

ACChemS

Association for Chemoreception Sciences

ANNUAL

Newsletter

2017

FOSTERING CHEMICAL SENSES RESEARCH AND UNDERSTANDING SMELL AND TASTE IN HEALTH AND DISEASE

MESSAGE FROM THE PRESIDENT



Steven Munger, PhD
President, ACChemS

Well, it has been quite a year for ACChemS. We remain a strong organization with an engaged membership, sound financials, and a unique role as a leading voice and resource for science and education in the chemical senses. Over the last year, our membership has worked hard to build on the our current strengths and to help prepare us for the road ahead. Here are some highlights.

New management

Perhaps the most important change over the past year has been the transition to a new association management firm, SPLtrak. Last October 26th I sent you an email that summarized the rationale for this change as well as the details of the search process that led to it. To briefly summarize, the Executive Committee concluded, after a national search that included our management company L&L, that a partnership with SPLtrak provided the best opportunity for ACChemS to thrive. Their vision clearly meshes with our goals of serving our diverse chemosensory community through the Annual Meeting; developing new services and resources that would be valuable to our members; growing that membership; maintaining a strong financial position; and making ACChemS a critical resource for the public on all issues chemosensory.

SPLtrak has hit the ground running and managed a smooth and lightening quick transition. They have eliminated a number of unneeded contract services, improved management practices and communication, navigated our always hectic abstract submission season with nary a hiccup, and have already instituted a number of welcome innovations (some of which you will see the first hints at the Annual Meeting in April).

You may also have noticed the attractive and functional meeting website achems2017.org, the society website will soon get an equivalent overhaul. They have also been a pleasure to work with. We say welcome to Adam Kohm, Melissa Szkodzinska and the rest of the SPLtrak team! We look forward to many years together. Please introduce yourself when you see them at the conference.

I would like to again offer sincere thanks on behalf of the ACChemS membership to L&L Management Services, and especially our longstanding Executive Director Tisha Kehn. For over 12 years, Tisha and L&L helped us mature as an organization. We would not be where we are without their efforts, advice and expertise. We wish them the best.

Increased value of the annual meeting

Linda Barlow, our 2017 Program Chair, and her committee have put together a fantastic Annual Meeting. The ACChemS Annual Meeting is the highlight of our year, as well as our biggest expense and source of revenue. This past summer, I convened a task force (which includes Rachel Herz, Matt Wachowiak, Pat DiLorenzo, Linda Barlow and Robert Anholt) to explore ways to enhance the Annual Meeting that maintains its strengths and unique culture while also increasing its competitiveness for the eyes and dollars (or euros or yen) of those interested in the chemical senses. This process is ongoing, and we welcome your suggestions. One idea that did emerge was to complement the diverse program of the Annual Meeting with a focused satellite symposium that would allow key constituencies to drill deep into a specific topics of interest. This year, a two day satellite (<https://achems2017.org/web/program.php>) focused on peripheral mechanisms of chemosensation will take place at the Hyatt Regency Coconut Point. All are welcome. I hope that future years will see satellites focused on other topics of interest to the chemosensory community such as human chemosensory function, central mechanisms of smell and taste, or chemical ecology.

(Continued on page 2)

PRESIDENT'S MESSAGE (continued)

Increased value of membership

AChemS provides a variety of services to members. For example, it hosts the the Annual Meeting; represents the community to the NIH, NSF, other government entities and to the public at large; and facilitates the editorial relationship with Chemical Senses. But could we, and should we, do much more? One motivation for bringing SPLtrak onboard was to help us identify and execute new initiatives that will make an AChemS membership even more valuable. President-elect Tom Finger, myself and others on the Executive Committee will be working with SPLtrak to identify new ways to add value to being a member. Please let us know if you have any suggestions about things AChemS could provide that would be valuable to you and your colleagues.

A role in the discussion of science and society

Last year, Past-President Susan Travers re-launched our Federal Liaison Committee, chaired by Alan Spector. Alan and his committee are making sure that the views of AChemS are represented to the NIH and other federal agencies. For example, they submit comments on relevant NIH initiatives and plans such as the most recent NIDCD Strategic Plan.

This year, the AChemS Executive Committee and I voted unanimously to join over 170 different scientific societies in expressing opposition to the Presidential Executive Order on immigration issued in late January as we felt it directly and negatively impacted our members. It is my belief that AChemS has a responsibility to convey our knowledge and views on political issues that affect our field and our members. However, the question of whether scientific societies in general, and AChemS in particular, should engage in political discussions is an important one that we should and will continue to discuss. If you would like to express your thoughts on this or any other issue, I invite you to participate the upcoming Business Meeting at 12:50 pm on April 28th.

Finally, I want to thank you all for the opportunity to serve as President of AChemS for this past year, even though the issues that we addressed were very different than the ones I would have predicted when I ran for the position. Even so, it has been a privilege.

See you in April in Bonita Springs!

SECRETARY'S REPORT

Rachel Herz, PhD, *Chair*

This past year has seen many improvements in our online presence and visibility. First, the AChemS website continues to be upgraded. In addition to cleaning up the functionality, format and appearance of the pages, a number of updates have been made, including a new tag line on the Home Page which defines our society: "AChemS, the Association for Chemoreception Sciences, is a scientific research organization dedicated to understanding the "chemical senses" of smell, taste, trigeminal irritation and internal chemoreception from the fundamentals of neurobiology to complex behavior." Also on the website, we have been more active in posting job opportunities in the Career Center (under the Member and Public Resources tab) and in encouraging members to report their findings and accomplishments. We have been sending emails out approximately every two months to encourage members to submit their achievements. Please do not be shy to respond to these requests and to send us notices whenever you have anything newsworthy to report. We also welcome any comments you may have that would help with our efforts to continue to improve the website.

Facebook and Twitter has increased and been improved over the past year including highlighting the monthly table of contents from Chemical Senses and posting AChemS relevant news and updates. There is considerable room

for us to expand our social media presence, which we intend to do over the coming year, and we encourage members to contact us to share ideas and anything specifically you would like to see in our social media presence.

Finally, I am very proud to announce that we have created a Wikipedia page for AChemS (https://en.wikipedia.org/wiki/Association_for_Chemoreception_Sciences). Due to the nature of creating pages in Wikipedia it is only a bare bones page at the moment and members are now urged to contribute information to the existing sections and to add new sections. Examples of new sections include: information about the annual meeting, general information about chemosensory science, past activities of the organization, awards, trainee support, as well as external resources that reference AChemS. Please help us grow our Wikipedia page and add your input so that we can increase public awareness and knowledge about our society and chemosensory research. If you should need any assistance on how to edit the page and what content would be most valuable, we are here to help at info@achems.org.

TREASURER'S REPORT

Joel Mainland, PhD, *Chair*

Despite lower-than-expected attendance and revenue at the 2016 AChemS meeting, our finances are in excellent shape. As part of our transition to new management, we have successfully transferred our financial records over to a new on-line accounting system. A review by the independent auditors conducted in June 2016 confirmed that AChemS has over \$540,000 in assets. Our investment portfolio is performing well—since inception in December of 2011, the value of the portfolio has increased by approximately \$63K.

PROGRAM CHAIR'S REPORT

Linda Barlow, PhD, *Chair*

Update on the 2017 AChemS meeting.

The program for the AChemS XXXVIII meeting can be found at <https://achems2017.org/web/program.php>. Thanks to our new team at SPLtrak, Adam Kohm, Melissa Szkodzinska and Jamie Price, for facilitating the development of the program; we now have outstanding administrative support.

The 2017 meeting consists of 8 symposia selected from submissions by the membership, the Presidential Symposium comprising invited speakers, and 2 awards symposia – Polak Young Investigators and the Awards Symposium. Additionally, the clinical meeting will be a full symposium and the Industry meeting will take place as the Public Health and Industry Symposium.

Additionally, following on the success of last year, the AChemS History committee will host journal club. New this year, we have a workshop on RNAseq technology. Note this year, no abstracts were selected for platform presentations (except for Polak Young Investigators); all speakers have been invited, and ~half of these people are first time AChemS attendees.

Steve Munger has organized a satellite meeting “Cellular and Molecular Mechanisms of Chemosensory Detection”, running from Tuesday afternoon and evening, through Wednesday morning before the official national meeting. The roster of speakers can be found at <https://achems2017.org/web/program-satellite-symposium.php>

Total number of Submitted Abstracts (posters and oral sessions):

Total number of oral/symposium abstracts: 50

Total number of posters: 283

- 108 Abstracts submitted by students
- 175 Abstracts submitted by PIs or postdocs

Total rejected: 1

Year	2012	2013	2014	2015	2016	2017
Submitted Abstracts	319	298	387	347	304	333

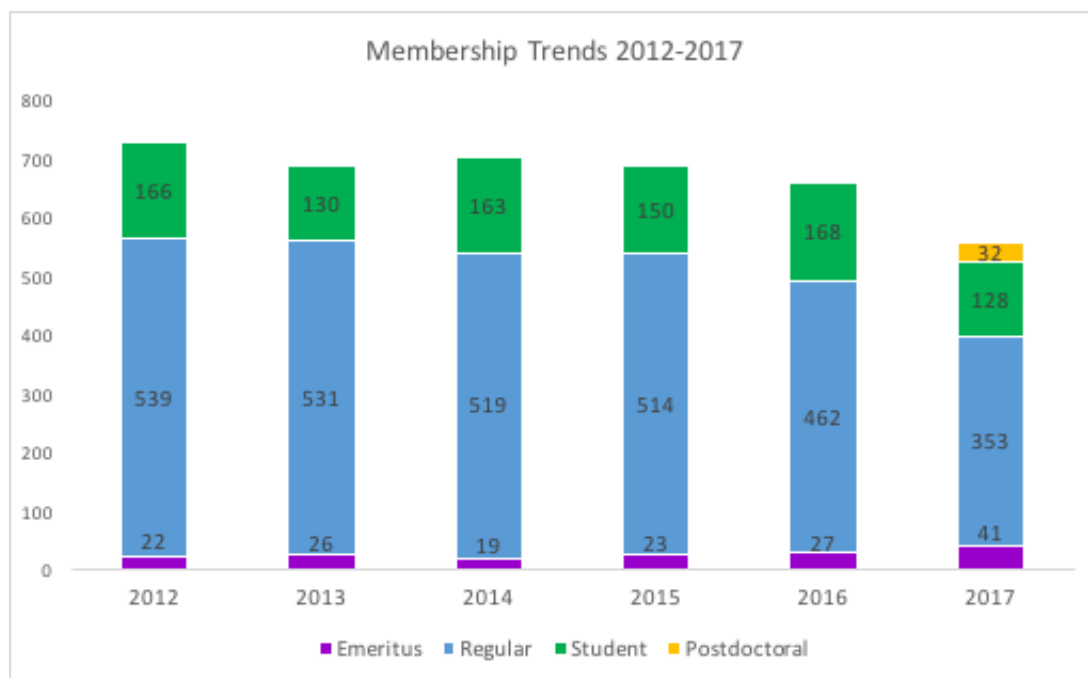
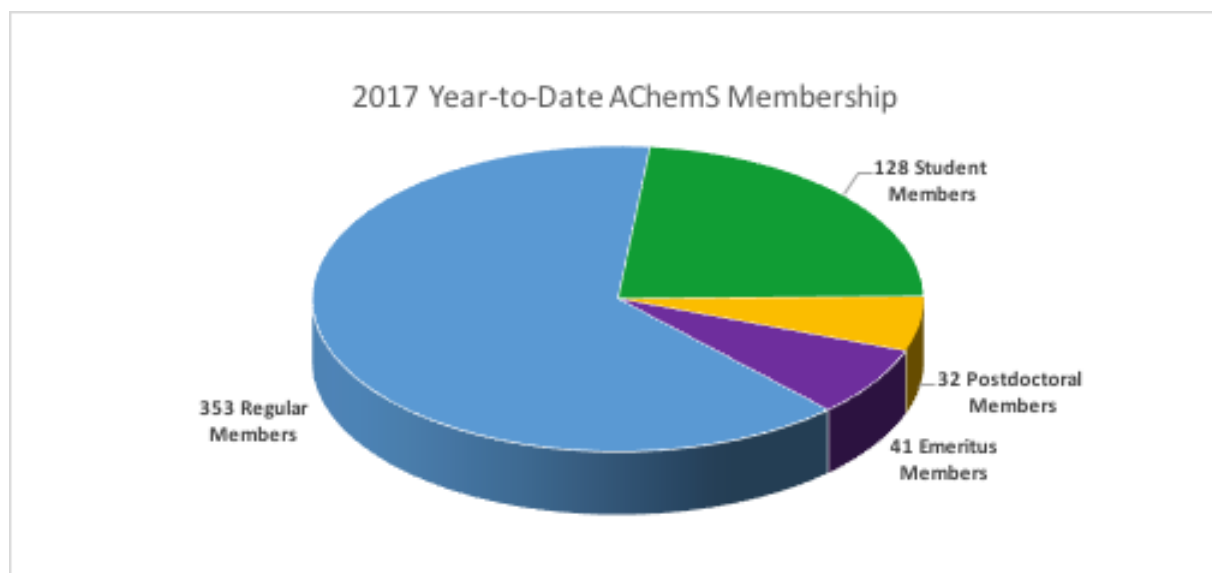
MEMBERSHIP REPORT

Kurt Illig, PhD, *Chair*

As of early March 2017, a total of 554 members have renewed their membership since last year. Each year, the early registration deadline for the Annual Meeting coincides with a large number of membership renewals; at the time of this report, that deadline was still 3 weeks away.

So far in FY 2017, Regular membership is at 353 members, which is about 25% lower than last year's total, and about 40% lower than pre-2012 levels. This is the first year we report the new Postdoctoral membership category (approved at the 2016 meeting), which has 32 members.

Student membership has decreased by 40 members, perhaps not-so-coincidentally. Finally, Emeritus membership is up 14, from 27 to 41 members. To encourage membership, we now directly email members at their renewal date. We are working with SPLtrack to initiate efforts to verify the status of student and postdoctoral members at the time of membership enrollment and renewal, and to collect demographic information from our membership (e.g. gender, race) to facilitate reporting to our granting agencies.



COUNCILOR'S REPORT

Theresa White, PhD, *Senior Councilor* and Jessica Brann, PhD, *Junior Councilor*

One of our organization's greatest assets is its youngest members; they are the future of AChemS. As a result, AChemS tries its best to continuously support the attendance of students and young scientists at our Annual Meeting. This year, AChemS will provide support to 42 domestic and international students through the Student Travel and Housing Awards. We have also supported five junior investigators with the Polak Postdoctoral Travel Award.

At last year's meeting, we were able to partner with Franklin Park Elementary School to deliver an outreach program to young children about important aspects of the chemical senses. This school is comprised of students who are predominantly African-American. It is located in one of the most socio-economically challenged areas of Lee County, and has a 96% rate of free and reduced lunch. Franklin Park is also a Title 1 school, which means it receives additional funding as a result of the socioeconomic status of its students. At last year's event, AChemS volunteers offered exhibits, displays, and demonstrations that revealed the importance of smell, taste, and flavor in everyday life to children in the 4th grade at Franklin Park.

This year, we are continuing the educational outreach program to children by partnering with the Imaginarium Science Center in Ft. Myers. We last partnered with this organization during 2015, when we successfully disseminated scientific information to the public regarding the importance of the chemical senses to health and overall quality of life. AChemS members will again volunteer their time and expertise to inspire the general public, especially with demonstrations illustrating topics such as the different contributions of taste and smell to flavor perception, the influence of color on the perception of odors, and the differences between chemosensory abilities in animals.

While the event will be open to the general public, it will target students from Franklin Park Elementary. The advantage of maintaining the outreach event at the Imaginarium is that the students from Franklin Park will be able to see the rest of the science museum in addition to our demonstrations. Nine AChemS members (Suzanne Sollars, Andrew Riquier, Eric Larson, Courtney Wilson, Jordan Ross, Cameron Ogg, Stephanie Staszko, Olga Escanilla, and Joshua Sammons) have generously volunteered to inspire the students with demonstrations on April 26, 2017.

In addition to the outreach program targeting children, this marks the first year that AChemS will be providing an outreach program targeting adults. Chemosensory impairments are widely found in the adult population; they not only reduce quality of life, but can also be harbingers of neurological disorders such as Parkinson's Disease or Alzheimer's Disease. Valerie Duffy has volunteered to present the inaugural lecture in this series to an audience at Cypress Cove, which is an independent living facility in Ft. Meyers. Dr. Duffy will liaise with the co-ordinator for medical education at Cypress Cove, Cheri Helnink, in the afternoon and give a 45 minute talk for residents of the facility on issues of nutrition and chemosensory health. We look forward to continuing our outreach efforts in the future and welcome any suggestions from the Membership.

*Thank you AChemS
Volunteers!*



2016 AWARDS CEREMONY



Givaudian Award

Max Mozell Award



Ajinomoto Award

Barry Jacobs Award



2016 AChemS Travel Fellowships for Diversity Award Recipients

Genevieve Bell
Florida State University

Naima Dahir
Utah State University

Jennifer Douglas
Monell Chemical Senses Center and University of Pennsylvania

Veronica Flores
Brandeis University

Andrew Moran
University of Utah

Thomas Myers
Eastern Michigan University

Jennifer Rios-Pilier
University of Louisville

2016 Polak Postdoctoral Travel Award Recipients

Jasper de Groot, PhD
University of Utrecht

Shaina Short, PhD
University of Utah

Archana Kumari, PhD
University of Michigan

Marie Elisabeth Jette, PhD
University of Colorado

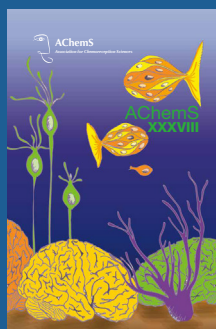
Joshua Sammons, PhD
State University of New York at Binghamton

**2016 AChemS
Student Housing and Travel
Award Recipients**

Murtaza Bharmal
Mary Burke
Annachiara Cavazzana
Cinzia Cecchetto
Yfke de Vries
Michael Dryden
Olga Escanilla
William Heaton
Franziska Herrmann
Liang-Dar Hwang
Kentaro Ikegami
Joel Johnstun
Albert Kim
Laura Lefevre
Yan Liu
Louis Martin
Allison Matia
Sneha Mokashi
Corinna Noel
Katherine Pendergast
Daphnee Poupon-
Pourchot
Jacob Price
Lisa Qu
Stefanie Raab
Megan Randolph
Johanna Reichert
Andrew Riquier
Nora Rochor
Longzhi Tan
Tao Tang
Olga Wudarczyk

**2016 Logo Contest
Winner**

Courtney Wilson



*ACheMS Young
Investigator
Award*

*2015 Don Tucker
Award*



Polak Young Investigator Award

2016 AWARD RECIPIENTS



Harriet Baker

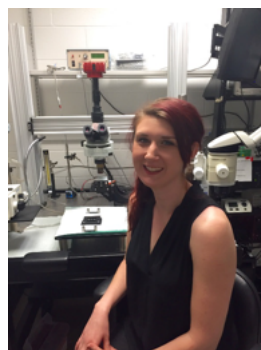
Max Mozell Award Recipient

Research Program

My laboratory has focused on the molecular mechanisms underlying generation and regulation of the dopaminergic phenotype in the olfactory system. These neurons are produced from gestation through adult life from stem cells of the sub-ventricular zone, suggesting that the olfactory system may be a source of cells that can be used to replace damaged neurons. Thus, several model systems have been used to understand where these neurons arise, why only some are dopaminergic and the signals involved in determining the migratory pathway by which they reach appropriate locations in the periglomerular region. In nearly all paradigms, transgenic mice have been utilized that express fluorescent proteins in the dopamine neurons thereby allowing us to follow both lineage and migration. To assess regulation of dopaminergic synthesis as reflected by tyrosine hydroxylase, the first enzyme in the dopamine biosynthetic pathway, olfactory bulb tyrosine hydroxylase activity was shown to be regulated by odor stimulation. A model was established blocking access of odor molecules to the nose unilaterally. Since dopamine is also found in neurons in other areas of the brain, especially the substantia nigra, our long-term goals are to determine whether there is a unique olfactory stem cell that produces interneurons with a dopamine phenotype. In recent years our major effort has been to reveal the mechanisms regulating dopamine synthesis in both immature and mature neurons. Hopefully, the answers may lead to replacement of dopamine-producing neurons that are destroyed in Parkinson's and other neurodegenerative diseases.

Acknowledgements

There are numerous individuals to thank who enabled the success of my career. From the beginning there was my Ph. D. advisor, Lucas Van Orden, who introduced me to quantification in the catecholamine field. Tong Joh and Don Reis, my post-doc mentors, encouraged me to try new methods, think creatively and keep writing. To Frank Margolis who was pivotal in my career as we began a life long collaboration that focused on the expression of tyrosine hydroxylase and olfactory marker protein. These efforts in turn, initiated numerous collaborations with Joel Maruniak, Charlie Greer, Steve Munger, Gary Gibson, Bruce Volpe, Randy Reed, Al Farbman, Donna Chikaraishi and Robert Spencer. I want to thank all my early Cornell-Burke lab members who were so supportive and productive, notably, Donna Stone, Jin Son, Noel Calingasan, Jae Young Cho, Ming Hong Ma, Bruno Conti, BK Jin, Young Wha Moon, Elena Cignola, Nian Liu, Sunghee Cho, Nan Min, Etienne Sibille, Dianne Cummings. In particular, I want to acknowledge more recent colleagues: Yosuke Akiba, Hayato Sasaki, Kasturi Banerjee, Sachiko Saino-Saito and, especially, John Cave for their encouragement and involvement during the past decade. Finally, I want to recognize NIH for generous long-term support and, most importantly, Fletcher McDowell and Raj Ratan at the Burke Medical Research Institute for providing an ideal environment in which to achieve both personal and professional gratification.



Lindsey Czarnecki

Don Tucker Award Recipient

Research Statement

My dissertation research is focused on the role of multimodally-derived expectations and surprise on early sensory processing. Using wide-field in vivo imaging in awake, head-fixed mice, we find that violating expectations about the presentation of an odor-predictive tone cue can influence sensory processing of odors as early as the first synapse in the olfactory system. If mice learn a light-tone-odor sequence and then have their expectations violated by omitting the expected tone but presenting the light and odor as normal, the surprising odor presentation evokes less neurotransmitter release from olfactory sensory neurons (OSNs) compared to previous expectation-congruent trials. This reduced exocytosis is caused by suppression of presynaptic calcium influx in OSN terminals as early as the first sniff after the onset of the surprising odor presentation. In the same paradigm, intracellular calcium imaging from inhibitory periglomerular (PG) interneurons expressing the *Gad2* gene (which encodes GABA synthesis enzyme GAD65) shows that these neurons have an increased response amplitude on the first sniff after the unexpected odor onset, suggesting that the effect of surprise on OSNs is mediated by GABA release from PG cells. Blockade of GABAB receptors prevents the effect of surprise on the OSN terminals, confirming this hypothesis. In a similar paradigm, when the auditory cue persists, but the anticipated odor is omitted, these inhibitory interneurons show a diffuse, non-glomerular, response at the time when the odor would have been presented. During these experiments, it was evident that these PG interneurons also responded to the light and tone cues. Follow-up experiments revealed that these responses to non-olfactory stimuli occur even when stimulation is never paired with odor presentation, and these cross-modal responses are independent of intranasal airflow because they persist following tracheotomy. Both the effects of surprise and multimodal responses require the animal to be awake. This suggests the importance of cognition or "top down" influence on early sensory processing. These experiments show that multimodally-derived expectations and surprise, as well as other sensory modalities themselves, may directly influence sensory processing as early as the primary input into the brain.

Acknowledgements

I would like to thank the Awards Committee for the honor of receiving the Don Tucker Memorial Award. I would also like to give my sincerest thanks to my advisor, Dr. John McGann, for his guidance, mentorship, expertise, and for allowing me to undertake these extremely exciting experiments. Funding of his work was provided by the NIH (NIDCD). Thank you to all of the hardworking members of the McGann Laboratory for their support, and creating such an amazingly productive environment. I am very grateful for AChemS community – I have learned so much attending these meetings and am excited every year to see the wonderful work that is presented.

2016 AWARD RECIPIENTS (continued)



John Hayes

Barry Jacobs Award Recipient

Research Focus

In the 20th century, most researchers stopped looking for universal laws and shifted toward understanding and explaining variability. Individual differences in perception were first linked to dietary behavior in seminal work by Kaplan and Glanville, and Fischer and Griffin, a half century ago.

More recently, advances made by

many regular AChemS attendees have provided new tools to study and explain perceptual variation, and work by my group and others have shown these differences may act as biological drivers of food choice. By integrating psychophysics, neurobiology, genetics, nutrition and food science, my research team addresses three main questions. First, we seek to identify and quantify individual differences in chemosensation – that is, we use psychophysics to define and refine phenotypes in humans. Second, we attempt to associate putatively functional polymorphisms with psychophysical and behavioral phenotypes in vivo. Third, we ask if phenotypic differences are large enough to meaningfully influence dietary behavior. While some phenotypes and/or genotypes have been linked to food choice or diet associated health outcomes, ingestive behavior in humans is highly multifactorial. Thus, polymorphisms that are functional at the bench in vitro or even in vivo under controlled laboratory testing may still fail to be relevant to the health and wellness of free-living humans. Nonetheless, use of psychophysics to quantify perceptual variation from real foods has both strong commercial and public health relevance, as it may be a useful endophenotype for diet related disease, and as a biological basis of market segmentation.

Acknowledgements

I am deeply honored to be named the 2016 Barry Jacobs Memorial Award winner. The list of previous awardees is a remarkable group and I am humbled to be included among them. My sincere thanks goes to Dr. Howard Moskowitz, the sponsor, whose work has strongly influenced my own, as well as the AChemS Awards Committee. Since my first AChemS in 2000, I have only missed a single meeting, and I strongly believe a large part of the professional success I have had is due directly to the collegiality and support of the AChemS community. I must thank my mentors, as I have had the distinct privilege to work with many outstanding scientists in our field. Thank you. In particular, thanks to Harry Lawless for introducing me to the chemical senses, Bruce Halpern for giving me a deep grounding in the literature, and Barry Green for making me a better psychophysicist and teaching me many nuanced points of stimulus control and experimental design. Of course, I must thank my doctoral mentor, Valerie Duffy, for launching me on the integrative, multidisciplinary approach I use today, for her selfless, open mentoring style, and for showing me one can balance being a productive scientist, engaging teacher, strong mentor and active parent, all at the same time.

I should also thank John Prescott, Theresa White, Gary Pickering, Linda Bartoshuk, Bev Tepper, Steve Munger, and Wolfgang Meyerhof for their advice and guidance, and Chris Simons, Mike Akins and Derek Snyder for numerous beverages along the way. Finally, I need to thank my truly outstanding graduate students – they do all the hard work, and make our lab an intellectually stimulating, exciting, and even fun place to work every single day. I cannot list them all by name, but I would like to give special acknowledgement to Alissa Nolden, Samantha Bennett, Nadia Byrnes, and Erin Fleming for their creativity, insights, and hard work. Last, I should thank the National Institutes of Health (NIDCD, NIAAA & NIAID) and my industrial partners for supporting my past and current research and training.



John McGann

AChemS Young Investigator Award Recipient

Dr. McGann received his B.A. and M.S. in Psychology from Yale University in 1998 and his PhD in Neuroscience from Yale in 2003. He did his postdoctoral training at Boston University with Matt Wachowiak. He joined the faculty at

Rutgers University in 2009 as an Assistant Professor in the Behavioral & Systems Neuroscience section of the Psychology Department and became an Associate Professor in 2013.

Research Program

Thus far my research program has focused on the physiology and neuroplasticity of the early olfactory system, including the input to the brain's olfactory bulb from olfactory sensory neurons (OSNs) and the glomerular circuitry that receives and transforms this sensory information from the periphery. It has long been appreciated that this part of the olfactory system can be broadly changed by sensory experiences like odor deprivation, especially during development [1, 2]. However, the work in my lab has used various optical neurophysiological and neurochemical methods to show that this circuit is highly flexible and dynamically adjusts to incorporate specific information about the sensory world into the neural representations of incoming odorants. Remarkably, this includes not only purely olfactory information like how frequently an odorant is encountered in the world [3, 4] but also non-olfactory information about the significance of an odorant (e.g. that a particular odorant predicts an impending footshock)[5] and even whether an odor itself is expected or surprising based on odor-predictive cues presented to other sensory modalities (see this year's talk by Czarnecki et al. in oral session 2 on Thursday). This plasticity of early sensory processing appears to be a normal part of the brain's sensory information processing [6, 7], may facilitate odor discrimination and detection [8] and can also be part of the system's remarkable ability to adapt to injury [9-11]. Ongoing experiments are exploring the neurobiological basis of olfactory bulb plasticity, its potential function in olfactory information encoding and perception, and its potential role in the etiology of certain disease states in animals and humans.

(Continued on page 10)

2016 AWARD RECIPIENTS (continued)

(AChemS Young Investigator Award Recipient Continued)

Acknowledgements

I would like to thank AChemS and its members for providing a rich intellectual environment and nurturing culture that has fostered my development as a chemosensory researcher since 2004. I also thank NIDCD and NIMH for providing the financial support that enabled my professional development and now supports the research in my laboratory. I am particularly grateful to my scientific mentors in the chemosensory community, especially my postdoctoral advisor Matt Wachowiak, and my collaborator Tom Bozza. Most importantly, I am deeply thankful for my students and postdocs, without whom this research could never have been successful, especially Lindsey Czarnecki, Marley Kass, Michelle Rosenthal, Andrew Moberly, Cindy Fast, Joe Pottackal, Dan Turkel, Tom Rubinstein, and Stephanie Guang.

References

1. Cummings, D.M., H.E. Henning, and P.C. Brunjes, Olfactory bulb recovery after early sensory deprivation. *J Neurosci*, 1997. 17(19): p. 7433-40.
2. Ehrlich, M.E., et al., Transneuronal regulation of neuronal specific gene expression in the mouse olfactory bulb. *Brain Res Mol Brain Res*, 1990. 7(2): p. 115-22.
3. Kass, M.D., et al., Odor-specific, olfactory marker protein-mediated sparsening of primary olfactory input to the
4. Kass, M.D., et al., Changes in the neural representation of odorants after olfactory deprivation in the adult mouse olfactory bulb. *Chem Senses*, 2013. 38(1): p. 77-89. brain after odor exposure. *J Neurosci*, 2013. 33(15): p. 6594-602.
5. Kass, M.D., et al., Fear learning enhances neural responses to threat-predictive sensory stimuli. *Science*, 2013. 342(6164): p. 1389-92.
6. McGann, J.P., Associative learning and sensory neuroplasticity: how does it happen and what is it good for? *Learn Mem*, 2015. 22(11): p. 567-76.
7. McGann, J.P., Presynaptic inhibition of olfactory sensory neurons: new mechanisms and potential functions. *Chem Senses*, 2013. 38(6): p. 459-74.
8. Kass, M.D., et al., Changes in Olfactory Sensory Neuron Physiology and Olfactory Perceptual Learning After Odorant Exposure in Adult Mice. *Chem Senses*, 2016. 41(2): p. 123-33.
9. Czarnecki, L.A., et al., In vivo visualization of olfactory pathophysiology induced by intranasal cadmium instillation in mice. *Neurotoxicology*, 2011. 32(4): p. 441-9.
10. Czarnecki, L.A., et al., Functional rehabilitation of cadmium-induced neurotoxicity despite persistent peripheral pathophysiology in the olfactory system. *Toxicol Sci*, 2012. 126(2): p. 534-44.
11. Moberly, A.H., et al., Intranasal exposure to manganese disrupts neurotransmitter release from glutamatergic synapses in the central nervous system in vivo. *Neurotoxicology*, 2012. 33(5): p. 996-1004.



Stephen Wooding

Ajinomoto Award Recipient

Research Program

Taste responses play a vital ecological role. By enabling animals to detect nutrients and toxins in foods and other substances in the environment, taste enables response: attraction or avoidance. The direct connection of this role to evolutionary fitness suggests that taste responses have evolved under intense pressures from natural selection. The goal of my research is to understand the origins and significance of evolutionary changes in taste perception. I investigate these in humans and other primates by examining patterns of variation in genes encoding taste receptors, particularly bitter receptors (TAS2Rs), which harbor signatures of ancient evolutionary processes. These findings are illustrating the extent to which variability present in modern populations is a legacy of long-term evolutionary processes in our ancestors.

Acknowledgements

I am grateful for years of encouragement, support, and insight from AChemS members. I am particularly indebted to Wolfgang Meyerhof, Dennis Drayna, Maik Behrens and Natcha Roudnitzky, along with Linda Bartoshuk, Paul Breslin, and Danielle Reed.

DIVERSITY COMMITTEE REPORT

Barbara Zielinski, *Chair*
Ricardo Araneda
Paul Breslin
Arie Mobley
Robin Dando

AChemS is proud of the diversity of the membership and of the presenters at the annual meeting. The committee acknowledges the many strong applicants for the AChemS Travel Fellowships for Diversity. This award will be offered to 7 outstanding domestic students from under represented groups. These will be announced during the Welcome/Awards Ceremony at the Annual Meeting on Wednesday April 26th, and the awardees will attend a luncheon in their honor on Saturday, April 29th.

MENTORING/NETWORKING COMMITTEE REPORT

Robin Dando, PhD, *Chair*

I hope you're all looking forward to networking under the sun (or more likely the glorious air conditioning). The social event will take place in the usual place this year, on the Estero Terrace and Foyer. Put it into your calendars, and join us for food and drink, and a chance to talk with others in your field, in a more casual surrounding. The event will feature topic tables on issues in science, this year including "Life outside Academia", and "Equality & Science". This year we will also feature a "next steps" table, where you can talk with scientists actively recruiting undergrads for grad school programs, new PhD grads for postdoc positions, and industry representatives looking for those keen to make a switch, so if you're looking for the next step in your career (or you're looking to recruit some great people), be sure to stop by.

And don't forget, if you're a junior member of AChemS looking to learn a little about the society, be sure to attend the Journal Club event, taking place on Saturday. This year's graduate student happy hour will take place Wednesday, April 26 from 9:00 PM – 11:00 PM at the Mangroves Patio. The hotel have graciously agreed to extend their happy hour menus for our Graduate Students (although all others are welcome too). If there are any suggestions for next year's events, please direct them to the Mentoring/Networking Committee either at the meeting, or via email (info@achems.org), and here's to another year!

CHEMICAL SENSES REPORT

Wolfgang Meyerhof, *Editor-in-Chief*

Chemical Senses – March

	2009	2010	2011	2012	2013	2014	2015	2016	3/17
Impact factor	3.031	2.327	2.599	3.222	3.278	3.157	2.500	?	?
Original submissions	194	218	161	147	141	163	175	165*	20°
Avg. time from submission to 1st decision	27.43 days	27.62 days	29 days	35 days	33 days	34 days	34 days+	33 days+	
Avg. time from submission to final decision	69 days	70 days	100 days	95 days	82 days	75 days	86 days	82 days	
Accepted articles	74	96	77	62	65	64	72	75	
Accept ratio	46%	46%	48%	42%	46%	42%	43%	49%	

*157 original articles, 5 review articles, 2 commentaries, 1 book review; about 50% of the submissions are on human/clinical research.

#No. of submissions: Unites States > Germany > China > Japan > UK > France > Italy > 43 other countries. There appears to be a trend of a wider geographical catchment area which may perhaps be due to the recent associations of the journal with the Australasian Association for ChemoSensory Science and the Korean Society for Chemical Senses and Ingestive Behavior.

°18 original articles; 2 review article

+ time required by authors to prepare revisions not included.

Editorial Board

- Contract extensions being offered to those who rotate off.
- A special issue on "*The Role Of The Chemical Senses In Disgust's Disease Avoidance*" is in preparation.

CLINICAL RELATIONS COMMITTEE

Valerie Duffy, PhD, *Chair*

Clinical Symposium Implications for Alleviating Chemosensory Alterations with Cancer Treatments: Connecting Patient Reports with Clinical Assessments and the Basic Science of Sensory Signaling

Although cancer is a leading cause of death worldwide, advances in cancer screening, diagnosis and treatments have helped people live with and manage this chronic disease. Chemotherapy is a main treatment, working to kill rapidly dividing cancer cells yet also inadvertently damaging healthy tissue and systems, including those involved in taste perception. The 2017 AChemS Clinical Symposium offers presentations on chemosensory alterations during cancer and its therapies to bridge clinical practice and basic science. The focus of this clinical symposium resulted from coordination across the AChemS community to highlight emerging research as well as recognize some new investigators. Organized by Valerie Duffy, University of Connecticut, three speakers from different backgrounds – scientists and health care providers – will provide different viewpoints on chemotherapy: not only a clinical perspective in humans, but also focusing on recent advances in fundamental science, in animal, cellular or genetic models.



Following a brief introduction by Dr. Duffy, Dr. Anna Boltong (Cancer Council Victoria and The University of Melbourne) will bring dietetics expertise with cancer patients, sharing their reports of chemosensory alterations and suggesting more uniform language to characterize these alterations and improve monitoring and treatment. Dr. Miriam Grushka (Oral Medicine and Orofacial Pain specialist) brings a wealth of clinical expertise in dentistry and will cover the assessment, evaluation and emerging treatments for oral taste and pain disturbances and phantom sensations. Dr. Archana Kumari (University of Michigan) will present novel research with collaborators in animal models for taste disturbances resulting from chemotherapeutic agents that inhibit Hedgehog pathways and signaling deregulated by prevalent basal cell cancers. The presenters will coordinate their talks to support information sharing and framing of questions to generate new ideas for clinical practice as well as applied and basic chemosensory research.

INDUSTRIAL LIAISON COMMITTEE REPORT

Christopher Simons, PhD, *Chair*

The Industry Liaison Committee (ILC) would like to welcome new member Beverly Tepper (Rutgers University).

At the upcoming AChemS Annual Meeting, a combined Public Health & Industry Symposium entitled Creation of an Interdisciplinary Sugar Reduction Working Group, will address a key public health issue. The symposium will be held on Friday, April 28 from 2-4 pm with a goal of initiating an interactive working group of key stakeholders that includes academics, industry representatives, clinicians, professional organizations, government representatives, and policy makers to identify ways and means of reducing sugar intake in foods and beverages and to agree upon metrics toward accomplishing these goals with an eye on improving public health. This conversation will be a first organizational step towards this objective. Please make sure you plan your schedule so you can contribute to this important dialogue!

The ILC has just completed the annual AChemS Sponsorship Campaign. This endeavor is a significant source of revenue for AChemS that helps to enable the excellent quality of the Annual Meeting. Sponsorship contributions also help to support the Don Tucker Memorial Award for Graduate Student Research, graduate student Travel and Housing Awards, and the Mentoring/Networking Social that is executed through the Mentoring Program.

Our very sincere thanks go out to our continuing sponsors—PepsiCo, Givaudan Flavors, International Flavors and Fragrances, Kerry, and Kao—whose generous support is gratefully acknowledged. Finally, we thank our award sponsors, Ajinomoto and Mind Genomics, whose donations enable the presentation of the Award for Young Investigators in Gustation and the Barry Jacobs Memorial Award, respectively.

We are always looking for new sponsors and will work with your company to find a sponsorship level that works for you! For those companies considering AChemS sponsorship opportunities in the future, keep in mind that Sponsors have the opportunity to sponsor a named symposium; exhibit at a recruitment/tradeshows booth; host a "Breakfast with Industry" table; receive complimentary meeting registration and much more! If this sounds like an opportunity your company is interested in, we look forward to hearing from you!

HISTORY/ARCHIVES COMMITTEE REPORT

Charlotte Mistretta, *Chair*
Robert Bradley
Richard Costanzo
David Hill
Claire Murphy

The History Committee has organized a second annual AChemS Journal Club. The journal club convenes junior and senior members of AChemS to present and discuss topics and papers in the history of chemosensory sciences contributions up to current work.

Join us, Saturday, April 29th at the Annual Meeting to review and discuss:

An Introduction to Conditioned Taste Aversion Highlighting Contributions to the Chemosensory Sciences from James C. Smith, Florida State University.

Conditioned Taste Aversion What is it? Where did it come from? How is it used now?

Presented by:

Alan Spector & Lindsey Schier, *Florida State University*
Jian-You Lin, *Brandeis University*, with Don Katz

MANAGEMENT CORNER

Melissa Szkodzinska, *SPLtrak Project Leader*

Greetings AChemS Members!

It is my great pleasure to introduce myself as your Project Leader at SPLtrak. Our team brings years of experience in society management to your organization and we look forward to a successful relationship with the AChemS membership.

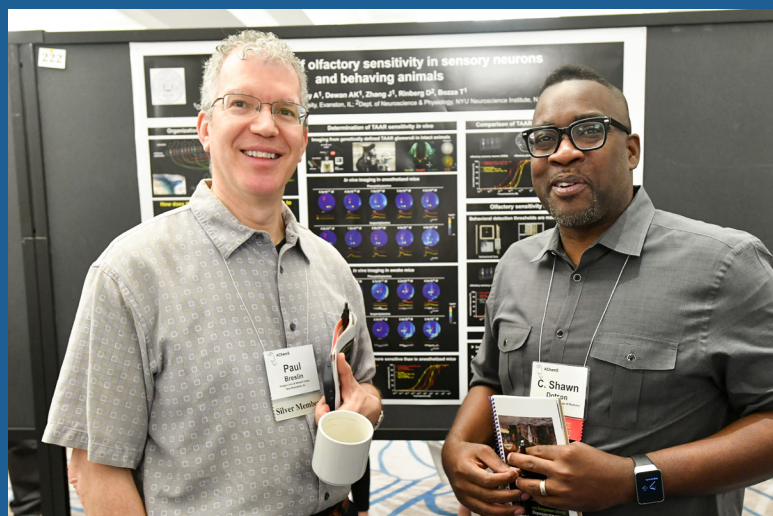
As your new management team, you have probably noticed some exciting changes in the abstract submission system and conference website. We specialize in creating custom technological solutions and developing new services and resources that would be valuable to our members. At the meeting and over the next year, we hope to introduce several additional features/services that will further increase the benefit of your AChemS membership.

We at SPLtrak pride ourselves on the individual service that we provide to each member of our management clients. Please do not hesitate to contact us with any questions or for assistance with your AChemS membership. We also welcome any ideas for services/features that you believe will benefit the AChemS membership as a whole.



2016 Annual Meeting Hyatt Regency - Bonita Springs, FL







SAVE THE DATE

AChemS XL - Bonita Springs, FL
April 18-21, 2018

