



SAMEC E-news 04-20-07

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.

Science Café

Steward Observatory Public Evening Lecture Series

River 2000 Lecture Series

Mars: Up Close and Personal

Everything You Wanted To Know About A Joint Technological Education District (JTED) But Were Afraid To Ask

Phoenix Mars Lander Mission Open House

Summer Eco Camp for Teens – San Juan River Trip

"Exploring Light Through The Eyes of The Hubble Space Telescope" (HST) Workshop for Teachers

"The Effect of the Sun and Global Warming," Solar Science Workshop for Teachers

Building Information Technology Skills through Astronomy (BITS through Astronomy)

Physics Teacher Needed

Science Café

Like coffee? Like science? You are in luck! The Southern Arizona Section of the American Chemical Society is planning a series of Science Cafés for the spring. 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. Our upcoming Science Cafés will be held in the upstairs room at Espresso Art Cafe, 942 East University, from 6PM until 8PM on the evenings scheduled.

Current Schedule:

April 24, 2007 - Venomous Bites and Stings

Leslie Boyer, M.D., Director of the VIPER Institute (Venom Immunochemistry, Pharmacology and Emergency Response) and Jude McNally, RPh, DABAT, Managing Director of the Arizona Poison and Drug Information Center. Leslie and Jude will discuss venomous creatures of the desert, what their venoms do and what happens when the venom gets into humans. Also included will be a discussion of new treatments for these most ancient of medical conditions.

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/>

Steward Observatory Public Evening Lecture Series, Monday, April 23, 7:30 pm

Prof. Raymond E. White III, Dept. of Physics & Astronomy, University of Alabama

"BLOWING BUBBLES IN GALAXIES AND CLUSTERS OF GALAXIES"

Location: UA Steward Observatory, Room N210

Reception to follow in the main lobby.

River 2000 Lecture Series - April 26 & 27, 2007

Dr. Jim Childress, University of California-Santa Barbara

Creatures living on the brink of existence? Deep-sea hydrothermal vents result from seawater entering the earth's crust and interacting with very hot rock at the margins of the tectonic plates. These waters are stripped of oxygen and greatly enriched in a variety of toxic materials including hydrogen sulfide and metals. These conditions would be considered hostile to most animals due to the toxicity of the waters and the elevated temperatures compared to the rest of the deep sea. However, much to the surprise of the original explorers in 1977, animal communities living at very high densities are found around most deep-sea hydrothermal vent sites!

Thursday, April 26, 3:30-4:30 pm - UA Bio Sciences West Room 301

"The future is uncertain and the end is always near: Studies on the physiological ecology of deep-sea hydrothermal vent animals."

There will be extensive use of video of vent communities in this lecture!

Friday, April 27, 4:00-5:00 pm - UA Bio Sciences West Room 301

"Not a Redwood Forest: Explorations of Deep-Sea Hydrothermal Vent Ecosystems Around the World" Come on down to the deep sea. the water is fine!

Sponsored by the Department of Ecology & Evolutionary Biology, the Department of Geosciences and the National Science Foundation. Free parking is available in the Tyndall Ave. and 6th St. parking garages. One (1) hour Professional Development credit is offered for each lecture. For more information and lecture abstracts on Dr. Childress, visit <http://eebweb.arizona.edu/news/childress.htm>

"Mars: Up Close and Personal," April 24, 2007, 7:30-8:30 pm

Alfred McEwen, Professor, Lunar and Planetary Laboratory, University of Arizona

Experiment on Mars Reconnaissance Orbits (MRO) has been exploring Mars at high resolution since November 2006. The High Resolution Imaging Science Experiment (HiRISE) Principal Investigator will share some of these remarkable vistas and discuss the past, present, and future exploration of Mars. Location: University of Arizona, Kuiper Space Sciences Bldg., 1629 E. University Blvd.

The Science Teacher's Colloquium Series is a forum for K-12 science teachers to learn about cutting edge research taking place at The University of Arizona. One (1) hour of professional development credit is offered for attending each seminar. This series is sponsored by The University of Arizona Lunar and Planetary Laboratory, The UA/NASA Space Grant Program, The Space Imagery Center and the Science and Mathematics Education Center, which provide support for this program. For additional information visit: <http://www.lpl.arizona.edu/COLPL/>

"Everything You Wanted To Know About A Joint Technological Education District (JTED) But Were Afraid To Ask," - April 24, 2007, 3:45 - 5:00 PM

Dr. Mary Belle McCorkle, Interim Superintendent, Joint Technological Education District (JTED)

Learn what a Joint Technological Education District (JTED) is and find out more about how it is formed.

Location: Marvin Swede Johnson Bldg., Room 303 (northwest corner of Speedway Blvd. and Cherry St.). Free parking is available on the north side of the building. Contact: samec@lpl.arizona.edu or 621-8309; <http://samec.lpl.arizona.edu>

Phoenix Mars Lander Mission Open House, May 05, 2007, 10:00-4:00 pm

The Phoenix Mars Mission's Science Operations Center will open its doors to the public in the final open house leading up to the lander's August 2007 launch. Come and see the real engineering model that scientists are using to train for surface operations on Mars. Enjoy hands-on activities, tours, exhibits, and hear UA researchers and professors discuss the science, and art, behind the mission.

Location: Science Operations Center, The Northwest corner of N. Sixth Ave. and E. Drachman St., Entrance at back.

Free parking is available at the University of Arizona's 2nd Street Garage where a free shuttle will take visitors to the event. Limited on-street parking is also available near the S.O.C., and disabled-accessible parking is located at the south entrance. Cost: Free For more information visit: <http://phoenix.lpl.arizona.edu/eventsPosts.php?eID=47>

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/>

Exploring Light Through The Eyes of The Hubble Space Telescope (HST) Workshop for Teachers, July 9-12, 2007

The discovery over the past decade of over 100 planets orbiting stars other than our Sun has revolutionized the field of studies of extrasolar planets. Most discoveries have been made by measuring the variable Doppler shift of the parent star spectrum caused by the gravitational pull of the planet as it orbits around the star. Another method of study has been provided by planets with orbits inclined so that the planet transits in front of the star. HST was the first telescope to detect additional obscuration during the transits, at certain wavelengths, providing the first detection of the atmosphere of an extrasolar planet. This workshop will highlight the discovery of extrasolar planets such as the famous HD 209458b observed with the NASA/ESA Hubble Space Telescope. Selected participants will receive: 1) GEMS Messages from Space teacher's guide and kit, 2) ideas for classroom application, 3) stipend, 4) overnight field trip to Mt. Lemmon observatory, and 5) 24 hours of professional development credit. For more information and the application visit: <http://samec.lpl.arizona.edu/k12educators/light2007.html>

The Effect of the Sun and Global Climate Change, Solar Science Workshop for Teachers, July 17-20, 2007

The topic of global warming encompasses concepts in a wide variety of fields, including fundamental ideas about how

energy is transformed (physics), how chemical compounds change (chemistry), how living things interact with their environment (biology) and how carbon is cycled through the atmosphere, land, and living systems (earth science, biology and chemistry). From this perspective the topic of global warming is a way of tying together concepts in various fields of science. Global climate change refers to the variation in the Earth's global climate or changes in the variability or average state of the atmosphere over time scales ranging from decades to millions of years. These changes can be caused by processes internal to the Earth, external forces (e.g. variations in sunlight intensity) or, more recently, human activities. The sun is the ultimate source of essentially all heat in the climate system.

To what extent does the Sun's variability contribute to global warming? The Solar Science Teacher Workshop will help answer your questions with scientific talks by research scientists who will present scientific theories and evidence behind the phenomenon of global warming, environmental problems from different points of view, application of solid science to real-life conditions and interactive activities that help explain this phenomena. Selected participants will receive: 1) GEMS Global Warming and The Greenhouse Effect teacher's kit and guide, 2) ideas for classroom application, 3) stipend, and 4) 24 hours of professional development credit, and 5) field trip to an observatory. For more information and the application visit: <http://samec.ipl.arizona.edu/k12educators/solar2007.html>

Building Information Technology Skills through Astronomy (BITS through Astronomy)

The National Optical Astronomy Observatory (NOAO) is pleased to announce a new program, funded by Science Foundation Arizona, offering Arizona middle school science teachers help in preparing students for science career pathways. Through the excitement of astronomical image processing, teachers can introduce their students to analytical computer skills, including interpreting graphs, using statistics, and understanding equations. Students can learn to use analysis programs such as Excel, and image processing programs including ImageJ.

We will offer selected middle school teachers: *four (4) multi-day summer workshops, the first beginning in June 2007, *collaborative work via telecommunication with astronomers and other teachers and on-going connections during the school year, *stipends to cover time spent on this project, and laptops for working and implementing image processing projects in their classroom. We expect to be able to offer up to \$200/day during our workshops.

The tentative schedule for the summer 2007 is as follows:

June 11-14: An introduction to astronomical observing and data taking. Teachers will spend up to 3 nights on Kitt Peak National Observatory, 50 miles SW of Tucson, learning some basic astronomy and taking images with telescope there. At the conclusion of this session they will return home with assignments designed to encourage group work. Room and board on the mountain will be covered.

Approx. June 25-27: Teachers will spend this time at NOAO headquarters in Tucson. They will work further on the projects, including an introduction to an asteroid project and a virtual visit to New Mexico Skies telescopes. They will take a day trip to Whipple Observatory and the MMT (Multi Mirror Telescope) for another view of technology, and tour related U of A labs.

Approx. July 9-11: Teachers will spend this time at NOAO headquarters in Tucson, developing their projects further. Additional software will be presented. Talks and tours will include Steward Observatory on Mt Lemmon, MIRA Educational software, and the automated Global Network of Automated Telescopes, near Tucson.

Approx. July 23-25: Teachers will focus on how they can introduce these skills to their students, and use remote telescopes in their classroom.

We invite interested teachers to email us, telling why they are interested in this program, and how they think it could benefit their students. Please give details of your school and student population, and outline what computer support is offered at your school. Preference will be given to teachers in rural areas, and those teaching underserved student populations. This program is only open to teachers in the state of Arizona. We expect to select 5-10 teachers for the 2007 program. For more information, email Dr. Katy Garmany at Garmany@noao.edu, or call her at 520-318-8526. (Note that Dr. Garmany will be out of town April 20-30, but will respond to email)

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

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

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