

# APS Far West Section

## 2015 Newsletter



Dear Fellow Far-Westerners,

**Welcome** to your geographical section of the American Physical Society – the Far West Section (formerly CA-NV section). The section includes California, Nevada and Hawaii, with Hawaii joining in the past two years. If you are not yet a Section member but belong to APS, please send an email to [membership@aps.org](mailto:membership@aps.org) and ask to be added. It won't cost you anything extra, but will provide funding for the Section to carry out its mission of being the voice for physicists in our region.

### **What does the Section do?**

The same things that the American Physical Society does: Identify new members, elect officers, hold section meetings, and give prizes (for outstanding student and postdoc presentations at the section meetings). But even more importantly the Section provides a platform for you to network, to meet new



colleagues and to interact with former, current and new collaborators and students. For this reason, members of the Section travel to Washington DC once a year to meet with other section leaders as well as members of congress. As you can see from the images we do not fear weather otherwise unknown to our region to make your voice heard with our congressional representatives and leaders of the society. This year during the congressional visit days we were asked to bring to the attention to the members of congress from our district two issues: (i) That funding for science should be stable and long term rather than going to cyclical ups and downs; (ii) NSF grants and science grants from other federal agency should still be determined by peer review. There was



some move in congress to abandon peer review in favor of another system (*e.g.* review by the government, by people with little or no science background).

**Our next Section meeting** will be Friday & Saturday October 30<sup>th</sup> and 31<sup>st</sup>, 2015 at California State University, Long Beach ([www.physics.csulb.edu/APS](http://www.physics.csulb.edu/APS)). There will be a reception Thursday evening, October 29<sup>th</sup>, 2015 sponsored by the local SPS chapter. The 2016 meeting will be held at the University of California, Davis. Why should you join and come to the Section meetings? It is a chance to meet physicists from a broad range of disciplines and institutions in the region. And, most importantly, this is a chance for students and other young colleagues to give real, APS-style 10-minute talks about their research. For some of them it may well be their first opportunity to talk about their own work. Talks from professional physicists are also welcome.

In addition, the Section meetings have several **plenary talks** by outstanding colleagues and a **career panel** discussion on some topic of general interest. This year it is on alternative energies. Recent panels have included careers in start-ups, aerospace, and medical physics. Housing, travel, meeting registration, and meals for students who give talks are considerably subsidized. Also, as part of the Section meeting registration, students get a one-year free student membership in the APS. The travel-related expenses for students, and the prizes for outstanding presentations, are our major annual expense. Details of the upcoming meeting appear below in this newsletter.

That is what your Section can do for you. Now, **what can you do for your Section?** It needs your help with several matters — an election is taking place right now, a meeting is coming up soon and this will be repeated in 2016. So, if you are willing to help (or want to "volunteer" a colleague – with their permission of course) please get in touch with the following:

**Vice Chair:** [Andreas Bill](#) (California State University, Long Beach).

**Chair-Elect:** [Peter Beiersdorfer](#) (Lawrence Livermore National Laboratory – LLNL).

**Newsletter Editor:** [Hendrik Ohldag](#) (SLAC National Accelerator Laboratory)

**Secretary-Treasurer:** [Alla Safronova](#) (University of Nevada Reno).

**Local Contact for the October meeting:** [Andreas Bill](#) (California State University, Long Beach, [FWS2015@csulb.edu](mailto:FWS2015@csulb.edu)).

Section members will receive sporadic updates, reminders, and such about these and other activities. Please be sure you are on the list!

With greetings from the Far West,

Douglas Singleton, Chair of the Section  
Department of Physics  
California State University, Fresno

## Register NOW for the 2015 Meeting

The 2015 annual meeting of the Far West section will take place October 29-31 at Cal State Long Beach. Registration is now open, until October 9, at 5pm PDT. The **diverse program** will consist of four invited talks; many contributed talks by students and other members of the section, a career panel and the after-dinner talk presented by Nobel Prize Laureate Prof. Robert Laughlin (Stanford). Details are on the poster below. The scientific meeting will be preceded by a Halloween reception organized by the local chapter of the Society of Physics Students on October 29. If you are a student and you submit an abstract to speak at the meeting your travel costs will as usual be subsidized by the section. More information about the meeting, how to register and how to submit an abstract can be found at: <http://web.csulb.edu/depts/physics/APS/> or on the meeting poster shown below. We are looking forward to meeting all of you in Long Beach for an exciting post Halloween meeting!

Andreas Bill, Cal State Long Beach

**2015 ANNUAL MEETING  
AMERICAN PHYSICAL SOCIETY  
FAR WEST SECTION**

OCTOBER 30-31, 2015  
DEPARTMENT OF PHYSICS AND ASTRONOMY  
CALIFORNIA STATE UNIVERSITY, LONG BEACH

**PLENARY SPEAKERS**

MARK HERRMANN  
LAWRENCE LIVERMORE NATIONAL LABORATORY  
"CREATING AND CONTROLLING HIGH-ENERGY -  
DENSITY MATTER WITH THE NATIONAL IGNITION FACILITY"

JAMES J. WYNNE  
THOMAS J. WATSON RESEARCH CENTER  
"ILLUMINATING MY CAREER - FROM FLASH GORDON TO LASER SURGERY"

MICHAEL PETERSON  
CALIFORNIA STATE UNIVERSITY LONG BEACH  
"NUMERICAL STUDIES OF TOPOLOGICALLY ORDERED PHASES"

MU-CHUN CHEN  
UC IRVINE  
"NEUTRINOS AND PHYSICS BEYOND THE STANDARD MODEL"

**BANQUET SPEAKER**

ROBERT B. LAUGHLIN  
NOBEL LAUREATE, 1998  
STANFORD UNIVERSITY

**CAREER PANEL**

ALTERNATIVE  
ENERGIES

HALLOWEEN WELCOME RECEPTION (SPS CHAPTER)  
THURSDAY, OCT. 29TH, 6:30PM

ONLINE REGISTRATION BEGINS AUGUST 15.  
AT: [WWW.PHYSICS.CSULB.EDU/APS/](http://WWW.PHYSICS.CSULB.EDU/APS/)  
CONTACT: ANDREAS BILL, [ABILL@CSULB.EDU](mailto:ABILL@CSULB.EDU)  
PROGRAM CONTACT: DOUGLAS SINGLETON, [DOUGS@CSUFRESNO.EDU](mailto:DOUGS@CSUFRESNO.EDU)

APS  
physics  
Far West Section  
AMERICAN PHYSICAL SOCIETY

## Vote NOW for your candidate in the 2015 Elections

Voting for this year's election is ongoing. Voting ends on September 25, 2015 at 9 pm PDT. **Please take the time to vote now!**

To vote follow the instructions in the election email we sent out on August 25, 2015. Please note that emails are solely sent to the address you provided to APS. Call 866-909-3549 or send an email to [support@directvote.net](mailto:support@directvote.net) if you'd like to request a paper ballot. Also feel free to contact any of the members of the Executive Committee should you have any problems with the voting process.

There are eight candidates for four positions on the Executive Committee:

<i>Vice Chair:</i>	Derek F. Jackson Kimball (CSU East Bay) Hendrik Ohldag (SLAC)
<i>Member at Large:</i>	Vola Andrianarijaona (Pacific Union College) Hope Ishii (U Hawai'i at Manoa) Joshua Smith (CSU Fullerton)
<i>Student Representative:</i>	Kenneth Gotlieb (UC Berkeley) Emil Petkov (U Nevada, Reno) Alysson Vrielink (Stanford)

The 2015 Nominating Committee consisted of Peter Beiersdorfer (Chair-Elect), Andreas Bill (Vice Chair), John Price (Member at Large), Jerome Buerki (Member at Large), Alessandra Lanzara (APS-appointed member of the committee).

We are always looking for candidates. Please get in touch with us to recommend your students, colleagues, or other suitable members of the Far West Section of the APS, including yourself.

Peter Beiersdorfer  
Lawrence Livermore National Laboratory

## The 2014 Meeting at the University of Nevada, Reno

The 2014 meeting was held at the University of Reno in Nevada on October 24 and 25. This was the first time the annual meeting was held outside of California and it was a rousing success. The UNR campus is situated in front of a spectacular background – the eastern slope of the Sierra Nevada. Many of the over 200 attendees used the trip to stay another day to explore Lake Tahoe or the vast Nevada desert. To remain in style we received quite a spectacular surprise when representatives of the office of Senator Harry Reid (D) welcomed the attendees with a personal greeting from the Senator. As always the scientific program during which many undergraduate and graduate students from the section presented their research over two days was highlighted by four invited presentations covering everything from the Higgs Boson to the science in the interior of the sun. Also, after the inclusion of Hawaii to the section in 2014 we were lucky to convince John Learned from the University of Hawaii to join us for the meeting and to present a very entertaining and informative after dinner talk about “those pesky neutrinos”. The four plenary speakers covered topics ranging from the latest news about the Higgs (Prof. Maria Spiropulu, CalTech), inertial confinement fusion at NIF (Dr. Tammy Ma, LLNL), the dynamics of the solar interior (Werner Däppen, USC), to the ionization of atoms trapped inside Buckyball-like atomic cages (Ronald Phaneuf, UNR). The panel discussion covered atmospheric science and included the panelist Dr. Benjamin Santer (LLBL), Dr. Thomas Cahill (UC Davis) and Dr. Patrick Arnott (UNR). We all had a wonderful time thanks to the great effort by the local organizing committee at UNR and we sure will come back sooner than later.

One of the enjoyable duties that comes with the organization of such a meeting and being part of the executive committee that we get to listen to a lot of wonderful presentations and at the end we get to chose the award winners. A list of winners is attached at the end of this newsletter. Congratulations to everyone and good luck for your future endeavors. This honor is very well deserved.



## **2014 Graduate Student Awards:**

### **Kennedy Reed award for best theoretical research by a graduate student**

#### **1st place (\$250)**

Natalie Brown (CSU Long Beach), "Matrix continued fractions for the Feshbach-Villars equations"

#### **2nd place (\$125)**

Max Bright (CSU Fresno), "The Time-Dependent Non-Abelian Aharonov-Bohm Effect"

### **Margaret Burbidge award for best experimental research by a graduate student**

#### **1st place (\$250)**

Kevin Yates (University Nevada Reno), "Plasma Formation and Evolution on the Surface of Aluminum, Copper, Titanium and Nickel Driven by a Mega-Ampere Current"

#### **2nd place (\$125)**

Natalie Hell (LLNL and University of Erlangen-Nuremberg)  
"Mapping the cloudy skies of the galactic black hole Cyg X-1"

#### **3rd place (\$75)**

Alessandro Castelli (UC Merced) [acastelli@ucmerced.edu](mailto:acastelli@ucmerced.edu)  
"Optical RF to mechanical coupling of a thin membrane as one end of a cylindrical cavity"

## **2014 Undergraduate Awards:**

### **Helen Quinn award for best theoretical research by an undergraduate student**

#### **1st place (\$250)**

John Paredes (UC Merced)  
"Simulating localized surface plasmon resonance of gold nano spheres and nano rods for application in all-optical switching devices"

#### **2nd place (\$125)**

Brandon McKinzie (UC Davis)  
"An Estimate for the Systematic Uncertainty Associated with the Polarization of the Upsilon Meson at CMS"

**Steven Chu award for best experimental research by an undergraduate student**

1st place tie (\$250)

Alex Dorsett (UC Davis)

“Growth of Au on Ge(110)”

Andrew Kanagin (University Nevada Reno)

“Laser spectroscopy & optical pumping of matrix isolated rubidium atoms”

**2014 SPS Poster Awards:**

1st place tie (\$125)

Zephyr McCormick (University Nevada Reno)

“Laser Produced Neutrons and Isotope Activation at the Nevada Terawatt Facility”

Emil E. Petkov (University Nevada Reno)

“Spectroscopic Analysis of K- and L-Shell Radiation from Gas-Puff Jet Experiments on the UNR Leopard Laser”