



SWES SOUNDS

THE UNIVERSITY OF
ARIZONA
COLLEGE OF AGRICULTURE
AND LIFE SCIENCES

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

February 2008

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Shantz Bldg. 38, Rm. 429

<http://ag.arizona.edu/SWES/>

Tucson, AZ 85721

TONES FROM THE TOOTH

The fact that environmental conditions on planet Earth have changed independently of human activities in the past leads many to believe that the recently observed trends in increasing atmospheric CO₂ concentrations (and other trace gases) and global warming are natural and not the direct result of human contributions.



There are several basic science concepts that are fundamental to understanding the relationships among issues such as atmospheric CO₂ concentrations, global temperatures, and human activities. The concept of "time" is a good example. Understanding these interrelationships requires us to be able to think in terms of "geological time". Many people (even many working in science) are not familiar or comfortable thinking in terms of geological time-frames. For example as a matter of contrast, the increases in atmospheric CO₂ that we are considering today have taken place in less than 200 years, which is extremely rapid in relation to those records of natural increases of CO₂ in the atmosphere provided in geological records, which have typically occurred over thousands of years.

This is just one simple example that highlights the importance of science education. The SWES Department has a role in contributing to the educational needs related to this and other Earth and environmental processes. I am encouraged by the fact that our department is actively engaged in providing fundamental education concerning these issues to our students and clientele. Education is an important part of our mission. Many of the environmental issues that we are dealing with today as a society serve to reinforce the importance of education and the contributions from this department.

Jeffrey C. Silvertooth
Department Head

SWES REPORT CARD: Note: student names not listed in the UA directory were deleted from the online version of SWES SOUNDS for security reasons.

CONGRATS TO OUR GRADUATES:

The following students have graduated with a PhD in Environmental Science:

Desale Zerai – Ed Glenn, advisor

Pablo Gonzalez-Alanis – Kevin Fitzsimmons, advisor

The following students have graduated with a Master's degree in Environmental Science:

Sadie Iverson – Raina Maier, advisor

The following students have graduated with a Bachelor's degree in Environmental Science:

Echo Casey, Hazel Cox, Cody Dieffenbach, Erin Lansey, r and David Watson.

The following student has graduated with a Bachelor's degree in Crop Science:

David Pratt

Congratulations to all of our graduates! We wish you well as you begin the newest chapters in your lives.

AWARDS:

Hazel Cox. Outstanding Senior Award. SWES Department Award.

Sarah Hayes. CALS Meritous Graduate Teaching Assistant Award. There were 13 other nominees for this award.

Chu Thi Hong Hanh. 1st Place Undergraduate award winner in the 2007 Student Showcase. Agriculture and Environmental Science. "A New Generation of Antimicrobial Material". C. P. Gerba, advisor.

Leona Davis, Richard Rushforth, Lincoln Perino. 1st Place Undergraduate award winners in the 2007 Student Showcase. Architecture, Planning, & Landscape Architecture. "The UA Visitor Center: Demonstrating Sustainable Campus Facilities". Jim Riley, advisor.

Jonathan Sexton. 1st Place Graduate award winner in 2007 Student Showcase. Public Health. "Monitoring MRSA in Tucson Fire Stations". C.P. Gerba, advisor.

Kevin Fitzsimmons. Recognition of Contributions to China's Tilapia Industry. Awarded by China Aquatic Products Processing and Marketing Association, noting that one million people are now employed in China's tilapia industry (feeds, hatcheries, farms, processing and marketing).

K. Fitzsimmons. "Tilapia aquaculture products and food safety." Aquaculture Products and Food Safety Conference. Honolulu, HI. Oct., 2007.

K. Fitzsimmons. "Food Safety, Quality control and Value Added Products to Improve Market Share for Chinese Tilapia." Fourth International Tilapia Industry Forum. Hainan, China. Nov 2007.

C. P. Gerba. "Reinventing hygiene for the 21st century". Agion conference on emerging technologies in health care. Boston, MA. Nov. 8, 2007.

C. P. Gerba. "Pathogens in irrigation water and contamination of produce". Second Northwest Mexico Conference on Nutrition, Food Science and Biotechnology. University of Sonora, Hermosillo. November 16, 2007.

R.M. Maier. "The wet dark microbial world of Kartchner Caverns. Kartchner Caverns State Park, Dec. 13.

The following were presented at the Water Quality Technology Conference. Charlotte, NC. Nov. 5, 2007:

C. P. Gerba, P. Sarker, K. Bright "Occurrence and control of *Naegleria fowleri* in well water and chlorine resistance".

C. P. Gerba. "Occurrence and distribution of free-living amoebae in water.

K. Bright. "Nanotechnology application for the rapid and economic concentration of GI viruses, parasites and bacteria.

The following were presented at the Annual NIEHS Superfund Basic Research Program "20 Years of Success and a Vision for the Future", Durham, NC, Dec. 3-5:

Iverson, S.L. and R.M. Maier. 2007. Fluorescence in situ hybridization (FISH) analysis of roots to examine bacterial colonization during phytostabilization of mine tailings.

Mendez, M.O., J.W. Neilson, and R.M. Maier. 2007. The Klondyke mine tailings site: analysis of its bacterial community. Annual NIEHS Superfund Basic Research Program "20 Years of Success and a Vision for the Future", Durham, NC, Dec. 3-5.

Ramirez, M., D. Moreno, **R. Estrella, M.L. Brusseau, J.A. Field, and A.J. Gandolfi.** What really counts: transferring information to stakeholders – the impact of research translation and community outreach cores.

PUBLICATIONS:

C. P. Gerba. 2007. Virus occurrence and survival in environmental waters. In: *Human Viruses in Water*. A. Bosch, ed. pp. 91-108. Elsevier, Amsterdam.

Strangmann, A., **Bashan, Y.** and Giani, L. 2008. *Methane in pristine and impaired Mangrove soils and its possible effect on establishment of Mangrove seedlings*. Biol. Fert. Soils 44: 511-519.

Mendez, M.O. and R.M. Maier. 2007. Phytoremediation of mine tailings in temperate and arid environments. Rev. Environ. Sci. Bio/Technol. DOI: 10.1007/s11157-007-9125-4

PRESENTATIONS:

The University of Arizona

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PLANE TALK FROM ERL
Ian Pepper, Director

Happy Valentine's Day!!

The Fall 2007 meeting of the Water Quality Center was held at ASU in Tempe, Arizona on December 3-4. Twenty three research progress reports on potable water treatment and monitoring, pathogens, remediation, biosolids and endocrine disruptors were presented. In addition, six new research proposals were presented and subsequently evaluated by the WQC Industrial Advisory Board.

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**BUSINESS OFFICE**  
*Eddie Camacho*

There has been a small change to the Purchase Card system in the SWES Department. As of January 18, 2008, Lisa Spurlin is the contact for all Purchase Card receipts. She will also be the custodian for the Departmental Cards that can be checked out. If you have any questions regarding procedures, allowable expenses or other PCard issues, please contact Lisa at t 621-1646.

**THANK YOU**

Eileen Finnerty Rae would like to send a big thank you to everyone who contributed to her drive to raise \$3000 for the Children's Tumor Foundation. Through your generosity and her diligence, she and her husband not only met but also exceeded their goal! Congratulations to all!

| Sunday                                                                                                   | Monday                                                                          | Tuesday                                        | Wednesday | Thursday                                                                                                      | Friday                                                                                      | Saturday |
|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------|-----------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|----------|
| <h1>February 2008</h1>  |                                                                                 |                                                |           |                                                                                                               |                                                                                             |          |
|                                                                                                          |                                                                                 |                                                |           |                                                                                                               | 1<br>    | 2        |
| 3                                                                                                        | 4<br>Seminar<br>Dr. Arjun Heimsath<br>ASU<br>3:00<br>Marley 230                 | 5                                              | 6         | 7<br><br>Chinese New Year   | 8<br><b>ETRs Due at Noon TODAY</b>                                                          | 9        |
| 10                                                                                                       | 11<br>Seminar<br>Dr. Jeff Silvertooth<br>3:00<br>Marley 230                     | 12                                             | 13        | 14<br><br>Valentine's Day | 15<br> | 16       |
| 17                                                                                                       | 18<br>Seminar<br>Dr. Carl Bauer<br>AD Water Resources Ctr<br>3:00<br>Marley 230 | 19<br>Faculty Meeting<br>11:00-12:00<br>FCS219 | 20        | 21<br><br>Rodeo Parade    | 22<br><b>ETRs Due at Noon TODAY</b>                                                         | 23       |
| 24                                                                                                       | 25<br>Seminar<br>Bo Elberling<br>University of Copenhagen<br>3:00<br>Marley 230 | 26                                             | 27        | 28                                                                                                            | 29<br> |          |

NEWSLETTER TEAM: **Raina Maier, Ph.D.** Editor      **Lisa Spurlin** Coordinator and Distributor      **Karen Josephson** Webmaster

\* For questions, comments, suggestions, or feedback contact [Lisa Spurlin](mailto:Lisa.Spurlin@cal.s.arizona.edu) at 621-1646 or [Lisa.Spurlin@cal.s.arizona.edu](mailto:Lisa.Spurlin@cal.s.arizona.edu)