

SAMEC E-news 05-08-07

Note: The SAMEC E-News will break for the summer between June 1-July 31, 2007.
Please submit articles by May 14, 2007 for SAMEC E-news distribution prior to June 1st.

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Science Café

Like coffee? Like science? You are in luck! Sponsored by The Southern Arizona Section of the American Chemical Society Science, A Science Café is an entertaining evening out on the town sipping coffee and talking science. The idea started in the late 1990's with the ?café scientifique? in the United Kingdom and ? bars des sciences? in France. A typical science café begins with a scientist making a brief presentation followed by a question and answer period. After a short break to allow the patrons to top up their drinks, the festivities continue either with more questions or with a free-for-all discussion. The Science Cafés are held in the upstairs room at Espresso Art Cafe, 942 East University, from 6PM until 8PM.

May 15, 2007 - Alzheimer's Disease

Paul St. John, Associate Professor of Cell Biology and Anatomy, University of Arizona
Professor St. John will discuss his recent work on the basic mechanisms of Alzheimer's disease. Future topics include: water, ethanol and biofuels, green chemistry, global warming and women and minorities in chemistry. For up-to-date information regarding future talks, please go to the website at <http://sazacs.org/>

Summer Eco Camp for Teens – San Juan River Trip

Immerse yourself in nature on this exciting, all-inclusive river trip down one of Phoenix's major sources for drinking water – the San Juan River. In this unique partnership between Grand Canyon Youth, the U. of A. Maricopa Cooperative Extension Water Sustainability Program, and the Desert Botanical Garden, middle schoolers will spend five days developing leadership and teamwork skills while learning about the dynamic Colorado River ecosystem. Spend four nights in a remote wilderness setting with experienced river guides and talented Garden and University of Arizona Cooperative Extension educators. Explore the river at a leisurely pace on oar-powered boats and in playful inflatable kayaks. Hike to impressive archaeological sites including ruins and rock art. Learn about the plants, animals, and people of riparian (river) ecosystems. Participate in community service during the trip to improve ecological health along the river. Present a 10-15 minute lesson to your peers about a river-related topic of your choice while on the river. Reminisce with family and friends after you get home at our post-trip party!

Session I: July 6-10 (Friday - Tuesday), Pre-trip Meeting: June 28, 7 p.m., Post-trip Pizza Party, July 13, 6 p.m. For teens in middle school, ages 12-14 Member: \$550 / Non-Member: \$600 Price includes transportation, supplies, and meals. Space is limited to 15 teens. Please call 480-481-8146 for registration

information for the San Juan River Trip. More more info visit: <http://www.dbg.org/>

Putting Down Roots in Earthquake Country" Handbook

The updated 2007 Spanish version of the "Putting Down Roots in Earthquake Country" handbook will be distributed in Hoy newspaper tomorrow (May 4) and in Fin De Semana (Hoy's weekend paper) on Saturday (May 5). Hoy is the LA Times' Spanish-language newspaper. "Echando Raíces en Tierra de Terremotos" will also be available through the Consulate General of Mexico in Los Angeles and can be requested through our newly revised website www.terremotos.org, the Spanish site for the Dare to Prepare campaign. All copies are free. The distribution of the handbooks is being promoted by full-page ads running since last Friday in Hoy (including a four-page supplement running last weekend and again this weekend, which we have adapted into a webpage at <http://www.terremotos.org/mitos.html>). In addition ads are running this week on Univision Radio's Los Angeles stations KLVE and KSCA, on Univision TV (channel 34) and on Telefuturo TV (channel 46). Also, ad banners will be featured on Univision's Los Angeles website. All ads are sponsored by the California Earthquake Authority. Soon public service announcements created by Art Center College of Design in Pasadena The updated 2007 English version of "Roots" is also now available for free at www.earthquakecountry.info/roots. Both versions have minor revisions throughout and notably a new "Seven Steps" image that has been adapted for use in the Bay Area as well. Printing for both versions continues to be supported by the California Earthquake Authority, FEMA, Quakehold, and others. "Roots" and "Raíces" are part of the Dare to Prepare campaign (www.daretoprepares.org), a year-long effort to raise earthquake awareness and encourage earthquake preparedness in California by providing practical information on how to reduce the risk of home, school, and business damage and injury during earthquakes.

STEM Earth Central. . .

is a statewide initiative to promote the teaching of Earth Science in the science curriculum (University of Massachusetts Amherst)

- * July 30 to August 3 and August 6-10, 2007 at UMass Amherst plus academic year online discussions
- * Funded by NASA and the UMass Vice Provosts for Outreach and for Research
- * Sponsored by the STEM Education Institute and the Department of Geosciences
- * Middle and High School Science, Math, and Technology Teachers
- * Housing and meals provided for teachers outside the commuting area
- * \$750 stipends
- * Up to 6 graduate credits available at reduced cost; free PDPs (professional development points)
- * Ongoing partnerships with UMass faculty

Funded by NASA and by UMass Amherst, STEM Earth Central is designed to promote the teaching of concepts and processes articulated in the Earth and Space Science strand of the Massachusetts Science and Technology/Engineering Framework in the middle and high school. It includes a two-week summer institute and academic year online discussion forums, and features a variety of proven techniques for effective teaching, including inquiry-based teaching, cooperative learning, and methods for formative assessment of student learning. The summer institute will focus on the relationship between science and technology as teachers utilize NASA data and images in exploring hydrology, geology, plate tectonics, meteorology, climatology, and energy resources. During the institute, participants will begin to develop curriculum units using NASA materials and local measurements. They will complete these in the fall, using the online discussion forums to facilitate collaborative efforts among participants and UMass faculty. Three graduate credits will be available for the institute and curriculum unit; the cost will be \$300 plus a \$40 registration fee. An additional 3 credit option will entail the completion of a research project or the preparation and presentation of teacher workshops. PDP's will be available at no cost for those who do not want graduate credits. The stipend for the summer workshop is \$750. Housing and meals will be provided for those who live outside the commuting area. Participants will receive various materials plus a materials budget.

Application process: Teachers should prepare a narrative statement of how the program will impact their teaching. They should also include in their application package a recent resume and a letter of support from their school principal or superintendent. The application package can be submitted by email, fax, or US

mail. More information and application forms: <http://www.umassk12.net/earth> 413-545-1908 fax 413-545-3697

Summer Biology Courses Offered at The University of Arizona

Summer Session I (June 4-July 5, 2007)

Biology Update 2 (BIOC 623b; \$250 scholarships available)

Secondary Biology Lab Curricula (BIOC 633)

Astrobiology (ASTR 507)

Plants of the Desert (ECOL 514)

Nematode-Microbe Partnerships (ENTO 524)

Summer Session II (July 9-Aug 8, 2007*)

Biology Update 1 (BIOC 623a; \$250 scholarships available)

Biology of Nutrition for Teachers (BIOC 651)

Galapagos Marine Ecology (ECOL 596o; special dates and fees)

Marine Biology at San Carlos (ECOL 596; special dates and fees; NEW CLASS)

Genes, Biotechnology & the Environment (ECOL 508L; special dates; \$600scholarships available)

*special arrangements can be made for teachers who must report back to work on or before August 8

For course descriptions and information on how to register, visit <<http://biology.arizona.edu/sciconn/coursesforteachers.htm>>

Want to be a Fish this Summer?

Marine Biology in San Carlos (UA ECOL 596d, 1 unit), July 21-27

This University of Arizona graduate level marine biology course includes 5 days of scuba diving and takes place in San Carlos, Sonora, Mexico from July 21-27, 2007 (6 nights, 7 days). We stay in the Marina Terra hotel (formerly the Plaza las Glorias) in San Carlos and do day dive trips out on the Ocean Spirit with Desert Divers. The course is designed for secondary school science teachers, but other teachers or non-teachers are very welcome to join us. There are 5 days of diving with 3 tanks per dive on 3 days and 2 tanks per dive on 2 days. You will learn the fish and invertebrates, marine biology and conservation of the Sea of Cortez, and participate in a census of marine life. The course is taught by Dr. Katrina Mangin, a marine biologist with extensive experience teaching and doing research in the Gulf of California. She teaches many courses for secondary school science teachers, including "Marine Biology at Rocky Point", and "Galapagos Marine Ecology". Also instructing the course will be scuba instructor Doug Moon, who has taught diving in the Gulf for over 8 years. Undergraduates can take the course for independent study credits (ECOL 499).

Cost is \$1,220.84: \$891 (the per person rate in a double occupancy room, payable to Desert Divers) plus \$329.84 (1 unit of graduate credit, payable to the UA).

For more information: Dr. Katrina Mangin 520-626-5076 (office), mangin@u.arizona.edu or Doug Moon, moondm@comcast.net, 850-0304, <http://eebweb.arizona.edu/faculty/mangin/>

AZ Math and Science Teaching Fellows: A summer research experience. . .

for AZ secondary math and science teachers. Arizona State University is pleased to announce our new Math and Science Teaching Fellows (MSTF) program, funded by Science Foundation Arizona, the National Science Foundation, and ASU. This summer research experience for secondary math and science teachers in Arizona schools will run from June 25 through July 20 (four weeks), and it will be followed by in-school activities with professional learning communities, regular communication with ASU researchers, and visits to schools by ASU personnel. For four weeks, teams of approximately three fellows will be immersed in one of fourteen active research groups at ASU in the areas of biosciences, advanced computing and information technology, and sustainable systems. All fellows will meet together regularly with ASU project leaders during the summer weeks. A three-credit, tuition-free graduate course is included. Fellows will also receive a laptop computer (unless ASU has recently provided one) and other items for their project. Fellows will work in small groups with active ASU researchers. They will also develop an activity suitable for instruction in their classrooms and based on their research experience at ASU. Stipends are around \$7000, based on \$200 per day for time on campus and an integrated total of fifteen days for their off-campus time. Support for

travel and living expenses is also available for teachers from outside the Phoenix metropolitan area. Applications are now being accepted. Please apply at: <http://cresmet.asu.edu/MSTF>
For further information, please contact the project director at robert.culbertson@asu.edu

Arizona Project WET. . .

is proud to announce we have a one-of-a-kind Professional Development opportunity for teachers and educators that focuses on Arizona's water resources and specifically WATER CONSERVATION. This workshop will: provide staff development and continuing education credits, help teachers meet the Arizona Academic Standards, and introduce relevant water content with lessons that meet multiple learning styles. *When:* Our VERY FIRST Workshop is scheduled for August 8th, 2007 in Tucson, and June 27, 2007 in Prescott. *Time:* 8:00 - 4:30 p.m. First come first serve as attendance is limited to 30 spaces! Register at: http://ag.arizona.edu/azwater/wet/GW_Upcoming.html
For questions please contact Josie@520.792.9591x27

Pollinators Habitat Kit Workshop

Arizona-Sonora Desert Museum, Science and Math Education Center, University of Arizona, Sponsored by the Wallace Research Foundation. Limited to 25 participants (participants will receive 1 hour professional development credit)

Date: August 25, 2007 *Time:* 3:45 p.m. – 4:45 p.m. Workshop reservation deposit: A \$25 deposit will hold your place in the workshop and will be returned to you at check in. Mail check to: Center for Sonoran Desert Studies/Arizona-Sonora Desert Museum, 2021 N. Kinney Road, Tucson, Arizona 85743, Attn: Beth Rice.

The Desert Museum's Pollinators Habitat Kit provides an opportunity for school communities to learn the benefits of and steps involved in creating a Habitat for Pollinators. For over a decade, biologists have been concerned about apparent declines in pollinators, especially those that migrate across landscapes and between regions. Many of these pollinators migrate along "nectar corridors" consisting of a series of stepping stones, or patches of flowering plants, that provide nectar for refueling during migration along 2000-6000 km flyways. The nectar corridor that extends from southern Mexico north to the Intermountain West of the U.S. and Canada is of particular concern. Lesser long-nosed bats (*Leptonycteris curasoae*), rufous hummingbirds (*Selasphorus rufus*), western white-winged doves (*Zenaida asiatica mearnsii*), and monarch butterflies (*Danaus plexippus*), and other migratory pollinators move seasonally along this corridor traveling between the tropics and their northern breeding/birthing grounds. These types of migrations have been termed "endangered natural phenomena" due to habitat destruction, degradation, and fragmentation due to land conversion, herbicides, pesticides, and exotic plant invasions. School communities can make a positive contribution to the conservation of pollinators by planting pollinator gardens.

The Pollinator Habitat Kit contains the background materials and instructions necessary to implement a student-centered project in the design, planning, installation and maintenance of a pollinator garden. Garden projects require teamwork, research, communication, observation, experimentation and a host of other skills to be successful, and can be the focus for continuing science, art, math, social studies or even technology projects. During this brief workshop, teachers will be introduced to the ecology of pollinators, the logistics of planning and planting a pollinator garden and to the resources available in the Pollinator Garden Kit. Participating teachers who decide to pursue a pollinator garden project at their schools will receive additional support from Desert Museum staff and can check out a kit, free of charge, for up to 1 month during the school year. For more information on migratory pollinators, please see: <http://desertmuseum.org/pollination/>

Full scholarships to teachers from Murie Science and Learning Center

The Murie Science and Learning Center is awarding full scholarships to teachers for select 2007 teacher training and field seminar courses in Denali National Park and Preserve. These field-based experiential courses are small group intensives that expose teachers to science, research, and educational opportunities using the Denali ecosystem as their classroom. Most courses are three days in length. Participants stay at a remote field camp in Denali and explore the park by vehicle and hiking excursions. Professional

development credit (1-3) is available through the University of Alaska-Anchorage and the University of Alaska-Southeast. The Murie Science and Learning Center has been offering Denali-based courses for teachers since 2003. In 2006, a teacher training course studying dinosaurs made a discovery of the largest theropod track ever found in Denali, almost 21 inches long. The courses available for the 2007 Scholarships are listed below:

June 9-10: Field Seminars: Denali Fault/Nenana Canyon: Geology Exploration
June 22-24: Denali's Large Mammals
June 25-27: Teacher Trainings: Using iMovie to Capture Interest in Science
June 29-July 1: Dall Sheep and their Predators
July 9-11: World of Wolves
July 16-18: Denali Dinosaurs
July 19-22: Science Writing
July 13-15: The Science of Fly-Fishing
August 3-5: Denali Field Journaling
August 10-12: Geology of Denali
August 13-15: Family Field Seminar

The Murie Science and Learning Center is a collaborative effort of the National Park Service with several non-governmental partners. The center's mission is to provide research, discovery, and learning opportunities within northern Alaska National Parks to promote understanding, appreciation and caring for our national and cultural heritage. To apply or find additional information visit the Murie Science and Learning Center website at: <http://www.murieslc.htm> > www.murieslc.org or call (907) 683-1269. The application deadline is Monday, May 28.

Two New Chemistry Workshops at the Arizona Science Center

Scholar Chemistry

90-minute workshop at Arizona Science Center (Recommended for grade 7-12 educators. Tuition: \$15.00 To register, call 602-716-2028. Dramatic demonstrations, hands-on activities and valuable safety tips - this Scholar Seminar shows you innovative new ways to improve your chemistry classroom and curriculum. Learn how to capture your students' interest with attention-grabbing demos, and receive our expert advice on repeating these activities in your lab. Best storage practices, NSTA regulations and dangerous chemical interactions will also be discussed, so you can keep your students safe. Earn 1.5 hours of professional development. Participants will receive a collection of educational tools, valued over \$100, including Scholar Chemistry Teacher's Comprehensive Handbook, Scholar Chemical Storage Conversion Kit and MSDS CD-ROM. Saturday, June 2, 2007: 8:30-10:00 a.m. OR 10:30-12 p.m.

Scholar AP Chemistry

Recommended for high school educators, this two-hour workshop will be held at Arizona Science Center. Tuition: \$20. To register, call 602-716-2028. Meet the requirements of your AP chemistry course with the trusted expertise of Scholar. This hands-on workshop will lead you through four different interactive labs led by experienced Scholar chemist, Andrea Childs. Discover the variety and value of Scholar's AP chemistry lab activities, all prepared in accordance with the College Board's advanced placement course description. Earn two hours of professional development. Participants will receive a collection of educational tools, valued over \$100, including Scholar Chemistry Teacher's Comprehensive Handbook, Scholar Chemical Storage Conversion Kit and MSDS CD-ROM. Saturday, June 2, 2007: 1:30-3:30 p.m.

Summer Work for UA College of Science graduate students!

Graduate students in a science discipline needed to help with K-12 teacher workshops this summer. \$20/hr, Flexible dates early June and mid July. If interested, please contact Katrina Mangin, 626-5076, or mangin@u.arizona.edu

City High School Grows Into Its Fourth Year

Spring is upon us at City High School. Students and teachers are busy gearing up for the end of the semester. Community members are welcome at some of our upcoming events, including the annual City

Works Showcase on May 16 and our first-ever Graduation Ceremony on May 23. Check our website to find out what's happening and when. As the school grows into its fourth year, there are full- and part-time openings in English, Spanish, science, art, and math. Applications can be found on line; follow the "Contact Us" link. <http://www.cityhighschool.org>

Take a moment to read about our INTERNSHIP PROGRAM, featured in the May issue of Tucson Business Edge. The SPRING ISSUE of Cityscape is now posted at: http://www.cityhighschool.org/documents/CityScapespr07_small.pdf

Lastly, if you know any families interested in enrolling their child at City High School for 2007-2008, please have them contact us as soon as possible. We have a handful of openings left in 9th grade, and we have waiting lists started in grades 10-12. http://www.tucsoncitizen.com/ss/workplace_issues/47322

Full-time Biology Position Available

Palo Verde High School in Tucson has a full-time biology position open for next year. It is already posted and may close at the end of this week. Potential candidates should contact TUSD Human Resources and reference the job code 07-2643
<https://tusdjobs.tusd1.org/>

Positions Available at Paulo Freire Freedom Middle charter school. . .

with project-based instructional focus and social justice and environmental sustainability curriculum for 2007-2008. A Science Teacher / Expeditionary Program Coordinator with 2 years teaching experience preferred with passion for place-based and service learning. Humanities Educational Assistance to work closely with the Humanities teacher in language arts/social studies interdisciplinary class. Part Time Spanish Teacher to work 2 hours during lunch, three times a week with beginning and intermediate students. Degree or course work in Spanish required. Math, Science and/or Humanities Student Teacher to co-teach with the contracted teacher. To apply send letter of interest, resume, references to jjroh@elpueblointegral.org. 520-624-7552. Learn more: <http://www.paulofreireschool.org>

Science Teacher Openings at City High School

City High School has the following openings for the 2007-2008 school year: 1. full-time CHEMISTRY/PHYSICS position; 2. maternity-leave BIOLOGY position for 1st quarter. City High School is an innovative charter high school in downtown Tucson. We seek to have a teaching staff that reflects the diversity of our student population, and encourage minority candidates to apply. For more information about the school or the hiring process, please visit <http://www.cityhighschool.org> or call Principal Carrie Brennan at 623-7223 x203.

Physics Teacher Needed

Physics Teacher Needed at Willow Canyon High School If interested, please contact: Michael G. Hawkins, Assistant Principal, Willow Canyon High School, 623-523-8014, Michael.Hawkins@dysart.org

Educational E-Journal Links

Carolina Biological online tips: <http://www.carolina.com/tips/>
CONTINUUM (The first edition of the Governor's P-20 Council newsletter): <http://www.governor.state.az.us/P20/>
Education News and Research Reports: <http://www.queuenews.com/AZnews>
Education Week: <http://www.edweek.org>
No Child Left Behind: <http://www.ed.gov/nclb/>
NSTA Express: http://science.nsta.org/nstaexpress/nstaexpress_2006_10_23.htm
NSTA Science Class (High School Edition): http://science.nsta.org/enewsletter/2006-11/member_high.htm
NSTA Web Seminars: http://institute.nsta.org/web_seminars.asp
Physics Teacher Online: <http://phy.ilstu.edu/jpteo/>
Teacher Magazine: <http://www.teachermagazine.org>

This information was sent to approximately 3000 science and mathematics educators:
The SAMEC e-newsletter is provided by The University of Arizona, Science and Mathematics Education Center, Lunar and Planetary Laboratory
<http://samec.lpl.arizona.edu>

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