



AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE  
PACIFIC DIVISION

# NEWSLETTER

Number 45

April 1, 2005

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## 86<sup>th</sup> ANNUAL MEETING OF THE PACIFIC DIVISION AT SOUTHERN OREGON UNIVERSITY Ashland, OR June 12–16, 2005



Sciences Building, Southern Oregon University

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### 2005 ANNUAL MEETING OF THE AAAS PACIFIC DIVISION

The AAAS Pacific Division and its affiliated societies and sections will hold its 86<sup>th</sup> annual meeting on the campus of Southern Oregon University. The Division's Program and Special Events Committee is making a special effort to design a program of exceptional scientific merit.

All scientists and graduate and undergraduate students are invited to present research papers of their research results either orally or as posters. All registrants for the meeting may attend the scientific sessions as well as participate in the many

other activities. Some activities, notably field trips and selected workshops, require advance registration and payment of additional fees. Dr. Roger Christianson, Department of Biology, Southern Oregon University is chair of this year's annual meeting.

This *Newsletter* contains a preliminary description of the

Please visit the Pacific Division website for the latest news about Division activities and updated meeting information. E-mail should be addressed to [aaaspd@sou.edu](mailto:aaaspd@sou.edu).

<http://pacific.aaas.org>

scientific program, a call for papers, directions for preparation of abstracts, and information about early registration, housing, transportation, special events, and field trips.

The following societies and sections will sponsor sessions at the meeting. The names and addresses of session chairs are listed starting on page 27.

- Western Society of Soil Science**
- Agriculture and Horticultural Sciences Section**
- Anthropology and Archaeology Section**
- Atmospheric and Oceanographic Sciences Section**
- Biological Sciences Section**
- Chemistry Section**
- Computer and Information Sciences Section**
- Earth Sciences Section**
- Ecology and Environmental Sciences Section**
- Education Section**
- Engineering and Industrial Sciences Section**
- Health Sciences Section**
- History and Philosophy of Science Section**
- Physics Section**
- Psychology Section**
- Social, Economic and Political Sciences Section**



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### SOUTHERN OREGON UNIVERSITY AND VICINITY

Southern Oregon University (SOU) is a contemporary public liberal arts and sciences university with selected professional programs at the bachelor's and master's levels. It is one of seven universities in the Oregon University System (OUS). Its purpose is to provide intellectual and personal growth through quality education. Southern emphasizes critical thinking, career preparation, and capacity to live and lead in a multicultural, global society. The University has a student-to-faculty ratio of 19:1, and 93 percent of faculty teaching classes have the highest degrees in their fields.

SOU serves the whole of southern Oregon and the northernmost counties of California. The University is a major partner in the economic, cultural, and environmental developments of this vast area, offering students valuable opportunities to participate. SOU's rising national reputation is based on its faculty's notable research and creative talents, as well as its practical liberal learning. Southern is one of twenty-one institutions across the nation selected for membership in the Council of Public Liberal Arts Colleges (COPLAC). It is engaged internationally through a strong proportion of students from other nations, many exchange programs, and longstanding sister university alliances, the flagship being the Universidad de Guanajuato, Mexico.

Whether they are revolutionizing the wine industry, discovering new microbial species in Crater Lake, or predicting and confirming ferroelectric materials, Southern Oregon University faculty and students are pursuing world-class research that is putting southern Oregon on the scientific map. SOU offers undergraduate students a rare opportunity to engage in graduate-level investigations under the mentorship of distinguished researchers. Interdisciplinary projects such as the acid mine drainage (AMD) research being conducted by the Biology, Chemistry, and Geology Departments exemplify the rich academic community and the synthesis of expertise present at SOU. As its faculty and students engage in vanguard investigations, Southern Oregon

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## Report from the AAAS National Meeting

by Roger Christianson  
Executive Director,  
Pacific Division

WASHINGTON, D.C. — The national meeting of AAAS was held at the Marriott Wardman Park and Omni Shoreham Hotels in Washington, D.C. this past February 17 – 21, 2005. It was a gala event, with many social activities, over 150 symposia, several pre-meeting seminars, and separate poster sessions for the Junior Academy of Sciences, student presenters, and professional presenters. And speaking of student presenters, the Pacific Division had two representatives I would like to mention. First, James Wittler (Colorado State University, Fort Collins, CO) represented the Pacific Division as our AAAS – Larus Award winner from the Utah State University meeting last June. James won the prestigious travel award last June with his oral presentation, “EM-38 Calibration for Salinity Assessment in the Arkansas Valley.” He converted his presentation to a poster for the national meeting and won an Honorable Mention in the competition. Congratulations, James!



James Wittler, Pacific Division Larus Award winner and Honorable Mention in student poster competition at the AAAS national meeting.

A second student presenter from the Pacific Division was Amanda Gail Berry (Stevenson School, Pebble Beach, CA). Amanda presented posters at the last two

*(continued on page 9, left column)*

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University will continue to fuel the local economy and knowledge base through dedicated, interdisciplinary research rooted in the region.

Southern’s main campus in Ashland is largely residential in character. On-campus housing includes three complexes with residence halls and superb dining, family housing with childcare service, and a facility for visiting groups participating in Southern’s educational enrichment offerings.

### The Region

Southern Oregon University is located in a uniquely diverse geographic, geological, and ecological area. It is distinguished by the Rogue, Umpqua, and Klamath Rivers; Crater Lake and Shasta National Parks; many lakes; and the convergence of three mountain ranges: the Cascades, the Siskiyou, and the Coast Range. Such qualities give rise to the University’s distinctions in environmental studies, as well as its tremendous recreational opportunities, ranging from golf, rafting, fishing, and sailing to hiking, skiing, biking, horseback riding, and camping.

Art and culture, recreation, tourism, retail sales, natural resources, and the burgeoning healthcare services are the driving forces of the region’s economy. Technology industries are diversifying the economy as new companies move into the area, start-up firms emerge, and technology advances locally. There are three medical centers that offer world-class healthcare services.

The region hosts five fairs and thirteen festivals, in addition to nearly thirty art galleries and more than two dozen cultural and art museums. The most notable festivals are the Oregon Shakespeare Festival in Ashland and the Britt Music Festival in Jacksonville. Among the theater venues for visiting and local performances is Medford’s Craterian Ginger Rogers Theater. Recreational facilities include 151 public and 110 commercial campgrounds, seventeen golf courses, three racetracks, two ski areas, two ice-skating rinks, and four horse stables. There are sixty-four registered guided tours in southern Oregon.

### Ashland and SOU

Southern is located in Ashland, at the base of the Siskiyou Mountains in the Rogue Valley. It is about a five hour drive or a one-hour flight from Portland to the north or from San Francisco to the south. With a population of 20,000, the town boasts eighty-five restaurants and ninety-three lodging facilities, sixty-six of which are bed and breakfasts. Its restaurants, delis, bakeries, banks, bookstores, ice cream parlors, vintage movie theater, specialty shops, and clothing stores are within easy walking distance of the campus. The annual Ashland Independent Film Festival is a popular attraction. A bicycle path leads from SOU to downtown Ashland and beyond. The city offers an ideal setting for

picnics and strolls in its beautiful Lithia Park, with its duck ponds, paths, arboretum, and creek.

Ashland is surrounded by forests, mountains, lakes, and rivers that provide spectacular areas for outdoor sports and ecological studies. With an average rainfall of twenty inches, Ashland benefits from a mild four season climate. Although the valley floor is generally free of snow, winter recreational facilities are just a thirty minute drive away at Mount Ashland Ski and Snowboard Resort, which sits at 7,500 feet elevation. Just minutes away, Emigrant Lake offers waterslides, sailing, and a park. Several mountain lakes are within an hour or less drive from Ashland.

Southern and the community are focal points for rich cultural activities and organizations. Ashland is home to the Oregon Shakespeare Festival (OSF), one of the top five regional theatres in the nation and top three worldwide rotating repertory theatres with Shakespeare at their core. OSF was created in 1935 by Angus Bowmer, a theatre professor at Southern. The festival draws more than 380,000 patrons annually. The University's Schneider Museum of Art hosts major art exhibitions and youth programs, and the Center for the Visual Arts features artworks by faculty, students, and visiting artists. SOU is home to the Southern Oregon Singers, the Rogue Valley Symphony, and the Chamber Music Concert Series. Its Music Department also provides frequent concerts and recitals by exceptional faculty and students.



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### **Ashland Campus**

Southern occupies a 175 acre campus with fourteen academic buildings, thirteen residence halls, family housing, a student union, and multiuse facilities. All classrooms on campus are accessible to disabled students. Beautifully landscaped grounds and architecturally pleasing buildings provide a pleasant environment for academic endeavors, student club activities, and opportunities to think and study together with peers and faculty. SOU is nearing completion of a major renovation and expansion of its Hannon Library. The project has nearly doubled the size of the library and yielded a new learning center with contemporary services and technologies, ample study spaces, seminar rooms, reading areas with fireplaces, and a coffee shop.

Ashland and SOU house many very special facilities and services, such as the nation's only Fish and Wildlife Forensics Laboratory and the nationally recognized Jefferson Public Radio (JPR). Southern hosts one of the largest Native American powwows in the area and a popular Hawaiian Luau, both of which are coordinated by student multicultural groups. It offers the only Native American Studies certificate and minor programs in Oregon, in addition to providing a popular education program for Native American youth in the summertime. Among its extensive array of programs for youth is the award winning Academia Latina program for middle school Hispanic and Latino children. Finally, Southern has an established reputation for the size and scope of its extended programs for senior citizens.

### **SOU Statistics**

In the 2003/2004 academic year, SOU boasted a total enrollment of 5,478 students. Of these, 3,955 were undergraduates and 561 were graduate students. The average age of students was 25. Seventy-nine percent of students came from Oregon while 150 came from 30 different countries. Ten percent of the student body identify themselves as members of ethnic minorities. In 2003/2004, 1,202 degrees and certificates were awarded. Of these, 66% were for Bachelor's degrees and 22% were for Master's degrees.

### **REGISTRATION**

All persons planning to attend the meeting should preregister using the form on page 35. Advance registration fees are \$60 for professionals, \$45 for retirees, and \$30 for students and spouses of registrants. K-12 and community college teachers are encouraged to attend the meeting for a reduced professional registration fee of \$45. Advance one-day professional preregistration is \$45. After May 23 higher registration fees will be charged: professional, \$80; K-12, community college teachers and retirees, \$60; and students and participating spouses, \$40. One-day registration is

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## **The Relevance of Relevance: Addressing the Decline of Science Literacy in America**

**William B. N. Berry**

**President, AAAS Pacific Division, 2003 – 2004**

(Editor's note: This is the text of the Presidential Address given by Dr. Berry on the evening of 14 June, 2004 at the 85<sup>th</sup> annual meeting of the AAAS Pacific Division, held on the campus of Utah State University.)

The National Commission on Excellence in Education alarmed educators in their April 1963 report: *A Nation at Risk: The Imperative for Educational Reform*, by the comment: “if an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might well have viewed it as an act of war.” The *Nation at Risk* report pointed to “a steady decline in science achievement scores” by American 17 year-olds as measured by national assessments of science in 1969, 1973, and 1977. George Nelson pointed out in his 1998 thoughtful review of American science education, *Science Literacy for all: An Achievable Goal*, that the *Nation at Risk* study was one of several conducted in the 1980s all of which led to the conclusion that significant problems existed in the American educational process. Nelson went on to note that these reports pointed to a “chronic condition, one that ultimately threatens the health of the nation and the well-being of its citizens.” Nelson concluded that significant reform in American science and mathematics education is needed.

The American Association for the Advancement of Science (AAAS) began its own effort to reform science education by launching Project 2061 in 1985. Project 2061 produced two reports, *Science for All Americans* and *Benchmarks for Science: Literacy* as elements in its program to focus on science literacy for all Americans. Project 2061 defines science literacy broadly and places emphasis on making connections among the natural and social sciences, mathematics and technology. One focus of AAAS Project 2061 is upon those students who traditionally have not received significant science education. The goal is to enhance science education among these students especially so that they may participate as fully as possible in a world shaped by science and technology.

Despite a general awareness of the need to improve science education and the AAAS Project 2061 programs, poor results by American students in science and science literacy tests continue to be a concern. For example, 15 year-old students in the United States placed 14<sup>th</sup> among students of the same age from 27 countries in a 2000 study of science literacy conducted by the Program for International Student Assessment (PISA). The 2003 Trends in International Mathematics and Science Study (TIMMS) showed that there had been no measurable change in mathematics and science scores by U.S. fourth grade students between 1995 and 2003, and that U.S. fourth- grade students scored lower in the 2003 study than they had in 1995 relative to scores of students in 14 other countries. Analysis of information in the 2003 TIMMS test results indicate that students from families with the highest levels of poverty had the lowest test scores among U.S. students.

The 2000 PISA report similarly revealed a close correlation between socioeconomic status and science literacy.

As a response to an awareness of the need for all Americans to achieve an understanding of basic science, the AAAS commenced a program designed to enhance science literacy among parents of minority and other under-served students. This program, the Partnership for Science Literacy, has published *Family Guide to Science* and it has established a web site. The program encourages families to become aware of fundamentals of science relevant to their lives.

Discussions of current science instruction with several hundred high school students as well as a number of their teachers confirm information in the TIMMS report that suggests most current instruction emphasizes memorization rather than critical thinking and textbook reading rather than learning science by doing it. Indeed, many high school science courses do not include laboratory work or field observations. High school students comment that they are taught to memorize facts to pass certain tests and that they actually learn relatively little. Information in many texts not pertinent to passing basic texts may be ignored totally, or it may receive only scant attention and be dismissed as being irrelevant by students. The discussions with high school students revealed that they have little ability to convert facts they have memorized into a coherent overview of the world in which they live. Students memorize the information needed to pass specific biology, chemistry and physics tests. Rarely, however, is any attempt made to discover connections among these sciences. It appears that current instruction in the basic sciences discusses each science as though it is constrained by virtually impenetrable walls. Students tend to leave the study of each of the basic sciences with the vague idea that each is housed within a silo that lacks connections with other silos. Even the fundamental road maps for understanding science created in the Project 2061 *Atlas of Science Literacy* tend to divide basic science to physical, biological, and technological domains with little attempt to show connections among them.

Information in the Project 2061 publication *Science for All Americans* reviews many aspects of science education and how science literacy may be achieved. That information suggests that students in science courses should:

- 1) become acquainted with the world around them;
- 2) have opportunities to observe, collect, measure and count;
- 3) conduct thoughtful analyses of what they have counted, observed and measured;
- 4) write their thoughtful analyses and be able to present them orally; and
- 5) work in groups to share information and ideas with each other.

These suggestions seem to have been considered thoughtfully as steps toward achieving a good understanding of science. Discussions in *Science for All Americans* emphasize learning by doing rather than extensive memorization and the seeking relationships among the sciences rather than treating them as discreet topics.

Former U.C. Berkeley Chancellor, Chang-lin Tien, reviewed certain high school educational programs at schools with high drop out rates and low rates of admission to colleges and universities. He concluded from his review that instruction in the sciences bored students and did not give them any sense of relevance to their lives. At his urging, a project-based educational program in environmental science was designed for Galileo Academy in San Francisco. Drop out rates at Galileo were high, and relatively few students opted to even apply for colleges and universities.

The project-based environmental science curriculum developed for Galileo Academy drew upon the potential for studies involving field and laboratory work in the Presidio of San Francisco, the former army

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available on-site for \$60. If you attend more than one day, you must pay the full registration fee.

*About field trips:* Preregistration for all field trips is required because of limited seating in the vehicles and the need to inform some destinations of numbers of people arriving. If you are interested in one or more of the excursions, it is recommended that you register early.

At least one member of a family group requesting field trip reservations must be a paid meeting registrant.

*About tickets to attend performances by the Oregon Shakespeare Festival (OSF):* A limited number of tickets will be available for meeting registrants to purchase to attend performances of the Oregon Shakespeare Festival. At least one member of a family group requesting play tickets must be a paid meeting registrant. If you are interested in attending one or more of these plays, you should register early to make sure you get tickets to the plays you wish to see. **Tickets must be purchased no later than May 16.**

Please send your Advance Registration Form and accompanying payment to **AAAS Pacific Division, Department of Biology, Southern Oregon University, 1250 Siskiyou Blvd., Ashland, OR 97520.**

## ACCOMMODATIONS AND FOOD SERVICE

*Residence Halls:* Southern Oregon University is offering an attractive rate for housing in their residence halls. For \$22.50 per night double or \$36.50 per night single you can keep your budget under control while taking advantage of all that the meeting, Ashland, and the surrounding area have to offer. If you wish to partake of an all-you-can-eat breakfast in the dining commons each morning, the cost for room and breakfast is \$29.00 per night double or \$43.00 per night single.

Cox Hall, the university residence hall to which our group has been assigned, was recently remodeled. It consists of typical dorm rooms with shared bathrooms down the hall. Rooms can accommodate a maximum of two persons. For your comfort, rooms are air conditioned. Rooms are furnished with two twin beds, desk with lamp and chair, bureau and closet. On arrival, rooms are made up with linens, a blanket, towels, plastic cups, and small bars of soap. On the fourth day of a stay, fresh towels are provided. On the seventh day of a stay, fresh linens and towels are provided. Maid service is not provided. Ice machines, extra pillows, and extra blankets are not available. Guests who bring extra towels should pack colored ones, as the ones provided are white. Guests might also consider packing an extra blanket since the evenings can be quite cool in June. Guests are encouraged to bring cell phones, as individual room phones are not available. However, pay phones are within easy walking distance. **No smoking or alcohol use is allowed anywhere in the facility, including the bedrooms.**



Cox Hall, location of on-campus housing for the meeting.

In addition to the standard dorm rooms, a very limited number of deluxe rooms ("suites") are available. These are similar to upscale motel rooms. Most have two double beds but one has a single queen. All have private bathrooms, air conditioning, telephones, a bar sink, microwaves, and refrigerators. Half of the rooms, including the queen suite, have views of Grizzly Peak, which will be assigned first. The other half have "garden views." These rooms are a bit more expensive than the standard dorm rooms. Doubles are \$41.50 per night, or \$48.00 with the all-you-can-eat breakfast. Singles are \$72.00 per night, or \$78.50 with breakfast. **AT THIS TIME, ALL OF THESE ROOMS ARE RESERVED. IF YOU WISH TO BE ON A WAIT-LIST, PLEASE DON'T SEND MONEY BUT NOTE YOUR DESIRE ON THE RESIDENCE HALL APPLICATION FORM.** Be sure to have backup reservations. There is no guarantee more rooms will become available.

*Length of stay in residence halls:* The Pacific Division has reserved a block of rooms for the nights of Friday, June 10 through Thursday, June 17. You may choose which of these nights you wish to stay in University housing. **There is a two night minimum stay. Housing registration closes May 6, 2005. Your form must be received at the AAASPD office by this date in order to be sure to receive these accommodations.**

*Residence Hall Registration:* Register **by May 6** by 1) completing the form on page 34 of this *Newsletter* and sending it directly to AAAS Pacific Division with your advance

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# Museums and Other Institutions of Natural History Past, Present, and Future



A Symposium Held on the Occasion of the 150<sup>th</sup> Anniversary of the California Academy of Sciences  
June 16–17, 2003

and sponsored by

California Academy of Sciences and the Pacific Division of the American Association for the Advancement of Science

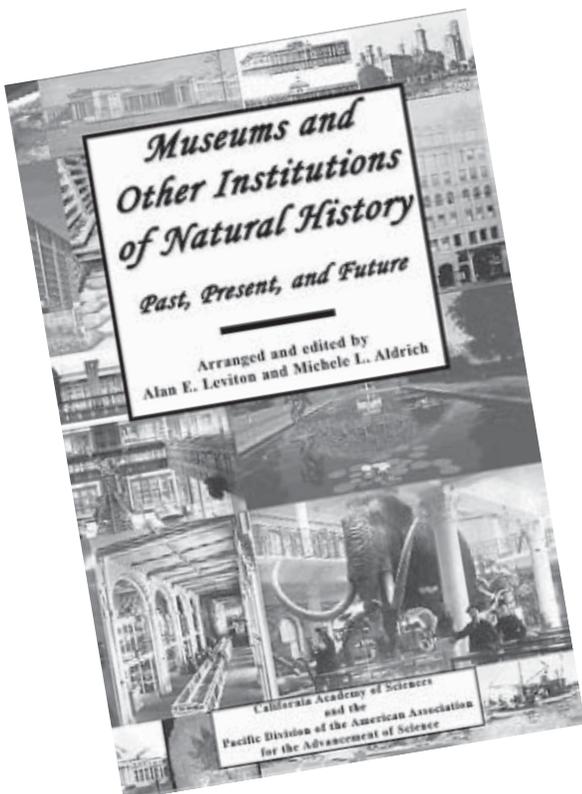
Arranged and edited by

Alan E. Leviton and Michele L. Aldrich

*California Academy of Sciences*

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**Price: \$35.00 including shipping and handling.**  
Refer to order form on page 30 of this *Newsletter*.

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Amanda Berry, Honorable Mention winner in student poster competition at the AAAS national meeting.

Pacific Division annual meetings. Last year at Utah State University she not only won first place in the combined sections of Education and Social, Economic and Political Sciences, for her presentation, "Are Stock Options Congruent with Maximizing Share Holder Value?" but she was also awarded the Division-wide Presidents' Award for Excellence. That's not bad for a high school student who is competing with university undergraduate and graduate students! Amanda paid her own way to travel to the national meeting to present her poster. She, too, was rewarded with an Honorable Mention. Congratulations, Amanda! Amanda will be back at the Pacific Division meeting this June for one more try before graduating from high school.

At the AAAS Board of Directors meeting all of the division directors were invited to report on the activities of their divisions this past year and their plans for 2005. I was able to share about our very successful meeting at Utah State University and also our new publication, "Museums and Other Institutions of Natural History: Past, Present, and Future," which favorably impressed Board members. I also spoke a bit about plans for this year's meeting at Southern Oregon University, the anticipated publication of our symposium volume on taxonomy and diversity, our second volume from our 2003 San Francisco meeting, and a new education initiative in which the Pacific Division is participating. This initiative is a partnership with faculty at UC Berkeley, California State University at Northridge, UCLA, San Diego State University, the Los Angeles Unified School District, San Fernando high school and middle school teachers, Richmond high school and middle school teachers, Antioch Unified School District, Pittsburgh School District, El Centro School District, Imperial County Middle Schools and a number of public and private members (including the

Hispanic Engineers National Achievement Awards Conference [HENAAC]). The goal is to develop middle school after-school programs that will motivate and engage students with science and improve their understanding of science. An anticipated outcome of this project will be to decrease the drop-out rate of middle school/high school students and improve the retention of these students in higher education and also science-related careers. Watch for progress reports in future newsletters.

The AAAS Council met Sunday morning to hear a variety of reports and to discuss business. Dr. Shirley Ann Jackson, in-coming chair of the Board, reported that one interest of the Board is to shift the focus from U.S. divisions to more international divisions. [It should be noted at this point that the Pacific Division has had an international flavor for several years, with membership extending to Canada, Japan, Australia, and the entire Pacific Rim. You should have received a postcard last fall announcing the 2005 meeting in Ashland, OR. This card was sent not only to all U.S. members of the Pacific Division (who haven't opted out from mailings), but also to approximately 6,000 foreign members in the above-mentioned places.]

Dr. Alan Leshner, CEO of AAAS, reported on how the organization has successfully weathered the economic downturn of the last few years and is now in a position to move forward with vigor. He noted that about 1,600 parents and children attended the Public Science Day on Saturday and that another large group was expected for Sunday. Additionally, he commented on various Board and/or Council resolutions of the recent past on topics such as the repair mission to the Hubble space telescope, genetic discrimination in insurance, teaching "Intelligent Design" in public school classrooms, cloning and stem cells, women in science, and visas and freedom of travel. He noted that just in the last few days the issue of visas for foreign students and faculty had eased and pointed to efforts of AAAS on Capitol Hill in helping to educate legislators to make this easing possible. He commented that an issue AAAS is still trying to get a hand on is open access to the scientific literature. AAAS, publishers of *Science*, understands well the issues involved. Already, authors can post their papers upon acceptance on their own and/or their institution's website, abstracts of articles published in *Science* are available (with free registration) upon publication, and full-text downloads are available (again, with free registration) one year after publication. However, this may not be the final solution for articles published in *Science*.

On the topic of Science magazine, it was noted that AAAS is celebrating the 125th year of publication. PDFs of the first and second issues will be available (with registration) from [www.aaas.org](http://www.aaas.org).

One last item of interest to come out of the Council meeting was a change in budgeting for sections (not to be confused with divisions!). Several Council members commented that some sections have, by nature, low membership because they aren't disciplinary. However, they may have high secondary or tertiary membership. It was urged that funding take into account not only individuals' first choices, but also second and perhaps third choices.

Moving from the Council to the exhibit hall, the Pacific Division again sponsored a booth. We were surprised at how many Pacific Division members stopped by our booth. It was nice meeting and visiting with you! The exhibit hall was the largest ever, and completely subscribed. It was an interesting place to be.



Angie Christianson, Pacific Division Executive Assistant, telling meeting attendees about the Pacific Division and our meeting at Southern Oregon University this coming June.

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registration form, or 2) faxing the form on page 34 to 541-552-8457 (a dedicated fax line to the Pacific Division office) or 3) telephoning the Pacific Division office at 541-552-6869 with your registration and credit card information.

**Residence Hall Check-in:** Normal check-in is at 3:00 p.m. Early arrival may be accommodated in a variety of ways from storing luggage until later to finding that your room is already available. A week-long parking permit may be purchased for \$10.00 (daily permits are \$5.00) from the residence hall staff. Posted on both the north (parking lot side) and west (facing Indiana Street) entrances to the building will be lists of guests and their room numbers. Go directly to your room for more information. Residence hall doors are locked from 7:00 p.m.

to 7:00 a.m. If you arrive during this time, go to the west entrance (facing Indiana Street), where you will find instructions on how to contact residence hall staff and a campus telephone marked by a blue light.

**On-Campus Dining:** On-campus dining is available only to those staying in dorms (see previous page). However, there are several restaurants adjacent to campus which are just a short walk from the meeting site. Registrants will be provided with a list of nearby restaurants for their dining pleasure. Additionally, downtown Ashland boasts a number of restaurants from casual to elegant.

**Local off-campus accommodations:** There are many hotels and motels in the Ashland area. A complete list may be found on the internet by clicking on the appropriate links at <http://www.sou.edu/AAASPD/Ashland2005/Housing.html>. A list of local motels and hotels that are offering meeting attendees special rates and holding blocks of rooms follows. Be sure to identify yourself as attending the AAAS Pacific Division meeting when making your reservation. All rates listed are for one or two people in a room and are exclusive of taxes and other fees unless otherwise noted.

• **Ashland Springs Hotel**

212 East Main Street, Ashland, OR 97520

541-488-1700

Rates: all except Sunday and Monday: \$112.00/night

Sunday and Monday: \$102.00/night

Located in the heart of downtown Ashland, about 1 mile from the University campus. Additional guests are \$20.00 each. Rates include continental breakfast on the Mezzanine and steam bath or sauna at the Ashland Springs Spa. Reservations must be made by Tuesday, May 10, 2005. After this date the group rate is available based upon availability. Web: [www.ashlandsspringshotel.com](http://www.ashlandsspringshotel.com).

• **Stratford Inn**

555 Siskiyou Boulevard, Ashland, OR 97520

541-488-2151

Rates: \$120.00/night

Located just east of downtown Ashland, about 0.8 miles from the University campus. Standard rooms include two queen beds, refrigerators, tub/shower bathrooms and cable television with HBO. Other amenities include an indoor swimming pool and spa and free guest laundry. Included is a "wonderful light breakfast" served in the grand room.

• **Plaza Inn and Suites at Ashland Creek**

98 Central Avenue, Ashland, OR 97520

888-488-0358 or 541-488-8900

Rates: deluxe queen \$145.00/night

executive king \$165.00/night

Located just northwest of downtown Ashland, about 1.25 miles from the University campus. Amenities include mini-refrigerators and microwaves in all rooms, pillow menu. 100% non-smoking, deluxe European complimentary breakfast, 24-hour fitness center with outdoor spa tub, evening snacks, late evening fresh baked cookies, milk and gourmet PBJ sandwiches. Web: [www.plazainnashland.com](http://www.plazainnashland.com).

• **La Quinta Inn & Suites**

434 Valley View Road, Ashland, OR 97520  
800-531-5900 or 541-482-6932

Rates: \$99.00/night

Located just off I-5 at exit 19, approximately four miles from the University campus. Double queen rooms have kitchenettes. Free continental breakfast, 24-hour indoor swimming pool, spa and fitness center. Web: [www.lq.com](http://www.lq.com).

• **Manor Motel**

476 North Main Street, Ashland, OR 97520  
541-482-553

Rates: \$65.00 - \$95.00/night

Located 1.6 miles from the University on the west side of Ashland. The Manor Motel is a small “1940’s style” auto court with 11 rooms. Rates depend on the room and amenities. Rooms accommodate 2, 3 or 4 persons, and many have kitchens. Senior discounts are available.

• **Holiday Inn Express**

565 Clover Lane, Ashland, OR 97520  
541-201-0202

Rates: \$89.00/night

Located on the east end of town near I-5 Exit 14, the hotel is approximately two miles from the university campus. Rate is for a single king or two queens, double occupancy (children stay free in adult’s room). Additional persons are \$10 + tax each. Maximum is three for a king room and five for a double queen room. All rooms reserved are non-smoking. Smoking may be available—ask at time of making reservation. Be sure to ask for a room out of the AAAS Pacific Division block, confirmation number P21754.

• **Windmill Inn and Suites of Ashland**

2525 Ashland Street, Ashland, OR 97520  
800-547-4747 or 541-482-3010

Rates: \$95.00/night

Located just to the north of I-5 at Exit 14, about 2.5 miles from the University campus. Additional persons \$10 + tax. Free breakfast buffet for guests, and complimentary shuttle to and from the airport, SOU campus, and downtown Ashland.

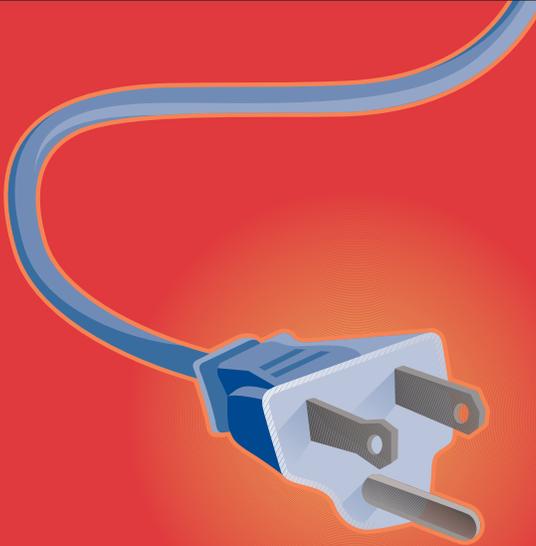
• **Oak Street Cottages**

171 Oak Street, Ashland, OR 97520  
541-890-6462

Rates: \$226.80 - 302.40/ night (including taxes)

Located just a block from downtown Ashland, Oak Street Cottages operates four rental houses, priced as follows: Sherwin Cottage (sleeps 11) \$302.40 per night, including taxes; Oak Lawn and Oak Hideaway (each sleep 6) \$226.80 per night, including taxes; Oak Tower (sleeps 8) \$275.40 per night. Web: <http://www.oakstreetcottages.com>.

*Please make your reservations* for off-campus housing directly with the hotel/motel of your choice. Note that AAAS, Pacific Division lists the above hotels and motels for information only, not as an endorsement for any specific commercial enterprise.



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## TRANSPORTATION AND CAMPUS PARKING

*By Automobile:* Southern Oregon University is located about 15 miles north of the California border on Interstate 5. **FROM THE SOUTH:** take Exit 14 from I-5. Turn left at the stop sign and follow Hwy 66 (Ashland Street) toward town. Proceed to the right at the third signal onto Siskiyou Blvd and follow one of these options:

- for on-campus housing, turn left at the first signal onto Indiana St. In about 1/3 block turn left into the parking lot (looks like an alley but opens into a parking lot). Cox Hall faces the parking lot.

- to drive onto campus for the meeting, turn left at the second signal (Mountain Ave.). Proceed up the hill to the STOP and turn left. Follow the signs to free parking in Lot #30.

**FROM THE NORTH:** take Exit 19 from I-5. Turn right at the stop sign and proceed to the signal (Hwy 99). Turn left onto Highway 99 and continue driving about one mile past downtown Ashland to Mountain Avenue (a signal). Follow one of these options:

- for on-campus housing, pass Mountain Avenue and continue to the next signal, Indiana Street. Turn right onto Indiana and then left about 1/3 block later into the parking lot (looks like an alley but opens into a parking lot). Cox Hall faces the parking lot.

- to drive onto campus for the meeting, turn right onto Mountain Avenue. Proceed up the hill to the stop sign and turn left. Follow the signs to free parking in Lot #30.

*By Air:* Ashland is not served by a commercial carrier. However, Medford (about 15 miles from Ashland) is served by major airlines. Car rentals are available at the airport. Both Cascade Airport Shuttle (541-488-1998) and Yellow Cab Shuttle Service (541-482-3065) service Ashland from the airport. Advance reservations are required for both shuttle services. Rates and advance reservation forms for Yellow Cab Shuttle Service may be found by visiting their website, [www.yellowcabofsouthernoregon.com](http://www.yellowcabofsouthernoregon.com). Pricing is competitive between the two shuttle companies. The airport is about 25 minutes from the University.

### **UNITED AIRLINES SPECIAL MEETING OFFER**

Save up to 15% on airfare for travel on United to Medford, OR, between June 7 and June 22, 2005.

You or your travel agent call UAL's Meeting Plus Reservation Center at **800-521-4041**, 8:00 a.m. to 10:00 p.m. E.T., 7 days a week.

Refer to **Meeting ID Number 539GU**.

Call at least 30 days in advance for best discounts.



Sciences Building on SOU campus. Registration and most meeting sessions occur here. Photo courtesy SOU Photographic Services.

## REGISTRATION CENTER

The Registration Center will be in the lobby of the Science Building (see campus map on page 39 of this *Newsletter*). It will open at 2 p.m. on Sunday and 8:00 a.m. on Monday through Wednesday, remaining open daily until 5 p.m. except Wednesday, when it will close at 2 p.m.

## MEETING ROOMS AND PRESENTATION TIMES

This year's technical sessions will meet in the Sciences Building. Meeting rooms will be equipped with a 35 mm slide projector, an overhead projector, a Windows-based computer running Windows XP and PowerPoint from Office XP, and a standard computer projector. Speakers requiring other specialized equipment must make their requests when they submit their abstracts. Specialized equipment, such as VHS/TV, will be provided if available. If rental costs are incurred for specialized equipment, payment will be the responsibility of the requestor. A Speaker's Preview Room with most projection equipment will be open during the meeting. The meeting rooms and times of presentations will be published in the "Program with Abstracts" issue of the *Proceedings* (vol. 24, part 1), which are given to each person who has registered for the meetings. Speakers may obtain final confirmation of the time and place of their presentation by visiting the Pacific Division website ([pacific.aaas.org](http://pacific.aaas.org)) starting ten days prior to the meeting.

## COMPUTERS AND POWERPOINT PRESENTATIONS

All meeting rooms will be outfitted with a PC running Windows XP and projecting to a large screen. Available will be PowerPoint (PP) from Office XP. If you are planning to use PP for your presentation, you must make sure that it will run on the Office XP version of PP. Only CD-ROMs and

thumb/USB/flash drives may be used to load the presentation onto the computer. If you are preparing your presentation on a Macintosh computer, make sure it will load to a PC running Windows XP.

## POSTER SESSION

One combined poster session is being planned for this meeting. It will run from 4:00 p.m. to 10:00 p.m. on Monday, June 13 on the third floor of the Hannon Library. Also in the Library that evening will be an invited lecture and a reception sponsored by SOU President Elisabeth Zinser.

Posters will be assigned a numbered display space of 40" tall X 60" wide (1 m X 1.5 m). If you need more space or the opposite orientation, please contact the Division office by e-mail: [aaaspd@sou.edu](mailto:aaaspd@sou.edu) or telephone: 541-552-6869 to discuss your needs *no later than May 13, 2005*. By action of the Pacific Division Council in order to assure fairness, all student posters must fit within the assigned display space of 40" X 60" (either orientation) to be eligible for student awards of excellence. A request for extra space will disqualify a student from the award competition. Posters will be grouped by discipline and subject matter.

Presenters should have their posters set up by the 4:00 p.m. start time on Monday. The board number for each presentation will be listed in the Proceedings. Be sure to use the correct board for your poster! It is expected that each presenter will be available to discuss their poster for at least one hour during the session. Students, however, must be present for judging for Awards of Excellence, so they should expect to spend additional time with their posters. Posters should remain up through the entire poster session. Although no formal poster session is planned for Tuesday, presenters are encouraged to leave their posters up through 4:00 p.m. Tuesday to allow a wider audience to view them. Presenters need not be present during this extended time.

With the permission of Dr. Carol Waite Conner and the Geological Society of America, the Pacific Division has reprinted Dr. Conner's article, "The Poster Session: A Guide for Preparation." It can be found on the Division's website, <http://pacific.aaas.org>. Click on the 86<sup>th</sup> Annual Meeting home page and then **Poster Preparation** (listed in the left-hand column).

## SPECIAL EVENTS

It would be difficult to visit Ashland without being given the opportunity to attend one or more plays produced by the nationally renowned Oregon Shakespeare Festival (OSF). We have chosen four plays, one contemporary, one not so contemporary and two Shakespeare, to offer to meeting registrants. Two are in the outdoor Elizabethan Theatre and two are indoors in the Angus Bowmer Theatre. Almost all



### Graduate Students Heed Call

By Thomas Edwin Robey  
MSTP Bioengineering Student

UNIVERSITY OF WASHINGTON — Science and society are not individual entities unaffected by one another. Increasingly, leaders in science are calling the scientific community to action in establishing a dialogue with the broader community. Alan Leshner, CEO of AAAS, challenged the scientific community to "adopt a much more inclusive approach that engages other communities assertively in discussing the meaning and usefulness of our work" in a recent editorial (*Science*, Vol 307, Issue 5711, 815). In response to this call, a group of graduate students at the University of Washington established the Forum on Science Ethics and Policy (FOSEP) to promote dialogue among scientists, policymakers, and the public about the role of science in our society by planning a variety of events.



The first annual public forum, "Stem Cells: The Science, Policy, and Possibilities," in October 2004 attracted over 750 members of the Puget Sound region to hear a panel discussion with a scientist, a bioethicist, and a health law expert. To connect scientists and policymakers, a stakeholders' meeting that day convened elected state and national representatives, ethicists, local business leaders, researchers and physicians to discuss state level stem cell policy. This meeting initiated participation by local scientists during the drafting of Washington state stem cell legislation (HB 1268 and SB 5594) and in committee level discussions.

FOSEP also holds regular seminars for the academic community that feature national science policy experts, and small discussions, often in conjunction with the larger seminars, to assess issues in depth and to practice communicating about current issues. Our web resource, [www.fosep.org](http://www.fosep.org) provides links to a wide range of articles and activities as well as streaming archives of our events.

FOSEP is hosted by the University of Washington's Office of Research, which provides funding and advising. A number of other departments at the University of Washington have also made generous donations to support specific events. If your organization is interested in sponsoring or co-organizing an event with FOSEP, please contact us at [fosep@u.washington.edu](mailto:fosep@u.washington.edu).

# ADVANCING SCIENCE WORLDWIDE

AAAS international activities are advancing global scientific cooperation, preparing future workforces and building scientific capacity and connecting science with the practice of sustainable development.

[www.aaas.org/international](http://www.aaas.org/international)



tickets are seated in the C-sections, the least expensive areas of the theatres. It is hard to find a bad seat in the OSF theatres. We worked with the OSF group ticket sales agents to get the best possible seats at the most reasonable prices. We have only a limited number of tickets for each performance. Please use the Advance Registration Form to order your tickets. Additional information about the plays may be found at [www.osfashland.org](http://www.osfashland.org). At least one member of a family unit requesting tickets must be registered for the meeting. **All tickets must be purchased no later than May 16.**

#### *Saturday Evening Play at Oregon Shakespeare Festival.*

This evening's play is **ROOM SERVICE**, "a screwball homage to theatre, made famously funny by the Marx Brothers. In 1938, this classic American farce had 'em rolling in the aisles. Aspiring theatrical impresario Gordon Miller has what might be The Great American Play. He doesn't have the dough to produce it, and he's teetering on the brink of eviction from the White Way Hotel. Can he hoodwink the hotel management long enough to scrape together the money? And just how many starving theatre artists can you jam into one room? This tribute to the high-wire enterprise of putting on a new play revels in eccentric characters and wicked one-liners worthy of Groucho himself." –OSF

*Sunday Evening Lecture.* T.B.A. Check the Pacific Division web pages for up-to-date information.

*Sunday Evening Welcome Wagon and Cracker Barrel Mixer,* hosted by the Pacific Division and its affiliated societies and sections. All registrants and their families are invited to enjoy the conviviality of this social on June 12 from 7:30 to 9:30 p.m. A selection of soft drinks, chips, pretzels, and good conversation will be available.

#### *Sunday Evening Play at Oregon Shakespeare Festival.*

This evening's play is Shakespeare's **LOVE'S LABOR'S LOST**. "Love is the teacher and love is the lesson. In Shakespeare's giddy word-feast, Ferdinand, King of Navarre, and three of his friends decide to give up women and the world to devote themselves to learning, but their foolish vows can't bar love—from their gates or from their hearts. Certainly not when four high-spirited, highbred ladies arrive on the scene. Their unexpected entrance throws the noble scholars—and the pedants and peasants of the neighboring countryside—into romantic upheaval. Can the men pursue the ladies without breaking their oaths? Will these sophisticated young women consent to be courted by such fickle young men? Will love's labors be lost or won?" –OSF

*Monday Evening Lecture.* Aden B. Meinel, PhD., and Marjorie P. Meinel, M.S. (retired, University of Arizona, Tucson, AZ, and Jet Propulsion Laboratory, Pasadena, CA) will speak on "The Saga of the Ice Ages: Is the Next One Overdue?" This talk is a follow-up to the very well-received talk they gave at the annual meeting last year at Utah State University.

*Monday Evening President's Reception.* Following the Meinels' talk, Southern Oregon University President *Elisabeth Zinser* will welcome conferees at an informal reception. All participants and their families are invited to enjoy this relaxed occasion. Nonregistered family members are welcome, but must be accompanied by a registrant. Please wear your registration badge.

*Tuesday Evening Reception, Banquet, and Announcement of the Winners of the Student Awards for Excellence.* The Divisional Dinner will be held Tuesday evening beginning at 6:00 p.m. at the Stevenson Union on the Southern Oregon University campus. The cost is \$22 per person and you must sign up in advance (please see Advance Registration Form, p. 35). Students who are in competition for an Award of Excellence are invited to attend as guests of the Division. If you are a student planning to attend the dinner, please be sure to check the appropriate boxes on the Advance Registration form. Dinner will be preceded by a no-host reception, starting about 6:00 p.m. The following entrees are offered for dinner: Rosemary Roasted Chicken Breast (chicken breast marinated with rosemary, lemon juice, garlic, and Dijon mustard), Native American Style Grilled Salmon (rubbed with fresh sage, lemon, and garlic) and Portabella Napolian (portabella mushrooms, roasted vegetables and tofu with roasted red pepper sauce—our vegetarian offering). Please be sure to indicate your choice on the Advance Registration Form (page 35). Following dinner, AAAS Pacific Division President Lynn M. Dudley will give the Presidential Lecture, and Division representatives will announce the names of student winners of sectional and affiliated society Awards of Excellence and also winners of the Division's Laurence M. Klauber Award for Excellence (unrestricted), Geraldine K. Lindsay Award for Excellence in the Natural Sciences, J. Thomas Dutro, Jr. Award for Excellence in the Geosciences, Rita W. Peterson Award for Excellence in

Science Education, the President's Award for Excellence (unrestricted), the Best Poster Award (for poster presentations only but otherwise unrestricted), and the AAAS–Robert I. Larus Travel Award, which provides for travel and other expenses for the awardee to attend the 2006 annual meeting of AAAS in St. Louis, MO, February 16 - 20, in order to present his/her winning presentation as a poster.

The Klauber, Lindsay, Dutro, Presidents', Best Poster, Peterson, and AAAS–Larus awards are given to those students whose presentations are judged the most significant in the advancement or understanding of science. Eligible students must: (1) register for the meeting, (2) present the paper or poster, and (3) be the principal research investigator. Student presentations, oral and poster, are judged on their abstracts, content, style of delivery or presentation, and audiovisual aids and/or handouts (if used). The evaluation forms (oral and poster) are posted on the Division's website.

All are invited and encouraged to attend this annual event.

*Business Meeting of the Council of the Pacific Division.* The Council of the AAAS, Pacific Division will hold its annual breakfast and business meeting at 7:00 a.m. on Wednesday, June 15. The Council will elect officers, discuss programs for the 2006 and 2007 annual meetings, and transact such other business as required by the Division's By-Laws.

*Wednesday Evening Lecture.* Drs. J. Thomas Dutro, Jr. and Alan E. Leviton will give a talk to preview the two and one half day field trip that leaves the following morning.

## Library Book Packs

\$120 postpaid

A \$327 value!

U.S. and Canada only...others please contact us for shipping costs.

Have library access to all of the AAAS, Pacific Division books that are currently in print. Give this order form to your librarian and request that they place the order today! Or use it to augment your own personal library! For only \$120 postpaid, you or your library will receive one copy of each of the following:

- *new Museums and Other Institutions of Natural History* (paper, 2004) *new*
- Genecology and Ecogeographic Races (cloth, 1995)
- Dietary Factors and Birth Defects (paper, 1993)
- San Francisco Bay: The Ecosystem (cloth, 1996)
- San Francisco Bay: Use and Protection (paper, 1982)
- Crater Lake: An Ecosystem Study (cloth, 1990)
- Late Cenozoic History of the Pacific Northwest (cloth, 1985)
- Cracking Rocks and Defending Democracy: The Life and Times of Kirtley Fletcher Mather, 1888–1978 (cloth, 1994)
- Agroecosystems and the Environment: Source, Control, and Remediation of Potentially Toxic Trace Element Oxyanions (cloth, 1998)
- Frontiers of Geological Exploration of Western North America (paper, 1982)
- Patterns of Evolution in Galapagos Organisms (cloth, 1983)

WHILE QUANTITIES LAST!!

Tables of Contents posted at [pacific.aaas.org](http://pacific.aaas.org)

Attention \_\_\_\_\_ Institution \_\_\_\_\_

Address \_\_\_\_\_ City, State & Zip \_\_\_\_\_

Please make check out to **AAAS, Pacific Division** or call with credit card • Purchase orders accepted from institutional libraries

Questions? Phone 541-552-6869 or e-mail [aaaspd@sou.edu](mailto:aaaspd@sou.edu)

**MAIL TO:**

AAAS, Pacific Division • Department of Biology • Southern Oregon University • Ashland, OR 97520

*Wednesday Evening Play at Oregon Shakespeare Festival.*  
This evening's play is **THE TRAGICAL HISTORY OF DOCTOR FAUSTUS**, by Christopher Marlowe. "The devil will have his due. Doctor Faustus is going to Hell. In this epic theatrical masterpiece—the first great poetic tragedy in English drama—Marlowe presents a burning question: What does it profit a man if he gains the whole world but loses his immortal soul? Driven by curiosity and ambition, Faustus signs a pact with dark forces and embarks on a breathtaking journey through time and space with the devil Mephostophilis as his guide. The horror of damnation is obscured by the wonders heaped upon him: unlimited access to forbidden knowledge, heady encounters with the legendary and powerful, the satisfaction of every desire. Lucifer's generosity is boundless—until the clock strikes midnight." –OSF

*Thursday Evening Play at Oregon Shakespeare Festival.*  
This evening's play is **RICHARD III**, by William Shakespeare. "Meet the most charismatic villain ever to command a stage. He's Shakespeare's Richard III—the man audiences have loved to hate for 400 years. Deformed in body and spirit, this engaging monster is obsessed with power. Driven by bloody ambition, cursed by nightmares and a chorus of queens, Richard grinds his adversaries beneath his lurching feet until he bestrides beleaguered England like a malevolent colossus. Does he fall? Of course, but not before he has taken us all on a wild and wickedly entertaining ride." –OSF

**Trivia Question Winner.**  
Congratulations to Libe Washburn (UC Santa Barbara), who correctly identified this object as an armillary sphere, a specialized type of sundial. It rests on the Southern Oregon



University campus, just northeast of the Sciences Building. She will receive a free and postpaid publication of the Pacific Division of her choice.

## PUBLIC LECTURES

The following public lectures are being planned. Additional ones may be scheduled as time permits.

"Historic Management within the Cascade-Siskiyou National Monument," Dr. Paul Hosten, Bureau of Land Management, Medford, OR.

"The Saga of the Ice Ages: Is the Next One Overdue?" Dr. Aden B. Meinel and Marjorie P. Meinel, M.S., Arizona State University (emeritus), Tucson, AZ, and Jet Propulsion Laboratory (retired), Pasadena, CA.

"Dementia Is Not A Disease: What Is It?," Dr. Fred C.C. Peng, (Neurological Institute, Department of Neurosurgery, Veterans General Hospital–Taipei, Taipei, Taiwan.

AAAS Pacific Division Presidential Lecture, Dr. Lynn M. Dudley, Utah State University, Logan, UT.

## FIELD TRIPS

All field trips are open to meeting registrants and their families. Due to limited space, advance registration is required for all trips. Reservation and payment of field trip fee(s) are included on the Advance Registration Form.

**Q:**

What is the best way to present my research or showcase new ideas in front of world-renowned scientists and researchers?

**A:**

Propose a symposium for the AAAS Annual Meeting, 16–20 February 2006, St. Louis, MO. Deadline for proposal submission is Monday, 2 May 2005.

**For more information on submitting a proposal, visit:**

**[www.aaasmeeting.org](http://www.aaasmeeting.org)**



**AAAS**  
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A full refund will be granted if a trip is cancelled by the Division. If a registrant cancels via e-mail or written notification postmarked by May 23, 2005, the registrant will receive a refund of the fee(s) paid less a \$10 processing fee. If paid by credit card, an additional 3% will be deducted from the amount being refunded.

All field trips depart from the parking lot in front of the Sciences Building on the Southern Oregon University campus (see map on page 39 of this *Newsletter*). Departure times are absolute. Return times are approximate.

**(1) Saturday, June 11: 8:00 a.m. – Sunday, June 12 5:00 p.m. Redwoods, The Oregon Coast, and Life on the Serpentine.** Led by Drs. Ronald Nitsos and Frank Lang (both emeritus, Department of Biology, Southern Oregon University, Ashland, OR), this trip leaves from the parking lot in front of the Sciences Building (see map on page 39 of this *Newsletter*). Explore the uniqueness of the Siskiyou and Coast Mountains. Travel the Redwood Highway, making stops at Eight Dollar Mountain, Rough & Ready Botanical Wayside, Jedediah Smith State Park and Stout Grove. Spend the night in Crescent City, CA, and explore tide pools, Battery Park Lighthouse, the Mouth of the Windchuck River, and Harris Beach State Park (Brookings, OR). Examine plants adapted to serpentine soils



*Darlingtonia*, courtesy of Daryl Jackson.

in fens and bogs (caution: you may get wet feet!), carnivorous plants (*Darlingtonia*, *Pinguicula*, and *Drosera*), and life in tide pools. The trip includes easy to moderate walking plus some rocky beaches. Bring good walking/hiking shoes. Coastal fog/rain is always a possibility. Includes transportation and a box lunch the first day. Participants are responsible for

purchasing their own dinner Saturday and breakfast and lunch on Sunday. Cost: \$125 double occupancy, \$185 single occupancy. Minimum 8, maximum 18 participants.

**(2) Sunday, June 12: 10:00 a.m. - 5:00 p.m. The Terroir and Wines of the Rogue Valley.** Led by Dr. Gregory Jones (Department of Geography, Southern Oregon University, Ashland, OR). This trip leaves from the parking lot in front of the Sciences Building (see map on page 39 of this *Newsletter*). The continuum of issues from grape variety to wine is often embodied in the notion of “terroir”, the French concept where both physical and cultural factors interact to define the wine styles and quality that comes from any site

## ***While you're in the area, explore the region with the Siskiyou Field Institute***

—by Sue Parrish, Executive Director

The Siskiyou Field Institute (SFI) is a non-profit organization that offers natural history field programs about the Klamath-Siskiyou bioregion. Its programs serve a wide audience, from nature fun for youth to technical science courses for professionals. Participants can raft down the Klamath River while learning the region's ethnobotany and native ecological knowledge from PhD candidate and Native American Frank Kanawa Lake; relax at the Oregon Caves Chateau, hiking its old-growth forests and enjoying the Valley's diverse wildflowers with expert naturalists; or join SFI's Cave Junction or Ashland programs to partake in a menu of courses about the region's birds, reptiles, geology, salmon, plants, butterflies—there's something for everyone!



Siskiyou Field Institute

SFI works cooperatively with SOU, offering college credit for some of its field courses and providing a venue for SOU professors and other naturalists to share their work with the general public. SFI is also partnering with SOU to offer three seasons of programs in a dedicated education/research facility in 2006. This year's programs will find participants all around the bioregion from March through October, enjoying the region's unusual biodiversity and pristine mountain and river systems. Although the program spans seven months, it features two main sessions:

- **June 2 – 5 are Cave Junction based programs.**
- **June 16 – 20 are Ashland-based programs, immediately following the AAAS conference!!**

Join SFI and learn about the ecology of the unique and beautiful Klamath-Siskiyou bioregion from researchers, professors and practitioners eager to share their knowledge and love for this area. Discover plants that grow nowhere else in the world, snorkel with fish that thrive in wild rivers, and backpack and raft among one of the most geologically complex mountain systems in the world.



Siskiyou Field Institute

To join the SFI mailing list and/or receive its catalog, please e-mail [institute@thesfi.org](mailto:institute@thesfi.org), phone (541) 592-4459 or visit our website at [www.thesfi.org](http://www.thesfi.org).



## AAAS Project 2061 Announces Science Educator Workshops for 2005

A T L A S  
OF SCIENCE LITERACY



AAAS Project 2061 has announced new dates for its popular “Using *Atlas of Science Literacy*” workshops. Science and mathematics educators are invited to participate in these professional development workshops designed to improve classroom practices and help students achieve important learning goals

in science, mathematics, and technology. The remaining workshops for 2005 include:

June 9 - 11 (Thurs - Sat) in St. Louis, MO

October 17 - 19 (Mon - Wed) in Washington, DC

For details, visit [www.project2061.org/workshops](http://www.project2061.org/workshops).

In 2001, Project 2061 and the National Science Teachers Association published *Atlas of Science Literacy*, a collection of conceptual strand maps for nearly 50 key topics in science, mathematics, and technology. Strand maps display the connections among key ideas and skills and the sequence in which K-12 students might develop their understanding of various topics. The three-day *Atlas* workshop demonstrates how to use *Atlas* maps and related Project 2061 resources to improve curriculum, instruction, and assessment. Workshop participants include K-12 teachers, administrators, curriculum specialists, researchers, university faculty, and other professionals.

or region. The Rogue Valley wine region of southern Oregon is a rapidly growing and recognized wine production region, which is bordered by the Coastal Range to the west, the Cascades to the east, and the Klamath Mountains to the south and drained by its namesake river. The region's geologic history and spatial configuration has created a unique suite of landscapes, soils, and climates from which rise beautiful vineyards and high quality wines. The Rogue Valley is Oregon's most diverse winegrape growing region and is suited to a wide range of grape varieties, including Syrah, Viognier, Pinot Noir, and Pinot Gris, to name a few. Join us for a field trip through some of southern Oregon's beautiful vineyard

landscapes to discuss and experience the terroir, wine, and uniqueness that is the Rogue Valley! Includes transportation, short guide, and box lunch. Cost: \$35.

(3) **Sunday, June 12: 10:00 a.m. - 4:00 p.m.** *Blue Ledge Mine*. The Blue Ledge mine is an abandoned underground copper mine located at the 4500 ft elevation in a remarkably beautiful area of the Siskiyou Mountains. It is intermediate in size and has not been subject to remediation efforts. Drs. Kathleen Page, Bill Elliot and Steve Petrovic study the geomicrobiology of acid mine drainage at this site. We will leave from the parking lot in front of the Sciences Building (see map on page 39 of this *Newsletter*) at 10 a.m. and travel through the beautiful Applegate Valley to arrive at the site by 12 p.m. We will hike a forested trail to the lower main adit and enjoy our box lunches in the shade of conifers. Our field trip will include a survey of acid drainage, tailings, mine works, and surrounding ecology. The history, geology, chemistry and microbiology of the mine will be discussed. A unique display of wildflowers along the trail to the upper adits may help to distract us from the steep climb. From the top of the mine, we will have a bird's eye view of the entire mining operation and surrounding forest. We will return to the base of the mine and travel back to SOU, arriving about 4 p.m. Be sure to bring good hiking shoes. Includes transportation and box lunch. Cost: \$35.

(4) **Monday, June 13: 1:30 p.m. - 4:00 p.m.** *Dam Removal and Riparian Enhancement*. Dam removal or breaching (partial removal) is an increasingly common remedy for fish passage, habitat degradation, water quality, and other problems caused by dams in the United States. The Jackson Street Dam, built in 1960 on Bear Creek in Medford, Oregon, resulted in a barrier to migration of Pacific salmon (*Oncorhynchus* spp.) and steelhead (*O. mykiss*), loss of stream habitat, eutrophication, and an algae-choked impoundment in downtown Medford. The 11-foot high concrete and wooden structure was owned and operated by the Rogue River Valley Irrigation District as one of its primary diversions. The dam was breached in 1998, culminating a 13-year, \$1.2 million effort led by the Rogue Valley Council of Governments and the Medford Urban Renewal Agency in collaboration with the irrigation district, other government agencies, and local citizens. This field trip, led by Eric Dittmer (Department of Geology, Southern Oregon University, Ashland, OR), will depart from the parking lot in front of the Sciences Building (see map on page 39 of this *Newsletter*). It will stop first in Ashland to view the Oak Street diversion structure and irrigation impacts on Bear Creek. The trip will continue to the Jackson Street Dam in Medford to view the new diversion structure, water quality enhancing facilities, and review the process involved in achieving the goals. Includes transportation. Cost: \$7.50.

(5) **Wednesday, June 15: 9:00 a.m. - 6:00 p.m.** *Serpentine Soils of the Illinois Valley, Southern Oregon*. Sponsored by the Western Society of Soil Science and the Department of

Biology, Southern Oregon University. This trip departs at 9:00 a.m. from the parking lot in front of the Sciences Building (see map on page 39 of this *Newsletter*). The trip will include three stops at serpentine sites. Eight Dollar mountain is a cone-shaped formation of ultramafic rock, primarily peridotite and serpentinite. On its south side, along the scenic Illinois River, we will find stands of Jeffrey pine, a *Darlingtonia* fen, and a recently burned site. *Thlaspi* and other serpentine endemic plants grow on the scree slopes of the north side. Our third stop will be at serpentine deposits along Rough and Ready Creek, at a botanical site managed by the BLM. Earl Alexander has worked extensively on the soils in this area and will share his expertise with participants. Some locations require walking on slopes with loose footing, and may have poison oak present. Items to consider bringing: camera, sun hat, sun glasses, long pants and long sleeved shirt, sturdy shoes, walking stick. Includes transportation and box lunch. Cost: \$25.

(6) **Thursday, June 16: 9:00 a.m. - 4:00 p.m. Cascade-Siskiyou National Monument.** Join Brian Barr of the World Wildlife Fund on a tour of southwestern Oregon's ecological treasure – the Cascade-Siskiyou National Monument. Sitting just east of Ashland, OR at the junction of three very distinctive ecoregions, the Cascade-Siskiyou National Monument is a melting pot of biological diversity. In recognition of the vast number of plant and animal species that reside in this area, President Clinton designated 52,000 acres of Bureau of Land Management administered lands a national monument in 1999. This all-day tour will bring you to a wide variety of forested and meadow habitats including seeps, springs, riparian areas – the diversity of these habitats over such close quarters complementing and lending to the biological richness of the monument. At these locations, we will discuss the biodiversity of the area, its significance, and the reasons for embracing national monument status at this incredible place. Departs from in front of the SOU Sciences Building (see map on page 39 of this *Newsletter*). Includes transportation and box lunch. Cost: \$35.

(7) **Thursday, June 16, 8:00 a.m.–Saturday, June 18, 5:00 p.m. Subduction and the Southern Cascade Volcanoes.** Led by Drs. J. Thomas Dutro, Jr., (U.S. Geological Survey, ret.) and Alan E. Leviton (California Academy of Sciences), this post-meeting two and a half day trip will depart from in front of the SOU Sciences Building (see map on page 39 of this *Newsletter*). We will examine the Southern Cascades as a case study of subduction processes in geology. Time and weather permitting, we will examine the Newberry volcano and Three Sisters area on Thursday, spend Friday at Crater Lake with personnel from the National Park Service, and on Saturday visit Lava Beds National Monument and Mt. Shasta. The trip will develop the story of the origin of the Cascade chain, tracing the volcanism from the ultramafics and basalts of the west to the andesites and rhyolites of the eastern part of

the range. The age relationships of the rocks and the volcanoes will be outlined and the volcanic future of the region will be explored. Cost per person includes lodging for two nights at Mazama Village (at Crater Lake National Park but not the lodge), three lunches, guidebooks, and transportation. Other meals and items of personal nature are the responsibility of participants. Cost: \$250 per person double occupancy, \$365 per person single occupancy. Minimum 18, maximum 24 participants.

## WORKSHOPS SCIENCE EDUCATION ENRICHMENT

*Tuesday, June 14*

**Demonstration of Science Educational Enrichment Programs at the University of California, Berkeley, for Students in Grades 9 through 12.** Presented by Dr. William B.N. Berry (Department of Earth & Planetary Sciences, University of California, Berkeley, CA). The workshop will focus on a project used by UC Berkeley undergraduates in providing enrichment of science education for high school students in grades 9 through 12. The science behind the project will be discussed. Undergraduates will talk about how science education is enhanced and high school students become engaged in learning through design, development and production of a product.

## MOLECULAR BIOLOGY KITS

Bio-Rad Corporation of Hercules, CA, will be presenting several hands-on workshops to give middle school, high school and university instructors the opportunity to try out some of the molecular biology kits they offer to educators. There is no charge for these workshops. However, participants must be registered for the meeting. Please be sure to wear your meeting badge to each session. Space is on an "as-available" basis and preregistration is not required. Bio-Rad representatives will provide certificates of attendance for those desiring to utilize these workshops for professional development credits.

*Wednesday, June 15*

**8:30 a.m. Genes in a Bottle.** Extract and bottle your own DNA. Introduce your students to molecular biology with their own DNA! In this activity, you will extract and bottle the DNA from your own cheek cells to make a necklace. This real-world laboratory procedure is used to extract DNA from many different organisms for a variety of applications and integrates multiple life science standards in a single lesson. Seeing DNA makes it real. Be the first at your school to wear your DNA!

**10:30 a.m. ELISA Immuno Explorer.** Biology's magic bullet. Explore immunology with this topical, new hands-on classroom lab. ELISA (enzyme-linked immunosorbent assay) is a powerful antibody-based test used to detect diseases such as HIV/AIDS and SARS, and to trace pathogenic agents in water, food, and the air whether these emerge naturally or through acts of aggression. You will simulate the spreading of a disease, perform ELISA, and learn how this assay is used to identify and track agents of disease, or to detect molecular markers of cancer, pregnancy, and drug use. This

kit integrates multiple standards in a single lesson, including antigen-antibody interactions and the role antibodies play in medicine, epidemiology, and biotechnology.

**1:30 p.m. PV92 PCR.** What pair of genes are you wearing? PCR is central to forensic science and many medical, archaeological, and ecological procedures. You will extract DNA from your own hair samples, then amplify and fingerprint a pair of alleles, an Alu repeat within PV92, a real forensic marker. This activity integrates multiple life science standards in a single lesson and covers a range of core content areas, from DNA replication to evolution to Hardy-Weinberg equilibrium theory.

**Thursday, June 16.**

**9:00 a.m. GMO Investigator/Analysis.** Have your favorite foods been genetically modified (GM)? Currently, genetically modified organisms (GMOs) in foods do not have to be labeled in the US. Regardless of where you stand in the GM debate, wouldn't it be fun to know if the corn or soy-based foods you eat are GMO foods? This kit uses DNA extraction techniques, PCR, and gel electrophoresis to test common grocery store food products for the presence of GMO foods. This activity integrates and reinforces multiple life science standards in a single lesson.

**1:00 p.m. Protein Fingerprinting.** Can molecular evidence support evolution? DNA gets a lot of attention but proteins do all the work. Proteins give organisms their form and function and are the raw material for evolution because natural selection acts on phenotypes. Over time accumulated changes in DNA (genotypes) lead to variation and ultimately, speciation. You will extract muscle proteins from both closely and distantly related species of fish and use protein electrophoresis to generate protein fingerprints to look for variations. This activity integrates multiple life science education standards in a single lesson from physiology to the theory of evolution to exploring the molecular framework of biology. DNA > RNA > Protein > Trait.

## STUDENT AWARDS FOR EXCELLENCE

The AAAS, Pacific Division offers each affiliated society and section participating in the annual meeting the opportunity to recognize outstanding student participants through the presentation of Awards of Excellence and cash prizes of \$150 for first place and \$75 for second place. Additionally, the Pacific Division is pleased to announce that starting with this meeting winners will also receive a one year student membership in AAAS. Societies often supplement these awards with their own cash prizes.

In 2005, seven Division-wide awards are available: Laurence M. Klauber Award for Excellence (unrestricted); Geraldine K. Lindsay Award for Excellence in the Natural Sciences; J. Thomas Dutro, Jr. Award for Excellence in the Geosciences; Presidents' Award for Excellence (unrestricted); Rita W. Peterson Award for Excellence in Science Education; Best Poster Award (for posters only but otherwise unrestricted); and the AAAS Robert I. Larus Travel Award, which provides travel and other expenses for the awardee to attend the 2006 national meeting of AAAS in St. Louis, MO,

February 16 - 20, 2006, for the purpose of presenting their winning presentation as a poster.

The Klauber, Lindsay, Dutro, Presidents', Peterson, Best Poster, and Larus awards are given to those students whose presentations are judged the most significant in the advancement or understanding of science. To be eligible, a student must register for the meeting, present the paper or poster, and be the principal research investigator. Student presentations, oral and poster, are judged on their abstracts, content, style of delivery or presentation, and audiovisual aids and/or handouts (if used). The evaluation forms for both oral and poster presentations are posted on the Division's website. Students who are eligible for Awards of Excellence are invited to be the Division's guests at the Division Banquet Tuesday evening, June 14. Festivities that evening include the presentation of student awards. If you are one of these students, please be sure to fill in the appropriate boxes on the Advance Registration form to let us know you will be attending the dinner and which entree you wish to have.

## INSTRUCTIONS FOR SUBMITTING PAPERS

Members of AAAS and its affiliated societies, students, teachers, and other scientists are encouraged to participate in the annual meeting and present papers. Those wishing to present a paper at one of the sessions should send a title and abstract (see page 32) via e-mail to the program coordinator of the society or section at which you would like to present the paper (see page 27 for names and addresses). If you are unable to do this, please contact the Pacific Division office, 541-552-6869, to discuss how to submit your abstract. When sending the abstract to the program organizer, be sure to copy it to the Division's meetings office at [aaaspd@sou.edu](mailto:aaaspd@sou.edu). Special characters often do not survive e-mail. If your abstract contains special characters, please fax a print copy to the Division office, 541-552-8457, as well as e-mailing it.

## TECHNICAL SESSIONS SYMPOSIA

The following symposia are planned for the annual meeting. Although most symposia are organized around invited papers, organizers often will consider adding one or more contributed papers if they are relevant to their programs. Should you wish to participate in one of these symposia, contact the symposium organizer. Should you wish to present a paper in one of the contributed paper sessions, refer to pages 27 and 32 of this *Newsletter*. Check the Division's website, [pacific.aaas.org](http://pacific.aaas.org), for the latest information on symposia and other program events.

Although time is getting short, if you have a symposium or workshop you believe to be suitable for the meeting, please contact the Executive Director, Dr. Roger Christianson (541-

# Q

Who's taking  
science to  
new heights?

# AAAS

“*Science* is essential reading on the way to the top. It takes several days to reach the top in big wall climbing, so you can only carry the bare essentials. When you calculate the information content to weight ratio, is there any more concentrated reading source than *Science*?”

AAAS member Dr. R. Douglas Fields, senior scientist, developmental neuroscience

AAAS is committed to advancing science and giving a voice to scientists around the world. We work to improve science education, promote a sound science policy, and support human rights.

Helping our members stay abreast of their field is a key priority for AAAS. One way we do this is through *Science*, which features all the latest breakthroughs and groundbreaking research, and keeps scientists connected wherever they happen to be. Members like Douglas find it essential reading.

To join the international family of science, go to [www.aaas.org/join](http://www.aaas.org/join).

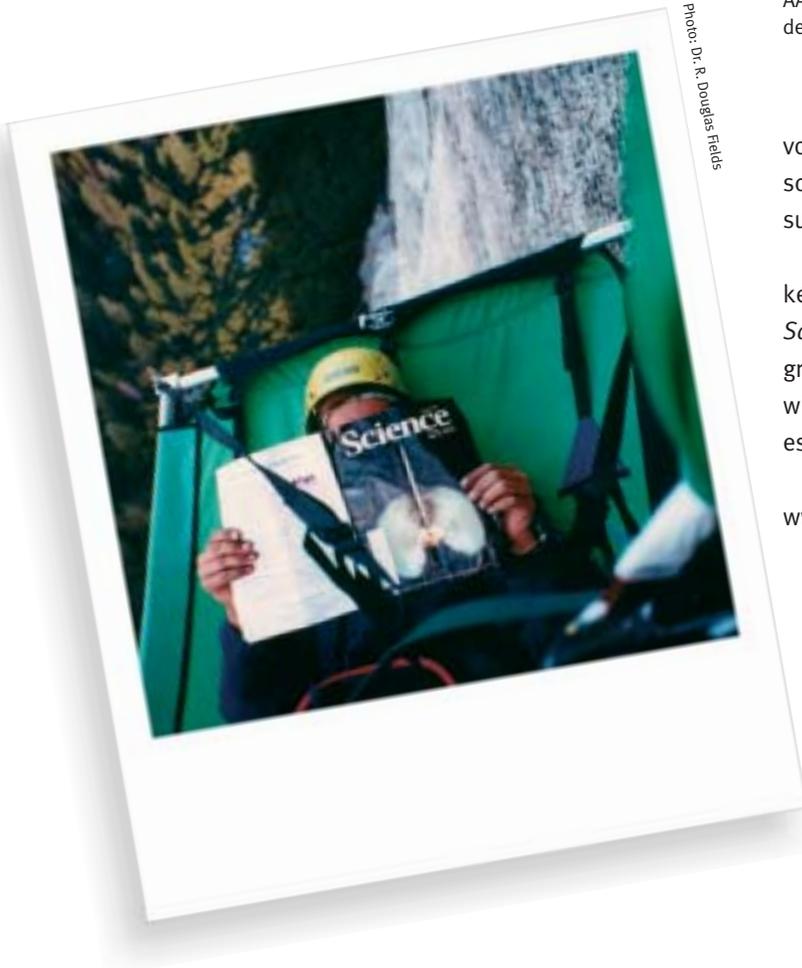


Photo: Dr. R. Douglas Fields

Douglas Fields' son  
Dylan takes a break  
on the way up



ADVANCING SCIENCE, SERVING SOCIETY

552-6747, rchristi@sou.edu) as soon as possible to discuss your ideas.

Please remember, the listings below are subject to change. If you plan to attend the meeting largely for one symposium or technical session, check the Division's website for updates to the program or phone the Division's meeting office at 541-552-6869 to confirm the status of the session(s) before committing travel funds. As additional symposia are added to the program, they will be posted on the website (pacific.aaas.org).

**(1) Serpentine Ecology.** Organized by Christine Oswald and Darlene Southworth (Department of Biology, Southern Oregon University, Ashland, OR; e-mail: [oswald@sou.edu](mailto:oswald@sou.edu)). Scheduled for Tuesday, June 14.

A broad overview of soils, fungi, plants and animals on serpentines, particularly in Oregon and California. Topics may include serpentinization and formation of serpentine soils, mycorrhizal fungi on oaks on serpentine, content and distribution of nickel in plants on serpentine areas, pollinators of a serpentine-endemic Phlox, effects of nickel on deer mice from serpentine areas, and phytomining. Our objective is the bringing together of diverse areas of expertise to better understand the functioning of these unique ecosystems.

#### Speakers

*Robert Graham* (University of California, Riverside), "Serpentine soils along a rainfall gradient."

*Michael Persans* (Department of Biology, Panamerican University, 1201 West University Drive, Edinburg TX 78541), "Molecular mechanisms of metal hyperaccumulation in plants."

*Christopher Oze* (Department of Earth Sciences, Dartmouth University), "Serpentine soil weathering."

*Michael Davis* (Department of Biological Sciences, University of Southern Mississippi, Hattiesburg, MS 39406), "Hyperaccumulation, nutrient cycling, and detritivores."

*Robert Boyd* (Department of Biological Sciences, Auburn University, Auburn AL 36849), "Hyperaccumulation: plant defense and food web consequences."

*Paul Grossl* (Department of Plants, Soils, and Biometeorology, Utah State University, Logan, UT 84322), "Phytoremediation, movement of metal in serpentine soils."

*Hugh Safford* (USFS and University of California, Davis), "Patterns of plant species diversity in California serpentine."

*Earl Alexander* (Soils and Geocology, Concord, CA 94518), "Serpentine soils and vegetation of the Klamath Mountains."

*Jules Filipksi* (Department of Biology, Southern Oregon University, Ashland Oregon 97520), "Pollination and reproductive biology of the endangered serpentine endemic *Phlox hirsuta*."

*David Oline* (Department of Biology, Southern Oregon University, Ashland, OR 97520), "Serpentine soil microbial communities."

*Darlene Southworth* (Department of Biology, Southern Oregon University, Ashland, OR 97520), "Oak mycorrhizae in serpentine areas."

*Christine Oswald* (Department of Biology, Southern Oregon University, Ashland, OR 97520), "Nickel in small mammals of serpentine areas."

**(2) Material Science and Nanoparticles.** Organized by Sidney C. Abrahams, Panos Photinos and Peter Wu (Department of Physics, Southern Oregon University, Ashland, OR; e-mail: [phaaas@sou.edu](mailto:phaaas@sou.edu)). Tentatively scheduled for Tuesday, June 14.

This Symposium is designed as an opportunity for educators, researchers and their students in the Northwest to present their current work to an interested and knowledgeable audience. Topics will cover the synthesis, characterization and applications of novel smart materials, including:

- Biomaterials
- Ferroelectrics
- Liquid Crystals and Complex fluids
- Nanomaterials
- Polymers
- Thin films and coatings

Potential presenters are invited to contact the symposium planners with their proposals.

**(3) Chemical Education.** Organized by Owen McDougal (Department of Chemistry, Southern Oregon University, Ashland, OR 97520; e-mail: [mcdougao@sou.edu](mailto:mcdougao@sou.edu)). Scheduled for Monday, June 13.

This symposium will address the topic of chemical education in the community, high school, and university. Subject material will focus on the efforts made by educators at all levels to modify chemical education in an attempt to address concerns regarding recruitment and retention of future scientists. The goal is to provide an educated and competent pool of future scientists that are environmentally conscientious and resourceful. Whether the ultimate objective is graduate studies or the workforce, the fundamental concepts of general science education must be established.

#### Speakers

*Chelsea Gustafson* and *Phil Clark* (Southern Oregon University Chemistry Club, Ashland, OR), "Chemistry and the Community."

*Jack James* (Instructor of Chemistry, South Medford High School, Medford, OR), "High School, District and No Child Left Behind."

*Rich Mikula* (Ashland High School, Ashland, OR), "Challenges of Presenting a Significant Laboratory Experience in the Secondary Classroom."

*Julie Haack* (University of Oregon, Eugene, OR), "GEMs: A Database of Greener Education Materials for Chemists."

*Gautam Bhattacharyya* (University of Oregon, Eugene, OR), "Whose Situation Is It Anyway?"

*Hala Schepman* (Department of Chemistry, Southern Oregon University, Ashland, OR), "Peer-Led Team Learning in

the Instruction of Organic Chemistry."

*Laura Hughes* (Department of Chemistry, Southern Oregon University, Ashland, OR), "Structural Determination of Three Unknown Molybdenum Compounds - A Guided-Inquiry Based Laboratory Experiment for Inorganic Chemistry."

**(4) Geology, Chemistry and Microbiology of Acid Mine Drainage and its Remediation.** Organized by Kathleen Page (Department of Biology, Southern Oregon University, Ashland, OR; e-mail: [page@sou.edu](mailto:page@sou.edu)), William Elliott (Department of Geology, Southern Oregon University, Ashland, OR; e-mail: [elliottw@sou.edu](mailto:elliottw@sou.edu)), and Steven Petrovic (Department of Chemistry, Southern Oregon University, Ashland, OR; e-mail: [petrovic@sou.edu](mailto:petrovic@sou.edu)). Scheduled for Monday, June 13.

Acid Mine Drainage (AMD) poses a water quality problem for wildlife and human populations throughout the world. Acid mine waters often have pH values ranging from 0 to 4 and concentrations of toxic metals capable of killing aquatic organisms. AMD is an unfortunate consequence of mining that exposes reduced sulfide minerals associated with some ore bodies. Bacteria that respire on reduced sulfides catalyze acid production and mineral dissolution. This symposium will facilitate a multidisciplinary approach to understanding AMD-related problems. Speakers with expertise in chemistry, geology, hydrology, microbiology, and mine remediation will report results of their studies from sites of AMD. The symposium will consist of 4 to 6 invited speakers. In addition, posters may be contributed. An optional field trip to Blue Ledge mine (see page 18) will provide an excellent forum for discussion of field-based challenges faced by scientists involved in AMD research. The following topics may be included:

- Mineralogical and geological aspects of AMD.
- Identification and isolation of microorganisms associated with AMD generation and AMD waters.
- Microbial controls of sulfide mineral dissolution.
- Evaluation of major and trace elements in acid mine waters.
- The release and transport of metals in groundwater at mining sites.
- Various approaches to remediation at AMD sites.
- Involving communities and informing them about AMD.

Speakers will include representatives from several different groups working at AMD sites.

#### Anticipated Speakers

*Andrea Stierle* (Research Professor and Project Manager, Montana Technical University), "The Berkeley Pit in Montana."

*Greg Aitken* (DEQ project manager at the Formosa Mine), "The Formosa mine in Oregon."

*Charles Alpers* (Project chief for field-based investigations, U.S. Geological Survey, Water Resources Division), "The Richmond Ore body in Iron Mountain, California."

*Kathleen Page, William Elliott, and Steven Petrovic* (Departments of Biology, Geology and Chemistry, Southern Or-

**Our Brains and Us:  
Neuroethics,  
Responsibility, and  
the Self**

APRIL 17-19, 2005 ▶ MIT CAMPUS

- What is Neuroscience?  
What is Neuroethics?
- What implications do the neurosciences have for understanding human freedom, moral agency, and legal responsibility?
- What insights do the neurosciences provide into the concepts of the self?
- What opportunities do the neurosciences provide for therapy, for neurological enhancement, or for the exercise of social, economic, and political influence?

This conference brings together scientists, philosophers, members of diverse religious communities, and the public for a multifaceted, interdisciplinary and multi-traditional dialogue about the neurosciences and questions like those above.

It provides an opportunity to explore a range of emerging ethical, religious and philosophical issues associated with neuroscience research and its present and foreseeable applications.

For additional information about the conference, accommodations, and online registration visit:  
[www.aaas.org/spp/dser/responsibility\\_justice](http://www.aaas.org/spp/dser/responsibility_justice)

The conference has been organized through a primary collaboration among

AAAS MIT FORUM

egon University), "Blue Ledge mine in the Siskiyou Mountain Range, California."

**(5) Calibrating the Evolution of the Universe.** Organized by Garniss Curtis (Berkeley Geochronology Center, Berkeley, CA; e-mail: [gcurtis@uclink.berkeley.edu](mailto:gcurtis@uclink.berkeley.edu)).

**(6) Northwest Forest Plan.** Organized by Dominick DellaSalla (Director, World Wildlife Fund Klamath Siskiyou Program, Ashland, OR 97520; e-mail: [dellasal@wwfks.org](mailto:dellasal@wwfks.org)). Tentatively scheduled for Tuesday, June 14.

The Northwest Forest Plan of 1994 marked an unprecedented step toward large-scale ecosystem management on federal lands. The Plan allocated millions of acres of federal lands to various land-use designations, including the protection and restoration of late-successional forests across the range of the threatened northern spotted owl and marbled murrelet. Ten years later the plan is mired in conflict as some protections are being weakened to reach anticipated but seldom achieved timber targets. This session examines successes and failures of the Plan as a regional, if not global, model of large-scale ecosystem management. With ten years of implementation experience, there are many lessons to be learned from this bold attempt at ecosystem management that may have application beyond the region.

#### Speakers

*Norm Johnson* (Oregon State University) and *Jerry Franklin* (University of Washington), "The Northwest Forest Plan: 10 Years Later."

*Dominick DellaSala* (World Wildlife Fund, Ashland, OR 97520) and *Jim Stritholt* (Conservation Biology Institute), "State of the Northwest Mature and Old Growth Forests."

*Martin Raphael* (U.S. Forest Service Pacific Northwest Research Station), "An Overview of Marbled Murrelets and Reserves."

*Barry Noon* (Colorado State University), "An Overview of Spotted Owls and Reserves."

*Jack Williams* (Trout Unlimited), "Status of Fisheries in the Plan Area."

*Randy Molina* (U.S. Forest Service), "Protecting rare, old-growth forest associated species under the survey and management guidelines of the Northwest Forest Plan."

*Clive McAlpine* (University of Queensland, Australia), "Conserving forest biodiversity: lessons learned from regional forest plans in Southeast Queensland (Australia) and the Pacific Northwest."

**(7) Resource Preservation and Research at Crater Lake National Park, Oregon: Studies of Lake and Terrestrial Ecosystems.** Organized by Mark Buktenica (Aquatic Ecologist, Crater Lake National Park and Southern Oregon University, Ashland, OR; e-mail: [mark\\_buktenica@nps.gov](mailto:mark_buktenica@nps.gov)), Michael Murray (Crater Lake National Park; e-mail: [michael\\_murray@nps.gov](mailto:michael_murray@nps.gov)), Gary Larson (USGS Forest and Rangeland Ecosystem Science Center, Corvallis, OR), Scott Girdner (Crater Lake National Park), and Robert Collier (College of Atmospheric and Oceanic Sciences, Oregon State Uni-

versity, Corvallis, OR). Tentatively scheduled for Tuesday, June 14.

Crater Lake National Park provides an excellent natural laboratory for studying aquatic and terrestrial environments in the Southern Oregon Cascade Mountains. Nearly 266 square miles of terrestrial ecosystems occur within Crater Lake National Park including subalpine meadows, caves, snowfields, pumice barrens, bogs, old-growth, and timberline forests. An elevational expanse of 5,000 feet straddling two ecoregions (eastern and western cascades) adds to the diversity of this park. This symposium highlights some of the most recent research conducted at the park.

The deepest lake in the US, Crater Lake, is internationally renowned for its aesthetic beauty, extremely clear water and, increasingly, for a growing body of scientific understanding of lake ecosystem structure and function. This symposium will feature several studies reported in an upcoming special issue of the international journal *Hydrobiologia* featuring studies on Crater Lake. Symposium presentations may include papers on mass wasting and filling of the caldera; water budget; water quality; hydrocarbon contamination; optical properties; lake circulation; particle flux; modeling of lake circulation, nutrients, light, phytoplankton assemblages; phytoplankton nutrient limitations; bacteria; zooplankton; and fish.

#### Speakers

*Gary Larson* and *Mark Buktenica*, "Overview of Crater Lake Ecosystem and Introduction to the Lake Monitoring and Research Program."

*Kelly Redmond*, "Evaporation and the Crater Lake Water Budget"

*Greg Crawford* and *Robert Collier*, "Hypolimnetic Ventilation in Crater Lake: The Long and Short (Time Scales) of it."

*Pete Dartnell*, *Gary Larson*, *Robert Collier*, *Mark Buktenica* and *James Gardner*, "Mapping Crater Lake 2000 and Application of Sonar Data to Model a Submerged Moss Community."

*Dave McIntire*, *Gary Larson*, and *Robert Truitt*, "Taxonomic Composition and Production Dynamics of Phytoplankton Assemblages in Crater Lake."

*Gary Larson*, *Dave McIntire*, *Mark Buktenica*, *Scott Girdner*, and *Robert Truitt*, "Distribution and Abundance of Zooplankton populations in Crater Lake."

*Mark Buktenica*, *Scott Girdner*, *Gary Larson*, and *Dave McIntire*, "Variability in Fish Population Dynamics in Crater Lake."

*Katja Fennel*, *Robert Collier*, *Gary Larson*, *Greg Crawford*, and *Emmanuel Boss*, "Seasonal Nutrient and Plankton Dynamics in a Physical-Biological Model of Crater Lake."

*Bruce Hargreaves*, *Scott Girdner*, *Mark Buktenica*, *Robert Collier*, *Ena Urbach*, and *Gary Larson*, "Ultraviolet Radiation in Crater Lake."

Gary Larson, Robert Hoffman, Bruce Hargreaves and Robert Collier, "Predicting Secchi disk depth from average beam attenuation: towards a solution to surface problems in deep, ultra-clear lakes."

John Salinas and Kathleen Salinas, "Translating Crater Lake Ecosystem Studies into Elementary School Curriculum."

Michael Murray, "Crater Lake National Park's Terrestrial Environment: Recent Findings, Current Issues and Future Imperatives"

Dan Perrakis, "Prescribed Fire at Crater Lake: Burning, Beetles, and Beyond."

Matt Trappe and Kermit Cromack, "Responses of Mycorrhizal Fungi to Wildfire, Prescribed Fire, and Soil Compaction."

Ronald Lyons, "A Contribution to Our Knowledge About the Arthropods of Crater Lake National Park."

Daniel A. Sarr, Andrew Duff, and Sean Smith, "Species of Special Concern in Crater Lake National Park: Initial Findings and Implications for Long-term Monitoring."

Richard Snieszko, "Blister Rust: Developing Resistance to a Non-Native Tree Disease."

John D. Alexander, Jaime L. Stephens, Nathaniel E. Seavy, and Daniel A. Sarr, "Bird Monitoring and Inventory at Crater Lake National Park."

**(8) Ice Age People of the Pacific Northwest.** Organized by Nina G. Jablonski (Department of Anthropology, California Academy of Sciences, 875 Howard St., San Francisco, CA 94103; e-mail: [njablonski@calacademy.org](mailto:njablonski@calacademy.org)). Scheduled for Tuesday, June 14.

The last decade has witnessed a great resurgence of interest and research on the topic of the peopling of the Americas. This has been spurred on by insights provided by the integration of information from diverse disciplines, including archaeology, geology, paleoecology, historical linguistics, molecular evolutionary studies, and biological anthropology. With the growing recognition that colonization of the Americas involved both coastal and inland routes, and may have begun as early as 13,000 or 14,000 years ago, great interest in the earliest peoples of the Pacific Northwest has emerged. This symposium will bring together a distinguished group of archaeologists and biological anthropologists to discuss how the late Ice Age peoples of the Pacific Northwest settled into the New World and made a living. The picture that emerges is one of great ecological opportunities for humans offset by significant and unknown perils and hardships.

#### Speakers

Nina G. Jablonski (California Academy of Sciences, San Francisco, CA), "Setting the stage: Who were the first Ice Age people of the Pacific Northwest?."

Michael C. Wilson (Douglas College, Vancouver, B.C.), "Pleistocene vertebrates and Cordilleran glaciation in British Columbia: Implications for possible early human migrations."

30TH ANNUAL

# AAAS Forum on Science and Technology Policy

21–22 April 2005 • Washington, DC

The 30th Annual AAAS Forum on Science & Technology Policy provides a setting in which federal and industrial policy-makers and members of the scientific, engineering, and academic communities can participate in an open discussion of issues relating to science and technology policy.

#### Who should attend?

Scientists and engineers, administrators, industrial R&D managers, policy-makers, academicians, association officials, federal grant recipients, students, science attachés, government affairs specialists, public affairs officers, and others with an interest in the intersection of policy with science and technology.

► Deadline for advance registration: 6 April 2005

For full details and registration:

[www.aaas.org/forum](http://www.aaas.org/forum)



ADVANCING SCIENCE. SERVING SOCIETY

*Dennis Jenkins* (University of Oregon, Eugene, OR), "Subsistence issues and the earliest peoples of the Pacific Northwest."

*Roberta Hall* (Oregon State University, Corvallis, OR), "Paleoecology and human biological models for the Pacific Northwest coast in the Late Pleistocene."

*Nina G. Jablonski* (California Academy of Sciences, San Francisco, CA), "Ice Age peoples of the Pacific Northwest and the vitamin D imperative."

**(9) Science and Cognitive Values.** Organized by Prakash Chenjeri (Department of Philosophy, Southern Oregon University, Ashland, OR 97520; e-mail: [chenjeri@sou.edu](mailto:chenjeri@sou.edu)). Scheduled for Wednesday, June 15.

**(10) The WISE Project: Enhancing Water Management Techniques Benefiting both Agriculture and Instream Needs.** Organized by Eric Dittmer (Environmental Studies Program and Department of Geology, Southern Oregon University, Ashland, OR 97520; e-mail: [dittmer@sou.edu](mailto:dittmer@sou.edu)). Scheduled for Monday, June 13.

The history, development and goals of the Water for Irrigation Streams and the Economy (WISE) Project will be presented. The WISE Project was proposed to address both water quantity and quality problems facing agriculture and instream needs in Jackson County in SW Oregon. There is simply not enough water to meet all consumptive and instream needs. In order to address the problem, a combination of increased storage, innovations in water conservation and the use of reclaimed water is being investigated. A varied group of stakeholders is working collaboratively with government agencies to develop what could be a \$ 100 million project to create a truly state-of-the-art water management system in the Rogue Valley.

Presenters will speak to the key issues of the project development, the use of reclaimed water, the benefits to agriculture and instream needs as well as the environmental impacts involved in constructing such an ambitious project.

The symposium will close with the speakers forming a panel to answer questions and to receive input and suggestions from the audience about their experiences on other water resource enhancement efforts around the country.

#### Speakers

*Steve Mason* (WISE Project Program Manager), "The WISE Project: An Innovative Approach to Water Management for Agriculture and Instream Needs."

*Jim Hill* (Water Reclamation Division Administrator, City of Medford. City Hall Medford, OR 97501), "Addressing Irrigation Water Needs Using Reclaimed Water."

*Keith Emerson* (Orchard Director, Bear Creek Corporation, 2518 S. Pacific Highway, Medford OR 97501), "The WISE Project: Supporting Innovations in Irrigation Water Management."

*Steve Parrett* (Project Manager, Oregon Water Trust, 522 SW 5th Ave. Ste 825 Portland, OR 97204), "The Instream Benefits of the WISE Project."

*Eric Dittmer* (Director of Environmental Studies and Consultant to the WISE Project, Department of Geology, Southern Oregon University, Ashland, OR 97520), "Environmental Impacts of Converting Irrigation Canals to Pipes."

**(11) New Humanities and Science Convergences.** Organized by Robert Louis Chianese (California State University, Northridge, CA; e-mail: [robert.chianese@csun.edu](mailto:robert.chianese@csun.edu)) and Carl A. Maida (University of California, Los Angeles CA; e-mail: [cmaida@ucla.edu](mailto:cmaida@ucla.edu)). Tentatively scheduled for Monday, June 13.

This multidisciplinary symposium explores new or recent connections between the humanities and science in order to survey positive cross-fertilizations they produce. C. P. Snow's "two cultures" designation of decades ago seems belied by a growing, respectful melding of concerns that move beyond simplistic fact/value contraries. Unforeseen collaborations of unique kinds between science on the one hand and art, literature, music, and architecture on the other mark the current interdisciplinary scene. Mainstream medical science finds applications of various arts in healing; artists evolve rich content, forms, and technique from contemporary science theory and practice. New aesthetically posed plasticized anatomy models as well as new imaging modalities for the body, nature, and cosmos draw scientists toward the problematics of art. Eco-artists find inspiration and motivation from ecological science. New postmodern theorists find in scientific theory potential sources of new meta-narratives or fundamental principles that check the radical relativism of contemporary postmodern thought. The symposium seeks to survey collaborations that eclipse former antagonisms between science and the humanities and provoke questions about the very nature of each area as they draw from and influence each other. Papers for panel presentations should highlight the potential for creative work and new directions emerging from new humanities and science convergence.

#### Anticipated Speakers

*Robert Chianese* (Department of English, California State University, Northridge, CA 91330-8248).

*Marilyn Chandler McEntyre* (Department of English, Westmont College, Santa Barbara, CA 93108-1099).

*Carl A. Maida* (Schools of Dentistry and Medicine, Center for the Health Sciences, University of California, Los Angeles, CA 90095).

*Fred Massarik* (Anderson School of Management, University of California, Los Angeles, CA 90095-1481).

**(12) The Cascade-Siskiyou National Monument: What It Means To Be A Biological Crossroads.** Organized by Brian R. Barr (Program Officer, World Wildlife Fund Klamath-Siskiyou Field Office, Ashland, OR 97520; e-mail: [brian.barr@wwfus.org](mailto:brian.barr@wwfus.org)). Scheduled for Wednesday, June 15.

In 1999, President Clinton designated 52,000 acres of Bureau of Land Management administered lands in southwestern Oregon as the Cascade-Siskiyou National Monument in recognition of the diverse plant and animal life residing in this area. Straddling the crest of the Cascade Mountains, the

Cascade-Siskiyou National Monument is located where three very distinctive ecoregions come together: the high desert of the Columbia/Snake shrub steppe to the east, the young, volcanic Central/Southern Cascades, and the ancient, uplifted Klamath-Siskiyou to the west. The diverse elements from each of these ecoregions are well represented within the Cascade-Siskiyou National Monument's vascular plant, butterfly, mollusk, and bird communities. This symposium will provide a glimpse into the dizzying array of species residing in the monument and highlight the importance of protecting this landscape.

A field trip the following day (Thursday, June 16 – see page 19 of this *Newsletter*) is designed to complement this symposium. The field trip costs an additional fee and must be signed up for in advance. Please register for it on the Advance Registration Form.

#### Speakers

*John Alexander* (Klamath Bird Observatory), *Nat Seavy* (Klamath Bird Observatory and University of Florida), *Daniel A. Sarr* (Klamath-Network-National Park Service), and *Paul E. Hosten* (Bureau of Land Management, Medford District), "Landbird Species Diversity in the Cascade-Siskiyou National Monument, as Compared with Crater Lake National Park and Whiskeytown National Recreation Area."

*Dominick DellaSala* (World Wildlife Fund), "Cascade-Siskiyou National Monument – What it Means to be in an Ecological Crossroads."

*Terrance Frest* and *Edward Johannes* (Deixis Consultants), "Extraordinary Endemic Springsnail Radiation in the Cascade-Siskiyou National Monument, Southwest Oregon."

*Paul E. Hosten* (Bureau of Land Management, Medford District), "Patterns of Vegetation Change and Past Management Activities of the Cascade-Siskiyou National Monument."

*Aaron Johnston* (Oregon State University), "Small Mammal Communities in the Cascade-Siskiyou National Monument."

*Erik B. Runquist* (University of California, Davis), "Butterflies in the Blender: Patterns of Richness and Diversity in the Cascade-Siskiyou National Monument."

**Additional ideas for symposia** are always welcome but time is of the essence. As soon as possible, potential organizers should submit to the chair of the section in which the symposium will be presented (see list on page 27) a title, brief description of the symposium, and a list of potential speakers and/or titles of presentations. Once approved, new symposium information will be added to the Division's website. **At this time we are also considering ideas for the 2006 annual meeting in San Diego, California.** See the "Call for Workshops and Symposia" on page 33 of this *Newsletter*.

### CONTRIBUTED PAPERS

Those wishing to submit papers for presentation at a contributed paper session should refer to the "Call for Papers"

on page 32 in this *Newsletter*, or download instructions from the Division's website ([pacific.aaas.org](http://pacific.aaas.org)). Send the requested information to the program coordinator of the society or section at which you would like to present the paper (see page 27 for addresses) and copy the mailing to the Division's Meetings Office at [aaaspd@sou.edu](mailto:aaaspd@sou.edu). Abstracts should be submitted electronically via e-mail. If you are unable to do this, please contact the Pacific Division office at 541-552-6747 for instructions. Special characters in e-mailings often do not come through properly. If your abstract contains special characters, please fax a print copy of the abstract to the Pacific Division office, 541-552-8457, in addition to e-mailing it to the section chair and Division office.

Do not forget, **the deadline for submitting abstracts is April 26, 2005.** If an abstract comes in after this date, it may not make it into the program. Also, be aware that the abstract you submit will be published as written. It will not be edited. If it contains errors, they will appear as submitted. Use the spell checker in your word processor. And remember, keep the length of your abstract to no more than 250 words. Use 10-point Times (or variation) font (no exotic fonts, please!) for your abstract. Lastly, if yours is a student presentation, oral or poster, please state clearly that it is such so that it will be included in the judging competition.

### PACIFIC DIVISION AFFILIATED SOCIETIES AND SECTIONS ACCEPTING CONTRIBUTED PAPERS FOR PRESENTATION AT THE MEETINGS

**Western Society of Soil Science.** Section Chair and Program Coordinator: Dr. Grant Cardon, Soils Extension Specialist, Utah State University, Logan, UT 84322. Phone: 435-797-2278; e-mail: [grantc@ext.usu.edu](mailto:grantc@ext.usu.edu).

**Agriculture and Horticultural Science.** Section Chair and Program Coordinator: Dr. Rhonda L. Miller, Dept. of Agricultural Systems Technology and Education, Utah State University, Logan, UT 84322-2300. Phone: 435-797-3772; e-mail: [rlmiller@cc.usu.edu](mailto:rlmiller@cc.usu.edu).

**Anthropology and Archaeology.** Section Chair and Program Coordinator: Dr. Walter Carl Hartwig, Division of Basic Medical Sciences, Touro University College of Osteopathic Medicine, Mare Island, CA 94592. Phone: 707-638-5238; e-mail: [whartwig@touro.edu](mailto:whartwig@touro.edu).

**Atmospheric and Oceanographic Sciences.** Section Chair and Program Organizer: Dr. John J. Carroll, Atmospheric Sciences Section, Dept. of Land, Air and Water Resources, University of California, Davis, CA 95616. Phone: 530-752-3245; e-mail: [jjcarroll@ucdavis.edu](mailto:jjcarroll@ucdavis.edu).

**Biological Sciences.** Section Chair and Program Coordinator: Dr. A. Michelle Wood, Dept. of Biology, University of Oregon, Eugene, OR 97403. Phone: 541-346-0454; e-mail: [miche@darkwing.uoregon.edu](mailto:miche@darkwing.uoregon.edu).

**Chemistry.** Section Chair and Program Organizer: Dr. Owen M. McDougal, Department of Chemistry, Southern

Oregon University, Ashland, OR 97520. Phone: 541-552-6407; e-mail: [mcdougao@sou.edu](mailto:mcdougao@sou.edu).

**Computer and Information Sciences.** Section Chair and Program Organizer: Dr. Alan E. Leviton, Department of Herpetology, California Academy of Sciences, 875 Howard St., San Francisco, CA 94103. Phone: 415-321-8276; e-mail: [alevito@calacademy.org](mailto:alevito@calacademy.org).

**Earth Sciences.** Section Chair and Program Organizer: Dr. J. Thomas Dutro, Jr., U.S. Geological Survey (E-308), National Museum of Natural History, Washington, DC 20560-0137. Phone: 202-343-3222; e-mail: [dutro.tom@nmnh.si.edu](mailto:dutro.tom@nmnh.si.edu).

**Ecology and Environmental Sciences.** Section Chair and Program Organizer: Dr. Michael Parker, Department of Biology, Southern Oregon University, Ashland, OR 97520. Phone: 541-552-6796; e-mail: [parker@sou.edu](mailto:parker@sou.edu).

**Education.** Section Chair and Program Organizer: Dr. William B.N. Berry, Department of Earth & Planetary Sciences, 307 McCone Hall, University of California, Berkeley, CA 94720-4767. Phone: 510-642-3925; e-mail: [wberry@uclink4.berkeley.edu](mailto:wberry@uclink4.berkeley.edu).

**Engineering and Industrial Sciences.** Section Chair and Program Organizer: Mr. Henry Oman (Boeing Company,

ret.), 19221 Normandy Park Drive SW, Seattle, WA 98166. Phone: 206-878-4458; e-mail: [homan@ieee.org](mailto:homan@ieee.org).

**Health Sciences.** Section Chair & Program Organizer: Dr. Carl Maida, UCLA Schools of Dentistry and Medicine, University of California, PO Box 951668, 63-023 CHS, Los Angeles, CA 90095-1668. E-mail: [cmaida@ucla.edu](mailto:cmaida@ucla.edu).

**History and Philosophy of Science.** Section Chair and Program Organizer: Dr. Donald McGraw, 824 Southshore Drive, Chula Vista, CA 91913. Phone: 619-216-4650; e-mail: [granttree@yahoo.com](mailto:granttree@yahoo.com).

**Physics.** Section Chair and Program Organizer: Dr. Panos Photinos, Department of Physics, Southern Oregon University, Ashland, OR 97520. Phone: 541-552-6475; e-mail: [photinos@sou.edu](mailto:photinos@sou.edu).

**Psychology.** Section Chair & Program Organizer: Dr. J. Ken Nishita, California State University, Monterey Bay, 100 Campus Center, Seaside, CA 93955-8001. Phone: 831-582-3563; e-mail: [ken\\_nishita@csUMB.edu](mailto:ken_nishita@csUMB.edu).

**Social, Economic and Political Sciences.** Section Chair and Program Organizer: Dr. Mark Aldrich, Dept. of Economics, Smith College, Northampton, MA 01063. Phone: 413-585-3603; e-mail: [maldrich@smith.edu](mailto:maldrich@smith.edu).

(continued from page 6)

base. National Park Service personnel are responsible for operation of the Presidio, which is a large urban national park. Park Service staff volunteered to aid in field and laboratory instruction in the teaching program. The environmental science educational program developed for Galileo Academy students was offered to and adopted by other San Francisco high schools. The focus of instruction by the program is on making students aware of the relevance of science in their daily lives through their own observations and analyses of environments in which they live.

The teaching program, now named the Environmental Science Teaching Program (ESTP), essentially follows the five suggestions cited above from *Science for All Americans*. The program is designed primarily to engage students who are under-served minorities and/or from families with low incomes. Even the possibility of attending a college or university is only a dream for many of the high school students served by the program. Some of the students involved in the program indicated that they considered dropping out of high school before they became involved in the program. Therefore, a goal of the teaching program is to discuss the college-going experience and to address issues involved in dropping out of high school. An attempt is made to instill a college-going culture in students and their families.

An essential element in the ESTP instruction is to draw students into becoming interested in learning science by making the information presented as relevant as possible to their everyday lives. Students are conducted on walking tours of local environments to observe natural phenomena and to seek relationships among them. Students are directed not only to observe phenomena in their environment but also they are guided to making measurements of some features and collecting both



Courtesy William B. N. Berry.  
Students enjoying a Saturday Academy class.



Courtesy William B. N. Berry  
Undergraduate student (holding the leaf) working with high school students.

data and objects for subsequence study and analysis in the classroom and laboratory. One goal is to generate a real interest in the environment in which the students live and to create in them a willingness to observe, collect and analyze more and more information. The ESTP teaching program tries to promote a desire to understand as much as possible about the physical and biological aspects of environments in which the students live, and it asks the students to seek links among these aspects. Through observations, measurements and analyses of the many aspects of the environments in which they live, students are taught basic elements of biology, chemistry and physics. As well, they are shown how mathematics is useful to them in studies.

The ESTP teaching program instructors design one overarching theme, such as the study of a watershed and its urbanization or all aspects of energy generation and uses, as well as energy transfers and losses during transfers. The students enrolled in the teaching program are divided into groups of four to seven to study one aspect of the broad, overarching theme. University of California Berkeley undergraduates serve as mentors for each group. Commonly, two undergraduates work with each student group, assisting

them in their explorations of their assigned topic. The teaching program includes classroom discussions and brief lectures and observations made outdoors, in natural settings. The Berkeley undergraduates also talk with their students about going to college and about their high school course work. Most of the undergraduates tutor one or more of their students in basic sciences.

Students in each group work together to share ideas and observations. In general, they learn from each other. All students keep a journal in which they must write their observations, measurements and analyses. Students also write relevant background information on their projects in their journals, which commonly includes their notes and thoughts from reading relevant literature. Mentors review the journal entries and discuss them with their students. These discussions enhance the student's educational experience. Information in the journals forms a basis from which students develop oral presentations. Each student group develops an original presentation of what they have learned through their research on their topic. Each group



Courtesy William B. N. Berry  
Undergraduate student on left helping high school student demonstrate scientific principles before other high school students and their parents at Cal Day.

constructs a storyboard and an instrument or device they use in their presentations to demonstrate what they have learned. Students ask their families to attend the oral presentations so that they may be made aware of the overall program and enjoy the presentations. A brief lecture in which background information for the oral presentations is given for the families to enable them to understand the relevance of what their students have learned and how this knowledge has relevance in their lives. The oral presentations may be viewed as a small step toward broadening science literacy in a population for whom the fundamentals of science are poorly understood.

The ESTP educational enhancement programs are given on Saturdays both Fall and Spring Semesters on the UC Berkeley Campus. High school students for whom attending college may not have even been considered see how college classes are run and become closely associated with college students. The high school students achieve an understanding of what going to college may mean to them. Their oral presentations in the Spring are one of the featured programs at the University of California Berkeley's annual open house, which is called "Cal Day." Many hundreds of visitors to the Berkeley Campus see the storyboards and demonstration devices, and as many as a hundred hear the student presentations.

Another component of the ESTP programs is use of the Tennessee Hollow watershed in the Presidio of San Francisco, the former army base, which is now a national park. Galileo Academy environmental science students are taught about the relevance of science to them through instruction in the watershed and its



Courtesy William B. N. Berry

High school teacher working with students at the Presidio of San Francisco..

environs by ESTP staff and students as well as by National Park Service personnel. These students go to the Presidio one day a week for lectures and hand-on studies in the field and laboratory. The overall project theme is analysis of the watershed and how it is used and impacts upon it by its location in an urban environment. Students are divided into groups, each of which examines some aspect of the overall project. Basic biology, chemistry and physics are taught through observations and analyses of the all aspects of the environment, including air and water quality, basic earth processes, aspects of hydrology, and impacts of people upon the environment. This study directs student

attention to a significant feature within the area in which they live. Students keep a record of observations, analyses, and conclusions in journals. Mentors as well as teachers review the material in the journals and discuss that material with the students. Each student group develops an oral presentation of its findings. The presentations are made near the close of the school year to an audience of National Park Service staff and visitors to the park.

Through its educational enhancement programs, ESTP promotes understanding of science through study projects that have relevance in the lives of the students being taught. Classroom time is devoted to instruction in basic elements in science and to documenting the relationships of these fundamentals in the projects that students are studying. Most of the students become excited about learning science when they see the relevance of their understanding of science to their own lives. Design and development of oral presentations promotes

a sense of pride and ownership of their knowledge. Involvement of their families in the presentations creates some sense of understanding science among them as they see their students excited about the relevance of science in their lives. Documenting the relevance of knowledge students have learned is an important aspect of ESTP teaching. Potentially, aspects of ESTP programs could be used more widely to address issues of science literacy among Americans.

#### REFERENCES

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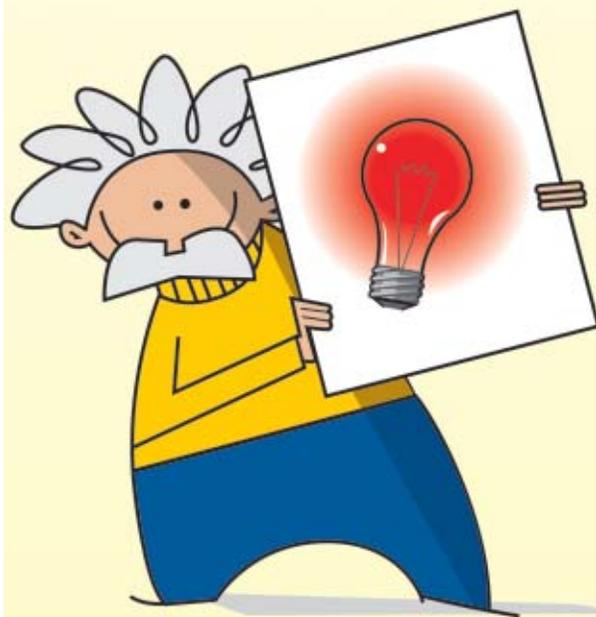
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# *American Association for the Advancement of Science Pacific Division*

## *86<sup>th</sup> Annual Meeting Southern Oregon University June 12 – 16, 2005 Call for Papers*

Members of AAAS and its affiliated societies, students, teachers and other scientists are encouraged to participate in the annual meeting and present papers and/or posters. Persons wishing to present a paper or poster at one of the sessions should e-mail the title, abstract and other required information (see instructions below) to the chair of the appropriate society or section (see page 27) and also the Pacific Division office, [aaaspd@sou.edu](mailto:aaaspd@sou.edu). If your abstract contains special characters, please also fax a copy of it to the Pacific Division office, 541-552-8457. The deadline for submission is **April 26, 2005**. Students must identify themselves so that judges will be able to evaluate their presentations for Awards of Excellence. Oral presentations should be no longer than 20 minutes, including about five minutes for questions.

### **Please format your submission as follows:**

**Line 1:** Your name

**Line 2:** Your telephone number and e-mail address

**Line 3:** Name of presenter (if different from above)

**Line 4:** Presenter's telephone number and e-mail address

**Line 5:** Society, section or program to which you are submitting your presentation

**Line 6:** Is the presentation oral or a poster?

**Line 7:** Special equipment needs (other than 35mm, overhead, and computer projectors)

**Line 8:** Is the presenter a student?

**Line 9:** Paper title in title case and italics (i.e. *Paper Title in Title Case*)

Author(s) name(s) in **ALL CAPS AND BOLD**

Full address(es), including institution, mailing address, city, and zip code.

**Line 10:** Text of abstract. Limit: 250 words.

### **Example of properly formatted abstract submission (lines 9-11)**

*Advanced Knowledge Acquisition in Elementary Biology*. **KATHLEEN M. FISHER and STACY GOMES** (Center for Research in Mathematics and Science Education, San Diego State University, San Diego, CA 92120).

Advanced knowledge acquisition differs in important ways from introductory learning. Advanced knowledge acquisition refers to learning a content area beyond the introductory stage but before extensive experience and practice (Spiro, Coulson, Feltovich, and Anderson, 1988). At this stage, knowledge must be reasonably correct and active rather than inert. The goals of learning shift from knowledge reproduction to knowledge use. Advanced students need to become more comfortable with learning in different ways, more adaptive in using and applying knowledge, and more inclined to spontaneously restructure their knowledge. These advanced students are preparing themselves to leave school and enter practice in the workplace. They need to attain a deeper understanding of content material; reason with it; and apply it flexibly in diverse contents (Spiro, et al, 1988, p 375). They need to shift from being passive receivers of information to active organizers and users of their knowledge. In teaching biology to prospective elementary school teachers in their senior undergraduate year, we use a variety of strategies to achieve these ends, including: 1. stimulating curiosity and eliciting prior knowledge; 2. prompting students to build runnable mental models through prediction and interpretation; 3. promoting conceptual change by prompting 3a) cognitive disequilibrium and 3b) knowledge elaboration and by presenting 3c) ill-structured cases and 3d) knowledge construction activities; 4. promoting students' active learning; 5. providing scaffolding and support for student knowledge construction; 6. diagnosing and remediating underdeveloped cognitive and metacognitive skills; 7. prompting students to identify central ideas; 8. prompting students to integrate ideas; 9. avoiding oversimplification and overregulation; 10. prompting students to construct multiple representations; 11. building confidence and teamwork; and 12. evaluation for meaningful understanding. Two aspects which will be emphasized here are the use of SemNet<sup>®</sup> software to help students develop the skills and habits of meaningful knowledge organization and the use of two tiered multiple choice questions to assess conceptual understanding.



## *American Association for the Advancement of Science Pacific Division*

*87<sup>th</sup> Annual Meeting  
University of San Diego  
San Diego, CA  
June 18 – 22, 2006*

### **Call for Workshop and Symposium Proposals**

Members of AAAS and its affiliated societies, students, teachers and other scientists are encouraged to participate in the annual meeting by developing workshops and/or symposia. Persons wishing to develop a workshop and/or symposium for the 2006 San Diego meeting should e-mail the title, description and other required information (see instructions below) to the chair of the appropriate society or section (see page 27 of this *Newsletter*) and also the Pacific Division office, [aaaspd@sou.edu](mailto:aaaspd@sou.edu). The deadline for submission is **October 17, 2005**, although late submissions will be considered.

Questions? Contact Dr. Roger Christianson, Executive Director, AAAS Pacific Division, Department of Biology, Southern Oregon University, Ashland, OR 97520. Phone: 541-552-6747; e-mail: [rchristi@sou.edu](mailto:rchristi@sou.edu).

Workshops generally are 1/2- or full-day and may or may not accompany a symposium. If special facilities and/or equipment are required, be sure to identify what you need as completely as possible in your submission (see Line 8 below). If a cost is incurred, it will be passed along to participants as a workshop fee.

Symposia may be 1/2- or full-day or longer. Individual presentations are usually scheduled with more time than for contributed papers (30 minutes rather than 20 minutes) but the actual scheduling depends on the needs of the symposium and may be longer or shorter, even a mixture. Please contact Dr. Christianson to discuss your specific needs. When preparing your submission, please indicate which presenters are confirmed (see Line 8 below). If you do not yet have a list of presenters, you may submit a list of potential presentation topics. Please keep in mind that we need as much information as possible early on in order to adequately publicize the symposium.

#### **Format your submission as follows:**

**Line 1:** Organizer's name.

**Line 2:** Organizer's full mailing address, including academic/professional affiliation, telephone number and e-mail address.

**Line 3:** Co-organizer (if any).

**Line 4:** Co-organizer's full mailing address, including academic/professional affiliation, telephone number and e-mail address.

**Line 5:** Is this a Workshop or a Symposium?

**Line 6:** Number of 1/2-day (roughly three hours, depending on the needs of the program) sessions needed.

**Line 7:** Title of proposed program.

**Line 8:** If a symposium, list the name of each (proposed) speaker, including academic/professional affiliation, telephone number and e-mail address for each. Topic titles are optional at this time and will be requested later, along with an abstract for each presentation (see Call for Papers, page 24).

If a workshop, indicate facilities and/or special equipment required and number of participants that can be accommodated.

**Line 9:** Brief description of proposed program (please limit to 250 words).





**AAAS PACIFIC DIVISION 86<sup>th</sup> ANNUAL MEETING**

**Southern Oregon University**

**Ashland, OR**

**June 12 - 16, 2005**

**ADVANCE REGISTRATION FORM**

**FOR EARLY REGISTRATION, FIELD TRIPS, AND OTHER SPECIAL EVENTS**

*Note: Send this form directly to*

**AAAS Pacific Division, Department of Biology, Southern Oregon University, Ashland, OR 97520**

*Please print or type this form. If faxing, use black ink.*

Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

E-mail: \_\_\_\_\_ Day Phone: \_\_\_\_\_

Institution/Company, (for your name tag--if none, city & state will be used): \_\_\_\_\_

AAAS member:  Yes  No Affiliated Society Membership: \_\_\_\_\_

Do you plan to present a paper or poster?  Yes  No

If so, in which affiliated society or PD section or program? \_\_\_\_\_

**REGISTRATION FEES:** *Check all that apply.*

**Full Meeting:**

	Received by May 23	Received after May 23	
Professional	<input type="checkbox"/> \$60	<input type="checkbox"/> \$80	
Teacher K-14	<input type="checkbox"/> \$45	<input type="checkbox"/> \$60	
Student	<input type="checkbox"/> \$30	<input type="checkbox"/> \$40	
Spouse	<input type="checkbox"/> \$30	<input type="checkbox"/> \$40	➔ Name, City, State (for name tag): _____
Retired, Emeritus	<input type="checkbox"/> \$45	<input type="checkbox"/> \$60	_____

**One-day**

Professional  \$45  \$60 ➔ Select day:  Mon.  Tues.  Wed.

**DIVISION BANQUET** (June 14, Tuesday): The Division banquet will be held at the Stevenson Union, located on the SOU campus. The program will include the presentation of Student Awards of Excellence and the Presidential Address. Tickets must be purchased in advance. Students who are registered for the meetings and who have presented an oral or poster paper are invited to be guests of the Division and do not have to pay to attend (see below). Please refer to page 15 for descriptions of entrees.

\_\_\_\_ tickets @ \$22 each \$ \_\_\_\_\_ # vegetarian # roasted chicken # salmon

student presenter ticket @ no charge # vegetarian # roasted chicken # salmon

**SEE REVERSE FOR FIELD TRIPS AND SUMMARY**





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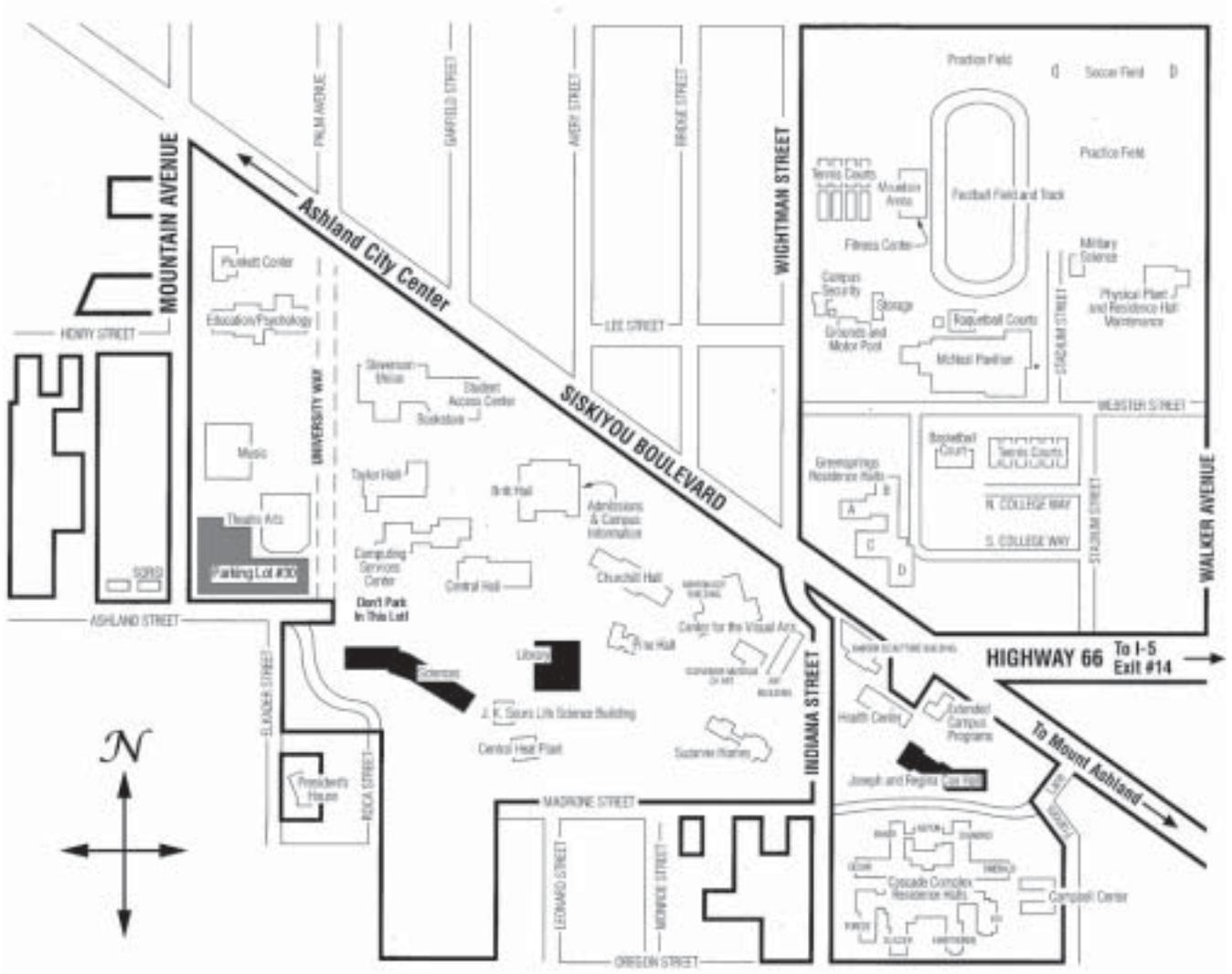
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### Map of Southern Oregon University

The Sciences Building, in which the bulk of the meeting will occur, has been colored black. So also have been the Hannon Library, location of the poster session and SOU Presidential reception, and Cox Hall, the on-campus dorm in which registrants may reserve rooms for their stay. The Hannon Library is just to the east of the Sciences Building. Cox Hall is further east, about a leisurely six minute walk. Those staying in Cox Hall will need to purchase a permit to park in the lot in front of the residence hall. The cost is \$10.00 for a week-long permit, which may be purchased at check-in. Complementary parking for meeting registrants is provided in Parking Lot #30 (see above colored gray, just northwest of the Sciences Building), a student lot (identified with GREEN signs), which wraps around the uphill portion of the Theatre Arts Building. Do not park in the large parking lot in front of the Sciences Building (lot #27 on maps)! If you do, you will receive a parking ticket. There is also quite a bit of on-street parking around the Sciences Building, which is free.

**AAAS PACIFIC DIVISION 86<sup>th</sup> Annual Meeting**  
**SOUTHERN OREGON UNIVERSITY**  
**Ashland, OR**  
**June 12 - 16, 2005**

**SYMPOSIA, FIELD TRIPS,**  
**WORKSHOPS and PLAY TICKETS**

**SYMPOSIA**

- Serpentine Ecology
- Material Science and Nanoparticles
- Chemical Education
- Geology, Chemistry and Microbiology of Acid Mine Drainages and its Remediation
- Calibrating the Evolution of the Universe
- Northwest Forest Plan
- Resource Preservation and Research at Crater Lake National Park
- Ice Age People of the Pacific Northwest
- Science and Cognitive Values
- Enhancing Water Management Techniques Benefiting both Agriculture and Instream Needs
- New Humanities and Science Convergences
- The Cascade-Siskiyou National Monument: What It Means To Be A Biological Crossroads

NOTE: Information about these programs is as of March 9, 2005.  
For the most up-to-date information, please visit the Pacific Division website: <http://pacific.aaas.org>.

**FIELD TRIPS**

- Redwoods and the Oregon Coast  
(2 day pre-meeting trip)
- The Terroir and Wines of the Rogue Valley
- Blue Ledge Mine
- Dam Removal and Riparian Enhancement
- Serpentine Soils of the Illinois Valley
- Cascade-Siskiyou National Monument
- Subduction and the Southern Cascade Volcanoes (2 1/2 day post-meeting trip)

**WORKSHOPS**

- "Demonstration of Science Educational Enrichment Programs at the University of California, Berkeley, for Students in Grades 9 through 12." See page 19.
- Selection of molecular biology workshops being offered at no charge by Bio-Rad Corporation. See pages 19 & 20.

**OREGON SHAKESPEARE FESTIVAL TICKETS**

- Room Service • Love's Labors Lost • Richard III
- The Tragical History of Doctor Faustus See pages 14 & 16.

**2006 PACIFIC DIVISION MEETING SITE**  
**University of San Diego, San Diego, CA**



American Association for the Advancement  
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