



# Spectroscopy Society of Pittsburgh February Meeting

Duquesne University – Bayer Learning Center (Pappert Hall)

## Wednesday – February 15, 2012

Technology Forum Speaker's Presentation **5:30PM**

Social Hour **6:00PM**

Dinner in the City View Café (6th Floor) **6:30PM**

Business Meeting **8:00PM**

Technical Program Speaker's Presentation **8:15PM**

Deadline for Dinner Reservations **2/10/12**

[On-line Reservations](#) or Call Jenna Sabot at (412) 825-3220 ext 212

### TECHNOLOGY FORUM - 5:30 PM

Dr. Sarah Woodley, Duquesne University

#### "Pheromones and Human Mate Choice"

Pheromones are chemosensory cues that are transmitted between members of the same species that influence reproductive behaviors and physiology.

In many vertebrate species, pheromones are detected by receptors expressed by sensory neurons of the vomeronasal organ. Although a number of chemosensory cues have been shown to influence human behavior, the role of pheromones in human mate choice has been controversial because humans for the most part lack functional vomeronasal receptors and a vomeronasal organ. Studies in non-human animals, however, indicate that pheromones can be detected via the main olfactory system, which humans possess. I will discuss the evidence that pheromones influence human mate choice, the physiological basis for pheromonal effects in humans, and the potential role of kissing in transmission of pheromones.

#### Bio

Dr. Woodley is a comparative physiologist interested in how hormones alter behavior and physiology. She received a BS in Biology and a BA in French from Indiana University, a MS in Ecology and Evolution from the University of Chicago, and a PhD in Biology from Arizona State University. She is currently an associate professor of Biological Sciences at Duquesne University. Dr. Woodley received the 2009 Bayer School Award for Faculty Excellence in Teaching, a Creative Teaching Award in 2010, and is a 2011-2012 National Academies Education Fellow in the Life Sciences. Dr. Woodley is an expert in amphibian pheromonal communication and mate recognition, and findings in amphibians have provided insights the elusive role of pheromones in human behavior. Dr. Woodley's other research examines how physiological and behavioral responses to predator cues, environmental contaminants, and other stressors affect amphibian health and reproduction.



### TECHNICAL PROGRAM - 8:15PM

Richard Saykally, University of California at Berkeley

#### "Water Music: The Latest Word on the Most Important Substance in the Universe"

As the third most abundant molecule in the Universe, the "universal solvent" in chemistry, and the basis of all life as we know it, water is a uniquely important substance. Nevertheless, our understanding of its fundamental nature remains surprisingly incomplete, despite truly enormous efforts. This lecture will review recent advances in this understanding, facilitated by new developments in both experiment and theory. These include laser spectroscopy of water clusters, X-ray and Raman spectroscopy of liquid microjets, and nonlinear laser spectroscopy of aqueous electrolyte surfaces. Currently debated subjects include the roles of water clusters in the atmosphere, the mechanism of aqueous evaporation, the nature of hydrogen bonding and structure in liquid water, the effects of salts on this hydrogen bond structure("Hofmeister effects"), the hydration structures of fundamental ions, the surface behavior of aqueous ions, and the acidity/basicity of the liquid water surface.

**Bio**

Rich Saykally is a co-author of over 380 publications that have been cited over 22,000 times and the recipient of over 70 honors and awards from nine different countries. He is a member of the National Academy of Sciences and the American Academy of Arts and Sciences, is a UC-Berkeley Distinguished Teacher, and has been active at the national level in science education. Over 150 students and postdocs have trained under his direction, many of whom hold prominent positions in academic, government, and industrial institutions. Saykally currently holds The Class of 1932 Endowed Chair in the Department of Chemistry at University of California, Berkeley.

**Dinner Reservations:**

Please register on-line at <http://www.pittcon.org/misc/societies/ssprsvp.php> to make dinner reservations NO LATER THAN FRIDAY, February 10, 2012. This month's entrée is Chicken and Shrimp Creole. Dinner will cost \$8 and checks can be made out to the SSP. If you have dietary restrictions, please indicate them when you RSVP.

**Parking Instructions:**

The Duquesne University Parking Garage is located on Forbes Avenue. Upon entering the garage, receive parking ticket and drive to upper floors. Pick up a parking chit at the dinner or meeting.