide financial support for junior scientists to attend the meeting, made possible through a generous gift from the Ernest Polak family. These awards are based on financial need and scientific merit. In 2007, 4 junior scientists (3 domestic, 1 international) received from \$800 to \$1000 in support of their attendance at the meeting. We anticipate being able to provide travel and housing support for the same number of students and junior scientists for the combined 2008 AChemS/ISOT meeting.

### Prelude of ISOT XV / AChemS XXX

*Tom Finger, PhD  
ISOT/AChemS Meeting Chair*

Planning for ISOT2008 is well underway. The abstract submission deadline has passed and we have received over 650 abstracts. An exciting program will feature a host of symposia as well as presentations commemorating anniversaries of distinction in this year: 100 years since the discovery of Umami; 40 years since the discovery of dendrodendritic synapses in the olfactory bulb; 30 years since the inaugural year of AChemS and 20 Years since the founding of NIDCD.

The meeting will be held this year at the Hyatt Embarcadero Hotel in San Francisco. The hotel is conveniently located at a major BART station that offers ready, inexpensive transportation to the SF airport:  
[http://www.bart.gov/guide/airport/outbound\\_sfo.asp](http://www.bart.gov/guide/airport/outbound_sfo.asp)

In addition to over 20 symposia, the meeting features several special highlights including:

- Givaudan Lecture: David Julius, UCSF "From Peppers to Peppermints: Natural Products as Probes of the Pain Pathway"
- "Sniffing Underwater" -- a lecture by K Catania describing how air-breathing mammals can use olfaction while underwater.
- "Dendrodendritic Synapses: Past, Present and Future." A presentation by Gordon Shepherd describing recent findings as well as the discovery of dendrodendritic synapses.
- IFF Award Lecture: Molecular Systems of Taste

- NIH Workshop: The Structural Analyses of Ligand-Binding Properties of Taste and Smell Receptors

Examples of Symposia at ISOT2008:

- AChemS Presidential Symposium: "The Neural Basis of Sensory Experience" Speakers in this symposium will discuss neural processing of sensory information as a bridge to sensory-guided behaviors. The symposium will compare the handling of olfactory signals with processing of other modalities.
- "Do Environmental Agents Enter the Brain Via the Olfactory Mucosa to Induce Neurodegenerative Diseases?" The presence of smell loss, along with evidence that xenobiotics can readily enter the brain via the olfactory mucosa, have led to the notion that some degenerative diseases are caused by agents that enter the brain via this route.
- The Neuroecology of Chemical Senses: This symposium will highlight research aimed at understanding the molecular basis and evolutionary ecology of chemical communication systems.
- Impact of Bitter Taste on Human Nutrition and Health: The symposium combines biochemistry, genetics, food chemistry, psychophysics, and nutritional science to explore intake behavior.
- Chemical Senses and Longevity: Investigations into longevity and new findings on the effects of caloric restriction and reduced insulin-like signaling are particularly intriguing for those in the chemical senses. Discussion of the mechanisms of aging that have the potential to stimulate novel research in the field.
- Post-ingestional effects of umami: Visceral Detection of Glutamate: This symposium is conducted to discuss physiological and nutritional aspects of umami materials, especially glutamate during and post-prandial states.
- Evolution of Pheromonal Communication in Insects: Pheromones

offer exceptional opportunities to study fundamental biological problems. Speakers will present the "state of the art" tools that they recently used to better understand pheromonal communication in various insects.

- Stem Cells In Sensory Epithelium Development And Regeneration: Exploring cellular and molecular aspects of development and regeneration of specialized epithelia.
- Olfaction in Birds: A Dedication To The Pioneering Spirit of Professor Bernice Wenzel: A series of presentations on new research exploring the sensory biology and ecology of olfaction in birds.
- Sex (& Taste), Drugs (& Taste), & Rock and Roll (& Taste): Taste and smell play roles in mating-related behaviors, and are inextricably linked to the systems controlling pain and addiction. This symposium will present recent research showing that chemosensation is central to both vertebrates' and invertebrates' attempts to attain sex, drugs, and rock 'n' roll.

Social Program: In addition to the plethora of scientific sessions and activities, this ISOT meeting continues the long-standing tradition of off-site excursions. Participants can choose among trips to Muir Woods (to see the ancient redwood trees), a tour of the wine country north of the city (including stops at wineries) and even an evening baseball game featuring the SF Giants vs. the Washington Nationals. In addition, there will be the usual Welcome Banquet prior to the Opening Ceremonies, and a closing dinner on the final night of the meeting.

I hope to see you at the ISOT meeting this summer. Don't forget to register online before June 20th!

## Treasurer's Report

Carol Christensen, PhD

The AChemS 2007-2008 fiscal year began on July 1, 2007 and will end on June 30, 2008. It is an unusual budget year because the major expense of the Society, namely the Annual Meeting, will not occur within this fiscal year. Also, because the Meeting is being held in July rather than April, revenues from the Meeting registration fees have not yet been recorded as of the last budget report of February 2008. Consequently no detailed budget statement for this fiscal year is included here because revenues and expenses have a very different timing compared to previous years. The detailed budget looks wacky (an accounting term).

The ISOT/ACHEMS Annual Meeting in July will be significantly more expensive both because of the size and the venue of the meeting. The Executive Committee voted not to raise meeting registration prices in order to encourage full participation from students and faculty. Our best estimate of the cost to AChemS to subsidize this meeting is \$130,000. The Society is financially able to provide this subsidy because of previous years' surpluses of revenues over expenses. However, the intention is to reduce this cost to AChemS through greater contributions from corporate sources. The Program chair and Committee, the Symposia Chairpersons, and the Industrial Liaison Committee are seeking this additional funding. We would appreciate everyone's help.

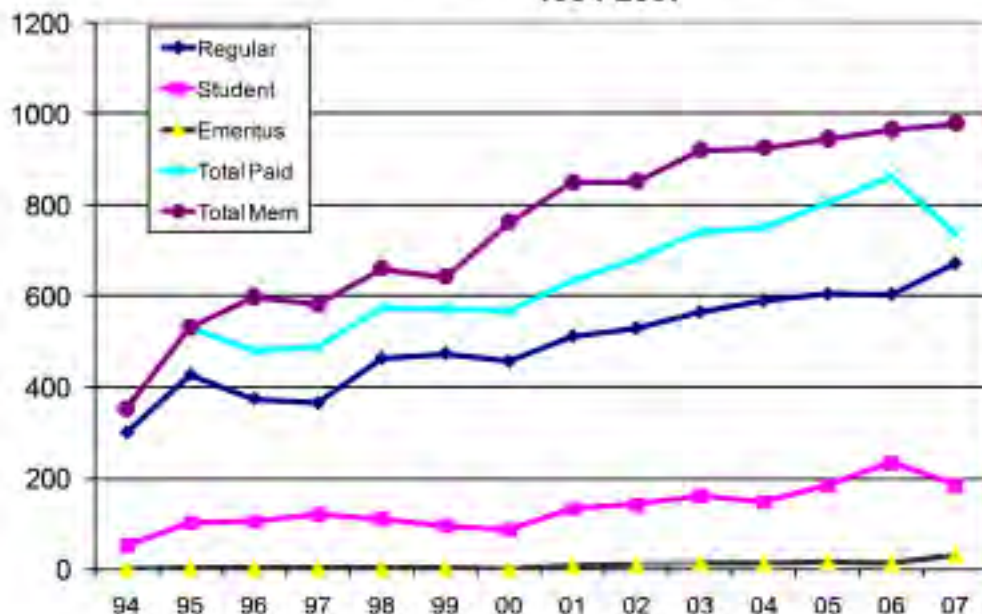
## Membership Report 2007

Full paid membership for the fiscal year 2007 includes a total of 900 members. This includes:

- 12 Corporate Members
- 672 Regular Members
- 185 Student Members
- 31 Emeritus Members

Of these members only 757 are paid to date (June 30, 2007 – April 24, 2008). We have received 2 corporate, 552 regular, 182 student, and 21 emeritus membership renewals. Please remember to renew your membership online (<http://www.achems.org/>). It's easier than ever with our website.

**ACHEMS MEMBERSHIP DATA  
1994-2007**



## SECRETARY'S REPORT

Scott Herness, PhD

With the publication of this newsletter my term as AChemS Secretary comes to an end. In addition to the newsletters, duties of the secretary also include maintaining the AChemS website. When I began my term I was disappointed to note that information from previous meetings was not available on our website. As a personal project I took up the task of placing the program booklets and abstracts from all twenty-nine previous AChemS meetings on the website. This was a massive project that involved collecting all the previous booklets and scanning them to create pdf files. Nonetheless, I think it resulted in something quite worthwhile: an online accessible history of our society. I hope we can consider this a first step. Perhaps with additional work we could one day have a searchable database. Many thanks to Dr. Joe Brand of Monell Chemical Senses Center, the official AChemS archivist, for providing us access to those abstract and program booklets needed to complete this project.

## Minority and Clinical Travel Fellowships

*Kennedy Wekesa, PhD*

The awards, funded by the National Institute on Deafness and Other Communication Disorders, cover the full cost for minority applicants and partial costs for clinicians to attend AChemS. Last year we had an excellent group of minority applicants but unfortunately we did not receive any applicants from clinicians. We have continued to make every effort to support all the applicants that have applied for the travel fellowships. Last year we supported all six applicants that qualified for the award: We were able to support Valerie Audige from Monell Chemical Sense Center; Genevieve Bender from Yale University; Kristina Gonzalez from Clark University; Jessica Lee from University of Michigan; Ernesto Salcedo from the University of Colorado at Denver and Health Sciences Center; Chris Whittle from Monell Chemical Senses Center. The members of the fellowships committee are: Julie Menella (Monell Chemical Senses Center), Scott Herness (The Ohio State University) and Kennedy Wekesa (Alabama State University).

## 2007 Ira and Harriet Reiss Theory Award goes to AChemS member

AChemS member, James V. Kohl, was selected to receive the Ira and Harriet Reiss Theory Award for 2007 from the Foundation for the Scientific Study of Sexuality (FSSS). The award is given annually for the best social science article, chapter, or book published in the previous year in which theoretical explanations of human sexual attitudes and behaviors are developed. "The Mind's Eyes: Human Pheromones, Neuroscience, and Male Sexual Preferences" was published in the *Journal of Psychology & Human Sexuality*, 18(4): 313-369, and concurrently published as a book chapter in the "Handbook of the Evolution of Human Sexuality." In conjunction with the award, Kohl was an invited plenary session speaker at the annual meeting of the Society for the Scientific Study of Sexuality (SSSS) in November, 2007, which was held in Indianapolis, Indiana.

## Upcoming Meeting

The symposium "Recent Advances in Taste Processing and Recognition" will be held at the main meeting of the Physiological Society in Cambridge UK, July 14-16, 2008. Although just before our ISOT meeting, there will be some exciting presentations that may be of interest to AChemS members. Information on the Physiological Society meeting can be found at <http://www.physiology2008.org/>

## GWIZ 2007

*Gina Nelson, PhD*

The annual outreach event to elementary school students was held April 25th at the GWIZ Science Museum across the street from the Hyatt Hotel. Almost 500 students attended from Sarasota, Charlotte and Manatee public schools but with only four participating AChemS members we volunteers more than had our hands full! As usual, several science demonstrations were presented. GWIZ (which is an acronym for Gulfcoast Wonder & Imagination Zone) is a hands-on science museum for children and, in keeping with their theme, our demonstrations illustrated basic properties of the chemical senses with hands-on demonstrations. The now familiar jelly-bean identification tests and the painting of blue tongues (to identify fungiform papillae) were not only their usual hits among the children but helped to educate basic physiology of the nose and tongue. The event was a success overall and received extensive local media coverage including newspaper and cable television.





	Morning	Afternoon	Evening
<b>Mon. July 21</b>			Opening Buffet <b>Givaudan Lecture</b> <b>David Julius, UCSF</b> <i>From Peppers to Peppermints: Natural Products as Probes of the Pain Pathway</i>
<b>Tues. July 22</b>	<b>Symposia</b> 1. Stem Cells In Sensory Epithelium Development And Regeneration  2 Umami Reception in the Oral Cavity: Receptors and Transduction  3. Oral Presentations  <b>POSTERS</b>	<i>NIH Workshop: The Structural Analyses of Ligand-Binding Properties of Taste and Smell Receptors</i>   <b>Industry Symposium</b>	<b>Symposia</b> 4. Post-ingestional effects of umami: Visceral Detection of Glutamate  5. Impact of Oronasal Inflammation on Taste and Smell  6. Evolution of Pheromonal Communication in Insects  <b>POSTERS</b>
<b>Wed. July 23</b>	<b>Symposia</b> 7. Olfaction in Birds: A Dedication To The Pioneering Spirit of Professor Bernice Wenzel  8. Do Environmental Agents Enter the Brain Via the Olfactory Mucosa to Induce Neurodegenerative Diseases?  9. Impact of Bitter Taste on Human Nutrition and Health  <b>POSTERS</b>	<b>Symposia</b> 10. A Systems Approach to Studying the Chemosenses and Aging: Moving from Population to Mechanisms  11. Interspecies differences in pontine taste representation for tasting and feeding  12. Membrane Targeting of Chemoreceptors  <b>POSTERS</b>	<b>SF Giants Baseball Game (optional)</b>
<b>Thurs. July 24</b>	<b>Symposia</b> 13. Sweet Taste: Receptors, Transduction, and Hormonal Modulation  14. Chemical Senses and Longevity  15. <i>Symposium: Dendrodendritic Synapses: 40 Years of Progress</i> 15a. <i>Special Lecture: Gordon Shepherd</i>  <b>POSTERS</b>	<b>Off-Site Excursions: Muir woods &amp; Wine Country (optional)</b>	<b>Symposia</b> 16. AChemS Presidential Symposium: Neural Basis of Sensory Experience 17. Chemical Senses and Mechanisms of Neurodegenerative Diseases  18. Non-canonical transduction pathways in olfaction--new views on olfactory signaling  <b>POSTERS</b>
<b>Fri. July 25</b>	<b>Symposia</b> 19. Basic Processes in Human Olfactory Cognition 20. The Neuroethology of Chemical Senses 21. Nasal Trigeminal Function: Qualitative, Quantitative and Temporal Effects  <b>IFF Award Lecture: Molecular Systems of Taste</b>  <b>POSTERS</b>	<b>Clinical Luncheon</b>  22. Oral Presentations  <b>NIDCD Funding Opportunities</b>  <i>Workshop: What can pathology tell us about physiology?</i>  <b>POSTERS</b>	<b>Closing Banquet</b>
<b>Sat. July 26</b>	<b>Symposia</b> 23. Sex (& Taste), Drugs (& Taste), & Rock and Roll (& Taste) 24. Epidemiological Studies of Taste and Smell 25. Oral Presentations  <b>POSTERS</b>	Meeting Ends 1 pm	

## AChemS Industry Liaison Committee

*Michaels Meredith, PhD*

For the 2007 AChemS meeting the IL committee coordinated the organization of an Industry Symposium consisting of two events: (1) A mini-symposium organized by Krystyna Rankin (IFF) and Carol Christensen on "Human Axilla –Why?", which examined the sources and functions of various compounds produced in the human axillae; as well as the concept of malodor and its control; (2) a series of short talks on recent advances in taste research, designed to be accessible to industry scientists and policy makers who may not have time to stay abreast of all chemosensory research. The speakers were Stephen Roper (University of Miami), Robert Bryant (Redpoint Bio), Steven Munger (University of Maryland), and Dennis Drayna (NIH). The presentations were followed by a round-

table discussion including questions from the audience.

The Industry Reception and Buffet brought together the speakers from these two events with industry representatives and academic scientists, providing an opportunity for individual interchange and networking.

- **Industry Events at the 2008 ISOT/AChemS Meeting**

An Industry Symposium and an Industry Reception and Buffet are planned for the ISOT meeting in San Francisco. We plan a more general symposium than last year, with updates on both olfaction/fragrance topics and taste/flavor topics.

- **Fundraising**

In addition to organizing events for AChemS' industry constituents, the IL Committee has also been involved with fundraising for the ISOT meeting. The corporate-membership renewal

drive for 2007-2008 met with limited success but we will continue to follow up with reminders.

We worked with Tom Finger and Tisha Kehn to refine the design of a Sponsor and Exhibitor Prospectus, outlining ways in which companies can sponsor ISOT events, or become exhibitors. We produced a brief description of each of the symposia available for sponsorship and asked symposium organizers to work with us to identify potential sponsors. We prepared letters to scores of companies that might sponsor scientific or social events at ISOT2008, including overseas-based companies identified by leaders of the international Chemical Senses community. All letters were signed by AChemS president Diego Restrepo and either by ISOT Program Chair Tom Finger or by an IL member who has personal contacts within the company.



## JOB POSTINGS

### **POSTDOCTORAL POSITION AVAILABLE IN THE CELLULAR AND DEVELOPMENTAL NEUROBIOLOGY SECTION, NINDS, NIH (< 5 YEARS FROM DEGREE).**

Available position is for a candidate interested in Neuronal migration and Axonal pathfinding. Prenatally, GnRH-1 neurons originate in the nasal region and migrate on olfactory axons into the forebrain. Projects utilize the GnRH-1 neuroendocrine system and olfactory system to study differentiation and migration of GnRH-1 cells and olfactory axon outgrowth during development. The development of the GnRH-1 system is the best characterized example of neurophilic/axophilic migration and we are interested in mechanisms common to neuronal migration in general as well as mechanisms specific to the GnRH-1 system. The laboratory uses multidisciplinary approaches including nasal explants, videomicroscopy, calcium imaging, electrophysiology, immuno-cytochemistry, in situ histochemistry, single-cell PCR, and subtractive cDNA screening. Candidates should have a strong training in one of the following: Neurobiology, Developmental biology, Molecular biology or Neuroendocrinology.

#### **Application Instructions:**

Please send a letter describing your interest and long term goals, a curriculum vitae and three letters of reference to: Dr. Susan Wray, Cellular & Developmental Neurobiology Section, NINDS, NIH, Bldg 36/Rm 5A-21, Bethesda, MD  
Email: wrays@codon.nih.gov NIH is an equal opportunity employer

**NEUROPHYSIOLOGY RESEARCH FACULTY/ POSTDOCTORAL** position to study synaptic networks of olfaction. Position requires a Ph.D. or M.D., neurophysiology training (preferably patch in brain slices) and good communication skills, and it offers competitive salary, grant opportunities and broad neuroscience interactions (<http://pharm.lsuhs-c.edu/pharm/faculty.htm>).

Appointment level depends on previous training and publication record. Send CV and names of four references to: Dr. Kathryn Hamilton ([khamil@lsuhsc.edu](mailto:khamil@lsuhsc.edu)), Cellular Biology & Anatomy, LSU Health Sciences Center, 1501 Kings Highway, Shreveport, LA, 71103-4228, USA.  
LSUHSC-S is an Equal Employment Opportunity Employer.

### **SENSONICS, INC., HAS AN OPENING FOR A M.A./PH.D. LEVEL RESEARCH SCIENTIST POSITION.**

This emerging company is the manufacturer and distributor of tests of taste and smell, rhinology equipment, and educational supplies and provides consulting services to academia, industry, and government. Individuals with backgrounds in psychology, computers, or engineering are encouraged to apply. Excellent employee benefits package. Please forward a complete CV and names of three references to Personnel Manager, PO Box 112, Haddon Heights, New Jersey 08035. An equal opportunity employer.

**POSTDOCTORAL POSITION:** NIH-funded; Available Summer or Fall - for investigation of affective/motivational circuits in the AMYGDALA using chemo-sensory communication via vomeronasal and olfactory systems as a model. Studies involve mechanisms of medial amygdala categorization of unlearned salient conspecific ("pheromone") and heterospecific signals, using immediate-early gene activation and cell phenotyping by immuno-cytochemistry or in-situ hybridization, as well as tract-tracing.

Hypotheses include a modulation by dopamine, by neurohormones and by experience. Future plans include electro-physiological studies in amygdala brain-slices and/or in vivo.

Please send Curriculum vitae and names of three references to: Michael Meredith, Neuroscience Program ([www.neuro.fsu.edu](http://www.neuro.fsu.edu)), Florida State University, Tallahassee FL 32306 USA. [mmered@neuro.fsu.edu](mailto:mmered@neuro.fsu.edu) (850) 644-34

Postdoctoral Fellowship in Olfactory Genomics is available to investigate the molecular/cell biology and physiological genomics of the olfactory epithelium. Research opportunities include cellular interactions, neuronal function, and transcriptional/epigenetic control of neurogenesis. A Ph.D. or equivalent, a record of publication, and experience in molecular biology, physiology, chemistry, or biochemistry are required. Salary commensurate with experience. Contact Tim McClintock, Ph. D., Louis Boyarsky Professor of Physiology, [mcclint@uky.edu](mailto:mcclint@uky.edu).



## JOB POSTINGS Continued

### VISITING ASSISTANT PROFESSOR POSITIONS (2) AT WASHINGTON AND LEE

The Psychology Department at Washington and Lee University (<http://psych.wlu.edu>) seeks to fill TWO one-year Visiting Assistant Professor positions. Candidates should have expertise in either cognition, biopsychology, health/clinical psychology or some combination of the these areas. Competitive applicants will demonstrate a commitment to undergraduate instruction and engagement of undergraduates in research. We seek candidates who can teach one or more courses from the following list: cognition, biopsychology, drugs and behavior, learning, abnormal behavior, social psychology, personality, introductory design and analysis, as well as courses in the successful candidate's area of expertise. In addition to a current CV, three letters of recommendation and representative reprints/preprints, applicants should provide evidence of teaching effectiveness and the potential to involve undergraduates in research or independent study. PhD by time of appointment preferred. Send application materials to: Search Committee, Department of Psychology, Science Center, Washington and Lee University, Lexington, VA 24450. Review of applications begins immediately and will continue until the position is filled. Questions about these positions may be submitted to [psychology@wlu.edu](mailto:psychology@wlu.edu).

Washington and Lee is an Equal Opportunity Employer. As such, we are interested in candidates who are committed to high standards of scholarship, performance and professionalism and to the development of a campus climate that supports equality and diversity in our faculty, staff and student body. Founded in 1749, Washington and Lee University ([www.wlu.edu](http://www.wlu.edu)) is a highly selective liberal arts college located in Lexington, Virginia. Washington and Lee is consistently ranked among the top 20 national liberal arts colleges by U.S. News and World Report.

Givaudan is the leading company in the flavours and fragrance industry with a vision to be the Essential Source of Sensory Innovation for customers, driven by a mutual passion for excellence.

Through unique sensory expertise and consumer insight, Givaudan provides customers with the taste and smell profiles that are key to their products' success. Givaudan serves global, regional and local customers around the world. We currently have an opportunity for a Research Technologist based in our Cincinnati, Ohio North American headquarters. The position is part of the R & D – Flavor Science – Sensory Research Group.

#### Essential Duties

- Under supervision of sensory project managers, set-up experiments (including sample preparation and panelist recruitment) and collect data relevant to ongoing research related to perception, reward and human behavior.
- Manage internal panels for sensory studies such as discrimination and descriptive testing. Includes panelist recruitment, implementing study designs (sample preparation, data collection, etc.) and providing results to sensory project managers.
- Maintain accurate up-to-date records of all projects
- Perform general lab housekeeping and maintain inventory of supplies Position

#### Qualifications/Requirements

- Bachelor degree in biology, physiology or psychology
- Experience in human physiological testing (e.g. psychophysiology, human performance or exercise science) preferably in an academic, clinical or industrial lab setting.
- Skilled in windows-PC environment including Microsoft Word, Excel, Powerpoint. Knowledge of data acquisition and statistical software would be beneficial.
- Excellent communication skills
- Ability to work effectively in a team environment
- Self-motivated, dynamic, flexible, organized

If you are interested in the opportunity please contact: Tina Stiefel, Human Resources - Givaudan - 1199 Edison Drive - OH 45216 - Cincinnati - USA [tina.stiefel@givaudan.com](mailto:tina.stiefel@givaudan.com) T: 513-948-3260 F 513-948-5607 [www.givaudan.com](http://www.givaudan.com)

## (Good) News from *Chemical Senses*

We would like to draw your attention to 3 new developments at *Chemical Senses*:

==> The journal has a new cover design which accommodates the display of a figure selected from a paper inside. If you submit (or review) an article that you think has worthy images, please be sure to alert us by checking the appropriate boxes on the submission and review forms.

==> In addition, *Chemical Senses* is now able to publish invited Commentaries that will accompany articles that reviewers flag as being especially noteworthy.

==> Beginning in April, the Journal will offer free on-line color figures, meaning that even figures published as gray-scale or black/white in hard copy can appear on-line as color.

Also please note the following important information that was received from Oxford Press in response to a request to clarify how the journal conforms with the new NIH Public Access Policy:

Publishing in *Chemical Senses* is fully compliant with the new NIH Public Access Policy (<http://publaccess.nih.gov/policy.htm>):

For *Chemical Senses* authors who choose the Oxford Open option (at a cost); <http://www.oxfordjournals.org/oxfordopen/>),

you may deposit the final version of your published article and make it freely available in PubMed Central immediately upon publication. Very shortly, Oxford Journals will also announce a new service to Oxford Open authors - articles published under this open access model will be automatically deposited in PMC by OUP, with no further action by the author required. For all other *Chemical Senses* authors, you may deposit the accepted manuscript version of your article and make it freely available in PubMed Central 12 months after publication, in compliance with the NIH policy. This also applies to previously published articles.



International Symposium on Olfaction and Taste /  
AChemS Meeting

July 21 - 26, 2008  
Hyatt Regency Hotel at the Embarcadero  
San Francisco, California

**SEE YOU THERE!**

*Please note: Online registration closes June 20th.  
After that date all registrations will be done onsite.*



# RECIPIENTS OF THE 2007 ACHEMS AWARDS

## Max Mozell for Outstanding Achievement in the Chemical Senses



Dr. John Caprio  
Louisiana State University

### Research Focus

My laboratory's research focuses on the physiology of the senses of taste and smell in

fish. Many fish are capable of detecting extremely low levels of particular organic compounds in the environment through either chemical sense. Because they possess well-developed olfactory and gustatory systems, the primary experimental animals used in our research are catfish. Our earlier

studies centered on the physiology of the oral and extra-oral taste systems, the specificity of single taste fibers, the somatotopic organization within the primary gustatory nucleus of the medulla, and forebrain gustatory connections. We investigated the manner in which each system responded, not only to single stimulants but also to simple and complex mixtures. The majority of our more recent work involves studies of the processing of odor information from the receptor cell through the olfactory bulb to various regions of the forebrain.

## Ajinomoto Award for Young Investigators in Gustation



Dr. Steven D. Munger  
University of Maryland

### Research Focus

The goal of our lab is to understand how the molecular

diversity and genetic heterogeneity of G protein-coupled transduction mechanisms contributes to chemosensory function and impacts ingestive and social behaviors. Mammals utilize several distinct populations of olfactory, vomeronasal and gustatory sensory cells to detect chemical cues carrying important information about the quality of food, the suitability of mates, and the presence of predators or competitors. Each of these populations

expresses distinct receptors, channels and transduction cascades. Though many of the key transduction molecules have been identified, the mechanisms by which many chemosensory cell populations detect and discriminate relevant chemical cues remain poorly understood. Our lab utilizes a wide array of molecular biological, genetic, biochemical, biophysical, anatomical and behavioral approaches in mice and humans to understand how diverse transduction mechanisms in the olfactory and gustatory systems impact sensory coding, instruct behavioral responses, and contribute to disease.

## Moskowitz Jacobs Award for Research in Psychophysics of Human Taste and Smell

Dr. Verónica Galindo-Cuspinera  
Nestle Research Center



### Research Focus

The sense of taste is a complex system which involves several processes from the moment we put a substance

into our mouth until our brains translate this information into what we recognize as a taste. Although great advances have been made in the area of taste psychophysics, to better understand taste perception it is important to combine human psychophysics with other disciplines such as molecular biology, genetics or brain imaging to assess where and how taste is elicited and perceived. The main focus of my research is on taste psychophysics where I study phenomena ranging from adaptation and inhibition to more complex taste after-images (such as water-taste), which in combination with other disciplines have proven to give important information about taste modulation. At present, my work focuses on two main areas, taste sensitivity as it relates to an individual genetic profile (psychogenomics) and sweet taste modulation, specifically how intensive sweeteners can elicit different taste qualities throughout time and how their taste can be manipulated (either enhanced or suppressed) to improve the overall sensory experience.

# AChemS Young Investigator Award for Research in Olfaction

Dr. Noam Sobel  
Weizmann Institute of Science



## Research

### Focus

Our lab studies human olfaction. Our two main goals are (1) to elucidate

the systems-level neurobiological mechanisms of olfactory processing, and (2) to elucidate ways in which chemical sensing effects human behavior. Much of our work has concentrated on sniffing. Specifically, we have concentrated on (1) the behavioral mechanisms of sniffing, (2) the brain mechanisms that control sniffing, and (3) the influence of sniffing

strategies on the eventual olfactory percept. Key findings in each of these areas have been (1) that sniffs are odorant-specific within ~200 msec of sniff onset, (2) that the cerebellum is implicated in the above odorant-specific sniff modulation, and (3) that because sniff-parameters are nostril-specific, there is a difference in the olfactory percept obtained from each nostril within a given sniff. This work has evolved on one hand to examination of a possible sniffing impairment as a source of the olfactory impairment in neurodegenerative disease, and on the other hand to development of sniffing front-ends for electronic noses.

Additional major undertakings in the

lab have been an extensive characterization of odorant-induced activity in human primary olfactory cortex, as well as characterization of potential mechanisms of chemical communication in humans.

Current projects in our lab revolve around an effort to introduce novel methods to the study of human olfaction in an aim to elucidate the rules that link odorant structure to odorant perception. To this end, in addition to psychophysics and functional imaging, we aim to develop methods for recording electrically and optically directly from the human olfactory epithelium *in vivo* and *in vitro*.



## Don Tucker Memorial Award

Nicolas Pirez  
Boston University, University of Maryland

### The Effect of Sniff Frequency on Presynaptic Inhibition of Receptor Input to the Olfactory Bulb

Olfactory receptor neurons (ORNs) converge onto olfactory bulb (OB) glomeruli corresponding to individual odorant receptors. ORN input to a glomerulus is modulated via feedback presynaptic inhibition. Slice experiments using paired olfactory nerve stimulation have shown that this inhibition peaks 100–200 ms after a conditioning pulse and decays with a time-constant of; 500 ms. Sniffing in rodents varies between 2 and 10 Hz (intersniff intervals from 100 to 500 ms); thus, changes in sniff frequency could change the level of presynaptic inhibition of ORN input. We asked how sniff frequency modulates the level of presynaptic inhibition at the ORN synapse *in vivo* by imaging odorant-evoked input to the OBs of anesthetized mice. ORNs were loaded with calcium-sensitive dye and sniff frequency was controlled using an artificial sniff protocol. As reported previously, blocking GABAB-mediated presynaptic inhibition increased the amplitude of odorant-evoked calcium signals, but, contrary to that study, we observed no change in the relative amplitude of “surround” signals. Surprisingly, the increase in ORN input was independent of sniff frequency, and was seen even during the first sniff after odorant onset. It is possible that each sniff (150–200 ms in duration) evokes sufficiently prolonged input to the glomerulus that feedback presynaptic inhibition is evoked by all sniffs regardless of intersniff interval. Alternatively, presynaptic inhibition may occur tonically in the anesthetized mouse but not in slice preparations. Experiments testing these 2 hypotheses are currently underway.

Funded by NIH DC06441.



## International Flavors and Fragrances Award for Outstanding Research on the Molecular Basis of Taste

Dr. Robert F. Margolskee  
The Mount Sinai School of Medicine

### Research Focus

The sensation of taste is initiated by the interaction of sapid molecules (tastants) with receptors and ion channels in the apical microvilli of taste receptor cells (TRCs). This phylogenetically primitive sense enables higher organisms to avoid toxins and find nutrients. Many taste transduction pathways convert chemical information into cellular second messenger codes utilizing cyclic nucleotides (cNMPs) or inositol trisphosphate

(IP<sub>3</sub>). These messengers are typically part of a signaling cascade that leads to TRC depolarization and Ca<sup>++</sup> release. Our studies and those of other investigators have shown that responses to bitter, sweet and umami (glutamate) compounds are transduced by specific receptors linked to guanine nucleotide binding regulatory proteins (G proteins). Current psychophysical models suggest that taste is comprised of five distinct qualities: sweet, sour, bitter, salty and

umami. How the vertebrate taste cell responds to a given tastant (signal transduction), and how this information is processed in the periphery and encoded in the gustatory areas of the brain (sensory coding) are both areas of keen interest to my research program.

## Sense of Smell Institute Science of Fragrance Award



Jay Gottfried  
Northwestern University

### Learning Modifies Neural Representations of Smell in Human Olfactory Cortex

It is widely presumed that odor quality is a direct outcome of odorant molecular structure, but increasing evidence suggests that learning, experience, and context play important roles in human olfactory perception. For example, the same odorant smells entirely different depending on whether it is labeled as “mildew” or “fresh cucumber”. A cherry odor becomes smokier in quality after being experienced together with a smoky odor. Such observations suggest that a given set of olfactory receptors activated by an odorant does not map directly onto a given odor percept. Rather, odor perception may rely on more synthetic, or integrative, mechanisms subserved by higher order brain regions. Data presented here will explore the specific role of human piriform cortex and orbitofrontal cortex in the formation and modulation of odor quality coding. Combining olfactory psychophysical techniques and functional imaging approaches, we have found that sensory-specific information about an odorant is not static or fixed within human olfactory cortex, but is highly malleable and can be rapidly updated by sensory exposure, perceptual experience, and associative learning. This experience-dependent neural plasticity is paralleled by behavioral improvements in odor perception. Our findings provide direct evidence for the role of learning in shaping neural representations of odor quality in the human brain, a mechanism that may underlie the emergence of olfactory perceptual expertise.

Grant support: NIDCD.

## ACChemS Distinguished Service Award



Dr. James F. Battey  
Director, National Institute of Deafness  
and Other Communication Disorders

This newly created award, to be conferred on an occasional basis, recognizes individuals with a record of outstanding service to the chemical senses research community.

As Director of the NIDCD Dr. Battey has moved far beyond the role of an administrator by his genuine interest in the Chemical Senses. It is remarkable that whenever Dr. Battey attends an ACChemS meeting he acts as one more of the scientists by active participation in discussions during and after the presentations. His genuine interest in science has allowed him to work in the best interest of our field in an impartial manner. In addition, Dr. Battey is broadminded, and has a keen interest in the advancement of science. He has a comprehensive view of science, and has participated in important NIH-wide initiatives such as the NIH knockout mouse project and the NIH workgroup on stem cells. Importantly, Dr. Battey has demonstrated a strong interest in ensuring NIH support for junior investigators. Ensuring success of promising junior investigators is key to the future of the Chemical Senses. In summary, Dr. Battey is the perfect example of the outstanding scientific administrator, an astute scientist/administrator intimately engaged in the affairs of science.

Dr. Battey received his B.S. degree in physics from the California Institute of Technology, and his M.D. and Ph.D. in biophysics from Stanford University School of Medicine. After receiving training in pediatrics, he pursued a postdoctoral fellowship in genetics at Harvard Medical School. Dr. Battey is widely recognized for his work on G-protein coupled receptors (GPCRs), a large family of proteins important in cell-to-cell communication, and integral to an array of physiological processes, including taste and smell. His laboratory is collaborating on a large-scale project to identify molecules that are important for taste. He has held a variety of positions at the NIH, including serving in the National Cancer Institute, the National Institute of Neurological Disorders and Stroke, and NIDCD, before being named director of the NIDCD in 1998.

## Polak Young Investigator Award



Jean-Francois Cloutier



Shawn Dotson



Don Katz



Minghong Ma



Nathan Urban

# A Look Back at AChemS XXIX



