

FALL 2011 NEWSLETTER

California Section of the American Physical Society

Announcement for the 2011 Annual Meeting

**SLAC National Accelerator Laboratory
Menlo Park, California
November 11-12, 2011**

Preview of the 2011 Annual Meeting



SLAC National Accelerator Laboratory is pleased to host the 2011 annual meeting of the CA-NV Section. SLAC is the home of the world's first hard X-ray free electron laser, the Linear Coherent Light Source (LCLS), as well as the SPEAR3 Synchrotron Light Source. Information can be found on the website <http://www-conf.slac.stanford.edu/aps/2011/>.

The scientific program will include invited talks by

- **Steve Ritz (UC Santa Cruz):** The Fermi Gamma-ray Space Telescope at Three Years,
- **Natalie Batalha (San Jose State University):** Catching Shadows: Kepler's Search for Terrestrial Planets,
- **Joachim Stohr (SLAC):** The Advent of X-Ray Lasers: Evolution or Revolution?
- **Alessandra Lanzara (UC Berkeley):** Melting of a Quasiparticle in Cuprate Superconductors.

The after-dinner speaker will be

Burton Richter (Stanford): Energy Policy Today

Panel discussion: **How to Start Working for a Startup Company.**

Several items on the program agenda are of particular interest to young scientists. Given SLAC's location in the heart of Silicon Valley, the career panel will discuss "**How to Start Working for a Startup Company**". There will also be a student lunch on Friday, "**Meet Your Physics Rock Star**," where students meet with well-established researchers. **Tours of the SLAC** facilities will be offered on Saturday afternoon. **Awards** will be given for **outstanding presentations** by undergraduates, graduate students and postdocs!

We invite you and your students to attend this stimulating meeting and submit an abstract for the parallel sessions. Registration is open now through November 12, 2011. **Abstract submission and early registration deadline is September 30, 2011.**

Chair's Statement

I have had the privilege of serving the California-Nevada (CA-NV) Section of the APS for three years, during which time we have been able to hold annual section meetings of the highest caliber. A principal goal of our meetings is to make them accessible to students – especially undergraduates – who may not otherwise be able to attend topical or national meetings of our Society. A large number of the contributed talks are by students discussing their own work, often for the first time. These sectional meetings are a great opportunity for students to meet their peers, to make contacts that may lead to future opportunities, and to experience physics as a profession. Many of us can remember our first APS talks and the learning and growth experiences they represented for our own careers.

Our meetings host prominent, inspiring speakers from all fields of physics. Attending a plenary lecture may serve as an introduction to an area of physics that further inspires a young member to explore that field of work, either in the classroom or in the laboratory. In addition, several years ago we introduced a topical panel to discuss possible careers that physics majors may pursue with their degree. In 2009, the panel focused on careers in renewable energy, and last year our meeting featured a panel discussing possible careers in medical physics. Our panelists share their personal life stories and the paths their own careers took. In doing so they are able to connect with students in the audience who find themselves at the point of deciding how they will pursue their own passions and dreams.

Holding the fall meeting is the largest investment our CA-NV section makes each year. We make every effort to keep the cost of attending our meeting affordable for our students and postdocs, keeping the registration fees as low as possible (waiving them if possible), providing travel and lodging support and awarding significant cash prizes for 'best-paper' in multiple categories (see the website of the section www.aps.org/units/cal/). Meetings of course take money, and each year we use most of our operating budget to cover the cost of the meeting so as not to compromise on delivering the highest-value conference experience we can.

There is an easy, no-cost way you can help the section: simply join the CA-NV Section! The national APS provides annual budget support to our section in proportion to our total membership. For an APS member, joining the California-Nevada Section is gratis -- all one needs to do is to go to the APS units web page (see above) and click on "Join a Unit" or send a message to the APS at membership@aps.org and ask to be a member of the CA-NV Section. We also encourage our members of the CA-NV unit to talk with their colleagues who belong to APS but are not yet members of the section. Currently the CA-NV Section numbers a little over 2600 members; yet the combined total for the CA and NV APS membership is greater than 6,200 -- if everyone brought one new member into the fold (remember, it's absolutely free!), we would be able to significantly increase our financial resource base.

Last, I wish to invite our students to donate their time and talent to the Section in exchange for what it does for them. Each spring the Nominating Committee puts together a slate of candidates to serve on the Executive Board, for which we need two volunteers for a one-year student representative position. Getting a minimum number of students who want to run for this office has been a challenge, so when the call for nominations comes out we would like for you to volunteer. Service on an APS unit would be a great experience for you at the outset of your career.

Albert Lazzarini, Chair CA-NV APS.

2010 Annual Meeting at Caltech (October 29-30) - Summary of Activities

The two-day annual meeting at Caltech was a success both in terms of the variety of themes presented and the diversity of physicists attending. From global warming to the origin of the arrow of time through biophysics and the warped side of the universe, all invited speakers attracted a large attendance. Of the 213 scientists present at the annual meeting about 47% were students, 29% faculty and senior scientists, 11% retired or unemployed, and 10% postdocs.

Noteworthy is the steadily increasing quality of research as underscored by the student presentations at the 2010 meeting. Prizes were given to students and postdocs for the excellence of their work and presentations (see below). Students should not miss the opportunity of competing for these prizes at the 2011 meeting at SLAC!

Early career scientists also find these meetings a unique opportunity to interact and establish contacts with more senior colleagues. The panel discussion further exposes them to alternate professional paths for physics graduates. This year's panel on Careers in Medical Physics attracted many questions from students both during and after the hour and a half long panel.

The conference website <http://www.ligo.caltech.edu/aps-ca/> offers further details on the 2010 Caltech meeting.

Award Winners of the 2010 Annual Meeting

Undergraduate Awards

Steven Chu Award (Best Research)

1st Prize: Matt Curry (Cal Poly San Luis Obispo)

2nd Prize, Addison Cugini (Cal Poly San Luis Obispo)

Graduate Student awards

Kennedy Reed Award (Best Theoretical Research)

1st Prize: Sinead Griffin (UC Santa Barbara)

2nd Prize: Joshua Staker (San Diego State Univ)

Margaret Burbidge Award (Best Experimental Research)

1st Prize: Alexander Gray (UC Davis)

2nd Prize: Jose Amaral (CSU Fresno)

Post Doctoral Awards

Charles Kittel Award (Best Theoretical Research)

1st Prize: Eric Bousquet (UC Santa Barbara)

2nd Prize: None

Luis Alvarez Award (Best Experimental Research)

1st Prize: Cliff Chen (Lawrence Livermore Nat. Lab.)

2nd Prize: None

Meetings & Decisions of the Executive Committee

The Executive Committee held several meetings during the past year. Aside from teleconference calls, the committee gathered at the annual meeting of the section at Caltech on Oct. 29, 2011, and at a special meeting hosted by Michelle Poliskie (member at large) at Solyndra, Inc. on Saturday March 5, 2011.

As reported in these meetings, the section's annual budget is mostly used to offer financial aid and prizes to students. The registration fees, the money allocated by the APS and the support offered by Caltech, covered all expenses of the 2010 meeting. The executive committee pointed out the importance of having APS members enroll in the CA-NV section. The amount given to our local section by APS depends on the number of section members. Enrollment is free of charge for APS members and you are encouraged to enroll (see the right bottom of the section site <http://www.aps.org/units/cal/>).

The committee discussed the lessons learned from the Caltech meeting, reviewed the planning of the upcoming SLAC conference, and decided on the content of the present Newsletter. It was also agreed that the 2012 CA-NV APS meeting would be held at CalPoly San Luis Obispo and the one in 2013 at Sonoma State University.

The executive committee explored several avenues for the creation of a California-Nevada APS prize, but no final decision has been made so far and further information will be conveyed at a later time. The inclusion of Hawaii in the CA-NV section has been a topic for a few years now and latest developments are presented below. The committee also planned the Annual Unit Convocation at the APS headquarters and the Congressional Visit Day. The outcome of these visits is summarized in a separate section of this Newsletter.

2010 Election News

The Nominating Committee for the 2010 CA Section election consisted of Lynn Cominsky (Chair), Uwe Bergmann, Paul Davis (Student member), Michelle Poliskie, Warren Rogers, Karl van Bibber (ex officio), and René Ong (selected by the APS).

Results of the elections:

Vice Chair: Virginia Trimble (UC Irvine, Las Cumbres Observatory)

Members at Large: Virginia Trimble (UC Irvine, Las Cumbres Observatory), Nan Phinney (SLAC), Peter Beiersdorfer (LLNL; also at Univ. of Nevada-Reno & UC Berkeley).

Student Representative: Jennifer Rittenhouse West (UC Davis)

News About Hawaii

Karl van Bibber, CA-NV APS chair Emeritus, has been conducting a study to determine whether there is sufficient mutual interest between the existing CA-NV Section and the Hawaiian APS membership to incorporate and form a larger three-state section. He contacted all the APS members in Hawaii soliciting their opinions on the proposal; while the number of responses was limited, the reaction was nearly uniformly enthusiastic. The issue of feasibility was a recurring theme, particularly how realistic would it be for early-career physicists living in Hawaii to be able to attend sectional meetings in California (or vice versa), in light of the distance and

airfare? Nevertheless, the results were encouraging enough to continue consideration of the incorporation, which will be brought up as an action item at the November meeting, in preparation for a section-wide ballot measure.

Annual APS Units Convocation

The Annual APS Units Convocation was held in Washington D.C. on April 14-15, 2011. Members of the executive committee that attended the meeting are Andreas Bill (member at large, CSU Long Beach), Shirley Chiang (treasurer, UC Davis) and Lynn Cominsky (chair elect, Sonoma State Univ.).



Picture: California representation of physicists visiting Rep. Mike Thompson. From left: Prof. Richard Scalettar, UC Davis; Prof. Shirley Chiang, UC Davis; Rep. Mike Thompson; Dr. William Evans, LLNL.

This year's Congressional Visit Day (CVD) was held a few days after Congress accepted the FY2011 budget avoiding thereby a government shutdown. Our pleas were directed at the FY2012 budget, which was now starting to be considered. The California-Nevada Section envoys were part of a much larger group from California – the group was large enough to form two delegations. Each delegation met with different representatives or their staff members. Lynn and Andreas were part of a four-person group including Chris Palmstrøm (UC Santa Barbara) and Ernesto Marinero (Hitachi San Jose Research Lab) who met with staff members of Senator Barbara Boxer, and Congressional Representatives Lynn Woolsey, Dana Rohrabacher, Linda Sanchez, and Anna Eshoo. That delegation also had the privilege of meeting Rep. Lois Capps, together with her staff member. Shirley, together with Richard Scalettar (UC Davis) and William

Evans (LLNL) visited the offices of Senator Feinstein, and Congressional Representatives Barbara Lee, Jerry McNerney and Mike Thompson with whom they met in person (see picture).

The main message conveyed during the meetings was to stress the importance of maintaining the nation's funding for scientific R&D, to decouple it from the discretionary spending, and to emphasize the importance of the sciences for the American competitiveness. We also argued that it was not possible to "balance the budget on the back of science funding" since the dollar amount allocated to science is much smaller than what is required to balance the budget. We further pointed out that since 1975 the R&D spending in terms of the percentage of US GDP has been declining from over 1.25% to about 1% at present, reaching a low of 0.85% in 2000. At the same time, half of the economic growth since WWII can be attributed to Science and Technology funding. Finally, we pointed out that without government-funded research many products such as the iPhone and the jobs needed to produce them would simply not exist.

Staff members were overall very receptive to our concerns. We were concerned that some Congressional staff felt that peer-review was not sufficient to determine what science and what projects should be funded. Although not all representatives share this view, the idea that politics instead of peer-reviewed scientific merit decides what is worth funding was an alarming insight of the meetings.

The APS staff was most helpful in enlightening us as to the political realities of the day, and providing hints for talking with congressional staff members. Overall, the visit was a very interesting experience and a useful reminder to lawmakers of the importance of science for the American economy.

On April 15, 2011, we all attended the Unit Convocation at APS headquarters in College Park, MD. We learned more about the working of the Executive Office, and discussed topics regarding our section. One new policy that will have an impact on our annual sectional meeting and led us to raise concerns is the decision of the APS to charge \$5 per abstract for future meeting submissions, irrespective of the number of participants (presently, the first 100 abstracts are dealt with free of charge by APS). This will affect our section budget and is one more reason for inviting all APS members living in California and Nevada to join the section APS!

Lynn Cominsky, Shirley Chiang, Andreas Bill (CA-NV APS section delegation)

Miscellaneous

Committees of the CA-NV Section

Executive Committee: Current members of the Executive Committee and their respective terms of office are listed on the following link:

<http://www.aps.org/units/cal/governance/officers/index.cfm>

Plenary Speakers Committee: Uwe Bergmann (Chair), Nan Phinney, Karl van Bibber, Virginia Trimble, Michelle Poliskie, and Andreas Bill.

Abstract Sorting Committee: Henrik Ohldag (Chair), Lynn Cominsky, Michelle Poliskie and Peter Beiersdorfer.

Newsletter: Andreas Bill.

Nominating Committee 2011: Virginia Trimble (Chair), Albert Lazzarini (ex officio), Lynn Cominsky, Michelle Poliskie, Jennifer Rittenhouse West, Chris Ray (appointed by APS).

Website of the APS CA-NV Section

Our website www.aps.org/units/cal/ contains regularly updated resources for students, including scholarships, career opportunities, summer research programs. Please let us know (abill@csulb.edu) of any resource or institution not listed on the website and we will add it!

Future Section Meetings

The Fall 2011 Meeting at SLAC National Accelerator Laboratory in Menlo Park, California on November 11-12.

The 2012 Fall Meeting will be held at the California Polytechnic Institute (CalPoly) in San Luis Obispo. Exact dates will be determined later.