



SWES SOUNDS

THE UNIVERSITY OF
ARIZONA
COLLEGE OF AGRICULTURE
AND LIFE SCIENCES

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

February 2007

Vol. 26,

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

regular presence in SWES. We all wish Dr. Warrick well in his retirement and congratulate

Issue 2 Shantz Bldg. 38, Rm. 429

Tucson, AZ 85721

TONES FROM THE TOOTH

Dr. Art Warrick, Professor of Soil Physics, officially retired at the end of December 2006. Art first joined the faculty of this Department in 1967, immediately following the completion of his B.S., M.S., and Ph.D. at Iowa State University.



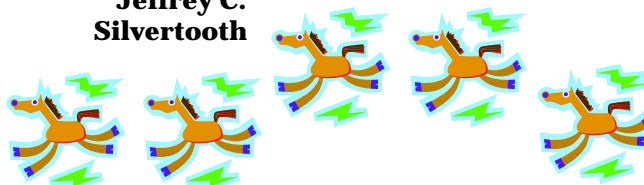
Dr. Warrick has had an extremely productive career in the area of "the movement and interaction of water and soil; unsaturated flow including point and line sources into the vadose zone; movement of potential pollutants in the vadose zone; and the application of geostatistics in the management of soil and water." He has published over 150 refereed journal articles, several books, and 25 book chapters. He directed (as major advisor) approximately 50 graduate students and he had an influence on hundreds of undergraduate and graduate students through his Soil Physics course (SWES 470/570). It is probably safe to say that essentially every graduate student that has come through this department since 1967 has been impacted by Dr. Warrick and his capacity to listen, observe, and ask perceptive questions as these students were preparing their theses, dissertations, and department seminars. Art also taught an advanced graduate course in Soil-Water Dynamics (SWES 605) that students affectionately referred to as "Soil Math".

Dr. Warrick also has a distinguished service record and has always been an outstanding Department citizen. In addition to the many committees and programs that he worked on, Dr. Warrick served as the Acting Department Head from 1986-1988. He liked to walk into my office and ask with a grin "Are you having fun?" Art always carried his share of the load, he has always demonstrated a human and professional interest in his colleagues, and above all Art has always been objective and honest in all of his interactions. Art is clearly recognized as one of the premiere Soil Physicists in the world.

Art Warrick can never really be replaced and one is only left to recognize the very positive impact he has had on the SWES Department, the UA, and his profession. The term "a scholar and a gentleman" is often used in reference to special people. Dr. Art Warrick is truly a "scholar and a gentleman" in every way. We will miss Dr. Warrick's

him on a career fashioned from excellence. Dr. Warrick will remain affiliated with the SWES Department as an Emeritus Professor and we will look forward to the benefit of a continued relationship with him.

**Jeffrey C.
Silvertooth**



FEATURED FACULTY

Dr. Kevin Fitzsimmons

My program is based in aquatic biology with a focus on aquaculture. As a true believer in the Land Grant University I have a three way appointment (teaching/research/extension).

As Professor, I teach the Biology and Culture of Freshwater and Marine Algae (SWES 475/475) with Dr. Glenn in the spring semester. We also teach Aquatic Plants and the Environment (SWES 474/574) in the fall semester. I also guest lecture for Wildlands Water Quality in Watershed, and for SWES's Careers in Environmental Science.

As an Extension Specialist, I work with fish and shrimp farms across the state as well as 22 high schools that have added aquaculture as part of their curriculum. Recently I have also made several presentations on the safety and sustainability of wild and farmed seafood supplies attempting to clear the confusion of which are best consumer choices. I also field calls and requests for information regarding backyard fish ponds, management of urban lakes, and weed and algae control in canals from the CAP to farm irrigation ditches. Through this work, I also became involved with invasive aquatic species. Quarantine and control of invasives is especially important here in Arizona where so much of our water is transported and stored in vulnerable canals and open reservoirs and aquatic and riparian ecosystems have been so reduced. I also work with state and federal hatcheries and agencies on native fish restoration efforts. Several recent graduates now have career positions at Arizona

Game and Fish and US Fish and Wildlife Service. Much of the extension effort is supplemented with a website (Arizona Aquaculture <http://ag.arizona.edu/azaqua>) that received 8.3 million hits, in 1.2 million sessions in 2006.

As a Research Scientist, my research program is primarily focused on sustainable aquaculture systems. In Arizona, our work has been with fish and shrimp production and reuse of effluents for crop irrigation. However, the bulk of research support has been with tilapia, shrimp and seaweed aquaculture in developing countries. Current projects include restoration of aquaculture (35,000 households) in the tsunami impacted regions of Indonesia and Thailand, expanding aquaculture education and R&D in Mexico, and improved feeds and processing of tilapia in China, Malaysia, Kenya, Peru and Ecuador. In 2004, I spent a sabbatical with a Fulbright Fellowship in Thailand at the Asian Institute of Technology where I maintain an adjunct appointment.

Tilapia aquaculture is of special interest. I organize, chair and publish proceedings of an International Symposium on Tilapia in Aquaculture every other year. We work with researchers, development groups, and farmers who produce, process, and market tilapia on local and global basis. A former UA student is now operating a tilapia farm near Gila Bend producing a million lbs per year.

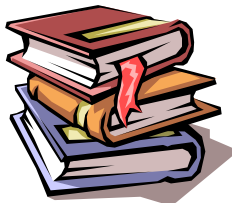
I have been based at the Environmental Research Lab (ERL) since I returned to Tucson in 1981. Our group at ERL also includes two Research Scientists. The first is Dr. David Walker, who is teaching Stream Ecology (SWES 471/571) and has a well funded research program in several areas of aquatic ecology, water quality, and aquatic system management and restoration. The second is Rodney Williams who is an emeritus researcher who has frequent grants from FDA examining antibiotic usage in shrimp aquaculture. We have an active group of undergrad and grad students who are always pleased to show off their research efforts here at ERL.

SWES REPORT CARD:

PUBLICATIONS:

Rensing, C., and S. Franke. 2007. Copper Homeostasis in *Escherichia coli* and Other Enterobacteriaceae. Chapter 5.4.4.1 in A. Böck, R. Curtiss III, J. B. Kaper, F. C. Neidhardt, T. Nyström, K. E. Rudd, and C. L. Squires (ed.), *EcoSal Escherichia coli and Salmonella: cellular and molecular biology*. <http://www.ecosal.org>. ASM Press, Washington, D.C.

Mendez, M.O., E.P. Glenn, and R.M. Maier. 2007. Phytostabilization potential of quailbush for mine tailings:



growth, metal accumulation and microbial community changes. *J. Environ. Qual.* 36:245-253.

Ochoa-Loza, F.J., W.H. Noordman, D.B. Janssen, M.L. Brusseau, and R.M. Maier. 2007. Effect of clays, metal oxides, and organic matter on rhamnolipid biosurfactant sorption by soil. *Chemosphere.* 66:1634-1642.

GRANTS:

Dr. Kelly Bright (Gerba Lab) was awarded a STAR grant from Environmental Protection Agency for \$450,000 to develop new methods for concentrating microorganisms from water.

Payal Sarkar (Gerba Lab) received a \$2000 fellowship grant from the National Swimming Pool Foundation for research on "Chlorine inactivation of *Naegleria fowleri* trophozoites and cysts".

PRESENTATIONS:

Sonia Fankem (Gerba Lab) presented a poster on "Assessment of Enteric Pathogen Exposure in Public Toilets" at the ISEE/ISEA Joint International Conference on Environmental Epidemiology and Exposure in Paris, France, Sept 2-6th, 2006.



GRADUATE STUDENT NEWS:

Congratulations to the following – we are very proud of you:

Barbara Blair (Gerba lab) who has successfully defended her Masters thesis: "Detection of *Naegleria fowleri* in Arizona".

Marisa Chattman (Gerba Lab), who recently earned a Masters Degree in Environmental Science.

Dr. Stephanie Boone (Gerba lab) has accepted a position as a Molecular Biologist at the USDA-ARS in the New Orleans Regional Office.

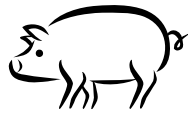
Dr. Ellen Jones (Gerba lab) has accepted a position with the Clorox Technical Center in Pleasanton, California as a Public Health Specialist.

Payal Sarkar (Gerba Lab) won 2nd place in the Student Showcase for her poster on "Inactivation of *Naegleria fowleri* cysts and trophozoites by chlorine".

Sonia Fankem (Gerba Lab) had an internship with the Joint United Nations Program on HIV/AIDS (UNAIDS) in Geneva, Switzerland, July-September, 2006.

OTHER NEWS:

Dr. Charles Gerba spent his holiday hunting wild pigs in the spinach fields of California to track *E. coli* O157:H7. If anyone has a pig problem please call Dr. Gerba.

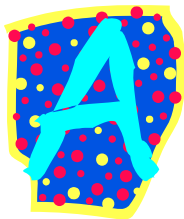


Congratulations to **Dr. Kelly Bright** (Gerba Lab) on her promotion to Research Assistant Scientist.

SWES NEWS:

PLEASE NOTE!

There are many persons in this College (mostly administrative staff) who log into the IBM mainframes using 3270 emulation (3270 is terminal connection to an IBM mainframe - FRS, SIS and other mainframes on campus require this type of connection. Per the note below, as part of a program to enhance campus security, you will need a secured 3270 connection in the future. Get with your local computer support to make sure you have it, or you will not be able to connect to these mainframes after 1/22.



Also, you have likely heard about the computer break-ins over the break. We are not seeing any breaches to the college servers, but all machines on campus are now being scanned and some desk tops in the college have been compromised (more likely through some past hack rather than this most recent one). Please be alert to a notice that your machine has been hacked and take the steps to clean it up.

FYI: Concerning the system that runs FRS and SIS, SSL will be required for tn3270 connections starting 1/22.

GRADUATE TIPS:

Veronica Hirsch

Welcome to a new semester!



Our most recent graduate student additions to the SWES department are Luisa Ikner, Rafael Martinez Garcia, and Travis Nauman, who are advised by Drs. Gerba, Fitzsimmons, and Rasmussen, respectively. Please extend a warm welcome to your new colleagues!

As we launch into the Spring 2007 term, I have just a few reminders:

1. If you have already completed 2 academic semesters and have not yet submitted a Plan of Study (POS), now is the time to schedule a meeting with your major advisor specifically devoted to this subject. Although your POS may change slightly during your course of study, I suggest devoting attention to this important paperwork process as the POS provides a "roadmap" of your scholarly direction.

Moreover, the POS is the essential first step in completing both M.S. and Ph.D. degree requirements.

2. To complete the POS, please access the following link, http://www.grad.arizona.edu/Current_Students/Forms/ and access the portion of the page that states:

Here is a list of forms that require you to [login to My GradColl](#):

You may login using your NetID and password. Please complete the form on-line and then select "Generate" once you have entered your information. You may then notice a seemingly "blank" screen. If this happens, please scan the "empty" page for a pale yellow bar near the top of the page, right click in that region, and indicate that you wish to open the file as a pdf. At this point, you may then print out a copy of your completed POS.

I will be happy to review your POS with you regarding procedural, NOT content, format. If interested, please contact me via e-mail to schedule a POS review appointment so that I may devote my undivided attention to this review.

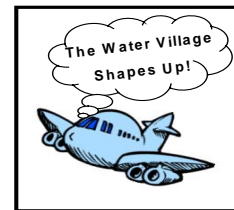
3. Lastly and to reiterate my previous requests, please remember to include your full name and SID number in any course registration e-mail correspondence.

Thank you and may you have a productive semester!

PLANE TALK FROM ERL

Ian Pepper, Director

As most of you know, Dr. Kelly Reynolds was recently hired as Associate Professor in the College of Public Health here at the University of Arizona. As such, she moved her office and lab out of ERL into the College of Public Health facilities.



We are now in the process of re-equipping her laboratory at ERL, so that a new project can be initiated in it. This project will evaluate the "Fate of Prions in Land Applied Biosolids." Personnel on this project include Patricia Orosz-Coghlan. Prions are found in all humans, but abnormal prions are infectious proteins that can destroy brain tissue giving it a spongy appearance. Diseases caused by prions are termed transmissible spongiform encephalopathy and include: the agent of "mad cow disease" (bovine spongiform encephalopathy—BSE) in cattle; scrapie in sheep; Creutzfeldt-Jacob disease in humans and chronic wasting disease (CWD) in wild deer and elk. This preliminary WQC project is being conducted with the safety approval of the U of A, USDA and the Centers for Disease Control (CDC). The P.I.'s on the project are

Chuck Gerba and myself. There is great national interest in this project because of the mystique and paranoia that

<http://www.amusingfacts.com>

| <i>Sunday</i> | <i>Monday</i> | <i>Tuesday</i> | <i>Wednesday</i> | <i>Thursday</i> | <i>Friday</i> | <i>Saturday</i> |
|---|---|--|---|---|--|--------------------------------|
| <h1>February 2007</h1> | | | |  | | |
| | | | | 1 <i>Inspire your Employees to Excellence Day!</i> | 2 <i>Ground Hog Day!</i>  | 3 |
| 4 <i>Halfway Point of Winter</i> | 5 <i>SWES Seminar</i> Marley Building, Room #230 3:00 PM | 6 | 7 | 8 SMILE DAY!  | 9 ETRs Due at Noon TODAY | 10 |
| 11 | 12 <i>SWES Seminar</i> Roberto Soto Ortiz, Ph.D. Student 3:00 PM | 13 | 14 <i>Happy Valentine's Day!!</i> | 15 | 16  | 17 |
| 18 <i>Chinese New Year (Year of the Pig)</i> | 19 <i>SWES Seminar</i> Dr. Christopher Scott 3:00 PM | 20 Faculty Meeting! FCS, 219 11:00-12:00 | 21 <i>Lent</i> <i>Ash Wednesday</i> | 22 Teddy Bear Day! | 23 ETRs Due at Noon TODAY | 24 <i>Flag Day (Mexico)</i> |
| 25 | 26 <i>SWES Seminar</i> Jesus Humberto Moreno, Ph.D. Student 3:00 PM | 27 <i>Polar Bear Day</i> | 28 | | | |

surrounds the issue of prions.

FOOD FOR THOUGHT

Every U.S. bill regardless of denomination costs just 4 cents to make.

NEWSLETTER TEAM: *Raina Maier, Ph.D.*
Editor

Heidi K. Mueller
Coordinator and Distributor

Karen Josephson
Webmaster

* For questions, comments, suggestions, or feedback contact Heidi Mueller at 621-1646 or muellerh@cals.arizona.edu