The AAAS, Pacific Division concludes its Centennial Year Celebration with its 97th annual meeting this June at the University of San Diego, San Diego, California. Co-sponsoring the meeting will be the University of San Diego and the Northwest and Southwest Regions of Sigma Xi, the Scientific Research Society.

The Division’s Program and Special Events Committee and the local Program Committee on the USD campus have been hard at work assembling a program of first-rate scientific merit and interest. All 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 select workshops, require advance registration and payment of additional fees. Dr. Frank Jacobitz (Department of Engineering, USD) is chair of the local planning committee for the meeting. He is being ably assisted by other committee members on the USD campus, Dr. Ron Kaufmann (Associate Dean and Director, Marine Science Program), Dr. Ronn Johnson (School of Leadership and Education Sciences), Dr. Veronica Galván, (Department of Psychology) and Ms. Amy Besnoy (Science Librarian, Copley Library). Members of the Pacific Division’s Executive Committee and Council are also involved in developing the program to ensure that it is of the

**2015 - Celebrating Our Centennial Year Meetings - 2016**

*see ANNUAL MEETING, page 7*
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SAN DIEGO AND THE
UNIVERSITY OF SAN DIEGO

San Diego
With a near-perfect climate, 70 miles of beaches, and mountains and deserts just a short drive away, San Diego draws more than 26 million visitors each year. Known for its countless year-round outdoor activities, San Diego is packed with unique pursuits in the water, on the trails and in the sky. The University of San Diego is just minutes from sailing, windsurfing, kayaking and a host of other water sports. All of the city’s beaches are ideal for surfing, body boarding, snorkeling, or simply soaking up rays on sand warmed by the ever-present sun.

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

San Diego has many attractions, including the world-famous San Diego Zoo and Wild Animal Park. Additionally, the 148-year-old Balboa Park is a 1,200-acre oasis in the heart of the city, complete with 15 museums, eight gardens and the acclaimed Old Globe Theatre. San Diego is also home to one of only three Olympic training centers in the nation. And its coastal waters offer an exceptional seasonal experience: a first-rate vantage point from which to witness the annual migration of gray whales from Alaskan seas to Mexican lagoons.

University of San Diego
The University of San Diego (USD) is a Roman Catholic institution of higher learning. Presently enrolling more than 8,350 students (as of Fall 2014), it is known for its commitment to teaching, the liberal arts and the formation of values and community service. The university adds depth to educa-

see HISTORY, page 4
REPORT ON THE AAAS ANNUAL MEETING
BY THE PACIFIC DIVISION EXECUTIVE DIRECTOR

The 182nd meeting of AAAS was held this past 11 – 15 February 2016 in Washington, D.C. The meeting was the first since Dr. Rush Holt took over leadership of the organization following the close of the national meeting last year.

Activities began on a cold and windy Thursday morning with the Board of Directors meeting, at which representatives of the three divisions of AAAS (Arctic, Caribbean, and Pacific) gave reports to the Board members. The reports were well received. As the transformation of AAAS into a more connected and member-centric membership organization proceeds, the part that divisions might play in supporting members and their activities is becoming more clear. To this end, we in the Pacific Division are helping Membership to prototype and publicize various activities that support members and provide added value to members of AAAS, such as a variety of career development activities that will be coming on-line over the next few months. Another example is the support of the Pacific Division for a Town Hall Meeting hosted by Dr. Rush Holt, AAAS CEO, last October in Los Angeles. We are looking forward to being involved in more of these activities as the transformation process proceeds. And, in fact, it is my dream that AAAS will recognize the value of divisions as a way to reach the grass roots of the organization and that they will embark upon a process of creating new divisions where none presently exist. But that’s probably a matter of discussion for another time.

Following the lunch break for the Board, we went to the exhibit hall to set up the Divisions’ Booth. This was a departure from the past number of years, as the Pacific Division has had a booth in the exhibit hall since the 2002 annual meeting, but there has never

see DIVISION ACTIVITIES, page 6

ANNOUNCEMENTS

2016
100 Years Since the First Meeting of the Pacific Division!

The Pacific Division of AAAS 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. That same year, the by-laws of the Pacific Division were approved by vote of the AAAS Council. In 1915, the fledgling Division participated in the San Francisco AAAS Meeting. The following year, 1916, the Division struck out on its own by holding its first independent annual meeting in San Diego. This year’s meeting brings us back to San Diego for the conclusion of our centennial year celebrations. Join us this year and be a part of our celebration marking this milestone!

TEACHERS K - 14

The first ten K - 14 teachers to register in advance (meeting registration received no later than 27 May 2016) for this meeting will receive, upon request, a $75 stipend to help defray their costs to attend! This stipend is not available to those who register on-site for the meeting. If requested, a $75 check will be included with the registration materials you pick up at the Pacific Division Meeting Registration Center.

Judges Sought for Student Presentations

Student presentation judges are being sought for both oral and poster presentations at the Division’s annual meeting. Previous experience evaluating student presentations is desirable for individuals who haven’t previously judged at a Pacific Division meeting. Judges must be available for an organizing meeting Tuesday evening, 14 June, and be available to judge presentations Wednesday and/or Thursday, 15 and 16 June. For additional information, please contact Dr. Roger Christianson, 541-552-6747 or rchristi@sou.edu. If you are interested in helping with this very important aspect of the annual meeting, be sure to mark the appropriate box on the Advance Registration Form (on page 37 of this Newsletter) and you will be sent an application.
HISTORY, from page 2

tion by inspiring students to grow spiritually, morally and socially.

USD’s 180-acre campus, Alcalá Park, sits atop a mesa overlooking San Diego’s Mission Bay and the Pacific Ocean. The university campus is a community treasure, with Spanish Renaissance inspired buildings and breathtakingly beautiful landscapes, including the spot where Father Junipero Serra founded the first Catholic mission in Alta California more than 247 years ago. Like California’s oldest city, the university took its name from San Diego de Alcalá, a Franciscan brother from Alcalá de Henares, a monastery near Madrid, Spain. The Spanish Renaissance architecture that characterizes Spain’s five-century-old University of Alcalá serves as the inspiration for all buildings on the USD campus.

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

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

USD Students

Though the beach is nearby, USD is a serious academic institution. And while the campus itself is stunning, the people truly make the difference. For Fall 2015, more than 13,000 candidates vied for 1,100 freshman openings. The median incoming freshman this past Fall held a 3.84 GPA and an SAT score of 1208. Yet each student is unique and selected on expressions of diversity, leadership, service, talent, and essential human character.

Of great significance to USD students are small class sizes; great, accessible faculty; and fantastic lab facilities. Students choose from more than 78 undergraduate and graduate degree programs in academic divisions, including the College of Arts and Sciences and the schools of Business Ad-
ministration, Leadership and Education Sciences, Law, and Nursing and Health Science. The Joan B. Kroc School for Peace Studies, in which this meeting will take place, was inaugurated in 2007.

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

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

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

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**STUDENTS TAKE NOTE!**
The Pacific Division has a website for students, called STUDENTS ONLY! Its address is [http://associations.sou.edu/aaaspd/Students/Students.html](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. The deadline for applying for one of these is 1 May 2016. Information can be found at [http://associations.sou.edu/aaaspd/Students/StudentResearchGrants.html](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 2016! Information can be found at [http://associations.sou.edu/aaaspd/Students/TravelGrants2010.html](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 research presentations at the Pacific Division's annual meetings. Awards include money and certificates, but you must present your own research in order to be eligible to receive one! Information can be found at [http://associations.sou.edu/aaaspd/Students/StudentAwards.html](http://associations.sou.edu/aaaspd/Students/StudentAwards.html) or click the Student Awards link on STUDENTS ONLY!
been a booth dedicated to all divisions. We have in the past always invited the other divisions to bring us their literature to hand out, which has met with mixed success over the years. This year wasn’t much different. Because the timing of the annual meetings for the other divisions (both in the fall) doesn’t lend itself very well to having literature to hand out in February, the Pacific Division still occupied the lion’s share of the booth. In addition to handing out literature about the divisions, and our June meeting in particular, we also gave away 168 books from our publications inventory. As the publication dates of our titles are getting older, we have started giving out copies of most of our publications at no cost when we can deliver them at meetings, etc., without additional cost to the Division. We have also been offering most of our titles through the Division’s Newsletters for the cost of postage and handling.

The annual meeting for most people got underway Thursday evening with words of welcome from local dignitaries, opening remarks by France A. Córdova (Director, National Science Foundation) and David J. Skorton (Secretary, Smithsonian Institution), followed by the AAAS President’s Address, offered this year by Geraldine Richmond (Presidential Chair and Professor of Chemistry, University of Oregon). The evening was capped off by the President’s Reception.

The next few days brought just under 140 symposia on a large variety of topics, two American Junior Academy of Science poster sessions, four student and general poster sessions and a full schedule of plenary and special lectures. Presenting in the early Saturday poster session was the Pacific Division’s AAAS–Larus Award winner, Katherine Sheu. Katherine studies in the Department of Human Genetics at the University of California, Los Angeles. She won the Larus Award, which paid her travel and housing expenses to the AAAS annual meeting, at the Division’s

**SYMPOSIA BEING ORGANIZED FOR THE ANNUAL MEETING**

Descriptions begin on page 22.

- Scientific Maker Symposium and Exchange
- Boise Extravaganza in Set Theory (BEST)
- Current Understanding and Data Gaps for Bahía de los Ángeles, An International Biosphere Reserve
- Bahía de San Quintín: The Status, Threats, and Solutions for One of the Last Intact Coastal Lagoons in Western North America
- Not Just a Walk in the Park: Ecology and Education in Mission Bay, San Diego
- How Ocean Acidification and Ocean Warming Could Influence the Functional Morphology and Ecology of Intertidal Organisms
- Particles in the San Diego Atmosphere: Reactions, Properties, Climate, and Health
- Recent Advances in Turbulence Research: Experiments, Theory, and Computations
- Pharmaceutical Research and Development: From Bench to Patient Care
- Recent Advances in Pharmacology and Toxicology
- Limits to the Second Law of Thermodynamics
- Quantum Retrocausation III
- United States World’s Fairs and Expositions: Seeing Fairs as More than Fun Places to Visit
- Theory, Experiment, and Computation: A Synergistic Approach to Research

List continues on page 7

**DIVISION ACTIVITIES, from page 3**

Washington, D.C. in February, looking out from the front of the Marriott Wardman Park Hotel.
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, field trips, and symposia.

Following is a list of the Pacific Division sections that are sponsoring sessions at the meeting. The names and addresses of session chairs are found starting on page 33 of this Newsletter.

**Societies and Pacific Division Sections Sponsoring Sessions at the San Diego Meeting**

Sigma Xi, The Scientific Research Society
Agriculture, Food and Renewable Resources
Anthropology and Archaeology
Atmospheric and Hydrospheric Sciences
Cell and Molecular Biology
  *(including 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
Materials Science
Mathematics
Physics
Psychology
Science and the Arts and Humanities
Social, Economic and Political Sciences
  *(including health services)*

**Registration**

All persons planning to attend the meeting should use the Advance Registration Form on page 37 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 22 April) for the full meeting are $105.00 for professionals; $52.50 for retirees/emeritus, current post-docs, and students¹; and $35.00 for non-presenting spouses/family members of registrants and unemployed individuals. K–12 and community college students receive a one-year student membership in AAAS, which includes all member benefits including on-line access to Science magazine, with payment of their registration fee for this meeting. Current student members will receive a one-year extension to their membership. Filled out membership form must accompany registration form.

¹Students receive a one-year student membership in AAAS, which includes all member benefits including on-line access to Science magazine, with payment of their registration fee for this meeting. Current student members will receive a one-year extension to their membership. Filled out membership form must accompany registration form.

*see ANNUAL MEETING, page 10*

Visit us at  [http://pacific.aaas.org](http://pacific.aaas.org)
recent meeting in San Francisco for her presentation, “Examining the Role of DNA Methylation in Naive Pluripotent Stem Cells,” which she also presented at the annual meeting. Congratulations Katherine!

In the exhibit hall, AAS booths were located in the AAS Pavilion and centered around a presentation area called the AAS Sphere (see the photo at the beginning of this article) that offered a popular stream of short sessions on such topics as AAAS Transformation Update, Career Options and Job Resources for Scientists, Incorporating Science in Seminary Education, Science Cooperation Between Cuba and U.S., STEM Professionals Needed: How Can We Get the Next Generation Fired Up, and Science in Comic Books. Additionally, there were many career workshops and numerous different offerings, making it hard, if not impossible, to take it all in.

Saturday and Sunday also brought in hundreds of families to Family Fun Days, an annual event at the AAS meetings. Several thousand parents and their children enjoyed a large variety of science-based activities designed to pique the interest in science of the children attending.

REPORT ON AAAS COUNCIL MEETING

Sunday morning is always interesting because it is when the AAAS Council meets. This year, the agenda was a bit different as the Council business came very early on rather than very late, which was much appreciated as there was lots to discuss before moving on to staff reports.

Early on the agenda was a report that the Institute of Electrical and Electronics Engineers (IEEE) had notified AAAS that they were disaffiliating themselves from AAAS. This raised quite a stir, with people wanting to know why and what the response of AAAS administration was to this action. Dr. Geraldine Richmond, President of AAAS at the time and now Chair of the Board of AAAS, said she would pursue this with the IEEE administration and make sure it will be on the agenda for the next Board of Directors meeting. Going in the opposite direction, a motion to approve affiliation of the International Institute for Applied Systems Analysis (IIASA) with AAAS was passed by unanimous vote of the members of the Council that were present.

Dr. Barbara Schaal, President-Elect and now President of AAAS, brought the report from the Committee on Council Affairs (CCA), which included some action items. One of these was to amend the by-laws of the Pacific Division on issues of annual financial reviews and allowing electronic notification of the Pacific Division Council for discussion of by-laws changes. These small changes in the wording of the by-laws passed by a unanimous vote of the Council.

Next came a proposal from the CCA to amend the Fellows nominating process. One change would have added a sentence relating to the conduct of Fellows, which ran into a lot of trouble as Council members debated the wording and choice of words for the sentence. Ultimately, a motion to approve modified wording was tabled. A second part of the proposal related to asking those nominating potential Fellows via the three-Fellow nominating process to answer three questions about the nominee that relate to conduct. A third part of the proposal was to have the above two parts go into effect immediately upon their passage. Nothing passed, so nothing went immediately into effect. If you are interested in this issue, contact Dr. Susan Hockfield, President-Elect of AAAS and chair of the CCA this year. She should be able to fill you in on details and answer the question of whether we’ll see this proposal again. Frankly, it was a knee-jerk reaction to the withdrawal of Fellow status from an individual at UCLA last fall, but probably has merit if the proper wording can be established.

Another item brought to the Council from the CCA was a proposal to allow substitute representation at the February Council meetings. By unanimous vote, Article VII, Section 2 of the AAAS by-laws was amended to read:

(b) “the retiring Section Chair and if that individual is unavailable to attend a meeting, the Chair or Chair-elect shall be eligible to replace the retiring Section Chair at the meeting.”

(c) “delegates from each electorate, elected from among and by members of the Electorate, and if that
individual is unavailable to attend a meeting, the Chair, Chair-elect or Member at Large shall be eligible to replace the delegate.”

Other items discussed at the CCA meeting were whether those proposing programs for the annual meeting needed to adhere to the theme of the meeting, programs for young members of AAAS, and how to make the Council meetings more interesting.

Following the CCA report were the usual assortment of reports. Some highlights follow.

Rush Holt, CEO
- as shift from subscription-based to membership-based occurs, “we want to ask more of members and give more to members”
- AAAS has “upped the game” in advocacy
- Trellis now has over 3,000 users
- there have been dozens of communicating science workshops for youth
- AAAS this past year has completed or presented more than 100 projects/programs funded by grants under a variety of organizations
- the first of many external reviews of programs at AAAS has been convened
- reminder of the four prongs of the transformation initiative:
  - become member-facing
  - communicate in a way worthy of the 21st century (digital first)
  - advocacy
  - actively seek new revenue streams consistent with the mission of AAAS
- redesigned/reworked the Science website, which is presently getting about 18 million page views a month
- have produced 98 videos that have been viewed approximately 9 million times

Gerald Fink, Chairman of the Board
- Marsha McNutt will remain at Science until her term at the National Academy of Sciences begins on 1 July
- AAAS is releasing two new journals: Science Robotics and Science Immunology this year

Beth Bush, Chief Membership Officer
- build membership and retention
  - by value creation; consider community and personal aspirations
  - with professional and career development
  - through relationships
  - through member experience
- Marsha McNutt, Publisher, Science family of journals
  - January dawned with a new web presence for Science which is especially good for smart phones and devices

Melissa Anderson, Chair, Committee on Scientific Freedom and Responsibility (CSFR) and Matt Hourihan, Director, R&D Budget and Policy Program each gave a brief report on their areas.

Joanne Carney, Director, Government Relations
- gave a brief congressional update
- talked about the Golden Goose Award, designed to counteract the rise in attacks on grants because of seemingly frivolous titles
- submit nominations for Golden Goose Award to www.goldengooseaward.org

The Council meeting, which had begun at 9:00 a.m., adjourned at 12:30 p.m.

-- Roger Christianson
Executive Director
AAAS, Pacific Division

teachers are encouraged to attend the meeting for a reduced professional registration fee of $52.50. One-day professional registration for non-presenters/planners 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 22 April, higher registration fees will be charged, as indicated on the Advance Registration Form. Beyond 27 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, $135.00; program planners/presenters, $90.00; K–12, community college teachers, post-docs, students, retirees/emeritus, and unemployed $67.50; non-presenting/planning spouses and/or family members and unemployed individuals, $45.00. One-day on-site professional registration for non-presenters/planners will be $90.00. Note that if you attend more than one day of the meeting, you must pay the full registration fee.

The first ten K–12 and community college instructors that
FOOD on Campus

The USD campus has several locations where food may be purchased. The most convenient is Torero Tu Go, a food truck that is expected to be situated in front of our meeting site, the Kroc Institute for Peace and Justice (#12 on the campus map). During summer hours, this truck will be available for lunch purchases Monday – Friday.
Travel to USD

Coming from the North:
• Driving south on I-5 South, exit Sea World Dr./Tecolote Rd.
• Proceed left at stoplight toward Morena Blvd.
• Turn right on Morena.
• Turn left on Napa.
• Turn left on Linda Vista Rd.
• Travel to the second stoplight to USD’s east entrance, turn left and enter campus.

Coming from the South (or the airport):
• Driving north on I-5 North, exit Morena Blvd. (signs will say: “Morena Blvd. use I-8 East”).
• Stay to the right and follow the signs for Morena Blvd.
• Take the first right onto Linda Vista Rd.
• Travel to the third stoplight to USD’s east entrance, turn left and enter campus.

Coming from the East:
• Driving west on I-8 West, exit at Morena Blvd.
• Turn right onto Linda Vista Rd.
• Travel to the third stoplight to USD’s east entrance, turn left and enter campus.

Parking on the USD Campus

Parking will be available for meeting attendees on the west end of the USD campus (please refer to building #2 on the campus map on page 41 of this Newsletter). All cars parked on campus must have a parking permit. A one-day guest permit at no cost may be picked up at the kiosk on the way onto campus.

If you will be on campus for more than a single day, a permit valid Tuesday, 14 June through Friday, 17 June may be printed in advance at no cost by following directions on the Division’s Travel web page by entering this URL into your browser: http://associations.sou.edu/aaaspd/2016SANDIEGO/Travel16.html or by clicking on the QR code to the right. Note that you will need to first create a USD account and then you will be able to request the permit.

If you or someone you know will be coming onto campus only on Friday, 17 June, a one-day, no cost permit for that date may be printed in advance by following directions on the Division’s Travel web page by entering this URL into your browser: http://associations.sou.edu/aaaspd/2016SANDIEGO/Travel16.html or by clicking on the QR code to the right. Note that you will need to first create a USD account and then you will be able to request the permit.

Stations will be available at the Registration Center to print a parking permit for those who come onto campus for more than one day but haven’t yet printed a permit.

Registration Center

The Registration Center will be in the Rotunda (main entrance) of the Kroc Institute for Peace and Justice, on the USD campus (see #12 on the campus map on page 41 of this Newsletter). Hours of operation are expected to be as follows, though these may change. Be sure to check the Division’s 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 the Kroc Institute for Peace and Justice and the Shiley Center for Science and Technology (#s 12 and 17 on the campus map on page 41 of this Newsletter). All meeting rooms will be equipped with computers running Windows and Microsoft PowerPoint, and will be connected to 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 assigned meeting rooms and times of presentations for the program will be published in the "Program with Abstracts" issue of the Proceedings (Vol. 35, 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 clicking the appropriate link(s) on the Pacific Division website (pacific.aaas.org) starting no later than 27 May 2016. 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 the way you want on the Windows platform. Only 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 onto and run the way you want if a computer running Windows as there are significant differences in the way a Mac handles a PowerPoint compared to how a Windows computer handles one.

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, either orally or as posters.

If you are submitting a non-symposium (oral or poster) abstract, the deadline for submission of abstracts to section chairs for consideration for inclusion in the contributed portion of the program is Friday, 1 April 2016.

If you are submitting an abstract that is part of a symposium, the deadline for submission of abstracts to symposium planners is Friday, 22 April 2016.

Instructions for the preparation and submission of abstracts follow.

PREPARATION OF ABSTRACTS

Properly prepared abstracts should contain two sections: 1) title, name(s) of author(s), contact information for author(s) and 2) the text of the abstract. All abstracts should be prepared in 10 pt Times New Roman font, “NORMAL” style, and left justified. These two sections should be prepared and formatted as described below.

Title: The title of the presentation should be italicized and in title case, with all principal words such as nouns, verbs, adjectives, pronouns, adverbs, and the second parts of hyphenated major words capitalized while small words of three letters or fewer, such as articles, prepositions, and conjunctions, remain in lower case unless they start the title, follow a colon, or end the title. At the end of the title is a non-italicized comma unless the title ends with an exclamation or question mark, in which case there is no comma.

Authors’ Names: If there is more than one author for the presentation, all authors should be listed sequentially, starting with the person who contributed the most to the project, including the presentation, and ending with the person who contributed the least. All names should be in upper case and bold except for the word “and” that occurs at the end of a list of presenters, which should be in lower case and bold. There should be no punctuation between the last presenter’s name and the left bracket at the start of the contact information.

Contact Information: Contact information should be inside of a single set of parentheses and include the following, if applicable: department, institution, city, state, and e-mail address for at least the presenter. Additional e-mail addresses may be included if desired. 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 a full size asterisk (*) next to the last name of the presenter(s). A period should be placed just to the right of the closing bracket. Applying all of these rules, a complete and properly formatted title line should look like this:

Formatting an Abstract for Submission to a Pacific Division Section Chair and the AAASPD Meetings Office, SAMUEL P. KRAFTER**, YESIM AN AUTHOR1, and IDIDA DE READING1 (1Department of Biology, Southern Oregon University, Ashland, OR; spkrafter@biology.sou.edu, yesaauthor@gmail.com; 2Department of Academic Speech, Bureau of Speech Employment, Medford, OR; ideread@bse.mfr.com).

Text of the Abstract: The purpose of an abstract is to give the reader a sense of what the presentation will be about. An abstract shouldn’t try to tell the whole story, but should give enough information in general terms so that the reader can ascertain the main thrust of the presentation and decide whether it will be worthwhile to attend. Thus, abstracts are limited to 250 or fewer words and should contain few if any references. It is OK to acknowledge funding sources at the end of the abstract, but the words used in this way do count toward the 250 word limit. For additional hints about writing good abstracts, try one of these two or other web pages:

https://owl.english.purdue.edu/owl/resource/656/1/
http://writingcenter.unc.edu/handouts/abstracts/

Remember to use Times New Roman 10 pt font, “NORMAL” style, and left justification for your abstract! If you use a different font or style, your abstract will be reformatted to this font and style. If your abstract contains special
characters, in addition to submitting it via e-mail you should fax (541-552-8457) or scan and e-mail (aaaspd@sou.edu) a copy with the special characters clearly marked and notations indicating the font used. Be aware that if you use an unusual font 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.

The first line of each paragraph of the text of your abstract should be indented 0.25 inches by using the FIRST LINE INDENT command of your word processor. Do not use a tab or the spacebar!

**Submission of Abstracts**

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 starting on page 33 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 (rchristi@sou.edu). The subject line of these e-mail submissions should include the phrase “abstract2016” (no space between abstract and 2016) and your last name (e.g.: Abstract2016 Smith). Including this information in the subject line will ensure that you receive an e-mail reply confirming receipt of your submission at the Division office. Section chairs will make every effort to review submitted abstracts and notify submitters of whether or not their submission has been accepted into the program in a timely manner.

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

**Deadline for abstract submissions for symposium presentations** to symposium planners – Wednesday, 1 April 2016.

**Deadline for abstract submissions for contributed sessions** (poster or oral) to section chair(s) and Division office – Friday, 22 April 2016. If you would like to discuss your submission with the chair of the section to which you are submitting it, please refer to page 33 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 6 presentations), and $50 for third place (minimum judging pool of 9 presentations). Thanks to the generosity of an anonymous donor, these cash awards will be actually be larger by an amount that will be determined by how many awards are presented. Additionally, each winner receives a certificate of recognition. Societies sometimes supplement these awards with their own cash prizes.

In 2016, seven division-wide awards may also be available: the Laurence M. Klauber Award for Excellence (unrestricted); the Geraldine K. Lindsay Award for Excellence in the Natural Sciences; the J. Thomas Dutro, Jr. Award for Excellence in the Geosciences; the Presidents Award for Excellence (unrestricted); the Rita W. Peterson Award for Excellence in Science Education Research; the 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 Boston, Massachusetts, 16 – 20 February 2017 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 and underlying research 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 1) be registered for the meeting prior to the session in which his/her presentation is to be judged, 2) be the primary presenter of the presentation, and 3) be the principal research investigator. Student presentations, both oral and poster, are judged on their abstracts, scientific methodology and content, style of delivery or presentation, and audiovisual aids and/or handouts (if used). Sample evaluation forms for both oral and poster presentations are posted on the Division’s meeting web page, http://associations.sou.edu/aaaspd/2016SANDIEGO/index.html. Students who are competing for Awards of Excellence are invited to be guests of the Division at the annual banquet Thursday evening, 16 June 2016. Festivities that evening include the announcement of student awards. If you are one of these students, please be sure to check the appropriate box on the Advance Registration form to let us know you will be attending the dinner. Students may also purchase additional dinner tickets for guests at that time.

**IMPORTANT NOTE:** All judging for student awards ends no later than 2:30 p.m. on Thursday, at which time the judges go into closed session to determine the winners of the Division-wide awards. If you are a student wishing to compete for an Award of Excellence and your oral symposium presentation is scheduled to end later than 2:30 p.m. Thursday, you must, in addition to presenting orally as part of the symposium, prepare a poster for presentation at a poster session.
Share your expertise, creativity, and devices at the AAAS, Pacific Division’s first-ever

SCIENTIFIC MAKER EXHIBIT AND SYMPOSIUM

Thursday, 16 June 2016
at the Pacific Division’s annual meeting
University of San Diego • San Diego, California
pacific.aaas.org

Scientific Maker Exhibit 10:00 a.m. – 12:30 p.m. in the Joan B. Kroc Institute for Peace and Justice

It is more feasible to create your own lab equipment than ever before with the advent of 3D printing, low-cost Arduino sensors and other “maker” technologies. It is also possible to have citizen scientist collaborators who cannot only take data for you, but follow open-source plans to create their own equipment. Are you one of the pathfinders that has actually done this? If so, please consider bringing your creation to San Diego for the AAAS, Pacific Division’s first-ever Scientific Maker Exhibit. Group exhibits are welcome. Objects that are the subject of work in progress or recent crowdfunding campaigns or equivalent open-source projects are encouraged. There is no charge for space, but all participants must register for the meeting. Please follow the instructions below in order to submit your application to be a part of this exciting event! Note that display space is limited and acceptance of objects for display will be determined solely by the staff and/or representatives of AAAS, Pacific Division based on quality and scientific merit of the proposed display. Participants take sole responsibility for the safety of their displays. The deadline for submission of an application is Friday, 22 April 2016. Applicants will be notified soon thereafter of the status of their application.

Scientific Maker Symposium 1:00 p.m. – 5:00 p.m. in the Joan B. Kroc Institute for Peace and Justice

Scientists have always been forced to create a lot of their equipment, but for major discoveries typically large capital budgets have been needed. Scientists often have to design their protocols to fit the equipment, but suppose it could be the other way around? Suppose you could put up plans for instrumentation and have people all over the world build something with which to collect data for you. This session will have two parts. First, individuals who have succeeded in developing DIY instrumentation will talk about their successes. Then, we will explore some of the issues that this brings up and the organizations that are springing up to manage safety and other issues that arise when science is performed outside the traditional path. If you are interested in making a presentation as part of this symposium, please contact Ms. Joan Horvath, joan@nonscriptum.com, in order to discuss your idea(s) and how your presentation would fit into the program. Information on abstract creation and submission may be found starting on page 13ff. of this Newsletter. The deadline for the submission of abstracts for this symposium is 1 April 2016. All abstracts must be prepared following the directions in this Newsletter, and sent directly to Ms. Horvath, who is organizing the program.

Instructions to apply for a space to display a device in the Maker Exhibit.

Go to the Pacific Division home page on the Internet (pacific.aaas.org) and then click on the link to the left: APPLY TO PRESENT IN SCIENTIFIC MAKER PROGRAM or click the QR code to the right. Fill out the form and click SUBMIT.

Questions? Contact Ms. Joan Horvath (joan@nonscriptum.com) or Dr. Roger Christianson (rchristi@sou.edu).

Notes:
1. Everyone whose object is accepted for this maker exhibit will need to have a Release of Liability form filled out, signed, and on file with the AAAS, Pacific Division prior to the start of the meeting.
2. All objects are subject to a safety inspection at least 30 minutes prior to the start of the Exhibit. Staff of the AAAS, Pacific Division and/or staff of the University of San Diego (USD) retain the right to remove from the exhibit at any time any object that fails the safety inspection or is deemed unsafe or a danger in any way to people or the physical plant of USD.
earlier in the week. For purposes of an award, your presentation will be judged as a poster and you will then 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 Plenary Lecture: AAAS Pacific Division Presidential Address. Join us Tuesday evening at the kick-off for the meeting with our annual Presidential Address. Dr. Frank Jacobitz, Pacific Division President and Professor, of Mechanical Engineering, Shiley-Marcos School of Engineering, University of San Diego, will be the featured speaker. Following will be a reception hosted by Dr. James T. Harris III, USD President.

Tuesday Evening USD President's Reception, following the Pacific Division Presidential Address. All meeting registrants and their family members are invited to enjoy this convivial time as we finish opening this annual meeting marking 100 years since the first independent meeting of the Pacific Division in 1916. Be sure to wear your meeting badge!

Wednesday evening AAAS Town Hall. Hear from Dr. Rush Holt about the history of AAAS and Dr. Holt’s vision for the future of AAAS and science. Attendees will be given the opportunity to ask Dr. Holt questions and provide their own suggestions for engaging the public, communicating their work, or influencing society.

Wednesday evening reception. A reception will follow the AAAS Town Hall event. All meeting registrants and their family members are invited. Be sure to wear your meeting badge!

Thursday evening Student Awards Banquet. Thursday evening will be an exciting time for everyone 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 6:15 p.m. with a reception, followed by dinner service to begin about 6:45 p.m. After dinner will be a brief program, including the presentation of student awards. We ask that all student award winners stay for the group photograph to be taken at the conclusion of the evening’s program. The evening should end by about 9:15 p.m.

Banquet attendees can choose between three entrées: Truffle Chicken (including brie whipped potatoes, morel mushroom ragu and truffle cream), Coffee Rubbed Pork Loin (including sweet potato puree, slow cooked greens, and bourbon-maple sauce), and Four Cheese Ravioli (including shaved zucchini and squash). All entrées include rolls and butter, salad, chef’s choice of starch and vegetable, dessert, iced water, and coffee and hot tea service. Please note that details may change as we get closer to 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 here. A cash bar is anticipated during the reception and early part of the dinner for those wishing to purchase beer and/or wine. Banquet tickets are $50 each and should be purchased on the Advance Registration Form (see page 37 of this Newsletter) as there will be few available on-site. The deadline for ordering banquet tickets is the close of early registration for the meeting, 27 May. Please note that a portion of the cost of each banquet ticket helps to support the complimentary tickets given to student presenters.

Students in competition for Awards of Excellence are invited to be guests of the Division for this event. In order to receive a complimentary banquet ticket, be sure to check the appropriate entrée box on the Advance Registration Form (see page 37 of this Newsletter). Additional banquet tickets are available to students at the full price of $50. Note that if you request a complimentary ticket we expect you to attend the banquet. Please do not 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 Pacific Division will hold its annual breakfast and business meeting at 7:00 a.m. on Friday, 17 June in the Boardroom of the Kroc Institute for Peace and Justice (Room 226) on the USD campus. The Council will elect officers and Council members, discuss programs for the 2017 and 2018 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

A public lecture series that is open to and free to the public is being planned for Friday afternoon. Please check the Pacific Division website for updates and the list of lectures when they become available.

SCIENTIFIC MAKER PROGRAM

A first for the Pacific Division, we will be hosting a Scientific Maker Exhibit Thursday morning, followed by a Scientific Maker Symposium that afternoon. Please refer to page 15.
AAAS News

Q&A with AAAS Chief Membership Officer Beth Bush

Tuesday, March 22, 2016
Reprinted from AAAS MemberCentral

AAAS is in the midst of transforming itself into a more digitally savvy, member-focused association. It’s an initiative that was launched in April 2014 with the goal of positioning the organization to maximize its usefulness to the scientific community and the broader society throughout the 21st century. Since the announcement, AAAS has adopted a “digital first” mindset, having launched the online-only, open-access journal *Science Advances*, with plans to soon launch online-only *Science Immunology* and *Science Robotics* journals, as well as a full-redesign of its flagship journal *Science* online.

In addition, AAAS has developed a new science communication platform, Trellis, available to the scientific community.

On the membership side, work is well underway to grow AAAS membership, starting with scientists and engineers in both the academic and private sectors, and eventually reaching out to the general science-interested public. Leading this effort is Beth Bush, AAAS’s new Chief Membership Officer. She provided MemberCentral with an update on the progress she’s made since joining AAAS in April 2015, and what members have to look forward to in the months ahead.

**MemberCentral:** You are the Chief Membership Officer at AAAS, a position that did not exist before last year. What is the goal of this new position?

**AAAS Chief Membership Officer Beth Bush:** AAAS has been best known for *Science* and its related journals, not as a membership organization. AAAS leadership determined that the organization needed to focus on its members—to again become a member-centric organization. Of course, *Science* is a major benefit for members, but as an organization we have so much more to offer our members. My position was created to launch the Membership Department and really put strategy behind the expansion of the membership value proposition for our existing members and prospective members.

This includes strategic and operational planning and execution, market research, and new product development. We are looking at how we can support members of the science community through their education, to their first job, all the way through to retirement and beyond.

The goal is to significantly increase membership. In order to do that and to do it well, we have to meet the needs of our members, and to start that planning, I looked at the overall population AAAS serves—or could serve—and placed them into these groups:

- Scientists and engineers
- Early-career scientists and engineers (graduate students, post-docs, through the first five years as a working professional)
- Students, teachers, scientists and engineers working in K-16
- International
- General public who are avid supporters of science

**MemberCentral:** You have stated the goal for the Membership Department is to significantly increase AAAS membership. What does this mean for our current members?

**Bush:** We have research that demonstrates in quantifiable ways that the association’s mission—to advance science, engineering, and innovation throughout the world for the benefit of all people—resonates with our members, and they want to contribute to that mission. And so by bringing on members in multiple disciplines and strengthening our membership numbers, we will be expanding the network of scientists and engineers with whom our current members can network and collaborate. Part of the strategy is having members become more engaged and to recruit their colleagues and friends to be members, too. This helps our growth and the mission of AAAS. There are a lot of ways to accomplish and/or support the advancement of science. This is one key way we can do this.

Additionally, our growth and member-centric focus means better support for our members. We are very interested in expanding—and better promoting benefits our members need.

For example, in addition to having a lead for each member audience, I have hired a director of Member Experience and Engagement, whose job is to ensure every communication or contact with a member is the best experience possible; to anticipate their needs and provide the ultimate in member service. I’ve also hired a director of Professional Development and Career Services, who is working closely with subject matter experts and putting together courses to assist our members in challenges they have at each stage of their careers—such as understanding the Federal R&D budget, the top 10 issues
that derail a grant proposal, communicating science, and how professional etiquette can boost one’s career. These courses are aimed at different stages of members’ professional lives and will bring value that will have an immediate impact.

**MemberCentral: What are the biggest challenges for the team?**

**Bush:** Our goal is to provide membership that is invaluable and will accompany our members throughout their whole journey. For example, a high school student who is exploring STEM fields for their future has very different needs than a bachelor’s student wondering if graduate school is the right next step. A post-doc has decidedly different needs from a membership organization than does someone looking at retirement. This endeavor will take teamwork, innovation, determination, and a lot of creative planning. Our staff is working across the entire organization to assure that the members’ needs are anticipated, that our programs, products and services exceed expectations.

**MemberCentral: What are some current initiatives?**

**Bush:** First, we are building out a membership team to create all these new initiatives. In addition to a director of Member Experience and Engagement, a director of Professional Development and Career Services, I’ve brought on individuals who will build a strong relationship with members and develop new and exciting products and services that will help at every stage of their career.

We are rolling out a new welcome series. We want to establish a relationship with each of our members. The series includes new messaging and communications that will accompany each member throughout their first year with AAAS. And for current members, we are initiating new communications designed to focus on the issues that are most important to them.

In January we relaunched the Member Update newsletter. Each month we highlight a program of AAAS or an issue of importance to the scientific community. In addition, members can get updated on news, events and awards offered by AAAS and *Science*.

AAAS is committed to being a major contributor to the career successes of our members. We are about to launch our first two professional development courses later this month, Avoiding Common Errors in Proposal Writing, and The Federal R&D Budget: Process and Perspectives. These two courses will be online. More courses are planned for later this year, so keep a look out for upcoming announcements about them.

Our new Employee Ambassadors Program is really exciting. Every member of AAAS staff has become a member of AAAS. They are experiencing firsthand what it means to be a member, what we offer members and how we communicate. This has provided our staff with new insights and we have been rewarded with great ideas from this new channel. The staff is now finding opportunities to communicate what they are doing as mission-focused to members, helping all to see the overlap between our mission and our membership.

We also have completely changed the way members renew their membership in AAAS. We believe that the new renewal process is streamlined and the system is easier to navigate. Our first renewals to members under this new system have been met with overwhelmingly positive results. Members can choose at time of renewal if they would like to have the digital or print version of *Science*, if they would like to choose a one- or two-year membership, and, as we evolve our member website, they will be able to add on additional products if they would like at the time of their renewal.

MemberCentral was launched as a separate communication portal for members. AAAS.org has long been the public-facing platform for the association. We want to join these two sites into one cohesive experience and the first step is moving MemberCentral over to AAAS.org. Members will still be able to log in to update their account and access exclusive content, just as they can now. After MemberCentral and AAAS.org are one, which should be completed by the end of June, we are planning a full redesign of the site.

I’ve mentioned some of the new products we are working on, but AAAS has many resources already in place. My team is working to identify ways to better communicate to members the extensive value they add to membership.

And, we will be collecting feedback from our members on an ongoing basis. Already initiated, a member satisfaction survey. We want to know what AAAS does well and how we can better serve members.

**MemberCentral: What would you like to ask of members to help with AAAS membership growth?**

**Bush:** Members have the opportunity to spread the AAAS word! MemberCentral has a great tool that allows members to provide a friend or colleague with a 72-hour trial period to see what we have to offer online. It’s a wonderful (and free!) chance to have someone get a sense of AAAS membership before joining. Between now and the end of June, I invite all members to refer a friend or a colleague and start the conversation with them about why membership is such a valuable investment.
The American Association for the Advancement of Science (AAAS) is the world’s most trusted resource for science across disciplines and a leader in empowering scientific information in the public sphere.

By joining, you are bridging a gap between science and society. You are strengthening an organization that develops evidence-based policy making, enhances science education, and communicates unbiased science to the public.

- Be informed by 51 weekly issues of Science, the leading journal of original science research
- Make connections with the world’s top scientists and engineers
- Advance via career resources, professional development, webinars, videos and podcasts
- Make a difference with advocacy, community outreach, and volunteer opportunities
- Be up-to-date through timely science and technology news
- Access research dating back to 1880
- Save money on journals, meetings, and services

Visit www.aaas.org/join. Together, we can make a difference.
Yes! I want to advance science, engineering, and innovation throughout the world for the benefit of all people.

Member Information [Please print clearly]
First Name ____________________________________________
Last Name ____________________________________________
Address ______________________________________________
City/State/Province ___________________________________
Postal Code _________________ Country __________________
Phone __________________________ Email __________________

2016 Annual Dues [Select ONE membership option]

Membership with Science Digital Membership with Science Print
Regular Member .......................................................... □ $125 digital □ $165 print
Scients or engineers who are working in academia or industry
Student (Undergraduate, Graduate, or PhD) ......................... □ $65 digital □ $95 print
Undergraduates, graduate students, and PhD students
Postdoctoral ................................................................. □ $65 digital □ $95 print
Postdoctoral researchers
Teacher K-16 .................................................................. □ $65 digital □ $95 print
Teachers & instructors in the K-16 setting
Retired Professional ....................................................... □ $105 digital □ $135 print
Retired scientists, engineers, or research professionals who are dedicated to continuing the support of AAAS’s mission

Membership Profile Information
Highest Degree _________________ University __________________
Discipline ______________________ Institutional Affiliation ________________

Contribute
Please accept my tax-deductible contribution to the Flexible Action Fund to promote science and support the science enterprise worldwide. $ ____________________________

Payment Method [Payment in U.S. funds drawn on a U.S. bank must accompany order]
□ Cash □ VISA □ MasterCard □ Bill me □ Bill my credit card the amount $ ____________
□ AMEX □ DISCOVER

Card No. _________________ Exp. Date _________________

Signature __________________________ Date _________________

□ Check enclosed in the amount of $ __________________________ [Payable to AAAS]

Mail to: AAAS Membership Dept., P.O. Box 96177, Washington, D.C. 20078-7054. Join AAAS by contacting Member Services directly at 202-326-6417 or 866-434-AAAS (2227), or return this Member Application by FAX at 202-842-1065.
in this Newsletter for details on the events and instructions on how to apply in order to have your project included in the Scientific Maker Exhibit.

**WORKSHOPS**

For the most up-to-date information about workshops for this meeting, please access the Division’s Workshops web page at this URL: http://associations.sou.edu/aaaspd/2016SANDIEGO/Workshops16.html

**Thursday, 16 June.**

**An Introduction to Grant-Writing for Foundations.** Organized by Peter Kraus (Associate Librarian, University of Utah, J. Willard Marriott Library, 295 South 1500 East, SLC, UT 84112; Peter.Kraus@utah.edu).

Scheduled for 9:00 a.m. – Noon.

Participants will review the process of writing effective grant applications and assembling a good proposal to foundations. The basic components of a competitive grant proposal will be presented including the common pitfalls to avoid in grant writing and submission. Appropriate project funding sources will be discussed as well as establishing positive sponsor relationships, satisfying sponsor requirements, and the proposal review process.

**AAAS PROFESSIONAL DEVELOPMENT AND CAREER SERVICES FORUM**

As part of the Office of Membership Development and Engagement, the new Professional Development and Career Services team will discuss the new online resources being developed specific to the professional needs of AAAS members. This session is also intended as a forum to hear from members and find out how to further meet those professional needs. Please join us to find out what is available, what is being planned and to give your input on the types of resources you would like to see developed.

Attendees will have two opportunities to join in this discussion, with one session scheduled for Thursday noon and a second session scheduled for Friday noon. A working lunch will be provided at each session. Pre-registration is required and is limited to 30 participants in each session. Please go to this link to register: https://www.surveymonkey.com/r/6FYL9CG or scan the QR code to the right.

Facilitators: Alex Torres, Director, Professional Development and Career Services and Scott Nichols, Product Manager, Professional Development and Career Services.

**FIELD TRIPS**

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

Due to limited space, advance registration is required for all field trips. Reservation and payment of field trip fee(s) are included on the Advance Registration Form (see page 37 of this Newsletter).

A full refund will be granted if a trip is cancelled by the Division. If a registrant cancels via email or written notification received in the Pacific Division office no later than 10 May 2016, 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.

Additional information about these field trips may be found on the Division’s Field Trips web page: http://associations.sou.edu/aaaspd/2016SANDIEGO/FieldTrips16.html.

(1) Tuesday, 14 June, Noon to about 5:00 p.m. Ramona Winery Explorations.

This trip will depart the USD campus in front of the Kroc Institute for Peace and Justice at noon. Prior to arriving at the first winery, a lunch stop will be made at Panera Bread for lunch on your own. After lunch, we will visit two wineries in the Escondido area. Attendees will have a chance to learn about the blend of science and art that goes into starting up and running a noteworthy viniculture and winemaking operation in this terra nouveau wine producing region of California. We plan to return to USD by 5:00 p.m.

Includes transportation, tasting fees at two wineries, and field guide. Please note that lunch at Panera Bread is on your own. Cost: $50.00 per person.

(2) Friday, 17 June, 5:00 p.m. to about 9:00 p.m. San Diego Microbrewery Field Trip.

Since early times, beer has played an important role in our society. But have you ever considered the science behind it? As technology has progressed, brewing techniques have been developed and refined, due in no small part to our increased knowledge in the fields of biotechnology, microbiology, and chemistry.

White Labs Brewing Company team members have been active in the American and worldwide craft brewing movements since the 1980s. The company, with headquarters in San Diego and offices in Davis, CA, Boulder, CO, Chicago, IL, Copenhagen, Denmark and soon in Asheville, NC, pro-
vides a wealth of services to brewers, winemakers, distillers and others in the fermentation business.

The tour will depart from in front of the Kroc Institute for Peace and Justice on the USD campus at 5:00 p.m. and arrive at White Labs Brewing Company a short time later. We will take time to eat box lunches prior to taking our tour of the facility.

After dinner, our friends at White Labs Brewing Company will share their passion and knowledge with participants as we tour their facility and learn about how different varieties of yeast can result in beers with very different flavors and nuances. Following the tour at White Labs will be a tasting flight of 4 beers where the only difference is the type of yeast used in the fermentation process.

Once we’ve finished our visit to White Labs, we will drive to Longship Brewery to tour their new facility and hear about how they produce the variety of beers that they offer. Following the tour at Longship Brewery, participants will be offered a tasting flight of 4 beers in order to sample from the variety of beers made on the premises.

Come taste the differences!

Includes transportation, box lunch, and first beer flight at each brewery. Additional beer flights, individual tastings, and pints may then be purchased on your own. Cost: $42.00 per person.

### Technical Sessions

#### Symposia

The following symposia are being planned for this meeting. Although symposia are typically organized around invited papers, organizers will often 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 preparation and submission for symposium presentations appear on pages 13f. of this Newsletter. Should you prefer to present a paper in one of the contributed paper sessions, you should also refer to pages 13f. for instructions and also page 33 for names of sections and program organizers in this Newsletter. Check the Division’s web page, [http://associations.sou.edu/aaaspd/2016SANDIEGO/Symposia16.html](http://associations.sou.edu/aaaspd/2016SANDIEGO/Symposia16.html), for the latest information on symposia.

Please remember that at this time the listings contained herein are tentative and subject to change. If you plan to attend the meeting largely for one symposium or technical session, check the Division’s 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 symposium web page.

**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 presentation scheduled Thursday afternoon (check with the planner of your symposium) or Friday, 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 Thursday morning. Awards will be announced later that evening.

(1) **Current Understanding and Data Gaps for Bahía de los Ángeles, an International Biosphere Reserve.** Organizer: Drew M. Talley (Environmental and Ocean Sciences, University of San Diego; drew.talley@gmail.com). Scheduled for Thursday afternoon, 16 June.

For centuries, Bahía de los Ángeles has drawn explorers, naturalists, and scientific researchers from around the world to study the unique and contrasting desert and marine habitats, rich natural resources, and the high biodiversity that includes a variety of threatened and endemic species. These same elements have also attracted tourists; development, the pressures of which can be seen in the ecosystem; and have led to the declaration of the region as an International Biosphere Reserve. This region is a treasure in its own right and also provides lessons about how to balance the use and conservation of coastal and marine resources.

The goal of this symposium is to provide an overview of the broad range of research being carried out in Bahía de los Ángeles, as well as to identify gaps in data needed to be filled to better understand and manage this region, and others like it.

(2) **Bahía de San Quintín: The Status, Threats, and Solutions for One of the Last Intact Coastal Lagoons in Western North America.** Organizers: Drew M. Talley (Environmental and Ocean Sciences, University of San Diego; drew.talley@gmail.com) and Alan Harper (Terra Peninsular, C/O Endangered Habitats League, Los Angeles, California). Scheduled for all day Friday, 17 June.

San Quintin bay is the best preserved coastal lagoon ecosystem in the Mediterranean zone of western North America. The enormous tidal prism of this hyper saline bay leads to near complete replacement of its contents on Spring tides. Due to the intact upland ecosystem, limited agricultural flow,
SERVING SOCIETY THROUGH
SCIENCE POLICY

To make decisions, societies rely on knowledge and multiple perspectives. Policies both within and outside science should be informed by the best available evidence. Science alone cannot translate knowledge into viable policy options; other factors include societal norms and cultural values.

One aspect of science policy is advancing the practice of science: How do we continually improve scientific methods, mechanisms, and outputs to increase the value of science to society?

Another aspect of science policy is providing the best available scientific evidence to policymakers, community leaders, and citizens. How can we most effectively provide scientific evidence that informs policy? What are the roles for scientists as individuals and for the scientific enterprise as a whole in the policy landscape? What emerging and established areas of science are essential to future policy decisions?

Call for Session Proposals

Session proposals for the 2017 AAAS Annual Meeting are now being solicited. To submit a proposal, visit aaas.org/meetings. The deadline for submission is April 22, 2016.
high marine productivity and terrestrial fog drip, it is a refuge for numerous migratory, endemic, and economically important species, as well supporting a managed shellfishery. This session will focus on recent research into the biodiversity and economic resources of the region, the potential threats, and how civil society, non-profits and government agencies are responding to those threats.


Mission Bay Park is the West Coast’s largest aquatic park and a central feature of San Diego’s coastline. This urbanized estuary is fed by two major freshwater creeks and approximately 100 storm drains that channel runoff from a highly developed watershed into the bay. Besides its value for recreation, Mission Bay also hosts a diverse assemblage of aquatic species, ranging from phytoplankton and zooplankton to large invertebrates, fishes and marine mammals. The park also includes wildlife preserves that provide important habitat for nearly 100 species of birds, including the federally endangered Least Tern, Brown Pelican and Light-footed Clapper Rail. Like many estuaries along the West Coast of North America, Mission Bay has experienced biological invasions by non-indigenous species, and some of these have been associated with substantial impacts on the native fauna. Speakers contributing to this symposium will discuss the ecology of the bay, as well as efforts to engage students from the University of San Diego and local residents in scientific investigations addressing various aspects of the Mission Bay ecosystem.

(4) How Ocean Acidification and Ocean Warming Could Influence the Functional Morphology and Ecology of Intertidal Organisms. Organizers: Maya S. deVries and Jennifer R. A. Taylor (Marine Biology Research Division Scripps Institution of Oceanography, University of California, San Diego; mdevries@ucsd.edu and j3taylor@ucsd.edu). Scheduled for Wednesday afternoon, 15 June.

The acidity and temperature of the world’s oceans are increasing at unprecedented rates. Ocean acidification (OA) and ocean warming (OW), have been shown to profoundly affect many marine organisms that build calcified structures (calcifiers). Yet, there is a hypothesis that intertidal calcifiers will be less susceptible to OA and OW because they are already exposed to large fluctuations in pCO2 and temperature on a daily basis and have therefore evolved tolerance to extreme conditions. The goal of the proposed symposium is to evaluate this hypothesis and to understand why some intertidal calcifiers exhibit a response to OA and OW while others do not. We will begin by using tools from functional morphology to understand biomechanical and material properties responses to OA and OW. Specially, we will examine how rocky intertidal and coral reef organisms, including calcified algae, crustaceans, mollusks, and echinoderms, respond to OA and OW conditions. We will then broaden this view to synthesize how morphological and biomechanical changes at the individual level could influence ecosystem dynamics and structure via changes to community structure and trophic dynamics. We will end with a panel discussion aimed at developing future research directions that integrate links between species responses and ecosystem responses to OA and OW. Together, the proposed symposium will provide a comprehensive evaluation of how intertidal communities are expected to fare under future ocean conditions.

(5) Particles in the San Diego Atmosphere: Reactions, Properties, Climate, and Health. Organizer: David De Haan (Department of Chemistry and Biochemistry, University of San Diego; ddehaan@sandiego.edu). Scheduled for Friday, 17 June.

Aerosol particles have significant impacts on human health and global climate. San Diego is home to many active research groups who study atmospheric aerosol particles in the laboratory and in the field. In this symposium, researchers will describe their current efforts to characterize the chemical, optical, and physical properties of aerosol particles, both freshly formed particles and those that have been “aged” by several days of atmospheric reactions. The sources of these particles, and the ways that they change while aging in the atmosphere, are still quite uncertain. This symposium will therefore include experimental, field, and computational work addressing aerosol effects on human health and climate, the properties of aerosol particles that cause these effects, studies of how these properties change over time, and studies of aerosol particle formation.

(6) Recent Advances in Turbulence Research: Experiments, Theory, and Computations. Organizers: Frank Jacobitz (Mechanical Engineering Department, Shiley-Marcos School of Engineering, University of San Diego; jacobitz@sandiego.edu), Marko Princevac (Mechanical Engineering Department, Bourns College of Engineering, University of California, Riverside; marko@engr.ucr.edu); and Imane Khalil (Mechanical Engineering Department, Shiley-Marcos School of Engineering, University of San Diego; ikhalil@sandiego.edu). Scheduled for all day Wednesday, 15 June.

This symposium is planned as a venue for the exchange of recent results in the field of turbulence research. Discussion
topics will include geophysical turbulence and wildfire dynamics, but any topics related to turbulence research are appropriate for this session. Geophysical turbulence concerns flow with shear, stratification, or rotation and with applications in the atmosphere or oceans, including turbulence evolution, transport, and mixing of natural or anthropogenic substances. Atmospheric flows and turbulence in large part govern fire dynamics. Turbulent flows inside the canisters of spent fuel assemblies will be considered for 7x7 boiling water reactors. Studies that involve laboratory or field experiments, theoretical analysis, as well as simulation approaches will be discussed. The organizers particularly encourage students at the undergraduate or graduate level to present their work in this symposium.

(7) Scientific Maker Symposium and Exchange. Organizers: Joan Horvath and Rich Cameron (Nonscriptum LLC, Pasadena California; joan@nonscriptum.com and rich@nonscriptum.com). Scheduled for all day Thursday, 16 June.

Scientists have always been forced to create a lot of their equipment but major discoveries typically have required large capital budgets. Even with those budgets scientists often have to design their protocols to fit the equipment. Suppose it could be the other way around and equipment could be easily developed to fit a protocol? Also suppose you could put up plans for instrumentation and have people all over the world build something and go take data for you? This session will have two parts. We will present case studies of DIY instrumentation developed with “maker” technologies like 3D printing and Arduino electronics. Then we will explore some of the issues that this brings up and the organizations that are springing up to manage safety and other issues that arise when science is performed outside the traditional path. We also will have exhibit tables for those who have created actual instrumentation whether for their own labs or beyond that to Kickstarter ventures.

(8) United States World’s Fairs and Expositions: Seeing Fairs as More than Fun Places to Visit. Organizer: Alan L. Bain (Research Collaborator, National Anthropological Archives; retired archivist, Smithsonian Institution Archives; and Emeritus Archivist (Academy of Certified Archivists; Baina@si.edu). Scheduled for Friday morning, 17 June.

United States world’s fairs have been viewed by the public as enjoyable venues to visit, places to partake of their food, look at their entertainers, and glimpse people from around the world. In fact, fairs demonstrated the political, scientific, and racial attitudes of their times, and projected what the correct American way and values should be for its citizens.

Although anthropology played a critical role in the exhibitions and village displays shown at world’s fairs in the past, notably the World’s Columbian Exposition (Chicago, 1893) and the Louisiana Purchase Exposition (St. Louis, 1904), the Panama-California Exposition held in San Diego (1915-1916) witnessed the largest display of physical anthropology seen by an American audience. Anthropologists and researchers were sent around the globe to capture skeletons. Artistic renderings and skeletal displays of stages in human evolution shown at the Panama-California Exposition represented a unique effort. The lasting impact of the exhibition, its influence on later exhibitions in the United States, and the creation of the permanent Museum of Man provides an example of the influence of anthropology at the fairs and expositions. Anthropologists also went to the fairs’ villages to collect anthropological data and conduct ethnological field studies. In addition, modern day use of poetry, literature, and performance show another side of world’s fairs, how they were a display of American imperialism, racism, and racial stereotyping.

(9) Library Science Symposium: The Evolving Library. Organizers: Crystal Goldman (Geisel Library, University of California, San Diego, La Jolla, CA; clgoldman@ucsd.edu). Co-organizers: Frank Jacobitz (Engineering Department, University of San Diego, San Diego, CA; jacobitz@sandiego.edu) and Amy Besnoy (Copley Library, University of San Diego, San Diego, CA; abesnoy@sandiego.edu), Amanda Roth (Geisel Library, University of California, San Diego; aroth@ucsd.edu), and Kelly Riddle (Copley Library, University of San Diego; kriddle@sandiego.edu). Scheduled for all day Thursday, 16 June.

The history of libraries stretches back thousands of years, yet the contemporary library as a conceptual and intellectual space, in community, and especially on the university campus, continues to change rapidly. The roles of librarians have had to keep pace with the evolving needs of library patrons and the use of library space. A wealth of new technologies, such as digitization of print and realia, 3D printing, and institutional repositories for both content and data have played a major part in many of the recent transformations in library services and librarian positions. The application of technology to many aspects of the profession have allowed for innovations in areas such as instruction, reference, cataloging, access, digitization, and scholarly communication. While technology has radically altered the work of librarians, its application to library work has allowed librarians to participate more fully in their communities.

This symposium seeks to highlight the evolution of library spaces, services, and pedagogy, as well as other developments in the field of librarianship as librarians have embraced technology to better serve patrons. From the history to the future...
of libraries, we wish to foster a dialogue on the many advances and challenges that have shaped the profession and the space—both physical and intellectual—in which librarians operate.

(10) **Evaluating Return on Investment and Assessing Student Learning for Non-traditional Teaching Activities.**

Organizers: Crystal Goldman (Geisel Library, University of California, San Diego, La Jolla, CA; clgoldman@ucsd.edu) and Paula S. Krist (Institutional Research & Planning, University of San Diego; pkrist@sandiego.edu). Scheduled for Friday morning, 17 June.

More and more often, educators are being asked to verify the effectiveness of their work through the assessment of student learning. Usually, the assessment of student learning takes place through the assessment of classroom experiences, using tests, papers, and projects. However, not all educational experiences occur in the traditional semester- or quarter-long course. There are compact overseas courses, one-shot library instruction sessions, and extracurricular programs, to name only a few, in which students can enrich their academic lives. For these non-traditional instructional settings, effective assessment can be a challenge. Those involved in such courses or programs still need to set reasonable goals and measurable outcomes, provide evidence of continuous improvement, and demonstrate a return on investment to the university. In many cases, authentic assessment strategies are more appropriate than classroom-based strategies.

This symposium will highlight some of the many ways in which university faculty and staff authentically assess and evaluate their non-traditional teaching and learning activities.

(11) **Mentoring and Deeper Learning in STEM Education.**

Organizers: Carl Maida (University of California, Los Angeles; cmaida@ucla.edu) and Louis Nadelson (Utah State University; louis.nadelson@usu.edu). Scheduled for all day Thursday, 16 June.

Project-based learning and work practice activities that embrace mentoring are forms of deeper learning, which may serve as a corrective to current schooling regimes. However, there are limited opportunities for youth to actually engage in deeper learning activities with mentors within consciously designed communities of practice for skill acquisition. These activities are typically found in certain experientially based programs, such as internships and apprenticeships in the more progressive high schools, or in experimental co-curricular activities designed by universities and other non-profit organizations. Robert Halpern (2009) advocates for the high school apprenticeship as a form of learning that may provide the best chances for young people. Cognitive psychology and neuroscience are discovering what artisans have always known, namely the value of experiential and project-based learning in acquiring and retaining craft knowledge, or practical knowledge gained by experience. A sense of “knowing-in-action” comes from participation in practice-oriented learning experiences, which include school-to-work programs, service learning, mentorships, internships, and apprenticeships in various kinds of skilled work. Moreover, informal learning outside of school takes place in highly social venues that “offer a form of mentoring, apprenticeship, and participation that maximizes motivation and engages the learner’s sense of identity” (Meltzoff et al, 2009, 288), for example, as a fledgling scientist, engineer, designer, clinician, or teacher. Learning encounters between students and their mentors can be conceived as dialogues, and a distinctive feature of project-based learning is how the teacher-student relationship is constructed and negotiated through such encounters. Students who experience this form of learning are rewarded through the responses of their mentors in these encounters. Scientists in the emerging field of social neuroscience view encounters, such as mentoring, as ways to enhance social interaction that is essential to learning, which, in turn, is supported by neural circuits linking perception and action for “close coupling and attunement between self and other,” and for synaptic plasticity (Meltzoff et al, 2009, 285). This session will combine didactic, experiential, and reflective activities to engage audience members, including 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 mentoring as a deeper learning approach to STEM (Science, Technology, Engineering and Mathematics) in the classroom and beyond. Participants in a breakout session will consider ways to foster mentoring in deeper learning activities, including project-based learning in the classroom, in after school programs, and in experiential, community-based learning activities, such as mentored internships and apprenticeships. Panelists in roundtable format will discuss current issues and future trends in STEM education, including teaching integrated STEM curriculum, engaging students in authentic STEM research, integrating citizen science into the STEM curriculum, teacher adoption of educational innovations to teach STEM, pre-college science enrichment and “pipeline” programs, and scientist-student mentoring activities in formal and informal settings.

References

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Evidence for reverse causation is currently relatively scarce and controversial. While laboratory results are intriguing, theoretical models have lagged, not yet making solid connections with mainstream physics. Furthermore, many of the most basic physical issues, e.g., the role of the second law of thermodynamics in disallowing retrocausation, and whether retrocausation is best explained by energy transfers or simply by correlations without information exchange, remain open questions.

This symposium will explore recent experiments, theory, and philosophical issues concerning retrocausation. It is hoped the meeting will foster better theoretical models by which laboratory results can be understood, and stimulate new experiments and collaborations by which the underlying physics may be more clearly exposed.

References

(14) Law Enforcement with Ethnoracially Diverse Communities in the 21st Century Using Forensic Psychological Science: A Culturally Responsive International Paradigm. Organizer: Ronn Johnson (Clinical Mental Health Program, School of Leadership and Education Sciences, University of San Diego, San Diego, CA; ronnjohn@sandiego.edu). Scheduled for Wednesday morning, 15 June.

The diverse worldwide policing demands of the 21st Century law enforcement has resulted in the need for qualified psychologists to grapple with substantive concerns associated with policing diverse communities. For example, in September of 2015 the Ferguson Commission Report concluded “We have not moved beyond race.” The report detailed an assessment of community conditions that fueled the diverse reactions observed in the aftermath of this case. Many of the reactions were the result of multigenerational economic, education, housing and health-related factors. Although the ignition point for the nationwide response seemed to be largely triggered by the pockets of negative perceptions of the criminal justice system and law enforcement. Forensic psychology can assume a pivotal role in the organizational structure of departments. The objective of this symposium is to use a forensic psychological science to assess factors that are designed to make policing more culturally responsive. Some of the projected paper presentations include:

- The forensic psychology of policing in diverse communities: Post-Ferguson Commission Report
- Culturally responsive use of clinical forensic psycho-

(12) Limits to the Second Law of Thermodynamics: Experiment and Theory. Organizer: Daniel P. Sheehan (Department of Physics and Biophysics, University of San Diego). Scheduled for all day Thursday and Friday, 16 and 17 June.

The second law of thermodynamics is foundational to science, engineering and technology. During the past two decades, however, more than two dozen challenges have been advanced into the general scientific literature by research groups worldwide. In recent years, several have undergone laboratory test, and their results indicate that the second law might not be universal.

In this symposium, the current experimental and theoretical status of second law, as well as its foundational issues, will be explored. Topics are expected to include Maxwell’s demon, decoherence, the thermodynamic arrow of time, and developments in the theory of nonequilibrium systems. Special attention will paid to laboratory experiments which address the question of its universality.

References

(13) Quantum Retrocausation III. Organizer: Daniel P. Sheehan (Department of Physics and Biophysics, University of San Diego). Scheduled for all day Wednesday and Thursday, 15 and 16 June.

Causation – the principle that earlier events affect later ones, but not vice versa – undergirds our experience of reality and physical law. Although causation is predicated on the forward unidirectionality of time, in fact, most physical laws are time symmetric; thus, they formally and equally admit both time-forward and time-reverse solutions. Time-reverse solutions suggest that, in principle, the future might influence the past, i.e., reverse (or retro-) causation. Why time-forward solutions are preferentially observed remains an unresolved problem. In-with journal citations increasing exponentially in recent years.


logical evaluation tools for various public safety purposes

• Arrest and incarceration of women of color
• Integrating evidence-based and culturally responsive mental health services for policing diverse communities
• Can citizen review boards fulfill a dual-role of facilitating police accountability and promote ethnoracial trust from diverse communities?

(15) Forensic Psychological Science on the Violence of Terroristic Groups: An Antiterrorism Threat Assessment Paradigm. Organizer: Ronn Johnson (Clinical Mental Health Program, School of Leadership and Education Sciences, University of San Diego, San Diego, CA; ronnjohn@sandiego.edu). Scheduled for Wednesday afternoon, 15 June.

Homeland Security and forensic psychologists search for ways to empirically understand the motives behind the surge in what may be assessed as senseless violence. Acts of terrorism are traumatic incidents that have no international border restrictions. To no surprise, this type of violence is also used as a form of terrorism. Empirically, it has continued to have a traumatic effect on a diverse group of individuals and is an international phenomena. Terrorists use a variety of tactics, techniques, and procedures to achieve their often unstated objectives. Research has consistently demonstrated that Post-Traumatic Stress Disorder (PTSD) can be one of the clinical outcomes for terrorism that also potentially results in forensic consequences. For example, the rescue of a large group of Kurds from ISIS who were destined for a mass killing revealed unimaginable testimonies about their tortuous imprisonment. The objective of this symposium is to use a forensic psychological science to assess senseless violence as a potential western recruitment approach used by groups like ISIS and AQAP. Some of the projected paper presentations include:

• Is there a forensic science nexus between senseless violence and terrorism group’s recruitment of westerners?
• Are there evidence-based treatments available for survivors and others indirectly exposed to terrorism?
• What does science reveal about the forensic psychological mindset of terrorists that engage in senseless acts of violence?
• What empirically-based threat assessment models are effective in identifying PTSD vulnerabilities in Homeland Security personnel?
• Can psychological stress inoculation approaches be used as an evidence-based antiterrorism strategy?

(16) Conducting Mental Health Research in the Community Setting for the Benefit of Underserved Populations. Organizer: Patricia L. Jones (Research and Publications Coordinator, Community Allies for Psychological Empowerment, San Diego, California; pjones@cape-ari.org). Scheduled for Thursday afternoon, 16 June.

At present, the status quo of mental health care for underserved populations lies in minimal services provided in county mental health, an absence of mental health care entirely, services rendered by volunteers lacking clinical training, and provision of non-clinical interventions through the conduit of peer support. In order to ameliorate the gap between good intentions and emergency mental health care, change is necessary. Funding the programs already in place is not enough to elicit sustained, prudent, efficacious change. Research that provides the capability to conduct rigorous statistical analysis of outcome-based data to ensure treatment efficacy and validate protocols tailored to our populations and community partner needs is necessary. This symposium is designed to provide a detailed overview of the planning, implementation, dynamics, operations, and goals of an evidence-based, data-driven, community research program. While the lessons here are specific to mental health, the model itself can be applied to a vast number of fields in which scientific inquiry has an impact on the lives of community members. Examining the data and feedback in the context of the original community experience isn’t a novel idea, it’s just good practice. Evidence-based practices and sound program development are the cornerstones of effective treatment, and the key to understanding and addressing the issues afflicting the communities we serve.

Topical areas which may be condensed to fewer sections with same content are:

1. Know Your Topic – Choosing an Appropriate Research Study Topic in your Community
2. Rethink Design – Data From the Field is Not the Same as Data From the Laboratory
3. Forensic Populations – Special Considerations in Research Design
4. Other Vulnerable Populations – Special Considerations in Research Design
5. Data Safety and the Ethics - Longitudinal Research in Communities
6. The IRB- Working with Local Educational IRBs or Establishing a Community IRB
7. Comparing Local Data to National Samples – When, Why, and How

(17) Boise Extravaganza in Set Theory (BEST). Organizers: Liljana Babinkostova, Samuel Coskey, and Marion Scheepers (Department of Mathematics, Boise State University, Boise, Idaho; liljanababinkostova@boisestate.edu). Scheduled for all day Wednesday and Thursday, 15 and 16 June.

This program is a continuation of the well-known conference BEST (Boise Extravaganza in Set Theory). BEST focuses on the mathematical discipline called Set Theory, and its applications in other disciplines in Mathematics. BEST, for its first nineteen years hosted in Idaho at Boise State University, has been a symposium at the Pacific Division annual meetings since 2013.

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 provability, consistency and independence, and the relative strength of postulates or hypotheses in mathematized scientific theories. The methods developed by set theory serve as powerful tools for applications in many other mathematical disciplines, including algebra, analysis, combinatorics, complexity, topology and more.

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

(18) Philosophers of Biology Engaging the Biosciences. Organizer: Roberta Millstein (Department of Philosophy, University of California, Davis; RLMillstein@UCDavis.edu). Scheduled for all day Friday, 17 June.

Contemporary scientists are constantly being challenged to be more interdisciplinary and integrative in their approach; as such, tools from computer science and engineering are deployed in biology, and biological theory has been exported into new domains - from cancer biology to toxicology. These advances in modern biology have generated a set of interesting philosophical challenges: first, how best can we find common ground across disciplines, and what is distinctive about explanations in the biological sciences? We plan to focus on a number of case studies that illustrate the challenges and opportunities associated with moving across disciplinary boundaries: individualized medicine, sex determination, systems biology, cancer biology, and toxicology. A central theme is the nature of reductive versus integrative approaches to the sciences.

More specifically, we will engage with the following areas and topics:

• evaluation and analysis of evidence in individualized medicine
• measurement, robustness analysis, and temperature-dependent sex determination in turtles
• a model of cancer that incorporates evolutionary, ecological, and developmental aspects
• the reception of new approaches to toxicology based on modern systems biology
• explanation in systems biology
• scientific generalizations in the biological sciences
• mechanisms in molecular biology

(19) At the Crossroads of Global Water Issues: An Interdisciplinary Perspective. Organizer: James Bolender (Department of Chemistry and Biochemistry, University of San Diego; bolender@sandiego.edu) and Michael Rosen (United States Geological Survey, Carson City, Nevada). Scheduled for all day Friday, 17 June.

Water contamination and access issues related to clean water is a global problem. Bacterial, parasitic, industrial run offs, pesticides, anthropogenic and geogenic heavy metal contamination of water is evident in developed and developing nations. There are common issues that can hinder access to this vital resource and common significant health outcomes as a consequence of consuming such contaminated water.

This symposium aims to explore the issues in access to clean water across the globe and the health consequences from a scientific perspective. Discussion about the interdisciplinary attempts to address these problems via public health education about nutritional and sanitation interventions to clean the water and promote excretion of contaminants; as well as locally accessible remediation processes that could be used to further improve access to and consumption of clean water will be addressed. We welcome contributions from fields as varied as engineering, sociology, environmental psychology, political science, chemistry, biology, and more.

(20) Climate Change Communication: Getting the Message Across to Diverse Audiences. Organizer: Michel Boudrias (Department of Environmental and Ocean Sciences; University of San Diego; boum@sandiego.edu). Scheduled for Thursday, 16 June.

Climatologists, oceanographers, and atmospheric scientists have been increasing their efforts to quantify the impacts of climate change at several geographic scales from the local
issues to the global patterns of change in temperature, greenhouse gases and sea level rise. Translating the complexities of climate science to connect to diverse audiences, from students in K-12 settings, to college courses to zoos, aquaria and museums to decision makers in the community, has become a field of its own. Teams of researchers from multiple disciplines have been working together to find the best ways to explain the science, develop innovative educational resources and provide potential solutions to deal with the impacts of climate change. This symposia will bring together climate scientists, science educators, social psychologists and practitioners to share what they have learned from their interdisciplinary efforts and resources that can be used to educate diverse audiences about climate change.

(21) Remedies from the Humanities for Human-caused Climate Change. Organizer: Robert L. Chianese (Department of English, California State University, Northridge; RLChianese@gmail.com). Half-day program, scheduled for Thursday or Friday, 16 or 17 June.

The Humanities can provide unique and helpful insights about the sources, consequences, and remedies for human-caused climate change. For this symposium, presenters need to give attention to those remedies.

Questions to ponder and address:

• What motivates and engages people to redress our damage to the ecosystem besides familiar and devastating images and words that expose that damage?

• How can artists, writers, philosophers, ethicists, and humanities-focused environmentalists provide new approaches to motivating the public to accept climate science, change our fossil-fueled ways, implement new sustainable technologies and living styles, and devise and market compelling ethical principles to keep the planet from heating up the 2 degrees C we must not reach if we are to stave off climate calamity?

• How can we forge and promote imaginative and innovative humanities-based solutions that have real practical benefits?

• Do the Humanities themselves have to evolve their scope, social commitment, and relationships to the sciences in order to address this issue? How might the standard humanities requirements and curricula adapt to this focus?

(22) Pharmaceutical Research and Development: From Bench to Patient Care. Organizer: Jozef Stec (Department of Pharmaceutical Sciences, College of Pharmacy, Marshall B. Ketchum University; JStec@ketchum.edu). Half-day program, currently scheduled for Wednesday morning. Scheduled for Wednesday morning, 15 June.

This symposium has an interdisciplinary nature and will blend research concepts pertaining to medicinal chemistry, microbiology, molecular biology and medicine. This symposium will be an excellent opportunity to learn more about contemporary pharmaceutical research and engage in the dialogue on the impact of pharmaceutical research on patient care. The presenters will showcase results from their bench research that can enable novel approach to treatment of various diseases such as cancer and bacterial/viral infections. The discussed topics will be easy to understand by the general scientific audience and will highlight the “translational” component of basic pharmaceutical research, i.e. how fundamental research discovery can be utilized in the clinic and ultimately improve patient care in the broader sense. Diversity among the invited speakers and presentation topics will provide an excellent opportunity for open discussion and networking for the symposium attendees.

(23) Recent Advances in Pharmacology and Toxicology. Organizer: Kristen Mitchell (Department of Biology, Boise State University; kristenmitchell@boisestate.edu). Scheduled for Wednesday afternoon, 15 June.

The development of novel therapeutic strategies requires a detailed understanding of mechanisms that regulate homeostasis, along with an appreciation of the balance that exists between the therapeutic and toxic effects of chemical compounds. This session will focus on recent advances in understanding the pharmacological and toxicological effects of drugs, chemicals and environmental contaminants. Investigators are invited to present research on the identification of targets for new drug development, new drug screening strategies, and novel mechanisms of drug action. Emphasis will also be placed on the identification of mechanisms of toxicity for drugs, chemicals and environmental contaminants.

(24) Theory, Experiment, and Computation: A Synergistic Approach to Research. Co-organizers: C. Mark Maupin (Department of Chemical and Biological Engineering, Colorado School of Mines, Golden, CO; cmmaupin@mines.edu) and Owen M. McDougal (Department of Chemistry and Biochemistry, Boise State University; owenmcdougal@boisestate.edu). Scheduled for Thursday morning, 16 June.

The utilization of theory and computations to complement and sometimes lead (i.e. theory-driven research) experimental efforts is becoming increasingly common. The synergistic combination of experiment, theory, and computations has allowed for a greater understanding of many physical phenomena. The structural information obtained from various
techniques such as X-ray and NMR is often critical to the creation of realistic models for computations, while theory and computations often reveal molecular-level insights into catalytic mechanisms, binding phenomena, and system dynamics. This symposium is focused on the combination of experiment and theory/computations to expand our understanding of diverse systems ranging from gas phase reactions to complex condensed phase systems.

(25) Precision, Ambiguity, and Creativity in Science and the Arts. Organizers: Jesse J. Thomas (Department of Religious Studies, San Diego State University, San Diego, California; jthomas@mail.sdsu.edu) and Dawn Marie Hamilton (D.M.A. Candidate, Clarinet Performance, University of California, Los Angeles; clarinetreble@gmail.com). Scheduled for Friday, 17 June.

When describing nature, science has traditionally utilized precise representations while the arts have utilized ambiguous metaphors, each discipline more or less agreeably leaving the other to its own devices. Recently, such distinctions have become increasingly difficult to maintain on both sides. In science, much of the discussion focuses on the meaning of creativity, where imprecise and ambiguous metaphors are developing. This can be found, for example in physical theories of nonlocality, evolutionary theories of spontaneity in the emergence of new species, cognitive science in childhood development theory. Cognitive scientists Thelen and Smith comment: “A dynamic system is a metaphor that turns empirical questions around by focusing attention on mechanism, the relation between stability and variability, the process of change.”

Papers may address such ambiguous questions as: Are the scientific and artistic metaphors of creativity compatible, or are they categorically different? How does science understand artistic creativity? How does art understand scientific complex systems? Is scientific creativity simply that which is not yet explainable in existing scientific terminology? Are complex systems all that creative, or simply too complicated for ordinary people to understand? How can one explain how space disappears in non-locality without metaphor? Are new species simply built from very old species and so complicated that they cannot yet be explained, or genuinely new ones that have never existed before? Can a computer be creative? Can a work of art be considered an organism? Can Descartes’ mechanisms survive today? How are instruction processes different in science and art? Can classroom teaching in either science or the arts, especially in online teaching, be genuinely creative, and if so, how?

Papers or artistic presentations concerning such questions will be seriously considered.

Contributed Papers

Those wishing to submit papers for presentation at a contributed paper session (oral or poster) should refer to the instructions for abstract preparation and submission on pages 13 and following in this Newsletter.

The deadline for submitting abstracts for contributed papers (non-symposium) is Friday, 22 April 2016. 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 Tuesday afternoon. Awards will be announced later that evening at the banquet.

Poster Sessions

Each poster will be assigned a display space of 48” tall x 48” wide (1.2 m x 1.2 m) on a shared poster display stand and will be mounted using map pins. Over-sized posters may be refused display privileges. Posters will be grouped by discipline and subject matter. 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. The use of extra space or an over-sized poster will disqualify a student from the awards competition.

Student posters will be judged to receive 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

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

Anthropology and Archaeology. Section chair and program organizer: Dr. Sang-Hee Lee, Department of Anthropology, University of California Riverside, 900 University Avenue, Riverside, CA 92521. Contact: shlee@ucr.edu.

Atmospheric and Hydroospheric Sciences. Section chair and program organizer: Dr. Clive E. Dorman, Research Oceanographer, Integrative Oceanography Division, Scripps Institution of Oceanography Dept 0209, University of California, San Diego, La Jolla, CA 92093-0209. Contact: cdorman@ucsd.edu.

Cell and Molecular Biology (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; owenmedougal@boisestate.edu.

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

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

Ecology, 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@pacificu.edu.

Education. Section chair and program organizer: Dr. Louis Nadelson, School of Education and Leadership, Utah State University, 2605 Old Main Hill, Logan, UT 84322. Contact: 435-797-7697; louis.nadelson@usu.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: Dr. Julia Ruppell, Department of Biology, Pacific University, 2043 College Way Forest Grove, OR 97116. Contact: ruppell@pacificu.edu.

General and Interdisciplinary. Section chair and program organizer: Ms. Crystal Goldman, UC San Diego Library, University of California, San Diego, 9500 Gilman Drive #175Q, La Jolla, CA 92093. Contact: 858-246-1626; clgoldman@ucsd.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; donaldjm@icloud.com. Section co-chair: Dr. Roberta L. Millstein, Department of Philosophy, University of California Davis, One Shields Avenue, Davis, CA 95616-8673 R. Contact: RLMillstein@UCDavis.edu.

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; quainoo@sou.edu Section co-chair: Dr. Vilupanur Ravi, Department of Chemical and Materials Engineering, California Polytechnic University, Pomona, 3801 W. Temple Avenue, Pomona, CA 91768. Contact: 909-869-2626 vravi@cpp.edu.

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

Physics. Section chair and program organizer: Dr. Ellen Siem, Department of Physics and Engineering, Southern Oregon University, 1250 Siskiyou Blvd., Ashland, OR 97520. Contact: 541-552-6489; sieme@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 93001, 805-643-5034; rlchianese@gmail.com.

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

Visit us at http://pacific.aaas.org
97th Annual Meeting
San Diego, California
14 – 17 June 2016

Call for Papers and Abstracts

Members of AAAS and its affiliated societies, students, teachers and other scientists are encouraged to participate in the annual meeting of the Pacific Division of AAAS by presenting papers and/or posters. Procedures for submitting abstracts for inclusion in the technical sessions of this meeting are presented in brief below and in full starting on page 13 of this Newsletter. Read both carefully before submitting an abstract!

For presenters of contributed papers or posters, e-mail the title, abstract and other required information (see instructions below and also starting on page 13 of this Newsletter) as a Word (.doc or .docx) or .rtf attachment to the chair of the appropriate society or section (see page 33 of this Newsletter) 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 22 April 2016. Students wanting to compete for an Award of Excellence must identify themselves as such on Line 7 of their abstract submissions so that they will be included in the judging.

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.

For presenters in symposia, submit your abstracts directly to the symposium planner. The deadline for symposium abstracts is 1 April 2016.

Format your abstract 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: For contributed papers and posters, list the name of the Society, section or program to which you are submitting your presentation for review (see page 33 of this Newsletter for names of sections chairs).

For those presenting in a symposium, identify the name of the symposium here and send your abstract directly to the symposium planner.

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 (anything 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-ER1, 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 to the project and presentation 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 a tab or the spacebar! All text should be full justified.

Use 10 pt Times New Roman font and “NORMAL” style for the entire submission. If you use a different font or style, your abstract will be reformatted to this font and style. If your text contains special characters, they likely won’t accurately survive e-mailing and/or any required reformatting. Thus, in addition to an e-mail submission, hard copies of abstracts that contain special characters should be faxed (541-552-8457) or mailed to the Pacific Division office. When doing this, 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!
98th Annual Meeting
Hawai`i Preparatory Academy
Kamuela, Hawai`i
19 – 23 June 2017

Call for Symposium, Workshop, and Field Trip Proposals

Members of AAAS and its affiliated societies, students, teachers and other scientists are encouraged to participate in the 2017 annual meeting by developing symposia, workshops, and/or field trips. Persons wishing to develop a program for the Hawai`i 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 scheduled at 30 minute intervals. Exceptions, depending on the needs of the symposium, may be longer, shorter, or even a combination of the two. Please contact Dr. Roger Christianson, Pacific Division Executive Director, to discuss your specific needs. When preparing your submission, indicate which presenters are confirmed and which are 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. Abstracts for symposium presentations are due into the planner's hands by 1 April 2017 and sent as a batch to the Pacific Division office by 8 April 2017.

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.

Field Trips. Depending on the subject matter, field trips generally vary in length, and distance travelled. If you are interested in proposing a field trip for the Hawai`i meeting, please download the Division’s field trip instructions from this link: http://associations.sou.edu/aaaspd/FTFform.pdf and submit pages 3 and 4 with your proposal.

Questions? Contact Dr. Roger Christianson, Phone: 541-552-6747, e-mail: rchristi@sou.edu.

Please format your submission as follows:
1: Organizer’s name and full mailing address, including academic/professional affiliation, telephone number and e-mail address
2: Co-organizer’s name(s) (if any) and full mailing address, including academic/professional affiliation, telephone number and e-mail address
3: Is this a Workshop or a Symposium?
4: Do you expect any students to be presenters in this program? If so, how many?
5: Number of 1/2-day sessions requested (a session is roughly three to three and a half hours, plus a mid-session break).
6: Pacific Division section(s) and/or affiliated society requested to sponsor this program (see page 33 of this Newsletter). Note: You must identify at least one section or society to sponsor your program.
7: Title of proposed program
8: Brief description of proposed program (please limit to 250 words)
9: 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 97th Annual Meeting  
UNIVERSITY of SAN DIEGO  
ON-CAMPUS HOUSING APPLICATION

One form must be submitted 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: __________

For double occupancy: name of requested roommate ___________________________________  
    or  □ assign roommate

For double occupancy, if no roommate specified, roommate will be assigned.

Refer to page 11 of this Newsletter for a description of the accommodations and options listed below. 
No refunds will be given for unused nights of stay or meals cash.

HOUSING REQUEST:
Three night basic housing package –  
    Check in Tuesday, 14 June, check out Friday, 17 June  
    Includes $30.00 meals cash.  
        □ Single, per person $350.00  
        □ Double, per person $260.00

Four night basic housing package –  
    Check in Tuesday, 14 June; check out Saturday, 18 June  
    Includes $40.00 meals cash.  
        □ Single, per person $465.00  
        □ Double, per person $345.00

Additional nights must be in conjunction with a three or four night basic package. They do not include any meals cash.  
    Single, per person $106.00 per night  
    Double, per person $75.00 per night  

□ Sunday, 12 June  
□ Monday, 13 June  
□ Saturday, 18 June  
□ Sunday, 19 June

Total for housing $. ______

PARKING PERMIT:  
# nights in housing ___ X $5 per night  $ ______
TOTAL AMOUNT DUE  $ ______

Deadline for Application
The completed application for housing must be received in the Pacific Division office no later than 10 May 2016. 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 12:30 p.m. and 4:30 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’s office.

Cancellation/refund Policy
All cancellation/refund requests for housing must be made in writing to the Pacific Division office via USPS or e-mail. Requests must be received no later than 10 May 2016. 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

A separate form must be filled out and submitted for each registrant.

Submit this form by
mailing it to AAAS, Pacific Division • Southern Oregon University • 1250 Siskiyou Blvd • Ashland, OR 97520
or calling with information: 541-552-6869 or FAXing to our dedicated line: 541-552-8457

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

Name: ____________________________________________ Date: _____________

Mailing Address: ___________________________________________________________________________

City, State, Zip: ________________________________________________________________________

E-mail: ________________________________________ Day Phone: ____________________________

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

Memberships: AAAS ☐ Yes ☐ No Sigma Xi ☐ Yes ☐ No

How did you first hear about this meeting? ___________________________________________________

Are willing to help judge student presentations at this meeting? ☐ Yes ☐ No

Please see page 3 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 ☐ maker exhibitor

If box checked above, in which program, field trip, or section? _____________________________________

(above must be filled out in order to receive program planner/presenter rate)

A. MEETING REGISTRATION FEES:

Received by Received by
Full Meeting 22 April 27 May On-site
Professional ☐ $105.00 ☐ $120.00 ☐ $135.00
Presenter/Planner ☐ $70.00 ☐ $80.00 ☐ $90.00
Teacher K-14 ☐ $52.50 ☐ $60.00 ☐ $67.50 ☐ Request teacher K-14 stipend? ☐ Yes ☐ No
Post-Doc ☐ $52.50 ☐ $60.00 ☐ $67.50
Student ☐ $52.50 ☐ $60.00 ☐ $67.50
Unemployed ☐ $52.50 ☐ $60.00 ☐ $67.50
Spouse/Family ☐ $35.00 ☐ $40.00 ☐ $45.00
Emeritus/Retired ☐ $52.50 ☐ $60.00 ☐ $67.50

☑ Student registrations include a one-year student membership with AAAS, including on-line access to Science magazine. Be sure to fill out and include the membership form on page 39 of this Newsletter when you register for the meeting.

One-day of Meeting

Professional ☐ $70.00 ☐ $80.00 ☐ $90.00 ☐ Select day: ☐ Tues ☐ Wed ☐ Thurs ☐ Fri

Field Trip Only ☐ $10.00 ☐ $10.00 ☐ $10.00

B. DIVISION BANQUET: The Division banquet will be held on the evening of Thursday, 16 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 16 in this Newsletter for descriptions of the entrées.

Student presenter ticket ☐ no charge (choose one): ☐ Chicken ☐ Pork ☐ Vegetarian

Tickets @ $50.00 ea. Indicate quantity next to each choice: ___ Chicken ___ Pork ___ Vegetarian

Complete page 38 before submitting.

Student registrants must also complete and return page 39.
C. FIELD TRIPS: All trips are priced per person (pp). See page 21 of this Newsletter for details.

**Tuesday, 14 June**  
Field Trip #1 Ramona Winery Explorations ___ tickets @ $50.00 pp $ _________  
Lunch on your own at Panera Bread

**Friday, 17 June**  
Field Trip #2 Breweries of San Diego ___ tickets @ $42.00 pp $ _________  
Box lunch choice: [ ] meat sandwich [ ] vegetarian sandwich

**PLEASE NOTE:** Requests for refunds must be in writing and be received in the Pacific Division office no later than 10 May 2016. A $15 handling fee will be applied. An additional 3.5% deduction will be applied to the total amount for credit card refunds.

A. Registration Total $ _________  
B. Banquet Total $ _________  
C. Field Trips Total $ _________  
**TOTAL DUE** $ _________  
(Make checks payable to AAAS, Pacific Division or use your credit card – see below.)

D. SPECIAL EVENTS and WORKSHOPS: 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 event.

___ Tuesday Evening Reception (no charge to registrants and family members)  
___ Wednesday Evening Town Hall Event  
___ Wednesday Evening Reception (no charge to registrants and family members)  
___ Thursday Workshop: An Introduction to Grant-Writing for Foundations

**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, or  
call us with the information: 541-552-6869, or FAX us this form: 541-552-8457  
Should you have questions, e-mail us at aaaspd@sou.edu or call 541-552-6869 M – F 12:30 p.m. to 4:30 p.m., Pacific Time.
STUDENTS!

Students must fill out this form and return it along with their Advance Registration Form in order to receive their one-year membership in AAAS! This form is for use only by students who are registering for the 2016 Annual Meeting of the AAAS, Pacific Division in San Diego, California.
**Pacific Division Publications**  
**wow!!! B I G Book Giveaway  wow!!!**

**Select Up To Any Three Books Listed Below for FREE**
*With this form only - 1 giveaway per person - Giveaway ends 1 May 2016*

*Does not apply to Art Inspired by Science.*

'Must pay standard shipping - see below.*

**Additional books at list prices.**

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

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**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**

**Cracking Rocks and Defending Democracy: The Life and Times of Kirtley Fletcher Mather, 1888-1978** (1994; cloth, 342 pp., 39 photos – ISBN 0-934394-09-1); **$31.95**

**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**


**Genealogical 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**

**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. 33, Part 1, 2014); **$12.00 each**
- **Evolutionists Confront Creationists** (Proceedings Vol. 1, Part 3, 1984; paper, 213 p.); **$12.00**
- **Scientific Research and New Religions** (Proceedings Vol 2, Part 2, 1985; paper, 180 pp.); **$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.

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