The AAAS, Pacific Division and its affiliated societies and sections will hold its 92nd annual meeting this June on the campus of the University of San Diego. The theme of this year’s meeting is Examining the Past – Exploring the Present – Engaging the Future.

The Division is especially pleased to welcome participants of the 7th World Congress on Mummy Studies, who are joining us for their triennial meeting this year in San Diego. Please turn to page 10 for more information about the World Congress on Mummy Studies. The Division’s Program and Special Events Committee is hard at work assembling a program of exceptional scientific merit and interest.

All scientists, professors, teachers, students, and others are invited to present the results of their research, either orally or as posters at this meeting. All registrants for the meeting may attend any of the technical sessions as well as participate in the many other activities that are being planned. Some activities, notably field trips and selected workshops, require advance registration and payment of additional fees. Dr. Frank Jacobitz, Department of Engineering, University of San Diego, is chair of the Division’s organizing committee for this year’s annual meeting. Dr. Anne Sturz, Department of Marine Science and Environmental Studies, University of San Diego, is co-chairing the organizing committee. Dr. Alana Cordy-Collins, Department of Anthropology and Director of the David W. May American Indian Collection and Gallery, University of San Diego, is chairing the program committee for the

continued on page 10, right column
The University of San Diego (USD) is a Roman Catholic institution of higher learning. Presently enrolling more than 7,500 students, it is known for its commitment to teaching, the liberal arts and the formation of values and community service. The university adds depth to education by inspiring students to grow spiritually, morally and socially.

USD’s 180-acre campus, Alcalá Park, sits atop a mesa overlooking San Diego’s Mission Bay and the Pacific Ocean. The university campus is a community treasure, with Spanish Renaissance inspired buildings and breathtakingly beautiful landscapes, including the spot where Father Junipero Serra celebrated the first Catholic Mass in Alta California more than 230 years ago. Like California’s oldest city, the university took its name from San Diego de Alcalá, a Franciscan brother from Alcalá de Henares, a monastery near Madrid, Spain. The Spanish Renaissance architecture that characterizes Spain’s five-century-old University of Alcalá serves as the inspiration for all buildings on the USD campus.

Under the leadership of Mother Rosalie Hill of the Society of the Sacred Heart and Bishop Charles Francis Buddy of the Diocese of San Diego, the University of San Diego began as separate colleges for men and women. Chartered in 1949, the first classes met in 1952 and the School of Law opened its doors in 1954. By the late 1960s it became clear that both colleges would benefit from combining academic resources. In 1972 the University of San Diego became a single coeducational university.

Now governed by a board of trustees independent from the founding organizations, USD welcomes students, faculty and staff of diverse religious traditions and remains dedicated to the values originally articulated by Mother Hill and Bishop Buddy.

San Diego
With a near-perfect climate, 70 miles of beaches, and mountains...
STUDENTS TAKE NOTE!

The Pacific Division has a web site just for students, called STUDENTS ONLY! Its address is http://www.sou.edu/aaaspd/Students/Students.html. On it you will find links to information about
• the AAAS, Pacific Division Alan E. Leviton Student Research Awards
• travel grants to help support students traveling to present their research at annual meetings of the Pacific Division
• the Pacific Division student oral and poster presentation awards program
• winners of previous student presentation competitions
• additional news of interest to students

Research grants of up to $750 are available to students residing in the Pacific Division’s geographical boundaries. But you must apply for this by 1 May 2011! Information can be found at http://www.sou.edu/aaaspd/Students/StudentResearchGrants.html or click the Research Award link on STUDENTS ONLY!

Travel grants to help support student travel to the annual meeting are available.....but you must apply no later than 1 May 2011! Information can be found at www.sou.edu/aaaspd/Students/TravelGrants2010.html. Or click on the Travel Grant link on STUDENTS ONLY! Up to twenty grants are available this year and they will be awarded based on need.

Awards of Excellence are given to students who make outstanding presentations at the Pacific Division’s annual meetings. Awards include money, certificates of merit, and one-year student memberships to AAAS. But you must present your research in order to be in the competition pool to receive one! Information can be found at http://www.sou.edu/aaaspd/Students/StudentAwards.html or click the Student Awards link on STUDENTS ONLY!

Student Aides are needed to help at the AAAS National Meeting 17 – 21 February 2011 in Washington, D.C. For a small investment in time, students receive complimentary meeting and poster registrations. For a bit more time, students receive a one-year membership to Science On-Line. More information and an application form may be downloaded from links on the Pacific Division homepage, pacific.aaas.org.

DIVISION ACTIVITIES AND STUDENT AWARDS AT THE ASHLAND MEETING

In June 2010 the Pacific Division held its 91st annual meeting at Southern Oregon University in Ashland, Oregon. The meeting was well attended for a rural area, with 280 registrants. The technical program included ten symposia, two poster sessions, four contributed paper sessions, and six workshops. Additionally, there were four field trips.

Activities began Sunday afternoon with a salmon bake sponsored by the SOU Native American Student Union (NASU), which included Native American drumming and a program that included a blessing for the meeting by members of the NASU.

Following the salmon bake was the official opening of the campus-wide, Pacific Division sponsored science-art exhibit, “Inspired by Science.” The opening program was a very well received panel discussion that included the planners of the exhibit (Robert L. Chianese, California State University Northridge; John Hafernik, San Francisco State University; Alissa J. Arp, Southern Oregon University; and Michael Crane, Southern Oregon University) and many of the participating artists. The exhibit continued on campus throughout the summer, ending in early September. A photo gallery of the exhibit and also a second e-exhibit created for this meeting by members of Science Art-Nature at Stanford University may be viewed by going to the Pacific Division homepage (http://pacific.aaas.org).
ANNOUNCEMENTS

TEACHERS K – 14
The first twenty K – 14 teachers to register in advance (meeting registration received no later than 31 May 2011) for this meeting will receive upon request a $75 stipend to help defray their costs to attend! This stipend is not available to those who register on-site for the meeting. A $75 check, if requested, will be included with your registration materials at the Pacific Division Meeting Registration Center.

PACIFIC DIVISION Heads to Boise, ID in 2012
The Pacific Division will co-locate its 2012 meeting with the Snake River Section of the American Chemical Society at the Boise Convention Center in Boise, ID. The meeting, co-hosted by Boise State University, will take place 24 – 28 June. Mark your calendar now for this event and keep an eye on the Pacific Division web site, pacific.aaas.org, for additional details.

PACIFIC DIVISION Seeks Judges for Student Presentations
Student presentation judges are being sought for both oral and poster presentations at the Pacific Division’s annual meeting. Previous experience evaluating student presentations is generally a requirement for individuals who haven’t previously judged at a Pacific Division meeting. Judges must be available for a judges meeting Sunday evening, 12 June, and be available to judge presentations Monday and/or Tuesday, 13 and 14 June. For additional information, please contact Roger Christianson, 541-552-6747 or rchristi@sou.edu. If you are interested in helping with this very important aspect of the annual meeting, be sure to mark the appropriate box on the Advance Registration Form (on page 35 of this Newsletter) and you will be sent an application form.

and deserts just a short drive away, San Diego draws more than 26 million visitors each year. Known for its countless year-round outdoor activities, San Diego is packed with unique pursuits in the water, on the trails and in the sky. The University of San Diego is just minutes from sailing, windsurfing, kayaking and a host of other water sports. All of the city’s beaches are ideal for surfing, body boarding, snorkeling or simply soaking up rays on sand warmed by the ever-present sun.

Hundreds of miles of trails and parks wind throughout San Diego County, ranging from oceanfront land to mountain pine forests, making it very easy to backpack, hike, camp or rock climb in a variety of elevations and environments. The Pacific Crest Trail, which works its way through 150 miles of San Diego backcountry in its trek from Mexico to Canada, is designated one of America’s National Scenic Trails.

San Diego has many attractions, including the world-famous San Diego Zoo and Wild Animal Park. Additionally, the 131-year-old Balboa Park is a 1,200-acre oasis in the heart of the city, complete with 15 museums, eight gardens and the acclaimed Old Globe Theatre. San Diego is also home to one of only three Olympic training centers in the nation. And its coastal waters offer an exceptional seasonal experience: a first-rate vantage point from which to witness the annual migration of gray whales from Alaskan seas to Mexican lagoons.

USD Students
Though the beach is nearby, USD is a serious academic institution. And while the campus itself is stunning, the people truly make the difference. More than 7,000 candidates vie for 1,000 freshman openings each year. The median incoming freshman holds a 3.72 GPA and an 1180 SAT score, yet each student is unique and selected on expressions of diversity, leadership, service, talent, and essential human character.

Of great significance to USD students are small class sizes; great, accessible faculty; and fantastic lab facilities. Students choose from more than 60 undergraduate and graduate degree programs in academic divisions, including the College of Arts and Sciences and the schools of Business Administration, Leadership and Education Sciences, Law, and Nursing and Health Science. The new Joan B. Kroc School of Peace Studies was inaugurated in 2007.

Natural Sciences at USD
The natural sciences at USD include four departments: Biology, Chemistry, Physics, and Marine Science and Environmental Studies. Curricula in the sciences are centered on the belief that students learn best when theoretical concepts are combined with hands-on experience. Students in the sciences take numerous lab and field courses, which provide opportunities to learn useful techniques and participate in the scientific process. Many students carry out research and perform internships that complement their formal course work. Interdisciplinary collaborations are common
Remembering
John Thomas Dutro, Jr.

John Thomas Dutro, Jr. (Fig. 1), “Tom” to his friends, died 13 June 2010. Tom was a long-time member and an active participant in the Pacific Division of AAAS even though he was a Washington, DC resident.

Tom was born in Columbus, Ohio on 20 May 1923 to Dorothy Durstine [Smith] and John Thomas Dutro, Sr. Soon thereafter, Tom’s family relocated to Marysville, Ohio, where young Tom attended local schools. In 1940, Tom entered Oberlin College but his student days were interrupted by the Second World War. The Army decided that he was better suited to be a meteorologist than a foot soldier, and sent him to Denison and Harvard Universities for training and then to southwest Greenland, where he spent the rest of his military career as a weather observer/reporter. The Army Air Corp urgently needed reliable weather reports for pilots who ferried aircraft across the North Atlantic as did ship convoys plying the North Atlantic route. Tom’s tour of duty ended in early 1946 and he returned to Oberlin to complete his undergraduate studies. In the late Fall of 1946, Tom met a young lady student at Oberlin, Nancy Pence, and in January, 1948, the two married.

The next phase in Tom’s life was Yale University where he fell under the spell of Carl Dunbar and other members of Yale’s geology faculty, emerging in 1953 with a Ph.D. By then, Tom had established himself with the U.S. Geological Survey, having started his field career in the summer of 1948 working on potash deposits in New Mexico. He then went to Alaska, and from 1949 to 1956 he participated in the U.S. Navy Oil Program in the Brooks Range. Following that, and for the next 30 years, Tom continued field work in Alaska, and this resulted in a stream of publications and geologic maps. His publications emphasized biostratigraphic correlations and were based on his field observations and his studies of the Paleozoic faunas, especially his beloved brachiopods, a group of mollusks for which he became the acknowledged expert.

Also in 1956, Preston Cloud became the USGS Paleontology and Stratigraphy (P&S) Branch Chief. Cloud was an infectious leader and he knew how to work with a group of young upstarts assigned to his branch. Tom learned his lessons well for in 1962 he succeeded Charlie Merriam, who for a short time served as Branch Chief following Cloud; Tom held that position until 1968. From early on, the P&S Branch of the USGS had been located at United States National Museum, now the National Museum of Natural History, in Washington, DC, where most of the USGS fossil collections are housed. However, soon after becoming Branch Chief, Cloud established P&S groups at USGS Denver, Colorado, and also at Menlo Park, California. Then sometime later, in the late 1980s, most of the P&S Branch personnel were transferred to the USGS headquarters in Reston, Virginia. But, in the early 1960s, while P&S was still primarily located at the USNM, and already holding an appointment as a Research Associate in the Museum (dating from 1962), Tom joined his museum colleagues, Gus Cooper and Dick Grant, the Museum’s curators of invertebrate paleobiology, in caring for the brachiopod collections. Following Cooper’s retirement and then departure from the museum (1974 and 1987 respectively) and Grant’s death (1995), Tom became the de facto curator of those collections. Thus, Tom served the USGS and then, in his own retirement (1994), the Paleobiology Department of the Museum, to the time of his death.

Tom enjoyed people and had a wide circle of friends (Fig. 2). He regularly attended meetings of several scientific societies, notably the Geological Society of America, the AAAS, the Paleontological Society, and, starting in the early 1980s, the AAAS Pacific Division. He served on the Board of Trustees of the Paleontological Research Institution as well as an officer of several of the societies already mentioned. Tom had broad interests, as testified by his election as Chair of the History of Geology Division of the Geological Society of America as well as President of the Pacific Division AAAS. And, in speaking of broader interests, Tom was an avid golfer, a game he played with purposeful enthusiasm. Indeed, we often wonder which he loved more, golf or brachiopods.
And, in passing, we must note that never, but never did we ever hear Tom exaggerate, well, almost never! (Fig. 3). Tom’s association with AAAS, and especially with its Pacific Division, led to several innovations that have had a lasting impact. Tom organized symposia and contributed paper programs and implemented a series of pre- and post-meeting field trips, the most attractive of which were the annual three-day geology excursions (Fig. 4). The excursions were sell-outs, as long as the participants knew that Tom was leading them: Glacier National Park; Volcanics of Northern California; Yellowstone National Park; the John Day Country of eastern Oregon; Jasper and Banff National Parks, Canada, and others.

His remarkable intellectual legacy is in his 250 publications, as well as the people he influenced, including his close friend John Pojeta, now also a USGS retiree at the Natural History Museum, whose memorial to Tom, published in American Paleontologist (September 2010), serves as a source here. Tom often indicated that he felt that the geological maps he did in concert with his fellow field companions in northern Alaska were his most significant contributions. Yet, in a summary review of Tom’s contributions, setting aside the maps he so dearly loved, we are struck by the centrality of systematic paleontology to his accomplishments. Among them we note especially:

1. Identification of new taxa and clarification of established ones;
2. Curation of fossils at the United States National Museum;
3. His nurturing of students visiting the Museum and interested in paleontology (and even more so if there were even a glimmer of curiosity about brachiopods), and
4. Application of systematic paleontology in projects such as geological mapping, assessing the validity of ideas on accreted terranes, and correlation of economically important formations.

As already noted, Tom’s main research interest was brachiopods. In his supposed retirement years, Tom never let up; almost to the end, he voluntarily continued to oversee curation of the Museum’s world-class brachiopod collections, and he always found time to work with the museum staff and visiting scientists and students. Within the past five years, these activities involved paleobiogeographic syntheses using large Early Carboniferous productoids from the tectonic fragments in western North America as well as studies of Permian brachiopod faunas from northern Alaska, and biostratigraphic syntheses of tectonic basins in east Asia, including 11 countries extending from Japan and Korea on the north to Indonesia and Papua New Guinea on the south. Earlier work in the 1990s involved regional geologic studies in northeastern Washington, West Virginia, the Ozarks region of Missouri and Arkansas, and an analysis of Carboniferous brachiopods from northern Chile, northwest Argentina and Peru. In summary, clearly Tom led a busy and productive life. In 1983, he was awarded the U.S. Department of Interior’s Meritorious Service Award, which was followed in 1996 by its Distinguished Service Award, and in 2007 he was singled out to receive the Gilbert Harris Award by the Paleontological Research Institution.

Tom leaves behind his wife of 62 years, three children, Sarah, Susan, and Christopher, and five grandchildren.

Alan E. Leviton and Michele L. Aldrich
29 November 2010
(N.B. We are indebted to Nancy Dutro and John Pojeta for reviewing this memorial and offering sound advice for its improvement. AEL and MLA.)
The word jungle elicits images of a dense tropical rainforest teeming with plant and animal life. Indeed, over 50% of plant and animal species live in rainforests. In addition, rainforests are a source of pharmaceuticals, human crop species and help stabilize the world’s climate. As we all know, rainforests are being lost at an alarming rate, and along with them biodiversity and ecosystem services that support human health and society.

There is another jungle, a metaphorical one we call the urban jungle. The urban jungle is also at the center of environmental threats and at the nexus of the changing human experience with nature. Urban areas are ground zero for many aspects of the biodiversity crisis. If we are to save rainforests and other wild lands, more and more humans will need to live in denser urban areas. This trend is well on the way. In 2005, estimates were that over 3 billion people, approximately 50% of all humans, lived in urban areas. This trend is accelerating, especially in low and middle-income countries. As a consequence, habitat destruction, pollution and other human impacts are causing extinction of many plant and animal species in and around growing cities. Another equally important trend is that, worldwide, children often spend their developing years apart from nature rather than as a part of it. The result is a reduced appreciation for the natural world, its wonder and the services it provides for our own species and for the planet as a whole. This is true even in affluent areas. When I take young children on nature walks in and around the city of San Francisco, they are often uncomfortable walking off of paved trails and sidewalks. Rarely have they had the opportunity to explore a stream, a wooded grove, or even a vacant lot.

It is vitally important that children have hands-on experiences with nature. Only in this way will they come to appreciate its wonders and, as adults, commit to protecting them. If this is to happen, urban areas must include natural areas and open spaces where we and our children can discover nature first hand. Places where one can marvel at a caterpillar that looks and acts like a stick (Figure 1) or a moth that suddenly exposes its brightly colored hind wings with vertebrate-like eyespots (Figure 2).

The San Francisco Bay Area, where I live, provides good examples of the environmental challenges of urbanization and potential solutions. The Bay Area lies within one of the world’s biodiversity hotspots and is home to many endemic species of plants and animals. A number of these have either been lost or pushed to the brink of extinction by urbanization. San Francisco proper was once a place of incredible natural beauty, covered by sand dunes, oak wood-

Figure 1. The larva of a geometrid moth (Pero macdunnoughi), a marvelous stick mimic.

Figure 2. Threat-display of the Eyed Sphinx Moth (Smerinthus cerisyi).
among faculty and students in different departments.

These interactions are enhanced by the inclusion of all four science departments in the new Donald P. Shiley Center for Science and Technology, which opened in 2003. The Center contains classrooms, offices, and modern labs that are used for teaching as well as faculty and student research. It is equipped with state-of-the-art instrumentation and equipment, including 500 MHz and 400 MHz nuclear magnetic resonance systems, a high pressure liquid chromatography – mass spectrometer, gas chromatography – mass spectrometry instruments, atomic analyzers, a nutrient analyzer, a bomb calorimeter, and a laser particle sorter. Microscopic resources include, among the usual assortment of compound and dissecting microscopes, scanning and transmitting electron microscopes and an atomic force microscope.

Several facilities were constructed for specialized functions, including a seawater system with two 2,000 gallon tanks, environmental chambers, aquarium room, a laser laboratory, and a greenhouse with five rooms with independent climate controls. Research and teaching collections include terrestrial and marine vertebrates, marine invertebrates, insects and an herbarium. A 16-foot research vessel is available for marine science investigations.

### 2010 Alan E. Leviton AAAS, Pacific Division Student Research Award Winner Announced

**ASHLAND, Oregon –** Michelle Berny, Department of Biomedical Engineering, Oregon Health and Science University, was recently announced as the winner of the 2010 Alan E. Leviton AAAS, Pacific Division Student Research Award competition. Ms. Berny was awarded a grant of $735 for her project, “Thrombin Interactions with Clots Formed under Shear Flow: The Role of γ′-Fibrinogen.” When contacted with the good news, Ms. Berny replied, “I am honored to be selected for the AAAS award. Thank you very much. I look forward to completing my research plan.” It is anticipated that the report of her studies supported by this grant will appear in the April 2011 Newsletter.

Don’t forget! Applications are being accepted through 1 May, 2011 for the 2011 Research Award competition. Additional information may be found at http://www.sou.edu/aaaspd/Students/StudentResearchGrants.html and also on page 3 of this Newsletter.

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and clicking on the appropriate links on the left of the page. Much thanks go out to the planners of this very fine exhibit, and especially to Michael Crane, Director of Southern Oregon University’s Schneider Museum of Art, who quickly joined in the vision of what this exhibit could be and provided seven on-campus venues, money, and staff to bring it to fruition. After the panel discussion was a reception hosted by the Schneider Museum of Art and the Pacific Division that took place in one of the venues for the art exhibit.

The technical program began Monday morning with several very interesting symposia: “Progress in Vaccine and Drug Development,” organized by Kenneth Cornell (Boise State University); “Science and Art Consilience,” organized by John Sollinger (Southern Oregon University); and the “Sixth Annual Symposium on Materials Science and Nanotechnology,” organized by Panos Photinos and Ellen Siem (Southern Oregon University) and Shamal Prasad (Arizona State University).

Additional technical programs on Monday included two contributed paper sessions and a poster session. Topics included in the contributed paper sessions were sponsored by the Pacific Division sections of Anthropology and Archaeology; Computer and Information Sciences; General and Interdisciplinary Studies; Health Sciences; Psychology; and Social, Economic and Political Sciences. Topics included in the poster session included those sponsored by the Pacific Division sections of Ecology, Organismal Biology, and Environmental Sciences; Earth Sciences; Science and Technology Education; and Health Sciences.

In between all of the above activities on Monday was the noon lecture, “Science Education for New Civic Engagements and Responsibilities (SENCER),” presented by Amy Schachter (Santa Clara University).

Monday evening saw Cristina Eisenberg (Oregon State University) present the fascinating plenary lecture, “Frontiers in Ecological Theory: The Role of Wolves as Keystone Predators,” in which she described her on-going studies of wolves and how they affect the ecosystems in which they live. Additional information on this subject and Ms. Eisenberg’s studies may be found in her newly published book, The Wolf’s Tooth: Keystone Predators, Trophic Cascades, and Biodiversity (Island Press, Washington, Covelo, London, 2010).

Ms. Eisenberg’s talk was followed by a very tasty reception hosted by Southern Oregon University President Mary Cullinan in the Schneider Museum of Art. Her very generous invitation to the Pacific Division to meet on the SOU campus made this part of the meeting possible, for which we owe her a tremendous debt of thanks, not only for hosting this reception, but hosting the entire meeting on the SOU campus.

Technical sessions continued Tuesday, with several more symposia: “Citizen Science: Integrating Biophysical and Social Realities in the Management of the Ashland Watershed,” organized by Mark A. Shibley (Southern Oregon University) and Marty Main (Small Woodland Services, Inc., Ashland, OR); New Humanities and Sciences Convergences: Science-Humanities Cross-Fertilizations,” organized by Robert L. Chianese (California State University Northridge) and Carl A. Maida (University of California Los Angeles); “Anthropological...”
My research explored the hypothesis that copper selectively damages neurons in the nematode, Caenorhabditis elegans. Using strains expressing green fluorescent protein (GFP) in either specific neuron types or in the excretory cell allowed me to observe any damage after copper exposure. My results clearly found that exposure to CuSO4 damaged particular neurons in a time and concentration dependent manner compared to the excretory cell, and induced paralysis at sublethal concentrations.

The strain of C. elegans with excretory cell GFP I used tended to select against GFP expression if the brightest animals were not selected every generation. Since the Wild M5 dissecting microscope I used to select worms lacked a fluorescence light system, I found another researcher’s plans for an inexpensive LED-based fluorescence illuminator for GFP. Unfortunately, inexpensive bandpass filters didn’t provide a sufficient signal-to-noise ratio for viewing excretory cell processes in the 1-mm nematodes. This problem was solved by placing a Chroma bandpass excitation filter between the LED and the sample, and a pair of bandpass emission filters in the eyepieces. I also moved the filters to a standard filter cube for imaging and scoring neurons with the Axioplan 2. Additionally, although the neurons I observed did not overlap gut autofluorescence, portions of the excretory cell near the gut were difficult to assess for damage while using a longpass filter, requiring the purchase of green GFP bandpass filters which blocked the yellow gut autofluorescence and permitted clear observation of excretory cell processes. The purchase of all of these bandpass filters, funded by the Alan E. Leviton Student Research Award, solved these problems and allowed me to finish my thesis research.

My observations revealed that neurons expressing dopamine and γ-aminobutyric acid (GABA) suffered similar copper-induced damage. However, the excretory cell resisted damage by a factor of seven compared to neurons. The concentrations at which 50% of the animals had excretory cell damage (EC50) were 7.02, 4.28, and 3.74 mM CuSO4 after exposure for 10, 12, and 14 hours; EC50 values for dopaminergic neurons were 0.94, 0.67, and 0.49 mM (Figure 1).

Animals paralyzed by copper were misidentified as dead by previous researchers. Live/dead testing with the cell-impermeant nucleic acid stain, SYTOX Orange, identified dead animals more accurately. Since cations interfere with dye fluorescence, SYTOX Orange was validated in animals treated with 2–32 mM CuSO4 before heat-killing; the highest usable copper concentration was 16 mM. Subsequent live-dead testing found fewer than 5% of animals died after copper treatment up to 16 mM for 14 hours (Figure 2). Therefore, the LC50 for CuSO4 is greater than 16 mM, approximately 25 times the EC50 for toxicity in neurons. The difference in toxicity for neurons versus the excretory cell refutes the claim that copper is not neurotoxic in C. elegans because the LC50 and EC50 are too similar for copper to be specifically neurotoxic.
The World Congress on Mummy Studies

The World Mummy Congress is an outgrowth of scientists involved in mummy studies who decided that an exclusive venue for such studies would benefit the Medical and Anthropological communities. To date, six World Congresses on Mummy Studies have been held:
1992 was the inaugural meeting, in Tenerife, the Canary Islands, Spain. More than 300 persons attended the event, which was organized in different parallel sessions: Guanche Mummies’ Bioanthropology, Paleopathology, Research Methods, Museology, Conservation, Mummification, and Free Communications. Participants attended the opening of the exhibit, “Mummies, the Secrets of the Past,” which featured mummies and related archaeological artifacts from the Canaries, Egypt, Colombia, Chile, Peru, Ecuador, Bolivia, the United States, and other parts of the world.
1995 moved to Cartagena, Colombia. More than 200 persons attended the meeting, which was organized in two parallel sessions that included the History of Research in Mummies, Palaeogenetics, Bioanthropology of Chinchorro Mummies, Mummies and Ancient Parasitism, Arctic Mummies, Medicine and Diet: The Mummy’s Perspective, Paleoimaging in Ancient Mummies, and Free Communications.
1998 the group met in Arica, Chile. Two hundred persons attended the symposia, which were arranged in a single sequence and included Mummy Paleopathology, the Study of Human Hair and Archaeology, Human Sacrifices in High Elevation Shrines, Clothing and Iconography of the Dead, Coprolites, Diet, and Parasitological Studies of Mummies, Animal Mummies, Mummies and DNA Studies, Archaic Mortuary Patterns in South America, Plants for the Dead, Syphilis in the Americas, Conservation of Human Mummified Remains, Contemporary Andean Mortuary Rituals, Mexican Mummies, and Free Communications.
2001 saw the meeting move to Nuuk, Greenland. Nearly 200 people attended the event, which was organized into one session divided into different symposia, including Greenland and Arctic Archaeology, Greenland and Arctic Mummies (a symposium in memory of Jens Pedersen Hart-Hansen), Mummification Methods, Bog Bodies, Hair in Archaeology, Conservation and Museology, Paleopathology, Applied Technology and Analytical Methods, Mortuary Archaeology, Mummies from Mount Llullailulaco (Argentina), and Free Communications. The attendees were also able to see the famous mummies from Qilakitsoq, at the Greenland National Museum.
2004 was in Torino, Italy. More than 200 attended symposia covering the topics of Applied Technology in Mummies, Paleopathology, Paleoparasitology, Methods of Mummification, Funerary Archaeology, Conservation of Mummies and Mummies in Museums, Frozen Mummies, Forensics, Tattoos, Hair and Teeth, Mummies and the Public, and a symposium drawing attention to specific developments around the world, in this case, Advances in Mummy Studies in Brazil. The highlight was the visit to the Egyptian Museum, with its incredible cache of artifacts and mummies.
2007 Lanzarote, Canary Islands, Spain. Some 300 attendees were present at symposia including Conservation of Mummies, Museums, Funerary Archaeology, Beliefs and Funerary Rituals, Problems about recovering mummified remains, Paleopathology and Parasitology, Applied Technology, Hair, and Paleodietics, Subadult Mummies, Mummies of Mexico, Mummies of Altamira Cave and High Mountain Archaeology, and Mummies in the Andes.

This 7th Congress is the first held in the United States. Having the venue in San Diego will focus attention upon ethical concerns about the study and handling of mummies. Ethical issues have always been discussed at the congresses, and probably no one better understands and respects these issues than Congress participants. These are the people who locate, excavate, handle, conserve, and study the mummies. But these issues are quite delicate in the US, due to the Native American Graves and Protection and Repatriation Act (NAGPRA) and the many political and judicial issues emphasized by Native American groups at both national and regional levels. As such, having the Mummy Congress in the US will be a chance to not only present scientific data for a larger community, but also to show that mummies are indeed handled with respect, and that these issues are taken seriously by all. This underscores the founding principle of the Mummy Congresses: that we learn so much about ourselves, our ancestry, and our cultural history by investigating mummies.

The 8th Congress is planned for Rio de Janeiro in 2013. The venue will be FIOCRUZ (Fundación Oswaldo Cruz) at the Escola Nacional de Saúde Publica (National School of Public Health).
This research award was used to analyze samples and gain preliminary results that will determine the direction of my thesis project. Nutrient analysis is an important part of my thesis project and it is also a costly component. This research award enabled me to submit preliminary samples and determine the progress of my experimental research. Establishing nutrient compositions in nitrogen manipulated eelgrass will help solidify my hypothesis, that excess nutrients in an eelgrass ecosystem impact all trophic levels by increasing algae biomass, grazer populations, while simultaneously decreasing eelgrass robustness.

This research was composed of two laboratory experiments, each of which was enhanced with nutrient additions. Eelgrass plants were grown under varying conditions in these nutrient enhanced environments. In order to detect differences between treatments, plants and their rhizomes had to be analyzed for carbon, hydrogen, and nitrogen content. Below are graphs depicting these elemental percentages. Figure 1 depicts the carbon/nitrogen ratios for eelgrass above-ground tissues. The sample size analyzed is too low to calculate standard error, which would indicate if there are significant differences between treatments. However, the graph does show subtle differences between treatments, indicating that further analysis may reveal treatment differences. Figure 2 depicts eelgrass rhizome nutrient content between treatments.

**Figure 1.** Carbon/nitrogen ratios for eelgrass above-ground.

**Figure 2.** Carbon/nitrogen ratios for eelgrass rhizomes.

After 19 April, higher registration fees will be charged: full-meeting professional, $105; program planners/presenters, $75; K-12, community college teachers, post-docs, and retirees/emeritus, $52.50; students and unemployed persons, $40; and participating spouses/family members, $35. One-day professional registration during this period is $75. Advance registration closes on 31 May. All requests for advance registration must be received in the Pacific Division office by this date to avoid the higher on-site fees. Beyond 31 May, on-site registration will be charged for both pre-meeting and on-site registrations. On-site registration fees for the full meeting will be: professional, $120; program planners/presenters, $85; K-12, community college teachers, post-docs, and retirees/emeritus, $60; students and unemployed individuals, $50; and participating spouses/family members, $40. One-day on-site professional registration will be $85. Note that if you attend more than one day, you must pay the full registration fee.

The first twenty K–12 and community college instructors that register in advance for this meeting will receive, upon request, a $75 stipend to help defray their expenses to attend the meeting. The stipend is not available to teachers who register on-site. Note that
“Attending the AAASPD conference this year was tremendously beneficial for me; for the first time I was able to become acquainted with what it feels like to present a poster presentation. This conference also presented topics that I am not familiar with. This conference also presented me with the opportunity to attend informative lectures that were able to open me up to a new way of thinking.”

—Autumn Nailes

University of California Los Angeles

to receive the stipend you must check the appropriate box on the Advance Registration Form.

Students have the opportunity to apply for travel awards to help defray their costs for the meeting. See page 3 of this Newsletter for additional information.

Field trips: Pre-registration for all field trips is required due to limited seating in the vehicles and the need to inform some destinations of the number 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. Participants who are not registered for the meeting will be charged a one-time $10 field trip registration fee in addition to the fee for the field trip.

Please send your Advance Registration Form and accompanying payment to AAAS Pacific Division, Southern Oregon University, 1250 Siskiyou Blvd., Ashland, OR 97520. Alternatively and with a credit card, you may phone (541-552-6869) or fax the information (541-552-8457 – a dedicated fax line).

**PLEASE NOTE:** Requests for refunds must be in writing and received in the Pacific Division office no later than 19 May 2011. A $15 handling fee will be applied. An additional 3.5% deduction will be applied to the total amount for credit card refunds. No refunds will be granted after 19 May.

**CAMPUS HOUSING FOR MEETING REGISTRANTS**

Meeting registrants who chose to stay on campus will be housed in Founders Hall. Founders Hall was originally built as the San Diego College of Women. The residence rooms are located on the second floor, offering most of the rooms views of beautifully landscaped courtyards. In Founders Hall you will find typical dorm rooms, with one or two residents per room. Each resident is provided a twin bed, chest of drawers, desk and desk chair and most of the rooms have parquet flooring. Rooms have wireless internet access. Showers and restrooms are located in typical dorm fashion, down the hall. Laundry rooms and vending machines are available. A lounge with cable TV and computers is located in the hall. The University Alcohol Policy designates Founders as a no alcohol living area regardless of age or class status.

If you are an individual and would like to request double housing, we will be pleased to assign you a same gender roommate. Please be sure to note this on your housing application form.

**Room/board charges:** The basic housing package includes the nights of Sunday, Monday and Tuesday, 12 – 14 June. Additional nights on either side of the three night package may also be purchased individually, allowing one to stay on campus from Friday, 10 June until Saturday, 18 June. Each night includes an $8 food credit to be spent on campus at any of the eateries, such as Bert’s Bistro, La Paloma, La Gran Terraza, Pavilion Dining, Aromas, etc.

**Cost of three night housing package (includes $24 on-campus food credit):**

- **Double:** $183 per person
- **Single:** $234

**Cost of additional nights on either side of the three night package (includes $8 on-campus food credit per night):**

- **Double:** $61 per person per additional night
- **Single:** $78 per additional night

**Parking for those staying on campus:** The cost of parking is $3.00 per day, and can be purchased at the time you request your housing (see housing form on page 34 of this Newsletter.)

**LOCAL HOTELS AND MOTELS**

San Diego boasts many fine hotels of all qualities, many of which can be accessed for reservations through websites such as expedia.com or hotels.com.

The three hotels listed below have entered into agreements with the Pacific Division to provide meeting attendees special rates and benefits. If you choose to stay at one of these establishments, please make your reservations directly with the hotel of your choice. The listings are in order of proximity to USD and not in order of any preference on the part of the Pacific Division. Note that taxes (currently 12.5%) will be added to the listed room rates.

**Hampton Inn San Diego Airport/Sea World**

**Address:** 3888 Greenwood Street, San Diego, CA.

**Telephone:** 619-299-6633.

**Website:** Hamptoninn.hilton.com/en/hp/hotels/index.jhtml;jsessionid=0LQTH1YJIB2TYCSGBJF222Q?ctyhocn=SANGWHX

**Rate:** $92 (1 to 4 persons); to get this rate, identify yourself as attending the AAAS, Pacific Division meeting at the time you call.

**Dates available:** 11 June – 16 June (plus three days before and after, depending on availability).

**Cut-off date for reservations:** 21 May 2011

**Proximity to meeting:** 2.2 miles

**Amenities:**

- complimentary hot breakfast
- complimentary parking
- complimentary high speed internet
- complimentary airport shuttle

**Days Hotel**

**Address:** 543 Hotel Circle South, San Diego, CA

**Telephone:** 1-800-227-4743 or 619-297-8800

**Website:** www.dayshotelhc.com

**Rate:** $79 (1 to 4 persons); identify yourself as part of the American Association for the Advancement of Science (AAAS) meeting at the time you call to get this rate.

**Dates available:** 11 June – 17 June (plus three days before and after, subject to availability).

**Cut-off date for reservations:** 11 May 2011

**Proximity to meeting:** 3.3 miles

**Amenities:**

- complimentary airport shuttle (6:00 a.m. – 10:00 p.m. by calling 619-297-8800 from the baggage claim area
- complimentary overnight parking
- complimentary continental breakfast for up to 4 people per room
- complimentary shuttle service (limited basis) to and from USD campus

continues on page 17, left column

E-mail us at aaaspd@sou.edu
With the generosity of the AAAS Pacific Division Alan E. Leviton Student Research Award, I was able to travel to French Guiana between February 19 and March 2010. While there, I worked on arboreal ant gardens made by the ant species *Camponotus femoratus* and *Crematogaster levior*. These two ant species share nest space and foraging trails in a reputedly mutualistic relationship known as parabiosis. Their nests are biologically diverse (see attached images), and contain epiphyte plant species of several families, as well as the two parabiotic ants *Camponotus femoratus* and *Crematogaster levior*, and an unidentified *Solenopsis* spp., which is a suspected nest parasite. My dissertation research investigates the relationships between the parabiotic ant partners.

I pursued two main projects while working on these ant gardens near the villages of Roura and Kaw in French Guiana. The first project was to collect behavioral data on the nestmate recognition processes of the ants living within the shared nests. I made 340 behavioral observations from 18 colonies, collecting intra- and inter-specific recognition behaviour within and between colonies. Preliminary analysis of these results suggests that both *C. femoratus* and *C. levior* are able to distinguish nestmates from non-nestmates of the same species, but behave in a neutral way to ants of the other species, regardless of origin. This is consistent with behavioural observations of these ants in Peru (Youngsteadt et al., manuscript in prep). These results contrast with a different parabiotic system in SE Asia, which showed interspecific recognition (Menzel et al. 2008).

The second project I worked on was to feed nitrogen isotope (¹⁵N) enriched food to either both species or only to the smaller *C. levior*, to track the movement of nutrients between the ant species and their respective nest plants. This would confirm anecdotal reports of trophollaxis (liquid food sharing) between the species, and determine whether they contribute equally to the nutrition of plants within the nest. Unfortunately, the tenacious *C. femoratus* bit through several of the exclusion feeders. I plan to repeat this experiment, tracking also carbon isotopes, and evaluating differences in foraging behaviors for proteinacious and carbohydrate based food.

I also collected cuticular hydrocarbon (CHC) extracts from *C. femoratus* and *C. levior*. Cuticular hydrocarbons are often used as nestmate recognition cues, and I am curious about whether there are substances that are shared between the nest inhabitants, as occurs with social parasites and myrmecophiles (non-ants living within ant colonies). I will also be investigating genetic relationships between nest inhabitants, and have material for these CHC and genetic comparisons from more than 25 colonies and >100 nests.

While in French Guiana, I also was able to meet and discuss with local collaborators, and was especially grateful for the help of Alain Dejean, Jérôme Orivel and Céline Leroy. I will be returning to French Guiana in the summer of 2010 to finish collecting behavioral data, and to expand the geographic scope of my genetic and chemical collections. Funding from the AAAS has made this first foundational field research possible. Thank you very much!
Approaches to Environmental Change,” organized by Stephen R. Frost and Frances J. White (University of Oregon); and “Ecotoxicology and Environmental Protection,” organized by Christine Oswald (Southern Oregon University).

Additional technical sessions on Tuesday included two contributed paper sessions (sponsored by the Pacific Division sections of Cell and Molecular Biology; Chemistry and Biochemistry; Ecology, Organismal Biology and Environmental Sciences; and Science and Technology Education) a poster session (sponsored by the Pacific Division sections of Agriculture and Horticultural Sciences; Cell and Molecular Biology; Chemistry and Biochemistry; Industrial Science and Technology; Physics and Materials Science; Psychology; and Social, Economic and Political Sciences), and a workshop, “Science Education for New Civic Engagements and Responsibilities (SENCER),” organized by Amy Shachter and Stephen Carroll (Santa Clara University). Sandwiched among all of these sessions was the noon public lecture, “The Art of Biology and the Biology of Art: High Tech High Presentation of Learning,” by Jay Vavra (High Tech High, San Diego, CA).

Tuesday evening was the Student Awards Banquet. The evening began with a reception hosted by the Pacific Division. Following a grand dinner of Vegetarian Lasagna, Broiled Salmon, and Roast Top Round of Beef, the winners of the student Awards of Excellence were presented (see page 16 and following of this Newsletter for details), followed by a very interesting talk by John Hafernik (San Francisco State University), President of the Pacific Division, entitled “Restoring the Urban Jungle: If You Build It Will They Come?” A full transcript of Dr. Hafernik’s talk may be found in this Newsletter starting on page 7.

The occasion of the awards banquet always brings together old friends. This evening was no disappointment, with no fewer than seven past, present and future presidents of the Pacific Division – Alan E. Leviton (98/99), John J. Carroll (02/03), Carl A. Maida (06/07), Terrence M. Gosliner (07/08), Anne A. Sturz (08/09), John Hafernik (09/10), Alissa J. Arp (10/11) – in attendance.

One of the more touching moments of the evening was the announcement of the passing of J. Thomas Dutro, a long-time supporter of the Division and its activities. Please turn to page 5 in this Newsletter to read a tribute to him.

Technical sessions continued on Wednesday with the following symposia: “Forensic Science: A Balance of Art and Science,” organized by Mary Carrabba (Southern Oregon University); “Wildlife Forensics,” organized by Peter Schroeder (Southern Oregon University); and “Defended by Poets: The Role of Art in Communicating Climate Change in Our National Parks,” organized by Leigh Welling (National Park Service Climate Change Response Program, Fort Collins, CO). Additional programs included two workshops: “Science and Religion: A Philosophical Look at Issues and Approaches,” organized by Prakash Chenjeri (Southern Oregon University) and “Geometry as a Design Tool,” organized by Rochelle Newman (Professor Emerita, Northern Essex Community College, Haverhill, MA).

In addition to the technical program, meeting attendees enjoyed several field trips. On Sunday, attendees had the opportunity to tour several Rogue Valley and Applegate Valley wineries on the field trip, “Winemaking in the Rogue and Applegate Valleys, Southern Oregon,” organized by Steven Petrovic (Southern Oregon University). Wednesday brought the opportunity to tour Oregon Caves National Monument with Christine Oswald and Carol Ferguson (Southern Oregon University) on the field trip, “Endemics of Oregon Caves National Monument.” On Thursday, two field trips departed in opposite directions. Those interested in learning about some of the serpentine geology and the botanical diversity that accompanies it in southern Oregon drove northwest to the Illinois Valley on the excursion, “Serpentine Geology and Botanical Diversity of Eight Dollar Mountain and the Illinois River Valley, Southern Oregon,” organized by Michael Parker and Frank Lang (Southern Oregon University), while those more interested in the volcanics of northern California drove south to Mount Shasta on the field trip, “Geology of Mount Shasta,” organized by Robert Christiansen (USGS retired, Menlo Park, CA). No matter in which direction the vans headed or on what day people traveled, the field trips were universally enjoyed by the participants. Everyone returned from their field trips tired but enthusiastic! Thank you, field trip planners and leaders!

No trip to Ashland would be complete without the opportunity to see a play or two by the Oregon Shakespeare Festival. Meeting attendees were offered the choice of three plays: Cat on a Hot Tin Roof, Hamlet, and Henry IV, Part One. Many attendees took advantage of these opportunities, with 80 play tickets being reserved.
# DARWIN AND THE GALÁPAGOS

A Symposium held on the Occasion of the 200th Anniversary of the birth of Charles Darwin and the 150th Anniversary of the publication of the *Origin of Species*

August 14-15, 2009

and sponsored by

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

Arranged and edited by

Michael T. Ghiselin and Alan E. Leviton

*California Academy of Sciences*

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**Price:** $35 (includes shipping and handling; California residents add $2.89 sales tax)

Inquiries: Scientific Publications • California Academy of Sciences • 55 Music Concourse Drive • San Francisco, CA 94118
DIVISIONAL STUDENT
PRESENTATION AWARDS

Laurence M. Klauber Award: Natasja Swartz (Department of Chemistry, Portland State University, Portland, OR), “Use of X-Ray Microanalysis and Infrared Microspectroscopy for Multianalytical Characterization of the Walters Codex, an Ethiopian Manuscript.”

Geraldine K. Lindsay Award in the Natural Sciences: Derek B. Nowak (Department of Physics, Portland State University, Portland, OR) “Apertureless Near-field Two-Photon Fluorescence Imaging with Continuous Wave Excitation.”

Best Poster Award: Rebecca A. Parker (Interdepartmental Program in Neuroscience, University of Utah, Salt Lake City, UT) “Micro-electrode Array Impedance as a Measure of Local Environment and Effects of Micro-stimulation.”

Presidents Award: Daniel Coleman (Department of Pharmaceutical Sciences and Molecular and Cellular Biology Program, Oregon State University, Corvallis, OR) “Effect of Solar UV Radiation and Nuclear Receptor Signaling in Keratinocyte and Melanocyte Homeostasis.”

J. Thomas Dutro, Jr. Award in the Geosciences: Michael S. Toma (Department of Geology, Eastern Washington University, Cheney, WA) “A New Kungurian Dyscritellid from the Kaibab Limestone of Southern Nevada.”

Rita W. Peterson Award in Science and Technology Education: Miao Gao (Department of Biological Sciences, Central Washington University, Ellensburg, WA) “Using Inquiry to Foster Student Critical Thinking and Content Knowledge in Undergraduate Fundamental Biology.”

AAAS – Robert I. Larus Travel Award: Natasja Swartz (Department of Chemistry, Portland State University, Portland, OR), “Use of X-Ray Microanalysis and Infrared Microspectroscopy for Multianalytical Characterization of the Walters Codex, an Ethiopian Manuscript.”

SECTIONAL STUDENT
PRESENTATION AWARDS

Anthropology and Archaeology
FIRST PLACE: Melissa Liebert (Department of Anthropology, University of Oregon, Eugene, OR) “Effects of Market Integration on Blood Pressure, Glucose, Cholesterol and Triglyceride Levels in an Indigenous Lowland Ecuadorian Population.”

Cell and Molecular Biology
FIRST PLACE: Daniel Coleman (Department of Pharmaceutical Sciences and Molecular and Cellular Biology Program, Oregon State University, Corvallis, OR) “Effect of Solar UV Radiation and Nuclear Receptor Signalling in Keratinocyte and Melanocyte Homeostasis.”
SECOND PLACE: Charles Morgan (Graduate Group in Chemistry and Chemical Biology, University of California, San Francisco, CA) “A Novel Method for Interrogating Loss of Function in Apoptosis.”
THIRD PLACE: Cheri Lamb (Department of Biological Sciences, Boise State University, Boise, ID) “Interaction Between Ah Receptor and Stat1 Proteins During Cell Cycle Progression.”

Chemistry and Biochemistry
FIRST PLACE: Natasja Swartz (Department of Chemistry, Portland State University, Portland, OR), “Use of X-Ray Microanalysis and Infrared Microspectroscopy for Multianalytical Characterization of the Walters Codex, an Ethiopian Manuscript.”

Ecology, Organismal Biology and Environmental Sciences
FIRST PLACE: Sean Hitchman (Department of Marine and Environmental Sciences, University of San Diego, San Diego, CA) “Age-Specific Association with Potential Adult Habitat in Larval Bocaccio, Sebastes paucispinis, in the Southern California Bight.”
SECOND PLACE: Susan Roe-Andersen (Department of Biology, Southern Oregon University, Ashland, OR) “Ecology of Alpine and Subalpine Populations of Botrychium pumicola (Pumice Moonwort), a Rare Cascade Range Endemic Fern.”
THIRD PLACE: Marshall Olson (Department of Marine and Environmental Sciences, University of San Diego, San Diego, CA) “Analysis of the Spatial and Temporal Distributions of Dolphinfishes (Coryphaena hippurus and C. equiselis) in the Eastern Pacific Ocean.”

Health Sciences
FIRST PLACE: Rebecca A. Parker (Interdepartmental Program in Neuroscience, University of Utah, Salt Lake City, UT) “Micro-electrode Array Impedance as a Measure of Local Environment and Effects of Micro-stimulation.”
SECOND PLACE: Denise Robles and Monique Belin (California Endowment Pipeline Program, School of Dentistry, University of California, Los Angeles, CA) “Demographic and Behavioral Factors and Active Caries in a National Sample.”

Combined Sections of Physics and Materials Science and Industrial Science and Technology
FIRST PLACE: Derek B. Nowak (Department of Physics, Portland State University, Portland, OR) “Apertureless Near-field Two-Photon Fluorescence Imaging with Continuous Wave Excitation.”
continued from page 12, right column

The Dana on Mission Bay
Address: 1710 W. Mission Bay Drive, San Diego, CA
Telephone: 1-800-445-3339 or 619-222-6440
Website: www.thedana.com
Rate: $129 (1 – 4 persons); identify yourself as part of the American Association for the Advancement of Science Pacific Division at the time you call to get this rate; if booking on-line, click on the “Groups” tab and enter the following Attendee Code: 0611AMA-SAS.
Dates available: 11 June – 16 June (plus three days before and after, subject to availability).
Cut-off date for reservations: 12 May 2011
Proximity to meeting: 4.5 miles
Amenities:
• on Mission Bay, next to Sea World
• not so close parking free; close parking $16/night
• complimentary continental breakfast (coffee, tea, juice, pastries, fruit)
• complimentary computer kiosk in hotel lobby (high speed internet $9.99 per day in room)

Travel to University of San Diego

By Automobile from the North: Use I-5 South, exit Sea World Dr. and Tecolote Rd. Proceed left at stoplight toward Morena Blvd. Turn right onto Morena, left onto Napa, and left onto Linda Vista Rd.
• If you are coming onto campus for the meeting, turn left at the first stoplight, into USD’s west entrance. Proceed past the guard booth to the left turn into the West Marian Way Parking structure, number 2 on the campus map found on page 39 of this Newsletter. The parking fee will be announced in the April Newsletter. Trams regularly transport people to the top of the hill and the Kroc Institute for Peace and Justice (IPJ), where the Registration Center is located. Alternatively, you can walk the hill, but it could be a strenuous hike. To let someone off at the top, pass the turn into the parking structure and follow the road to the second stop sign. Turn right and pull up in front of IPJ, by the La Paloma food bar. You can then retrace your route back down the hill and turn right into the parking structure.
• If you are going to your on-campus housing in Founders Hall, turn left at the first signal and follow the above directions to the top of the hill. Founders Hall is located on the left side of Marian Way, past IPJ. You can park your automobile near Founders Hall for unloading before parking in the West Marian Way Parking. The parking fee will be announced in the April Newsletter.

By automobile from the South (or the airport): Use I-5 North, exit Morena Blvd. (signs will say: Morena Blvd. use I-8 East). Stay to the right and follow the signs for Morena Blvd. Once on Morena, take the first right onto Linda Vista Rd.
• If you are coming onto campus for the meeting, turn left at the second stoplight, into USD’s west entrance and follow the directions in the third paragraph above this.
• If you are going to your on-campus housing in Founders Hall, turn left at the second signal and follow the directions in the third paragraph above this.

By Automobile from the east: Use I-8 West, exit at Morena Blvd., turning right. Once on Morena, aekt the first right onto Linda Vista Rd. and follow the directions above under “By Automobile from the South.”

By Air: San Diego is served by several major carriers. The airport is about a ten minute taxi ride from campus. Expect to pay about $15.00 for the taxi fare. Alternatively, you can rent a car at the airport and follow the above directions to USD.

On-Campus Parking
On-campus parking will be available in the West Marian Way Parking. Costs will be announced in the April Newsletter. Persons staying on campus in Founders Hall should plan on parking in the West Marian Way Parking (#2 on the campus map, page 39 of this Newsletter).

Registration Center
The Registration Center will be set up in the lobby of the Joan B. Kroc Institute for Peace and Justice building (see #12 on the campus map, page 39 of this Newsletter). Hours of operation are expected to be as follows, though these may change. Check the April Newsletter or web site for updated information.

Sunday: 2:00 p.m. – 6:00 p.m.
Monday: 7:30 a.m. – 4:30 p.m.
Tuesday: 7:30 a.m. – 4:00 p.m.
Wednesday: 7:30 a.m. – 4:00 p.m.
Thursday: 7:30 a.m. – 3:00 p.m.

Meeting Rooms
This year’s technical sessions will meet primarily in the Joan B. Kroc Institute for Peace and Justice (#12 on the campus map, page 39 of this Newsletter), but may also make use of rooms in the Shiley Center for Science and Technology (#17 on the campus map on page 39 of this Newsletter) and Camino Hall, location of the Shiley Theater (#16 on the campus map on page 39 of this Newsletter). Parking structures are numbers 2 (West Marian Way Parking – closest to meeting site) and 48 (Mission Parking– much further from the meeting site). All meeting rooms are expected to be equipped with LCD projectors and computers running Windows XP and Microsoft Office 2007. Speakers requiring other specialized equipment such as slide or overhead projectors must make their requests known when they submit their abstracts. If available, specialized equipment will be provided. If rental costs are incurred, payment will be the responsibility of the requestor. The meeting rooms and times of presentations for the program will be published in the “Program with Abstracts” issue of the Proceedings (Vol. 30, part 1), which will be given to those who register for the meeting. Speakers may obtain final confirmation of the time and place of their presentation by visiting the Pacific Division web site (pacific.aaas.org) starting no later than 1 June 2011. Symposium planners will provide this information to their presenters in advance of this date.

Visit us at http://pacific.aaas.org Page 17
SECOND PLACE: Gaurav Chatterjee (Department of Electrical, Computer and Energy Engineering, Arizona State University, Tempe, AZ) “Biogenic Silica Incorporated Bio Sensors for Ultra Sensitive Protein Detection.”

THIRD PLACE: Autumn Nailes (Howard Hughes Medical Institute Pre-College Science Education Program, UCLA School of Dentistry, University of California, Los Angeles, CA) “Room Temperature Nucleic Acid Storage Technology and Sustainable Practice by Scientific Laboratories.”

Combined Sections of Psychology, Science and Technology Education, and General and Interdisciplinary Studies
FIRST PLACE: John Clevenger (Department of Philosophy, California State University, Long Beach, CA) “The Counter-Intuitive Disharmony of Intuition Research in the Cognitive Sciences.”
SECOND PLACE: Miao Gao (Department of Biological Sciences, Central Washington University, Ellensburg, WA) “Using Inquiry to Foster Student Critical Thinking and Content Knowledge in Undergraduate Fundamental Biology.”

EXECUTIVE COMMITTEE AND COUNCIL MEETINGS

The Division’s Executive Committee met on Saturday, 12 June. At the meeting, chaired by Division President Dr. John Hafernik, Dr. Roger G. Christianson, Pacific Division Executive Director, reported on Division activities that occurred since the last Executive Committee meeting and also reviewed Division finances. Final plans for the Ashland meeting were discussed, as were preliminary plans for the 2011 meeting in San Diego, CA and the 2012 meeting in Boise, ID. The Executive Committee also reviewed recommendations of the Presidential and Council Nominating Committees, urging Dr. Terry Gosliner, chair of the Council Nominating Committee, to forward his committee’s recommendations for two Executive Committee positions and two Council at-large positions to the full Council for nomination. The Executive Committee also voted unanimously to forward the name of Dr. Robert L. Chianese (California State University Northridge, retired) to the Council for nomination as President-elect of the Division.

The Council met over breakfast on Wednesday, 16 June to consider various recommendations from the Executive Committee and other business of the Division. The Council acted favorably on the nomination of Dr. Robert L. Chianese (Department of English, California State University Northridge, Northridge, CA) for President-elect during the 2010/2011 fiscal year. The Council also acted favorably on the recommendation of the Council Nominating Committee to elect Drs. Cheryl L. Jorcyk (Department of Biology, Boise State University, Boise, ID) and Kimberly D. Tanner (Department of Biology, San Francisco State University, San Francisco, CA) to three-year at-large positions on the Council. Additionally, the Council elected Drs. Terry Gosliner (California Academy of Sciences, San Francisco, CA) and Matthew James (Department of Geology, Sonoma State University, Rohnert Park, CA) to five-year terms on the Executive Committee. In addition, the Council discussed logistical details and programming for the upcoming 2011 and 2012 meetings of the Division, received financial reports from the Executive Director, and transacted other business required of it by the by-laws.
COMPUTERS AND POWERPOINT PRESENTATIONS

Meeting rooms at the University of San Diego are expected to be outfitted with computers running Windows XP and PowerPoint 2007, connected to standard data projectors. If you are planning to use PowerPoint for your presentation, you must make sure that it will run on the Windows platform. Only CD-ROMs and thumb/USB/flash drives may be used to load presentations onto the computers. If you are preparing your presentation on a Macintosh computer, make sure it will load to a computer running Windows XP.

CALL FOR PAPERS AND ABSTRACTS

Members of AAAS and its affiliated societies, students, teachers, and other scientists are encouraged to participate in the annual meeting by presenting papers. Those wishing to present an oral or poster paper at one of the sessions should follow the instructions on page 32 of this Newsletter (Call for Papers and Abstracts) and submit their abstracts via e-mail as Microsoft Word attachments to the chair (and co-chair) of the appropriate Society or Pacific Division Section and also to the Pacific Division office. See page 28 of this Newsletter for the list of societies and sections and their chairs/co-chairs. Be sure to include the word ABSTRACT and your last name in the subject line of the e-mail submission and don’t forget to also copy the Pacific Division office (rchristi@sou.edu) on all submissions. Doing this will ensure that you will receive an automatic e-mail reply confirming your submission. Please note: the deadline for receipt of abstracts is 19 April 2011. Submissions will be given their final reviews in late April, with decisions regarding acceptance being sent via e-mail shortly thereafter. If you would like to discuss your submission with the chair of the section to which you are submitting it, please refer to page 28 of this Newsletter for the list of contact information. If your abstract contains special characters, fax a printed copy with the special characters clearly marked and notations indicating the font used to the Pacific Division office, 541-552-8457, in addition to submitting it via e-mail.

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, each winner is a one-year student membership in AAAS, which includes weekly issues of Science magazine. Societies often supplement these awards with their own cash prizes.

In 2011, seven Division-wide awards may be 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 will provide a reimbursement for travel and other meeting related expenses up to $750 for the awardee to attend the national meeting of AAAS in Vancouver, British Columbia, 16 – 20 February 2012 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 for a sectional award or one of the Division-wide awards, a student must be registered for the meeting prior to judging, 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 meeting web page (http://associations.sou.edu/aaaspd/2011SANDIEGO/index.html). Students who are eligible for Awards of Excellence are invited to be guests of the Division at the annual Banquet Tuesday evening, 14 June. 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.

IMPORTANT NOTE: All judging for student awards ends by 3:00 p.m. on Tuesday, at which time the judges go into closed session to determine the winners. If you are a student wishing to compete for an Award of Excellence and your oral symposium presentation is scheduled to end later than 3:00 p.m. Tuesday, you must, in addition to presenting orally as part of the symposium, prepare a poster for presentation at a poster session earlier in the week. That way your presentation will be judged and you will be in the pool of potential prize winners. This may only occur if your presentation is part of a symposium. All oral contributed paper sessions are scheduled to ensure that student presenters are judged prior to the cut-off on Tuesday afternoon.

SPECIAL EVENTS

The following special events are planned for the meeting.

Sunday Evening Plenary Lecture. “Evolution of Biopsychosocial Networks in Humans,” presented by Ishiro Nishimura (School of Dentistry and Medicine, University of California Los Angeles, Los Angeles, CA).

Sunday Evening Welcome Reception. Immediately following the plenary lecture, and hosted by the Pacific Division and its affiliated societies and sections, all registrants and their families are invited to enjoy the conviviality of this event on 12 June, starting about 8:00 p.m. and running to 9:15 p.m. A selection of soft drinks, chips, pretzels and good conversation will be available. Please wear your registration badge.

Monday Evening Plenary Lecture. TBA

Monday Evening President’s Reception. 13 June at 8:00 p.m. University of San Diego President Mary Lyons will welcome conference attendees at an informal hosted reception from 8:00 p.m. – 9:15 p.m. All registrants and their families are invited to enjoy this relaxed occasion. Non-registered family members are welcome, but must be accompanied by a registrant. Please wear your registration badge.

Tuesday Evening Student Awards Banquet. Tuesday evening will be an exciting time for students as Division representatives will announce the names of student winners of sectional 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
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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.

The evening is planned to begin at 6:15 p.m. with a reception. Dinner service will begin about 7:00 p.m. After dinner will be the presentation of student awards, followed by the Presidential Lecture, presented by Dr. Alissa Arp (Dean, College of Arts and Sciences, Southern Oregon University and President of the Pacific Division). The evening should end by about 9:30 p.m.

Banquet attendees can choose between three entrées: Gnocci, Black Cod and Osso Buco Milanese. The Gnocci is a vegetarian offering, made of large pasta shells that almost resemble dumplings and covered with asparagus tips, artichokes and sun dried tomatoes in a cream sauce. The Black Cod is served on a bed of borlotti bean ragout infused with thyme and preserved lemon. The Osso Buco Milanese is a cross-cut veal shank, served with vegetables and broth. All entrées will come with a baby spinach salad, fresh vegetable, Chef’s choice of starch, butter and rolls, coffee, tea, iced tea and water. Dessert will be New York cheesecake, topped with vanilla Anglaise and seasonal berries. Please note that details may change as we approach the banquet date. If a substitution must be made, every effort will be made to assure that the replacement is comparable to that which is listed above. Banquet tickets are $40 each and may be purchased on the Advance Registration Form (see page 35 of this Newsletter). The deadline for ordering banquet tickets is 31 May 2011, the close of advance registration for the meeting.

Students in competition for Awards of Excellence are invited to be guests of the Division for this event. Be sure to check the appropriate box on the Early Registration Form (see page 35 of this Newsletter) indicating your plans to attend and you will be provided a ticket at no cost. Note that if you request a complimentary ticket we expect you to attend the banquet. Please don’t dishonor the Division’s generosity in offering you this opportunity to fully participate in the meeting with minimal out-of-pocket expenses by asking for a ticket and then not showing up!

Wednesday Morning 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, 15 June. The Council will elect officers, Executive Committee and Council members, discuss programs for the 2012 and 2013 annual meetings, and transact such other business as is required by the Division’s By-Laws. This is an open meeting and Pacific Division members with an interest in the governance of the Division are invited to attend.

PUBLIC LECTURES

The following public lectures are planned. Additional ones may be scheduled as time permits. All members of the public are invited to attend these lectures at no charge (except for the Presidential Lecture, for which there is a charge to attend the banquet—see “Tuesday Evening Student Awards Banquet” in the preceding section of this Newsletter).

Sunday Evening Plenary Lecture. 12 June, 7:00 p.m. “Evolution of Biopsychosocial Networks in Humans,” presented by Ishiro Nishimura (School of Dentistry and Medicine, University of California Los Angeles, Los Angeles, CA).

Monday Evening Plenary Lecture. 13 June, 7:00 p.m. To be announced.

Tuesday Evening AAAS, Pacific Division Presidential Lecture. Following the presentation of student awards at the Student Awards Banquet, Dr. Alissa Arp (Dean of the College of Arts and Sciences, Southern Oregon University, Ashland, OR and President of the Pacific Division) will present the Presidential Lecture.

Noon Public Lecture. H.J.S. Fernando (Civil Engineering and Geological Sciences, and Aerospace and Mechanical Engineering, University of Notre Dame, Notre Dame, IN) will talk about tsunamis and storm surges, referring to the Indian Ocean Tsunami, Hurricane Katrina and the sustainability of communities.

Please watch the Pacific Division web site for updates on these and other lectures as they are added. An updated schedule will also appear in the April Newsletter.

FIELD TRIPS

All field trips are open to meeting registrants and their families. At least one member of a group must be registered for the meeting. Unregistered family members will be charged an additional one-time-only $10 field trip registration fee. This fee is paid only once for this meeting, regardless of how many field trips a non-registrant participates in.

Due to limited space, advance registration is required for all field trips. Reservation and payment of field trip fee(s) are included on the Advance Registration Form (see page 35 of this Newsletter).

A full refund will be granted if a trip is cancelled by the Division. If a registrant cancels via e-mail or written notification received in the Pacific Division office no later than 19 May 2011, the registrant will receive a refund of the fee(s) paid less a $15 processing fee. If paid by credit card, an additional 3.5% of the original charge will be deducted from the amount being refunded to help pay for fees charged to the Division by credit card companies. With the exception of the Division cancelling a field trip, no refunds will be granted after 19 May.

(1) Sunday, 12 June: 10:00 a.m. – 4:00 p.m. San Diego Coastal Geology and Hazards. Organized by Elizabeth Baker Treloar and Eric Cathcart (Department of Marine and Environmental Sciences, University of San Diego, San Diego, CA), this three-quarter day event is designed to provide an introduction to the geology and hazards of the San Diego area. The tour will include visits to a variety of sites, including beaches, tidepools, and coastal bluffs.

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field trip along the beautiful San Diego coastline will focus on the sedimentary rocks that record 65 million years of geologic events. The Rose Canyon Fault Zone, the geologic hazards of the coastal region, and the potential threat of the southern San Andreas Fault will be addressed.

The Field trip will stop first at Mount Soledad in La Jolla, then progress south to Sunset Cliffs in Point Loma, and finish with a stop at scenic Cabrillo National Monument.

Weather can be cool and foggy on the coast, so plan to bring a jacket or, even better, layer your clothing. Tidepools at Cabrillo Rocks can be wet and slippery, so be sure to wear good shoes—no heels or flip flops!

Includes transportation, field guide, and box lunch. Cost: $70.

(2) Thursday, 16 June: 9:30 a.m. – 3:30 p.m. Come See the Wonders of the Fairs: A Walking Tour. Organized by Don Larson and Tammy Lau (Madden Library, California State University Fresno, Fresno, CA; tammyl@csufresno.edu), this walking tour of the remnants of San Diego’s world’s fairs will be a lively and entertaining “visit to the fairs,” imagining them as they once were by seeing the legacies of the fairs. The tour guide will be Don Larson, a lifelong aficionado and collector on world’s fairs. The well-known Donald G. Larson Collection on International Expositions and Fairs is the largest world’s fair collection on the West Coast and resides at California State University Fresno.

The current Balboa Park is the site of both of San Diego’s world’s fairs: the 1915-16 Panama-California Exposition and the 1935-36 California Pacific International Exposition. There are dozens of features, attractions, buildings and gardens that are the remains of the two fairs, among them the Botanical Building (and beautiful lily pond), the Spreckels Organ Pavilion, the Old Cactus Garden, Spanish Village, Japanese Tea Pavilion (now a tea house restaurant), the Ford Building (now the Air and Space Museum), the House of Hospitality (now the Visitors Center), the California State Building (now the San Diego Museum of Man), the House of Pacific Relations International Cottages (with 32 cottages promoting multicultural goodwill), and the Zoro Garden (formerly a nudist colony built for the 1935 fair). Even the world-famous San Diego Zoo grew out of the fairs, with exotic animals left after the 1935 exposition ended.

After lunch at one of the numerous restaurants, cafes and snack shops in the park (on your own or as an informal group), there will be time to explore other parts of the splendid and vast Balboa Park. An optional visit to the Japanese Garden (and tea pavilion) as of the printing of this Newsletter costs $4. We’ll plan on meeting the shuttles at 3:10 p.m. for our quick trip back to campus.

Due to the nature of this walking tour, be sure to wear comfortable shoes! Depending on the weather, a jacket may also be needed. Limited to 27 participants. Cost: $25.

WORKSHOPS

ARTEFACT ANNOTATION – DEVELOPING AN ONTOLOGY TO HELP MINE DATASETS

Half-day workshop organized by Ryan Metcalfe (KNH Centre for Biomedical Egyptology, University of Manchester, England).

This workshop will present for discussion a preliminary ontology designed for use with ancient Nubian remains and artifacts, both to obtain feedback from the mummy studies community and to act as an example for those who may be interested in producing similar terminologies for their field. The supporting tools that are available when using an ontology will also be discussed in order to show how workflow can be improved. No fee.

Limited to twenty (20) participants. Please indicate your interest in attending this workshop by checking the appropriate box on the back of the Advance Registration Form (page 36 of this Newsletter).

FIELD AND ADVANCED PALEOMAGING

Half-day workshop organized by Ronald Beckett, Ph.D. (Professor Emeritus of Biomedical Sciences, Co-director, Bioanthropology Research Institute, Quinnipiac University, Hamden, CT; Ronald.beckett@quinnipiac.edu); co-organized by Gerald Conlogue, MHS (Professor of Diagnostic Imaging, Co-director, Bioanthropology Research Institute, Quinnipiac University, Hamden, CT; Gerald.conlogue@quinnipiac.edu).

This workshop is intended to give the participants an overview of the varied methods and technologies used in paleomaging with a focus on field and advanced applications. The workshop will demonstrate how the participants can maximize each paleomaging modality in the field or lab setting. Additionally, this workshop will explore advanced imaging modalities and emphasize the importance of ‘Diagnosis by Consensus’. Several mini-lectures will present foundational information followed by four separate rotating stations. Two stations will provide the participants with the opportunity to gain practical hands-on skills and knowledge related to field photography and endoscopy. Two additional stations will focus on interpretation of paleomaging data with an emphasis on differential diagnoses and age at death determination using dental paleomaging data. Participants are asked to ‘bring in their slides/cases’ for a final group session on differential diagnosis. It is tentatively planned that the workshop will be conducted at the Museum of Man in Balboa Park, San Diego California.

The target audience for this workshop is any World Congress on Mummy Studies attendee. Participation of Anthropologists, Radiologists, and students of Mummy Sciences is encouraged. Limited to 40 participants. If you intend to participate in this workshop, be sure to sign up for in on the Advance Registration form (page 35 of this Newsletter). Cost: $25.

FINDING INFORMATION IN OPEN ACCESS JOURNALS

Half-day workshop organized by Amy Besnoy (Science Librarian/ Copley Library, University of San Diego, San Diego, CA; abesnoy@sandiego.edu ) and Pearl Ly (Natural Sciences Librarian, California State University San Marcos, San Marcos, CA; ply@csusm.edu).

This half-day workshop is a hands-on session on finding and accessing information in open access journals. Participants will learn how to utilize the Directory of Open Access Journals, Google Scholar, and PubMed to find full-text open access articles. In addition, search strategies and tips for efficient database searching will be discussed.

The workshop is expected to be held in Loma Hall 307 on the USD campus. Participants will have access to computers and will be encouraged to share topics of interest during the session. Participation is limited to twenty-four (24) individuals. Please sign up for this workshop by checking the appropriate box on the back of the Advance Registration Form (page 36 of this Newsletter).
Technique Sessions

Symposia

The following symposia are being 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 directly. Should you wish to present a paper in one of the contributed paper sessions, refer to pages 32 and 28 of this Newsletter. Check the Division’s web site, pacific.aaas.org, for the latest information on symposia and other program events.

Please remember that at this time the listings contained herein are tentative and subject to change. If you plan to attend the meeting largely for one symposium or technical session, check the Division’s web site for updates to the program or contact the Division office at 541-552-6869 or aaaspd@sou.edu to confirm the status of the session(s) before committing travel funds. If additional symposia are added to the program, they will be posted on the Division’s web site and published in the April Newsletter.

(1) Applied Ethics of Ancient Mummy Research. Organizers: Niels Lynnerup, M.D., Ph.D. (Department of Forensic Medicine, Laboratory of Biological Anthropology, University of Copenhagen, Denmark) and Frank Ruhli, M.D., Ph.D. (Institute of Anatomy, University of Zurich, Switzerland, Head of the Swiss Mummy Project).

This symposium includes presentations on the ethical considerations of mummy research and display from diverse viewpoints. The historical and theoretical backgrounds are covered, and an ethical framework will be proposed.

(2) Mummy Research in the Electronic Age. Organizers: S.J. Wolfe, M.L.S. (Senior Cataloger and Serials Specialist, American Antiquarian Society, Australia) and Jasmine Day, Ph.D. (Discipline of Anthropology and Sociology, University of Western Australia).

This symposium covers the recent digitization of many 19th century periodicals that have revealed a flood of mummy fiction, including poetry, plays, and novels.

(3) Egyptian Child Mummy. Organizers: Anita Petty (Digital Operations, 3M Unitek, Albuquerque, New Mexico) and Marvin Rowe (Conservation Lab, Museum of New Mexico and Science Program, Texas A&M University).

This symposium presents the results of analysis of the head of an Egyptian child mummy collected from Egypt during the 1920 Shelton Expedition. Included will be the chemical analysis of the resin on the wrapping, the radiocarbon dating by non-destructive plasma oxidation, and X-ray fluorescence of the head.

(4) State-of-the-Art Ancient Mummy Research. Organizers: Frank Ruhl, M.D., Ph.D. (Institute of Anatomy, University of Zurich, Switzerland, Head of the Swiss Mummy Project), Albert Zink (Head of the EURAC Institute for Mummies and the Iceman, European Academy of Bolzano/Bozen, Italy) and Niels Lynnerup, M.D., Ph.D. (Department of Forensic Medicine, Laboratory of Biological Anthropology, University of Copenhagen, Denmark).

Ancient mummies have been examined for centuries. The enormous ongoing advance of examination modalities allows researchers to expand their studies. The aim of this symposium is to review the current “gold-standard” for scientific studies of ancient mummies and to predict future developments, both in terms of examination standards as well as possible “high-end” single case methodologies. Presentations range from high-resolution imaging and histology to coprolites and stable isotopes.

(5) Imaging of Ancient Mummies. Organizer: Frank Ruhli, M.D., Ph.D. (Institute of Anatomy, University of Zurich, Switzerland, Head of the Swiss Mummy Project).

Presentations cover the field of mummy imaging including terahertz imaging, radiology, dual-source CT imaging, histology, and a comparison of MRI and CT imaging. Areas explored focus on the Swiss Mummy Project, salt mummies from Iran, the Ice-man, and a 43,000-year-old baby mammoth.

(6) Mexican Mummies. Organizers: Josefina Mansilla (Dirección de Antropología Física, Instituto Nacional de Antropología e Historia (INAH), México D.F., México, México, DF) and Ilán Leberei (Dirección de Antropología Física, Instituto Nacional de Antropología e Historia (INAH), México D.F., México, México, DF).

Researchers from Mexico will cover the latest research on Mexican mummies in this symposium.

(7) Human Leishmaniasis in Mummified Remains: From Iconographical Sources to Modern Day Techniques. Organizers: Prof. Dr. Andreas G. Nerlich (Institute for Pathology, Klinikum München-Bogenhausen, München, Germany) and Dr. Raffaella Bianucci (Laboratory of Criminalistic Sciences, Department of Anatomy, Pharmacology and Legal Medicine, University of Turin, Italy).

This symposium includes an overview of the current microbiology of present-day leishmaniasis as both a local and systemic disease dependent on the parasite strain. Molecular investigations on modern strains will provide first clues as to the origin and potential evolution of the pathogens. The symposium includes presentations on the most recent findings of Old and New World leishmaniasis in mummies and skeletonized human remains, shedding light on the distribution and strain differences during antiquity.

(8) Human Experimental Mummification. Organizers: Frank Ruhli, M.D., Ph.D. (Institute of Anatomy, University of Zurich, Switzerland, Head of the Swiss Mummy Project) and Christina Papageorgopoulou, Ph.D. (Research Assistant, Institute of Anatomy, University of Zurich).

Artificial mummification methods have been developed in many parts of the world with that of the Ancient Egyptians being among the most successful. Nevertheless, little effort has been made to explore this process on an experimental basis. This symposium aims to present the results of a large project which tried experimentally to reconstruct the ancient Egyptian mummification method by applying evidence-based diagnostic criteria and state-of-the-art methodology, and to bring researchers together who have conducted similar experiments on animal and human tissues.

(9) Alternative Energy. Organizer: Matthew McGarry (University of San Diego, San Diego, CA; mmcgarry@sandiego.edu).

The symposium will focus on alternative means of generating, transmitting, and storing energy. Topics will include fuels cells, solar, wind, biofuels, waste energy harvesting, and hydrogen production and storage. Talks will focus on all aspects of the topics mentioned above, including basic chemistry, materials development, and new manufacturing techniques.

“The chance to participate in and present at the AAASPD 91st Annual Meeting was not only a privilege, but a true pleasure. The broad scope and welcoming atmosphere of the meeting made for a student-friendly forum to share my research. It was a delight to meet so many knowledgeable scientists from a wide array of fields - I felt that this meeting really enhanced my perspective on science, art, and the pursuit of knowledge.

“Many thanks to you and the rest of the group involved in organizing this meeting! It was by far the best conference I have ever attended, and I will be back next year!”

- Rebecca A. Parker, University of Utah

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The Panama Canal is a cornerstone of the global transportation system, connecting the Atlantic Ocean to the Pacific Ocean across the Isthmus of Panama. The original canal was completed and opened for shipping in 1914. Thirteen to fourteen thousand vessels use the Canal every year. Commercial transportation through the Canal represents approximately 5% of the world trade. The Canal has a work force of approximately nine thousand employees and operates 24 hours a day, 365 days a year. The Panama Canal Authority is undertaking construction of new locks, new water reutilization basins, plus widening and deepening existing navigational channels. Anticipated completion of the Panama Canal Expansion is in 2014, marking the 100th anniversary of Canal operations. Speakers contributing to this symposium will discuss the history, geological parameters and sociological implications of the Canal.

(11) Panama Canal Expansion. Organizer: Anne A. Sturz (Department of Marine Science and Environmental Studies, University of San Diego, San Diego CA; asturz@sandiego.edu). The Panama Canal is a cornerstone of the global transportation system, connecting the Atlantic Ocean to the Pacific Ocean across the Isthmus of Panama. The original canal was completed and opened for shipping in 1914. Thirteen to fourteen thousand vessels use the Canal every year. Commercial transportation through the Canal represents approximately 5% of the world trade. The Canal has a work force of approximately nine thousand employees and operates 24 hours a day, 365 days a year. The Panama Canal Authority is undertaking construction of new locks, new water reutilization basins, plus widening and deepening existing navigational channels. Anticipated completion of the Panama Canal Expansion is in 2014, marking the 100th anniversary of Canal operations. Speakers contributing to this symposium will discuss the history, geological parameters and sociological implications of the Canal.

(12) 7th Annual Symposium on Advances in Materials Science and Nanotechnology. Organizers: Panos Photinos and Ellen Siem (Department of Chemistry, Physics, Materials Science and Engineering, Southern Oregon University, Ashland, OR; aaaspd@sou.edu).

Students and scientists working in areas of materials science and nanotechnology are urged to contact the organizer in order to discuss how they might present their research in this symposium.

(13) Antarctic Ice Is Nice. Organizers: Ronald S. Kaufmann and Anne A. Sturz (Marine Science and Environmental Studies Department, University of San Diego, San Diego CA; kaufmann@sandiego.edu and asturz@sandiego.edu).

This symposium includes an examination of Antarctic ice and associated ecosystems. The impact of global warming on polar regions has been the subject of considerable recent research. In particular, warming in West Antarctica and the Antarctic Peninsula has been correlated with retreating glaciers, resulting in significant loss of ice mass over the past decade (Rignot et al., 2008). Antarctic glaciers have been accelerating (Pritchard and Vaughan, 2007), changing the dynamics of the continental ice sheet. In addition, ice shelves around the Antarctic continent have been breaking up, with increased occurrences of large icebergs originating from ice shelves in the Ross, Bellingshausen and Weddell Seas (e.g. Scambos et al, 2000; Bindschadler and Rignot, 2001; Ballantyne, 2002; Long et al., 2002). Changing ice cover and the increased production of icebergs can affect physical and biological processes on the Antarctic continent and in the Southern Ocean. Speakers contributing to this symposium will discuss distribution of Antarctic glaciers, subglacial lakes, sea ice, currents affecting ice transport, effects of icebergs on water column structure and biological communities in the Southern Ocean.

(14) Fragile X Syndrome: Advances in Our Understanding of a Common Cause of Retardation and Autism. Organizers: Veronica V. Galván (Department of Psychological Sciences, University of San Diego, San Diego, CA; vgalvan@sandiego.edu) and Peter W. Vanderklish (Department of Neurobiology, The Scripps Research Institute, La Jolla, CA; pvanderk@scripps.edu).

Fragile X syndrome is the most common inherited form of mental retardation and the leading known cause of Autism. Many affected individuals also suffer from anxiety, attention deficit, hyperactivity, obsessive-compulsive disorders, developmental seizures and subtle physical symptoms. These wide ranging symptoms are caused by the silencing of a single gene, denoted Fmr1. In unaffected individuals, this gene is active and produces a protein (FMRP) that regulates the de novo synthesis of hundreds of other proteins at synapses. Intensive, multidisciplinary studies of FMRP and synaptic dysfunctions that arise from its absence in Fragile X syndrome have provided exciting insights into the neural basis of this syndrome that may also apply to other causes of Autism. These efforts have led to candidate therapies while also advancing our basic understanding of the mechanisms that control neuronal excitability and synaptic plasticity. This symposium will provide a forum for scientists, teachers, students, and interested lay public to hear both an introduction to Fragile X from parents of affected children and a series of talks from scientists that will present some of the latest research in the field. Scientific topics will include the molecular basis of synaptic dysfunction in Fragile X syndrome, alterations in synaptic plasticity and aggregate neural activity, and potential therapeutic strategies. Further information and resources will be made available by the FRAXA Research Foundation, an organization founded by parents that funds Fragile X research and has been instrumental in advancing the field by supporting scientists to find a cure.
Have you ever wanted to meet other scientists from diverse backgrounds? Build relationships not limited by geography or chance? Connect with people who share your interests, face similar challenges, and have overcome obstacles to become leaders in their fields? Find them all at MySciNet, the online community from Science, Science Careers, and AAAS.

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The second law of thermodynamics is one of the central pillars of science, engineering and technology. The question of its universality remains an unresolved problem in physics.

Evidence for reverse causation is currently scarce, but not nonexistent. While laboratory results are intriguing, theoretical models to explain such outcomes have lagged; some have not yet made deep enough connections with mainstream physics. Furthermore, even the most basic physical constraints—e.g., whether reverse causation is best explained by energy transfers or simply by correlations without information exchange—remain open questions.

This symposium will explore recent experiments, theory, and philosophical issues connected with retrocausation. In particular, it is hoped that this meeting will help generate comprehensive theoretical models by which experimental results can be understood, and stimulate new experiments and collaborations by which the underlying physics may be more clearly exposed.

Music and the Sciences: Synergies Among Musical Arts, Math, Science, and Engineering. Organizer: Thomas F. Schubert, Jr., Ph.D. (Department of Engineering, University of San Diego, San Diego, CA; schubert@sandiego.edu) and Ani Velo, Ph.D. (Department of Mathematics and Computer Science, University of San Diego, San Diego, CA; avelo@sandiego.edu).

The linkage between science and music is not a new concept; throughout much of western history, science and art were each considered as philosophy. Aristotle’s exploration of the physical world led him to study musical scales, modes, and harmonic relationships with the use of weights. Galileo’s father was a famous musician and Einstein played violin.

The purpose of this symposium is to bring people artificially separated by modern academic disciplines together to re-explore the common ground shared by math, science, engineering, and music.

Presentations that explore various synergies among music, math, science, and engineering are solicited. It is expected that a wide variety of topics will be covered including: music composition, neurological perception of music, and acoustics.

United States and World’s Fairs. Organizer: Alan L. Bain, (Emeritus Certified Archivist; Volunteer, National Anthropological Archives; Retired Archivist, Smithsonian Institution Archives. National Anthropological Archives, Suitland, M.D.; bain@si.edu).

World’s fairs are good fun and food. But, that is not all. Fairs are complex events that contain multiple ideas and meanings to the directors and managers, business community, the audience, participants, exhibitors and government administrators. They reflect themes of technological and industrial advance, empire and colony, racism and research, self-image, respect and independence. This symposium covers a wide range of topics and fairs documenting Asia and Asian American communities represented at the fairs, the reasons for the collections of ethnological material and other artifacts and what happened to them, Californians response to the Panama–Pacific Exposition, mummies on display, how Native Americans were represented, and how the Japanese depicted the Ainu. Anthropologists, historians and archivists will participate at this symposium. In addition to the above, there will be a discussion on the use of archives to document fairs, the information they contain, and the continuous need to acquire additional records and special collections.

The Forensic Science of Clinical Mental Health in Death Penalty Cases: Theresa Lewis Case. Organizer: Ronn Johnson, Ph.D., ABPP (University of San Diego, San Diego, CA; ronnjohn@cts.com).

Death penalty cases often contain mental health mitigating factors. CACREP is a counseling organization that accredits clinical mental health training programs. Among the CACREP standards are assessment, diagnosis, ethics, psychopathology, and forensic issues. Theresa Lewis was a death penalty case where the aforementioned forensic mental health factors were relevant. Lewis was the 12th woman to be executed in the United States since capital punishment was reinstated in 1976. She was convicted and sentenced to death in a murder for hire incident, with the two male co-conspirators receiving life sentences. The Theresa Lewis case is significant for two clinical mental health reasons. First, it provides a forensic mental health framework for the science-based application of various clinical tools. Second, there is an opportunity for examining the extent to which these mental health tools meet Daubert standards.

This symposium includes a number of paper presentations that examine forensic mental health issues related to the Theresa Lewis case. Papers are presented in twos followed immediately by a “counter viewpoint” facilitated by discussants that will be recruited in advance of the conference or may contact the chair of the symposium for inclusion in the program. Presentation titles are expected to include:

- Overview and wrap up questions for forensic mental health in death penalty cases
- Opposing forensic mental health reports in death penalty cases
- Dependent personality disorder as a mitigating factor in death penalty cases
- IQ as a mitigator in death penalty cases
- Forensic mental health cultural and ethical considerations in death penalty cases
- Forensic mental health issues in domestic violence
• “Clinical mental health issues” in death penalty cases
• Behavioral disorders or mental impairment “not” contained in the DSM-IV-TR
• Care of the mental health professional in death penalty cases
• Identifying, securing, organizing and reviewing mental health data in death penalty cases

(20) The Changing Role of the Research University in K–12 Science Education. Organizers: Sherry Seethaler (Staff Director of California Teach, Division of Physical Sciences, University of California San Diego, La Jolla, CA; sseethaler@ucsd.edu) and John Czworkowski (Lecturer, PSOE, Department of Chemistry and Biochemistry, University of California San Diego, La Jolla, CA; jcworkowski@ucsd.edu).

Concerns about America’s future science and technology competitiveness in the global economy are changing the role of the nation’s research universities in K–12 science education. The National Academies’ report, Rising Above the Gathering Storm, recommended three actions to improve K–12 STEM education: 1) Attract more of America’s brightest students to the teaching profession; 2) Strengthen the skills of the nation’s current K–12 teachers; and 3) Enlarge the pipeline of students prepared to pursue STEM degrees. This symposium focuses on strategies developed by four research universities to address these aspects of K–12 science education. The strategies include enhanced cooperation between schools of education and science departments to create teacher education programs that develop future teachers’ pedagogical content knowledge by bridging the traditional gap between undergraduate science curricula and education credential programs. The University of Arizona’s Science Teacher Preparation Program, the University of California San Diego’s California Teach Program, and the University of California Berkeley’s Cal Teach and Summer Research Institute exemplify ways to bridge this gap. Project PASS at the University of Nevada, Las Vegas is a strategy to strengthen the skills of current teachers through collaborative partnerships between universities and school districts that develop professional learning communities. Another strategy is the creation of University-led charter schools, such as the University of California San Diego’s Preuss School, that provide rigorous college preparatory courses for diverse, low-income, first-generation college students. These strategies, their implementation, their impact and institutional changes that made them possible will be explored.

(21) Pathways to Science: Promoting Inquiry-Based Learning Beyond the Classroom. Organizers: Carl Maida (University of California, Los Angeles; cmaida@ucla.edu) and Paul Heckman (University of California, Davis).

This session will combine didactic, experiential, and reflective activities – essential elements in Inquiry-Based Learning – to engage audience members, including K–14 teachers, informal science educators, and presenters in a professional learning community experience. The intent is to provide an opportunity for collaborative inquiry and the learning related to STEM (Science, Technology, Engineering and Mathematics) in out-of-school-time settings. While increasing numbers of students start college with plans to major in the STEM fields, their completion rates are lagging, especially among underrepresented minorities. Generating and sustaining interest in a scientific career will require engaging students in STEM learning activities outside of the classroom, such as collaborating with their peers on group projects in after school programs and science clubs. This workshop will consider ways to increase students’ scientific literacy through involvement in project-based learning – that is also inquiry-based – in after school programs and in experiential, community-based learning activities, including mentored internships, with the objectives of: 1) increasing knowledge of science; 2) improving the sense of self-efficacy; and 3) promoting basic, applied, and clinical sciences as career choices. Panelists will discuss current issues and future trends in out-of-classroom science education, including STEM after school programs, pre-college science enrichment and “pipeline” programs, university-community partnerships, STEM scientist educational outreach and mentoring activities, informal STEM education, “National Lab Day,” “living classrooms,” scientific literacy, and “citizen science” initiatives. The session will also consider the ways high school seniors and college students can together serve as science ambassadors and role models to engage their peers in out-of-classroom activities that enhance an understanding, appreciation, and perhaps a passion for science and scientific inquiry.

(22) Don’t Sign Your Life Away: Author’s Rights, Scientific Publishing, Digital Repositories, and the Case for Open Access. Organizers: Steven Staninger (Business Librarian/Copley Library, University of San Diego, San Diego, CA; stan@sandiego.edu) and Amy Besnoy (Science Librarian/Copley Library, University of San Diego, San Diego, CA; abesnoy@sandiego.edu).

This symposium and accompanying workshop will focus on author’s rights, the legal background on copyright, the broad field of scientific publishing, and the benefits of open access to alleviate costs. Digital repositories will be discussed as a way for the academy to reclaim the ownership and dissemination of intellectual property.

(23) New Humanities and Sciences Convergences: Poetry and Science. Organizer: Robert Louis Chianese (Department of English (retired), California State University Northridge, Northridge, CA; rchianese@csun.edu).

Since Kurt Brown’s anthology Verse and Universe: Poems about Science and Mathematics (Milkweed1998), readers began to take note of the growing number of major and minor poets inspired by science. While this symposium requests papers examining poetry about science, it also broadens the purview to include comparative discussions of poetry and science as forms of knowing.

Topics explored in a comparative fashion: their methodologies; their forms of expression and proof; their uses of language; their relative acceptance by cultures at various times, including today; the political, social, and intellectual controversies they have fostered; and the changing, comparative public images of the poet and scientist. Also, how have current anti-intellectual movements, and popular media, and telecommunication technology influenced poetry and science and their relative status in society today?
How have science and poetry reinforced or attacked each other in their pursuit of knowledge? Are there historical or contemporary figures that might be said to fall into both camps of poet and scientist? Does nature poetry describe the world in terms with which scientists would agree?

The relative budget of the National Endowment for the Humanities has plummeted and is scant compared to the budgets of the National Science Foundation and the National Institutes of Health. (For FY2011, the NEH $161.3 million, NSF $7.4 billion, NIH $32 billion). What does this imbalance in governmental support bode for education, society, and the futures of poetry and science themselves? This issue can serve as a general topic for discussion.

(24) Science, Technology, and Experimental Fiction. Organizer: Halina Duraj (Department of English, University of San Diego, San Diego, CA; hduraj@sandiego.edu).

As the creative endeavors of science, technology, and literature overlap in our increasingly interdisciplinary world, how do they affect each other? Hypertext and other interactive fictions suggest a genre of literary-scientific hybrids; beyond hypertext, what is the next frontier of innovative, experimental, science-and-technology inspired narratives or speculative fiction? For instance, how are developments in neuroscience changing the way we conceptualize narrative—digital and otherwise? And can developments in literature (and speculative fiction) influence science, or how it is communicated among scientists and laypeople?

**Contributed Papers**

Those wishing to submit papers for presentation at a contributed paper session (oral or poster) should refer to the “Call for Papers and Abstracts” on pages 19 and 32 of this Newsletter, or download instructions from the Division’s web site (pacific.aaas.org). If your abstract contains special characters, please fax a print copy of it to the Pacific Division office, 541-552-8457, with the special characters clearly marked and notations indicating the fonts used.

The deadline for submitting abstracts is 19 April 2011. If an abstract comes in after this date, it may not be listed in 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. Be sure to keep the length of your abstract to no more than 250 words and use 10-point Times New Roman (or variation) font (no exotic fonts, please!). Don’t forget to state clearly if yours is a student presentation so that it will be included in the judging competition. Please keep in mind if you are a student who intends to be in the competition for Awards of Excellence and you are part of a symposium with your presentation scheduled to end later than 3:00 p.m. on Tuesday afternoon (check with the planner of your symposium), you must also present your work as a poster in order to be judged. Otherwise, you will not be eligible for student awards due to the conclusion of judging early Tuesday afternoon. Awards will be announced later that evening.

**Poster Sessions**

Posters will be assigned a display space of 40” tall X 60” wide (1 m X 1.5 m) and will be grouped by discipline and subject matter. Posters are to be mounted using map pins on foam core backings (supplied). In order to assure fairness, the Pacific Division Council took action stating that all student posters must fit within the assigned display space to be eligible for student Awards of Excellence. A request for extra space will disqualify a student from the award competition.

Student posters will be judged for Awards of Excellence. Students must be present for a two hour period to allow judges the opportunity to discuss their work and to evaluate their posters.

With the permission of Dr. Carol Waite Conner and the Geology 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 web site, http://pacific.aaas.org. Click on the 92nd Annual Meeting home page and then Poster Preparation (listed in the left column). Another web site containing excellent information on poster preparation is http://www.ncsu.edu/project/posters.

**Societies and Pacific Division Sections Accepting Contributed Papers for Presentation at the Meetings**

**World Congress on Mummy Studies.** Program Coordinator: Dr. Alana Cordy-Collins, Department of Anthropology, University of San Diego, San Diego, CA 92110. Contact: 619-260-4725; alanacc@sandiego.edu.

**Agriculture and Horticultural Science.** Section Chair and Program Coordinator: Dr. Michael D. MacNeil, USDA Agricultural Research Service, Fort Keogh Livestock and Range Research Laboratory, 243 Fort Keogh Road, Miles City, MT 59301. Contact: 406-874-8213; Mike.MacNeil@ars.usda.gov.

**Anthropology and Archaeology.** Section Chair and Program Coordinator: Dr. Stephen Frost, Department of Anthropology, University of Oregon, Eugene, OR 97403. Contact: 541-346-5161; sfrost@uoregon.edu.

**Atmospheric and Oceanographic Sciences.** Section Chair and Program Organizer: Dr. Anne A. Sturz, Department of Marine Science and Environmental Studies, University of San Diego, San Diego, CA 92110-2492. Contact: 619-260-4795; asturz@sandiego.edu.

**Cell and Molecular Biology.** Section Chair and Program Organizer: Dr. Kristen Mitchell, Department of Biology, Boise State University, Boise, ID 83725. Contact: (208) 426-4620; kristenmitchell@boisestate.edu.

**Chemistry and Biochemistry.** Section Chair and Program Organizer: Dr. Owen M. McDougal, Department of Chemistry and Biochemistry, Boise State University, Boise, ID 83725. Contact: 208-426-3964; owenmcdougal@boisestate.edu.
lands, grasslands, numerous creeks, and bounded by highly productive estuaries. Today few remnants remain of its natural beauty and thoughts of San Francisco usually bring visions of human-constructed features, such as the Golden Gate Bridge and the downtown skyline rather than its natural features.

Urbanization caused loss of most of the large mammals that once lived in San Francisco. Today the only place to find bears in San Francisco is in the zoo, although recently there have been reports that another kind of bear was spotted chasing bulls down the streets of the financial district. While most native mammals are gone from San Francisco, a few, such as raccoons, skunks, opossums and most recently coyotes, have done well. Introduced species from rats and pigeons to cabbage butterflies and European earwigs have also thrived. Their success has often caused additional threats to native species. Rats, for instance, are major predators of songbird eggs.

Fortunately, many little things such as insects, spiders, snails and other invertebrates have survived and still exhibit amazing aspects of the natural world. Nevertheless, urbanization has taken a large toll on small creatures, too. In San Francisco, human activities caused a decline in populations of the endemic Xerces Blue Butterfly in the 19th Century, ultimately leading to its extinction in the mid 20th Century. A child growing up in San Francisco today can expect to see no more than 50% of the butterfly species that once occurred there. Some of them, such as the federally endangered Mission Blue Butterfly (Figure 3), named for the Mission San Francisco de Asís, San Francisco’s oldest surviving structure, are near extinction in San Francisco.

There is hopeful news, however. San Francisco has recognized the importance of its few remaining natural areas and developed plans for preserving and restoring them. The Presidio of San Francisco, once a U. S. Army base, is now the largest urban national park in the world. It is home to a number of efforts to preserve and enhance its natural resources. Landfills have been removed, creeks day-lighted, and sand dunes restored and planted with natural vegetation (Figure 4). These efforts have focused on restoring native plant communities. The larger goal is to restore ecosystems. The big question is, if you restore the plant life of an area, will native animals colonize it? If you build it, will they come?

Recent studies by my students and me of arthropod diversity in the Presidio demonstrate the success and remaining
challenges of such efforts. One group that has benefited from restoration efforts and preservation of open space is the native bee fauna of the Presidio. Bees, of course, are important components of natural ecosystems because of the pollination services they provide. Without bees, many native plants and the animals they support would vanish. Our studies demonstrate that bees can colonize newly restored habitats quickly as long as there are nearby populations remaining. The Presidio is home to at least 66 species of bees, 64 of which are native to the area (Figure 5). This is a larger bee fauna than in some more “pristine” areas such as the area around Bodega Bay, California, which supports 48 species. It is a number that needs to be taken with a grain of salt, however. Early records are too poor to know how many bee species once inhabited the Presidio and other parts of San Francisco. The fact that only 4 of the 8 bumblebee species known from San Francisco have been seen in recent years suggests a much larger bee fauna prior to San Francisco’s urbanization.

The Presidio also supports a large spider fauna for an urban area (Figure 6). My students and I have recorded 128 species and estimate a spider fauna of 160 total spider species. We’ve discovered a number of new species for San Francisco and one that may be new to science. Spiders are also good indicators of the effects of urbanization. For instance, Misha Leong’s studies have shown that habitats near heavily traveled roads have a lower diversity of endemic spiders than those more distant. This may well be true of other groups as well.

Efforts to restore aquatic habitats have not so far been as successful. A survey of aquatic invertebrates in wetland habitats by Theresa Shelton found low diversity of aquatic invertebrates even in the least disturbed habitats. Restored habitats had especially low diversity even when habitat characteristics appeared favorable. This pattern is probably the result of the lack of good source areas nearby for most aquatic species, the highly fragmented nature of most watersheds in the Presidio, and water quality issues. Because of this, it may take many years for restored streams and wetlands to approach the diversity of a creek in a non-urbanized area. One rare species, the San Francisco forktail damselfly (Figure 7), persists in a small wetland near the base of the Golden Gate Bridge. It lives in a precarious location, however. A slight rise in sea level due to global warming would threaten its survival. Relocation efforts are being considered, but the overall poor quality of nearby habitats does not auger well for success.

Ultimately, to expand and enhance biodiversity in urban areas we need to expand the habitat available to native plants and animals. This is obviously easier said than done. Most land in urban areas is heavily developed. Buildings and asphalt have replaced vegetation, and human density is increasing in many areas. One solution that has taken hold in many parts of the world is to turn
urban roofs green by using them as a place for plants to take hold. These green roofs provide a number of benefits. They reduce interior temperature, lowering energy use. They capture rainwater and reduce runoff. They can help reduce CO2 levels in the atmosphere. Most such roofs are planted in non-native species. What would happen, however, if they were planted in a diversity of native plants? Would these roofs become refuges for native animals such as arthropods, birds and other species?

The living roof of the new California Academy of Sciences building in San Francisco’s Golden Gate Park is testing this possibility. The building’s innovative design includes plantings of a variety of plants native to the area. San Francisco State University graduate student Jessica Van Den Berg and her team have sampled the insect diversity of the roof and are comparing it to traditional habitats in the park below (Figure 8). So far, her findings are encouraging. Insect diversity is already higher on the roof than below. That diversity includes herbivores, predators, parasites and pollinators, providing the basis for complex food webs. She has sorted over 73 morphospecies of parasitic wasps from her samples. Molecular analyses using DNA bar-coding techniques are helping her estimate the number of species for groups where taxonomic specialists are not available to identify specimens. Where taxonomic expertise is available, as is the case with David Kavanaugh of the California Academy of Sciences who works on carabid beetles, there have been unexpected records of species that are new to San Francisco. Some of these species probably were brought in with the original nursery stock used for planting the roof. The source of others remains a mystery.

The early success of the Academy’s green roof demonstrates the potential of this kind of design. It is tempting to dream of a time when most roofs in major urban areas are green and provide habitat for native plants and animals, when urban open spaces have been restored to provide habitat for a diversity of native plants and animals, when native plants are used to landscape median strips and backyards, and when city dwellers experience the wonders of nature as part of their day-to-day life.

Attaining this vision will require great persistence and better knowledge of how to restore habitats. It will also require that these “natural” areas be open for people to explore. They must not be fenced off as fragile areas where humans are excluded. Rather, they should provide opportunities, especially for children, to learn about the natural world first hand by watching a caterpillar feed, observing a butterfly, or marveling at a spider’s web. If this can happen, then there is hope that we can build a culture that appreciates the value and wonders of biodiversity and supports its conservation not only in urban areas, but also in rainforests and other truly wild lands.

Acknowledgements: A number of current and former students and colleagues have contributed to the studies I refer to in this talk. The surveys of the Presidio required the efforts of many, including: the members of the Presidio bee survey team, Hannah Wood, Jessica Van den Berg, Vicki Moore, Chris Quock, Cynthia Fenter, Meghan Culpepper, Jamie Nicolloff, Rollin Coville (UC Berkeley), and Robbin Thorp (UC Davis); the members of the Presidio Spider survey team, Pedro Morgado, Misha Leong, Theresa Shelton, Darrell Ubick (California Academy of Sciences), Jeremy Miller (California Academy of Sciences), Charles Griswold (California Academy of Sciences); and the members of the Presidio Beetle survey team, Chris Quock, Melanie Williams, Dave Kavanaugh (California Academy of Sciences). Tania Pollack, Michael Chasse, Mark Fey, and Terri Thomas from the Presidio trust provided invaluable assistance. Studies of the California Academy of Sciences were led by Jessica Van den Berg but would not have been possible without the help of Chris Quock, Ryder Diaz, Casey Hubble, Julie Miller, Seraphina Denault, Tania Pollak, and Lola Dompe. Members of the Chris Smith Lab at SF State including Ilma Abbas, Travis Siapano and Cory Robinson helped with DNA Bar-coding.

The roof project also benefited from the help and advice of a number of people from the Academy, including: Frank Almeda, David Kavanaugh, Vic Smith, Roberta Brett, Molly Michelson, Alana Hysert, Alan Good, Kendra Hauser, and numerous citizen scientists. I am also grateful for the funding for these projects provided by the Presidio Trust, the California Academy of Sciences and the California State University Program for Education and Research in Biotechnology.
Call for Papers and Abstracts

Members of AAAS and its affiliated societies, students, teachers and other scientists are encouraged to participate in the annual meeting of the Pacific Division of AAAS by presenting papers and/or posters. Persons wishing to present at one of the sessions should e-mail the title, abstract and other required information (see instructions below) as a Word or .rtf attachment to the chair of the appropriate society or section (see page 28 of this Newsletter) and also the Pacific Division office at rchristi@sou.edu. If your abstract contains special characters, please fax a copy of it to the Pacific Division office, 541-552-8457, in addition to the e-mail submission. The deadline for abstract submission is 19 April 2011. Students wanting to compete for an Award of Excellence must identify themselves as students on their abstract submissions so that judges will know to evaluate their presentations.

Oral contributed papers are scheduled every 20 minutes, allowing about 14 minutes for the talk, about five minutes for questions at the end, and a minute or so for PowerPoint change-over. If you are presenting in a symposium, please contact the symposium organizer for presentation details.

Format your submission as follows:
Line 1: Submitter’s name
Line 2: Submitter’s telephone number and e-mail address
Line 3: Presenter’s name (if different from above) or “SAME” (if same as above)
Line 4: Presenter’s telephone number and e-mail address (if different from above)
Line 5: Society, section or program to which you are submitting your presentation for review
Line 6: Type of presentation (ORAL or POSTER)
Line 7: Is the presenter a student? (STUDENT or NOT A STUDENT)
Line 8: Special equipment needs (other than standard computer equipment and PowerPoint)
Line 9: Paper title in title case and italics (e.g. Paper Title in Title Case), Author(s) name(s) in ALL CAPS and BOLD,
      Full address(es), including institution, mailing address, city, state and zip code, and e-mail address for presenter.
      (Follow example below for lines 9 and 10.)

Example of a properly formatted abstract submission (lines 9 and 10)
Formatting an Abstract for Submission to a Pacific Division Section Chair and the AAASPD Meetings Office, SAMUEL P. KRAFTER1, YESIMAN AUTHOR2, and IDIDA ALLDE READING2 (1Department of Biology, Southern Oregon University, 1250 Siskiyou Boulevard, Ashland, OR 97520; 2Department of Academic Speech, Bureau of Speech Employment, 12 Back Street, Medford, OR 97504; spkraf@biology.sou.edu).

All authors should be listed sequentially, starting with the person who contributed the most and ending with the person who contributed the least. If more than one address occurs among the presenters, indicate so by a superscripted number on the right of each presenter’s last name, followed by a superscripted listing of each unique address. The e-mail address should be that of the main presenter. Submissions not formatted in this manner may be returned for reformatting or rejected.

Note that the first line of each of these text paragraphs is indented. Indent the first line of each paragraph of your abstract 0.25 inches by using the first line indent command of your word processor, not the tab. All text should be full justified.

Use 10 point Times New Roman font. If you substitute, your abstract will be reformatted to this font. If your text contains special characters, they probably won’t accurately survive e-mailing and/or any required reformatting. Thus, in addition to an e-mail submission, abstracts that contain special characters should be printed and faxed (541-552-8457) or mailed (AAAS Pacific Division, Department of Biology, Southern Oregon University, 1250 Siskiyou Blvd., Ashland, OR 97520) to the AAASPD office. Be sure to point out special characters in your abstract and identify the font set that contains them. If outrageously exotic fonts are used, we probably won’t have the correct one to use. Use common font sets (e.g. Symbol, Wingdings, etc.) for your special characters!
First Call for Symposium and Workshop Proposals

Members of AAAS and its affiliated societies, students, teachers and other scientists are encouraged to participate in the annual meeting by developing symposia and/or workshops. Persons wishing to develop a program for the 2012 Boise, Idaho meeting should e-mail the title, description and other information (see instructions below) to the Pacific Division office at rchristi@sou.edu.

Symposia may be 1/2-day, full-day or longer. Individual symposium 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 combination of the two. Please contact Dr. Roger Christianson, Pacific Division Executive Director, to discuss your specific needs. When preparing your submission, please indicate which presenters are confirmed or not (see Line 10 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 early as possible in order to adequately publicize the symposium.

Workshops generally are 1/2-day 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 10 below). If a cost is incurred, it will be passed along to participants as a workshop fee in addition to the ordinary meeting registration fee.

Questions? Contact Dr. Roger Christianson, AAAS, Pacific Division, Southern Oregon University, Ashland, OR 97520. Phone: 541-552-6747; e-mail: rchristi@sou.edu.

Please format your submission as follows:

1: Organizer’s name
2: Organizer’s full mailing address, including academic/professional affiliation, telephone number and e-mail address
3: Co-organizer’s name(s) (if any)
4: Co-organizer’s full mailing address, including academic/professional affiliation, telephone number and e-mail address
5: Is this a Workshop or a Symposium?
6: Number of 1/2-day sessions requested (a session is roughly three to three and a half hours, depending on the needs of the program)
7: Pacific Division section(s) and/or affiliated society requested to sponsor this program
8: Title of proposed program
9: Brief description of proposed program (please limit to 250 words)
10: If a symposium, list the names of proposed (confirmed?) speakers, including academic/professional affiliation, and e-mail address for each. Presentation titles are optional at this time and will be requested later, along with an abstract for each presentation.
   If a workshop, indicate facilities and/or special equipment required and number of participants that can be accommodated.

phone: 541-552-6747 • e-mail: rchristi@sou.edu • internet: http://pacific.aaas.org
UNIVERSITY of SAN DIEGO RESIDENCE HALL APPLICATION

Note that one form must be filled out for each individual requesting campus housing. Type or print this form legibly! If faxing, use black ink.

Name ____________________________________________ Male □ Female □

Address ________________________________________________________________________

City, State, Zip __________________________________________________________________

Phone (day): __________________ Phone (evening): __________________ E-mail: ___________

If requesting a double room, check one:
□ roommate’s name is: ___________________________________________________________

OR
□ please assign a roommate

Refer to page 12 of this Newsletter for a description of the accommodations and options listed below. Note that each night’s lodging includes an $8.00 food credit at various USD food locations. Note that no refunds will be given for unused food credits or unused nights of stay.

Rates:
Three night basic housing package –
Check in Sunday, 12 June; check out Wednesday, 15 June
Double, per person $183.00
Single $234.00

Additional nights in conjunction with three night basic package –
Double, per person per night $61.00
Single, per night $78.00

Parking: $3.00/day for each day of residence on campus.

Housing Request:
Three night housing package
□ Double, per person $ ______
□ Single $ ______

Additional nights (nights must be contiguous to nights of three night basic package)
□ Friday, 10 June $ ______
□ Saturday, 11 June $ ______
□ Wednesday, 15 June $ ______
□ Thursday, 16 June $ ______
□ Friday, 17 June $ ______

On-Campus Parking Permit
# days in USD residence ___ x $3/day $ ______

Total Amount $ ______

Deadline for Application
The completed application for housing must be received in the Pacific Division office no later than 15 May 2011. Space is on an “as available” basis.

Three Ways to Apply for Housing
1. Complete this form and send it to the Pacific Division office, either with a check in the full amount payable to AAAS, Pacific Division, or with credit card information completed below.
2. Call the Pacific Division office, 541-552-6869, between approximately 12:00 p.m. and 4:00 p.m. Pacific Time. Your information will be taken, along with the appropriate credit card information.
3. Fax your housing request, including credit card information. The 24-hour fax number is 541-552-8457. It is a dedicated line into the Pacific Division office.

Cancellation/Refund Policy
All cancellation/ Refund requests for housing on this form must be made in writing to the Pacific Division office via USPS or e-mail. Requests must be received no later than 19 May 2011. Refunds are subject to a $15 processing charge and an additional 3.5% of the total if payment was by credit card.

Payment by Credit Card
Type of Card □ Visa □ Master Card □ Discover □ Am Ex

Card Number __________________________

Expiration Date _____________ Today’s Date ______

Name on Card (print) __________________________

Card Billing Address __________________________

City __________________________ State ______ Zip _______

Cardholder __________________________

Signature __________________________
Name: __________________________________________________________
Date: __________________________

Mailing Address: ______________________________________________________
City, State, Zip: _______________________________________________________

E-mail: ____________________________________________________________
Day Phone: __________________________

Institution/Company (for your name tag – if blank, city & state will be used):

AAAS Member: ☐ Yes ☐ No Mummy Congress Member: ☐ Yes ☐ No
Affiliated Society Membership: ________________________________________

How did you first hear about this meeting?

Did you receive the January Newsletter for this meeting? ☐ Yes ☐ No
If yes, how? ☐ Print copy via USPS ☐ Print copy from someone ☐ PDF download from internet
Did you know that electronic copies of each Newsletter are available as PDF downloads from the Pacific Division web site? ☐ Yes ☐ No
If given the option, would you prefer to receive an e-copy of the Newsletter rather than a print copy? ☐ Yes ☐ No

Would you like to help judge student presentations at this meeting? ☐ Yes ☐ No
Please see page 4 of this Newsletter for information about judging. If you check the “yes” box, you will be contacted for additional information.

Are you planning a program for this meeting, leading a field trip or presenting? ☐ Yes ☐ No
If yes, in which program or section? ______________________________________

MEETING REGISTRATION FEES:

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<th>Full Meeting</th>
<th>Received by 19 April</th>
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<td>☐ $52.50</td>
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<th>Received by 31 May</th>
<th>On-site</th>
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<td>☐ $75.00</td>
<td>☐ $85.00</td>
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Stipend? ☐ Yes ☐ No

Name, City, State (for name tag): __________________________

DIVISION BANQUET: The Division banquet will be held on the evening of Tuesday, 14 June and will include announcement of the student award winners. Students who are registered for the meeting and who present either orally or a poster are invited to be guests of the Division at the banquet and do not have to pay to attend but must check the appropriate box below. Refer to page 21 in this Newsletter for descriptions of the entrées.

Student presenter ticket @ no charge (choose one): ☐ Gnocchi ☐ Black Cod ☐ Osso Bucco Milanese

Tickets @ $40.00 ea. Indicate quantity by each choice: ___ Gnocchi ___ Black Cod ___ Osso Bucco Milanese

Please complete reverse side before sending or faxing form.
FIELD TRIPS: All trips are priced per person. See page 21 of this Newsletter for details.

Field trip registration fee for non-registrants (once per person) ___ regs. @ $10.00 $ __________
Name(s) of people registered for field trips only: __________________________________________

Sunday, 12 June
Field Trip #1: San Diego Coastal Geology and Hazards ___ tickets @ $70.00 $ __________
→ → → Type of sandwich for field trip #1 ☐ vegetarian ☐ meat ← ←

Thursday, 16 June
Field Trip #2: World’s Fairs Walking Tour ___ tickets @ $25.00 $ __________

WORKSHOPS: See page 22 of this Newsletter for workshop details.
Please check which workshops you are planning to attend. Certain workshops require payment of a fee.
☐ Artefact Annotation (no fee) ☐ Field and Advanced Paleoimaging ($25 fee)
☐ Finding Information in Open Access Journals (no fee)

PLEASE NOTE: Requests for refunds must be in writing and be received in the Pacific Division office no later than 19 May 2011. A $15 handling fee will be applied. An additional 3.5% deduction will be applied to the total amount for credit card refunds.

Registration Total $ __________
Banquet Total $ __________
Field Trips Total $ __________
Workshop Total $ __________
TOTAL DUE $ __________

(Make checks payable to AAAS, Pacific Division or use your credit card – see below.)

To help estimate the number of people planning to participate in the events listed below, please indicate the number of people in your party that plan to attend each.

___ Sunday Evening Reception (no charge to registrants and family)
___ Presidential Reception (Monday evening, no charge to registrants and family)

CREDIT CARDS
To pay for your advance registration by credit card, you may
• mail this completed form to the address below, or
• phone the information to 541-552-6869 between about 12:00 p.m. and 4:00 p.m. Pacific Time, or
• fax this completed form to 541-552-8457 (dedicated fax line into the Pacific Division office).

Type of Card: ☐ Visa ☐ Master Card ☐ Discover ☐ AmEx
Credit Card Number _______________________________ Expiration Date _______________
Name on Card ____________________________________________
Complete Billing Address for Card ____________________________________________
Signature of Cardholder ____________________________________________ Date ____________

COMPLETE AND RETURN THIS FORM WITH YOUR PAYMENT TO:
AAAS, Pacific Division • Department of Biology • Southern Oregon University • Ashland, OR 97520
Should you have questions, e-mail us at aaaspd@sou.edu or call 541-552-6869 M – F 12:00 p.m. to 4:00 p.m., Pacific Time.
Science Careers in Translation

One of the most pressing challenges facing society – turning basic science discoveries into treatments and cures for disease – also happens to be one of today’s most promising career opportunities. One of the keys to addressing that challenge – and assuring your career success – is collaborating and communicating effectively across disciplines and scientific sectors.

Want to build relationships with clinical or basic scientists? Seek partners and participants in training grants and research projects? Get advice on the best way to prepare for and conduct a clinical and translational science career?

There’s no charge for joining, and you’ll enjoy access to:

- Practical and specific information on navigating a career in clinical or translational research
- Opportunities to connect with other scientists including peers, mentors, and mentees
- Access to the resources of the world’s leading multidisciplinary professional society and those of our partner organizations

Get your career off to a meaningful start. Get the information, advice, and networking opportunities you need to succeed. Connect with CTSciNet now at: Community.ScienceCareers.org/CTSciNet

Made possible through a generous grant from the Burroughs Wellcome Fund, this professional network is designed to help you advance your career.

Presented by AAAS Science Science Careers

Visit us at http://pacific.aaas.org
Pacific Division Publications

wow!!! Annual Book Sale  wow!!!
One Book.....45% off • Two Books.....55% off
Three or more Books.....65% off
With this form only • Sale ends 1 May 2011

Please PRINT or TYPE this form. Use an extra sheet of paper if necessary. If faxing, use black ink.

| Biodiversity and Taxonomy (2005; paper, 236 pp. – ISBN 0940228-62-9); $35.00 |
| Museums and Other Institutions of Natural History: Past, Present, and Future (2004; paper, 325 pp. – ISBN 0-940228-60-2); $35.00 |
| Agroecosystems and the Environment: Source, Control, and Remediation of Potentially Toxic, Trace Element Oxyanions (1998; cloth, 213 pp. – ISBN 0-934394-12-1); $20.00 |
| San Francisco Bay: The Ecosystem (1996; cloth, 542 pp., color plates – ISBN 0-934394-11-3); $45.00 |
| Genealogy and Ecogeographic Races (1995; cloth, 275 pp. – ISBN 0-934394-10-5); $28.95 |
| Dietary Factors and Birth Defects (1993; paper, 410 pp. – ISBN 0-934394-08-03); $28.50 |
| Crater Lake: An Ecosystem Study (1990; cloth 224 pp. – ISBN 0-934394-07-5); $26.95 |
| Late Cenozoic History of the Pacific Northwest (1985; cloth, 417 pp. – ISBN 0-934394-06-7); $28.95 |
| Patterns of Evolution in Galapagos Organisms (1983; cloth, 568 pp. – ISBN 0-934394-05-9); $32.50 |
| San Francisco Bay: Use and Protection (1982; paper, 310 pp. – ISBN 0-934394-04-0); $17.95 |
| Proceedings Series |
| Meeting Program with Abstracts (Proceedings Vol. 1, Part 1, 1982 through Vol. 29, Part 1, 2010); $10.00 each |
| Evolutionists Confront Creationists (Proceedings Vol. 1, Part 3, 1984; paper, 213 pp.); $10.00 |
| California’s Master Plan for Higher Education in the Twenty-first Century (Proceedings, Vol 13, Part 2, 1996; paper, 118 pp.); $10.00 |

Address orders to: AAAS, Pacific Division • Southern Oregon University • 1250 Siskiyou Blvd. • Ashland, OR 97520
Phone orders: 541-552-6869 • dedicated FAX orders: 541-552-8457 • E-mail: aaaspd@sou.edu

*ALL SALES FINAL — NO RETURNS*

Payment must accompany all orders. Make checks payable to AAAS, Pacific Division.

<table>
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<th>Quantity*</th>
<th>Title</th>
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SUBTOTAL

DISCOUNT (check appropriate box): □ 1 book = 45% □ 2 books = 55% □ 3 or more books = 65%

SUBTOTAL (after discount)

SHIPPING (see note to left)

TOTAL DUE WITH ORDER

Name ____________________________________________ Date ____________
Address ____________________________________________
City ____________________________ State ____________ Zip ____________
Daytime Phone ____________________________ e-mail ____________________________

CREDIT CARD

☐ Visa ☐ Master Card ☐ Discover ☐ American Express
Credit Card # ____________________________ Expiration Date ____________
Name on Card ____________________________ Signature of Cardholder ____________________________
Complete Billing Address for Card ____________________________

*Maximum 3 of any sale title. Contact us for quantity orders.

Please attach extra sheet if necessary.

Shipping/handling fees: Domestic, $3.25 first book; $1.25 each add’l.
Foreign, contact us for cost.

Attachment required for orders over $50. Credit card orders only.

*ALL SALES FINAL — NO RETURNS*

Payment must accompany all orders. Make checks payable to AAAS, Pacific Division.

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TOTAL DUE WITH ORDER

Name ____________________________________________ Date ____________
Address ____________________________________________
City ____________________________ State ____________ Zip ____________
Daytime Phone ____________________________ e-mail ____________________________

CREDIT CARD

☐ Visa ☐ Master Card ☐ Discover ☐ American Express
Credit Card # ____________________________ Expiration Date ____________
Name on Card ____________________________ Signature of Cardholder ____________________________
Complete Billing Address for Card ____________________________

Page 38
USD Campus Map. Parking structures are numbers 2 (West Marian Way Parking–closest to meeting site) and 48 (Mission Parking–closest to Mission Housing Complex). Meeting rooms are on the west end of campus, in the Joan B. Kroc Institute for Peace and Justice (#12), the Shiley Center for Science and Technology (#17), and Camino Hall (#16), location of the Shiley Theater.
AAAS, Pacific Division
92nd Annual Meeting
UNIVERSITY of SAN DIEGO
San Diego, CA
12 – 16 June 2011
PRELIMINARY ANNOUNCEMENT of SYMPOSIA,
FIELD TRIPS and OTHER EVENTS

SYMPOSIA
(starting on page 23)

• Applied Ethics of Ancient Mummy Research
• Egyptian Child Mummy
• Imaging of Ancient Mummies
• Human Experimental Mummification
• Alternative Energy
• Panama Canal Expansion
• Antarctic Ice Is Nice
• Fragile X Syndrome: Advances in Our Understanding of a Common Cause of Retardation and Autism
• Recent Challenges to the Second Law of Thermodynamics: Experiment and Theory
• United States and World’s Fairs
• The Changing Role of the Research University in K–12 Science Education
• Pathways to Science: Promoting Inquiry-Based Learning Beyond the Classroom

WORKSHOPS
(starting on page 22)

• Artefact Annotation – Developing an Ontology to Help Mine Datasets
• Field and Advanced Paleoimaging
• Finding Information in Open Access Journals

FIELD TRIPS
(starting on page 21)

• San Diego Coastal Geology and Hazards
• Come See the Wonders of the Fairs: A Walking Tour

AAAS National Meeting
17 – 21 February 2011
Science Without Borders
Washington, DC
http://www.aaas.org/meetings/

NOTE: These programs are being planned as of 7 December 2010. However, changes in offerings frequently occur. For up-to-date information, please visit the Pacific Division web site, pacific.aaas.org