



SWES SOUNDS



The Heartbeat of the Department of Soil, Water & Environmental Science

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TONES FROM THE TOOTH

In science and education we typically focus on the development and communication of facts. However, the effective communication and transfer of factual information in scientific literature, presentations, proposals, and certainly in the classroom are also important. Therefore, scientists must develop the capacity to communicate a case based on scientific evidence effectively and persuasively.

Rhetoric is the craft of persuasive speaking and an important skill for scientists and educators to develop. Ideally, pure truth and the facts alone should be sufficient to motivate and persuade most people. However, those who most effectively convey the facts and the truth also speak and communicate persuasively. Therefore, it is important for scientists and educators to learn the art of rhetoric. We can certainly count on those who advocate falsehoods and mistruths to employ it quite effectively.

As you may recall from your studies of the classics, rhetoric was a topic of discussion among some of the greatest and best-known ancient Greek philosophers. Socrates is one of the more famous Greek philosophers but he never wrote anything down. Most of our knowledge of Socrates comes from his student Plato who lived from approximately 427 to 347 BCE. Plato had an interest in pure truth. His arguments and writings hold that pure truth alone should be sufficient to persuade people into a given line of thought. Aristotle was several generations younger (384 to 322 BCE) and argued that even though rhetoric could be abused it is very important for facts to be communicated with persuasive speech. Aristotle actually produced a major book called Rhetoric. In this book he gives guidance concerning the best techniques in rhetoric. He also acknowledges that many abuses can take place in society when people have effective skills in rhetoric but not a strong factual basis.

Similar to the days of ancient Greek philosophers, those of us working in science and education have the challenge of developing effective skills in rhetoric to communicate our science both orally and in written fashion. Thus, it might serve us well to be students of Plato and Aristotle as well as students of science. Thus, we have just a little bit more to add to our reading and study list.

Jeffrey C. Silvertooth
Department Head

FEATURED FACULTY

Dr. Christopher Rensing



I would describe my current research as molecular geomicrobiology. This gradual shift of focus is a result of my current departmental affiliation and opportunities for collaborative research. Molecular geomicrobiology is a relatively young subdiscipline that has to be interdisciplinary to be relevant. A focal area that best illustrates the potential for interdisciplinary research is the study of microbial mediated metal transformations. These processes influence the fate, toxicity and bioavailability of metals and metalloids in the environment. Areas currently studied include arsenite and copper oxidation and methylation of arsenic. In all cases my group has identified and purified key enzymes responsible for these reactions. For example, we have isolated and characterized the arsenite(III)-methyltransferase from a diverse array of microorganisms. This work involves microbial genetics and protein biochemistry as well as microbial ecology techniques. There are ongoing collaborations with Drs. Megan McEvoy, Bill Montfort and Vahe Bandarian at the University of Arizona, Dr. Barry Rosen at Wayne State University and Drs Bill Inskeep and Tim McDermott at Montana State University.

I received my doctorate in microbiology at the Free University Berlin in 1996. Afterwards, I moved to Detroit for a postdoc with Barry Rosen in the Department of Biochemistry and Molecular Biology at Wayne State University School of Medicine. Here I studied the biochemical characterization of transport processes. I joined the SWES Department in October 1999. I currently teach *Environmental Biotechnology* and hope to teach *Molecular Biogeochemistry* together with Jon Chorover next fall. It will be a great course so sign up while you still can. Lastly, I'd like to wish Ian Pepper all the best for life after 60!



Gaylen, and Jeff, who worked very effectively as a team, provided this expertise. In addition, the team also had to be adroit and well versed in multiple disciplines including carpentry, electrical wiring, data line implementation, masonry and plumbing. The range of expertise provided by the team was extraordinary. In today's age of specialization, rarely does one come across multi-talented individuals. Also outstanding was the ability of the team to be proactive, think holistically and operate in real-time.

The Water Village is now a unique research facility that has a national reputation. Indeed it has already served as the intermediate test bed facility in a proposal to EPA and Homeland Security. This proposal resulted in a five year \$10m award for CAMRA—the Center for Advancement of Microbial Risk Assessment. We could not have got this award without the efforts of the team in constructing the Water Village. In addition, the Water Village is now home to four graduate students and several undergraduates, who conduct their research at the Village under the supervision of four faculties.

Ian Pepper, Director

GRAD TIPS

Veronica Hirsch



Hello Everyone,
I trust you've all settled in to the current semester. I have some quick Spring 2007 semester course registration updates to provide. For more information, see: <http://www.em.arizona.edu/datesdeadlines/DatesDeadlines.aspx?t=071>

Beginning November 11, 2006: WebReg will be open to ALL students for registration, adds, drops and changes. For any courses requiring department-initiated registration, please contact me via e-mail and be sure to include your name and Student ID in the "Subject" line. For courses requiring instructor approval/invitation, please be sure to "cc:" the instructor when contacting me with your registration requests.

For those of you who will be graduating this December, CONGRATULATIONS! Please be sure to access the Graduate College homepage regarding necessary forms and deadlines. The last day to submit a Ph.D. Announcement of Final Oral Exam is November 10th, and the last day to defend is November 17th. The last day to satisfy all M.S. requirements is December 15th, and the last day to submit the Completion of Degree Requirements is December 22nd.

Please refer to the following web sites for more information:
http://www.grad.arizona.edu/Current_Students/Deadlines/December_2006.php
http://www.grad.arizona.edu/Current_Students/Forms/GC_Forms.php

UNDERGRAD TIPS

The Arizona Student Recycling Association (ASRA) has worked on campus for the past four years to improve the sustainability and ideals of recycling throughout the University of Arizona campus. This year, ASRA is hosting another Homecoming recycling clean up, to keep our campus mall clean and promote sustainability through recycling at the same time. On November 11th and 12th, ASRA will be near the Sonett Space Sciences Building, setting up recycling bins from 6am-4pm on Saturday and collecting recyclables 6am-11am on Sunday. Contact sclassen@email.arizona.edu for more information.



BUSINESS OFFICE

Suzy Brown

The PCard Plus Program Enhancement is here! 'PCard Plus' is an optional Purchasing Card program that allows expenses related to business meetings, business entertainment, employee recognition, employee farewell or special events on a University credit card. PCard Plus mirrors the controls and requirements needed for purchasing similar items via a Check Request, PPO or Purchase Order.

The program is intended to allow greater flexibility in planning and paying for goods and services related to these types of expenses. The PCard Plus Program gives Departments and Central Administration the choice of allowing cardholders to join the program or to decline. Departments may choose to have all cardholders join the program; to enroll only specific cardholders into the program; or to not have any cardholders join the program at all. The program may be added or removed to an existing PCard at any time.

Due to the variety and complexity of policies surrounding these types of expenses, there is a PCard Plus Request Form that must be submitted for each interested cardholder, as well as PCard Plus Training and a PCard Comprehension Exam to be completed by cardholders, reconcilers and approvers before joining the program.

Please link to <http://pacs.arizona.edu/pcard/default.htm> for more information or contact Misty McCormick at 520/621-3288 or sandberm@u.arizona.edu.

POSITIONS

PROGRAM COORDINATOR, SENIOR, Extension Programs Coordinate activities and functions of the Master Watershed Steward (MWS) program, an adult educational program in watershed stewardship for the state of Arizona. Available from January 1, 2007 to June 30, 2008. Statewide travel is required.

For full position details, qualifications and to apply for Job #36347, visit www.uacareertrack.com

* For questions, comments, suggestions, or feedback [contact Brooke McCord at 621-1646](tel:621-1646) or bmccord@cals.arizona.edu