The AAAS, Pacific Division and its affiliated societies and sections will hold its 94th annual meeting this June at the University of Nevada, Las Vegas, in Las Vegas, Nevada. The Division is especially pleased to welcome participants of the Arizona–Nevada Academy of Sciences and also the Northwest and Southwest Regions of Sigma Xi, The Scientific Research Society, to our annual meeting and to acknowledge the University of Nevada, Las Vegas (UNLV) as a contributing sponsor of the meeting.

The Division’s Program and Special Events Committee and the local Program Committee on the UNLV campus have been 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 all 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. Steve Rowland, Department of Geosciences at UNLV, is chair of the Division’s local organizing committee.
CONTENTS

2013 Meeting Announcement........................................1
Las Vegas and the University of Nevada, Las Vegas........2
Report on 2012 Annual Meeting..................................3
BIG CHANGES COMING.............................................3
Students Take Note!.................................................4
Announcements ......................................................6
Poster Judges Sought for PD Las Vegas Meeting..........6
Leviton Student Research Award 2012 Winner ..........8
Student Awards from the 2012 Annual Meeting ....12
Annual Meeting Information
Societies and Sections Sponsoring Sessions..............11
Registration ..........................................................15
Meeting Housing ...................................................17
Food on Campus .....................................................17
Travel to the Meeting .............................................17
On-Campus Parking ..............................................18
Registration Center ...............................................18
Meeting Rooms .....................................................18
Times and Locations of Presentations .....................18
Computers and PowerPoint ....................................18
Call for Papers and Abstracts .................................18, 32
Student Awards for Excellence ..............................19
Special Events ......................................................19
Public Lectures .....................................................20
Field Trips ............................................................20
Workshops ............................................................23
Symposia ...............................................................23
Contributed Papers ..............................................28
Poster Sessions .....................................................28
Program Organizers .............................................28
Call for Papers and Abstracts .................................18, 32
Call for Symposia and Workshop Proposals
for the 2014 Riverside Meeting ..............................33
Dorm Housing Registration Form .........................34
Advance Registration Form ....................................35
Pacific Division Publications .................................38
Map ......................................................................39

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ADVancing Science. Serving Society

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LAS VEGAS AND THE
UNIVERSITY OF NEVADA, LAS VEGAS

Brief History of Las Vegas

Hard as it may be to believe, the Las Vegas Valley and most of southern Nevada was once a marsh, awash with water and vegetation. As hundreds of thousands of years went by, the rivers went underground and the marshlands receded, eventually turning the valley into an arid landscape surrounded by the rain-trapping Sierra Nevada and Spring Mountains, that supported only the hardiest of animals and plants. However, water periodically resurfaced, flowing into the Colorado River and creating what has been described as a wetland oasis in the midst of the Mojave Desert. As evidenced by petroglyphs, it is thought that Native Americans first explored the Las Vegas Valley several thousand years ago, followed by the Anasazi who lived along the Muddy and Virgin Rivers about 2,000 years ago. It is known that the Paiutes also traversed the Las Vegas valley.

The first people of European ancestry to explore the area arrived in 1829, with Antonio Armijo leading a party of 60 on the Old Spanish Trail to Los Angeles. Camped about 100 miles from the present Las Vegas, a scouting party was sent out to explore for water. A young Mexican scout, Rafael Rivera, departed from the main party and headed due west over the desert, discovering an abundance of artesian spring water at an oasis. This discovery allowed early traders to shorten their routes by several days by cutting across rather than skirting around the Mojave Desert. The valley was named Las Vegas, "The Meadows" in Spanish.

Sources:
- en.wikipedia.org/wiki/History_of_the_Las_Vegas_Valley
- www.intermind.net/im/history.html
- www.lvol.com/lvoleg/hist/lvhist.html
- www.lasvegasnevada.gov/FactsStatistics/history.htm

see HISTORY, page 4
In June 2012 the Pacific Division held its 93rd annual meeting at the Boise Centre on the Grove in Boise, Idaho. Co-located with us for this meeting was the 67th annual meeting of the Northwest Region of the American Chemical Society (NORM 12). The meeting was well attended, with about 750 registrants between both groups. The Pacific Division’s technical program included sixteen symposia, one poster session, six contributed paper sessions, and two workshops. Additionally, there were three field trips.

Activities began Sunday afternoon with a walking field trip along the Boise River, led by Dr. Todd Shallat of the Center for Idaho History and Politics, Boise State University. That evening was a lively panel discussion, *When Science and Policy Meet: Marriage or Divorce?*, involving Drs. Cynthia Burrows (Distinguished Professor of Chemistry, University of Utah and also Board Member of Utah Science Technology and Research (USTAR)), John Freemuth (Professor of Political Science, Senior Fellow of the Andrus Center for Public Policy, and former Chair of the national Bureau of Land Management Science Advisory Board) and Patrick Shea (Associate Research Professor of Biology, University of Utah, and Former Director of the Bureau of Land Management). Following the panel discussion was a very nice reception hosted by Dr. Bob Kustra, President of Boise State University.

The technical program continued Monday with several very interesting symposia: *Library Science and Archives*, organized by Mses. Crystal Goldman (Dr. Martin Luther King, Jr. Library, San Jose State University) and Michal Walden (Archivist for the Idaho State Archives, Division of the Idaho State Historical Society); *Long Term Space Flight and Health*, organized by Drs. Julia Oxford and Barbara Morgan (Boise State University); *Forensic Psychology in Evaluating a Lone Wolf Terrorist: An Analysis of the Norway Killer* and *The Forensic Psychology of Women Death Penalty Cases*, both organized by Dr. Ronn Johnson (University of San Diego); *Computability and Complexity in Mathematics*, organized by Dr. Liljana Babinkostova (Boise State University), *Responses of Sagebrush-Steppe Ecosystems to a Changing Climate*, organized by Drs. Kevin P. Feris and Marie-Anne de Graaff (Boise State University); and *Expert and Novice Learning in STEM: Exploring Assumptions and Indicators of Success*, organized by Drs. Kevin P. Feris and Marie-Anne de Graaff (Boise State University).

**DIVISION ACTIVITIES AND STUDENT AWARDS AT THE ANNUAL MEETING IN BOISE**

At the June 2012 meeting of the Pacific Division’s Executive Committee, Dr. Christianson announced his intention to step down as Executive Director of the Pacific Division, noting that he plans to retire from Southern Oregon University on 30 June 2014 and that would likely be a good time to also pass on the torch of the leadership of the Division. The Executive Committee has formed a search committee for the next Executive Director and is currently accepting applications. If you or someone you know is interested in applying for this position, a position announcement and job description can be found on links from the Pacific Division home page, pacific.aaas.org.

The Pacific Division is going greener

In an effort to conserve precious funds and a bunch of trees at the same time, the Pacific Division is planning to cease production of hard copies of its biannual Newsletter, which will then be available only as downloads from the Division’s home page. Since 2002, the newsletters have been dual published, being mailed out as hard copies and also being available as PDF downloads. Starting in 2015, though, they will be available only as PDF downloads from the Division’s home page. For this year and next, it is planned to send one hard copy Newsletter (this year the January issue), with the second (the April issue this year) being available only in PDF download format. Watch for a postcard reminder informing you when the April Newsletter becomes available this spring. Eventually, the notification will be solely by e-mail. If you have chosen to not receive e-mailings from AAAS, please change that preference in your AAAS account in order to enable us to continue to communicate with you.
On 13 May 1844 John C. Fremont, while leading an overland expedition to the west, camped at Las Vegas Springs. His journal accounts of two springs he discovered were very popular and caused many people to visit the area.

In 1855, members of the Mormon Church, looking for a halfway stopover between Salt Lake City and Los Angeles, built a fort at Las Vegas with the plan to raise fruits and vegetables and also to mine lead at Potosi Mountain to make into bullets. However, they abandoned the fort in 1858 because of Indian raids. A portion of this fort still stands near the intersection of Las Vegas Boulevard North and Washington Avenue.

Nevada was admitted as the 36th state of the United States in 1864. Twenty-one years later, the State Land Act of 1885 offered sections of land at $1.25 per acre, which spurred an agricultural boom for the next 20 years. Meanwhile, railroad development by 1904 had connected the west to the east through Las Vegas. The San Pedro, Los Angeles and Salt Lake Railroad, later to become Union Pacific, made its inaugural run from Los Angeles to the east, passing through Las Vegas, on 20 January 1905. This railroad traffic led to the founding of the city of Las Vegas when, on 15 May 1905, the railroad auctioned off 110 acres for home site and business development. Six years later, with a population of 800 and a vote of 168 for and 57 against, the city of Las Vegas was incorporated. Just prior to that, in 1910, a strict anti-gambling law that even forbade the western custom of flipping a coin for the price of a drink became effective in Nevada. This ban on gambling has been described as lasting about three weeks in Las Vegas, as private clubs sprouted up and locals who knew the appropriate passwords were again gambling. This illegal but accepted gambling continued until 1931, when the Nevada legislature once again legalized gambling. The population of Las Vegas hit 5,165 in 1930.

The other big event to hit Nevada and the Las Vegas area in 1931 was the beginning of the construction of Hoover Dam, which was

**STUDENTS TAKE NOTE!**

The Pacific Division has a website just for students, called STUDENTS ONLY! Its address is http://associations.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 2013! Information can be found at http://associations.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 2013! Information can be found at http://associations.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://associations.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 14 – 18 February 2013 in Boston, Massachusetts. 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 a link to the application form may be accessed from the Pacific Division home page, http://pacific.aaas.org.

**HISTORY, from page 2**

On 13 May 1844 John C. Fremont, while leading an overland expedition to the west, camped at Las Vegas Springs. His journal accounts of two springs he discovered were very popular and caused many people to visit the area.

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Nevada was admitted as the 36th state of the United States in 1864. Twenty-one years later, the State Land Act of 1885 offered sections of land at $1.25 per acre, which spurred an agricultural boom for the next 20 years. Meanwhile, railroad development by 1904 had connected the west to the east through Las Vegas. The San Pedro, Los Angeles and Salt Lake Railroad, later to become Union Pacific, made its inaugural run from Los Angeles to the east, passing through Las Vegas, on 20 January 1905. This railroad traffic led to the founding of the city of Las Vegas when, on 15 May 1905, the railroad auctioned off 110 acres for home site and business development. Six years later, with a population of 800 and a vote of 168 for and 57 against, the city of Las Vegas was incorporated. Just prior to that, in 1910, a strict anti-gambling law that even forbade the western custom of flipping a coin for the price of a drink became effective in Nevada. This ban on gambling has been described as lasting about three weeks in Las Vegas, as private clubs sprouted up and locals who knew the appropriate passwords were again gambling. This illegal but accepted gambling continued until 1931, when the Nevada legislature once again legalized gambling. The population of Las Vegas hit 5,165 in 1930.

The other big event to hit Nevada and the Las Vegas area in 1931 was the beginning of the construction of Hoover Dam, which was
For the AAASPD meeting in 2010, I organized an art exhibit at Southern Oregon University, with the collaboration of the extremely capable curator on the SOU campus, Michael Crane. We asked artists throughout the United States to submit work that fit the category of “Art Inspired by Science.” We selected thirty-five artists and displayed over a hundred of their works throughout the summer months.

One outcome of the exhibit is my book, *Art Inspired by Science*, published by AAASPD, available on the Pacific Division web site, and from which I take material for this (excerpted) address.

The connection between art and science has a long history. Consider the tradition of colleges of arts and sciences where the two approaches to knowledge constitute integral parts of classical study. We still use those academic titles, but active collaboration among them is rare. What might we be missing without it? Are we more divided now because of their estrangement and divorce?

Pictured to the right is Leonardo da Vinci’s 523 year old iconic depiction of the beautiful correspondences between human beings and the world, “The Vitruvian Man” of 1490. We can surmise that he produced this image through the agency of his own connected and unified consciousness. But also the radical division between arts and sciences had not yet really occurred. Leonardo was not only a founding genius in both art and science; he was also a great anatomist and a technical designer of unique machines. Some think he came from outer space! And some commentators now think Leonardo portrays himself here, and, with a revealing nod to anatomical realism, includes what looks like an inguinal hernia on his left side—Leonardo, abstract dreamer and honest realist.

Here he illustrates the harmony between human proportion and the geometry of circle and square, symbolizing in his day the Earth and the Heavens. Leonardo sees us fitting perfectly with the world and the cosmos—our body itself reveals mathematical symmetries: the outstretched arms equals the man’s height, the length of the hand is one-tenth of the height, etc.

This is what I call a “sci-art” work,” “science-art,” where reason and imagination, rig-
completed in 1935. Construction of the dam caused the population to swell to over 25,000, with most of the newcomers being single males looking for jobs on the dam. This influx of single males resulted in the development of casinos and showgirl theaters. After completion of the dam, the dam itself and Lake Mead, which formed behind the dam, became tourist attractions on their own, leading to the development of additional higher class hotels in Las Vegas.

Electricity from Hoover Dam powered Las Vegas and Fremont Street which, because of the many bright lights, became known as “Glitter Gulch.” The extravagance of these lights can still be experienced today in the four block long stretch of Fremont Street known as the “Fremont Street Experience.”

The first hotel of the famous Las Vegas Strip, the El Rancho Vegas, opened on 3 April 1941. As gangster influences became greater, several Las Vegas landmark hotels, such as the Sahara, the Sands, the New Frontier, the Showboat, the Riviera, the Fremont, Binion’s Horseshoe, and the Tropicana, all offering top name entertainment, were built in the early 1950s.

During this spurt of hotel construction, the first atomic bomb was detonated at the Nevada Test Site on 27 January 1951. This was the first of over a hundred atmospheric explosions at the Nevada Test Site, which continued until the Partial Test Ban Treaty of 1963 was enacted and nuclear testing moved underground. Because the risks of these explosions were greatly underestimated at the time, they were advertised as another tourist attraction. Several hotels had sky rooms that offered panoramic views of the mushroom clouds.

In 1966, Howard Hughes moved into the Desert Inn, purchasing the property so he wouldn’t be forced by the hotel staff to leave when his initial two week stay ended. With Howard Hughes came a different Las Vegas, with its image changing from its Wild West roots into a more refined and cosmopolitan city. Following Hughes’ lead, corporations purchased or built large hotels, while renovating or tearing down the older landmark hotels.

Today, the city boasts seventeen of the twenty largest hotels in the U.S. Top name performers continue to headline at the various hotels. The city has continued to grow until at its 100th anniversary, the population of Las Vegas was estimated to be 544,806 residents, with an estimated 589,317 residents on 1 July 2011. The transformation from a gangland-led gambling mecca to a respectable international destination was complete.
My master’s thesis work utilizes nutrient uptake kinetics to study the nitrogen uptake capability of the harmful bloom-forming cyanobacterium *Microcystis aeruginosa* in the San Francisco Estuary Delta (SFE Delta). This approach looks at the relationship between the uptake rate by an organism, typically measured using an isotopically-labeled nutrient such as $^{15}$N-labeled nitrate or ammonium, and the nutrient substrate concentration. The parameters obtained from such studies can describe an organism’s affinity or preference for different forms of nitrogen, and can be used to infer competitive advantages between different algal species based on the types and concentrations of nutrients present. Four different nitrogenous substrates are being investigated: nitrate, ammonium, urea and glutamic acid. Nitrogen is an important nutrient because it is used in photosynthesis and also in protein synthesis by phytoplankton.

Funding provided by the AAAS, Pacific Division Alan E. Leviton Award has allowed me to conduct eight nitrogen uptake kinetics experiments to date (generating 512 uptake samples), using field-assemblages of *M. aeruginosa* from the SFE Delta. These samples were assayed for nutrient concentration, cyanobacterial nitrogen biomass, and isotopic composition with mass spectrometry so that uptake rates could be calculated.

Preliminary results show that, based on the maximal uptake velocities measured (Vmax), *Microcystis* collected from the field show a nitrogen preference for ammonium, followed by urea, nitrate and lastly, glutamic acid. Ambient nitrogen concentrations in the SFE Delta measured during these experiments indicated that concentrations may be at sub-saturating levels for nutrient uptake, implying that *Microcystis* could increase its nitrogen assimilation rates if nutrient concentrations in the field were to rise; this may translate into increased cyanobacterial growth.

Observed variability in the kinetics parameters obtained during the different experiments was expected, as the field assemblages used varied in algal composition. For example, the cyanobacteria *Anabaena* and *Aphanizomenon* were present in some of the field assemblages that I collected and may have had different uptake kinetics than samples that were dominated entirely by *Microcystis*. Still, the parameters generated from this research to date are comparable and within range of nitrogen uptake kinetics studies reported in the literature for other phytoplankton, including *Microcystis*.

Follow-up work will include conducting nitrogen uptake kinetics experiments using cultures of toxic and non-toxic strains of *Microcystis*. Using a pure culture of *Microcystis* will allow me to narrow down the variation seen in the field samples. Studying these two strains will also enable me to see if there are different nutrient uptake capabilities related to toxin production or lack of toxicity.

Improved understanding of the nitrogen uptake capabilities of *Microcystis* should inform managers concerned with water quality and the control of *Microcystis* blooms in the SFE Delta.
2012 Alan E. Leviton AAAS, Pacific Division Student Research Award Winner Announced

ASHLAND, Oregon – Jamie Lee, Romberg Tiburon Center for Environmental Studies, San Francisco State University, was recently announced as the winner of the 2012 Alan E. Leviton AAAS, Pacific Division Student Research Award competition. Ms. Lee was awarded a grant of $750 for her project, *Nutrient Uptake Kinetics of Microcystis aeruginosa in the San Francisco Estuary*.

When contacted with the good news, Ms. Lee replied, “I would like to thank you and the AAAS, Pacific Division for this generous award! The funding will help greatly with my research. I look forward to reporting the results from my experiments.” Look for her report on page 7 of this Newsletter.

Don’t forget! Applications are being accepted through 1 May 2013 for the 2013 Research Award competition. Additional information may be found at http://associations.sou.edu/aaaspd/Students/StudentResearchGrants.html and also on page 4 of this Newsletter.

HISTORY, from page 6

Brief History of the University of Nevada, Las Vegas

In its 55 year history, the University of Nevada, Las Vegas (UNLV), has undergone an amazing transformation, from a dusty outpost on the south edge of town to a thriving urban research institution. Along the way, thanks to its innovative frontier spirit, UNLV has kept pace with one of the country’s fastest-growing and most enterprising cities.

The university’s origins were humble, indeed. In 1951, when the post-war boom had swollen Las Vegas’ metropolitan population to more than 50,000, the University of Nevada, Reno (UNR), established an extension program. Twenty-eight students began meeting for classes in the dressing rooms of Las Vegas High School’s auditorium. In 1954, the Nevada Board of Regents founded the Southern Regional Division of the University of Nevada, popularly known as Nevada Southern. Students adopted the Rebel name and mascot to reflect their desire to break free from UNR. After Las Vegas residents exerted pressure, the regents decided to acquire land for a campus, finally selecting an 80 acre parcel along the two-lane dirt road known as Maryland Parkway.

On September 10, 1957, the first classes were held on campus in a new 13,000 square foot building, later named for Maude Frazier, a state assemblywoman and founding force behind Nevada Southern. A year later, the school received accreditation from the Northwest Association of Secondary and Higher Schools. To serve the growing enrollment, buildings went up in a flurry of construction, including a physical education and health center, a science and technology building, a classroom building named for regent Archie C. Grant, and the James R. Dickinson Library, named for the first director of the extension program.

Despite its expansion, Nevada Southern remained under UNR’s control. In fact, university officials required students to spend a semester in Reno before graduating. After fighting to become a degree-granting institution, Nevada Southern held its first commencement in 1964, graduating 29 students as the “Centennial Class” in honor of Nevada’s 100th anniversary as a state. The next year, the school became Nevada Southern University, with its own curriculum. Donald Moyer served as its first chancellor and then became its first president in 1968, when the university finally won its autonomy under the state’s higher education system, giving it equal status to UNR.

In 1969, with the board of regents’ approval, the university adopted its current name. By the following year, as Las Vegas’ metropolitan population reached 275,000, UNLV enrolled more than 5,500 students. During the 1977-78 academic year, UNLV surpassed UNR in total enrollment.

Over the next three decades, UNLV continued this heady rate of development — erecting more than 100 buildings, developing dozens of graduate programs, creating partnerships with the community, fielding nationally ranked sports teams, founding an alumni association, promoting scholarship, establishing a fundraising foundation, and recruiting diverse and talented students from across the country.

UNLV Today

Today, UNLV is an institution of approximately 27,000 students and nearly 2,900 faculty and staff located minutes from the Las Vegas Strip. Classified by the Carnegie Foundation for the Advancement of Teaching as a research university with high research activity, UNLV offers more than 200 undergraduate, graduate and doctoral degree programs including innovative academic degrees in such fields as gaming management, entrepreneurship, entertainment engineering and much more. The entertainment capital of the world, Las Vegas offers students a “living laboratory” for research, internships, and a wide variety of job opportunities. UNLV is dedicated to developing and supporting the human capital, regional infrastructure, and economic diversification that Nevada needs for a sustainable future.

Additional information about UNLV can be found on these four web pages:

ir.unlv.edu/IAP/Reports/Content/Common+Data+Set+2011-12.aspx
news.unlv.edu/units/sciences
news.unlv.edu/highlights
www.unlv.edu/about/glance/highlights#university

Page 8

E-mail us at aaaspd@sou.edu
Senior Scientists and Engineers are Helping Support Major Educational Initiatives by Bringing Real-World Science into the K-12 Classroom

One of the many recommendations of the 2010 PCAST report to the President entitled “Prepare and Inspire: K-12 Education in Science, Technology, Engineering and Mathematics (STEM) for America’s Future” (http://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast-stemed-execsum.pdf, was that all elementary, and secondary schools should partner with a professional organization to put the students in contact with real-world scientists to provide them with insights into the outside world. These real-world connections have been further embraced by The Next Generation Science Standards (NGSS) (http://www.nextgenscience.org/), an ambitious project led by the National Research Council, National Science Teachers Association, AAAS, and Achieve Inc. to change the way science is being taught in our public schools. These new standards will provide an important opportunity to not only improve science education, but also to enhance student achievement, as well as reflecting a new vision for American science education. It is clear that a key component of both the PCAST report and the NGSS initiative is that it’s critical to introduce students to science as it’s applied in the real world.

There are many ways to achieve this, but one approach is to bring retired scientists into the classroom to support teachers on a volunteer basis. They can significantly enhance learning and provide motivation for students to pursue scientific careers. These volunteer programs are gaining a great deal of momentum and are proving that someone who has spent their entire professional life working in a specialized field of science or engineering, can make a significant impact on students and teachers by demonstrating that STEM subjects are interesting and fun to learn.

One such volunteer program, established in 2005 by the AAAS through its affiliate organization, the Senior Scientists and Engineers (SSE) (www.seniorscientist.org), puts retired scientists, engineers and physicians back into the classroom of public schools in the greater Washington, DC area. This is achieved by asking each volunteer to commit to participating for an entire school year, dedicating 4-8 hours of their time a week. The program currently has almost 80 active volunteers enhancing the scientific learning experience for many students in a number of elementary, middle and high schools.

There are also similar, well-established programs in other parts of the country. For example RE-SEED (http://www.reseed.neu.edu), which is part of the Center for STEM Education at Northeastern University, has over 80 active volunteers assisting K-12 science teachers in the Greater Boston area. Another program called TOPS (http://www.topslearning.org/), run by San Joaquin County Office of Education, has almost 50 volunteers working in elementary schools in 5 counties in Northern California.

Even though these programs initially involved retirees, they are also attracting younger scientists whose companies or institutions are sympathetic to their employees volunteering in local schools. Or maybe the volunteers had always thought about teaching, but were hesitant to take the first step. This is an excellent way of finding out if they are suited to working in a classroom environment. Their specific activities are developed jointly with the teachers they are assigned to and are dependent on the needs of the teacher, combined with the expertise and comfort level of the volunteer.

So, if you are at a stage of your life that allows you to volunteer a few hours a week for the school year, or if you are an educator who would like to bring an experienced scientist or engineer into your classroom, please contact the AAAS Department of Education at sse@aaas.org to see if there is a STEM volunteer program near you. There is no question that programs like the ones described here can make a huge impact in helping our children find a real passion for science.

[N.B. Please turn to page 15 in this Newsletter for a call for volunteers for a new SSE program that is being started in Seattle, WA.]

-Robert Thomas, Principal Consultant
Scientific Writing Solutions
www.scientificwritingsolutions.net
DIVISION ACTIVITIES, from page 3

organized by Drs. Louis Nadelson (Boise State University) and Carl Maida (University of California, Los Angeles).

Additional technical programs on Monday included three contributed paper sessions and a poster session. Topics included in the contributed paper sessions were sponsored by the Pacific Division sections of Agriculture and Horticultural Sciences; Chemistry and Biochemistry; Earth Sciences; Ecology; Organismal Biology, and Environmental Sciences; Health Sciences; Mathematics; Oral Biology and Dental Medicine; and Physics and Materials Science. Topics included in the poster session included those sponsored by the Pacific Division sections of Anthropology and Archaeology; Cell and Molecular Biology; Chemistry and Biochemistry; Earth Sciences; Ecology, Organismal Biology, and Environmental Sciences; Education; Engineering, Technology, and Applied Sciences; Health Sciences; History and Philosophy of Science; General and Interdisciplinary Studies; Mathematics; Oral Biology and Dental Medicine; and Physics and Materials Sciences.

In between all of the above activities on Monday was the noon public plenary lecture, Reckoning with Redox in the RNA World, presented by Dr. Cynthia Burrows (Distinguished Professor of Chemistry, University of Utah and Board Member of Utah Science Technology and Research (USTAR)). Monday evening was the public plenary lecture, Aukera: A History of the Basques in Idaho, presented by Dr. John Bieter (Department of History, Boise State University).

Technical sessions continued Tuesday, with several more captivating symposia: Computability and Complexity in Mathematics, Session II, a continuation of the mathematics program that began on Monday; Biofuel: Computational Modeling of Cellulose and Cellulase, organized by Dr. C. Mark Maupin (Colorado School of Mines); Water Resource Management in the Arid West: Historical Perspectives and Emerging Issues, organized by Dr. Scott E. Lowe (Boise State University); Modeling, Simulation, and Data Visualization, organized by Drs. Tim Anderson and Jeff Habig (Boise State University); Transport Across Membranes, organized by Drs. Daniel Fologea (Boise State University) and James R. Groome (Idaho State University); Science-Themed Fiction, organized by Dr. Robert L. Chianese (California State University Northridge and President of the Pacific Division); and Mechanisms of Tumor Progression and Cancer Therapeutics, organized by Dr. Cheryl Jorcyk (Boise State University).

Additional technical sessions on Tuesday included three contributed paper sessions, sponsored by the Pacific Division sections of Anthropology and Archaeology; Cell and Molecular Biology; Mathematics; and Social, Economic and Political Sciences.

The noon public lecture, Correcting DNA Errors: From Amanda Knox’s Wrongful Conviction to Sexual Assaults in Georgia, presented by Dr. Greg Hampikian (Professor of Biological Sciences and Criminal Justice, Boise State University), was a riveting talk on how new DNA evidence is helping to free people who have been wrongfully convicted of crimes they didn’t do.

The afternoon technical program included not only several of the afore-mentioned symposia, but the workshop Programmed Genome Remodeling in Ciliates and Computing, organized by Dr. Marion Scheepers (Boise State University).

Tuesday evening was the Student Awards Banquet, held in the Double R Ranch Room of the Stueckle Sky Center on the Boise State campus. A special word of thanks to Dr. Bob Kustra, President of Boise State University, for providing this spectacular venue for the banquet. The evening began with a very nice reception hosted by Sigma Xi, The Scientific Research Society. Following a tasty dinner of Fresh Idaho Trout, Grilled Teriyaki Flank Steak and Stuffed Portobello Mushroom, Dr. Kelly O. Sullivan, 2012/2013 President of Sigma Xi, presented Dr. Sivaguru Jayaraman (North Dakota State University) with the 2012 Sigma Xi Young Investigator Award. Following this, the winners of the student Awards of Excellence were announced (see page 12 and following of this Newsletter for details), followed by a very interesting talk by Dr. Bob Chianese (California State University Northridge and President of the Pacific Division), entitled Art Inspired by Science: Complementary Visions.

The awards banquet always brings together old friends, and this evening was no disappointment, with five past, present and future presidents of the Pacific Division – Drs. David Stoddart (93/94), Carl A. Maida (06/07), John Hafernik (09/10), Robert L. Chianese (11/12), and Owen M. McDougal (12/13) – in attendance.

The evening culminated with the transition of the Pacific Division presidency from Dr. Chianese to Dr. Owen M. McDougal, incoming president for 2012/2013, which officially occurs at the close of the annual meeting.

Technical sessions continued on Wednesday with the following engaging symposia: Emerging and Re-Emerging Infectious Diseases, organized by Dr. Michael J. Aldape (Veterans Affairs Medical Center, Boise, Idaho); Recent Advances in Pharmacology and Toxicology, organized by Dr. Kristen Mitchell (Boise State University); and Biophysical Insights from Experimental Approaches to Computational Simulations, organized by Dr. Dong Xu (Boise State University).

In addition to these symposia, the Wednesday program included two contributed paper sessions, sponsored by the Pacific Division section on Education, History and Philosophy of Science, and Mathematics, and the workshop DockMatic: Docking Calculations and Homology Modeling, organized by Dr. C. Mark Maupin (Colorado School of Mines).

The noon public plenary lecture on Wednesday was Learning from Nature: Bio-mimetic Supramolecular Photocatalysis, the 2012 Sigma Xi Young Investigator Award Lecture presented by Dr. Sivaguru Jayaraman (North Dakota State University).

In addition to the technical program, meeting attendees enjoyed several field trips. On Sunday, there was the option of touring and learning about the floodway design of the Boise River on the walking tour, Remaking the Boise River on the...
AAAS Vision and Change in Undergraduate Biology: Chronicling the Changes

Reports, such as Vision and Change (http://visionandchange.org/finalreport) and the many that preceded and followed it [Biology 2010, the 2012 report of the President’s Council of Advisors on Science and Technology (PCAST, 2012), the 2012 NRC report on discipline based education research (NRC, 2012)] have emerged over the years and generated needed momentum for Transforming Undergraduate Education in Biology. The subsequent ripples of concern about the state of undergraduate biology education have resulted in some good ideas and exciting projects that could serve as examples of what works and why; but, there is a pressing need for a coordinated follow-up effort to:

- Chronicle outcomes of the report and the initiative;
- Document the trajectory of change following the report; and
- Identify a set of exemplars of how the community accomplished the changes needed in a variety of institutions.

Towards this end AAAS and its partners and advisors are conducting a series of on-line activities that will culminate in the second conference on Vision and Change in Undergraduate Biology: Chronicling the Changes. The series of on-line activities is open to the entire biology community and includes (a) submission of abstracts describing your efforts and outcomes to promote change in undergraduate biology education and (b) an on-line survey to be conducted later this coming spring. The invitation only conference will be held in Washington, DC on August 28-30, 2013. Partners Include the National Science Foundation (NSF), Howard Hughes Medical Institute (HHMI); the National Institutes of Health (NIH) National Institute of General Medical Sciences (NIGMS) Division of Training, Workforce Development and Diversity (TWD); and the United States Department of Agriculture (USDA), National Institute of Food and Agriculture (NIFA).

NIH, HHMI, and NSF have also partnered to launch the PULSE (Partnership for Undergraduate Life Sciences Education) program to stimulate systemic change at the department level based on the recommendations from Vision & Change. The PULSE Steering Committee, working with the American Institute of Biological Sciences and Knowinnovation Inc., have selected 40 Vision & Change Leadership Fellows who represent research universities, regional or comprehensive universities, liberal arts colleges, and community colleges. The Fellows are engaged in a yearlong set of activities that are designed to implement strategies for change at the department level. Information about these activities, including opportunities for input from the broader community, is available at http://www.pulsecommunity.org.

The objectives of both the conference and survey will include:

- Sharing and learning about innovative strategies that biological sciences departments, faculty, and societies have implemented, as a result of the V&C initiative.
- Refining tested ideas and strategies and identifying lessons learned for dissemination of innovative ideas in biology undergraduate education throughout the biology community.
- Identifying challenges to implementing the V&C recommendations for change, including how those challenges were overcome and challenges that still remain.
- Understanding how faculty and administrators became agents of change at an institutional level.

For more information, please e-mail Yolanda S. George, (ygeorge@aaas.org), AAAS, Deputy Director for Education and Human Resources Programs.
Eve of the Millennial Flood, organized and led by Dr. Todd Shallat (Boise State University) or touring the Snake River Birds of Prey National Conservation Area and the World Center for Birds of Prey on the field trip, *Birds of Prey*. On Wednesday was a trip to the Bruneau Sand Dunes, *Bruneau Dunes and Observatory*, about an hour and a quarter south of Boise, where participants learned about the geology of the area and spent time in the evening planet-watching at the Bruneau Dunes Observatory. No matter which direction the vans headed or on what day people traveled, the field trips were universally enjoyed by the participants. Thank you, field trip planners and leaders!

Special words of thanks: Without the participation and help of these individuals, the 93rd Annual Meeting would not have been the gala event it was, and may not have happened at all! So, thank you Drs. Owen McDougal, Don Warner, Eric Brown and the entire NORM 12 crew for inviting us to again co-locate our meeting with their meeting. Thank you President Bob Kustra for inviting us to hold our banquet in the Stueckle Sky Center and lending your support and encouragement on campus for this meeting. Thank you Drs. Martin Schimpf (BSU Provost) and Mark Rudin (BSU Vice President for Research) for encouraging your faculty to participate in the meeting and also for the monetary support you provided the Division, which made it possible to again meet at the Boise Centre with the Snake River Section of the American Chemical Society. Thank you Dr. Owen McDougal, chair of our local organizing committee for this meeting, and the team of people on the Pacific Division side of the meeting who helped to develop a very fine technical program. Finally, our thanks go out to the many volunteers who stuffed meeting bags, helped at the registration desk and did a myriad of things behind the scenes to help this meeting go smoothly.

**Divisional Student Presentation Awards**

**Laurence M. Klauber Award:** David J. Hoekema (Department of Biological and Agricultural Engineering, University of Idaho, Boise, ID), *Calculator: Optimized Surface Water Allocation in Drought (OSWAD)*.

**Geraldine K. Lindsay Award in the Natural Sciences:** Yan Wang (Department of Biological Sciences, Boise State University, Boise, ID) *Testing Monophony and Phylogenetic Relationships of Smittium (Harpellales) using a Five-Gene Phylogenetic Analysis*.

**Best Poster Award:** Benjamin D. Hobson (Department of Psychology and Neuroscience and Center for Neuroscience, University of Colorado, Boulder, CO) *Stimulation of Adenosine A1 Receptors in the Nucleus Accumbens Reduces Dopamine D1 Receptor-induced Reinstatement by Antagonizing D1-mediated Enhancements in Glutamate Transmission*.

**Presidents Award:** Lu Xu (Department of Pharmaceutics and Medicinal Chemistry, University of the Pacific, Stockton, CA) *Molecular Docking, Synthesis of Novel Quinazolin Analogues as Inhibitors of Transcription Factors NF-kB Activation and Their Anti-Cancer Activities*.

**AAAS – Robert I. Larus Travel Award:** Benjamin D. Hobson (Department of Psychology and Neuroscience and Center for Neuroscience, University of Colorado, Boulder, CO) *Stimulation of Adenosine A1 Receptors in the Nucleus Accumbens Reduces Dopamine D1 Receptor-induced Reinstatement by Antagonizing D1-mediated Enhancements in Glutamate Transmission*.

**Sectional Student Presentation Awards**

**Combined Sections of Health Sciences**

**Oral Biology and Dental Medicine**

**FIRST PLACE:** Nicholas M. Anderson (Department of Medicine, University of California, Los Angeles, CA), *Development of a New Approach to Kill Non-Small Cell Lung Cancer with Resistance to Standard Chemotherapy*.

**SECOND PLACE:** Eric S. Donahue (College of Health Science, Boise State University, Boise, ID), *Delta Dental of Idaho School-Based Dental Sealant Program: An Evaluation of Sealant Retention and Dental Caries Prevention*.

**THIRD PLACE** (tie): Valeria Ursu (Department of Biochemistry and Biophysics, Oregon State University, Corvallis, OR), *Tooth Micro-hardness Changes after Applying Bioactive Glass-containing, Anti-microbial Sealants*.

**THIRD PLACE** (tie): Imani Smith and Cecilia Reyes (HHMI Pre-College Science Education Program, University of California, Los Angeles, CA), *The Mitigation Effects of Bio-Radioprotectors Pentoxifylline and Norfloxacin on Radiated Bone Marrow Mesenchymal Stem Cells In-Vitro*.

**Combined Sections of Engineering, Technology and Applied Sciences**

**Physics and Materials Science**

**FIRST PLACE:** Kimo Wilson (Department of Materials Science and Engineering, Boise State University, Boise, ID), *Growth and Magnetic Properties of Co-deposition Ni-Mn-Ga via Radio Frequency and Direct Current Physical Vapor Deposition*.
Please join us for the International Teacher-Scientist Partnership Conference, February 13-14, prior to the AAAS Annual Meeting. AAAS is partnering with the Science & Health Education Partnership at the University of California San Francisco, www.ucsf.edu/sep, to organize this meeting for professionals in the K-12 teacher-scientist partnership field and others interested in developing such partnerships. Participants will learn from each other while also deepening understanding of these partnerships and their role in science education. Workshops and discussions include: different models of teacher-scientist partnerships, including how to establish them, recruit partners, prepare teachers and scientists, and adjust for grade level, geographic settings, and type of partner; evaluation; funding and sustaining; and disseminating program information and results. A poster session highlighting these partnerships will be held on February 15 and open to all AAAS meeting attendees.

You can register through the AAAS Annual Meeting Web site, www.aaas.org or www.gk12.org/meetings. To submit a proposal for a workshop or poster abstract, go to www.gk12.org/meetings. Contact Betty Calinger, bcalinge@aaas.org, Katherine Nielsen, Katherine.nielsen@ucsf.edu, or Rebecca Smith. Rebecca.smith@ucsf.edu with questions.
SECOND PLACE: Marcus Pearlman and Tyler Rowe (Department of Electrical and Computer Engineering, Boise State University, Boise, ID), Current Transmission Hysteresis in Electron Hop Funnels.
HONORABLE MENTION: Phillip Witham (Department of Physics, Portland State University, Portland, OR), Pushing the Neutral Atom Microscope Past Conventional Optical Resolution.
HONORABLE MENTION: Rukmini A. Ravi (Claremont High School, Claremont, CA) Can Light be Used as a Sensor to Detect and Monitor the Corrosion of Metals?

Combined Sections of General and Interdisciplinary Studies
History and Philosophy of Science
Social, Economic and Political Sciences
FIRST PLACE: David J. Hoekema (Department of Biological and Agricultural Engineering, University of Idaho, Boise, ID), Calculator: Optimized Surface Water Allocation in Drought (OSWAD).
SECOND PLACE: Ramsey Larson and Mikael Ferm (Department of Psychology, University of Puget Sound, Tacoma, WA), Psychostimulant Use Among College Students During Periods of High and Low Stress: An Interdisciplinary Approach Utilizing Both Self-Report and Unobtrusive Chemical Sample Data.
HONORABLE MENTION: Nichole Snyder (Department of History, Boise State University, Boise, ID), Rediscovering Emilie du Chatelet: A Scientist and Philosophe of the French Enlightenment.

Cell and Molecular Biology
FIRST PLACE: Benjamin D. Hobson (Department of Psychology and Neuroscience, University of Colorado, Boulder, CO) Stimulation of Adenosine A1 Receptors in the Nucleus Accumbens Reduces Dopamine D1 Receptor-induced Reinstatement by Antagonizing D1-mediated Enhancements in Glutamate Transmission.
SECOND PLACE: Stephanie Wyler (Department of Biological Sciences, Boise State University, Boise, ID) Inflammatory Monocyte Populations During Liver Regeneration.
THIRD PLACE (tie): Wendy A. Harvey (Department of Biology, Boise State University, Boise, ID), TCDD Treatment Suppresses Vitamin A Storage and Activates LX-2 Human Hepatic Stellate Cells.
THIRD PLACE (tie): Sheenah Bryant (Department of Biology, Boise State University, Boise, ID), Modulation of Ionic Transport through Lysenin Channels by Charged Nanoparticles.
HONORABLE MENTION: Nicole Ankenbrandt (Department of Biology, Boise State University, Boise, ID), Does Oncostatin M Induce Morphological Changes in Human Breast Cancer Cells?
HONORABLE MENTION: Hunter Covert (Department of Biology, Boise State University, Boise, ID), A Role for Inflammatory Cytokines in Breast Cancer Cell EMT.

Chemistry and Biochemistry
FIRST PLACE: Lu Xu (Department of Pharmaceutics and Medicinal Chemistry, University of the Pacific, Stockton, CA), Molecular Docking, Synthesis of Novel Quinazolin Analogue as Inhibitors of Transcription Factors NF-kB Activation and Their Anti-Cancer Activities.
SECOND PLACE: Ken Weekes (Department of Chemistry and Biochemistry, Boise State University, Boise, ID), DockoMatic: An Education Resource for Molecular Docking and Peptide Interactions.

Earth Sciences
FIRST PLACE: Andrea M. Woffowicz (Department of Geosciences, Boise State University, Boise, ID), Evaluating the Ti-in-Quartz Deformation Temperatures in the Scandinavian Caledonides.

Ecology, Organismal Biology, and Environmental Sciences
FIRST PLACE: Yan Wang (Department of Biological Sciences, Boise State University, Boise, ID), Testing Monophyly and Phylogenetic Relationships of Smittium (Harpellales)
ANNUAL MEETING, from page 11

Chemistry and Biochemistry
Computer and Information Sciences
Earth Sciences
Ecology, Organismal Biology and Environmental Sciences
Education (Science and Technology)
Engineering, Technology and Applied Sciences
General and Interdisciplinary
Health Sciences
History and Philosophy of Science
Mathematics
Oral Biology and Dental Medicine
Physics and Materials Science
Psychology
Social, Economic and Political Sciences

REGISTRATION

All persons planning to attend the meeting should use the Advance Registration Form on page 35 in this Newsletter to pre-register in order to receive the best registration rate. On-site registration will be available, but with higher fees. Advance registration fees (through 26 April) for the full meeting are $95.00 for professionals; $47.50 for retirees/emeritus and current post-docs; and $35.00 for current students, spouses/family members of registrants, and unemployed individuals. K–12 and community college teachers are encouraged to attend the meeting for a reduced professional registration fee of $47.50. Advance one-day professional registration is available for $65.00. Presenters and program organizers registering in the professional category may purchase a full-meeting professional registration at the reduced, one-day rate of $65.00. To be eligible for this discount, the individual must have submitted an abstract for presentation at the meeting that has either been approved or is pending approval, or be listed as an organizer/co-organizer of a program or leader of a field trip. Be sure to include this information in the appropriate space on your registration form. After 26 April, higher registration fees will be charged:

- full-meeting professional, $110.00;
- program planners/presenters, $75.00;
- K–12 and community college teachers, post-docs, and retirees/emeritus, $55.00;
- and students, participating spouses and/or family members, and unemployed persons, $42.50. One-day professional registration during this period is $75.00. Advance registration closes on 6 June. All requests for advance registration must be received in the Pacific Division office by this date to avoid the higher on-site fees. Beyond 6 June, on-site registration fees will be charged for both pre-meeting and on-site registrations.

On-site registration fees for the full meeting are:

- professional, $125.00;
- program planners/presenters, $85.00;
- K–12, community college teachers, post-docs, and retirees/emeritus, $62.50;
- students, participating spouses and/or family members, and unemployed individuals, $50.00. One-day on-site professional registration will be $85.00. 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 (by 6 June) for this meeting will receive, upon request, a $75.00 stipend to help defray their expenses to attend the meeting. The stipend is not available to teachers who register on-site. Note that 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 4 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 15 May 2013. 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 6 June.

AAAS STEM Pilot Program
Seeking Seattle Area Volunteers

Part of the AAAS mission is to foster education in science and technology for everyone. Getting scientists at all stages of their career, including retirement, into K–12 classrooms is one way to achieve this.

Towards this end, AAAS is working with local member Bud Wurtz to launch the AAAS/Puget Sound STEM Volunteer Program, a program seeking to place AAAS members, as well as other members of the Science, Technology, Engineering, and Mathematics (STEM) community for the pilot effort in Seattle, as scientist assistants in local K–12 classrooms. The AAAS/Puget Sound STEM Volunteer Program is modeled after AAAS’s successful SSE program in the Washington, D.C. area.

The details of the partnership are worked out between the teacher and the volunteer and may involve giving demonstrations, assisting in lab experiments, lecturing on special topics, assisting with homework, etc. The hours are flexible, and volunteers attend a one-day training session before being assigned to schools.

To see how current volunteers are assisting their teachers, view our sample video clips at www.seniorscientist.org.

If you care about K–12 science education and have time to share your knowledge with students and teachers, please send a note to william.wurtz@gmail.com with your home address, or call 425-882-2021.
using a Five-Gene Molecular Phylogenetic Analysis.
SECOND PLACE: Kerrie Weppner (Department of Geosciences, Boise State University, Boise, ID) Identifying Holocene Relationships among Climate, Vegetation, Fire and Fire-related Erosion using Alluvial Charcoal and Fossilized Woodrat (Neotoma) Middens at City of Rocks National Reserve, Idaho.
THIRD PLACE: Lily Maxine Tarjan (Department of Ecology and Evolutionary Biology, University of California, Santa Cruz, CA) Determinants of Territory Quality and Male Reproductive Success in Southern Sea Otters (Enhydra lutris nereis).
HONORABLE MENTION: Deirdre McAteer (Department of Microbiology, Oregon State University, Corvallis, OR) A Reconnaissance Study of Microbiota as Environmental Monitors.

Mathematics
FIRST PLACE: Jia Wan (Department of Mathematics, University of Idaho, Moscow, ID) On the Secant Defectivity of Classically Studied Varieties.
SECOND PLACE: Anna Nelson (Department of Mathematics, Boise State University, Boise, ID) Exploring Phylogenetic Relationships in Drosophila with Ciliate Operations.
THIRD PLACE (tie): Kameryn Williams (Department of Mathematics, Boise State University, Boise, ID) Symmetric Key Cryptography Over Non-binary Algebraic Structures.
HONORABLE MENTION: Douglas A. Torrance (Department of Mathematics, University of Idaho, Moscow, ID) Nondefective Secant Varieties of Split Varieties.

Psychology
FIRST PLACE: Kristen Greider (Clinical Mental Health Counseling Program, University of San Diego, San Diego, CA) Can a Forensic Psychological Report be Crafted in the Most Recent Women Death Penalty Cases of Lynda Lyon Block and Aileen Wuornos?
SECOND PLACE: Chris Wehrle (Clinical Mental Health Counseling Program, University of San Diego, San Diego, CA) Forensic Psychology in Select Female Death Penalty Cases II: Black Widows.
THIRD PLACE (tie): Nick Boyd (Clinical Mental Health Counseling Program, University of San Diego, San Diego, CA) Opposing Psychological Reports on the Norway Killer Case.
HONORABLE MENTION: Linh Tran (Clinical Mental Health Counseling Program, University of San Diego, San Diego, CA) Forensic Psychology in Select Female Death Penalty Cases III: Other Mental Health Issues.
HONORABLE MENTION: Erica Bessen (Clinical Mental Health Counseling Program, University of San Diego, San Diego, CA) Motive and Aggravating Factors in Select Female Death Penalty Cases.

EXECUTIVE COMMITTEE AND COUNCIL MEETINGS

The Division’s Executive Committee met on Saturday, 23 June. At the meeting, chaired by Division President Dr. Bob Chianese, Dr. Roger G. Christianson, Pacific Division Executive Director, reported on Division activities that had occurred since the last Executive Committee meeting and also reviewed Division finances. Final plans for the Boise meeting were discussed, as were preliminary plans for the 2013 meeting in Las Vegas, Nevada and the 2014 meeting in Riverside, California. Dr. Christianson also informed the Executive Committee members of his intention to step down as Executive Director of the Division, creating quite a stir of discussion about how to go about replacing him and what the job description for the new person might look like. The Executive Committee also reviewed recommendations of the Presidential and Council Nominating Committees, urging Dr. John Hafernik, chair of the Council Nominating Committee, to forward his committee’s recommendations for two Executive Committee positions and one Council at-large position to the full Council for nomination. The Executive Committee also voted unanimously to forward the name of Dr. Francesco Chiappelli (Dentistry, University of California, Los Angeles) to the Council for nomination as President-elect of the Division.

The Council met over breakfast on Wednesday, 27 June to consider various recommendations from the Executive Committee and other business of the Division. The Council acted favorably on the nomination of Dr. Chiappelli for President-elect during the 2012/2013 fiscal year. The Council also acted favorably on the recommendation of the Council Nominating Committee to elect Drs. Richard Cardullo (College of Natural and Agricultural Sciences, University of California, Riverside, California) and John Hafernik (Department of Biology, San Francisco State University, San Francisco, CA) to five-year positions on the Executive Committee. Likewise, the Council elected Mses. Kristine Ablin-Stone (Borah High School, Boise, ID) and Crystal Goldman (Martin Luther King, Jr. Library, California State University, San José, CA) to three-year terms as at-large members of the Council. Other Council business included the discussion of logistical details and programming for the upcoming 2013 and 2014 meetings of the Division, the receipt of financial reports from the Executive Director, and the transaction of other business required by the by-laws.
ON CAMPUS MEETING HOUSING

A limited number of rooms on campus are available for this meeting. UNLV offers two different types of housing units, standard dorm rooms and Guest Suites. It is anticipated that all guests staying on campus will be housed in Tonopah Hall, which is quite near to the Student Union, where the majority of the meeting will take place.

The standard dorm rooms are typical dorm rooms (see “Standard dorm room” diagram). They are air-conditioned and come standard with two twin beds with a mattress pad, pillow and blanket for each, and two twin sheets, a pillowcase, a bath towel, and a washcloth per person. There is one bath mat per shared bathroom. Standard dorm rooms rent for $90 per person double or $180 single for three nights (Sunday, Monday and Tuesday) with extra nights available on either side for an additional $30 per person per night double or $60 single per night. Parking is an additional $7 for up to a week. Should you desire to have internet access in your room, a one-time $10 fee will be charged at check-in. To sign up for one of these units, please refer to the housing registration form on page 34 of this Newsletter.

The Guest Suites are actually two dorm rooms combined into one suite (see “Guest Suites” diagram). Each Guest Suite includes a queen-sized bed, resort style linen and drapery, a private bathroom, separate seating room, flat screen TV with high-definition cable, alarm clock, microwave, refrigerator/freezer, and iron/ironing board. Also standard are free wired internet and local phone calls.

Guest Suites currently rent for $40 per night for up to 2 persons per suite. In order to reserve a Guest Suite, go to this web site and follow the directions: http://www.unlv.edu/events/guestsuites. If you are driving, be sure to request a parking pass at check-in. The cost is currently $3 per day or $7 for a week.

HOTELS

Las Vegas is renowned for its resort hotels. We have contracted with one hotel, the Hampton Inn near McCarran Airport, which has given us a special group rate (see following). If you would rather try one of the many other hotels in Las Vegas, we suggest you use a search engine such as http://www.lasvegas.com/hotels-on-the-strip/ to find the hotel of your dreams. Please be aware that many of the hotels charge a daily “resort fee” in addition to their daily rate. You can see if the hotel you choose has a resort fee and, if so, how much it is by going to this page: http://www.vegas.com/incl/resortfees.html.

The Arizona-Nevada Academy of Sciences

The Arizona-Nevada Academy of Science (ANAS) was founded in 1956 and is affiliated with the American Association for the Advancement of Science (AAAS) and the Arizona Science Olympiad (Division C). Its purposes are to stimulate and support scientific research and education, disseminate scientific knowledge in the various fields of science, and promote fraternal relationships among those engaged in scientific work. The Academy also assists in developing and making known the resources of Arizona and Nevada and encourages the publication of scientific reports. ANAS also publishes the Journal of the Arizona-Nevada Academy of Science (JANAS). Annual Meetings of ANAS provide outstanding opportunities for principal investigators and students to present their research in both platform and poster formats. For more information about the Academy, visit their website at https://arizonanevadaacademyofscience.org/index.html.

Hampton Inn & Suites Las Vegas Airport

Address: 6575 South Eastern Avenue, Las Vegas, NV 89119
Telephone: 702-647-8000
Website: www.lasvegasairportsuites.hamptoninn.com
E-mail contact: James Campa at james.campa@hilton.com
Rate: $69 (1 to 4 persons in a double queen room) + 8.1% tax
Group Code: PDA
Dates Available: 16 June – 18 June (plus three days before and after, subject to availability)
Cut-off date for reservations: 17 May 2013
Complementary amenities:
- hot breakfast
- self-parking
- high speed internet in rooms
- shuttle service from and to airport
- shuttle service to and from UNLV Student Union, as available
- workout room and swimming pool

FOOD ON CAMPUS

The UNLV Student Union has a fairly extensive food court, which includes such establishments as Starbucks, Subway, Jamba Juice, Panda Express, and several others. Nearby, across from the Tonopah Hall (location of the Conference Housing front desk) is the Hazel M. Wilson Dining Commons where, for one price, you can eat to your fill. Breakfast is $7.75, lunch/brunch is $8.75, and dinner is $9.45. About a block away is an In ’N Out Burger.

TRAVEL TO UNLV

From McCarran Airport:
- Take the Swenson Street exit towards Tropicana Avenue
- Go East (right) on Tropicana Avenue
- Go North (left) on Maryland Parkway
- Go West (left) on University Road (look for the In ’N Out Burger on the corner)
"Working as a student doing research is an incredible opportunity. Attending the AAAS, Pacific Division meeting where I could share my research, learn from other researchers, discuss and share my passion as well as be inspired by others, was something that I truly treasure. I fully appreciate the support of Sigma Xi who made my attendance there possible, as well as the support from my lab and my mentors."

-Valeria Iatsu
Oregon State University

- Park and follow the campus map on page 39 of this Newsletter to proceed to the Student Union or Tonopah Hall. Be sure to either park in a metered lot or have a valid parking permit on display. See “Parking” below.

From Interstate 15 heading north (coming from Southern California):
- Once in city limits, exit onto Interstate 215 East
- Take McCarran International Airport exit
- Exit Russell Road East (right)
- Go North (left) on Maryland Parkway
- Go West (left) on University Road (look for the In ‘N Out Burger on the corner)
- Park and follow the campus map on page 39 of this Newsletter to proceed to the Student Union or Tonopah Hall. Be sure to either park in a metered lot or have a valid parking permit on display. See “Parking” below.

From Interstate 15 heading south (coming from Utah):
- Once in city limits, exit onto Flamingo Road East (left)
- Go South (right) on Maryland Parkway
- Go West (right) on University Road (look for the In ‘N Out Burger on the corner on the far side of University)
- Park and follow the campus map on page 39 of this Newsletter to proceed to the Student Union or Tonopah Hall. Be sure to either park in a metered lot or have a valid parking permit on display. See “Parking” below.

From US 93/Interstate heading north (coming from Arizona):
- Once in city limits, exit onto Interstate 215 West
- Take McCarran International Airport exit
- Exit Russell Road East (right)
- Go North (left) on Maryland Parkway
- Go West (left) on University Road (look for the In ‘N Out Burger on the corner)
- Park and follow the campus map on page 39 of this Newsletter to proceed to the Student Union or Tonopah Hall. Be sure to either park in a metered lot or have a valid parking permit on display. See “Parking” below.

Parking

To park on the UNLV Campus, all guests must display in their automobiles a valid visitor temporary parking permit or park in a metered stall. Metered parking is $1 per hour. Visitor temporary permits are $3 per day or $7 per week. Permits may be purchased in advance by checking either the appropriate box on the Housing Request form for those staying on campus (see page 34 of this Newsletter) or on the Advance Registration form for those commuting from off campus (see page 36 of this Newsletter), in which case the permit will be in the registration envelope you will receive upon check-in at the Pacific Division Registration Center. Permits may also be purchased upon check-in for your dorm room or Guest Suite if you are staying on campus. Additionally, permits may be available at the Pacific Division Registration Center, but if not purchased in advance must be paid for in cash only.

Visitor temporary parking permits are valid during the day in student spaces only. Visitors displaying a valid parking permit may park in F/S spaces after 5 p.m. with the exception of lot I (http://www.unlv.edu/parking/cost). Metered stalls, pay spaces, and marked visitor parking spaces are also located on campus.

Parking is enforced Monday – Thursday, 7 a.m. – 7 p.m., and Friday, 7 a.m. – 1 p.m. Parking for reserved, handicapped, and resident stalls is enforced 24/7.

Registration Center

The Registration Center will be set up on the second floor of the Student Union. Hours of operation are expected to be as follows, though these may change. Check the April Newsletter or website 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. – 3:00 p.m.

Meeting Rooms

Technical sessions will meet in rooms on the second floor of the UNLV Student Union. All meeting rooms will be equipped with LCD projectors and computers running Windows and Microsoft Office. 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.

Times and Locations of Presentations

The meeting rooms and times of presentations for the program will be published in the “Program with Abstracts” issue of the Proceedings (Vol. 32, part 1), which will be given to everyone who registers for the meeting. Speakers may obtain final confirmation of the time and place of their presentation by visiting the Pacific Division website (pacific.aaas.org) starting no later than 1 June 2013. Symposium planners will provide this information to their presenters in advance of this date.

Computers and PowerPoint Presentations

Meeting rooms in the Student Union will be outfitted with computers running Windows and PowerPoint, and will be 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 and that it looks on that platform the way you want it to appear.

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 must follow the instructions below and on page 32 of this Newsletter (Call for Papers and Abstracts).

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 authors, use a superscripted number on the right of each author’s last name, followed by the corresponding superscripted number at the start of each unique address. Place an asterisk (*) next to the last name of the presenter. Submissions not formatted in this manner may be returned for reformattting or may be rejected.

Indent the first line of each paragraph of the text of your abstract 0.25 inches by using the first line indent command of your word processor. DO NOT USE THE TAB OR THE SPACEBAR! All text should be full justified.

Use 10 pt Times New Roman font and “NORMAL” style. If you use a different font, your abstract will be reformatted to this font. If your abstract contains special characters, in addition to submitting it via e-mail fax (541-552-8457) or mail (AAAS Pacific Division, Southern Oregon University, 1250 Siskiyou Blvd., Ashland, OR 97520) a printed copy with the special characters clearly marked and notations indicating the font used. Be aware that if you use an unusual character set for special characters there is a high likelihood that we will not be able to print it correctly, so please use common font sets such as Symbol or Wingdings for special characters.

All abstracts must be submitted via e-mail as Microsoft Word (.doc or .docx) or .rtf file attachments. DO NOT SUBMIT ABSTRACTS IN THE BODY OF AN E-MAIL OR AS A PDF FILE! E-mail a copy to the chair (and co-chair if one is listed) of the Pacific Division Section to which you are submitting it for review and acceptance into the program, and also copy your submission to the Pacific Division office (rchristi@aaas.org) or .docx) or .rtf file attachments. DO NOT SUBMIT ABSTRACTS IN THE BODY OF AN E-MAIL OR AS A PDF FILE! E-mail a copy to the chair (and co-chair if one is listed) of the Pacific Division Section to which you are submitting it for review and acceptance into the program, and also copy your submission to the Pacific Division office (rchristi@aaas.org). A printed copy of this newsletter should be included in the material submitted with each copy of your abstract. The subject line of your e-mail submission should include the word “abstract” and your last name (e.g.: Ab - sider Smith). Including this information in the subject line will ensure that you receive an e-mail reply from the Division office confirming your submission.

*The deadline for receipt of abstracts is 18 April 2013.* Submissions will be given their final reviews in late April, with decisions regarding acceptance being sent out 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 contact information.

**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 $100 for second place. Additionally, each winner receives 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 2013, 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 Research; 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 $1,000 for the awardee to attend the national meeting of AAAS in Chicago, Illinois, 13 – 17 February 2014 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, be the primary presenter of 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/2013LASVEGAS/index.html). Students who are competing for Awards of Excellence are invited to be guests of the Division at the annual banquet Tuesday evening, 18 June 2013. Festivities that evening include the announcement 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 Public Lecture.**

**Monday Evening Public Lecture.**

**Monday Evening UNLV President’s Reception.**

**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 for Excel-
Attending a variety of lectures at the AAAS Pacific Division annual meeting was a unique atmosphere because of its interdisciplinary nature, thus you are surrounded by your student peers and faculty who are experts in their respective fields. There was a sense of camaraderie amongst the student presenters, and I was able to see how my own research fits within the context of the entire scientific community.

- Benjamin P. Hobson  
University of Colorado, Boulder

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 Address, 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 Public Lecture. TBA

Monday Evening Plenary Lecture. TBA

Tuesday Evening AAAS, Pacific Division Presidential Address. Following the presentation of student awards at the Student Awards Banquet, Dr. Owen M. McDougal (Associate Professor of Chemistry and Biochemistry, Boise State University, Boise, Idaho and President of the Pacific Division) will present the Presidential Address.

Monday Noon Public Lecture. TBA

Tuesday Noon Public Lecture. TBA

Please watch the Pacific Division website for updates on these and other lectures as they are added. An updated list 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 family 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 15 May 2013, 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 6 June.

(1) Sunday, 16 June: 8:00 a.m. – 2:00 p.m. Engineering, Geology, and Engineering Geology of Hoover Dam and the O’Callahan-Tillman Bridge.

Hoover Dam lies within a Miocene (about 14 million years old) caldera. The walls of Black Canyon below the dam display spectacular exposures of volcanic ash (ashflow tuffs). This trip will include a special engineering-emphasis tour of Hoover Dam. We will view and discuss the engineering that went into the construction of the dam and the construction of the new Mike O’Callahan-Pat Tillman bridge that crosses the Colorado River just downstream of the dam. We will walk across the bridge and view the volcanic rocks and faults that have fractured them.

Due to the access we will be granted during this field trip, all participants must be U.S. citizens; names and social security numbers need to be submitted at least two weeks in advance, so please be sure to provide the requested information on the Advance Registration form.

This field trip involves easy walking on paved surfaces.

Includes transportation by charter bus or 12 passenger van, box lunch and water, and miscellaneous fees. Minimum 10, maximum 40 participants. Cost: $60 per person.

(2) Sunday, 16 June: 8:00 a.m. – 3:00 p.m. Devils Hole and Ash Meadows National Wildlife Refuge.

The Devils Hole pupfish is one of the most famous endangered species in the world. A 1970s U.S. Supreme Court decision protecting the habitat of this pupfish was a landmark decision in American environmental law. This trip will include a visit to Devils Hole and other sites...
The Beauty and Benefits of Science theme highlights the “unreasonable effectiveness” of the scientific enterprise in creating economic growth, solving societal problems, and satisfying the essential human drive to understand the world in which we live.

Program Chair
William H. Press
AAAS President and Program Chair
Warren J. and Viola M. Raymer Professor in Computer Science and Integrative Biology
University of Texas at Austin

Featured Plenary Speakers
Sherry Turkie
Massachusetts Institute of Technology
The Robotic Moment: What Do We Forget When We Talk to Machines?

Nathan Myhrvold
Intellectual Ventures
Modernist Cuisine: The Art and Science of Cooking

Cynthia Kenyon
University of California, San Francisco
Mechanisms for Life Extension in C. elegans

Robert Kirshner
Harvard University
The Beauty of the Accelerating Universe

Advance Registration Open
Register before 21 January for Advance Registration rates. AAAS members are eligible for even lower rates.

Reserve Hotel Rooms and Travel Now
Discounted hotel rates are available until 21 January for the official Annual Meeting hotels, so make sure to book a room through AAAS after registering. Travel discounts are also available.

- Over 150 sessions on a range of scientific topics
- Learn about recent developments in science, engineering, education, and policy
- Network and connect with professionals from around the world

Register today at www.aaas.org/meetings
that specialize in a particular field. Those I have encountered at conferences after the presentation were broader than those I have had the opportunity to present. Those attending this research. Those who present their work at conferences that specialize in a particular field. Also those I have encountered at conferences after the presentation were broader than those I have had the opportunity to present. The atmosphere was friendly with the focus being on constructive criticism.”

—David J. Hoekema
University of Idaho

within Ash Meadows National Wildlife Refuge, located about 1.5 hours from Las Vegas. Many endemic species occur in Ash Meadows; boardwalks facilitate access to viewpoints where spring discharge and wildlife can be observed. This field trip complements a symposium on the management of endangered species (Symposium #6: Management of Endangered Species in the American West: Policy and Practice) and involves easy walking on flat terrain.

Includes transportation by 4WD vehicles, box lunch, and water. Minimum 10, maximum 20 participants. Cost: $45 per person.

(3) Wednesday, 19 June: 5:00 a.m. – 3:00 p.m. Landscape Photography of the Desert Southwest. Led by Dr. Peter Starkweather (Department of Biology, University of Nevada, Las Vegas, and photographer). Dr. Starkweather has 30 years of photographic experience in the region and throughout North America as well as in Asia and Africa; during this time he studied fine art landscape photography with the late Galen Rowell and photographic field techniques with Center for Creative Photography-inductee David Muench. Some of Dr. Starkweather’s work can be viewed at www.redwallphoto.com.

We will start early to catch the morning photographic “magic hour,” planning to be ready to shoot by sunrise (5:24 am PDT ‘round these parts!). The Desert Southwest provides unparalleled opportunities and substantial challenges for landscape photographers, with striking visual contrasts, wide color palettes and – almost always – BLUE skies. Your leader will select specific destinations based on road conditions, weather and photo opportunities, but no matter where we go we are sure to become well-acquainted with the vibrant geological landscape, some desert biology and, if possible, some Puebloan rock art of the region. The trip philosophy will be that the photographer makes the photo, not the camera, and pro equipment definitely is not essential. That said, if participants happen to have tripods and remote shutter releases, plus familiarity with the manual functions of their cameras, those will come in handy for the best results.

We likely will be in, or close to, federally-designated Wilderness areas, and hiking is the only way in to the really good spots. Participants should be prepared accordingly, with sturdy rock/sand footwear, appropriate clothing (in layers), hats and daypacks for carrying gear, snacks and water. Note that the local average daily high temperature for June 19 is 38°C (100°F), so the ability for each person to carry ~2L of water is very important, as is wearing sunscreen!

Participants will be required to sign a Release of Liability form in order to participate in this trip. Before signing up for this field trip, go to http://associations.sou.edu/aaaspd/LASVEGAS/forms/release.pdf and download the form and read it! A completed and signed copy of this form must accompany your Advance Registration form if you plan to participate in this field trip.

This field trip involves short hikes over rocky desert terrain in what could be very warm weather.

Includes transportation by 12-passenger van, box lunch, water and snacks. Minimum 5, maximum 10 participants. Cost: $35 per person.

(4) Wednesday, 19 June: 3:00 p.m. – 6:30 p.m. Tule Springs Fossil Beds. Leader: Dr. Josh Bonde (College of Sciences, University of Nevada, Las Vegas).

Tule Springs Fossil Beds is a region in northern Las Vegas Valley with abundant and diverse Pleistocene fossils, including Columbian mammoths, camels, horses, bison, and sloths. Legislation is pending in Congress to create a new national monument for the protection, study, and interpretation of these fossils. Participants will visit an area of active, on-going paleontological research.

This field trip includes short hikes over irregular terrain. Be sure to bring sun hats, appropriate clothing, and wear sunscreen!

Includes transportation in 4WD vehicles and water; no food provided. Minimum 10, maximum 20 participants. Cost: $25 per person.

(5) Wednesday, 19 June: 4:45 p.m. – 9:15 p.m. Evening Hike to Potato Knoll in Red Rock Canyon National Conservation Area. Leader: Dr. Nick Saines (Geologist, Red Rock Canyon Interpretive Association).

This hike is the perfect way to experience the non-glitz, scenically spectacular side of Las Vegas. It is 7°F cooler at Red Rock Canyon (elevation 4000 ft) than in Las Vegas (elevation 2000 ft). On this hike we will walk into the shadow of the mountain where it is even cooler. Potato Knoll is a large slump block of Jurassic Aztec Sandstone that broke off from the Wilson Cliffs. The hike affords nice views of the majestic sandstone cliffs. We will see Triassic shales of the Moenkopi Formation near Oak Creek on our way to a ridge of Shinarump Conglomerate. The Shinarump is the lowest member of the Triassic Chine Formation. Above the Shinarump is the Petrified Forest Member of the Chinle. We will see petrified logs and a strange controversial geological feature that has yet to be satisfactorily explained. What will you think? Dinner on the ridge, then back to the vehicles. The hike is about 3 miles round trip, with very little change in elevation. Bring a daypack for water and box dinner, and appropriate footwear.

This field trip complements the symposium on the Mesozoic paleontology and paleogeography of Utah, Nevada and adjacent states (see Symposium #10: Dinosaurs and Their Neighbors: Mesozoic Paleontology and Paleogeography of Nevada, Utah, and Adjacent States).

Included in this field trip is a three mile round trip hike with low relief during the cooler evening hours.

Cost includes transportation in 12-passenger vans, box dinner, and water. Minimum 10, maximum 15 participants. Cost: $30 per person.

(6) Thursday, 20 June: 8:30 a.m. – noon. Nevada Solar One 400 Acre Concentrated Solar Power Plant.

Nevada Solar One is a 400 acre, concentrated solar power plant located south of Boulder City, Nevada, about an hour from Las Vegas. The plant uses 760 parabolic trough concentrators with more than 182,000 mirrors to concentrate the sun’s rays onto more than 18,240 receiver tubes placed at the focal axis of the troughs and containing a heat transfer fluid. The trough concentrators track the sun’s location and concentrate its rays during peak demand hours. Nevada Solar One is the second solar thermal power plant built in the United States in more than 16 years, and the largest plant of its type built in the world since 1991. Its nominal capacity is 64 MW and maximum capacity is 75 MW. The plant went into operation in 2007.

Participants will tour the plant for about 45 minutes. Wear long pants and closed-toed shoes. Have sunscreen along for times with sun exposure.

Includes transportation in 12 passenger vans and water; no food is provided. Minimum 10, maximum 20 participants. Cost: $20 per person.

(7) Thursday, 20 June: 8:00 a.m. – 2:00 p.m. An Ecological Transect of the Sheep Range – A great Basin Sky Island. Leaders: Drs. Dale Devitt (School of Life Sciences, University of Nevada, Las Vegas) and
David Charlet (Department of Biology, College of Southern Nevada, Henderson, Nevada).

On this field trip we will visit a series of 10 meter tall, ecological transect towers at successively higher elevations in the Sheep Range, north of Las Vegas, at elevations ranging from 900 m (~3,000 ft) in the creosote bush community to 2,000 m (~6,800 ft) in the pinyon-juniper community. Emphasis will be on ecological gradients, plant communities, and soil-plant-water relationships. For more information about the transect visit: http://digitalscholarship.unlv.edu/cgi/viewcontent.cgi?article=1040&context=epscor.

This field trip complements a symposium on soil-plant-water relationships in arid climates (Symposium #8: Soil-Plant-Water Relationships in Arid Environments).

Be sure to wear appropriate clothing, sun hats, and sunscreen.

Includes transportation by 4WD vehicles, lunch, and water. Minimum 10, maximum 20 participants. Cost: $35 per person.

(8) Thursday, 20 June 7:00 a.m. – Friday, 21 June 5:30 p.m. Zion National Park: Geology, Natural Resource Management Policy, and Dinosaur Tracks. Leaders: Drs. Steve Rowland (Geosciences, University of Nevada, Las Vegas) and Steve Parker (Environmental Policy, University of Nevada, Las Vegas).

Travel by luxury coach about three hours from Las Vegas to visit Zion National Park in southwestern Utah. This trip will have a dual theme of Jurassic geology/paleontology and natural resource policy. On Thursday morning we will travel to St. George, Utah, visit a wonderful exhibit of in situ dinosaur tracks and trackways at the Dinosaur Discovery Site at Johnson Farm, have lunch on an outcrop of Shinarump Conglomerate overlooking the Virgin Anticline, and arrive in Springdale, Utah early in the afternoon. Thursday afternoon will be spent hiking and exploring Zion Canyon. Dinner on your own. Evening discussion of management issues with National Park staff. Friday morning breakfast on your own. Group hike on Friday morning and continued discussion of natural resource policy issues. Lunch on your own in Springdale.

This field trip complements a symposium on the management of protected lands (Symposium #6: Management of Endangered Species in the American West: Policy and Practice) and also a symposium on Mesozoic paleontology (Symposium #10: Dinosaurs and Their Neighbors: Mesozoic Paleontology and Paleogeography of Nevada, Utah, and Adjacent States).

Hiking in Zion National Park will be on park trails; optional hikes may include moderately steep sections of trail. Bring daypack and appropriate footwear. Be sure to wear appropriate clothing, sun hats and have an ample supply of sunscreen available. Days will be warm; evening may be cool.

Double-occupancy lodging in Springdale, Utah at the Zion Park Inn (Best Western Motel). Box lunches will be provided on Thursday. Water will be provided throughout the trip.

Please note that, due to contractual requirements, the deadline for signing up for this field trip is Wednesday, 15 May 2013.

Includes transportation by charter bus, overnight stay in motel, lunch on Thursday, snacks and water. Participants are expected to purchase on their own dinner Thursday, and breakfast and lunch Friday. Minimum 18, maximum 36 participants. Cost: $225 per person, double occupancy; $415 per person, single occupancy. If you are an individual who would like to join this tour with a double occupancy room but don’t have a roommate, please mark the appropriate box on the Early Registration form and we will assign a roommate of the same gender for Thursday night.
(2) Mechanisms of Tumor Progression and Cancer Therapeutics. Organizer: Cheryl Jorcyk (Department of Biology, Boise State University, Boise, Idaho; cjorcyk@boisestate.edu).

Cancer is a large group of different diseases, all involving uncontrolled growth of cells in the body. During tumor progression, cells proliferate, form malignant tumors, invade to nearby parts of the body and metastasize, or spread, to more distant parts of the body through the lymphatic system or bloodstream. This program will provide scientific presentations addressing different mechanisms of tumor progression and metastasis, as well as mechanistic discussions on established and emerging cancer therapeutics. This symposium is designed for all types of biomedical researchers, undergraduate and graduate students, physicians and oncologists, nurses, pharmacists, and others who research or manage patients with cancer.

(3) Library Science and Archives: Forming Partnerships, Making Connections. Organizer: Crystal Goldman (Dr. Martin Luther King, Jr. Library, San Jose State University, One Washington Square, San Jose, CA; crystal.goldman@sjsu.edu).

Libraries and archives in the digital age are often strengthened by developing partnerships. The form these take are as varied as the individuals who create them, but they can expand the capabilities of all involved and make possible projects that would otherwise not be realized. Librarians and archivists are often accustomed to working in a team structure, which fosters a cooperative environment that capitalizes on the strength of many. This interconnectedness can lead to innovation within the library or archives, and outreach to other individuals or groups can lead to progressive new projects.

This symposium will focus on the strengths of libraries and archives, both traditional and innovative, that serve to build the success of the academy as a whole. Rarely is such success achieved in a vacuum; thus, this symposium will also focus on the partnerships and connections librarians or archivists create with each other, with teaching faculty members, with other departments, other institutions, and other academic organizations in order to advance initiatives in instruction, reference, collection development, and digital projects.

(4) Science and Feeling in the Arts. Co-organizers: Robert L. Chianese (Department of English, Emeritus, California State University Northridge, Northridge, CA; rchianese@gmail.com) and Jesse James Thomas (Department of Religious Studies, San Diego State University, San Diego, CA; jthomas@mail.sdsu.edu).

This interdisciplinary symposium brings together the humanities and sciences in an exploration of the connections between science and aesthetics. It features two distinct though related topics: 1) scientific analysis and understanding of our responses to art (visual art, sculpture, music, dance, literature, film, architecture, etc.), and 2) the emotional/psychological responses we experience in relation to science-inspired art and the impact science-based art has on our appreciation of it.

The first topic seeks discussions of such matters as the scientific measurement of the impacts of the arts on intelligence, consciousness, mood, etc.; the attempts of psychology and brain science to explain our emotional responses to art; the semiotic processing of art; and the connections between scientific and artistic creativity.

The second topic explores the aesthetics of special categories of art—science-inspired art and eco-art—by exploring such questions as “Does using science as a source for art compromise our appreciation of it?”; “Do we have to understand the science principles behind it in order to respond appropriately?”; and “Does knowing that a work of eco-art actually performs some restorative function change our responses to it?”

(5) Ion channels: Integration of Computer Simulations with Experiments. Organizers: C. Mark Maupin (Department of Chemical and Biological Engineering, Colorado School of Mines, Golden, CO; cmmaupin@mines.edu) and Owen McDougal (Department of Chemistry and Biochemistry, Boise State University, Boise, ID; owenmc@boisestate.edu).

Due to the difficulty of crystallizing transmembrane ion channel proteins, the use of computational techniques such as homology modeling, docking calculations, and molecular dynamics are increasingly being used to generate molecular-level information. These computational techniques are rapidly becoming a complementary component to experiment in an effort to unravel ion channel structure, functional, and interactions with ligands. This symposium will address experimental and computational work conducted on ion channels with an emphasis on complementary techniques that enhance our understanding of ion channels.

(6) Management of Endangered Species in the American West: Policy and Practice. Organizer: Rob Mworka (Center for Biological Diversity; mwworka@biologicaldiversity.org).

This symposium will focus on the successes and failures of the Endangered Species Act in preserving vulnerable species in the west, with case studies and progress reports.

An optional field trip to Devil’s Hole and Ash Meadows National Wildlife Refuge complements this symposium (see Field Trip #2: Devil’s Hole and Ash Meadows National Wildlife Refuge). A second optional field trip to Zion National Park also complements this symposium (see Field Trip #8: Zion National Park: Geology, Natural Resource Management Policy, and Dinosaur Tracks).

(7) Innovations and Trends in K-16 STEM Education. Organizer: Larry Rudd (School of Education, Nevada State College; Lawrence. Rudd@nscc.edu).

How can we be more effective in STEM (science, technology, engineering, mathematics) education? How will on-line courses, technological gadgetry, and increasingly tight budgets affect teaching-learning dynamics in the sciences? Teachers and science education professionals at all levels are invited to participate in this symposium to share their successful strategies and war stories.

(8) Soil-Plant-Water Relationships in Arid Environments. Organizer: Dale Devitt (School of Life Sciences, University of Nevada, Las Vegas; dev50@clark.nscee.edu).

The Nevada System of Higher Education (UNLV, UNR, and Desert Research Institute) is in the final stages of a multiyear NSF-funded project to support infrastructure associated with regional climate change research. One component of this project involves water/ecology. This symposium will focus on the results of these studies, as well as work by other researchers in arid environments. Complementing this symposium is an optional field trip to examine the Mojave Desert transect in the Sheep Range of Southern Nevada—a series of 10 meter tall towers equipped with a wide array of sensors to monitor atmospheric, soil, and plant parameters over time (see Field Trip #7: An Ecological Transect of the Sheep Range – A Great Basin Sky Island).
(9) Climate Change, Sustainability, and Water Resources in the Arid West. Organizer: Sajjad Ahmad (Department of Civil Engineering, University of Nevada, Las Vegas; sajjad.ahmad@unlv.edu).

This symposium will focus on the energy-water nexus in arid portions of North America, in the face of climatic uncertainties. What range of climate change should we expect, and how will natural ecosystems and human communities respond? Optional field trips to Hoover Dam and Nevada Solar One concentrated solar power plant complement this symposium.

(10) Dinosaurs and Their Neighbors: Mesozoic Paleontology and Paleogeography of Nevada, Utah, and Adjacent States. Organizer: Josh Bonde (Department of Geoscience, University of Nevada, Las Vegas; Joshua.Bonde@unlv.edu).

Until very recently, dinosaurs were essentially unknown from strata in Nevada. In contrast, Utah is perhaps the epicenter of dinosaur diversity for the entire Milky Way galaxy. On the Nevada side of the state line, that picture has changed dramatically within the past few years. We now have spectacular dinosaur trackways (along with trackways of co-existing protomammals and arthropods) in southern Nevada and also a diverse assemblage of dinosaur body fossils from both southern and central Nevada. Meanwhile, paleontologists in Utah continue to discover new taxa at an amazing rate. This symposium will focus on recent research on Mesozoic fossils, stratigraphy, and paleogeography in Nevada, Utah, and adjacent states.

Two optional field trips complement this symposium: (1) an evening hike into Red Rock Canyon National Recreation Area (see Field Trip #5: Evening Hike to Potato Knoll in Red Rock Canyon National Conservation Area), and (2) a two-day, post-meeting field trip to Zion National Park and the Johnson Farm Dinosaur Discovery Site in St. George, Utah (see Field Trip #8: Zion National Park: Geology, Natural Resource Management Policy, and Dinosaur Tracks).

(11) Recent Advances in Genetics and Cell Biology. Organizer: Pamela Marshall (School of Mathematics and Natural Sciences, New College of Interdisciplinary Arts and Sciences, Arizona State University at the West Campus; pamela.marshall@asu.edu).

Cell biology and genetics are dynamic subfields of biology that encompass the study of mechanisms of DNA and cell structure and function. Researchers in all aspects of cell biology and genetics are invited to participate in this symposium; one particular focus will be molecular mechanisms of cellular functions and the ever-changing nature of DNA structure and gene expression; another will be organellar and protein structure and function. Researchers at all levels, especially undergraduate and graduate students, with or without a clinical focus, are encouraged to submit abstracts.

(12) Boise Extravaganza in Set Theory (BEST). Organizers: Liljana Babinkostova, Andres Caicedo, Samuel Coskey and Marion Scheepers (Department of Mathematics, Boise State University, Boise, Idaho liljanababinkostova@boisestate.edu).

This program is a continuation of the well-known conference BEST (Boise Extravaganza in Set Theory). BEST focuses on the mathematical discipline called Set Theory, and its applications in other disciplines in Mathematics. BEST was for its first nineteen years hosted in Idaho at Boise State University.

Set Theory is the mathematical foundation for the study of the infinite objects that routinely arise in Mathematics and its applications, and in the mathematical sciences. Contemporary set theoretic research addresses basic questions about probability, consistency and independence, and the relative strength of postulates or hypotheses in mathematized scientific theories. The methods developed by set theory serve as powerful tools for applications in many other mathematical disciplines, including algebra, analysis, combinatorics, complexity, topology and more.

The invited speakers for this program are successful set theorists from different career stages and will present high level scientific talks in several areas of set theory and its applications. The BEST symposium will also host contributed talks in Set Theory and its applications by participants. Undergraduate and graduate students will also present research accomplishments in these areas.

(13) International Protected Area Exchange. Organizers: Margaret N. Rees (Vice-Provost for Educational Outreach and Executive Director of Public Lands Institute, University of Nevada, Las Vegas, Las Vegas, Nevada; peg.rees@unlv.edu) and Allison Brody (Project Manager, Public Lands Institute, University of Nevada, Las Vegas, Las Vegas, Nevada; allison.brody@unlv.edu).

This symposium invites presentations on advances in understanding protected area management, including conceptual and empirical research results, reviews, case studies, and meta-analyses. Whether study outcomes have global, regional, or local impact, their findings positively contribute to or provide compelling examples of natural or cultural heritage protection.

Collectively around the globe, protected areas secure irreplaceable natural, ecological, and cultural treasure. Without healthy ecosystems, sustained human health and well-being is impossible. Effective management of these protected areas is critical, regardless of their designation, particular objectives, multiple uses, or administrative authorities. Furthermore, it requires balancing the environmental, cultural, economic, and political issues within and surrounding the management area. Approaches to achieving this balance are being creatively developed and applied. Specific vulnerabilities, challenges, and responses vary based on availability of data, geographical location, and other parameters often closely tied to a site’s location (e.g., biome type, political stability, levels of poverty). Modern stressors, such as climate change and increases in urbanization at the wildland-urban interface, require ongoing adaptation in management strategy. However, fundamental to all sustainable protected area management is the adoption of more participatory, inclusive, and equitable models, which consider a variety of benefits and values while utilizing effective partnerships, including with the local community within and adjacent to the area and relevant governance and policy-makers. Designed to facilitate information transfer and foster new connections, this symposium provides a forum for an international exchange of insights and findings related to the cooperative conservation of healthy ecosystems and the services and benefits they provide.

(14) Patient-Centered Outcomes Research and Patient Targeted Therapies. Organizers: Francesco Chiappelli (UCLA School of Dentistry, University of California, Los Angeles, California; fchiappelli@dentistry.ucla.edu) and Adrian Bot (Chief Scientific Officer, Kite Pharma Inc., Los Angeles, California).

Current global trends in health care emphasize patient-centered outcomes research of molecular-targeted evidenced-based interventions. Treatment modalities in medicine, nursing, dentistry and psychotherapy
increasingly integrate translational research - going from the patient to the laboratory bench and back to the patient (NIH) - with translational effectiveness - integrating the best available evidence for optimizing evidence-based health care interventions in specific clinical settings (AHRQ). Innovative models of patient targeted therapies are timely and critical. This symposium is dedicated to the dissemination of the current state of knowledge about targeted molecular therapies in the context of patient-centered outcomes research. Its scientific focus will pertain to the patient-centered identification of disease-specific biomarkers for the elucidation of targeted molecular therapies in selected clinical conditions. Specifically, this symposium will present a concerted program of presentations that are aimed to address current, timely and cutting edge research about patient-centered targeted small molecule therapies (both small molecules and biomolecules, with broad therapeutic applicability and benefiting from a patient-centered outcomes), in the context of translating cost- and benefit effectiveness into specific clinical settings.

(15) Forensic and Clinical Psychological Science Issues in Anti-terrorism: An International Paradigm. Organizer: Ronn Johnson (School of Leadership and Education Sciences, University of San Diego, San Diego, California; ronnjohn@ronnjohn.cts.com).

Acts of terrorism are traumatic incidents that have no international border restrictions. The lessons learned from 9/11 taught Americans that no target is invulnerable to acts of terror. Moreover, successful and thwarted acts of terrorism and reconnaissance response probes have fueled a growing need for mental health professionals to expand health safety-related trainings to include behavioral threat assessments related to terrorism. Why? Because terrorists use a variety of tactics, techniques, and procedures to achieve their often unstated objectives. Research has consistently demonstrated that Post-traumatic Stress Disorder (PTSD) can be one of the clinical outcomes for terrorism that can potentially result in forensic consequences. At the same time, the speed of globalization fused with ideology has resulted in a need to address issues of radicalization. Unfortunately, there is a non-linear relationship between timely intelligence gathering, acts of terror, and understanding radicalization. The objective of this symposium is to review several areas related to mental health professionals implementing anti-terrorism responses.

Some of the projected symposium paper presentation titles include:
- Is there a nexus between historical trauma and PTSD vulnerability in military personnel?
- Evidence-based treatment issues for victims of terrorism
- Radicalization of prison inmates: An anti-terrorism paradigm
- Can stress inoculation training be used as an evidence-based anti-terrorism strategy?
- Radicalization resistance training as an anti-terrorism strategy: Is this a pipe dream?

(16) Forensic Psychological Science of Juvenile Fire Setters and Bomb Makers. Organizer: Ronn Johnson (School of Leadership and Education Sciences, University of San Diego, San Diego, California; ronnjohn@ronnjohn.cts.com).

Juvenile fire setting (JFS) or as it is referred to by the current term, Youthful Misuse of Fire (YMF) has received considerable research attention over the past several decades in public safety. There has been little systematic review of integrated risk assessments and treatment factors for these often diverse clinical groups. For example, what are some the differences between JFS/YMF and bomb makers? How many sessions should a JFS/YMF client receive? This symposium presents an overview of a variety of risk assessment factors that are of particular relevance to consider for any work done with juvenile fire setters in clinical or forensic settings. The presentation considers the importance of JFS-YMF across a broad array of clinical domains, including developmental, diagnostic, and the prognostic utility anticipated by the release of the DSM-5. National standards and risk assessment levels are examined. The presentation provides a starting place for developing conceptualizations for the diverse assessment and cross-cultural evidenced-based treatment needs for these treatment populations. Preliminary data from the JFS research project of the Burn Institute of San Diego County will be presented.

Some of the projected symposium paper presentation titles include:
- Use of the DSM-5 with juvenile fire setters and bomb makers
- Psychological evaluations and risks assessments of juvenile fire setters and bomb makers using the CBCL
- Clinical and forensic psychological issues in work with Latino/a juvenile fire setters
- Clinical decision making in the treatment of juvenile fire setters referred by the courts: Transdisciplinary service coordination
- The process of accessing and assessing research data in community-based juvenile fire setter program: From headaches to nirvana

(17) Accelerating Biomedical Discovery with Advanced Molecular Simulation and Computational Biology. Organizer: Dong Xu (Department of Biomedical and Pharmaceutical Sciences, College of Pharmacy, Idaho State University; dxu@pharmacy.isu.edu).

This research symposium focuses on the advancements of state-of-the-art computational chemical and biology methods and their applications in addressing the most important and urgent biomedical questions. The objective of the symposium is to inform and engage elite computational scientists from the globe in a discussion about the latest computational method development, the current applications in biomedical research, and the future outlook of the advanced simulation technologies.

(18) Current Progress in Infectious Disease Research and Therapeutic Interventions. Organizer: Dong Xu (Department of Biomedical and Pharmaceutical Sciences, College of Pharmacy, Idaho State University; dxu@pharmacy.isu.edu).

This research symposium focuses on the current experimental and computational research progress in infectious disease molecular pathology and therapeutic design. The purpose of the symposium is to provide a dynamic forum to facilitate the exchange of research advancements and ideas among infectious disease experts, and to report the latest discovery and development in the understanding, prevention and inhibition of the most life-threatening, pandemic and drug-resistant pathogens.

(19) Structural Insights for the Development of New Therapeutics. Organizers: Todd T. Talley and Dong Xu (Department of Biomedical and Pharmaceutical Sciences, College of Pharmacy, Idaho State University; talley@pharmacy.isu.edu and dxu@pharmacy.isu.edu).

During the past decade there has been rapid growth in the number of crystal structures of known drug targets. Putting this wealth of information to use requires the skills of researchers from a wide array of fields including biophysics, medicinal chemistry and computational methods. The goal of this symposium is to facilitate the exchange of ideas and develop collaborations to take advantage of the data and methods now available.

(20) Medicinal Chemistry and Biological Insights for the Treatment of Cancer. Organizers: Todd T. Talley and Nicole Frank (Department of Biomedical and Pharmaceutical Sciences, College of Pharmacy, Idaho State University; talley@pharmacy.isu.edu and frannic2@pharmacy.isu.edu).

This symposium focuses on new experimental methods to better understand and combat cancer. By bringing together researchers from various disciplines involved in the study of cancer we hope to provide a forum for discussion and collaboration in this important field.
AAAS is here – preparing minority students for careers in science.

Part of AAAS’s mission is to strengthen and diversify the scientific work force. To help achieve this goal AAAS partners with NSF to present the Historically Black Colleges and Universities Undergraduate Program, a conference where students from HBCUs get experience presenting their research, networking with peers, meeting with representatives from graduate schools, and learning about career opportunities. As a AAAS member your dues support these efforts. If you're not yet a AAAS member, join us. Together we can make a difference.

To learn more, visit aaas.org/plusyou/hbcuup
**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 18 and 32 of this Newsletter for instructions on abstract preparation, formatting, and submission.

The deadline for submitting abstracts is 18 April 2013. 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 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 an Award 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 48” tall x 48” wide (1.2 m x 1.2 m) and will be grouped by discipline and subject matter. Posters will 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 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.

If you need a bit of help organizing the content of your poster, a website 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**

**Arizona–Nevada Academy of Sciences.** Please submit your abstract to the appropriate section from this list.

**Sigma Xi, The Scientific Research Society.** Please submit your abstract to the appropriate section from this list.

**Agriculture and Horticultural Science.** Section chair and program organizer: Dr. Michael D. MacNeil, Delta G, 145 Ice Cave Rd., Miles City, MT 59301. Contact: (406) 232-6331 or (406) 853-4748 (cell); macneil.delta@gm.com.

**Anthropology and Archaeology.** Section chair and program organizer: Please contact the Pacific Division office, rchristi@sou.edu, for information on this section.

**Atmospheric and Oceanographic Sciences.** Section chair and program organizer: Dr. Clive E. Dorman, Research Oceanographer, Integrative Oceanography Division, Scripps Institution of Oceanography Dept 0209, University of California, San Diego, La Jolla, CA 92093-0209. Contact: cdorman@ucsd.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. McDougall, Department of Chemistry and Biochemistry, Boise State University, Boise, ID 83725. Contact: 208-426-3964; owenmcdougall@boisestate.edu.

**Computer and Information Sciences.** Section chair and program organizer: Dr. C. Mark Maupin, Department of Chemical and Biological Engineering, Colorado School of Mines, Golden, CO 80401. Contact: 303-273-3720; cmmaupin@mines.edu.

**Earth Sciences.** Section chair and program organizer: Dr. Jad D’Allura, Department of Geology (emeritus), Southern Oregon University, Ashland, OR 97520. Contact: 541-899-7010 or 541-690-7739; dallura@sou.edu and rockit@dishmail.net (copy e-mail to both accounts).

**Ecology, Organismal Biology, and Environmental Sciences.** Section chair and program organizer: Dr. Richard Van Buskirk, Environmental Studies, Pacific University, 2043 College Way, Forest Grove, OR 97116. Contact: 503-352-2251; vanbuskirk@pacificu.edu.

**Education.** Section chair and program organizer: Dr. Kimberly D. Tanner, Department of Biology, San Francisco State University, 1600 Holloway Avenue, San Francisco, CA 94132. Contact: 415-405-3438; kdtanner@sfsu.edu.

**Engineering, Technology and Applied Sciences.** Section chair and program organizer: Dr. Frank Jacobitz, Department of Engineering, University of San Diego, 5998 Alcalá Park, San Diego, CA 92110. Contact: 619-260-7820; jacobitz@sandiego.edu.

**General and Interdisciplinary.** Section chair and program organizer: Dr. Robert L. Chianese, Department of English (Emeritus), California State University Northridge, Northridge, CA 91330. Contact: 805-653-2520; rlichanese@gmail.com.

**Health Sciences.** Section chair and program organizer: Dr. H. K. Choi, Department of Biology, California State University, Dominguez Hills, 1000 East Victoria Street, Carson, CA 90747. Contact: 310-243-3985; hchoi@csudh.edu.

**History and Philosophy of Science.** Section chair and program organizer: Dr. Donald McGraw, P.O. Box 515, Ephraim, UT 84627. Contact: 619-947-5108; donaldmcgraw@mac.com.

**Mathematics.** Section chair and program organizer: Dr. Liljana Babinkostova, Department of Mathematics, Boise State University, 1910 University Drive, Boise, ID 83725. Contact: 208-426-1172; liljanababinkostova@boisestate.edu.

**Oral Biology and Dental Medicine.** Section chair and program organizer: Dr. Francesco Chiappelli, UCLA School of Dentistry, CHS 63-090, Los Angeles, CA 90095-1668. Contact: fchiappelli@dentistry.ucla.edu.

**Physics and Materials Science.** Section chair and program organizer: Dr. Robert Quainoog, Department of Physics and Engineering, Southern Oregon University, 1250 Siskiyou Blvd, Ashland, OR 97520. Contact: 541-552-6404; quainoog@sou.edu.

**Psychology.** Section chair and program organizer: Dr. Veronica Galván, Department of Psychology, University of San Diego, San Diego, CA 92110. Contact: 619-260-7739; vgalvan@SanDiego.edu.

**Social, Economic and Political Sciences.** Section chair and program organizer: Dr. Carl A. Maiida, UCLA Schools of Dentistry and Medicine, University of California, PO Box 951668 CHS, Los Angeles, CA 90095. Contact: 805-492-5613; cmaida@ucla.edu.

E-mail us at aaaspd@sou.edu
orous analysis and emotional dreaming, measurement and myth-making, play equal parts in its conception and production—Leonardo’s artfully hand-drawn human figure posed within the abstract geometrical frames. The naked human being fits perfectly in both the terrestrial and celestial realms. The microcosm and the macrocosm line up.

Art and Science, including mathematics, seemed nearly fused at the time, with a western renaissance in classical humanistic learning combined with new empirical study of the physical world. We admire this Vitruvian Man as an icon of Leonardo’s genius but we also, I believe, subconsciously long for the lost integration of human beings and the world it glorifies. Our modern angst and postmodern insecurity can offer few comparable inspirations.

Notice that when we human beings discover and create things with a unified, connected consciousness, we may see things as connected, related, in harmonic resonance. It might be worthwhile to resuscitate such a vision. Could our linking Art and Science now restore connections between self and world potentially lost in our contemporary times? Are we missing something, something big, something important, without this unified vision? If we cannot rely on rare geniuses to show up regularly, those who unite the two areas of knowledge and two ways of thinking within one person, then can we appeal to artists with a penchant for science, who are excited and informed about it, to reveal things to us which science alone may not see?

This is what I hope the “Art Inspired by Science” exhibit revealed.

The first example is perhaps difficult to understand. What is it? It’s a display case of sorts.

The team of Brian Gillis and Mike Miller call this multi-media work An Expeditionary Journal 2009. It doesn’t look like much and this is only part of it, and the other parts are just as puzzling until you learn what it is. It is a modern day curiosity cabinet, in German, A Wunderkammer, which served as a storage case for things an amateur naturalist might collect—bones, stones, feathers, insect specimens, as well as mechanical devices, optics, magnets, and other miscellaneous things. In other words, this was the beginning of a museum of natural and technological history, one’s personal museum, where you collected and displayed all the wonders that stimulated your curiosity. Without categories or divisions in one’s consciousness, you collected what struck you as fascinating.

I have such a case in my house, full of many worthless and curious treasures, part shelving and part cabinets where I store folk sculpture, swap meet art, rocks, turtle shells, fossils, seeds, WW II memorabilia, and lots of dusty dumb stuff that I alone find curious. Maybe you have such a shelf, case, or cabinet of wonders, your own Wunderkammer. It’s a sign you still enjoy open discovery in any area of knowledge. Then again, if all you collect are rocks, or late nineteenth century drawings, that tells us something too.

The strange thing about the one in the exhibit is that it has nothing in it, really. It is made up of tables and small platforms with a few things on them, but the main things, as you see, are clear plastic disks assembled in sculptural designs that look too fragile to hold anything. They presumably are not the curious objects themselves but the surfaces and bases where curious things might be stored and exhibited.

This is what we might call a virtual or post-modern curiosity cabinet, where the collection is both up to your ideas and reflects them. The absence of specimens here invites us to fill up this cabinet through our imagination. We can dream this collection into existence, with all sorts of bits and pieces, such as fantasies and creatures from the depths of our psyches, memories of excursions to the woods or the ponds of our pasts and projections of what we might find in places we have never been.

So then these two artists are encouraging us to take an old fashioned expeditionary journey, as the piece is called, but one with a very contemporary twist—a mental trip to whatever destination and treasures you wish to find. What will you collect, what dreams, or nightmares, of nature will you conjure to stimulate your curiosity in the future? There is plenty of material in both science and art to fill an infinite number of these cabinets, without organizing and dividing things into discrete categories.

Harriet Rex Smith journeys to a local spot to bring the universe closer to home in her work, Laguna Nebula over Mt. Shasta.
Some days one can view Mt. Shasta from near the campus of Southern Oregon University in Ashland, where the exhibit was held over the summer of 2010. In Smith’s watercolor, an arc of electric lights on the mountaintop seems to welcome or even beckon the starry field of light from distant space. The mountain’s glory resonates with the nebula’s glory—what used to be called in the 19th century “the sublime.”

She points out that this correspondence may actually have a basis in science—the harmonic linking of earth with deep space stars can be a consequence of “the quantum physics idea of “entanglement.” In this theory, quantum particles that were once in contiguous relationship retain their connections over time and space. Smith proposes that her image captures a holistic view of our “‘oneness’” with the myriad stars: the local and the vast, the small earth and the infinitely large link up through the infinitely small. This is more metaphoric than actual here, and I believe the artist’s ultimate intent is to offer comfort to us who find the cosmos too immense and too overwhelming to embrace as part of our world and us. We can be at home both in the glorious universe and in the familiar landscape that we view out our window. Leonardo would likely agree.

Here is an image that intrigues us with its colors, design, and emotional sense of crowded activity, and something that suggests powerful growth, effusive growth. It evokes trumpets, blaring music, flowers, endless bouquets. What is it? Is it art?

Actually it is the visualization challenge winner in 2011 from the AAAS and Science magazine contest. It appeared on its cover, February 3, 2011. It is the team effort of Miguel Angel Aragon-Calvo, Julieta Aguilera and Mark Subbarao.

As in much science illustration these days, appearances can be very deceiving. These are not poppy flowers, nor a coral reef, nor a bouquet of volcanic openings, nor the latest art-glass fantasy of Dale Chihuly, nor even the cellular structure of some creature, such as a cooked lobster. It is, we are told, something quite different—a conjectural map of the expansion of the hypothetical dark matter of the cosmos. We are further told that each dark center will eventually become a galaxy. Each computer-generated “bloom” gets repeated and connected to another, which is meant to suggest how dark matter may evolve over time. The space-time scale of the full illustration is 240 million light-years. What first looks like something familiar gets “curiouser and curiouser” the more we learn about it.

One of the judges deemed this winner, entitled The Cosmic Web, “aesthetically beautiful” (Science 530), and no one would quarrel with that, I think. The idea behind it is itself “amazing” (that word again), difficult to contemplate, and even humbling, which are attributes of art as well. But I think “visualization” is the right term here, not art.

Beyond its conception, the whole thing is a computer made illustration—shaped, colored, multiplied, and connected to simulate some hypothetical arrangement of invisible cosmic stuff. With Photoshop alone you can apply eleven different filters with about eight variations each—and that is just the beginning of the cropping and coloring and enhancing from our Adobe master-helper. I jokingly refer to this sort of visual work as made with the help of an “A.P.E.,” or an Adobe Photoshop Enhancer.

There are hundreds of sites loaded with thousands of images like this on the web and their sheer visual power is overwhelming (note 1). At the “Art Inspired by Science” exhibition, there was a separate section of many Science magazine covers in order to show the dramatic way scientists and others have learned to display information and simulate the content and form, the matter and manner, of existence.
It’s not out of the question that these compelling images become the new art in many people’s minds. And of course every young person with a flair for computer illustration wants to produce the wildest fantasy image or the most threatening video game animation with a whole world made up of such images.

But, reluctantly disqualifying this one as art, I would say it lacks evidence of the human hand and may not show us very much about who we are and where we. But it’s close. And that scientists regularly modify or should we say “enhance” their images, presumably both for clarity and impact, suggests that scientists have artistic motives as well. What modified galactic cloud image does not provoke an intended aesthetic awe?

Even art inspired by cell biology wants to link it to the stars. Here is Shoshanah Dubiner’s cartoon-like work called The Deep (2007).

It could be the deep ocean, the deep level of life itself, or even deep space. Her fantasy cell does have a nucleus within the cytoplasm and mitochondria, but there are small, fully formed beasties inside there too, critters that could evolve over the very long term, but not originally inside any one of them. The key point, though, seems to be the visual analogy between the cell and the sun, which fuels it directly with radiating dots of energy, a shower of star shine. Again, the artist wants us to acknowledge connections between near and far, below and on high, in the deep and way above. The sun powers the cell; the cell powers life, depicted as a mini-world with all kinds of bizarre creatures inhabiting it like a living planet. This makes it both more alien and more familiar.

These cosmology-focused artists seem to be trying to locate where we human creatures and life itself fit into the great vast universe, perhaps the ultimate goals of both artists and scientist alike.

Hiroko Yoshimoto had a whole gallery dedicated to her diverse works. In one she presents a series of her painted meditations on the circle, square and triangle. These are basic to western geometry, of course, but they, according to the 18th century Japanese monk Sengai, also constitute shapes and solids that define absolute reality itself. We are told that they can also stand for the three spiritual philosophies in Japan at the time—Buddhism, Shintoism, and Confucianism. Their bright but limited color schemes, their re-arranged configurations and changing backgrounds give the series a quiet, austere quality, suggesting something out of time and space, in some unknown realm. Here is a single one.

They also evoke the absolutes of Plato’s transcendent forms, reminding us that numbers, mathematics, and abstract shapes and designs once formed the bases of both religion and philosophy in many cultures at many times. For Plato, these forms were perfect, the reality we experience an imperfect imitation of them. Painting them over and over again, as Yoshimoto did, may not let us know their absolute essence, but we may uncover the beauty and nobility and the variety of our imperfect selves and world.

Surely we can accept that our own contemporary obsessions with the shapes and forms of both the cosmos and the atom may resemble this older focused concentration on triangle, square, and circle. These shapes were present in Leonardo’s icon as well, with the legs of the Vitruvian Man forming the missing triangle. Our continuing obsession on how to locate our human selves in the cosmos, in our own biology, and in mathematics speaks to the continuing inspiration science provides to artists for creating places in time and space where we may feel at home in the universe. May this inspiration continue, in both directions.

NOTE: All images in this essay were provided by individual artists, Michael Crane or Robert Chianese. Please see the publication Art Inspired By Science: Imaging the Natural World for full attributions.
**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. Procedures for submitting abstracts for inclusion in the technical sessions of this meeting are below and also on page 18 of this Newsletter. Read both carefully before submitting an abstract!

For a contributed paper, e-mail the title, abstract and other required information (see instructions below and also on page 18 of this Newsletter) as a Word (.doc or .docx) or .rtf attachment to the chair of the appropriate society or section (see page 28 of this Call for Papers and Abstracts) and also the Pacific Division office at rchristi@sou.edu. If your abstract contains special characters, fax a copy of it with the special characters marked and the name of the typeface used to the Pacific Division office, 541-552-8457, in addition to the e-mail submission. **The deadline for contributed paper abstract submissions is 18 April 2013.** Students wanting to compete for an Award of Excellence must identify themselves as such on Line 7 of their abstract submissions so that judges will know to evaluate their presentations.

Presenters in symposia should submit their abstracts directly to the symposium planner. **The deadline for symposium abstracts is 1 April 2013.**

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 (see page 28 of this Newsletter). **Note:** you must send your abstract to a section or program chair as well as the AAASPD office (see above). If you are presenting in a symposium, send your abstract directly to the symposium planner as well as the AAASPD office.

**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 (in addition to standard computer, computer projector, and PowerPoint)
**Line 9 ff:** **Paper Title** Italicized and in Title Case, **AUTHOR’S NAME(S)** (Full address(es), including institution, mailing address, city, state, zip code, and e-mail address(es)). Refer to the example below for additional information.

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

**Example of a properly formatted abstract submission (lines 9 ff and 10 ff), plus additional information**

*Formating an Abstract for Submission to a Pacific Division Section Chair and the AAASPD Meetings Office, SAMUEL P KRAFT-ER*, YESIMAN AUTHOR, and IDIDA DeREADING (Department of Biology, Southern Oregon University, 1250 Siskiyou Boulevard, Ashland, OR 97520; Department of Academic Speech, Bureau of Speech Employment, 12 Back Street, Medford, OR 97504; skraft(at)biologe.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 authors, use a superscripted number on the right of each author’s last name, followed by the corresponding superscripted number at the start of each unique address. Place an asterisk (*) next to the last name of the presenter. Submissions not formatted in this manner may be returned for reformatting or rejected.

Indent the first line of each paragraph of your abstract (Line 10 ff) 0.25 inches by using the first line indent command of your word processor. **Do not use the tab or the spacebar!** All text should be full justified.

Use 10 pt Times New Roman font and “NORMAL” style. If you use a different font, 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 faxed (541-552-8457) or mailed to the AAASPD office (AAAS Pacific Division, Southern Oregon University, 1250 Siskiyou Blvd., Ashland, OR 97520). Be sure to point out special characters in your abstract and identify the font set that contains them. If exotic fonts are used, we probably won’t have them available, so use common font sets (e.g. Symbol, Wingdings, etc.) for your special characters!

Send your abstract as a Word (.doc or .docx) or rich text format (.rtf) file attached to an e-mail addressed to the appropriate section chair (see Line 5 above) and also the AAASPD office at rchristi@sou.edu. **Do not send your abstract in the body of an e-mail or as a PDF file as these will be rejected!**
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 2014 annual meeting by developing symposia and/or workshops. Persons wishing to develop a program for the Riverside 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 (see page 28 of this Newsletter). Note: You must identify at least one section or society to sponsor your 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.

541-552-6747 • rchristi@sou.edu • http://pacific.aaas.org
To register for a Guest Suite, please go to this web page, http://www.unlv.edu/eventservices/guestsuites, and follow the directions. 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 17 of this Newsletter for a description of the accommodations and options listed below.
No refunds will be given for unused nights of stay.

**Rates:**
Three night basic housing package –
Check in Sunday, 12 June; check out Wednesday, 15 June
Double, per person  $ 90.00
Single  $180.00
Additional nights in conjunction with three night basic package –
Double, per person per night $30.00
Single, per night $60.00
Parking: $7.00/week

**Housing request:**
Three night housing package
☐ Double, per person  $_____
☐ Single  $_____

Additional nights (nights must be contiguous with nights of three night basic package)
☐ Friday, 14 June  $_____
☐ Saturday, 15 June  $_____
☐ Wednesday, 19 June  $_____
☐ Thursday, 20 June  $_____
☐ Friday, 21 June  $_____

**On-campus Parking Permit**
$7.00 per week  $_____

**Deadline for Application**
The completed application for housing must be received in the Pacific Division office no later than 15 May 2013. 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 15 May 2013. 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) ____________________________________________________________________________
Complete Card Billing
Address ____________________________________________________________________________

City _________________________  State _______ Zip ________

Cardholder _________________________
Signature _________________________
AAAS, Pacific Division 94th ANNUAL MEETING
Las Vegas, Nevada
16 – 19 June 2013

ADVANCE REGISTRATION FORM
FOR EARLY REGISTRATION, FIELD TRIPS, and OTHER SPECIAL EVENTS

Send this form directly to
AAAS, Pacific Division • Southern Oregon University • 1250 Siskiyou Blvd • Ashland, OR 97520
or call with information: 541-552-6869 or FAX to our dedicated line: 541-552-8457

PRINT CLEARLY or TYPE this form. If faxing, use black ink!

Name: __________________________________________________________
Date: ________________
Mailing Address: __________________________________________________________________________
City, State, Zip: __________________________________________________________________________
E-mail: __________________________ Day Phone: __________________________
Institution/Company (for your name tag – if blank, city & state will be used):
________________________________________
Memberships:     AAAS □ Yes □ No     ANAS □ Yes □ No     Sigma Xi □ Yes □ No
Other 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 website? □ Yes □ No
Would you be willing to help judge student presentations at this meeting? □ Yes □ No
  Please see page 6 of this Newsletter for information about judging. If you check the “yes” box, you will be contacted for additional information.

Check all that apply: □ presenter □ program planner □ field trip planner
  If box checked above, in which program, field trip, or section?
  ____________________________________________
  (above must be filled out in order to receive program planner/presenter rate)

MEETING REGISTRATION FEES:

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<th></th>
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<th>Received by</th>
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<tr>
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<td>□ $110.00</td>
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<tr>
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<td>□ $75.00</td>
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<td>Emeritus/Retired</td>
<td>□ $47.50</td>
<td>□ $55.00</td>
<td>□ $62.50</td>
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| One-day of Meeting   |             |             |         |
| Professional         | □ $65.00    | □ $75.00    | □ $85.00 |
|                      | □           | □           | □ $50.00 | ▶ Name, City, State (for name tag): ______________________
| Student presenter ticket @ no charge (choose one): □ Salmon □ Top Round □ Vegetarian
| Tickets @ $40.00 ea. Indicate quantity by each choice: ___ Salmon ___ Top Round ___ Vegetarian

DIVISION BANQUET: The Division banquet will be held on the evening of Tuesday, 18 June and will include announcements 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 20 in this Newsletter for descriptions of the entrées.

Student presenter ticket @ no charge (choose one): □ Salmon □ Top Round □ Vegetarian
Tickets @ $40.00 ea. Indicate quantity by each choice: ___ Salmon ___ Top Round ___ Vegetarian

Please complete reverse side before sending or faxing form.
FIELD TRIPS: All trips are priced per person (pp). See page 20 of this Newsletter for details.

Field trip registration fee for non-registrants (once per person) ___ regs. @ $10 $ ____________

Name(s) of people registered for field trips only: ________________________________________________________

Sunday, 16 June
Field Trip #1 Hoover Dam SSN: ____________________ ___ tickets @ $60 pp $ ____________
Field Trip #2 Devil’s Hole and Ash Meadows ___ tickets @ $45 pp $ ____________

Wednesday, 19 June
Field Trip #3 Landscape Photography ___ tickets @ $35 pp $ ____________
Field Trip #4 Tule Springs Fossil Beds ___ tickets @ $25 pp $ ____________
Field Trip #5 Red Rock Canyon Hike ___ tickets @ $30 pp $ ____________

Thursday, 20 June
Field Trip #6 Nevada Solar One ___ tickets @ $20 pp $ ____________
Field Trip #7 Ecological Transect ___ tickets @ $35 pp $ ____________
Field Trip #8 Zion Canyon National Park* ___ tickets @ $225 pp double $ ____________
☐ please assign a roommate for this excursion ___ tickets @ $415 pp single $ ____________

*deadline for signing up for this field trip is Wednesday, 15 May 2013

WORKSHOPS: See page 23 of this Newsletter for workshop details.

Please check which workshops you are planning to attend.

☐ DockoMatic (no charge)

Registration Total $ ____________
Banquet Total $ ____________
Field Trips Total $ ____________
Parking Permit ($7/week) $ ____________

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.

___ Monday Evening Reception (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 • Southern Oregon University • 1250 Siskiyou Blvd • 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.
A new way to look at science

The new Science Reader app for iPad® from AAAS puts Science in your hands, wherever you go. Read abstracts, career advice, and highlights from our newest journals, Science Signaling and Science Translational Medicine. Plus, AAAS members can access full text articles from Science. Visit iTunes App Store™ or content.aaas.org/ipad for details.
**Pacific Division Publications**

**wow!!! BOGO Book Sale wow!!!**

Any Book Listed Below $10.00 and Second Book Free*

*Does not apply to Art Inspired by Science*

Please PRINT CLEARLY or TYPE this form. If faxing, use black ink.

Wow!!! BOGO Book Sale Wow!!!

Any Book Listed Below $10.00 and Second Book Free*

*Does not apply to Art Inspired by Science*

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

Art Inspired by Science (2012; paper, 50 pp., 38 color plates – ISBN 978-0-9849810-0-7); $15.00

Biodiversity and Taxonomy (2005; paper, 236 pp. – ISBN 0940228-62-9); $35.00


Crater Lake: An Ecosystem Study (1990; cloth 224 pp. – ISBN 0-934394-07-5); $26.95

Dietary Factors and Birth Defects (1993; paper, 410 pp. – ISBN 0-934394-08-0); $28.50


Geneecology and Ecogeographic Races (1995; cloth, 275 pp. – ISBN 0-934394-10-5); $28.95

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

Museums and Other Institutions of Natural History: Past, Present, and Future (2004; paper, 325 pp. – ISBN 0-940228-60-2); $35.00

San Francisco Bay: The Ecosystem (1996; cloth, 542 pp., color plates – ISBN 0-934394-11-3); $45.00

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. 31, Part 1, 2012); $10.00 each

Evolutionists Confront Creationists (Proceedings Vol. 1, Part 3, 1984; paper, 213 pp.); $10.00

Scientific Research and New Religions (Proceedings Vol 2, Part 2, 1985; paper, 180 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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<tr>
<th>Quantity*</th>
<th>Title</th>
<th>Price Each</th>
<th>Total</th>
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</table>

**attach extra sheet if necessary.**

*Maximum 3 of any sale title.

Contact us for quantity orders.

**SHIPPING (see note to left)**

Domestic, $3.50 first book; $1.50 each add’l. Non-U.S. addresses, contact us for cost.

**TOTAL DUE WITH ORDER**

**Ship To:** _____________________________________________________________ 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 E-mail us at aaaspd@sou.edu
Map of UNLV campus. Meeting buildings are within the black box on the map. 38 is the Student Union. 35 is the Tonopah Complex, the location of on-campus housing for the meeting. 34 is the Dining Commons (open to everyone, with payment upon entry) and 36 is the Bookstore. Visitors can park in any student lot with a temporary parking permit on display. Convenient student lots are U and H on this map. U also contains pay-metered spaces.
AAAS, Pacific Division
94th Annual Meeting
University of Nevada, Las Vegas
Las Vegas, Nevada
16 – 19 June 2013
PRELIMINARY ANNOUNCEMENT of SYMPOSIA,
FIELD TRIPS and OTHER EVENTS

SYMPOSIA
(a sampling; complete list starts on page 23)
• Mechanisms of Tumor Progression and Cancer Therapeutics
• Recent Advances in Pharmacology and Toxicology
• Current Progress in Infectious Disease Research and Therapeutic Interventions
• Accelerating Biomedical Discovery with Advanced Molecular Simulation and Computational Biology
• Forensic and Clinical Psychological Science Issues in Antiterrorism: An International Paradigm
• International Protected Area Exchange
• Boise Extravaganza in Set Theory (BEST)
• Recent Advances in Genetics and Cell Biology
• Climate Change, Sustainability, and Water Resources in the Arid West
• Soil-Plant-Water Relationships in Arid Environments
• Management of Endangered Species in the American West: Policy and Practice
• Ion channels: Integration of Computer Simulations with Experiments
• Library Science and Archives: Forming Partnerships, Making Connection

WORKSHOPS
(see page 23)
• DockoMatic: Docking Calculations and Homology Modeling

FIELD TRIPS
(starting on page 20)
• Engineering, Geology, and Engineering Geology of Hoover Dam and the O’Callahan-Tillman Bridge
• Devils Hole and Ash Meadows National Wildlife Refuge
• Landscape Photography of the Desert Southwest
• Tule Springs Fossil Beds
• Evening Hike to Potato Knoll in Red Rock Canyon National Conservation Area
• Nevada Solar One 400 Acre Concentrated Solar Power Plant
• An Ecological Transect of the Sheep Range – A great Basin Sky Island
• Zion National Park: Geology, Natural Resource Management Policy, and Dinosaur Tracks

NOTE: These programs are being planned as of 17 December 2012. However, changes in offerings frequently occur. For up-to-date information, please visit the Pacific Division website, pacific.aaas.org