The AAAS, Pacific Division is pleased to announce its 98th annual meeting this June at the Hawai`i Preparatory Academy in Waimea (Kamuela) on the Big Island of Hawai`i (65-1692 Kohala Mountain Road, Kamuela, HI 96743). Co-sponsors of the meeting include the Kohala Center (Kamuela), the Northwest and Southwest Regions of Sigma Xi, the Scientific Research Honor Society, the Hawaii Science and Technology Museum (Hilo), and Cell Applications, Inc. (San Diego).

The Division’s Program and Special Events Committee has been hard at work assembling a program of first-rate scientific merit and great interest. Members of the Pacific Division’s Executive Committee and Council are also involved in developing the program to ensure that it is of the highest quality.

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. 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.

This Newsletter contains, among other things, 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 contact information for section chairs sponsoring sessions at this meeting are found starting on page 32 of this Newsletter.
The first of the volcanic islands that would become the Hawaiian archipelago rose in molten rock and smoke from the ocean some 70 million years ago. It was born at a “hot spot” in the Earth’s crust where Hawai‘i Island exists today. Over the millennia, that first island and the succeeding ones that formed from volcanic eruptions at about the same place have inched northwest in a curving line on the huge drifting tectonic piece of the Earth’s crust called the Pacific Plate. The most ancient islands have long since eroded and returned beneath the sea. Others to the east, surviving only as coral atolls or rocks jutting from the sea, are known as The Northwestern Hawaiian Islands. Farther south and east, there are the eight youngest islands — what we call the “main” islands — stretching from Kaua‘i to Hawai‘i Island, the easternmost of the islands and often referred to as the “Big Island.” The next Hawaiian island, called Lō‘ihi, is already forming about 3,000 feet beneath the ocean surface off the southeast coast of the Big Island. But don’t bother staring offshore waiting for it to appear. Though Lō‘ihi already rises some 18,000 feet from the ocean floor (actually on the undersea flank of Mauna Loa), it is estimated that many thousands of years will pass before it breaks the surface.

The human history of the Hawaiian Islands begins with the discovery of the Big Island sometime between AD 400 and AD 800. It is believed that the first discoverers, traveling in double-hulled canoes, sailed from the Marquesas Islands in the South Pacific. Using the stars, the currents and the “feel” of the ocean as their guide, the voyagers’ first landfall on these islands was...
Report on the AAAS Annual Meeting by the Pacific Division Executive Director

The 183rd meeting of AAAS was held this past 16 – 20 February 2017 in Boston, Massachusetts.

Activities began on a cold and breezy Thursday morning with the Board of Directors meeting. In a departure from normal scheduling and because of a last minute schedule change, representatives of the three divisions of AAAS (Arctic, Caribbean, and Pacific) gave their reports to the Board members later in the afternoon. The reports were well received. Following the division reports, Mr. Michael Savelli, Chief Information and Engagement Officer at AAAS and Interim Director of Membership (now permanent) reported to the Board that new membership acquisitions have surged since last fall, which was good news to everyone. The divisions had been working with Ms. Beth Bush for the past year and a half or so in order to forge the best and most useful relationship with AAAS as the parent organization continues with the transformation into a more connected and member-centric membership organization. In the Pacific Division, we have been 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, a year ago last October in Los Angeles and again at our annual meeting last June in San Diego. Ms. Bush’s sudden departure from AAAS was a shock to us, but we are pleased that Mr. Savelli brings a keen sense of how to correct a number of things that were dogging Membership. He is very interested in continuing to work with the divisions in order to increase the value of AAAS to its members. We are looking forward to continuing our involvement in more of these activities as the transformation process proceeds.

see AAAS ANNUAL MEETING, page 8

Announcements

Teachers K - 14

The first ten K - 14 teachers to register in advance (meeting registration received no later than 27 May 2017) 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 at the Hawai`i Meeting this June

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 Monday evening, 19 June, and be available to judge presentations Tuesday and/or Thursday, 20 and 22 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 ... Newsletter) and you will be sent an application.

AAAS STEM Career Development Short Courses to be held during the Hawai`i meeting.
Refer to page 24 for details.

Announcing

Hawaiian Nēnēs, the official bird of Hawai`i.
**STUDENTS TAKE NOTE!**

The Pacific Division has a website for students, called STUDENTS ONLY! Its address is pacific.aaas.org/Students/Students.html. On it you will find links to information about:
- the AAAS, Pacific Division Alan E. Leventon Student Research Awards
- travel grants to help support students traveling to present their research at annual meetings of the Pacific Division
- the Pacific Division student oral and poster presentation awards program
- winners of previous student presentation competitions
- additional news of interest to students

Research grants of up to $750 are available to students residing in the Pacific Division’s geographical boundaries. But you must apply for these by 1 May 2017! Information can be found at pacific.aaas.org/Students/StudentResearchGrants.html.

Travel grants to help support student travel to the annual meeting are available... but you must apply no later than 1 May 2017! Information can be found at pacific.aaas.org/Students/TravelGrants2010.html. 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 pacific.aaas.org/Students/StudentAwards.html.

**HISTORY, from page 2**

probably near Ka Lae at the southern tip of Hawai‘i Island. These first Hawaiians lived in isolation for 500 or 600 years before Polynesians from Tahiti began arriving to this place they referred to as Havaii or “ancient homeland.”

Over the centuries, Polynesians introduced plants and animals: dogs, pigs, chickens, breadfruit, bananas, sugarcane, yams, taro, coconuts, gourds, ti and other “canoe plants.”

Hawaiian life was regulated under laws of kapu, a variation of the Tahitian word tapu, or taboo. Society was feudal and defined island by island, often with two or three chiefs vying for control. Beneath the chiefs were other ali‘i (noblemen), and kahuna (priests, healers). Next came the kanaka wale (craftsmen, artists, hula dancers, fishermen). The maka‘ainana (commoners) worked the land. At the bottom were the social outcasts or slaves called the kauwa-maoli.

In 1778, British explorer Captain James Cook, stumbled upon the Hawaiian Islands after seeking the fabled Northwest Passage across North America. His first landfall was on the island of Kaua‘i. He dubbed these the Sandwich Islands after his friend and patron, the Earl of Sandwich.

In January of 1779, Cook returned and anchored in Kealakekua Bay on the southwest coast of the Big Island in order to refit and re-provision his two ships, the Resolution and the Discovery. His arrival happened at the time of the annual makahiki celebration, a time of tribute to the God Lono. The Hawaiians saw Cook’s arrival as Lono’s return, and he received a great welcome. After two weeks, Cook and his ships set sail towards Maui, but came limping back just days later with storm damage to the Resolution. Now, the makahiki festival was over, and the Hawaiians were surprised to see Lono return, having sustained such damage. Their greeting was not as generous this time. Thefts of nails and other pieces of iron from the ships increased. When a cutter was found missing, Cook took a chief hostage until the boat was returned. A skirmish broke out between Cook’s men and the Hawaiians, leading to Cook’s death in the shore break of Kealakekua Bay. Today, a monument marks the spot where Cook died. This monument stands officially on British soil.

During this time, there was a young warrior, Kamehameha,
born in Kohala at the north tip of the Big Island, who had a vision to unite all the islands under one rule. Kamehameha fought a ten year war to dominate Hawai`i Island, then conquered Maui, Moloka`i, Lanai and finally O`ahu. In 1796, his invasion of Kaua`i was disrupted by a storm and it took another 14 years before Kaua`i came under his control.

Having united all the islands under his rule, King Kamehameha ("Kamehameha the Great") gave the name of Hawai`i Island to the name of his kingdom. He ruled from his home in Kailua-Kona until his death at about 63 years of age at Kamaka Honu, or "Eye of the Turtle," today found on the grounds of King Kamehameha’s Kona Beach Hotel.

Soon after the death of Kamehameha I in 1819, his son and successor, Liholiho, heavily influenced by Kamehameha’s favorite wife, the powerful Ka`ahumanu, decided the old “kapu” system should be done away with. This was a ripe moment for American Christian missionaries to arrive. Ka`ahumanu was one of the first converts, and the numbers steadily grew, though there were strong cultural clashes.

Besides missionaries, Hawai`i was flooded with traders, whalers and other foreigners. They established footholds and gained power and influence. By the early 1840’s the Kingdom of Hawai`i was recognized by the United States, France and Great Britain.

Sugar, which was first grown commercially in Hawai`i in 1835, became the principal industry. Much-needed laborers from China, Japan, Portugal, Korea and the Philippines were soon arriving in droves. Immigration continued into the early 1900s. From these mixed ethnic groups evolved Hawai`i’s identity as a cosmopolitan melting pot.

Adding to the mix were the paniolo, the Mexican cowboys who first arrived on Hawai`i Island during the 1830s to help with the growing cattle industry spreading out from Parker Ranch. The paniolo (the word comes from Español, i.e. Spanish) brought with them a small guitar that has evolved into the instrument that is today synonymous with Hawai`i: the ukulele.

About the same time, another Hawai`i Island agricultural industry was taking root. The lower slopes of Mauna Loa above the Kona Coast proved to be ideal for growing coffee, and now Kona coffee is world famous.

As more and more foreigners came to Hawai`i during the 19th century, the native Hawaiian population declined. They had numbered around 600,000 at the time of Captain Cook’s arrival, but by 1850 there were about 85,000, and by 1890 only about 40,000. The main reason for this decline was the introduction of Western diseases for which the Hawaiians had no immunity. The rapid introduction of Western culture was also a factor.
The Hawaiian monarchy remained until 1893, when a group of American businessmen overthrew Queen Liliʻuokalani. It was a sad time for the people as a provisional government headed by Sanford B. Dole took control. In August of 1898, the Hawaiian Islands were annexed as a territory of the United States. The early 1900s were years of relative peace and quiet development. Then on December 7, 1941, Hawaiʻi was thrust onto the world stage with the Japanese attack on Pearl Harbor on the island of Oʻahu. Hawaiʻi played a principal role in World War II in the Pacific as an American military base. The postwar years saw tremendous growth and economic development. In 1959, Hawaiʻi was admitted to the Union as the fiftieth state.

Wāʻaiʻi’s Climate

Weather on all of the Hawaiian Islands is very consistent, with only minor changes in temperature throughout the year. This is partly due to year-round warm sea surface temperatures. In practical terms, there are only two seasons: the summer months (called Kau in Hawaiian) that extend from May to October and the winter months (Hooilo) that run from November to April. The average daytime summer temperature at sea level is 85˚ F (29.4˚ C), while the average daytime winter temperature is 78˚ F (25.6˚ C). Temperatures at night are approximately 10˚ F lower.

The Hawaiian Islands are an incredible collection of many diverse micro-environments, each with its own weather, plants and animals. Nowhere is this more true than on the Big Island. As a result of the shielding effect of the massive volcanoes and varying elevations, there are as many different climate zones on the Big Island as exist along the entire West and East Coasts of the continental United States, stretching from Alaska and Canada to Mexico and Costa Rica. For the full impact of this, you need only explore Hawaiʻi Island by car or helicopter to see the beauty of tropical rain forests, cool alpine regions, stony deserts and sunny beaches—all within the span of an hour’s flight or a day’s drive. In Waimea, location of our meeting, the average high temperature for June is 80˚ F (26.7˚ C) and the average low is 67˚ F (19.4˚ C). Average rainfall for the month in Waimea is 3.4 inches.

Hawaiʻi Preparatory Academy, the Big Island (Hawaiʻi), and Waimea

The Hawaiʻi Preparatory Academy is located on the Big Island in Waimea, also known as Kamuela. It can be a bit confusing because there are two more Waimeas in Hawaiʻi, one on the island of Kauaʻi and the other on the island of Oʻahu. Each of the eight islands that comprise what one usually thinks of as the state of Hawaiʻi is a county within the state. Thus, Oʻahu is Oʻahu County and Maui is Maui County. The Big Island is actually Hawaiʻi County but, to keep things from getting too confusing, is usually referred to as the Big Island. At 4,038 square miles, the Big Island is by far the largest of the eight islands that comprise the state of Hawaiʻi. In fact, one could fit all of the other seven islands into the geographical area of the Big Island and still have over half of the land uncovered! The Big Island was formed by the convergence of lava flows from five volcanoes, Mauna Kea (the tallest at 13,796 feet above sea level), Mauna Loa, Kohala (the oldest), Kīlauea (the active one), and Hualālai (where Kona is located). Not only is Mauna Kea the tallest, it is absolutely huge, rising over 32,000 feet from the ocean floor. If one were to convert it to gravel and spread it over the area of the entire state of California, the gravel would be 600 feet deep! Mauna Kea covers half of the Big Island, and has a surface equal approximately to 85% of the other seven islands of Hawaiʻi combined.

Because of its elevation, several large astronomical telescope installations have been built atop, Mauna Kea, giving researchers unparalleled access to the northern skies. However, Mauna Kea is considered by many Hawaiians to be the most sacred spot in all of the islands, which has more recently produced clashes between native Hawaiian communities and an international consortium that is seeking to build a new, thirty meter telescope (TMT) atop the volcano. The issue of the TMT is currently in Hawaiian courts and could be resolved by the time this Newsletter is published.

The west, or leeward side of the island, is dry (about 12 inches of rainfall per year in Kailua-Kona) compared to the east, or windward side of the island (157 inches of rainfall per year at Hilo, the second most populous city in the state and also the capitol of Hawaiʻi County).

The geography of the Big Island varies considerably. There are lush tropical rain forests and arid deserts, white sand beaches and snow-capped mountain peaks. Islanders grow the famous Kona coffee on the western slopes of Mauna Loa, and raise cattle near Waimea, the location of the Parker Ranch, once the largest privately owned cattle ranch in the world. The Parker Ranch still encompasses 150,000 acres and runs about 25,000 cattle.

The Hawaiʻi Preparatory Academy (HPA), founded in 1949, is a coeducational college-preparatory boarding school with grades K-12 situated on two campuses. The Pacific Division meeting will take place on the 200-acre Upper Campus, about two miles south of Waimea. The Upper Campus houses grades 9-12 and sits at the foot of the Kohala Mountains. HPA is about 38 miles north of the Kona airport, a pleasant drive through volcanic lava flows. The Academy sits at about the 2,500 foot level and is close to the boundary between the drier leeward side and wetter windward sides of the island.

Coffee Picking. Photo by Bob Fewell, Big Island Visitor Bureau.
In Memorium

Michele La Clergue Aldrich
1942 – 2016

Michele La Clergue Aldrich, historian of geology, died 23 November 2016, after a short illness. Michele was born on 6 October 1942, the daughter of Marion and Jean La Clergue. She received her BA in Geology in 1964 from the University of California at Berkeley, where she met her future husband, Mark, whom she married in 1965. She studied at the University of Texas under William Goetzmann, winner of the Pulitzer Prize in history, and received her Ph.D. in the history of science in 1974. In 1989 she was certified by the American Society of Archivists.

She was employed as a lecturer in the Smith College History Department from 1969–1970. She became Assistant Editor for the Joseph Henry Papers at the Smithsonian in 1974, and a field worker for the Women’s History Sources Survey in 1976–1977. From 1977–1995 she worked for the American Association for the Advancement of Science (AAAS), first as Project Director of the Women in Science Program and later as Archivist and Director of Information Services.

Michele understood the AAAS divisions’ historical roots as well as their present day relevance in bringing science to people and people to science. Her involvement with the Pacific Division dated from 1979 when she was appointed to serve as the AAAS liaison to the Division, which she did for the next two decades. During this time, she served as coeditor/author of the Newsletter of the AAAS Pacific Division for the years 1983-1998 and 2001 (30 issues each of approximately 24 pages each issue). As Roger Christianson, current Executive Director of the Pacific Division observed (2017, pers. comm.), “... Michele was always a very strong supporter of the Division. ... She was an ever-present figure at annual meetings and continued to sit in on Executive Committee and Council meetings as time allowed, always willing to provide excellent advice when called upon. She was also keen on helping students and was always willing to give a hand in judging student presentations.”

No better assessment of Michele as a scholar exists than the testimony of William Goetzmann and Kay Sloan. In the acknowledgments section of their book Looking Far North: The Harriman Expedition to Alaska, 1899 (Viking Press, New York, 1982), they concluded, “Michele Aldrich ... ranks as one of this or any other generation’s outstanding researchers.” Her major publications included articles too numerous to mention as well as the following books: The New York Natural History Survey, 1836-1845, published by the Paleontological Research Institute, Ithaca, New York, in 2000; Theodore Henry Hittell’s The California Academy of Sciences, 1853-1907 (coeditor/coauthor; 1997); Report on the Participation of Women in Scientific Research (coauthor; 1978); Women in Paleontology in the United States, 1840-1960 (1982); and Women of Science: Rightsing the Record (author; 1990). She also coedited a number of books, one of which, published by the AAAS Pacific Division, was close to her heart, Frontiers of Geological Exploration of Western North America (1982).

Michele was a member of numerous learned societies including the Geological Society of America (GSA), the History of Science Society (HSS), the History of Earth Sciences Society, and the Forum for the History of Geology in America. She held numerous offices in several of these societies including Chair of the GSA’s History of Geology Division (1979–1980). She twice received honorary awards from that organization, including the Mary C. Rabbitt Award for Scholarly Achievements and the Gerald and Sue Friedman Award for distinguished service. She was a Senior Fellow of the GSA, a Fellow of the California Academy of Sciences, and a Fellow of the AAAS. She was Book Review Editor for the HHS journal Isis from 1996–2003, from 1998–2003 she served as Archivist of Otis Elevator Company, and she also served as a Research Associate and Consulting Editor at the California Academy of Sciences from 1995–2016. She was also a member of the Academy of Certified Archivists.

Michele leaves her husband of 51 years, Mark Aldrich, her sister Marijean Piorkowski, and brothers, Richard and Ronald La Clergue, along with two nieces and one nephew, and many friends and colleagues. She was a bright star to all who passed within her orbit.

– Mark Aldrich and Alan E. Leviton

Visit us at  http://pacific.aaas.org
On Thursday we worked hard to set up the Divisions’ Booth. This was the second year of such a booth in the exhibit hall. From 2003 to 2015, the Pacific Division had its own booth in the exhibit hall but there was never a booth dedicated to all divisions. We always invited the other divisions to bring their literature to hand out, which was met with mixed success over the years. This year was much the same as last year. Because the timing of the annual meetings hosted by the other divisions (both in the fall) doesn’t lend itself very well to having literature handed 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 literature about our June meeting in particular, we also gave away 163 books from our publications inventory. As the publication dates of our titles are getting older, we have started giving away 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. To take a peek at what books are available at no cost, please turn to page 40 in this Newsletter.

The annual meeting for most people got underway Thursday evening with words of welcome from local dignitaries, followed by the AAAS President’s Address, presented this year by Barbara Schaal (Dean of the Faculty of Arts and Sciences, Mary-Dell Chilton Distinguished Professor, and Professor, Department of Biology, Washington University in St. Louis). The evening was capped off by the President’s Reception, which featured lobster rolls, lamb chops, and a variety of other finger foods and desserts.

The next few days brought well over 130 symposia, seminars and special sessions on a large variety of topics, twenty career development workshops, two American Junior Academy of Science poster sessions, two all-day student and general poster sessions and a full schedule of plenary and special lectures, as well as other workshops. Presenting in the Sunday poster session was the Pacific Division’s AAAS–Larus Award winner, Jeremy Juybari. Jeremy studies in the Department of Economics at San Diego State University. He won the Larus Award, which paid his travel and housing expenses to the AAAS annual meeting, at the Division’s recent meeting in San Diego for his presentation, “The Influence of Loans in the College Major Market,” which he also presented at the annual meeting. Congratulations Jeremy!

In the exhibit hall, AAAS booths were arranged in a very open and welcoming arrangement that even included couches for weary meeting-goers to rest on or comfortable places for others to hold conversations. The Pacific Division booth was decorated for our up-coming Hawai’i meeting, which attracted many meeting-goers that Angie Christianson, AAASPD Executive Assistant, spoke with.

Saturday and Sunday also brought in hundreds of families to Family Fun Days, an annual event at the AAAS 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 quite different because the meeting was broken into two parts. Almost all of the staff reports were given via a teleconference earlier in the year, leaving most of the meeting time for consideration of several matters brought before the Council by the Committee on Council Affairs.

The meeting started with the report of Rush Holt, CEO of AAAS. He commented that (abridged)
Family Science Days and exhibit hall at the Boston meeting.

Visit us at  http://pacific.aaas.org
• AAAS currently has 250 or so PhD scientists involved in all three levels of the federal government as Policy Fellows.
• AAAS is in the midst of “reforming” aaas.org so that it will be even more useful.
• “Now more than ever” is a slogan that reflects anxiety being felt throughout science since the election of President Donald Trump. There is concern with what is perceived as a neglect of evidence-based reasoning and the power of science to clarify thinking. AAAS has seen a real boost in membership numbers as people are recognizing that AAAS is a leader in science. There has also been an increase in charitable donations to the organization. Other societies are approaching AAAS to take a leadership role in standing up for science. Demonstrations for science are breaking out spontaneously. AAAS is coordinating various societies in the March for Science in greater than 200 cities worldwide.

Following Dr. Holt’s comments, AAAS Chairman of the Board Geraldine Richmond shared comments (abridged):
• Quickly reviewed the presentations made during the 11 January video conference.
• The two new journals, Science Immunology and Science Robotics, are now in publication.
• With the administration change because of the November election, AAAS is much more important in being a “force for science.”
• AAAS is taking meaningful steps to adopt appropriate codes of conduct for staff, fellows, and members.

On to the business. Several motions were brought up for consideration, which will be dealt with individually below. It should be noted that several of these motions resulted in considerable discussion prior to votes. All of the motions passed on one manner or another; no motions were defeated. Some amendments, though, were defeated. What are presented here are the motions including any approved amendments.

Motion to amend the by-laws of the Pacific Division to require AAAS membership of all persons in governance roles (officers, executive committee members, and council members). Recommended by the Executive Office, the motion was adopted by general consent.

Motion by request from the Executive Office “to amend its governance documents to (a) correct minor procedural differences between current practices and its documents and (b) streamline and provide flexibility to certain governance practices” was adopted by general consent.

The following motions came from the Committee on Council Affairs from recommendations of the Subcommittee on Fellows:
• Motion to add a new section encouraging “diverse nominations that include a fair representation of women minorities, and persons with disabilities” between sections 1 and 2 of the “Policy Governing Nominations and Election of AAAS Fellows” was adopted by hand vote. In conjunction with these changes, the AAAS staff was directed to make necessary changes to the numbering and titles in the policy.
• Motion authorizing “a four year pilot program allowing each Section Steering Group to put forward at most one Steering Group nomination per year that waives the four year membership requirement of Bylaw Article I Section 2.” This was adopted by vote. It was re-affirmed that nominees must be members at the time of nomination. It was later clarified that should a Section Steering Group put forward an individual who doesn’t meet the four year membership requirement, it must be done within the allotment for that section, not as an additional nomination from that section.
• Motion to define per-section limits on the number of three-Fellow nominations forwarded by that section to be considered by the Council was approved by hand vote. The quota was defined at equal to the Steering Group quota or five, whichever number is larger. The Section Steering Group quota is “no more than 0.4 percent of the membership who are enrolled in the corresponding section as their primary section.”
• Motion to authorize “sections to set up subcommittees, appointed by the Section Steering Groups, to facilitate the Fellows selection process” was approved by hand vote.
• Motion to amend “the “Policy governing nomination and Election of AAAS Fellows” document to add the following sentence as a new section between current Sections 1 and 2. “Election as a AAAS Fellow is an honor and all Fellows are expected to meet the commonly held standards of professional ethics and scientific integrity” to Section 1 before the sentence that begins, “The following examples...” was approved.
by hand vote. In conjunction with these changes, the AAAS staff was directed to make necessary changes to the numbering and titles in the policy.

- Motion to add the following sentence to all Fellow nomination forms: “Election as a AAAS Fellow is an honor and all Fellows are expected to meet the commonly held standards of professional ethics and scientific integrity” was approved by hand vote.
- Motion directing the AAAS staff “to modify their nominations forms (or additional forms attached to the nomination forms, at the discretion of the AAAS Executive Office) to include the following prompts. In the case of a three-Fellows nomination, all three nominators should address these questions:
  (a) Describe your relationship with the nominee.
  (b) All Fellows are expected to meet the commonly held standards of professional ethics and scientific integrity. Do you know of any concerns that the AAAS should be aware of regarding the nominee satisfying this expectation? If yes, please explain.”

Motion passed by hand vote.
- Motion directing the Subcommittee on Fellows to develop a recommendation for a revocation policy with procedures for AAAS Fellows for presentation to the Council at its 2018 meeting passed by hand vote.

The Council meeting, which had begun at 8:30 a.m., adjourned at 12:10 p.m.

-- Roger Christianson
Executive Director
AAAS, Pacific Division

PD ANNUAL MEETING, from page 1

SOCIES AND PACIFIC DIVISION SECTIONS
SPONSORING SESSIONS AT THE HAWAI‘I MEETING

Sigma Xi, The Scientific Research Honor 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 28 April) for the full meeting are $110.00 for professionals; $55.00 for retirees/emeritus, current post-docs, unemployed individuals and students1; and $35.00 for non-presenting spouses/family members of registrants. K–12 and community college teachers are encouraged to attend the meeting for a reduced professional registration fee of $55.00. One-day professional registration for non-presenters/planners is available for $80.00. Presenters and program organizers registering in the professional category may purchase a full-meeting professional registration at the discounted, one-day rate of $80.00. 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 at the time of registration. Be sure to include this information in the appropriate space on your registration form. After

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. A completed membership form (see page 39 of this Newsletter) must accompany the registration form.

see PD ANNUAL MEETING, page 16
Immunological processes influence the overall development of every organism. Innate immune responses drive the sole defensive mechanisms in the Lepidopteran insect host, *Manduca sexta* (Figure 1A). Hemocytes are similar in function to human white blood cells. It is known that *M. sexta* hemocytes (Figure 5), especially plasmatocytes and granulocytes (Figure 3) play a role in encapsulation of foreign bodies and phagocytosis of apoptotic bodies, respectively. These immune cells originate at the hematopoietic organ, which lies above proliferating cells on the wing imaginal discs (Figure 1B). These wing discs are progenitors of the adult wings, and begin to grow rapidly in the last larval stage. Selectively damaging the imaginal discs via x-ray irradiation in the larvae delays development, putatively to provide time for the discs to regenerate. It is suggested in *Drosophila melanogaster* and *Bombyx mori*, that hemocytes play a significant role in the repair of damaged discs (Pastor-Pareja et al. 2008, Tan et al. 2013). Circulating hemocytes adhere to tumors or damaged discs upon detection of basement membrane disruption. Whether a similar role exists in *M. sexta* is still unknown.

To assess changes in hemocyte populations in response to tissue damage, hemolymph (insect blood) was collected from *M. sexta* after inducing tissue damage with 3500 rads of x-rays immediately and 24, 48, and 72h later. We assessed changes in complexity of the hemocyte populations (Figure 2), and then confirmed the cell types using fluorescently labeled hemolymph samples (Figure 3). We noted an increased level of granulocytes in the hemolymph of irradiated larvae (Figure 4). Furthermore, we determined the proliferation rate of new epithelial cells from the imaginal discs after x-ray induced damage by staining the tissue with nuclear S-phase biomarker, BrdU (Bromodeoxyuridine). The preliminary results indicate relatively higher abundance of proliferating cells in the imaginal discs of irradiated animals (Figure 6). Interestingly, this data correlates with increases in circulating hemocytes.

The high level of granulocytes in circulation suggests a surge in apoptotic bodies post irradiation, since granulocytes phagocytose dying cells. Moreover, the maintained abundance of granulocytes in irradiated hemolymph indicates a compensatory circulation of these immune cells as they remain in the defensive state more than 24 hours after surviving tissue damage. In addition, a trans-differentiation of plasmatocytes to granulocytes, which has previously been observed in *Drosophila* (Leitão et al., 2015), may also be occurring in *M. sexta*. Thus, it appears that the localized discs release abundant cells to help regenerate new cells, while signaling granulocytes to obliterate x-ray damaged cells in hemolymph.

The marked difference in the activity of these sub-hemocyte populations shows the specificity of innate immune defenses in insects, and the ability to regenerate cells, possibly via signaling from lymph glands. The integrity of insect defenses is witnessed by the insect’s ability to combat high doses of irradiation, while continuing to metamorphose into viable adults (unpublished data). The results of this study will aid in further use of *M. sexta* as a robust model organism for immunological and molecular signaling research.
BHASKAR, from page 14

**Figure 2:** Immunolabelled hemocytes were imaged with Nikon TiE-2000S microscope at 40x. (R. Bhaskar, Fuse Lab; pink = plasmatocytes with DAPI-stained nuclei, green = granulocytes, blue = nuclei)

(A)

**Figure 3:** Unstained cells were run through flow cytometry to obtain a dot plot (A) that detects cells based on size and complexity. Regions were analyzed by cell number, and (B) graphs reflect that aggregated cells decrease after irradiation, while complex cells increase significantly 24 and 48h after irradiation. Apoptotic cells increase 0h post irradiation, and decreases 24h post irradiation. (R. Bhaskar, Fuse Lab; *= p<0.01, n =10)

Black and brown Aʻa lava fields on the Big Island of Hawaiʻi.
Figure 4: Immunolabelled cells were run through BD FACS Calibur flow cytometer to obtain a (B) dot plot that detects cells based on fluorescence (as described in Nardi et al. 2003). The dot plots are representative data of sample replicates, using which the cell events were gated to present (A) graphical statistics. Regions were analyzed by cell numbers at FL1 (FITC-labeled granulocytes) and FL4 (Alexa Fluor 647- labelled plasmacytocytes) axes. Granulocytes remain high in irradiated animals, while plasmacytocytes decrease post irradiation (R. Bhaskar, Fuse Lab; **= p<0.001, *=p<0.01, n =2).

Figure 5: A 3-D holographic image of live hemocytes adhered on a glass slide. (A) Granulocytes and (B) plasmacytocytes were visualized using the Nano Live Cell Explorer Microscope. (Cell size diameter approx. = 15µm)

Figure 6: Imaginal discs with BrdU stained cells, which label newly proliferating cells at S-phase. 40x images were obtained using Nikon Eclipse 80i microscope (R. Bhaskar, Fuse Lab).
28 April, higher registration fees will be charged, as indicated on the Advance Registration Form. Beyond 26 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, $140.00; program planners/presenters, $100.00; K–12, community college teachers, post-docs, students, retirees/emeritus, and unemployed $70.00; non-presenting/planning spouses and/or family members, $45.00. One-day on-site professional registration for non-presenting/planners will be $100.00. 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 register in advance (by 27 May) for this meeting will receive, upon request, a $75.00 stipend to help defray their expenses to attend the meeting. The stipend is not available to teachers who register on-site. Note that to receive the stipend teachers must check the appropriate box on the Advance Registration Form.

Students have the opportunity to apply for travel awards to help defray their costs for the meeting. See page 4 of this Newsletter for additional information.

Field trips: Pre-registration for all field trips is required due to limited seating in the vehicles and the need to inform some destinations of the number of people arriving. If you are interested in one or more of the excursions, it is recommended that you register early. At least one member of a family group requesting field trip reservations must be a paid meeting registrant. Participants who are not registered for the meeting will be charged a one-time $10 field trip registration fee in addition to the fee for the field trip.

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

PLEASE NOTE: Requests for refunds must be in writing and received in the Pacific Division office no later than 3 June 2017. No refunds will be granted beyond this date. A $15 handling fee will be applied. An additional 3.5% deduction will be applied to the total amount for credit card refunds.

ON-CAMPUS MEETING HOUSING

A limited number of dorm rooms at the Hawai‘i Preparatory Academy (HPA) are available for meeting attendees. Please keep in mind that these are true dorm rooms with bathrooms down the hall or on a different floor. The good news, though, is that all dorm facilities have been recently refurbished and are in very good condition.

Individual rooms each have two beds and can accommodate one or two people (a third if age 11 or under on a mattress on the floor). Included in each room are bed linens and a washcloth and towel. The rooms have internet access and telephones. Washers and dryers are available for use at no cost (bring your own detergent or purchase at the bookstore) for those staying in the dorms.

Included in the basic housing package for four nights (Monday, Tuesday, Wednesday, and Thursday) are 10 meals: Monday pūpū appetizer dinner; Tuesday breakfast, lunch, and dinner; Wednesday breakfast only (field trip day); Thursday breakfast, lunch, and the luau-style banquet dinner; Friday breakfast and lunch, all in the Taylor Commons.

Additional nights in the HPA dorms, both pre- and post-meeting, are available but must be purchased in conjunction with the basic four-night package. Extra nights available are: Sunday, 18 June, including dinner Sunday and breakfast Monday; Friday, 23 June, including dinner Friday and breakfast Saturday; and Saturday, 24 June, including breakfast Sunday. Please note that while there is good availability for Sunday, 18 June and Friday, 23 June, the number of rooms available for Saturday night, 24 June is very limited, so those wishing to book that night need to do so as soon as possible.

Please refer to page 36 in this Newsletter for details on pricing of housing packages and extra nights.

To apply for housing in the HPA dorms, fill out the form on page 36 of this Newsletter. Please note that by applying for on-campus housing, you are agreeing to pay any additional fees that are assessed by HPA to the Pacific Division relating to your stay in one of their dorms, such as lost keys, use of “additional charge” facilities, fines, etc. Parking for those with automobiles is available at no charge on the HPA campus.
Call for Session Proposals
Session proposals for the 2018 AAAS Annual Meeting are now being solicited. Deadline for submission: April 20, 2017

aaas.org/meetings

The scientific enterprise embraces a broad spectrum of activities, from fundamental research to advanced applications. Academia, government, and industry all perform critical roles in moving ideas into innovations. The demands of the twenty-first century, including improved access to sufficient food, clean water, sustainable energy, and health care, can only be met by accelerating discovery and the translation of discovery into applications.

Robust, sustained investments across the full spectrum of the scientific enterprise are essential for developing products that improve the human condition and drive economic growth. We can speed progress by amplifying collaboration across sectors and disciplines. What new avenues for interaction between basic and applied research might be explored? How can we encourage broader participation from every sector and demographic to meet today’s needs and to help invent the future?

AAAS

ANNUAL MEETING
Feb 15–19 2018 • Austin, TX
Off-Campus Meeting Housing

The nearest motels are roughly 2 to 3 miles from HPA, in the town of Waimea (Kamuela). The number of rooms in Waimea are limited in number, so we suggest making your reservations early. At this time, the Pacific Division has no special arrangements with motels in Waimea for meeting attendees. The Division has, however, contracted for special meeting rates with the Waikoloa Beach Marriott Resort and Spa, a resort hotel on the beach in Waikoloa, about 15 miles (a 30 minute drive) from HPA. There is no bus service between Waikoloa and Waimea, so a rental car is a must to travel back and forth between the hotel and the meeting.

The Marriott is currently undergoing a thorough and complete renovation, which will be completed prior to our meeting. Our negotiated price is $205/night (for 1 or 2 people) plus $15 resort fee/night plus taxes. Additional information:

**Waikoloa Beach Marriott Resort and Spa**
- **Address**: 69-275 Waikoloa Beach Drive, Waikoloa, HI 96738-5711
- **Phone Number**: 808-886-6789
- **Contracted Rate**: $205/night + $15/night resort fee + room tax for up to two persons in a room. Third and fourth adults in room are $45/night each. There is no charge for children 18 and under staying in a room when accompanied by a paying adult. Maximum room occupancy is 4.
- **Dates available**: nights of 19 – 23 June 2016, plus three days either side as available.
- **On-line reservations**: https://aws.passkey.com/go/AAAS2017
- **Phone-in reservations**: Call Sharon Bianco at 808-886-8123
  Be sure to mention you are with the AAAS, Pacific Division 2017 Annual Conference group when making your reservation over the telephone directly to the hotel.
- **Reservation deadline**: no later than 17 May 2017.

**Cancellation policy**: at least 48 hours in advance of the arrival date.

**Amenities** (with payment of mandatory resort fee of $15/day):
- self-parking (normally $14/night)
- enhanced high speed internet connection
- international long distance calling (up to 60 minutes per day)
- local, inter-island, toll-free connect and long distance to the US and Canada
- Blink Photography 30 minute photo session with 5x7 souvenir photo
- a daily Hawaiian culture activity
- daily one hour ocean sports snorkel equipment rental for two
- daily 60 minutes ocean sports beach yoga
- 20% discount on regular luau prices
- 15% discount on daily car rental with Enterprise Car Rental (on-line or at the Enterprise rental desk on the premises)
- additional amenities are listed on the hotel website

**Check-in**: 3:00 p.m.
**Check-out**: noon.
**Proximity to meeting**: approximately 15 miles, 30 minute drive.

If you’d rather stay elsewhere on the Big Island, we suggest you take advantage of hotel search engines such as Hotels.com, Priceline.com or Expedia.com in order to find the best deals.

Make your reservations for off-campus housing directly with the hotel of your choice. Note that the AAAS, Pacific Division offers the above hotel without endorsement for any specific commercial enterprise.

Additional information about campus housing and also contracted housing at the Marriott, including web links and links for reservations, are available on this Division web page: http://pacific.aaas.org/2017Hawaii/Housing17.html.

Food on Campus

The only food available on the HPA campus is at the Taylor Dining Commons. All attendees staying on campus are provided with a meals package. Those not staying on the HPA campus may purchase the same meals package at a cost of $140. The following meals are available to those without a ten-meal meals package:
- **Pūpū dinner** Monday evening – $22.
- **Lunches** on Tuesday, Thursday, and Friday – $12 each.
- **Luau-style buffet banquet** on Thursday evening – $35 (student presenters at the meeting without a meals package can each purchase one banquet ticket for $15).

Those not staying at HPA should order their meals, either individually or the ten-meal meals package by using the **On-Campus Meals Only** form on page 36 of this Newsletter. The deadline for ordering these tickets is 3 June. Nothing else is available on the HPA campus. However, there are many eating establishments in Waimea, about 2 to 3 miles from the HPA campus.

Travel to the Hawai‘i Preparatory Academy

The Big Island of Hawai‘i is serviced by several airlines and a number of car rental companies. The closest airport is the Kona International Airport at Keahole (code KOA),
which is a few miles north of Kona on the west coast of the island. The other major airport serving the Big Island is the Hilo International Airport (code ITO), situated in Hilo on the east side of the island. Airfare can sometimes be significantly different between the two airports. In addition to the cost of airfare, it is important to take into consideration the cost of travel from the airport to HPA. The distance from the Kona airport is approximately 36 miles, about a 49 minute drive. The distance to HPA from the Hilo airport is approximately 59 miles, about an hour and twenty minute drive. Non-stop flights from the West Coast are available to both airports but most flights stop in Honolulu before progressing to Kona or Hilo.

There are three options to get from the airport to HPA, either by renting a car at the airport, arranging in advance for a shuttle, or by taxi. If renting a car, be sure to make your reservation early in order to secure the best rates. For those arriving at Kona International Airport, Kona Taxi charges an estimated $120 each way ($60 each for two persons, each way). As of 30 December 2016 SpeediShuttle (877-272-5777) quoted an estimated $87 one-way for one person, $93 for two, $99 for three, etc.

The Pacific Division has a Twitter account that can be used in order to make a connection with others looking to share a shuttle from the airport to HPA. Use @AAASPacDiv in order to access the Division’s account and #hparides in order to find each other!

**Driving to the HPA Campus**

The address of the Hawai‘i Preparatory Academy is 65-1692 Kohala Mountain Road (identified as Kawaihae Road by some GPS devices and web sites), Kamuela, HI 96743. Coming from Kona or the Kona International Airport, head north on Highway 19, the Queen Ka‘ahumanu Highway. After driving about 26 miles, you will come to a junction at a STOP sign. Turn right to continue on Hwy 19 (now called Kawaihae Road). In about 7 miles or so you will come to the junction of Highway 250, the Kohala Mountain Road. Turn left onto Hwy 250. Be careful, as Hwy 19 is a fast road and it may take patience to make the left turn! Once on Hwy 250 you will quickly find the HPA campus on the right. Turn into the second entrance, almost past the playing field and track. Stop at the kiosk to identify yourself as participating in the AAAS, Pacific Division meeting. You can also ask the kiosk person for directions from there to the Taylor Commons, where registration will be set up. For a map of the HPA campus, please refer to page 41 of this Newsletter.

**Parking on the HPA Campus**

For those driving to HPA, parking will be available at no charge. Drive in the second entrance on the right after turning onto the Kohala Mountain Highway (Hwy 250) and stop at the kiosk for directions.

**Registration Center**

The Registration Center will be in the foyer of the Taylor Commons on the HPA campus (see the campus map on page 41 of this Newsletter). Hours of operation are expected to be as follows, though these may change.

- **Monday:** 1:00 p.m. – 6:00 p.m.
- **Tuesday:** 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 various locations on the HPA campus. All meeting rooms will be equipped with 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. 36, 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 2017. 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 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 both the Windows and Mac platforms as there are significant differences in the way PowerPoint runs and appear on these two platforms. Only thumb/USB/flash drives may be used to load presentations onto the computers.
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, developing and/or participating in symposia, developing workshops, or presenting other programs of merit at the meeting.

If you are submitting an abstract that is part of a symposium, the deadline for submission of abstracts to symposium planners is Friday, 1 April 2017.

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 Saturday, 22 April 2017.

Instructions for the preparation and submission of abstracts follow:

PREPARATION OF ABSTRACTS

Abstracts should contain two sections: 1) header information, which includes the title, name(s) of author(s), and 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 full justified. The two sections should be prepared and formatted as follows:

Header Information

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. Small words of three letters or fewer, such as articles, prepositions, and conjunctions, should remain in lower case unless they begin 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 and presentation and ending with the person who contributed the least. If two or more persons contributed equally, place a superscripted triangle (∆) next to each name. 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 parenthesis at the start of the contact information.

Authors’ Contact Information: Contact information should be inside of a single set of parentheses and include the following where applicable: department, institution, city, state and, for the corresponding author, an e-mail address. E-mail addresses of additional authors may be included if desired. If more than one physical address occurs among the authors, use a superscripted number at 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 parenthesis for the contact information. Submissions not formatted in this manner may be returned for reformatting or rejected. 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 Meeting, SAMUEL P KRAFTER*, YESIMAN AU- THOR1∆, IDIDTHE WRITING2∆, and IDIDA DeREAD- IN3 (*Department of Biology and 1Department of English, Southern Oregon University, 1250 Siskiyou Boulevard, Ash- land, OR 97520, spkraf@biology.sou.edu, author@biology. sou.edu, iwriting@english.sou.edu; 2Department of Academ- ic Speech, Bureau of Speech Employment, 12 Back Street, Medford, OR 97504, dereadingi@BSE.org).

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 acceptable 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, review 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 full 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 (rchristi@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 tabs 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
10 ways that *Science* Careers can help advance your career

1. Register for a free online account on ScienceCareers.org.

2. Search thousands of job postings and find your perfect job.

3. Sign up to receive e-mail alerts about job postings that match your criteria.

4. Upload your resume into our database and connect with employers.

5. Watch one of our many webinars on different career topics such as job searching, networking and more.

6. Download our career booklets, including "Career Basics", "Careers Beyond the Bench" and "Developing Your Skills."

7. Complete an interactive, personalized career plan at "my IDP."

8. Visit our Career Forum and get advice from career experts and your peers.

9. Research graduate program information and find a program right for you.

10. Read relevant career advice articles from our library of thousands.

Visit ScienceCareers.org/AAAS today — all resources are free.

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Visit us at http://pacific.aaas.org
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.

• **Contributed (non-symposium) abstracts** must be sent to an appropriate section for review and acceptance into the program (see list starting on page 32 of this *Newsletter*). Submitters should e-mail their abstract to the chair (and co-chair if one is listed) for that section and copy their submission to the Pacific Division office (rchristi@sou.edu). The subject line of these e-mail submissions should include the phrase “Abstract2017” (no space between abstract and 2017) and the last name of the submitter (e.g.: Abstract2017 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 has the following deadlines:

• **Deadline for symposium abstract submissions** to symposium planners – **Wednesday, 1 April 2017**.

• **Deadline for contributed sessions** (poster or oral) **abstract submissions** to section chair(s) and Division office – **Saturday, 22 April 2017**. If you would like to discuss your submission with the chair of the section to which you are submitting it, please refer to page 32 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). We are pleased to announce that due to a generous gift by an anonymous donor, the monetary awards for first, second, and third place will be adjusted upwards. We won’t know the exact amount of this adjustment until after all of the awards have been decided. Additionally, each winner will receive a certificate of recognition.

In 2017, 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 Austin, Texas, 15 – 19 February 2018 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://pacific.aaas.org/2017Hawaii/index.html.

The announcement of awards will be made at a convocation late Thursday afternoon. Students who are competing for Awards of Excellence are invited to participate in the Division’s annual banquet that evening (Thursday, 22 June) for the reduced cost of $15. Student presenters staying on campus at HPA or those staying off campus and purchasing the 10 meal package are offered a reduced rate for their housing or meals package, which includes the banquet at the reduced price (please refer to pages 35 and 36 of this *Newsletter*). Each student presenter is eligible to receive one banquet ticket at the reduced price, and can purchase additional tickets at the full price of $35 each. If you are one of these students, please be sure to check the appropriate box on the Advance Housing or Meals form to reserve your space. Students may also purchase additional dinner tickets for guests at the time of advance registration by providing the appropriate information at the bottom of the first page of the Advance Registration Form. Alternatively, students may purchase food at HPA, including the banquet using the **On-Campus Meals Only** form on page 36 of this *Newsletter*.

**IMPORTANT NOTE:** All judging for student awards ends by noon 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 noon Thursday, you must, in addition to presenting orally as part of the symposium, prepare a poster for presentation at a poster session earlier in the week. For purposes of an award, your presentation will be judged for the poster and you will then be included 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. The latest information may be viewed on the Division’s Preliminary Meeting Schedule web page: http://pacific.aaas.org/2017Hawaii/Schedule17.html.

**Display of middle and high school student science fair projects.** Middle and high school students who have presented projects at science fairs over the past academic year are invited to bring their posters and projects to share with meeting attendees. Students and their chaperones will be given complimentary registrations for the day so they can enjoy and experience a portion of this scientific meeting. Science fair projects will not, however, be judged along with other student offerings at this meeting. Please check the Division’s Preliminary Meeting Schedule web page (see above) for the date on which this event will occur. This event is being held in cooperation with the Hawaii Science and Technology Museum.

Students who desire to participate in the entire meeting must register for the meeting and pay the appropriate meeting fee. Information and directions are found in this Newsletter, starting on page 12. Students with paid registrations who also desire to submit a poster should follow the directions starting on page 20 of this Newsletter and also found on page 34 of this Newsletter.

**Monday afternoon traditional Hawaiian Blessing and Hula.** The meeting will start mid-afternoon on Monday with a traditional Hawaiian blessing, followed by a demonstration of Hawaiian Hula dancing.

**Monday evening pūpū appetizer dinner.** Dinner Monday evening will be a selection of Hawaiian pūpūs (finger foods), expected to include such things as garlic roasted pesto chicken wings, buffalo wings, tofu poke, pipikaula tinono (marinated beef with local sugar land tomatoes and kula onion, served cold), pot stickers, calamari steak, fusion crostini bar (lomi salmon spread, mushroom tapenade, lomi ahi, and roasted red pepper chimichurri sauce), crudite platter, local fruit platter, butter coconut mochi, freshly baked La Tour Bakery chocolate chip cookies, plantation tea, and water. This meal is included with the on-campus room/meals package and also the 10-meal package. For those not holding either of these packages, the cost is $22, paid in advance (please refer to the On-Campus Meals Only form on page 36 of this Newsletter). The deadline for ordering these tickets is 3 June. No other food will be available at HPA this evening.

**Monday evening public lecture series.** The technical sessions of the meeting begin on Monday evening with a series of short (25 minutes or so) talks on topics relating to Hawai‘i, such as geology, culture, peopling, etc. Please refer to the Preliminary Meeting Schedule web page, http://pacific.aaas.org/2017Hawaii/Schedule17.html for up to date information on the titles of the talks.

**Tuesday evening AAASPD President’s Address.** Dr. Matthew James (Professor of Geology, Cal State Sonoma and current President of the Pacific Division) will present the annual Pacific Division Presidential Address.

**Tuesday evening Reception and Star Party.** Following the Presidential Address will be a lite reception and the opportunity, courtesy of the Canada-France-Hawai‘i Telescope and the West Hawai‘i Astronomy Club, to do some star and planet gazing through the telescopes they will set up. However, this activity depends on clear skies!

**Thursday afternoon announcement of student award winners.** In a departure from announcing the winners of the student awards at the Student Awards Banquet, the awards will be announced this year at an assembly of meeting attendees late Thursday afternoon, prior to the start of the banquet.

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. We ask that all student award winners stay for a group photograph to be taken at the conclusion of the awards announcements.

**Thursday evening Luau-Style Banquet.** The evening is planned to begin at about 6:45 p.m., after the announcements of the student awards is completed. The buffet will feature a variety of luau foods, such as white rice, teri pineapple chicken, bulk turkey laulau, vegetarian long rice, sweet potato with coconut ginger glaze, kalua pig, traditional fried ahi poke, garlic shoyu ahi poke, taro salad, cucumber and tomato poke, imitation crab salad, shoyu garlic edamame, lomi salmon, Kealakekua Farms organic spring mix, Kamuela hot house cucumbers, house made papaya seed dressing, haupia, and lilikoi bars. After dinner, entertainment will be provided by Big Island slack key guitarist John Keawe and his wife, Hope, who we are hoping will demonstrate a bit of hula.

Banquet tickets are included as part of the cost of the four-day basic housing package at HPA and also the ten meal package for those staying somewhere other than HPA. For those not holding either of these packages, tickets are also available for purchase for $35 each. Those wishing to purchase individual banquet tickets should do so in advance as there will be few available on-site. The deadline for ordering banquet tickets is 3 June. Please refer to the On-Campus Meals Only form on page 36 in this Newsletter for ordering information.

Students in competition for Awards of Excellence are invited to attend the luau banquet at the reduced cost of $15 each. The cost for both the on-campus room/board and ten meal packages has been reduced accordingly for presenting...
students. Students who do not hold either of these packages can purchase one ticket for $15. Additional banquet tickets are available to students at the full price of $35.

**Public Lectures**

A public lecture series, that is open to and free to the public, is being planned for Monday evening. For additional information, please refer to the section, “Monday evening public lecture series” on page 25 of this Newsletter.

**Scientific Maker Exhibit**

The Pacific Division will be hosting its second annual Scientific Maker Exhibit during this meeting. Please refer to page 25 in this Newsletter for details about the event and directions to apply in order to have your project included in the exhibit.

**Meetings**

**Monday Afternoon Business Meeting of the Council of the Pacific Division.** The Council of the Pacific Division will hold its annual business meeting starting promptly at 12:30 p.m. on Monday, 19 June. The Council will elect officers and Council members, approve invitations for future meetings, 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.

**Workshops**

The Following workshops are being planned for this meeting. For the most up-to-date information about workshops for this meeting, please access the Division’s Workshops webpage at http://pacific.aaas.org/2017Hawaii/Workshops17.html

**Writing for Science and Technology.** Organized by Alicia Takaoka (English Department, University of Hawai‘i at Hilo, Hilo HI; ajwilson@hawaii.edu).

This is a hands-on workshop with discussion and activity for all participants. By gathering real world examples of scientific discoveries across a broad range of audiences and sharing teaching techniques, we can shape students into better writers and researchers. This workshop aims to gather perspectives for teaching writing across disciplines, writing to multiple audiences, and writing as discourse. The first hour of the workshop will feature a panel of students in different majors at University of Hawai‘i Hilo. These students will share their research experiences and their perspective on science as communication. They will also discuss the pros and cons of approaching scientific writing as discourse. The next hour will be built on approaches to teaching scientific writing and best practices for teaching scientific writing across disciplines. Sharing personal experiences and anecdotes can lead to the development of stronger teaching techniques to reach a broader range of students. We will also spend this time discussing broad concepts that should be incorporated in our writing classes. Some concepts that will be discussed include networking and the locus of responsibility as scientists and researchers. The third hour will consist of brainstorming in task-based group activities for participants interested in identifying plagiarism, writing in discipline-specific citation styles, science as discourse, science as outreach, and writing for different audiences. We will also share our conclusions with the group about best practices for teaching writing across disciplines and concepts to teach to our students.

**STEM AAAS Career Development Workshop.** Organized by Josh Henkin (Career Counselor/Founder, STEM Career Services, https://stemcareerservices.com, josh@stemcareerservices.com). NOTE: This program includes topics which are addressed in courses offered in the AAAS Career Development Center. For a complete listing of courses, please visit the Career Development Center website at: https://careerdevelopment.aaas.org.

This workshop includes three talks focused on developing skills that are essential for transitioning from a research/academic role to a career outside of academia. One of the key messages contained in these talks is to realize the importance of gaining experience outside of the laboratory throughout your academic training. This can come in the form of volunteer positions, internships, part-time jobs and more. To build on this premise, each of these three sessions will focus on introducing skills to the audience that are essential in taking a strategic approach to career planning, improving networking skills to find mentors, jobs and more… and learning how to effectively communicate your technical and nontechnical skills in both a resume and during an interview. This will allow a prospective decision maker to easily understand your unique capabilities and why you are the “perfect” fit for a position. Anyone who is considering a career outside of academia will not want to miss these presentations.

**Session 1 – Strategic Career Development**

This session explores the skills and best practices in starting a job search to transition from an academic environment to one of many non-academic career paths. It introduces strategies for career planning, emphasizing an ongoing process for professional development throughout your career. Additional topics covered include finding a mentor and learning about the diverse world of careers available outside of academia.

**Session 2 – Nonstop Networking**

Although more than 70% of jobs are obtained through networking, many people find it to be one of the most challenging aspects of their job search. Fortunately, networking is a skill that can be practiced in order to gain...
Share your expertise, creativity, and devices at the AAAS Pacific Division’s Second Annual SCIENTIFIC MAKER EXHIBIT at the Pacific Division’s annual meeting, Waimea (on the Big Island of Hawaii) June 19-23, 2017

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 Waimea for the AAAS Pacific Division’s second 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.

This exhibit area is a “third type” of presentation – not a poster, not a talk, but a chance to show off 3D prints, equipment, etc. There is no provision for hanging a poster at the exhibit – just plan on flat table space and anything you want to put up on a table. To apply for a separate poster or oral presentation, use the process described at pacific.aaas.org/2017HAWAII

There is no charge for space in this exhibit, but all participants must register for the meeting. 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 23 April, 2017.

To apply, fill out the google form at https://goo.gl/forms/NKMLcU3PUcpxUMJ3

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

Notes:
1. Everyone whose object is accepted for this maker exhibit may 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, at the discretion of the AAAS, Pacific Division.
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 host institution 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 or participants.
comfort and proficiency. This session reveals a logical approach to networking for both introverts and extroverts. You will learn a variety of techniques to become more comfortable networking as well as how to identify networking opportunities and incorporate them into daily activities.

**Session 3 – Resume and Interview Tips from a PhD Hiring Manager**

What does a hiring manager look for in a resume and seek from candidates during an interview? What is the best way to communicate your technical and transferable skills to an employer on paper and in conversations? A good resume tells an interesting story about you that is customized to the employer’s needs. The more intriguing the resume, the more likely an employer will schedule an interview and make a job offer. This session provides actionable tips and best practices for creating an effective resume and preparing for an interview that will entice employers and land you a job.

**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-registered 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 e-mail or written notification received in the Pacific Division office no later than 3 June 2017, 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://pacific.aaas.org/2017Hawaii/FieldTrips17.html.

**(1) Wednesday, 21 June, 8:30 a.m. to about 8:00 p.m. Around the Island.**

Depart the HPA campus from the parking above Taylor Commons promptly at 8:00 a.m. The trip will proceed south from HPA to the coast and down toward Kona-Kailua. The first stop is at St. Benedict’s Painted Church, south of Kona. From there we will proceed to Pu‘u ‘Uhonomo O Hōnaunau, the Place of Refuge, then on to a tour of the Kona Living History Farm and then back north to the Kona Commons Shopping Center for lunch, which is on your own. Following lunch, we’ll travel a short distance to the Kaloko-Honokōhau National Historical Park to view the historic fish ponds and petroglyphs. Afterwards, we’ll travel to the Parker Ranch Shopping Center for a bit of time for shopping and/or eating dinner on your own. Please note that dinner is not available at HPA today.

Includes transportation and admissions. Lunch and Dinner are on your own. Cost: $80.00 per person.

**(2) Wednesday, 21 June, 8:00 a.m. to about 6:30 p.m. Kona Historical Tour.**

Depart the HPA campus from the parking above Taylor Commons promptly at 8:00 a.m. The trip will proceed south from HPA to the coast and down toward Kona-Kailua. The first stop is at St. Benedict’s Painted Church, south of Kona. From there we will proceed to Pu‘u ‘Uhonomo O Hōnaunau, the Place of Refuge, then on to a tour of the Kona Living History Farm and then back north to the Kona Commons Shopping Center for lunch, which is on your own. Following lunch, we’ll travel a short distance to the Kaloko-Honokōhau National Historical Park to view the historic fish ponds and petroglyphs. Afterwards, we’ll travel to the Parker Ranch Shopping Center for a bit of time for shopping and/or eating dinner on your own. Please note that dinner is not available at HPA today.

Includes transportation and admissions. Lunch and Dinner are on your own. Cost: $100.00 per person.

**(3) Wednesday, 21 June, 8:00 a.m. to about 9:00 p.m. Kīlauea Volcano.**

Arrive at the Taylor Commons by 7:15 a.m. to prepare your own sack lunch for this trip, earlier if you are also eating breakfast at HPA. Depart at 8:00 a.m. in a school bus for Hawai’i Volcanoes National Park via the newly refurbished Saddle Road. Don Swanson of the United States Geological Survey (USGS), leader of this trip, will join us at the USGS Hawai’i Volcano Observatory (HVO). Once our day is done, we will drive to the Kīlauea Military Camp for dinner on your own before heading back to HPA.

This trip introduces the geology and volcanology of the summit area of Kīlauea Volcano. The trip features both the lava flows that Kīlauea is famous for and also its explosive activity, an important but little acknowledged aspect of Kīlauea’s eruptive style.

We start at the U.S. Geological Survey’s Hawai’i Volcano Observatory, where we discuss the origin of the summit caldera and its recent eruptive activity. We go inside the observatory to learn about monitoring the volcano and then to a nearby outcrop of explosive deposits, one of which is from an eruption in 1790 that killed hundreds of people nearby. We then drive around the caldera, viewing Kīlauea Iki Crater and the lava lake formed in 1959. We turn down the Chain of Craters Road and walk on the July 1974 lava flow to observe its vent and a forest inundated by the flow. Farther down the
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AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE
road at Mauna Ulu, we discuss the 1969-74 eruption, walk along part of its fissure system, and puzzle over why spatter is preserved on only one side of the fissure. We walk to Devil’s Throat, little more than 100 years old, and talk about the origin and evolution of such craters. Finally, we walk cross-country into the Koa’e fault system, one of the world’s most active extensional faulting regimes, which has opened more than 30 m in the past 700 years. This fault system connects the east and southwest rift zones and, as such, is an important but under-appreciated element of the volcano.

Walking is across uneven terrain, and good shoes or boots are recommended. Long pants protect from sharp rocks. The trip will last all day. We will be on our feet most of the day; the round trip into the Koa’e fault system will take 45-60 minutes. After we leave the observatory, there is only one toilet, at Mauna Ulu, about halfway through the trip.

Trip includes transportation, make your own lunch at HPA, and entrance fees. Dinner at the Kilauea Military Camp is on your own. Cost: $70.00 per person.

(4) Wednesday, 21 June, 8:30 a.m. to about 7:30 p.m. Kona Coffee Tour.

This tour is designed to inform participants about the Kona Coffee industry on the Big Island. We will depart from the parking above Taylor Commons promptly at 8:30 a.m. Prior to our departure participants will need to make their own sack lunches, so plan on arriving at Taylor Commons no later than 7:45 a.m. to accomplish this, earlier if you are eating breakfast at the commons.

Our first stop will be at the Hamakua Macadamia Nut Company in Kawaihae, on the coast about 20 miles from HPA. From there we will travel south to below Kona for a tour of the Kona Living History Farm, where we will also eat our lunches. Afterwards, we will visit the Holualoa Kona Coffee Company and tour the Kona Joe Coffee Company. Dinner will be on your own at a stop on the way back to HPA.

Includes transportation, make your own sack lunch, and admissions. Note that dinner is on your own. Cost: $75.00 per person.

(5) Wednesday, 21 June, 9:00 a.m. to about 3:00 p.m. Reef Teach Snorkeling.

The ReefTeach Program at Kahalulu’u Bay aims to educate visitors and residents alike on how to avoid damaging corals and take care of turtles and reef animals. ReefTeach is a volunteer powered program that was initiated in 2000 by the University of Hawai’i Sea Grant College Program for West Hawai’i. In 2006 the UH Sea Grant College Program was joined by another partner, The Kohala Center, and ReefTeach has continued to expand into a visible, robust, and effective reef protection program. Today, well-trained and dedicated ReefTeach volunteers of all ages educate visitors about what corals are, about the different types of fish and invertebrates in the bay, and about the ecology of the reef. They also inform visitors and residents of turtle basking behavior and help reduce disturbances to turtles in the bay. (Information above excerpted from “About the Kahalulu’u Bay ReefTeach Project,” courtesy of The Kohala Center, and may be found at http://hbmpweb.pbrc.Hawaii.edu/tkc/reefteach-approved).

We will depart HPA promptly at 9:00 a.m. and head south to Kahalulu’u Beach State Park, where the ReefTeach Program is housed on the Big Island. After a time of orientation, participants will be able to snorkel in the waters of Kahalulu’u Bay, which is shallow and calm, making it ideal for novice snorkelers. The bay is home to a rich diversity of fish and other marine organisms, which make snorkeling an amazing experience.

Snorkeling tips may be found on this web page: http://www.Hawaiisnorkelingguide.com/kahaluu_beach_park_snorkeling.html.

There are rest rooms, a snack bar, showers, and rentals at Kahalulu’u Beach State Park. Bring your own snorkeling gear or you can rent it for $13.50 at the park.

After snorkeling, we will stop along the road for lunch on your own before returning to HPA.

Includes transportation and ReefTeach program. Lunch is on your own, as is snorkeling gear rental. Cost: $40.00 per person.

(7) Saturday, 24 June, 8:00 a.m. to about 9:00 p.m. Kilauea Volcano.

Arrive at Taylor Commons by 7:15 a.m. to prepare your own sack lunch for this trip, earlier if you are planning on eating breakfast at the commons. Depart at 8:00 a.m. for Hawai’i Volcanoes National Park in a school bus from the parking above Taylor Commons. We will travel to the Park via the newly refurbished Saddle Road. Richard Hazlett, assistant at the U.S. Geological Survey (USGS) Hawai’i Volcano Observatory will join us to lead this trip. Once our day is done, we will drive to the Kilauea Military Camp for dinner on your own before heading back to HPA.

This trip introduces the geology and volcanology of the summit area of Kilauea Volcano. The trip features both the lava flows that Kilauea is famous for and also its explosive activity, an important but little acknowledged aspect of Kilauea’s eruptive style.

We start at the U.S. Geological Survey’s Hawai’i Volcano Observatory, where we discuss the origin of the summit caldera and its recent eruptive activity. We go inside the observatory to learn about monitoring the volcano and then to a nearby outcrop of explosive deposits, one of which is from an eruption in 1790 that killed hundreds of people nearby. We then drive around the caldera, viewing Kilauea Iki Crater and the lava lake formed in 1959. We turn down the Chain of Craters Road and walk on the July 1974 lava flow to observe its vent and a forest inundated by the flow. Farther down the road at Mauna Ulu, we discuss the 1969-74 eruption, walk along part of its fissure system, and puzzle over why spatter is preserved on only one side of the fissure. We walk to Devil’s Throat, little more than 100 years old, and talk about the origin and evolution of such craters. Finally, we walk cross-
country into the Ko‘a’e fault system, one of the world’s most active extensional faulting regimes, which has opened more than 30 m in the past 700 years. This fault system connects the east and southwest rift zones and, as such, is an important but under-appreciated element of the volcano.

Walking is across uneven terrain, and good shoes or boots are recommended. Long pants protect from sharp rocks. The trip will last all day. We will be on our feet most of the day; the round trip into the Ko‘a’e fault system will take 45-60 minutes. After we leave the observatory, there is only one toilet, at Mauna Ulu, about halfway through the trip.

Trip includes transportation, make your own lunch at HPA, and entrance fees. Dinner at the Kilauea Military Camp is on your own. Cost: $70.00 per person.

(8) Saturday, 24 June, 9:00 a.m. to about 3:00 p.m. Reef Teach Snorkeling.

The ReefTeach Program at Kahalu‘u Bay aims to educate visitors and residents alike on how to avoid damaging corals and take care of turtles and reef animals. ReefTeach is a volunteer powered program that was initiated in 2000 by the University of Hawai‘i Sea Grant College Program for West Hawai‘i. In 2006 the UH Sea Grant College Program was joined by another partner, The Kohala Center, and ReefTeach has continued to expand into a visible, robust, and effective reef protection program. Today, well-trained and dedicated ReefTeach volunteers of all ages educate visitors about what corals are, about the different types of fish and invertebrates in the bay, and about the ecology of the reef. They also inform visitors and residents of turtle basking behavior and help reduce disturbances to turtles in the bay. (Information above excerpted from “About the Kahaluu Bay ReefTeach Project,” courtesy of The Kohala Center, and may be found at http://hbmpweb.pbrc.Hawaii.edu/tkc/reefteach-approved).

We will depart HPA promptly at 9:00 a.m. and head south to Kahalu‘u Beach State Park, where the ReefTeach Program is housed on the Big Island. After a time of orientation, participants will be able to snorkel in the waters of Kahalu‘u Bay, which is shallow and calm, making it ideal for novice snorkelers. The bay is home to a rich diversity of fish and other marine organisms, which make snorkeling an amazing experience. Snorkeling tips may be found on this webpage: http://www.Hawaiisnorkelingguide.com/kahaluu_beach_park_snorkeling.html.

There are rest rooms, a snack bar, showers, and rentals at Kahalu‘u Beach State Park. Bring your own snorkeling gear or you can rent it for $13.50 at the park.

After snorkeling, we will stop along the road for lunch on your own before returning to HPA.

Includes transportation and ReefTeach program. Lunch is on your own, as is snorkeling gear rental. Cost: $40.00 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 20 and following of this Newsletter. Should you prefer to present a paper in one of the contributed paper sessions, you should also refer to pages 20 and following for instructions and also page 32 for the names of sections and program organizers in this Newsletter. Check the Division’s web page, http://pacific.aaas.org/2017Hawaii/Symposia17.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 aaasdp@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 or later (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 Thursday morning. Awards will be announced later that evening.

(1) Galápagos 2017: Galápagos and Hawai‘i Organizer: Matthew James (Sonoma State University; james@sonoma.edu).

This will be a three-day symposium with opportunities for speakers with research interests in both the Galápagos Islands and the Hawaiian Islands. The range of topics can cover conservation biology, any aspect of zoology, botany, or paleontology and geology, and evolutionary biology. Holding the symposium on the Big Island of Hawai‘i will afford an opportunity for interactions between researchers with expertise in two of the world’s best known archipelagoes, that also have played pivotal roles in shaping evolutionary theory and testing policies and procedures in conservation biology. Those interested in contributing to the symposium should contact the symposium organizer and AAASPD President for 2017 Prof. Matt James, Sonoma State University at james@sonoma.edu.

Over the period 2014-2016 (and possibly into 2017), coral reefs experienced the longest lasting (2.5-3 years) and likely the most damaging and widespread global coral bleaching event ever observed. Across the vast Pacific Ocean, repeated mass coral bleaching and mortality events were observed in Hawai‘i in the North Pacific in 2014 and 2015, in Samoa in the South Pacific in 2015, in the Mariana Islands in the Western Pacific in 2014 and 2015, in Kiribati and the Line and Phoenix Islands of the Central Pacific in 2015-2016, across much of the Great Barrier Reef and portions of the Coral Triangle in 2016, across Micronesia in 2016, and elsewhere around the globe. The early stages of this global bleaching event appeared associated with the so-call ‘Blob’ of anomalously warm water across the eastern North Pacific in 2013-2015 and later tightly associated with the extreme 2015-2016 El Niño warm event. This symposium aims to bring together a diverse range of speakers to discuss all aspects of this devastating coral bleaching event, including: the causative warm water events, the observed vulnerabilities, resistances, and resilience of different coral taxa under varying environmental conditions, lessons learned from laboratory and mesocosm response experiments and numerical models, reasons and needs for hope and optimism, and actions that local communities and global society can take to reduce the frequency, severity, and impacts of future mass bleaching events to increase the likelihood of persistence of coral reef ecosystems and marine biodiversity in the face of climate change.

(3) Adiabatic Quantum Computation and Quantum Annealing. This symposium was withdrawn from the program by its organizer.

(4) Recent Advances in Pharmacology, Toxicology and Medicinal Chemistry. Organizer: Kristen Mitchell (Department of Biology, Boise State University, Boise, ID; kristenmitchell@boisestate.edu). Co-organizer: Jozef Stec (Department of Pharmaceutical Sciences, College of Pharmacy, Marshall B. Ketchum University, Fullerton, CA; jstec@ketchum.edu).

The development of novel therapeutic strategies is a long and complex process that requires a detailed understanding of mechanisms that regulate homeostasis, along with an appreciation of the delicate balance that exists between the pharmacological and toxicological effects of chemical compounds. This session will focus on recent advances in understanding the pharmacological and toxicological effects of known drugs, drug candidates, other chemicals and environmental contaminants. Investigators are invited to present research on the identification of targets for new drug development, new drug screening strategies, discovery and development of potential drug candidates as well as elucidation of novel mechanisms of drug action. Emphasis will also be placed on the identification of mechanisms of toxicity for drugs, chemicals and environmental contaminants, as well as novel approaches to toxicity testing.

(5) Mechanisms of Tumor Progression and Cancer Therapeutics. Organizer: Cheryl Jorcyk (Department of Biology, Boise State University, Boise, ID; cjorcyk@boisestate.edu).

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

(6) Social Responsibility of Scientists in the Technological Age. Organizer: Raghavan Jayaakumar (Lawrence Livermore National Laboratory (ret’d.), Livermore, CA; ragha-van.jayaakumar@gmail.com). Co-organizer: Jesse J. Thomas (San Diego State University (ret’d.), San Diego, CA; Email: jthomas@mail.sdsu.edu or you1@verizon.net).

The technological age has brought unprecedented benefits to society. Given the scope and speed of these developments, though, society may not have the ability and/or time to fully understand long-term impacts and react appropriately. For example, DDT, upon the discovery of its anti-arthropod activities, was widely used to help control diseases such as malaria. It was only years later that its sinister side was realized with the discovery that it accumulated within food chains causing reproductive failure in bird populations and problems in other species as well. The development of CFCs led to widespread use of these compounds as refrigerants, only to later be determined a causative factor in the development of holes in the ozone layer. The development of newer chemicals such as neonicotinoids for insect control and glyphosate and atrazine for weed control has environmentalists worried that sensitive ecosystems and even entire biospheres may be endangered by these newer chemical and genetic engineering technologies. The thesis of this symposium is that science, as an expression of human life, should embody ethics and responsibility. Technology, being an outcome of science, should be considered a scientific responsibility. This symposium will focus on the approach scientists and technologists might take to fulfill this responsibility by discussing such questions as:
• Should scientists and technologists adopt the principle of “First, do no harm”?
• Should scientists assume responsibility for the consequences of their research and control technological development or leave it to others such as funding agencies and corporations?
• How can scientists help society with risk assessment in order to help shape public policy on science and technology?
• How can scientists help stakeholders develop holistic solutions that protect the environment?
• How can scientists ensure that genetic and cyber technologies do not imperil human dignity and human rights?
• How can present and future scientists be educated on the risks of various newer technologies and their social responsibilities toward them?

(7) Turbulence Conference at Mauna Kea (TCM 2017): Recent Advances in Turbulence Research. Organizer: Frank Jacobitz (Mechanical Engineering Department, University of San Diego, 5998 Alcala Park, San Diego, CA, USA; jacobitz@sandiego.edu). Co-organizers: Kai Schneider (Institut de Mathématiques de Marseille I2M du Centre de Mathématiques et d’Informatique, Aix-Marseille Université, 39, rue Joliot-Curie, 13453 Marseille Cedex 13, France; kai.schneider@univ-amu.fr) and Katsunori Yoshimatsu (Institute of Materials and Systems for Sustainability, Nagoya University, Nagoya, 464-8603, Japan; yoshimatsu.katsunori@g.mbox.nagoya-u.ac.jp).

The turbulent motion of fluids is an important mechanism for the transport and mixing in many engineering applications and geophysical environment. This symposium is organized as part of the 2017 Annual Meeting of the Pacific Division of the American Association for the Advancement of Science and it aims to include work on recent advances in turbulence research from theoretical, experimental, and field studies. In addition to oral and poster presentations in the mornings, the symposium will include time for discussions and joint work during the afternoon and evenings of the conference days.

(8) High Altitude Climate Change Trends and Alpine Ecosystem Impacts in Hawai‘i. Organizers: Fritz Klasner (Natural Resources Program Manager, Office of Mauna Kea Management, University of Hawai‘i, Hilo, HI; fklasner@hawaii.edu) and James Juvik (Department of Geography and Environmental Studies, University of Hawai‘i, Hilo, HI; jjuvik@hawaii.edu).

A discussion of tropical alpine and sub-alpine ecosystems in high mountain areas of Hawai‘i as influenced by ongoing rapid climate change, papers will focus specifically on high altitude vegetation ecotones, seabird habitat, and unique arthropod diversity. The session will include both scientific and management issues for protected lands in the alpine zone ecosystems including: National Parks, State Forest Reserves, Natural Area Reserves, and Science Reserves. The natural resource issues and stakeholder concerns common to these areas span diverse management jurisdictions and objectives.

(9) New Challenges in Environmental Sciences, Heredity and Development, and Evolution. Organizer: Roberta L. Millstein (Department of Philosophy, University of California, Davis, One Shields Ave, Davis, CA 95616; RLMillstein@UCDavis.edu).

The history and philosophy of biology examines conceptual, methodological, and ethical assumptions across the biosciences. Three areas of biology that have received particular attention include environmental sciences (such as conservation biology), development and heredity, and evolution. Yet new scientific, theoretical, and technological findings raise new challenges in each of these areas. We seek to clarify and address these challenges.

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

• How algorithmic innovations shaped conservation biology and challenge standard accounts of scientific “progress”;
• The ethics of using CRISPR for gene drive in natural populations;
• The role that concepts of species and populations play in the U.S. Fish and Wildlife Service’s proposal to remove grey wolves from the endangered species list;
• Examining the connections between heredity and development, and exploring whether we have an explanation for either;
• The history of genetic hitchhiking in evolution;
• Understanding the concept of “mismatch” in evolutionary reasoning; and
• The hologenome concept and the evolution of holobionts.

(10) Thinking Philosophically Across the Sciences: Analogies, Models, and Mechanisms. Organizer: Roberta L. Millstein (Department of Philosophy, University of California, Davis, One Shields Ave, Davis, CA 95616; RLMillstein@UCDavis.edu).

As society and the sciences become increasingly specialized, it becomes ever more difficult to talk to one another across the sciences. We explore a number of ways in which we might cross scientific disciplines by examining a number of different areas of science and thinking about the various ways in which the sciences could potentially find common ground: models, analogical reasoning, mechanisms, incorporating citizens into science, and policy issues.

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

• Models and conceptual frameworks in forest regeneration;
• Appropriate use of analogy in Pacific archaeology and anthropology;
• Experiments using analogue models: the common conceptual basis and the wide variety of examples;
• Invoking mechanisms and using common scientific tools across disparate domains of science;
• The relationship between explanatory models in cognitive science, exploring whether ‘integrated’ models (such as those in predictive hierarchical processing) are in tension...
with functionally specialized/modular architectures;
• Citizen science and the philosophy of science of Paul Feyerabend; and
• Using models to understand Near-Earth Object impact hazards.

(11) The Humanities and the Changing Environment. Organizer: Robert L. Chianese (Department of English, California State University, Northridge, CA; RLChianese@gmail.com).

Poets, Writers, Artists, Philosophers, Historians and other Humanists have noticed, described and reshaped our cultural views of Nature and the Environment for centuries. Today they have a new challenge in how they see, understand, and depict what we as human beings have done to the planet while science explains how radically we have altered it to its detriment.

How should humanists present the world in their various works—as still strikingly beautiful or damaged and suffering under our ecological violations? Should glowing images and passages of remaining gorgeous nature be recommended for our appreciation as a way to motivate people to save it, or should images of unhealthy changes we have wrought be offered for our disturbing contemplation? How should we employ the past as an ecological referent for where we are now? How can we conceive of the influences on our own personal lives and our “nature” that the changes in external “nature” have wrought?

Also, can we humanists forge and promote actual imaginative and innovative humanities-based solutions to the crisis 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? And, how might the standard humanities requirements and curricula adapt to this focus?

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 20 and following in this Newsletter.

The deadline for submitting abstracts for contributed papers (non-symposium) is Saturday, 22 April 2017. 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 Tuesday morning. Awards will be announced late that afternoon.

Poster Sessions

Each poster will be assigned a display space of 39” tall x 48” wide (1 m x 1.2 m) on a poster display stand and will be mounted using map pins. Posters larger than the specified size 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 Hydrospheric Sciences. Section chair and program organizer: Dr. Clive E. Dorman, Research Oceanographer, Integrative Oceanography Division, Scripps Institution of Oceanography Dept 0209, University of California, San Diego, La Jolla, CA 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; owenmcdougal@boisestate.edu.

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

Earth Sciences. Section chair and program organizer: Dr. Jad D’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@pacifcu.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@pacifcu.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; elgoldman@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; donaldjmcgraw@icloud.com.

Materials Science. Section chair and program organizer: Dr. George Quainoo, Department of Physics and Engineering, Southern Oregon University, 1250 Siskiyou Blvd, Ashland, OR 97520. Contact: 541-552-6404; quainoog@sou.edu Section co-chair: Dr. Vilupanur Ravi, Department of Chemical and Materials Engineering, California Polytechnic University, Pomona, 3801 W. Temple Avenue, Pomona, CA 91768. Contact: 909-869-2627 vravi@csupomona.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; liljanababinkostova@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.

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

Palm tree in Hilo, Hawai`i with high water markings up trunk.
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 20 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 20 of this Newsletter) as a Word (.doc or .docx) or .rtf attachment to the chair of the appropriate society or section (see page 32 of this Newsletter) and also the Pacific Division office at rechristi@sou.edu. If your abstract contains special characters, fax a copy of it with the special characters clearly identified 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 2017. 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.

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 2017.

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 32 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). If a student, indicate level (PRE-COLLEGE, UNDERGRADUATE, or GRADUATE)
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 Meeting. SAMUEL P KRAFTER*; YESIMAN AUTHOR1∆, IDIDTHE WRITING2×, and IDIDA DeREADIN3 (1Department of Biology and 2Department of English, Southern Oregon University, 1250 Siskiyou Boulevard, Ashland, OR 97520, spkraf@biology.sou.edu, author@biology.sou.edu, iwriting@english.sou.edu; 3Department of Academic Speech, Bureau of Speech Employment, 12 Back Street, Medford, OR 97504, deradingi@BSE.org).

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 two or more persons contributed equally, place a superscripted triangle (∆) next to each name. If more than one address occurs among the authors, place 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 there is more than one author, place an asterisk (*) next to the last name of the presenter(s). Submissions not formatted in this manner may be returned for reformating 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 fully 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 reformating. 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!
AAAS, Pacific Division 98th Annual Meeting
HAWAI’I PREPARATORY ACADEMY
ON-CAMPUS HOUSING APPLICATION

One form must be submitted for each individual requesting campus housing or meals only.
Type or print this form legibly! If faxing, use black ink. All blanks must be filled in.

Name ____________________________________________________________________  □ Male  □ Female  □ Child

Address _____________________________________________________________________________

Phone (day): _______________ Phone (evening): ___________________  E-mail: ________________________

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

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

Refer to page 16 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.

Housing Request:

Four night basic housing package – CHOOSE ONE
Check in Monday, 19 June; check out Friday, 23 June
Includes 10 meals: M-D; Tu-B,L,D; W-B; Th B,L,Banquet; F- B.
☐ Single, per person $435.00
☐ Single, student1 $415.00
☐ Double, per person $335.00
☐ Double, student1 $315.00
☐ Child, per person $185.00

Additional nights (must be in conjunction with a four night basic package. They include listed meals).
☐ Sunday, 18 June (includes meals Su-D; M-B,L)  $100.00
   Single, per person
   Double, per person
   Child, per person
☐ Friday, 23 June (includes meals F-D; Sa-B)  $98.00
   Single, per person
   Double, per person
   Child, per person
☐ Saturday, 24 June (includes meal Su-B)  $80.00
   Single, per person
   Double, per person
   Child, per person

Total Amount Due $ __________

1Student must be a presenter to receive this rate.

Please list any food allergies here:

Food type:  □ regular  □ vegetarian  □ vegan

Deadline for Application
The completed request for meals must be received in the Pacific Division office no later than 3 June 2017.

Three Ways to Request Meals
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 meals 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 meals must be made in writing to the Pacific Division office via USPS or e-mail. Requests must be received no later than 3 June 2017. 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 ____________________  Security # ________  Expiration Date ________  Today’s Date ________

Name on Card (print) ____________________  Complete Card Billing Address ____________________

Cardholder Signature ____________________  City ________  State _____ Zip ________
AAAS, Pacific Division 98th Annual Meeting
HAWAI’I PREPARATORY ACADEMY
ON-CAMPUS MEALS ONLY

Use this form to request meals only if not staying on the HPA campus. All of these meals are included in the HPA on-campus housing packages (see page 35).

One form must be submitted for each individual requesting campus meals.

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

Name ____________________________________________
Address ____________________________________________________________________________________________
City, State, Zip _______________________________________________________________________________________
Phone (day): __________________   Phone (evening): _____________________  E-mail: ____________________________

No refunds will be given for unused meals.

Meals Package:

☐ Ten meals $140.00
   same as four night basic housing package
   Includes the following 10 meals:
   Monday—Pūpū appetizer dinner
   Tuesday—breakfast, lunch, and dinner
   Wednesday—breakfast only
   Thursday—breakfast, lunch, and luau-style banquet
   Friday—breakfast, lunch.

☐ Ten meals\  $120.00
   \Student presenters only

☐ Monday pūpū appetizer dinner $22.00

☐ Thursday luau-style banquet $35.00

☐ Thursday luau-style banquet\  $15.00
   \Student presenters only

☐ Lunches @ $12.00 each
   # lunches Tuesday _____
   # lunches Wednesday _____
   # lunches Thursday _____
   # lunches Friday _____
   Total # lunches _____
   Total cost lunches @ $12.00 each $ ______

Total Amount Due $ ______

Please list any food allergies here:

Food type:  ☐ regular  ☐ vegetarian  ☐ vegan

Deadline for Application
The completed request for meals must be received in the Pacific Division office no later than 3 June 2017.

Three Ways to Request Meals
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Payment by Credit Card

Type of Card  ☐ Visa  ☐ Master Card  ☐ Discover  ☐ Am Ex

Card Number _________________________  Security # _________  Expiration Date _________  Today’s Date _________

Name on Card (print) ____________________________________________

Cardholder Signature ____________________________________________  City _____________________  State ___ Zip _______

E-mail us at aaaspd@sou.edu
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 FAX 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 o Yes o No     Sigma Xi o Yes o No
If coming to attend one of these programs, check the appropriate box:  □ Galápagos □ BEST 2017 □ TCM 2017
How did you first hear about this meeting? _____________________________________________________________
Are willing to help judge student presentations at this meeting?  □ Yes □ No
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

(Note: Program, field trip, or section must be identified in order to receive program planner/presenter rate below.)

A. MEETING REGISTRATION FEES:

<table>
<thead>
<tr>
<th>Full Meeting</th>
<th>Received by 28 April</th>
<th>Received by 26 May</th>
<th>On-site</th>
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<tbody>
<tr>
<td>Professional</td>
<td>$105.00</td>
<td>$120.00</td>
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<tr>
<td>Presenter/Planner</td>
<td>$80.00</td>
<td>$90.00</td>
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<tr>
<td>Teacher K-14</td>
<td>$55.00</td>
<td>$62.50</td>
<td>$70.00</td>
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<td>Post-Doc</td>
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<td>$62.50</td>
<td>$70.00</td>
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<tr>
<td>Unemployed Professional</td>
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<td>Spouse/Family, not presenting</td>
<td>$35.00</td>
<td>$40.00</td>
<td>$45.00</td>
</tr>
<tr>
<td>Emeritus/Retired Professional</td>
<td>$55.00</td>
<td>$62.50</td>
<td>$70.00</td>
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</tbody>
</table>

□ Request teacher K-14 stipend? □ Yes □ No

1Student 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

<table>
<thead>
<tr>
<th>Professional</th>
<th>Field Trip Only</th>
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<tbody>
<tr>
<td>$80.00</td>
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<td>$90.00</td>
<td>$10.00</td>
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<tr>
<td>$100.00</td>
<td>$10.00</td>
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</table>

B. DIVISION BANQUET: The Division banquet will be held on the evening of Thursday, 22 June. 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 at the reduced cost of $15.00. Additional banquet tickets for students are $35.00 each.

Notice: Mark this only if the banquet will be your only meal at HPA. The banquet is included in the price of the on-campus housing/meals packages. For those staying off campus but wishing to eat various meals at HPA, use the form on page 36 of this Newsletter.

□ One Student Presenter Ticket @ $15.00

Tickets @ $35.00 ea.

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 starting on page 26 of this Newsletter for details.

**Wednesday, 21 June**

<table>
<thead>
<tr>
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<td>Circle Island Tour</td>
<td>__</td>
<td>$100.00 pp</td>
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</tr>
<tr>
<td></td>
<td>Lunch included; Dinner on your own</td>
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<td></td>
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<tr>
<td>#2</td>
<td>Kona Historical Sites</td>
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<td>$80.00 pp</td>
<td>$ ____________</td>
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<tr>
<td></td>
<td>Lunch and Dinner on your own</td>
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<tr>
<td>#3</td>
<td>Kīlauea Volcano</td>
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<td>$70.00 pp</td>
<td>$ ____________</td>
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<td>make your own Lunch included; Dinner on your own</td>
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<td>Kona Coffee Tour</td>
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<td>$75.00 pp</td>
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<td>Lunch and Dinner on your own</td>
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<td>$40.00 pp</td>
<td>$ ____________</td>
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<tr>
<td></td>
<td>Lunch and Dinner on your own</td>
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**Saturday, 24 June**

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<th>Field Trip</th>
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<td>make your own Lunch included; Dinner on your own</td>
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<td>#8</td>
<td>ReefTeach Snorkeling</td>
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<td>Lunch and Dinner on your own</td>
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Please note: Requests for refunds must be in writing and be received in the Pacific Division office no later than 3 June 2017. A $15 handling fee will be applied. An additional 3.5% deduction will be applied to the total amount for credit card refunds.

D. EVENTS: 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.

- **Monday Afternoon Opening Events** (does not include pūpū dinner, which is included in housing and also 10-meal packages and can be purchased separately using the “On-Campus Meals Only” form on page 36 of this Newsletter)
- **Tuesday Evening Dessert Reception** (following Presidential Address – no charge to registrants and family members)

**CREDIT CARDS**

To pay for your advance registration by credit card, you may:
- mail this completed form to the address below, or
- phone the information to 541-552-6869 between about 12:30 p.m. and 4:30 p.m. Pacific Time, or
- fax this completed form to 541-552-8457 (dedicated fax line into the Pacific Division office).

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<th>Type of Card</th>
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Card Number ___________________________ Security # _________ 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 2017 Annual Meeting of the AAAS, Pacific Division in Waimea, Hawai‘i.
Select Up To Any Three Books Listed Below for FREE*!
With this form only – 1 giveaway per person • Giveaway ends 1 May 2017
*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.

Agroecosystems and the Environment: Source, Control, and Remediation of Potentially Toxic, Trace Element Oxyanions (1998; cloth, 213 pp. – ISBN 0-934394-12-1); $20.00

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

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


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

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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

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ALL SALES FINAL — NO RETURNS
Payment must accompany all orders. Make checks payable to AAAS, Pacific Division.

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Page 40 E-mail us at aaaspd@sou.edu
AAAS, Pacific Division
98th Annual Meeting
Hawai`i Preparatory Academy
Waimea • Big Island • Hawai`i
19 – 23 June 2017
PRELIMINARY ANNOUNCEMENT of SYMPOSIA,
FIELD TRIPS and OTHER EVENTS

SYMPOSIA
(Complete listings start on page 29.)

• Galápagos 2017: Galápagos and Hawai`i
• The 2014-2016 Mass Coral Bleaching Event in the Pacific Islands – Impacts, Resilience, Hope and Actions
• High Altitude Climate Change Trends and Alpine Ecosystem Impacts in Hawaii
• Recent Advances in Pharmacology, Toxicology and Medicinal Chemistry
• Mechanisms of Tumor Progression and Cancer Therapeutics
• Social Responsibility of Scientists in the Technological Age
• Turbulence Conference at Mauna Kea (TCM 2017): Recent Advances in Turbulence Research
• New Challenges in Environmental Sciences, Heredity and Development, and Evolution
• Thinking Philosophically Across the Sciences: Analogies, Models, and Mechanisms
• The Humanities and the Changing Environment

FIELD TRIPS
(Descriptions start on page 26.)

• Circle Island Tour (Wednesday)
• Kona Historical Sites (Wednesday)
• Kilauea Volcano (Wednesday)
• Kona Coffee Tour (Wednesday)
• ReefTeach Snorkeling (Wednesday)
• Kilauea Volcano (Saturday)
• ReefTeach Snorkeling (Saturday)

WORKSHOPS
(Descriptions start on page 24.)

• Writing for Science and Technology
• AAAS STEM Career Development

SCIENTIFIC MAKER EXHIBIT
(See page 25.)

STAR PARTY
(See page 23.)

HIGH SCHOOL SCIENCE FAIR
PROJECT EXHIBIT
(See “Special Events,” page 23.)

NOTE: These programs are being planned as of 1 April 2017. However, changes in offerings frequently occur. For up-to-date information, please visit the Pacific Division website, pacific.aaas.org