The AAAS, Pacific Division will hold its 95th annual meeting this June at the University of California, Riverside. The Division is especially pleased to welcome participants from the Northwest and Southwest Regions of Sigma Xi, The Scientific Research Society and also the annual Molecular Reproduction and Development Conference to our annual meeting. We take pleasure in acknowledging the University of California, Riverside (UCR) and John Wiley & Sons, Inc., publishers of the journal Molecular Reproduction and Development, as contributing sponsors of the meeting.

The Division’s Program and Special Events Committee and the local Program Committee on the UCR campus have been hard at work assembling a program of exceptional scientific merit and interest. All
History of Riverside

The City of Riverside’s rich heritage begins with the original residents of the area, the Cahuilla and Serrano Indian tribes, who lived in the riches in the rocky hills and foraged for food. Their first known European contact occurred in 1774 when a Spanish expedition of 34 men led by Captain Juan Bautista de Anza, who were seeking to chart a colonization route from Arizona into California, entered the area. The natives continued to live relatively undisturbed for almost the next fifty years until 1821, when the lands of California became the property of Mexico and Mexican and Spanish settlers poured into the area to establish ranchos, presidios, and missions.

Shortly thereafter, Juan Bandini, a prominent political figure in California, was granted by the Mexican government a very large land grant, El Rancho Jurupa, that included parts of what were later to become both San Bernardino and Riverside Counties. He later presented part of this to Abel Stearns, the husband of one of his daughters. The Stearns later sold the land to Louis Rubidoux, a former fur trapper, who started a cattle and grain ranch on the property. After Rubidoux’s death, part of the land was purchased by John North, who solicited investors to found the Southern California Colony Association, a community of people devoted to establishing good schools, churches, and libraries. The new town was initially called Jurupa, but shortly, in 1871, the name was changed to Riverside, honoring the fact that it stood next to the Santa Ana River. Riverside’s original square, called “Mile Square,” remains

1Material for this section was assembled from information accumulated from the following sources:
the Riverside Convention and Visitors Bureau
http://en.wikipedia.org/wiki/Juan_Bandini
http://www.parks.ca.gov/?page_id=649
http://www.ucr.edu/about/facts.html
http://medschool.ucr.edu/about/mission_history.html

see HISTORY, page 4
Division Activities and Student Awards at the Annual Meeting in Las Vegas

In June 2013 the Pacific Division held its 94th annual meeting at the University of Nevada, Las Vegas. Joining us in the meeting were the Arizona-Nevada Academy of Sciences and the Northwest and Southwest Section of Sigma Xi, the Scientific Research Society. The technical program for the meeting included fifteen symposia, two poster sessions, eight contributed paper sessions, and one workshop. Additionally, there were seven field trips that travelled all around the countryside.

Activities began Sunday with field trips to Hoover Dam and also to Devils Hole and Ash Meadows National Wildlife Refuge. That evening was an interesting panel discussion, Scientific Publishing: Where Are We and Where Are We Going? Panelists included Marianne A. Buehler (Digital Scholarship Administrator, UNLV Lied Library), Stan Smith (Associate Vice-President for Research at UNLV), Bob Schatz (BioMed Central), and Yacouba Moumouni (graduate student at UNLV), with Cory Tucker (Head of Collection Management, UNLV Lied Library) moderating. Following the discussion was an informal reception welcoming attendees to the meeting.

The technical program began in full force Monday with several very interesting symposia: Structural and Computational Approaches for Novel Therapeutics Development and Biomedical Insights, organized by Todd Talley and Dong Xu (Idaho State University College of Pharmacy); Boise Extravaganza in Set Theory (BEST), organized by Liljana Babinkostova, Andres Caicedo, Samuel Coskey, and Marion Sheepears (Department of Mathematics, Boise State University); Library Science and Archives: Forming Partnerships, Making Connections, organized by Mses. Crystal Goldman (Dr. Martin Luther King, Jr. Library, San Jose State University), Michal Davidson (Archivist for the Idaho State Archives, Division of the Idaho State Historical Society), Silke Higgins (Digital Initiatives Librarian, King Library, San Jose State University), Susan Kendall ((Collection Development Coordinator, King Library, San Jose State Library), and Eva Stowers (University Libraries, University of Nevada, Las Vegas); Forensic Psychological Science of Juvenile Fire Setters and see DIVISION ACTIVITIES, page 10

Division News

Dr. Christianson to Remain Executive Director for a Little Longer

The recent search for a replacement for Dr. Christianson as Executive Director following his announced intention to retire was not successful. In light of this, he has offered to continue in the position while the Division’s Executive Committee reformulates the position description and launches a new search. More to follow.

Dr. Chiappelli Steps Down as President of the Division

In an announcement citing personal and health reasons, Dr. Francesco Chiappelli, Division President for 2013/14, on 6 November resigned all of his positions within the Division (President and also Chair of the Division’s Oral Biology and Dental Medicine Section). Members of the Executive Committee were saddened at this unexpected turn of events and wish Dr. Chiappelli the best for the future. Effective as of the date of Dr. Chiappelli’s resignation, Dr. Richard Cardullo (University of California, Riverside), the Division’s President-Elect, moved into the Presidency to fill out the remainder of Dr. Chiappelli’s term.

2015 is a Big Year for the Pacific Division!

The Pacific Division was formed as a result of the call by AAAS for help in organizing its 1915 meeting in San Francisco. The AAAS constitution was emended in 1914 to accommodate divisions, and the fledgling division held its first meeting in conjunction with the AAAS meeting that following year. 2015 brings us back to San Francisco and we plan to celebrate this 100th anniversary of the first meeting of the Pacific Division at that time. Put it onto your calendar now and plan to join us in mid-June 2015 for this centennial meeting!
the heart of the city even today. Within a few years of its founding, railroad tracks were built connecting the city to far-off places.

By 1900, Riverside had become an incorporated city of 8,000. In 1907, by a vote of the people, it became a charter city instituting a Mayor-Council form of government.

During World War I, March Field, now March Air Reserve Base, was established for the training of army aviators. During World War II, March Field was expanded and another base, Camp Haan, was begun across from March Field. The site is now occupied by the National Veteran's Cemetery. A third base was built, called Camp Anza, which later became a subdivision called Arlanza.

In 1920, Ernest Louis Yeager began the E. L. Yeager Construction Company, Inc., which, with the assistance of his three sons, completed over a half century of master construction projects.

During World War II, March Field was expanded and another base, Camp Haan, was begun across from March Field. The site is now occupied by the National Veteran's Cemetery. A third base was built, called Camp Anza, which later became a subdivision called Arlanza.

In 1920, Ernest Louis Yeager began the E. L. Yeager Construction Company, Inc., which, with the assistance of his three sons, completed over a half century of master construction projects. In the latter half of this century the Food Machinery Corporation was formed to produce machinery for packing citrus fruits both efficiently and rapidly.

A new Charter implementing the Council-Manager form of government was adopted in 1952 and ratified in 1953 by the State Legislature. The Charter has been updated several times since then, but still maintains the 1952 governmental framework.

Riverside Today
In recent years Riverside has given much attention to diversifying its economy and creating a sustainable community. In 2004 Partners for Livable Communities recognized Riverside as one of America’s “Most Livable Communities” in the mid-sized city category. The award—which is given out every decade—recognizes Riverside’s strides in preparing itself for a global economy through strategic business plans. However, it also acknowledges Riverside’s constant nurturing of its community—something the city has done since it blossomed in the late nineteenth century.

After an unprecedented investment into city infrastructure and renovation, Riverside has reinvented itself. However, though fully revitalized, the city celebrates and showcases timeless historic attractions that have attracted visitors for decades.

With a $1.6 billion transformation, just about every side of Riverside has been transformed. Here are the Top 5:

1. **Main Street Riverside** has transformed downtown into an upbeat, walkable favorite featuring places to dine, shop and entertain.
2. The new **Riverside Convention Center**, opening in 2014, will increase the indoor meetings facilities to over 65,000 square feet, including unprecedented technical advancements throughout the complex.
3. The multi-million dollar **expansion and enhancements of convenient hotels, including the world famous Mission Inn**, makes Riverside more accommodating than ever.
4. **Riverside Aquatics Complex** is one of the nation’s top facilities to make a splash for competitive swimming, synchronized swimming, diving and water polo.
5. The **Fox Performing Arts Center** — including sophisticated venues, The Box and The Showcase — have elevated the star power of concerts, performances and more.

Riverside prides itself on its background, and there is strong community support for the historic preservation of architectural structures. Riverside has 22 properties listed on the National Register of Historic Places.

**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 2014! 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 ten 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 and certificates of merit. 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!
The mountains of Idaho are a majestic natural environment where open range sheep and cattle grazing have been a way of life for many generations. The connection between Nobel Prize winning scientific discoveries in developmental biology and cancer research, and free range sheep, is an unlikely scenario; a mystery that took researchers nearly fifty years to unravel. This story begins in 1954 with the reporting of unusual birth defects observed in ewes born of sheep in the highlands of Idaho. The newborns, mostly still-born or aborted pre-term, were observed to have facial features that were not fully formed. This characteristic deformity was the lack of separation of the eyes into separate lobes. The birth defect was termed “Cyclops syndrome” or cyclopia, the result of impaired bilateral separation during development (Figure 1). The United States Department of Agriculture Poison Plant Research Laboratory in Logan, Utah, began their investigation into the cause of these defects. Severe draughts in California led to truckloads of sheep being relocated to the high mountains of Idaho for grazing. These sheep were unaccustomed to the habitat and quickly devoured everything in their path.

Researchers began with a genetic analysis of the sheep to rule out the influence of defects that may have caused cyclopia. Approximately three years of sheep breeding studies concluded that cyclopia was not due to genetic defects but may in fact be due to environmental factors. An additional three years of research, involving feeding trials of a variety of plant species, finally provided some clues to the origin of the poison. By 1960, *Veratrum californicum*, a.k.a. corn lily, was definitively identified as the plant responsible for cyclopia in sheep, but how did it cause these atrocious abnormalities? Chemists suspected it may be due to components present in the aerial plant. In the 1960’s, large quantities of plant material, on the order of 150 kg, were soaked in barrels of benzene. The extracted components were separated by thin layer chromatography and identified using a variety of physical and chemical testing procedures. *Veratrum californicum* was found to be rich in steroidal alkaloids (see Figure 2). The composition of the alkaloids present in aerial plant parts was found to vary over the life cycle of the plant, with a combination of glycosylated and unglycosylated alkaloids being identified, the most common of which being cyclopamine and veratramine, and their glycosylated counterparts cycloposine and veratrosine. Characterization of the alkaloid components of *Veratrum californicum* took researchers into the 1970’s. The result of their investigation was the finding that the steroidal alkaloid cyclopamine was the principle bioactive
History of Citrus Agriculture in California and Riverside

California’s citrus heritage began in 1769 when Father Junipero Serra, while building a trail of missions in California, planted some citrus seeds, currently thought to have originated from China and reflecting trees that had been cultivated there for thousands of years.

In 1840 a frontiersman named William Wolfskill planted several hundred lemon and orange seedlings that he obtained from the San Gabriel Mission on land that is now in downtown Los Angeles, launching the California citrus industry. It was known by this time that eating oranges prevented scurvy, and oranges were in much demand, especially by the “49ers” of the California gold rush.

In 1873 the U.S. Department of Agriculture sent to Eliza Tibbits in Riverside two or three seedlings of a new mutant orange tree that was earlier discovered in a Brazilian monastery. The mutation caused the fruit to be seedless and also to develop a second much smaller fruit at the end opposite the stem but embedded in the same rind as the main fruit. Because of its appearance, this variety of orange was soon dubbed the “navel” orange (often referred to as the Washington navel orange). It was found to grow extremely well in the rich soil alongside the Santa Ana River and was well adapted to the climate of Riverside. The seedlings were soon producing large, sweet, seedless fruits, which were in high demand. Interestingly, since the fruits were seedless, new trees could not be established by planting, but could only be established by grafting from one tree to the rootstock of another, which opened an entirely new chapter of the citrus industry. It has been estimated that nearly all of the navel orange trees in California have come from stock from Eliza Tibbits’ first couple of trees and may thus be considered clones of the original trees. Of additional interest is the fact that these clones are expected to be genetically identical (except for random mutations) to the original cultivars. This has helped to stabilize the quality of the fruit, as the fruit from Valencia (seeded) oranges comes from trees planted from seeds derived from sexual reproduction, thus leading to a continually changing genetic heritage and size, sweetness, etc.

One of the original trees, now 141 years old, still thrives and bears fruit in Riverside.
Receiving the AAAS, Pacific Division Alan E. Leviton award gave me the opportunity to put my research ideas into action. I am interested in conducting cognition tests on several species of corvid to gain insight into the factors potentially influencing the evolution of cognition in birds. This award allowed me to pilot test the methodologies for the six cognition tasks that I proposed. It has also helped to fund travel to my study sites to capture and band crows, and to collect behavioral observation data on crow interactions.

I used this grant to purchase the necessary items for the 6 cognitive tasks that I wanted to administer to captive crows. With this money I was also able to care for and feed the captive crows for 10 weeks. In this time, I was able to try out a few different methods for administering these tasks, and I learned the best ways to motivate the crows to attempt each task. I had formulated the methodologies for my tasks by reading literature to see what is commonly done in the comparative cognition field. However, now I was actually able to figure out the most practical and appropriate methods.

Furthermore, I collected pilot cognition data on the wild, free-flying crows in the same area as the captive crows. I discovered that while the captive crows exhibited neophobia towards the cognitive tasks that resulted in long and unpredictable latencies to solve the task, the wild crows approached the tasks almost instantaneously in order to gain the food item. The wild crows demonstrated far greater motivation and ability to solve these tasks than the crows in captivity. As such, I believe I will obtain more accurate data by conducting these cognitive assays on wild corvids rather then bringing subjects into captivity. I have adjusted the methods to allow for this change, and will begin collecting cognition data for my project in the coming months.

This award has also facilitated my travel to my study sites. I was able to travel more frequently to my study site north of Seattle to band crows and collect social association data on the crow population. I am also in the process of establishing a study site in Oregon where I will create a banded population of Western Scrub-Jays. I will continue to use this fund to travel to this study site in order to establish a population of banded jays, collect behavioral observation data, and conduct the cognition tests.

This award was integral in establishing the protocols, obtaining the testing equipment, and collecting data at my field sites. As such, this award defrayed the majority of the start-up costs for my PhD project. Since I will now be conducting cognitive tests on wild rather then captive corvids, I will not have care and keeping costs. Consequently, I will be able to carry out cognitive testing and behavioral observations with minimal additional expenses.
ASHLAND, Oregon – Kelsey Brenna McCune, Department of Psychology, University of Washington, Seattle, Washington, was recently announced as the winner of the 2013 Alan E. Leviton AAAS, Pacific Division Student Research Award competition. Ms. McCune was awarded a grant of $750 for her project, Social Versus Physical Cognition in Three Corvid Species. When contacted with the good news, Ms. McCune replied, “This is incredible, thank you so much! I am very honored......I would love to present at a AAAS Pacific Division meeting.” Look for her report on page 7 of this Newsletter.

Don’t forget! Applications are being accepted through 1 May 2014 for the 2014 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

By 1887 the navel orange had become the dominant crop in Riverside and other California cities. The completion of the transcontinental railroad in 1869 had opened the California citrus industry to markets across the country, insuring a booming market for citrus and especially these new navel oranges. The success of the crops prompted a steady flow of agriculturalists and investors into the area who hoped to profit from the new citrus industry. The citrus industry also attracted numerous communities of immigrants; Chinese, Japanese, and Mexican workers flooded into the area hoping to acquire their own fortunes. At the turn of the twentieth century, Riverside contained the most successful agricultural cooperative in the world, the California Fruit Growers Exchange (now known as Sunkist Growers), which was the home of a superior research institution, the University of California Citrus Experimentation Station, which would eventually become the University of California, Riverside.

The development of refrigerated railroad cars and innovative irrigation systems established Riverside as the state’s wealthiest city per capita by 1895.

History of the University of California, Riverside

John Henry Reed, a retired school superintendent and dry goods merchant from Ohio turned citrus grower, is credited with first proposing the establishment of a scientific experiment station specifically for citrus research in Southern California, and organized a vigorous lobbying effort of the local citrus industry towards that end. As founding member and chair of the Riverside Horticultural Club’s experimental committee, he also pioneered a collaborative approach to conducting experimental plantings, and published more than 150 semi-technical and popular papers on citrus and other subjects between 1895 and 1915.

On February 14, 1907, the University of California Board of Regents established the UC Citrus Experiment Station (CES) on 23 acres (93,000 m²) of land on the east slope of Mt. Rubidoux in Riverside. However, the University’s decision to concentrate on the development of the University Farm in Davis lead to only two initial staff being assigned to the CES, only one of whom, Ralph E. Smith, a plant pathologist from Berkeley, was a scientist. Dubbed the Rubidoux Laboratory, the initial purpose of the station was to concentrate on various soil management problems such as fertilization, irrigation, and improvement of crops.

In 1913, a record killing freeze in Southern California caused a panic throughout the $175 million citrus industry, which demanded more state-funded agricultural research. After considerable lobbying by various groups in the San Fernando Valley, the UC Regents in late 1914 approved the relocation of the CES to its current site on 475 acres (1.92 km²) of land 2.5 miles (4.0 km) from downtown Riverside, adjacent to the Box Springs Mountains.

The new station was to be governed autonomously under Webber’s direction. He spent the next few years personally recruiting the founding research team, eleven scientists organized into six divisions of agricultural chemistry, plant physiology, plant pathology, entomology, plant breeding, and orchard management. Webber also initiated the development of the Citrus Variety Collection on 5 acres (20,000 m²) planted with approximately 500 species of citrus from around the world, which grew to become the greatest such variety collection internationally. In addition, he planted hundreds of other subtropical crops, including 70 varieties of avocado imported from Mexico that produced more than 45,000 hybrids through controlled pollination. He also helped in the founding of the California Avocado Association (Calavo) in 1914 and served as its president for two years, and organized the annual citrus institute of the National Orange Show in San Bernardino and the Date Growers Institute of Coachella Valley.

The original laboratory, farm, and residence buildings on the Box Springs site was designed by Lester H. Hibbard of Los Angeles.
a graduate of the University of California School of Architecture, in association with a colleague, H.B. Cody. Built at a cost of $165,000, the architecture followed the Mission Revival style suggesting the Spanish colonial heritage of Southern California. The site, which became the early nucleus of the UCR campus, eventually opened in 1917, although the Division of Agricultural Chemistry continued to occupy lab space at the Rubidoux site.

After the 1945 passage of the GI Bill, a massive influx of former servicemen began to enter college and strained the capacities of many state public university systems. While this wave was expected to subside by the early 1950s, state and federal statistics released in the late forties all projected a massive demand for access to higher education in California in the near future. The UC system was then composed only of established campuses at Berkeley and Los Angeles, (Santa Barbara State had just entered the UC system in 1944) which were already operating near capacity. In 1947, the Strayer committee recommended that Riverside become the location for the fourth UC undergraduate campus. (It also recommended that the existing Agricultural College at Davis be expanded to serve undergraduates.) Governor Earl Warren signed the bill approving the establishment of the College of Letters and Science in Riverside in 1949.

That same year, UC President Robert G. Sproul requested Gordon S. Watkins, Dean of the College of Letters and Science at UCLA, to take on the task of overseeing the organization of the College of Letters and Science at Riverside. The onset of the Korean war, however, delayed construction. Anticipating an initial enrollment of 1000, Watkins ordered the initial campus built for a maximum capacity of 1500 students. Not anticipating the need for graduate work, Watkins focused on recruiting many young, new Ph.D.s rather than already established researchers into junior faculty positions. Watkins became provost of the Riverside campus and presided at its opening with 65 faculty and 131 students in February 1954.

The Regents at the time of the 1947 Strayer Report did not believe California could afford multiple high quality public universities, so they initially sought to respectively specialize the various new campuses. Riverside was designed to provide a high quality liberal arts education, but not graduate-level research. However, continually increasing enrollment demands at Berkeley and Los Angeles required continual expansion at all levels, so the liberal arts college model, implemented by the Regents as a way of saving money, was ultimately deemed too small and costly in light of the growing needs of California.

By the mid-1950s, the University had established a teaching-focused liberal arts curriculum, in the spirit of a small liberal arts college, but California’s rapidly growing population made it necessary for the Riverside campus to become a full-fledged general campus of the UC system.

By the time Clark Kerr became president of the UC system in 1958, UCR was in its fifth year of operation and included 1087 students. Kerr articulated a vision of the UC as “one university, many campuses” and by 1959 Riverside, Santa Barbara, Davis and San Diego were all designated general campuses of the UC system. The Regents tasked biologist Herman Theodore Spieth, provost after Watkins’ retirement in 1956, with increasing UCR’s enrollment capacity to 5000 students and administering UCR’s development towards full university status. As UCR’s first chancellor, Spieth was to combine the College of

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**IN MEMORIAM**

**Lynn Murdock Dudley**

1955 ~ 2013

It is with great sadness that we report here the untimely passing of Lynn M. Dudley. Lynn, the oldest of four boys, was born 15 May 1955. He was an avid outdoorsman and scholar, spending much of his free time big game hunting on his family ranch, chasing birds with his dogs, and fly fishing around the world. A marathon runner, a road biker, skier and world traveler, he still found time to become a renowned academic in soil chemistry, working with international agencies and governments in India and Israel.

Lynn received his bachelor’s and master’s degrees from Utah State University and then went on to Washington State University to receive his Ph.D. in Soil Chemistry. He spent most of his professional career at Utah State University where he became one of the youngest tenured professors at the age of 30. In addition to serving as President of the faculty senate at USU, he served two terms on the Executive Committee of the Pacific Division of the American Association for the Advancement of Science (AAAS), as well as its President in 2004/05. Additionally, he served as chair of the local organizing committee for two annual meetings of the AAAS, Pacific Division at USU. Besides authoring 48+ significant publications, Lynn became the first department chair of Earth, Ocean and Atmospheric Science at Florida State University, where he was serving at the time of his passing.

Lynn was a good friend of the Division and of all those in the Division. He was skilled in leadership, and concerned about students and their needs in order to advance into careers in science. He will be sorely missed by the academic community and particularly members of the Pacific Division.

Lynn is survived by his wife, Caryn Beck-Dudley, son Michael, daughter Stacia, and a plethora of other family, including siblings, step-siblings, mother, in-laws, nieces, nephews, friends, and colleagues.

Excerpted in part from the obituary which appeared in the Salt Lake Tribune on 12 September 2013 and also in the Deseret News and on the Florida State University website.
**DIVISION ACTIVITIES, from page 3**

**Bomb Makers**, organized by Ronn Johnson (School of Leadership and Education Services, University of San Diego); and Forensic and Clinical Psychological Science Issues in Anti-Terrorism: An International Paradigm, organized by Ronn Johnson (School of Leadership and Educational Services, University of San Diego).

Additional technical programs on Monday included four contributed paper sessions and two poster sessions. Topics included in the contributed paper sessions were sponsored by the Pacific Division sections of Chemistry and Biochemistry; Earth Sciences; Ecology, Organismal Biology, and Environmental Sciences; and Oral Biology and Dental Medicine. Topics included in the poster session included those sponsored by the Pacific Division sections of 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; Oral Biology and Dental Medicine; Physics and Material Sciences; and Psychology.

In between all of the above sessions on Monday was the noon public plenary lecture, Las Vegas: Sustainable?!, presented by Robert E. Lang (Interim Director of the Lincy Institute, non-resident senior fellow at the Brookings Institution, and co-director of Brookings Mountain West). Monday evening was the Division’s Presidential Talk, Veratrum californicum: Of One-Eyed Sheep and Hedgehogs, presented by Owen McDougal (Pacific Division President and Department of Chemistry and Biochemistry, Boise State University).

Technical sessions continued Tuesday, with additional thought-provoking symposia: Boise Extravaganzia in Set Theory (BEST), Session II, a continuation of the mathematics program that began on Monday; Climate Change, sustainability, and Water Resources in the Arid West, organized by Saijad Ahmad (Department of Civil and Environmental Engineering, University of Nevada, Las Vegas), Ion Channels: Integration of Computer Simulations with Experiments, organized by C. Mark Maupin (Department of Chemical and Biological Engineering, Colorado School of Mines) and Owen McDougal (Department of Chemistry and Biochemistry, Boise State University); International Protected Area Exchange (IPAX), organized by Margaret N. Rees (Vice-President for Educational Outreach and Executive Director of the Public Lands Institute, University of Nevada, Las Vegas) and Allison Brody (Project Manager, Public Lands Institute); Patient-Centered Outcomes Research and Patient Targeted Therapies, organized by Francesco Chiappelli (UCLA School of Dentistry, University of California, Los Angeles); and Mechanisms of Tumor Progression and Cancer Therapeutics, organized by Cheryl Jorcyk (Department of Biology, Boise State University).

Additional technical sessions on Tuesday included four contributed paper sessions, sponsored by the Pacific Division sections of Cell and Molecular Biology; Engineering, Technology, and Applied Sciences; General and Interdisciplinary Studies; and Social, Economic and Political Sciences.

The noon public lecture, New Frontiers of Cancer Research in 2013: A “Vademecum” for Emerging Scientists, was presented by Rafael Malagoli Rocha (Department of Pathology, Hospital AC Camargo, Liberdade São Paulo, Brazil).

The afternoon technical program included not only several of the afore-mentioned symposia, but also the two workshops Grant-Writing Workshop for Foundations, presented by Peter Kraus (J. Willard Marriott Library, University of Utah), and a second workshop, DockOmatic: Docking Calculations and Homology Modeling, organized by C. Mark Maupin (Chemical and Biological Engineering Department, Colorado School of Mines) and Owen M. McDougal (Department of Chemistry and Biochemistry, Boise State University).

Tuesday evening was the Student Awards Banquet, held in the Ballroom of the UNLV Student Union. Following a tasty meal, the winners of the student Awards of Excellence were announced (see pages 12 and following of this Newsletter for details).


The awards banquet always brings together old friends, and this evening was no disappointment, with seven past, present and future presidents of the Pacific Division – Drs. Alan E. Leviton (98/99), Carl A. Maida (06/07), Terry Gosliner (07/08), John Hafernik (09/10), Robert L. Chianese (11/12), Owen M. McDougal (12/13), and Francesco Chiappelli (13/14) – in attendance.

The evening culminated with the transition of the Pacific Division presidency from Dr. McDougal to Dr. Francesco Chiappelli, incoming president for 2013/2014, which officially occurs at the close of the annual meeting.

Technical sessions continued on Wednesday with the following engaging symposia: Current Progress in Infectious Disease Research and Therapeutic Interventions, organized by Dong Xu (Department of Biomedical and Pharmaceutical Sciences, College of Pharmacy, Idaho State University) and Mike Aldape (Veteran’s Affairs Medical Center, Boise); Innovations and Trends in K–16 STEM Education, organized by Larry Rudd (School of Education, Nevada State College); Dinosaurs and Their Neighbors: Mesozoic Paleontology and Paleogeography of Nevada, Utah, and Adjacent States, organized by Josh Bonde (Department of Geosciences, University of Nevada, Las Vegas); Science and Feeling in the Arts, organized by Robert L. Chianese (Department of English, California State University, Northridge) and Jesse James Thomas (San Diego State University); and Management of Endangered Species in the American West: Policy and Practice, organized by Rob Mrowka (Ecologist, Center for Biological Diversit.

The noon public plenary lecture on Wednesday was The Incredible Contributions of Nikola Tesla, presented by Michael
Letters and Science and the Citrus Research Center under a single academic and administrative entity, as well as oversee the planning and development of UCR’s graduate division, in accord with the provisions of the developing California Master Plan for Higher Education. UCR started accepting graduate students in 1961. It fell to Ivan Hinderaker, UCR’s second Chancellor, to complete the task of turning UCR into a full fledged research university. In doing this, he had to confront the early faculty Watkins had recruited on the premise that UCR Letters and Science would be a small liberal arts institution dedicated to teaching undergraduates. Many of UCR’s early L&S faculty had achieved tenured positions without having to do extensive research, and saw themselves primarily as teachers. All Hinderaker could do was wait for this early faculty to retire in order to appoint new faculty on a research basis.

Through the 1960s, UCR’s enrollment rose to a plateau of approximately 5000 students. In 1973, Riverside’s Mayor Lewis requested Governor Ronald Reagan declare the South Coast Air Basin a disaster area. This caused Riverside to become famous for its air pollution and had disastrous effects on student enrollment and faculty recruitment at UCR, with a twenty five percent reduction in students by 1978-79 and the loss of forty-two faculty positions during the early seventies. Rumors circulated that the campus would close; Gov. Jerry Brown proposed a merger with Cal State San Bernardino. But through the development of UCR’s Biomedical and Business Administration programs, Hinderaker was able to stave off the dire predictions. During his tenure, Hinderaker also established UCR’s graduate schools of education and administration, streamlined UCR’s departmental structure, and presided over the establishment of the UCR/California Museum of Photography during this period.

The 1980s were a turbulent time for the University, with a series of several short-term chancellors and trying to deal with budget problems brought on by the passage of California Proposition 13, which severely reduced the state’s ability to fund higher education. However, enrollment slowly picked up and by 1991 had more than doubled. Due to these enrollment gains, the University was able to bring on 200 new faculty members.

With the improvement of the economy in 1994, the UC campuses began receiving more applications than anticipated. This surge became known as “Tidal Wave II” (the first “tidal wave” of students having been the Baby Boom generation born in the post-World War II era). To help the UC system accommodate this growth, planners targeted UCR for an annual growth rate of 6.3%, the fastest in the UC system, and anticipated 19,900 students enrolled by UCR by 2010.

With UCR scheduled for dramatic population growth, efforts were made to increase its popular and academic recognition. The students voted to increase fees to move UCR athletics into NCAA Division I standing in 1998. Proposals to establish a law school, a medical school, and a school of public policy at UCR have been in progress within the field of reproduction and development as a field.

Molecular Reproduction and Development (MRD) focuses on fundamental advances made through the convergence of disciplines, including systems biology, computational modeling, nanoscience, organic chemistry, bioengineering, evolutionary and synthetic biology. The Journal fosters dialogues among these diverse disciplines through primary research communications, critical reviews, and educational forums.

MRD publishes several types of submissions:

- **Visions: The Art of Science** highlights the visual impact of reproduction and development as a field.
- **Correspondences** are short communications (<500 words) representing current research within reproduction and development.
- **Reviews** and **Essays** are written to educate a broad audience in molecular reproduction and development — from students learning the material for the first time to established investigators.
- **Research Articles** document advances in reproduction and development through mechanistic and functional insights or discoveries.

**History of the MRD Conferences:** Wiley has supported the MRD conferences for several years. These conferences have been held in partnership with a variety of academic institutions (Brown University, University of Washington’s Friday Harbor Laboratories, Cornell University, University of Pennsylvania, The Research Triangle Consortium of Reproductive Sciences – Duke, UNC, NC State) and are intended to enhance communication and progress within the field of reproduction and development. Emphasis during the conferences is given to discussion, diversity in topics and speakers, poster sessions, and published proceedings from the conferences.
Three separate field trips went out on Wednesday, one to do early morning landscape photography, led by Peter Starkweather (Department of Biology, UNLV), a second to explore the Tule Springs Fossil Beds, led by Josh Bonde (UNLV), and a third for an evening hike to Potato Knoll in the Red Rock Canyon National Conservation Area, led by Nick Saines (Red Rock Canyon Interpretive Association).

Although the technical sessions ended on Wednesday, more activity awaited those who stayed on, as two more field trips took place on Thursday, with one not returning until Friday. Thursday morning saw a group heading out into the desert to visit the 64 megawatt Nevada Solar One Power Plant, while the other group headed south into Utah for an overnight trip to Zion National Park to learn about the geology of the area and natural resource management, as well as to hike some trails in Zion. Participants also took time to examine in-situ dinosaur tracks and trackways at the Dinosaur Discovery Site at Johnson Farm.

Special words of thanks: Without the participation and help of these individuals, the 94th Annual Meeting would not have been the exceptional event it was, and may not have happened at all! So, thank you Dr. Neal Smatresk for inviting the Pacific Division to hold its annual meeting on your campus. And thanks to the various Deans and others who made the meeting possible through their financial support for meeting facilities. Thank you Dr. Steve Rowland, chair of our local organizing committee, and the team of people on the Pacific Division side of the meeting who helped to develop a very fine technical program as well as other meeting events. 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: Natalia Khuri (Department of Bioengineering and Therapeutic Sciences, University of California, San Francisco, California), *Discovery of Potent, Selective Multidrug and Toxin Extrusion Transporter 1 (MATE1, SLC47A1) Inhibitors Through Prescription Drug Profiling and Computational Modeling.*

Geraldine K. Lindsay Award in the Natural Sciences: Lorenzo Apodaca (School of Life Sciences, University of Nevada, Las Vegas, Nevada), *Assessing Interannual Variation in Great Basin Big Sagebrush Growth Response to Climate.*

Best Poster Award: Ling M. Wong (MIND Institute, University of California Davis Medical Center and Department of Psychiatry and Behavioral Sciences, University of California, Davis, California), *Oculomotor performance Indicates Adult Male Fragile X Premutation Carriers Asymptomatic for FXTAS Exhibit Impaired Inhibitory Control.*

Presidents Award: Jessica Buckley (Engineering Department, University of San Diego, San Diego, California), *Journeying Through Zen and the Art of Motorcycle Maintenance.*

AAAS Robert I. Larus Travel Award: Jacqueline M.I. Torti (School of Public Health, University of Alberta, Edmonton, AB, Canada), *Assigning Causality to Anti-Cancer Agents: Decision Making in Early Phase Oncology Clinical Trials.*

**Sectional Student Presentation Awards**

Combined Sections of Health Sciences Oral Biology and Dental Medicine
FIRST PLACE: Jacqueline M.I. Torti (School of Public Health, University of Alberta, Edmonton, AB, Canada), *Assigning Causality to Anti-Cancer Agents: Decision Making in Early Phase Oncology Clinical Trials.*

SECOND PLACE: Laura Gorham (Department of Pathology, University of New Mexico, Albuquerque, New...
ANNUAL MEETING, from page 1

scientists, including 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. Richard Cardullo, Department of Biology at UCR, is chair of the Division’s local organizing committee for this year’s annual meeting. Members of the Pacific Division’s Executive Committee and Council are also involved in developing the program to ensure that it is of highest quality.

This Newsletter contains a preliminary description of the scientific program, a call for abstracts, directions for preparation of abstracts, and information about registration, housing, transportation, special events, and field trips.

Following is a list of the Societies and Pacific Division sections that will sponsor sessions at the meeting. The names and addresses of session chairs are found starting on page 28 of this Newsletter.

SOCIETIES AND PACIFIC DIVISION SECTIONS SPONSORING SESSIONS AT THE RIVERSIDE MEETING

Sigma Xi, The Scientific Research Society
Molecular Reproduction and Development
Agriculture, Food and Renewable Resources
Anthropology and Archaeology
Atmospheric and Hydroospheric Sciences
Cell and Molecular Biology
(includes medical and dental research in these areas)
Chemistry and Biochemistry
Computer and Information Sciences
Earth Sciences
Ecology, Environmental Sciences and Sustainability
Education (Science and Technology)
Engineering, Technology and Applied Sciences
Evolution, Organismal Biology and Biodiversity
General and Interdisciplinary
History and Philosophy of Science
Mathematics
Physics and Materials Science
Psychology
Science and the Arts and Humanities
Social, Economic and Political Sciences
(includes health services)

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 $100.00 for professionals; $50.00 for retirees/emeritus, current post-docs, and students; and $35.00 for, 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 $50.00. One-day professional registration is available for $70.00. Presenters and program organizers registering in the professional category may purchase a full-meeting professional registration at the discounted rate of $70.00. 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, be listed as an organizer or co-organizer of a program, or be leading 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, as indicated on the Advance Registration Form. Beyond 31 May, 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, $130.00; program planners/presenters, $90.00; K–12, community college teachers, post-docs, students, and retirees/emeritus, $65.00; participating spouses and/or family members, and unemployed individuals, $50.00. One-day on-site professional registration will be $90.00. Note that if you attend more than one day, you must pay the full registration fee.

The first ten K–12 and community college instructors that register in advance (by 31 May) 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 2014. No refunds will be granted beyond this date. A $15 handling fee will be applied. An additional 3.5% deduction will be applied to the total amount for credit card refunds.

Visit us at http://pacific.aaas.org
Mexico), Imaging Maturing Candida Biofilms Under Flow Conditions Reveals Structural Changes Due To Dynamic Hyphal Growth.

THIRD PLACE: Christopher Wilson and Andy Marquez (HHMI Pre-College Science Education Program, UCLA School of Dentistry, Los Angeles, California), Effect of Grainy Head Like-2 Knockdown on Carcinogenesis of Squamous Cell Carcinoma.

Combined Sections of General and Interdisciplinary Studies
Engineering, Technology, and Applied Sciences
Physics and Materials Science
FIRST PLACE: Jessica Buckley (Engineering Department, University of San Diego, San Diego, California), Journeying Through Zen and the Art of Motorcycle Maintenance.
HONORABLE MENTION: Stephanie Harrison (Department of Engineering, University of San Diego, San Diego, California), Free Your Mind — Unlocking Your Inner Creativity.

Cell and Molecular Biology
FIRST PLACE: Cheri Lamb (Department of Biological Sciences, Boise State University, Boise, Idaho), Aryl Hydrocarbon Receptor Regulates Activation of Hepatic Stellate Cells during Experimental Liver Fibrosis.
SECOND PLACE: Mandi M. Hopkins (Department of Pharmaceutical Sciences and NIH Protein Biotechnology Training Program, Washington State University, Pullman, Washington), Novel Role of Transient Receptor Potential, Melastatin 2 (TRPM2) Channels in Promoting Genomic Integrity in Breast Cancer Cells Independent of Calcium Influx.
THIRD PLACE: Zachary Davis (Center for Neuroscience, University of California, Davis, California), Patterned Spontaneous Activity in the Retina is Necessary for the Normal Functional Development of Visual Neurons in the Lateral Geniculate Nucleus.
HONORABLE MENTION: Kenneth Weekes (Department of Biological Sciences, Boise State University, Boise, Idaho), Characterizing Pluripotency of Primary Cells Derived from Elasmoid Scales of Zebrfish (Danio rerio).

Chemistry and Biochemistry
FIRST PLACE: Natalia Khuri (Department of Bioengineering and Therapeutic Sciences, University of California, San Francisco, California), Discovery of Potent, Selective Multidrug and Toxin Extrusion Transporter 1 (MATE1, SLC47A1) Inhibitors Through Prescription Drug Profiling and Computational Modeling.
SECOND PLACE: Jared Mattos (Department of Chemistry and Biochemistry, Boise State University, Boise, Idaho), Optimizing Extraction of Biologically Active pH Sensitive Steroidal Alkaloids from Veratrum californicum.
THIRD PLACE: Jason G. Slingsby (Chemical and...
**On-Campus Meeting Housing**

A limited number of rooms in the Glen Mor Apartments campus housing are available for participants at this meeting. The Glen Mor Apartments are arranged in pods of four bedrooms, each pair of bedrooms sharing one bathroom. In the middle is a living room type seating area and a kitchen.

Each bedroom is designed to sleep one person, so there are a maximum of four persons in each apartment. Couples requesting a Glen Mor Apartment for their stay in Riverside will be assigned to two bedrooms on the same side and share the same bathroom. The package price of $200 per person includes overnight accommodations in a single room of a four bedroom apartment for three nights (Tuesday, Wednesday and Thursday), complimentary parking for one automobile, linen service that includes a pillow, pillow case, two flat sheets, a blanket, towel, hand towel, and wash cloth per person, and breakfast in the Aberdeen-Inverness (AI) Restaurant (for location, please refer to the map on page 39 of this Newsletter) the morning following each night’s stay.

An extra night stay in the Glen Mor Apartments is available Friday night for those purchasing the three-night package. The cost for this is an additional $67 per person and includes all of the above amenities. No other additional nights are available.

The University has these important housing regulations. If you are unable to honor these, please do not request campus housing.

- no pets
- no smoking in University buildings – smoking is allowed in designated smoking areas only
- no alcohol/substance abuse – use of these substances will result in removal from the housing unit and the University campus
- do not move or rearrange residence hall furniture or face the possibility of fines
- do not tamper with fire alarms or extinguishers – fines will be assessed for false alarms
- make sure all trash is placed in the proper receptacles and linen is stacked neatly for pick-up
- a $50 fee will be assessed for lost room keys or lost meal cards – report immediately if a loss occurs

To apply for housing in one of the Glen Mor Apartments, fill out the form on page 34 in this Newsletter. Please note that you will be required to agree to pay any additional fees that are assessed to the Pacific Division by UCR relating to your stay in the apartments, such as lost keys, lost meal cards, use of “additional charge” facilities, fines, etc.

**Off-Campus Meeting Housing**

The Division has contracted with one of the premier hotels in Southern California, the Mission Inn, to provide off-campus housing for this meeting. The Mission Inn is truly “breathtaking” in its architecture, timeless beauty and old-world charm. Listed on the National Register of Historic Places, it is one of the must-see stops in Southern California. But one needn’t settle for a whirlwind tour through the facility, as The Mission Inn has provided attendees to this meeting with a spectacular price on room rentals. But don’t delay in making your reservation, because these rooms will sell out quickly.

**Mission Inn**

Address: 3649 Mission Inn Avenue, Riverside, CA 92501
Telephone: 951-784-0300
Website: www.missioninn.com
Additional information: http://www.missioninnmuseum.com/about/mission_inn.htm
Rate: $115 (1 or 2 persons in a Deluxe room) + 12% tax
- each additional adult in room – $15
- other rooms, if available, are the following prices—phone to reserve:
  - Raincross – $125
  - Glenwood – $135
  - Mission – $155
  - Junior Suite – $205
  - Presidential Suite – $500
  - Superior Presidential Suite – $700
  - Keeper of the Inn Suite – $1000

Reservations
- by phone: 800-843-7755 or 951-784-0300, ext 850
- reference “95th annual meeting” when making reservation
- on-line: www.missioninn.com; select RESERVATIONS, then
Setters Referred by the Courts: Transdisciplinary Service Coordination.
FIRST PLACE (tie): Ling M. Wong (MIND Institute, University of California Davis Medical Center and Department of Psychiatry and Behavioral Sciences, University of California, Davis, California), Oculomotor performance Indicates Adult Male Fragile X Premutation Carriers Asymptomatic for FXTAS Exhibit Impaired Inhibitory Control.
HONORABLE MENTION: Sarah Jensen (Department of Psychological Sciences, University of San Diego, San Diego, California), The Effects of Cell Phone Conversations on the Attention and Memory of Bystanders.

Executive Committee and Council Meetings

The Division’s Executive Committee met on Saturday, 15 June. At the meeting, chaired by Division President Dr. Owen McDougal, 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 Las Vegas meeting were discussed, as were preliminary plans for the 2014 meeting in Riverside, California and the 2015 meeting in San Francisco, California. The Executive Committee also reviewed recommendations of the Presidential and Council Nominating Committees, urging Dr. Carl Maida, chair of the Council Nominating Committee, to forward his committee’s recommendations for the two Council at-large positions to the full Council for nomination. The Executive Committee also voted unanimously to forward the name of Dr. Richard Cardullo (Department of Biology, University of California, Riverside) to the Council for nomination as President-elect of the Division.

The Council met over breakfast on Wednesday, 19 June to consider various recommendations from the Executive Committee and other business of the Division. The Council acted favorably on the nomination of Dr. Cardullo for President-elect during the 2013/2014 fiscal year. The Council also acted favorably on the recommendation of the Council Nominating Committee to re-elect Dr. Cheryl Jorcyk (Department of Biology, Boise State University) and to elect Dr. Vilupanur A. Ravi (Department of Chemical and Materials Engineering, California Polytechnic University, Pomona) to the two available at-large positions on the Council. Other Council business included the discussion of logistical details and programming for the upcoming 2014 and 2015 meetings of the Division, the reception of financial reports from the Executive Director, and the transaction of other business required by the by-laws.
GROUP CODE, enter AAAS6222014 and click UPDATE. This will bring up a calendar showing the nights rooms are available (14 – 23 June). Select the nights you desire, the number of adults in the room, and then click CONTINUE. Directions from this point are self-explanatory.

Group Code: AAAS6222014
Dates Available: 14 June – 23 June (not all room types are available for all of these days)
Cut-off date for reservations: 13 May 2014
Check-in time: 3:00 p.m.
Check-out time: noon

Complimentary amenities:
• overnight self-parking
• high speed internet in lobby ($9.95/day in room)
• shuttle service to and from the Highlander Union Building (HUB) on the UCR campus
• use of fitness center and steam room
• swimming pool

FOOD ON CAMPUS

The UCR Student Union (the HUB) has a fairly extensive food court, which includes such establishments as The Coffee Bean & Tea Leaf, Habanero’s, La Fiamma Italian Cuisine, Panda Express, Sushi by Panda Express, The Grill, and Subway. Alternatively, you can take a short walk over to Hinderaker Hall (west of the HUB) to pick up a coffee, pastry, espresso drink, Java City smoothie, grab’n’go salad, wrap, sandwich or snack at Ivan’s @ Hinderaker. Another campus option is The Barn, southwest of the HUB and kitty-corner to Sproul Hall. The Barn serves a variety of burgers, sandwiches, salads, and pastas.

TRAVEL TO UCR

From Los Angeles County
From the 91 Freeway: Take CA-91 east to the CA-60 east. Exit at University Avenue and turn left. At the second light, take a right onto West Campus Drive.
From the 10 Freeway: Take the I-10 east to the I-15 south and then to CA-60 east. Exit at University Avenue and turn left. At the second light, take a right onto West Campus Drive.
From the 60 Freeway: Take the CA-60 east. Exit at University Avenue and turn left. At the second light, take a right onto West Campus Drive.

From Ontario Airport
From the 10 Freeway: Take the I-10 east, to the I-15 south and then to the CA-60 east. Exit at University Avenue and turn left. At the second light, take a right onto West Campus Drive.

From Orange County
Take the CA-91 east to the CA-60 east. Exit at University Avenue and turn left. At the second light, take a right onto West Campus Drive.

From Palm Springs
Take the I-10 west to CA-60 west. Exit at University Avenue and turn left. At the second light, take a right onto West Campus Drive.

From San Bernardino
Take the I-215 south to the CA-60 east. Exit at University Avenue and turn left. At the second light, take a right onto West Campus Drive.

PARKING

Parking for this meeting has been assigned to Lot P24. Entry to Lot P24 is from Canyon Crest Drive. To park on the UCR Campus, all guests must display in their automobiles a valid visitor temporary parking permit. Follow signs when coming onto campus to be directed to the kiosk or other location where you can pick up the permit. Thanks to the UCR Chancellor’s office, there is no charge for on-campus parking for meeting attendees. More details will follow.

REGISTRATION CENTER

The Registration Center will be on the third floor of the Highlander Union Building (HUB). Hours of operation are expected to be as follows, though these may change. Be sure to check the April Newsletter or website for updated information.

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

MEETING ROOMS

Technical sessions will meet in rooms on the second and third levels of the Highlander Union Building (HUB) and also in rooms of adjacent buildings as needed. All meeting rooms will be equipped with computers running Windows and Microsoft PowerPoint, as well as computer projectors. 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 of these costs 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. 33, 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 2014. Symposium planners will provide this information to presenters in their programs in advance of this date.

COMPUTERS AND POWERPOINT PRESENTATIONS

Meeting rooms 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 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 submit an abstract for a presentation 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. If more than one author is listed, place an asterisk (*) next to the last name of the presenter. Submissions not formatted in this manner may be returned for reformatting 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 A 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 or style, your abstract will be reformatted to this font and style. If your abstract contains special characters, 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 in addition to submitting it via e-mail. 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!

SYMPOSIUM abstracts should be e-mailed directly to the symposium organizer for review and approval.

PERSONS submitting abstracts for contributed sessions (non-symposium) must identify the appropriate section to which the abstract will be sent for review and acceptance into the program (see list on page page 28 of this Newsletter) and e-mail their abstract to the chair (and co-chair if one is listed) of that section. Contributed abstracts must also be e-mailed to the Pacific Division office (rchrist-ti@sou.edu). The subject line of these e-mail submissions should include the word “abstract” and your last name (e.g.: Abstract Smith). Including this information in the subject line will ensure that you receive an e-mail reply from the Division office confirming receipt of your submission at the Division office. Section chairs will make every effort to review submitted abstracts and notify submitters of their acceptance into the program (or not) in a timely manner.

Abstract submission deadlines. Receipt of abstracts by symposium planners and section chairs have the following deadlines:

- abstracts for symposium presentations to symposium planners – 1 April 2014.
- abstracts for contributed sessions (poster or oral) to section chair and Division office – 18 April 2014. 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 (minimum judging pool of 3 presentations), $100 for second place (minimum judging pool of 5 presentations), and $50 for third place (minimum judging pool of 7 presentations). Additionally, each winner receives a certificate of recognition. Societies often supplement these awards with their own cash prizes.

In 2014, seven division-wide awards may be available: Lawrence 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 San Jose, California, 12 – 16 February 2015 for the purpose of presenting his/her 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 the session in which his/her presentation is to be judged, be the primary presenter of the presentation, and be the principal research investigator. Student presentations, both oral and poster, are judged on their abstracts, content, style of delivery or presentation, and audio-visual 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/2014RIVERSIDE/
Students who are competing for Awards of Excellence are invited to be guests of the Division at the annual banquet Thursday evening, 19 June 2014. 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 Thursday, 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 poster sessions and oral contributed paper sessions are scheduled to ensure that student presenters are judged prior to the cut-off on Thursday afternoon.

Special Events

The following special events are planned for the meeting.

Tuesday Evening Public Lecture
Dr. Daphne J. Fairbairn (Department of Biology, University of California, Riverside), author of the recent book ODD COUPLES: Extraordinary Differences between the Sexes in the Animal Kingdom, will present this evening’s lecture on the same topic. Following the talk will be a book signing by the author.

Tuesday Evening Division Reception

Wednesday Noon Public Lecture TBA

Wednesday Evening Public Lecture TBA

Wednesday Evening UCR Chancellor’s Reception

Thursday Noon Public Lecture
Dr. Robert Louis Chianese (emeritus, Department of English, California, Riverside), author of the recent book ODD COUPLES: Extraordinary Differences between the Sexes in the Animal Kingdom, will present this evening’s lecture on the same topic. Following the talk will be a book signing by the author.

Thursday Evening Student Awards Banquet
Thursday 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 Excellence in the Geosciences, Rita W. Peterson Award for Excellence in Science Education Research, the Presidents’ Award for Excellence (unrestricted), the Best Poster Award (for poster presentations only but otherwise unrestricted), and the AAAS Robert I. Larus Travel Award.

The evening is planned to begin at 6:00 p.m. with a reception. Dinner will be served buffet style, with service to begin about 6:45 p.m. After dinner will be the presentation of student awards, followed by a few words from our current president, Dr. Richard Cardullo. The evening should end by about 9:00 p.m.

Banquet attendees can choose between three entrées: Steak with Wild Mushrooms (pan-seared flat-iron steak, served with a creamy mushroom demi-glace sauce), Dill-Citrus Broiled Salmon (citrus and dill-marinated salmon filet, topped with a citrus beurre blanc), and Butternut Squash Ravioli (butternut squash-stuffed pasta pillows tossed with olive oil, garlic and fresh herbs and served with a flavorful marinara sauce. All entrées come with a signature citrus salad (organic mixed greens with jicama, julienne carrots, mandarin oranges, signature citrus vinaigrette) and a seasonal vegetable medley. The steak and salmon also come with roasted Yukon Gold potatoes and fresh rolls and butter. Dessert is a choice of New York Cheese Cake, Chocolate Ganache Cake, or Lemon Raspberry Cake. Water and iced tea will be available on the tables during dinner. Coffee, both 100% Columbian and decaffeinated, will be available with dessert. Please note that details may change as we approach the banquet date. If a substitution must be made, every effort will be made to insure that the replacement is comparable to or better than that which is listed above. A cash bar will be available during the reception and early part of the dinner for those wishing to purchase beer and/or wine. Banquet tickets are $40 each and must be purchased on the Advance Registration Form (see page 35 of this Newsletter). The deadline for ordering banquet tickets is the close of early registration for the meeting, 31 May.

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

Friday Morning Business Meeting of the Council of the Pacific Division. The Council of the AAAS, Pacific Division will hold its annual breakfast and business meeting at 7:00 a.m. on Friday, 20 June in one of the rooms in the HUB. The Council will elect officers and Council members, discuss programs for the 2015 and 2016 annual meetings, and transact such other business as is required by the Division’s By-Laws. This is an open meeting and Pacific Division members with an interest in the governance of the Division are invited to attend.

Public Lectures

The following public lectures are planned. Additional ones may be scheduled as time permits. All members of the public are invited to attend these lectures at no charge.

Tuesday Evening Plenary Lecture and Book Signing
Dr. Daphne J. Fairbairn (Department of Biology, University of California, Riverside), author of the recent book ODD COUPLES: Extraordinary Differences between the Sexes in the Animal Kingdom, will present this evening’s lecture on the same topic. Following the talk will be a book signing by the author.

Wednesday Noon Public Lecture TBA

Wednesday Evening Plenary Lecture TBA

Thursday Noon Public Lecture TBA
Dr. Robert Louis Chianese (emeritus, Department of English, California State University, Northridge), will present, Ecological Restoration and Post Natural Aesthetics, which focuses on the role of art in ecology and the artistry of eco-restoration.
My AAAS experience was more than I hoped for. I have worked on my research for 6 intensive weeks and after confirming my results, I put them onto a poster so that I would be able to present at the AAAS Las Vegas convention. Being a high school senior from Pacoima, California I would have never thought that I would place among these undergraduate, graduate students, etc. I not only had an amazing experience but I came out with recognition for my work. AAAS is a cool and life changing experience that I will never forget! --Andy Marquez

# HHMI Precollege Science Education Program
University of California, Los Angeles, California

My AAAS experience was more than I hoped for. I have worked on my research for 6 intensive weeks and after confirming my results, I put them onto a poster so that I would be able to present at the AAAS Las Vegas convention. Being a high school senior from Pacoima, California I would have never thought that I would place among these undergraduate, graduate students, etc. I not only had an amazing experience but I came out with recognition for my work. AAAS is a cool and life changing experience that I will never forget!

---Andy Marquez

## Workshops

**PULSE-ating with Vision and Change: Promoting the Role of Faculty as STEM Education Change Agents.** Organized by David J. Marcey (Biology Department, California Lutheran University, Thousand Oaks, California; marcey@callutheran.edu) and Rick Gonzalez, Biology Department, University of San Diego, San Diego, California; gonzalez@sandiego.edu).

This workshop is intended to advance faculty expertise in promoting department-level STEM education reform at their home institutions. Although the workshop staff are PULSE Vision and Change Leadership Fellows (PULSE = Partnership for Undergraduate Life Sciences Education), the topics covered will be relevant to all STEM fields. Workshop attendees will be active participants in developing skills and approaches that can be used to effect significant department-level educational change. Participants will employ self-assessment rubrics in order to determine their home department’s progress relative to the educational recommendations found in the AAAS/NSF Vision and Change (V&C) document. Attendee-led discussions of barriers to significant STEM education reform will be followed by activities designed to develop student-centered pedagogical “mindsets.” Participants will receive resources for Vision and Change implementation and each will develop a specific action plan to enhance their roles as change agents in their departments.

Although there is no fee for this workshop, participants must sign up in advance to insure a space in the program. If you are planning to participate in this workshop, be sure to check the appropriate box on the Advance Registration Form (see page 35 of this Newsletter).

### Campus Tours

The UCR campus has a rich history dating back into the early 1900s. Because of this and its positioning in citrus and agricultural research, there are a number of locations on campus that are sure to be of interest to meeting attendees. The following campus tours will be available during the meeting.

(A) **UCR Botanic Gardens**

The UCR Botanic Gardens are nestled in the foothills of the Box Springs Mountains on the east side of the UCR campus and a short 8 to 10 minute uphill walk from the meeting location at the HUB. The Gardens cover 40 hilly acres and can be found in section G-H 6-7 of the campus map (see page 39 of this Newsletter).

Courses supported by the Botanic Gardens include anthropological, art, biology, botany, ecology, entomology, landscape plants, morphology, ornamental horticulture, plant pathology, photography, and taxonomy. The Gardens also provide plant materials for various research projects and serve to test and exhibit plant species introduced from all parts of the world. The variable terrain and Riverside’s subtropical climate create numerous “microclimates” which allow for the notable diversity of plantings. This wealth of vegetation creates a hospitable sanctuary for wildlife, where nearly 200 bird species have been officially observed. This tour will be a research-based guided tour and briefing of Explore over four miles of scenic trails or just relax on a bench and enjoy the beauty. Though maintained separately, the UCR campus grounds are also considered a part of the Botanic Gardens, and serve to demonstrate landscape plants that do well in Riverside’s climate.

This tour will be a research-based guided tour and briefing about the Botanic Gardens. Come enjoy the relaxing atmosphere of the Gardens! After the tour, wander over four miles of scenic trails or just relax on a bench and enjoy the beauty. Meet at the entry to the Botanic Gardens at one of the times below to take the tour. Please reserve your tour by marking the appropriate box on the Early Registration Form.

There are currently three opportunities to take this tour:

- **Wednesday 8:00 a.m. – 10:00 a.m.**
- **Thursday 8:00 a.m. – 10:00 a.m.**
- **Friday 8:00 a.m. – 10:00 a.m.**

Note that this is a walking tour of the Botanic Gardens. Bottles of water will be available. The admission fee to the Gardens is a $4.00 donation, payable upon entry. This is the only cost for this tour.

(B) **UCR Citrus Variety Collection**

The Citrus Experiment Station and its Citrus Variety Collection were established in Riverside in the early 1900s to support the needs of the developing citrus industry in Southern California. Over the years, the world-renowned Citrus Experiment Station became the foundation of the Riverside campus of the University of California and has remained at the forefront of agricultural research, and especially citrus research.

Today, UCR has expertise in many disciplines, yet the Citrus Variety Collection, consisting of four trees each of more than 1,000 different citrus types, remains one of the most diverse collections of citrus and related genera in the world.

This is a research-based guided tour and briefing, which includes transportation. Come prepared to see and taste your way through a tour of citrus diversity. Cost: $10.00.

There are currently three opportunities to take this tour:

- **Wednesday 9:00 a.m. – 11:00 a.m.**
- **Thursday 9:00 a.m. – 11:00 a.m.**

Be sure to reserve your tour by marking the appropriate box on the Early Registration Form. Details will follow about where to meet for this tour. Maximum number for each tour is 18 participants.

(C) **UCR Entomology Research Museum, Insectary, and Quarantine Facility**

On March 30, 1994 a new building for UCR’s large collection of insects and related arthropods was dedicated and given an official name – the Entomology Research Museum. The lower of two floors in the building houses the collection and provides offices, space for curating and research for its Director, Dr. Serguei V. Triapitsyn, its senior museum scientist, Dr. Doug Yanega, and visiting scientists as well as students. There is a preparations room, a small library/
lab room, and a large room for teaching, special seminars, and other events sponsored by the Department of Entomology.

The Insectary and Quarantine provides a restrictive environment for potentially invasive species that are currently under scientific research. The building offers two receiving rooms, six research laboratories, 12 greenhouses, 64 rearing rooms and provides a three stage level of quarantine. Each room is equipped with state of the art temperature, humidity, and light controls providing the perfect artificial environment for studies. The insectary and quarantine is one of only four insectaries west of the Rocky Mountains.

This will be a research-guided tour. There are two opportunities to take it:

**Wednesday 2:00 p.m. – 4:00 p.m.**

**Thursday 2:00 p.m. – 4:00 p.m.**

Be sure to reserve your tour by marking the appropriate box on the Early Registration Form. Meet at the entrance to the Entomology Research Museum for this tour. There is no charge for this tour. Maximum number of participants for each tour is 10.

**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 tour, 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 2014, 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.

**Wednesday 17 June, 8:00 a.m. – 2:00 p.m. Santa Rosa Plateau Ecological Reserve.**

The Santa Rosa Plateau is an upland plateau and southeastern extension of the Santa Ana Mountains in Riverside County, southern California. It is bounded by the rapidly urbanizing Inland Empire cities of Murrieta to the northeast and Temecula to the southeast.

The Santa Rosa Plateau Ecological Reserve preserves approximately 8,400 acres (34 km²) of the plateau, and includes the Moreno and Machado Adobes, Riverside County’s oldest standing structures, and other buildings from the 19th century Mexican land grant Rancho Santa Rosa. The land has been set aside to protect unique ecosystems like Englmann oak woodlands, riparian wetlands, coastal sage scrub, chaparral, bunchgrass prairie, vernal pools and more than 200 species of native birds and 49 endangered, threatened or rare animal and plant species, including mule deer, mountain lions, badgers, bobcats, western pond turtles, white-tailed kites and fairy shrimp.

This field trip involves walking on paved surfaces. Be sure to wear comfortable walking shoes and bring a hat, sunscreen, and water.

Includes transportation, box lunch, water, and miscellaneous fees. Minimum 6, maximum 17 participants. Cost: $50 per person.

**Friday 20 June – Saturday, 21 June. Channel Islands Adventure.**

The Channel Islands of California are a chain of eight islands located in the Pacific Ocean off the coast of Southern California along the Santa Barbara Channel. Five of the islands (Anacapa, Santa Cruz, Santa Rosa, San Miguel, and Santa Barbara) and their ocean environment are part of the Channel Islands National Park, administered by the U.S. Park Service. The Park, bridging two biogeographical provinces, serves to preserve and protect a wealth of natural and cultural resources. While encompassing a relatively small area, the Park harbors the biologic diversity of nearly 2,500 miles of the North American coastline. The Channel Islands are home to over 2,000 plant and animal species, of which 145 are found nowhere else in the world.

Like the Galapagos Islands of South America, isolation has allowed evolution to proceed independently on the islands. Marine life ranges from microscopic plankton to the blue whale, the largest animal to live on Earth. Archaeological and cultural resources span a period of more than 13,000 years of human habitation.

Long-term ecological monitoring has allowed the collection of information on the current health of resources within the Park and the prediction of future conditions, providing park and natural resource managers with useful products for recreation planning, conservation, and restoration programs, along with early identification of critical issues.

The trip to Santa Cruz Island begins with a 2:30 p.m. departure from Riverside; followed by dinner (on your own) at a restaurant in Oxnard and a group meeting Friday at 7:00 p.m. at the Hampton Inn Channel Islands Harbor (3231 Peninsula Road, Oxnard, CA; 805-985-1100), where we will spend Friday night. Saturday morning we’ll arrive at Island Packers (www.islandpackers.com) in the Ventura Harbor by 8:15 a.m. for the approximately one hour ride to Santa Cruz Island aboard the 9:00 a.m. boat. At Santa Cruz Island we’ll put in at Scorpion Anchorage, exiting the boat onto a ladder and climbing several rungs to reach the top of the pier. Once on the pier, there will be several options to explore many hiking trails. A campground that has water and restrooms is about 1/2 mile from the
pier. We’ll spend six to seven hours on the island before returning
to the mainland The return trip to Ventura Harbor will occur later
in the afternoon, getting us back no later than about 6:00 p.m. or so
and, after a stop for dinner (on your own), Riversides about 9:00 p.m.
Saturday night will be spent in Deluxe Rooms at the Mission Inn,
with your departure from Riverside at your leisure Sunday morning.
Trip includes round trip transportation from and to UCR, Fri-
day night at the Hampton Inn and Suites in Oxnard, box lunch Sat-

day, boat fee, water, snacks, and Saturday night at the Mission Inn
in Riverside. All food except for breakfast Saturday morning at the
Hampton Inn and lunch on the island are on your own. Cost: $325
per person double; $540 per person single.
Minimum participation: 5 double/single hotel rooms (5 to 10 people);
maximum 10 double/single hotel rooms of participants (10 to 20 people).

IMPORTANT NOTE: This field trip is not available at this time.

(4) Saturday, 21 June, 8:00 a.m. – 5:00 p.m. James San Jacinto
Mountains Reserve

The James San Jacinto Mountains Reserve is located on an al-
luvial bench situated at the lower end of Hall Canyon, a steep, west-
ern flank of Black Mountain. The reserve hosts a wide variety of
plant communities: Sierra mixed conifer riparian forest, oak wood-
lands, montane chaparral, alder-willow-cedar riparian forest, and
dry meadows. Habitats include mixed conifer and hardwood forest,
montane chaparral, montane riparian forest, and a rapidly flowing
mountain stream with man-made reservoir (Lake Fulmor) imme-
diately downstream. The entire watershed is protected for research
and study by the U.S. Forest Service. There are records of 259 spe-
cies of vascular plants, 35 bryophytes, 6 amphibians, 18 reptiles,
125 birds (60 percent nesting), 35 mammals, and approximately
1,000 invertebrates.

Operating as a satellite to the James Reserve, the Oasis de los
Osos Reserve is located at the west end of the Coachella Valley,
north of Palm Springs, and encompasses 65 hectares (160 acres)
situated on a steep elevational gradient near the base of the north-
facing escarpment of Mount San Jacinto. A perennial stream, Lambs
Creek, runs through the site, supporting one of the very few riparian
woodlands in the Colorado Desert. Oasis de los Osos is protected by
the Nature Conservancy.

There are numerous on-going research projects at the reserve
covering long-horned beetles, lady beetles, southern mountain yel-
low-legged frogs, flying squirrels, phenology of the forest, carbon
dioxide budgets from the atmosphere to deep into the soil, studies
of the mycorrhizae and many others. In addition, extensive teaching
use is made of the site by university-level courses in biology,
botany, animal tracking, zoology, ecology, and others. The local
community is also welcomed for science/ecologically focused tours,
meetings and courses on site. K–12 students visit for day-long and
overnight field trips and the Idyllwild community uses GIS for fire
prevention and planning.

IMPORTANT NOTE: This field trip is currently not available.
Check the Division website for updates.

(5) Saturday, 21 June, 9:30 a.m. – 5:30 p.m. Huntington Library,
Art Collections and Botanical Gardens.

Organized and led by Robert L. Chianese (Department of En-
lish, California State University Northridge, Northridge, California;
rlchianese@gmail.com).

For the most part, this is a self-guided, walking tour of the
Huntington Library and grounds, including the art collections and
various botanical gardens. Prior to arrival at the “Huntington,” as
it is called, participants will be given an overview of the art collec-
tion, which includes extensive collections of 18th and 19th century
British works as well as American, French, and some Renaissance
works. Once on the grounds, participants will be able to explore
the 120 acres or so of facilities. It is recommended that participants in
this field trip review the Huntington Library website, http://www.
huntington.org/, to become oriented to the facility. A map showing
the Huntington grounds and discussing accessibility may be down-
loaded at this link: http://www.huntington.org/WebAssets/Tem-
plates/content.aspx?id=350. Please note that most of the grounds
are accessible by wheelchair but a few trails are steep and/or have
stairs. Refer to the Huntington map to distinguish between those
types of trails.

Audio tours and other programs about the Huntington may be
found by searching iTunesU for “The Huntington.”

No food is allowed on the premises. However, there are several
places inside the Huntington grounds where food may be purchased,
such as the Rose Garden Café, which offers a wide variety of
sandwiches and grilled items such as hamburgers, hot dogs,
grilled chicken sandwiches, fish tacos, and quesadillas, all made
to order ($4.95-$8), entree salads with fruit or fresh mixed greens,
homemade soups, chili, freshly baked goods including muffins,
scones, turnovers, brownies, and cookies. Another option is the
Chinese Garden Tea Shop, as well as food carts. All food purchases
are on your own, and may be purchased with cash or credit card.

Be sure to come prepared for our time at the Huntington with
comfortable walking shoes, hat, sunscreen, and water. It can be hot,
particularly in the Cactus Garden!

Includes transportation and fees. Food purchases are on your
own. Cost: $50.00 per person.

TECHNICAL SESSIONS

SYMPOSIA

The following symposia are being planned for this meeting. Al-
though symposia are typically organized around invited papers, or-
ganizers often will consider adding one or more contributed papers
if they are relevant to their programs. Should you wish to participate
in one of these symposia, contact the symposium organizer directly.
Instructions for abstract submission for symposium presentations
appear on pages 18 and 32 of this Newsletter. Should you pre-
fer to present a paper in one of the contributed paper sessions, you
should also refer to pages 18 and 32 for instructions and also
page 28 for names of sections and program organizers in this
Newsletter. Check the Division’s website, pacific.aaas.org, for the
latest information on symposia and other program events.

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

Important notice for students presenting in symposia: 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 presenta-
tion scheduled Thursday afternoon (check with the planner of your
symposium) or Friday, you must also present your work as a poster

E-mail us at aaaspd@sou.edu
in order to be judged. Otherwise, you will not be eligible for student awards due to the conclusion of judging Thursday morning. Awards will be announced later that evening.

(1) Accelerating Chemical and Biomedical Discovery with Molecular Simulation. Organizers: Chia-en A. Chang (Department of Chemistry, University of California, Riverside, CA; chiaene@ucr.edu) and Dong Xu (Department of Biomedical and Pharmaceutical Sciences, College of Pharmacy, Idaho State University, Meridian ID; 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 around 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.

(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) Computer-Aided Drug Discovery and Development. Organizers: Chia-en A. Chang (Department of Chemistry, University of California, Riverside, CA; chiaene@ucr.edu) and Dong Xu (Department of Biomedical and Pharmaceutical Sciences, College of Pharmacy, Idaho State University, Meridian ID; dxu@pharmacy.isu.edu).

This research symposium focuses on the most recent advancements of computer-aided drug discovery. It is generally recognized that drug discovery and development are very time and resources consuming. There is an ever growing effort to apply computational power to understand drug-protein binding in order to streamline drug discovery, design, development and optimization. In medicinal chemistry and pharmaceutical industry, computer-aided or in silico design is being utilized to expedite and facilitate hit identification, hit-to-lead selection, and optimize the drug properties. The symposium will discuss a mix of cutting-edge work, including new methodology development and applications to various drug targets.

(4) Promoting Deeper Learning in Middle Adolescence: Critical Connections and Implications for STEM Education. Organizers: Carl Maida (University of California, Los Angeles; cmaida@ucla.edu) and Paul Heckman (University of California, Davis).

Over the past few decades, research from the cognitive and learning sciences, education sciences, and developmental psychology has converged to yield a clear—and compelling—model of how high school-aged youth learn best. Research confirms observations that good learning involves direct experience, “deep immersion in a consequential activity,” according to psychologist Jerome Bruner. It confirms that learning works best when young people can focus in depth on a few things at a time; when they see a clear purpose in learning activities; and when they have an active role—co-constructing, interpreting, applying, making sense of, making connections. Deeper learning involves, in addition to mastering core academic content, the ability to think critically and solve complex problems, to work collaboratively, to communicate effectively, and to learn how to learn. This session will combine didactic, experiential, and reflective activities to engage audience members, including K-14 teachers and informal science educators, and presenters in a professional learning community experience. The intent is to provide an opportunity for collaborative inquiry and the learning related to the promotion of deeper learning approaches in STEM (Science, Technology, Engineering and Mathematics) in the classroom and beyond. This workshop will consider ways to increase students’ scientific literacy through involvement in deeper learning activities, including project-based learning in the classroom, in after school programs, and in experiential, community-based learning activities, including mentored internships and apprenticeships. Panelists will discuss current issues and future trends in science education, including STEM after school programs, pre-college science enrichment and “pipeline” programs, STEM scientist mentoring activities, informal STEM education, and the role of the arts and design in STEM education initiatives.

(5) Challenges for Implementing Vision and Change in Science Classrooms. Organizers: Richard Cardullo (Department of Biology, University of California, Riverside, Riverside, CA; cardullo@ucr.edu) and William B. Davis (Associate Dean for Undergraduate Education, School of Molecular Biosciences, College of Veterinary Medicine, Washington State University, Pullman, WA; wbdavis@vetmed.wsu.edu).

Transformation in the life sciences on a large scale will only occur when institutions support change at the departmental level that is then shared with, and adopted by, other institutions. Over the past two decades, various initiatives have promoted changes in pedagogical strategies that focus on process over content while acknowledging the inherent power that diversity brings to science classrooms. A number of national efforts, including the AAAS-sponsored Vision and Change recommendations and the recent establishment of the National Academies Scientific Teaching Alliance (NASTA), seek to inform the scientific and science education communities about effective, evidence-based teaching practices that improve student learning. Significant challenges exist for transforming faculty members, departments, and institutions that reflect the growing need for delivering a relevant curriculum that serves all students in the sciences. This symposium will focus on these challenges and
will present evidence of practices that improve student engagement and success using state-of-the-art assessments, technology, and strategies for empowering departments to fundamentally improve the quality of science education.

(6) The Importance of Citizen Science in Forming Scientific Communities from the Local to the National Level. Organizer: Kimberly Hammond (Department of Biology, University of California at Riverside, Riverside, CA; kimberly.hammond@ucr.edu).

Involving the general public (Citizens) in the exploration or natural areas and the collection of scientific data results in more engaged and educated communities. In addition, the crowd-sourced data gathered in citizen science activities can be used to leverage scientific activities in a myriad of ways. In an age when federal dollars are limited, this is a valuable way to continue to collect much needed information about the world around us. Despite all of the benefits of careful incorporation of citizen science into mainstream scientific activities, citizen science remains relatively unorganized and often lacks a coordinated direction. To some extent, the lack of organization is a good thing because activities arise from the grassroots efforts that allow for ingenious and fresh strategies. However, the cooperation and collaboration of groups organizing, supporting, and collecting data from citizen science activities can also help to further strengthen and improve the activities themselves and the results of those activities.

In this symposium, individuals, public non-profit organizations, and university groups will be brought together to explore the victories and current needs in citizen science. Specifically, however, we are aiming to sharpen the focus from the national level (Smithsonian Institution), to the Pacific Region, to the State of California, to the Southern California area and finally to one city (the city of Riverside) in a quest for an understanding of how the process works and how the different levels fit together to answer important questions and inform a large and dynamic citizenry.  

(7) Libraries and Learning. Organizers: Crystal Goldman (Dr. Martin Luther King, Jr. Library, San Jose State University, San Jose, CA; crystal.goldman@sjsu.edu), Frank Jacobitz (Mechanical Engineering Department, University of San Diego, San Diego, CA; jacobitz@sandiego.edu), Amy Besnoy (Copley Library, University of San Diego, San Diego, CA; abesnoy@sandiego.edu), and Michele Potter (Orbach Science Library, University of California, Riverside, Riverside, CA; michele.potter@ucr.edu).

Libraries and librarians play a key role in student learning. This can happen in one-shot instruction sessions, embedded librarianship, credit-bearing courses, co-teaching, at the reference desk, and in extended reference consultations. During such interactions, librarians teach students about access to information, gauging and evaluating information sources, and information literacy, all of which depend upon and develop critical thinking skills. The development of critical thinking skills in students, which remains relevant far beyond the walls of academia, relies on locating information and determining its appropriateness and validity within the specific application.

In the university classroom—be it online or on the ground—librarians work with teaching faculty to embed research and critical thinking skills into classroom pedagogy, with consideration going toward suitable projects, methods, timing, and frequency and length of interactions. This symposium will feature an all-inclusive consideration of libraries in the learning environment, from instruction to reference, synchronous to asynchronous services, and in the digital and in-person environments.


The Panama Pacific International Exposition (PPIE) held in San Francisco, 1915, was first conceptualized in 1904 by San Francisco businessmen. Later, San Francisco leaders and businessmen wanted to use the fair as a vehicle to show the city’s recovery from the 1906 earthquake and fire and rid its reputation as an uncouth frontier town. With the completion of the Panama Canal in 1913, the fair was designed to commemorate that amazing engineering feat. In 1909, business leaders of the small city of San Diego announced their intentions to celebrate the opening of the Canal with their own fair (Panama-California Exposition, 1915-1916). With the completion of the Canal, San Diego would be the first American port north of the waterway on the Pacific Coast. The exposition would help bolster an economy shaken by the Wall Street panic of 1907. San Francisco’s leaders became very upset. Thus began a competition of cities (which later included New Orleans) between businessmen, community leaders, and politicians for federal recognition and support. San Francisco received the prize. Later, San Diego was also given recognition and received federal support. It became the smallest of any city, with a population a little over 39,000, to attempt to hold an international exposition. Open for only nine months, San Francisco attracted over 19 million visitors, while San Diego, open for one year, received over 3.5 million to its regional displays.

Behind the expositions, which were cities within cities, the beautiful buildings, exhibitions on science, art, and literature, and the midway (amusement and concession stands), called the “Joy Zone” in San Francisco, and the Isthmus in San Diego, lay the concept of natural selection, survival of the fittest, and the Darwinian struggle between the races. Eugenics was revealed, using science to improve the human stock, with discussions at PPIE congresses held on the prevention of the ill-fit and improper intermarriages. The Federal government supported these concepts. At PPIE, the United States Department of Labor had exhibitions on immigration between 1820 and 1914, the races that arrived, their occupations, arrests, and deportations; that the composition of the white ethnic population was changing for the worse. At the Panama-California Exposition, the president for the fair utilized the services of the anthropologists from the Smithsonian Institution to develop exhibitions showing the physical evolution of man, evolution of culture, and the Native races of America. Led by Ales Hrdlicka, anthropologists carried out research. Expeditions were undertaken to gather and photograph skeletal remains in Europe, Africa, the United States, Siberia, Mongolia, and Peru; studies were made of the Eskimo and Sioux Indians; and graves were desecrated in the Philippines for cranial and skeletal material. The collections were displayed so that the classification of mankind along racial lines was easily understood and demonstrated man’s progress towards future perfection. The displays linked race to biology, even though anthropologist Franz Boas had earlier shown this linkage to be false making racial attitudes untenable. Combined, the exhibitions helped to provide public support for the restrictive immigration laws of the 1920s, beginning with fixed racial quotas for European immigration and culminating in the exclusion of Asians altogether, in 1927.
The panelists at this session on the California expositions will discuss varied themes, demonstrating how the exhibitions represented reality to advance the aims of exposition organizers, and in some instances, how ethnic groups were able to participate at the fair under their own agency and agenda. Included are presentations regarding the ethnic communities around San Francisco, how Chinese American and Chinese American women participated at the fair, the exhibition of the Chinese Pagoda, how Native Americans were presented and the reality of their condition, mining exhibitions and the reality of mining conditions, and the creation of the Museum of Man.

(9) World War II Anthropology: Austrians and Germans in Poland; Japanese in Asia; Anthropological Research and the Search for Survivors. Organizer: Alan L. Bain (Research Collaborator, National Anthropological Archives, Smithsonian Institution; baina@si.edu).

World War II began September 1, 1939, with the German invasion of Poland. On September 17, the Russian armies attacked from the East. By September 28, Poland had been conquered and was divided by Russia and Germany along the Bug and San rivers. The Germans annexed northern and western Poland outright, and established a separate Government General for the remainder of the territory. Within the GG, an Institut für Deutsche Ostarbeit (IDO), the Institute for German Work in the East, was founded in 1940 and was headquartered at Jagiellonian University, Krakow.

IDO developed its organizational plan based on race and necropolitics. Systems of hierarchical classification placed categories of people and individuals into slots, so that no Polish citizen was destined for a future based on his or her own agency. It consisted of 11 sections, one of which was the Rasse – und Volkstumforschung (SRV), racial and national traditions research. This Section was of critical importance. Its staff consisted of German and Austrian anthropologists. SRV was to carry out research which would provide factual data for establishing racial hierarchies of the inhabitants of occupied Poland. Data sets were collected mostly from southern Poles, Huzuls or Polish Ruthenians, Ukrainians, and Jews. Sets included anthropometric data, hair samples, folk culture, cranial drawings, genealogies, sociological and medical information, and photographs of individuals, towns, architecture, and museum works of art. They were gathered in different localities, one of which went beyond GG to include workers in the building service. SRV continued to collect information until the summer of 1944, when IDO-SRV was evacuated in front of the advancing Russian armies, and moved to Bavaria. There, the IDO-SRV records were captured by the Allied armies. British and American staff went through the documents looking for information to assist in prosecuting war criminals or containing Nazi racial theory propaganda. Deemed of no value by the Medical Intelligence Section, Surgeon General's Office, it was offered by Military Intelligence to the United States National Museum as a permanent loan instead of a transfer (because of British cooperation in securing the material). Along with anthropological instruments used by the IDO staff to carry out its work during the War, the records were received by the Museum and accessioned in 1947 by the Division of Anthropology. Seven boxes of German personnel files were returned to the U. S. Army. Except for the instruments retained by the Division, the records were transferred to the National Anthropological Archives in 1989. In 2007, the records were transferred to the Polish Government after they were digitized and microfilmed, and housed in the archives of Jagiellonian University.

On the other side of the world, the Japanese colonized Taiwan in 1895 and began its colonization of Korea in 1905, annexing the country in 1910. By 1942, Japan controlled a vast Asian-Pacific area from Indonesia to the Aleutian Islands. Japanese ethnologists were sent out to conduct research throughout the region, even on the most remote islands. Under Japanese rule, Keijo (now Seoul) became the capitol city of Korea. In 1926, Keijo Imperial University (now Seoul National University) was established and an anatomy department was created by physical anthropologist Imamura Yutaka. Imamura had graduated from Kyoto Imperial University and studied under Edwin Fisher in Germany. Between 1927 and 1943, Imamura attempted to bring together the world’s best bone collection. Approximately 670 full-size skeletons from the Pacific Islands, Korea, Manchuria, and China were housed in the medical school at the University. At the end of the War, the United States military prevented the collection from being transferred back to the mainland, but when the University was turned over to the Korean government the collection was not there. To break with its past, the Executive Committee of the Japanese Society of Ethnology, in 1995, proposed that the name of the Society be changed to cultural anthropology. One of the reasons was to separate what ethnologists had done during wartime and the new discipline that was being taught at the universities. One of the individuals who voiced opposition to the name change was Nakao Katsumi (one of the panelists on this session). Changing the name he said would be to effectively erase the colonial history of Japanese ethnology before the history of the colonial period had been described in sufficient detail. He felt it was important for Japanese anthropologists to remain conscious of the continuities of the discipline with Japan’s imperial past, when ethnological studies were carried out in conjunction with Japanese colonial needs. Later, the needs changed as Japanese military began its conquest throughout Asia and Japanese anthropologists came under its control.

In this session, American and Polish historians and anthropologists look at the records created by the IDO-SRV. In particular, the IDO records are viewed in the context of their scientific research. After the SRV records arrived back in Poland, Polish anthropologists reviewed them and, using the records, attempted to find survivors who had undergone SRV research. Their discussion is about finding survivors and what they found out during oral and video histories. In the United States, a physical anthropologist used the anthropometric data from the sets and discusses her work regarding the writing of her PhD thesis regarding Polish migration patterns. On the Pacific side, presenters will discuss the history of Japanese anthropology, its development and its relationship to American, English, and Germanic studies and beliefs. The Japanese biological and chemical warfare group, Unit 731 which operated in Manchuria, will also be discussed, along with the work of Imamura and other anthropologists at Keijo Imperial University, relating to finding survivors in New Guinea, and raising the question of what happened to the missing skeletons.

(10) Advances in Fluid Mechanics and Turbulence: Analysis and Applications. Organizers: Marko Princevac (Department of Mechanical Engineering, Bourns College of Engineering, University of California, Riverside, Riverside, CA; marko@engr.ucr.edu) and Frank Jacobitz (Department of Mechanical Engineering, Shiley-Marcos School of Engineering, University of San Diego, San Diego, CA; jacobitz@sandiego.edu).

This symposium aims to bring together researchers advancing...
our understanding of processes in turbulence and their applications in diverse fields, including modeling of atmospheric or oceanic turbulence, or air pollution problems. Application topics will include urban dispersion, vehicular emissions, fire spread, multiphase flow, air lubrication, as well as smoke and visibility issues. Basic processes to be discussed include helical properties and acceleration statistics at multiple scales of turbulent motion.

(11) Two-Dimensional Materials for Next Generation Devices. Organizers: Jory Yarmoff (Department of Physics and Astronomy, University of California, Riverside, Riverside, CA; yarmoff@ucr.edu) and Jeanie Lau (Department of Physics and Astronomy, University of California, Riverside, Riverside, CA; jeanie.lau@ucr.edu).

The global challenge in electronic materials, driven by the impending end of Moore’s law, is to find effective materials that can replace silicon in device applications. Recently discovered two-dimensional materials, such as graphene and topological insulators, are the leading candidates. These materials are composed of layers that are weakly coupled to each other by van der Waals forces. They have been found to exhibit novel conductivity properties within the two-dimensional plane that is leading to an abundance of new physics and materials properties. This symposium will highlight recent advances in the science that underlies the fabrication, understanding and applications of two-dimensional materials.

(12) Biotic Invasions: Impacts on Natural and Urban Communities and Ecosystems. Organizers: Erin Wilson (Department of Entomology, University of California, Riverside, CA; erin.wilson@ucr.edu) and Richard Redak (Department of Entomology, University of California, Riverside, CA; richard.redak@ucr.edu).

Biological invasions, one of the main drivers of global environmental change, disrupt species interactions, and can contribute to the collapse of trophic systems. Consequently, there is growing interest in how invaders alter community and ecosystem processes. We will present six different contexts in which non-native taxa change their invaded communities that include agricultural, urban and natural systems. This symposium will include experimental studies examining how invaders of large effect can alter local trophic interactions and how invasions may lead to the decoupling of ecosystem services. Two presentations will focus on invasion at several levels of disease transmission and describe efforts to minimize the threats posed by invasive pathogens and disease vectors. Using a combination of ecological and ever-evolving molecular genetic techniques, these studies delve into the mechanisms underlying the ecological impacts of invasion and provide insight into the best strategies to maintain ecosystem health and function.

(13) Climate Change Through the 20th and 21st Centuries. Organizer: Robert J. Allen (Department of Earth Sciences, University of California, Riverside, CA; rjallen@ucr.edu).

Since 1900, global average temperature has significantly increased by 0.75 ± 0.18°C, likely making our planet the warmest it has been in the last millennium. This, combined with many overlapping pieces of evidence, has led the leading body for the assessment of climate change—the Intergovernmental Panel on Climate Change—to conclude that warming of our planet is unequivocal. Most of this warming is very likely due to the observed increase in anthropogenic greenhouse gases, which are now at their highest values in the last 650,000 years. Future climate projections show additional warming by the end of this century, ranging from 1.1 – 6.4°C. This rate of warming is orders of magnitude more rapid than any in the past 65 million years. This session will explore several consequences of recent and future climate change, including diminished snow and ice—important reservoirs of fresh water—and increased frequency of occurrence of heat waves and extreme precipitation (droughts/floods). This session also addresses several of the feedbacks that operate within the climate system, including those related to the hydrological and carbon cycles.

(14) Genetics of Adaptation—From Spiders’ Silk to Marathon Mice. Organizer: David Reznick (Department of Biology, University of California, Riverside, CA; David.Reznick@ucr.edu).

Empirical studies of evolution and adaptation have long-since defined how and why organisms evolve from a phenomenological perspective. Advances in molecular genetics now make it possible to extend these endeavors to a consideration of specific genes associated with evolution and a characterization of their action. We will present six study systems in which the link between adaptation and the action of specific genes is being established. These presentations will include three experimental studies of evolution - one on laboratory populations of fruit flies, one on laboratory populations of mice and one on natural populations of puppies - in which we are identifying and characterizing candidate genes or scanning whole genomes for signatures of the role of genes in shaping complex adaptations. One presentation will focus on the remarkably diverse array of silks and the genetics of silk synthesis in spiders, revealing the evolutionary dynamics that have shaped these high-performance proteins. One presentation will consider the genetic basis of floral evolution and speciation in a genus of flowering plants. Finally, one presentation will characterize de-evolution, or what happens in the long term when a gene is no longer used. The resulting degradation represents the mirror image of the negative Darwinian selection that persists unseen in any study of positive Darwinian selection associated with adaptation. Collectively, these studies illustrate some of the diversity of technology that now makes it possible to associate genes with adaptations, but also illustrates the contribution of such endeavors to basic and applied science.

(15) Ecology and Conservation in River Networks. Organizer: Kurt E. Anderson (Department of Biology, University of California, Riverside, CA; kurt.anderson@ucr.edu).

Freshwater scientists are increasingly demonstrating that the branching structure of river networks has substantial ecological consequences. Local dynamics in rivers have been profitably studied over small spatial scales, and modeled by idealizing rivers as a one-dimensional line. Yet river stretches belong to branching, tree-like networks, which adds complexity in several ways. For example, restriction of movement along branches may influence population dynamics, while fluxes of materials and organisms at river confluences can alter habitat and species diversity. Superimposed on this river geometry is a large degree of temporal and spatial variation in ecological processes that is often arranged hierarchically. We still lack a coherent understanding of how river network structure constrains ecological processes, which hinders our ability to predict how other types of environmental variability, including human alterations, will affect freshwater ecosystems. However, there have recently been great strides made in our understanding of ecological dynamics in river networks, and this symposium will highlight recent exemplary research in the area. Each speaker has...
been suggested based on a broad expertise in river ecology, and will speak on one or more particular sub-themes. These include: 1) how life-history strategies and population dynamics reflect river network geometry, 2) patterns of abiotic and biotic diversity at different levels of hierarchical network organization, and 3) novel mathematical and statistical tools for studying the influence of network geometry on ecological processes.

(16) Forensic and Clinical Service Challenges in a Juvenile Arson, Explosives & Research Center (JAERIC). Organizer: Ronn Johnson (School of Leadership and Education Sciences, University of San Diego, San Diego, CA; ronnjohncts@gmail.com).

Juvenile Fire Setting and Bomb Making (JFSB) is a growing public safety concern. In an effort to secure a more accurate forensic and clinical snapshot of the prevalence of JFSB, a national data base for JFSB is being crafted. This effort is being coordinated through the International Association of Fire Fighters (IAFF). Still, the comprehensive risk assessment factors for JFSB may not be completely captured by the anticipated national data set. A Juvenile Arson, Explosives & Research Center has coded 14 years of research data that includes roughly 1,600 cases of JFSBs. It is also very important to identify bomb-making and/or other explosive-making in forensic evaluation and treatment programming related to arson. Current peer-reviewed research under-represents the link between juvenile arson and juvenile bomb-making. Use of explosives was documented in 14.9% of the cases referred to a community juvenile arson intervention program in San Diego County. Of the 205 cases reported on in which use of explosives was documented, 37.1% of the juveniles had also committed arson apart from their use of explosives. Data from the JAERIC research project of the Burn Institute of San Diego County will be presented.

Some of the projected symposium paper presentation titles include:
- Geopsychological Profiling of juvenile fire setters and bomb makers in San Diego County
- Geopsychological Profiling of juvenile fire setters and bomb makers in San Diego County for schools
- Use of a DSM-5 Quadrant with juvenile fire setters and bomb makers
- Clinical decision making in the treatment of juvenile fire setters during the treatment termination phase: A second risk assessment
- The forensic psychological patterns of “No Shows” in juvenile fire setters and bomb makers

(17) Forensic and Clinical Psychological Research in Uganda: Challenges for Trauma on Top of Trauma Service Delivery. Organizer: Ronn Johnson (School of Leadership and Education Sciences, University of San Diego, San Diego, CA; ronnjohncts@gmail.com).

Acts of terrorism and civil wars have resulted in multigenerational experiences with traumatic (PTSD) incidents that have no international border restrictions in Africa. The Republic of Uganda is a landlocked country in East Africa. Its size is comparable to the state of Oregon. Uganda has a high HIV prevalence in persons with severe mental illness (SMI) compared to the general population. The health problems stemming from HIV also coincide with disabling cognitive, behavioral, and motor dysfunction. The availability of competent and reliable mental health services is inadequate given the needs found in the remote regions of the country. Alternate approaches to mental health service delivery through collaborative partnerships as well as technology have garnered increasing interest, though there remains relatively limited research evaluating these forensic or clinical mental health approaches. In fact, there is some evidence that clinical mental health services have resulted in positive outcomes for many psychological disorders. This symposium examines issues that complicate and compliment mental health services research in Uganda.

The objective of this symposium is to review the efficacy of research-based clinical mental health interventions involved while delivering culturally-responsive services in Uganda. Some of the projected symposium paper presentation titles include:
- An overview of East African Research & Trauma Help (EARTH)
- Organization and Delivery of Clinical Mental Health Services in Uganda
- Culturally-responsive Approaches for Addressing the Perceptions and Acceptability of Trauma Interventions in Uganda
- Group Counseling Training and Supervision for Trauma Issues Faced in Uganda: Why a Counseling Theory is Important
- Culturally-responsive approaches for addressing severe mental health issues associated with HIV and AIDS

(18) Small RNA-mediated Gene Regulation. Organizer by: Hailing Jin (Department of Plant Pathology and Microbiology, University of California, Riverside, CA; hailingjin@ucr.edu) and Katherine Borkovich (Department of Plant Pathology and Microbiology, University of California, Riverside, CA; katherine.borkovich@ucr.edu).

Small non-coding RNAs have emerged as important gene expression regulators in eukaryotic organisms. They are involved in regulating almost multiple cellular processes, including development and growth, stress responses, immunity and genome integrity. Our symposium will invite experts in the small RNA field from both animal and plant systems to present their recent findings on the function and regulation of small RNAs in various organisms. This symposium will include experimental studies on how small RNAs regulate gene expression, as well as computational modeling and practical applications.

(19) Boise Extravaganza in Set Theory (BEST). Organizers: Liljana Babinkostova, Andres Caicedo, Samuel Coskey and Marion Scheepers (Department of Mathematics, Boise State University, Boise, ID; 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.

Set Theory is the mathematical foundation for the study of the infinitary 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 hy-

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potheses 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.

(20) Should Science Reform the Humanities? Organizer: Jesse J. Thomas (Department of Religious Studies, San Diego State University, San Diego CA; jthomas@mail.sdsu.edu) and Mark Wheeler (Department of Philosophy, San Diego State University, San Diego, CA; Wheeler1@mail.sdsu.edu).

In a New Republic 8/6/2013 article titled “Science is not your enemy,” Steven Pinker argues that if the humanities were more scientific they could reverse the recent decline in the status of the humanities. Simon Weiseltier responds on 9/4/13 with “Crimes against the Humanities” in which he argues that the authority of the sciences belongs properly in the province of fact rather than value, which is the province of the humanities. Little discussion has followed these two articles. This symposium hopes to do that.

Professor Thomas will open the symposium with a brief summary of the two above articles as well as his own answer to the question, inviting the presenters to provide and elaborate briefly their own answers to the basic question within 20 minutes, allowing 10 minutes of discussion.

(21) Theory, Experiment, and Computations: A Synergistic Approach to Research. Organizer: C. Mark Maupin (Chemical and Biological Engineering Department, Colorado School of Mines, Golden, CO; cmmaupin@mines.edu).

(22) Molecular Reproduction and Development. Organizers: Gary M. Wessel (Department of Molecular Biology, Cell Biology, and Biochemistry, Brown University, Providence, RI; rhet@brown.edu), Julian Wong (Managing editor, Molecular Reproduction and Development and Department of Molecular and Cellular Neuroscience, The Scripps Research Institute, La Jolla, CA), and Mark Paalman (Senior Editor, Life Science Journals, Wiley-Blackwell; mpaalman@wiley.com).

Reproduction is arguably the singular life goal of most organisms. Its study depends upon and impacts a broad cross-section of the sciences, is heavily influenced by evolutionary selection, and the application of research successes in the field are limited only by ethical considerations. It is therefore a lively centerpiece of intersecting scientific interests.

This program will explore the biological mechanisms of reproduction in plants and animals. The topics will range from sperm and egg functions and fertilization, development of reproductive organs, environmental impact on reproductive success and selection, the clinical impacts of research progress in reproduction, and the stem cell technologies that influence our understanding of germ cell formation. The approaches used in this field are broad – cellular, molecular, biochemical, computational, synthetic, and includes cells studied in vitro as well as whole organismal examination. The series of talks will be diverse and the discussions synthetic in nature. Members of the broader scientific community are urged to participate in this session to learn for the first time the rapidly moving field of reproduction and by contributing to the advancements made in the research and their interpretations.

Contributed Papers

Those wishing to submit papers for presentation at a contributed paper session (oral or poster) should refer to the “Call for Abstracts” on pages 18 and 32 of this Newsletter for instructions on abstract preparation, formatting, and submission.

The deadline for submitting abstracts for contributed papers (non-symposium) is 18 April 2014. 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 remember that 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 on Thursday afternoon or Friday (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 Thursday 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 or an over-sized poster will disqualify a student from the awards competition.

Student posters will be judged for Awards of Excellence. Students must be present during the entire judging 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

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

Molecular Reproduction and Development. Program organizer: Gary M. Wessel, Department of Molecular Biology, Cell Biology, and Biochemistry, Brown University, Providence, RI 02912. Contact: (401) 863-1051; rhet@brown.edu.

Agriculture, Food, and Renewable Resources. Section chair and program organizer: Please contact the Pacific Division office, rchrists@sou.edu, for information on this section.

Anthropology and Archaeology. Section chair and program organizer: Dr. Herbert D. G. Maschner, Idaho Museum of Natural
McDOUGAL, from page 5

component of *Veratrum californicum* biomass to account for the birth defects in sheep.

By 1980, developmental biologists identified what they referred to as the hedgehog gene in fruit flies. Inhibition

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**Atmospheric and Hydrospheric 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 92039-0209. Contact: cdorman@ucsd.edu.

**Cell and Molecular Biology (including Medical and Dental research in these areas).** Section chair and program organizer: *Dr. Kristen Mitchell*, Department of Biology, Boise State University, Boise, ID 83725. Contact: 208-426-4620; kristenmitchell@boisestate.edu.

**Chemistry and Biochemistry.** Section chair and program organizer: *Dr. Owen M. McDougal*, Department of Chemistry and Biochemistry, Boise State University, Boise, ID 83725. Contact: 208-426-3964; owenmcdougal@boisestate.edu.

**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’Alillera*, 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, Environmental Sciences, and Sustainability.** 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@pacifucu.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.

**Evolution, Organismal Biology, and Biodiversity.** Section chair and program organizer: *Ms. Crystal Goldman*, Martin Luther King, Jr. Library, San Jose State University, One Washington Square, San Jose, CA 95192. Contact: 408-808-2015; crystal.goldman@sjsu.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; donaldmcmgraw@mac.com.

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

**Physics and Materials Science.** Section chair and program organizer: *Dr. George Quainoo*, 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.

**Science and the Arts and Humanities.** Section chair and program organizer: *Dr. Robert L. Chianese*, Department of English, California State University, Northridge, Northridge, CA 91330; Current Contact Information: 2465 Hall Canyon Road, Ventura, CA 39001, 805-643-5034; rlchianese@gmail.com.

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

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**Figure 2.** Corn lily plant in Bogus Basin National Forest (left) and four of the most abundant steroidal alkaloids found in the plant (right).

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of hedgehog gene expression in fruit fly larvae resulted in denticles that appeared similar to the pointy fur of hedgehogs. Upon closer inspection, bilateral development was also observed to be impaired by inhibition of hedgehog gene expression. A connection between the hedgehog genes in fruit flies was made to the developmental disorders reported in Idaho sheep nearly thirty years earlier. Into the 1990’s researchers began using cyclopamine, the steroidal alkaloid from *Veratrum californicum*, as a way to inhibit the hedgehog signaling pathway. A discovery was made that cyclopamine inhibited the pathway by a mechanism not observed prior. The exploration of genetic mutations during embryogenesis in fruit flies led to a Nobel Prize in 1995. Researchers at John’s Hopkins University synthetically enhanced the efficacy of cyclopamine and developed drugs that were active against over twenty types of cancers. Cyclopamine became a target for drug development due to its specialized targeting of the Sonic Hedgehog signaling pathway, a pathway that is aberrant in many types of cancer, especially basal cell carcinoma or skin cancer.

Drug companies took various approaches to develop cancer therapeutics originating with cyclopamine. Infinity Pharmaceuticals produced the natural product derivative, IPI-926 as a potential treatment for advanced or metastatic solid tumor malignancies. Their clinical trials have been ongoing since 2010. Genentec Inc. received US Food and Drug approval for their drug, Vismodegib, for the treatment of metastatic basal cell carcinoma in 2012. Vismodegib was modeled after cyclopamine and designed to bind the same molecular target. The history of the discovery of cyclopamine and the development of therapeutic drugs is summarized in a timeline (see Figure 3).

**Figure 3.** Timeline of cyclopamine discovery and drug development.

Undergraduate student researchers at Boise State University have taken advantage of their proximity to local stands of *Veratrum californicum* to revisit the investigation of alkaloid component concentrations during the growth cycle of the plant. Students have harvested plants from two locations on Bogus Basin Mountain Resort at elevations over 2,000 m from June through November (see Figure 4). They have explored the influence of solvent on extraction efficiency by replacing benzene, a carcinogenic organic solvent, with ethanol, a green, environmentally friendly alternative, and, using Soxhlet reflux to extract cyclopamine from below ground plant material, have obtained a nearly three fold enhancement in recovery. The utilization of liquid chromatography mass spectrometry instrumentation has allowed students to separate, identify, and collect alkaloid components from *Veratrum californicum*. Early characterization of alkaloids provided open source mass spectrometry data for deposit into the online database, MassBank. Analysis of isolated alkaloids by high resolution nuclear magnetic resonance spectroscopy is one method that can be used to identify the presence of less biologically active isomers of these alkaloids.

The use of modern instrumentation to study *Veratrum californicum* extracts has identified a number of additional topics that are worthy of investigation. First, attention should be paid to the extraction solvent pH. Alkaloids are alkaline and will be more soluble in polar protic solvents like ethanol when they are protonated. To maximize
extraction efficiency, an acid like hydrochloric acid may be introduced to the ethanol used as the solvent for Soxhlet reflux. Care must be taken as cyclopamine reportedly isomerizes into less biologically active isomers and may even degrade to veratramine under acidic conditions. At neutral or alkaline pH, the extraction of cyclopamine into ethanol is not as efficient, but the integrity of the alkaloids is thought to be better. This is one topic that the Boise State group is currently investigating. Second, the alkaloids from the aerial plant have received little attention since the original studies in the 1950’s and 1960’s. Preliminary evidence suggests that the concentration of muldamine is far higher than was originally reported. In fact, it appears that muldamine concentrations in the aerial plant may be more than an order of magnitude higher than cyclopamine. The biological activity of muldamine has been sparsely studied. Muldamine is less active as a hedgehog antagonist than cyclopamine, but it is also present in considerably higher concentration. The molecular scaffold for muldamine is more rigid and robust than cyclopamine, making it a potentially better template for drug development. Third, there appear to be a number of symbiotic relationships between *Veratrum californicum* plants and flies that appear to lay their eggs for maturation and a source of nourishment on the plant. This relationship is worthy of investigation. Fourth, large mammals including deer and elk feed on the tops of *Veratrum californicum*, but seem to be able to identify when alkaloid levels become dangerously high. Unlike sheep that mowed the plants to the ground, animals that live at elevation are conscientious to the alkaloid content such that they only sample the tops of the plants. The association between alkaloid content based on segment of aerial plant has not been investigated prior.

In summary, *Veratrum californicum* has served as a wonderful way to introduce undergraduate students to accessible world-class research. Biological activity testing of steroidal alkaloids, harvesting of plants, extraction of bioactive components, and use of state of the art instrumentation, provide students with a well-rounded research experience. The *Veratrum californicum* project has provided a comprehensive opportunity to engage students at all levels of undergraduate research to inspire their desire for discovery and motivate their careers as scientists (see Figure 5). Dr. McDougal is grateful to have this opportunity to share his research with fellow colleagues and their students through his involvement with the Pacific Division of the AAAS. 

**Figure 4.** Elk Meadows harvest site at Bogus Basin Mountain Resort (left) and two mature plants harvested in July 2013.

In summary, *Veratrum californicum* has served as a wonderful way to introduce undergraduate students to accessible world-class research. Biological activity testing of steroidal alkaloids, harvesting of plants, extraction of bioactive components, and use of state of the art instrumentation, provide students with a well-rounded research experience. The *Veratrum californicum* project has provided a comprehensive opportunity to engage students at all levels of undergraduate research to inspire their desire for discovery and motivate their careers as scientists (see Figure 5). Dr. McDougal is grateful to have this opportunity to share his research with fellow colleagues and their students through his involvement with the Pacific Division of the AAAS. 

**Figure 5.** Undergraduate student Jared Mattos, on a July 2013 harvest. In June 2013, Jared received an award for his presentation at the AAASPD conference (see page 14 of this Newsletter).
95th Annual Meeting  
Riverside, California  
17 – 20 June 2014

Call for 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 2014. 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 2014.

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.


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

Formatting an Abstract for Submission to a Pacific Division Section Chair and the AAASPD Meetings Office, SAMUEL P KRAFT*1, YESIMAN AUTHOR1, and IDIDA DeREADING2 (1Department of Biology, Southern Oregon University, 1250 Siskiyou Boulevard, Ashland, OR 97520; 2Department of Academic Speech, Bureau of Speech Employment, 12 Back Street, Medford, OR 97504; spkraf@biology.sou.edu)

All authors should be listed sequentially, starting with the person who contributed the most and ending with the person who contributed the least. If more than one address occurs among the 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 2015 annual meeting by developing symposia and/or workshops. Persons wishing to develop a program for the San Francisco 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 at 30 minute intervals, 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 evaluate and 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
AAAS, Pacific Division 95th Annual Meeting
UNIVERSITY of CALIFORNIA, RIVERSIDE
RESIDENCE APARTMENT APPLICATION

One form must be filled out for each individual requesting campus housing.

Type or print this form legibly! If faxing, use black ink. All blanks must be filled in.

Name ____________________________________________________________________________

□ Male    □ Female

Address __________________________________________________________________________

City, State, Zip ___________________________________________________________________

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

If requesting a suitemate, name of that person: ____________________________________________

Signature _______________________________________________________________

Refer to page 15 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 Tuesday, 17 June, check out Friday, 20 June
   Includes breakfast Wednesday, Thursday, and Friday
   Per person $200.00

Additional night (Friday) in conjunction with three night basic package; includes breakfast Saturday –
   Per person $67.00

Housing Request:
□ Three night housing package $ 200.00
□ Additional night Friday, 20 June $ 67.00
   (must be in conjunction with three night basic package)

Total Amount $ __________

Deadline for Application
The completed application for housing must be received in the Pacific Division office no later than 9 May 2014. 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 2014. 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 __________________________________________

Cardholder Signature __________________________________________

City ___________________   State ______ Zip _______
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: __________________________________________________________
Mailing Address: __________________________________________________
City, State, Zip: __________________________________________________
E-mail: __________________________________________________________
Institution/Company (for your name tag – if blank, city & state will be used): ____________________________
Memberships:  AAAS ☐ Yes ☐ No  Sigma Xi ☐ Yes ☐ No  MRD ☐ Yes ☐ No
Other Affiliated Society Membership: ____________________________________________
How did you first hear about this meeting?

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? ____________________________

A. MEETING REGISTRATION FEES:

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*Student registrations include a one year student membership with AAAS, including on-line access to Science. Be sure to fill out and include the membership form on page 37 of this Newsletter when you register for the meeting.

B. DIVISION BANQUET: The Division banquet will be held on the evening of Thursday, 19 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 19 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

C. CAMPUS TOURS: Indicate below the number of persons for each tour desired. Refer to page 20 in this Newsletter for details.

Botanical Gardens (no fee) ___ Wednesday 8:00 a.m. ___ Thursday 8:00 a.m. ___ Friday 8:00 a.m.
Citrus Variety Collection ($10 per person) ___ Wednesday 9:00 a.m. ___ Thursday 9:00 a.m.
Entomology Research Museum (no fee) ___ Wednesday 2:00 p.m. ___ Thursday 2:00 p.m.

Complete reverse side before sending or faxing form.
D. FIELD TRIPS: All trips are priced per person (pp). See page 21 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: ________________________________________________________
For field trips that include a box lunch:  □ meat sandwich  □ vegetarian sandwich

Tuesday, 17 June
Field Trip #1  Santa Rosa Plateau Ecological Preserve ___ tickets @ $50 pp $ ____________
Field Trip #2  Microbrewery Science and Pub Tour ___ tickets @ $25 pp $ ____________

Friday – Saturday, 20 – 21 June
Field Trip #3  Channel Islands Adventure*
This trip is not available at this time. Please check with Pacific Division office for information
*deadline for signing up for the Channel Islands field trip is Thursday, 15 May 2014

Saturday, 21 June
Field Trip #4  James San Jacinto Mountains Reserve
This trip is not available at this time. Please check with Pacific Division office for information.
Field Trip #5  Huntington Library ___ tickets @ $50 pp $ ____________

A. Registration Total $ ____________
B. Banquet Total $ ____________
C. Campus Tour Total $ ____________
D. Field Trips Total $ ____________

TOTAL DUE $ ____________

E. WORKSHOPS: See page 20 of this Newsletter for workshop details.

Please check if you are planning to attend this workshop.
□ PULSE (no charge)

F. RECEPTIONS: 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.

□ Tuesday Evening Reception (no charge to registrants and family members)
□ Wednesday Evening Reception (no charge to registrants and family members)

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.
STUDENTS!

You must fill out this form and return it along with your Advance Registration Form in order to receive your one-year membership in AAAS! This form is for use only by students who are registering for the 2014 Annual Meeting of the AAAS, Pacific Division in Riverside, California.

Name and Address Please print clearly

☐ Check here if this is a renewal. AAAS number, __________

NAME

ADDRESS

ADDRESS

CITY

STATE/PROVINCE

COUNTRY

ZIP/POSTAL CODE

PHONE

E-MAIL

E-mail Privacy

Please check one:

☐ I want to receive occasional e-mails from AAAS/Science, including those on scientific products and services offered by outside organizations.

☐ I understand that the e-mails will be sent by AAAS/Science or its agent, and my e-mail address and information will not be exchanged or disclosed to the outside organization.

☐ I only want to receive e-mail about AAAS/Science activities, services, and publications.

Mailing List Privacy

Please check one:

From time to time, AAAS/Science releases names and addresses to outside organizations for mailings that may be of interest. Income from the mailing list supports the activities of the Association and helps to keep member dues rates down.

☐ I want to receive mailings from outside organizations that AAAS/Science deems of interest.

☐ I only want to receive mailings from AAAS/Science.
Pacific Division Publications

**Wow!!! B1G2 Book Sale wow!!!**

Purchase Any Book Listed Below for $12.00 and Take 2 books Free*

With this form only • Sale ends 1 May 2014

*Does not apply to Art Inspired by Science

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

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 0-934394-08-03); $28.50


Genecology 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. 32, Part 1, 2013); $12.00 each

Evolutionists Confront Creationists (Proceedings Vol. 1, Part 3, 1984; paper, 213 p.); $12.00


California’s Master Plan for Higher Education in the Twenty-first Century (Proceedings, Vol 13, Part 2, 1996; paper, 118 pp.); $12.00

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

**Quantity**

**Title**

**Price Each**

**Total**

Attach extra sheet if necessary. Shipping/handling fees:
Domestic, $3.50 first book; $1.50 each add’l.
Non-U.S. addresses, contact us for cost.

TOTAL

SHIPPING (see note to left)

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 UCR campus. Likely meeting buildings are in RED. The Botanic Garden location is indicated by a RED box. Glen Mor Apartments are in BLUE. Our assigned parking lot is in GREEN. Persons parking on campus must pick up a parking permit prior to leaving their car in this lot. Persons with cars who are staying in the Glen Mor Apartments will be assigned parking in a different parking lot.
AAAS, Pacific Division
95th Annual Meeting
University of California, Riverside
Riverside, California
17 – 20 June 2014
PRELIMINARY ANNOUNCEMENT of SYMPOSIA,
FIELD TRIPS and OTHER EVENTS

SYMPOSIA
(a sampling; complete list starts on page 22)

• Mechanisms of Tumor Progression and Cancer Therapeutics
• Computer Aided Drug Discovery and Development
• Promoting Deeper Learning in Middle Adolescence: Critical Connections and Implications for STEM
• Challenges for Implementing Vision and Change in Science Classrooms
• World War II Anthropology: Austrians and Germans in Poland, Japanese in Asia, and the Search for Survivors
• Two-Dimension Materials for Next Generation Devices
• Climate Change Through the 20th and 21st Centuries
• Genetics of Adaptations: From Spider’s Silk to Marathon Mice
• Ecology and Conservation in River Networks
• Forensic and Clinical Psychological Research in Uganda: Challenges for Trauma on Top of Trauma
• Small-RNA Mediated Gene Regulation
• Boise Extravaganza in Set Theory (BEST)
• Should Science Reform the Humanities?
• Libraries and Learning
• Advances in Fluid Mechanics and Turbulence: Analysis and Applications

WORKSHOPS
(see page 20)

• PULSE-ating with Vision and Change: Promoting the Role of Faculty as STEM Education Change Agents

FIELD TRIPS
(starting on page 21)

• Santa Rosa Plateau Ecological Reserve
• Microbrewery Science and Pub Tour
• Channel Islands Adventure
• James San Jacinto Mountains Reserve
• Huntington Library, Art Collections and Botanical Gardens

CAMPUS TOURS
(starting on page 20)

• UCR Botanic Gardens
• UCR Citrus Variety Collection
• UCR Entomology Research Museum, Insectary, and Quarantine Facility

NOTE: These programs are being planned as of 1 January 2014. However, changes in offerings frequently occur. For up-to-date information, please visit the Pacific Division website, pacific.aaas.org