

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

2011 Annual Meeting
of the California Section
of the American Physical Society

Menlo Park, CA
SLAC National Accelerator Laboratory

11.11.11 - 11.12.11

Plenary Talks:

- 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 National Accelerator Center
"The Advent of X-Ray Lasers: Evolution or Revolution?"
- Alessandra Lanzara - UC Berkeley
"Melting of a Quasiparticle in Cuprate Superconductors"

Panel Discussion on
"How to start working for a Startup Company"

After Dinner Speaker:
Burton Richter - Stanford
"Energy Policy Today"

<http://www-conf.slac.stanford.edu/aps/2011/>

SLAC National Accelerator Laboratory is pleased to host the 2011 annual meeting of the CA-NV Section in a time where the new Linear Coherent Light Source is fully operational. Information can be found on our website www.aps.org/units/cal/

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 National Accelerator Center):** 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.**

The panel discussion introduced a few years ago is a great success. The executive committee has also decided to introduce a **“lunch with the experts”** where students meet for lunch with well-established researchers at University and in industry. We invite you and your students to attend this stimulating meeting and submit an abstract for the parallel sessions. Registration is scheduled to open August 25 and will close on October 1st. **Early registration ends September 20**. Note that the fees increase past that time.

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 defer 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 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, one of which serves as a Student Member. 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.

Summary of Activities of the 2010 Annual Meeting at Caltech

Plenary Speakers

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| Dr. Josh Willis [JPL] | Hot Water: The Oceans and Global Warming |
| Dr. Sean Carroll [Caltech] | The Origin of the Universe and the Arrow of Time |
| Prof. Tom Murphy [UCSD] | Testing General Relativity using Lasers and the Moon |
| Prof. Steve Block [Stanford] | The Biophysics of Gene Regulation, Studied One Molecule at a Time |

After Banquet Speaker

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| K. Thorne [Caltech] | The Warped Side of the Universe |
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Friday's Parallel Sessions:

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| Session C1: | Condensed Matter Physics and Materials Science I, Chair: Andreas Bill, California State University, Long Beach |
| Session C2: | Gravitation and Astrophysics I, Chair: Lynn Cominsky, Sonoma State University |
| Session C3: | Nuclear, High Energy and Accelerator Physics I, Chair: Jennifer Klay, CalPoly San Luis Obispo |
| Session C4: | Atomic and Molecular Physics I, Chair: Yohannes Abate, California State University, Long Beach |
| Session D1: | Condensed Matter Physics and Materials Science II, Chair: Uwe Bergmann, SLAC National Accelerator Laboratory |
| Session D2: | Gravitation and Astrophysics II, Chair: Michelle Poliskie, Solyndra, Inc. |
| Session D3: | Nuclear, High Energy and Accelerator Physics II, Chair: Howard Matis, Lawrence Berkeley National Laboratory |
| Session D4: | Atomic and Molecular Physics II, Chair: John Price, California State University, Dominguez Hills |

Panel Discussion:

Careers in Medical Physics

Panelists:

Dolores Bozovic [UCLA], George Coutrakon [Northern Illinois Univ.], Roland Henry [UCSF], Michael McNitt-Gray [UCLA], Greg Sprehn [Rivendell Heights Inc.], Gerard Wong [UCLA]

Saturday's Parallel Sessions:

| | |
|-------------|--|
| Session H1: | Condensed Matter Physics and Materials Science III, Chair: Shirley Chiang, University of California, Davis |
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- Session H2: Applied Physics,
Chair: Warren Rogers, Westmont College
- Session H3: Multidisciplinary Research,
Chair: Karl van Bibber, Naval Postgraduate School

Award Winners for Contributed Speakers at 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

Meeting and Decisions of the Executive Committee

The Executive Committee held a meeting at Solyndra, Inc on Saturday, March 5, 2011 from 10:00 - 15:30.

Attending: Albert Lazzarini (Chair), Lynn Cominsky (Chair Elect), Virginia Trimble (Vice Chair), Shirley Chiang (Treasurer), Members at Large: Michelle Poliskie (host of the meeting), Peter Beiersdorfer, Andreas Bill, Nan Phinney; Karl van Bibber (Chair Emeritus). Absent: Members at large: Warren Rogers, Uwe Bergmann; Jennifer Rittenhouse West (Student) Also joined by Andrea Chan and Henrik Ohldag from SLAC.

Agenda of the meeting:

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| 1. Welcome & introduction of new members | Albert Lazzarini |
| 2. Treasurer's report | Shirley Chiang |
| 3. Lessons learned from Caltech meeting | Albert Lazzarini, Andreas Bill |
| 4. Status of planning for SLAC meeting | Uwe Bergmann, Nan Phinney |
| 5. Appointment of committees for SLAC meeting: Program committee, abstract sorting/selection committee | |
| 6. Appointment of Elections Nominating Committee for 2011 | |
| 7. Lunch (working lunch, as needed) | |
| 8. Newsletter for 2011 | Andreas Bill |
| 9. Review of future meeting venues: | San Luis Obispo for 2012, Jennifer Rittenhouse West |

Sonoma State University for 2013 meeting Lynn Cominsky
(No specific actions taken at this meeting)

10. California APS Prize (Deferred from last year) Albert Lazzarini, Karl van Bibber
(Time & preparation permitting, otherwise defer to Fall)
11. Discussion of inclusion of Hawaii in the CA-NV Section Karl van Bibber
12. Planning for the Annual Unit Convocation at APS headquarters, Congressional Visit Day
any other business
13. Assignment of action items & adjournment.

2010 Election News

The Nominating Committee for the 2010 CA Section election consisted of *Virginia Trimble* (Chair), Albert Lazzarini,

Winners were:

Vice Chair

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

Executive Committee of the CA-NV Section

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>

Annual Meeting Review Committee

These Executive Committee members will review the awards process integrity and monetary value:

Nominating Committee: XX

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 and Peter Beiersdorfer.

Newsletter: Andreas Bill

Website of the APS CA-NV Section

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

Dates to Remember

The Fall 2011 Meeting will be held at the SLAC National Accelerator Laboratory in Menlo Park, California on November 11-12. See our website for more information:

<http://www.aps.org/units/cal/>.

The 2012 Fall Meeting will be held at the California Polytechnic Institute (CalPoly) in San Luis Obispo. No decision on the exact dates has been made.

Annual APS Units Convocation

The Annual APS Units Convocation was held in Washington D.C. on March 14-15, 2011. Members of the executive committee that attended the meeting are Andreas Bill (CSU Long Beach), Shirley Chiang (treasurer, UC Davis) and Lynn Cominsky (chair elect for 2012, 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 April 14, 2011 a couple of days after Congress accepted the FY2011 budget avoiding thereby a government shutdown. The California-Nevada Section envoys were part of a much larger group from California – in fact the group was so large that we were divided into 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) that met with staff members of Senator Barbara Boxer, Congresswomen and men Lynn Woolsey, Dana Rohrabacher, Linda Sanchez, and Anna Eshoo. We 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, Rep. Barbara Lee, Rep. Jerry McNerney, and Rep. 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. Yet, reducing the science budget actually harms America's economy since every **dollar invested in science returns \$XXX to the economy**. 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. Our pleas were directed at the FY2012 budget, which was now starting to be considered. One statement made by some staff members should raise our concern. The idea embraced by several members of congress that politicians should be involved in decision making as to what science and projects should be funded. Climate change was given as an example that should not be funded. By far not all representatives share this view, but 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. There we learned more about the working of the Executive Office, and discussed concerns regarding our section. One new policy that will have an impact on our annual sectional meeting and led us to raise concerns is the intent 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).

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

News on Hawaii

Karl van Bibber, CA-NV APS chair Emeritus, pursued the quest to determine whether there is interest on the side of the Hawaiian APS community to integrate the CA-NV section. After contacting all APS members he received only few responses, most being in favor of incorporating their physicists community into the CA-NV section. After deliberation the executive committee decided to proceed with steps to change the bylaws to incorporate Hawaii.