

The Society of Physics Students
at the University of California, Santa Cruz
Report on the Zone Meeting of 3 May 2008

Zone 18

18 June 2008

Planning Committee:

Brenna Duncan
Karl Schmidt
Jessica Missaghian
Katie Klein
Veronica De Paolis
Carl Coker
Kyle Kaplan
John Willey
Nick Ernst
James Beacham

The annual Zone Meeting of the Society of Physics Students for Zone 18 was held at the University of California, Santa Cruz on Saturday, May 3rd, 2008, and was hosted and coordinated by the UC Santa Cruz chapter of the SPS.

The event was planned as an essentially one-day occurrence, with a bonus event on the Friday night prior to the Zone Meeting proper. Thus, the Zone Meeting practically began at 9 PM on Friday, May 2nd, in the Thimann Lecture Hall 1, where we assembled to watch the film *Futurama: Bender's Big Score*. We were lucky enough to be joined by some early arrivers from CSU Sacramento and CSU Chico. We had light snacks like chips, cheese, crackers, cookies and soda.

The formal Zone Meeting then commenced the next morning at 9 AM, when breakfast was made available in the upper foyer of the Baskin Auditorium. From 9 AM to 10:30 AM, attendees ate and chatted and waited

for others to arrive. At 10:30, we began the presentation portion of our day, with introductory remarks by UCSC Professor Emeritus and SPS Advisor George Brown. He discussed the SPS, UCSC's physics history and heritage, and addressed the challenges and duties of the next generation of physicists.

Next, at 11 AM, UCSC Professor Anthony Aguirre delivered our opening Faculty Lecture. He gave a presentation about his current research into multiverse theory and other models of theoretical cosmology.

We then proceeded to our first session of student presentations, with talks by UCSC Physics major Konstantin Batygin, whose title was "On the Dynamical Stability of the Solar System", followed by UCSC Electrical Engineering majors Sean Korhummel and Jon Zisko, talking about their project, entitled "P.O.W.E.R.D. – Putting Out Wattage Efficiently at Radial Distance".

Lunch was served from 1 PM to 2 PM, in the foyer and courtyard adjacent the auditorium. We provided sandwiches from a local Italian delicatessen, Zoccoli's, supplemented with chips and fruit.

From 2 PM to 3:30 PM, we conducted tours of significant physics-related facilities on the UCSC campus. We split the large group (around 60 people) into two smaller groups and sent one group on a tour of the Santa Cruz Institute for Particle Physics, conducted by UCSC Professor Jason Nielsen,

and the lab of UCSC Professor Sue Carter, conducted by UCSC graduate student Chris France, while the other group was led on a tour of all of Science Hill, conducted by Professor George Brown. After 45 minutes, the groups switched places, thus giving all attendees a chance to see both tours.

The presentation portion of the event recommenced at 3:30 PM, when Kendra Rand, Programs Coordinator from SPS National, gave a talk about the SPS and the responsibilities and duties of the SPS national office.

At 4 PM, we held the second session of student presentations, with talks by CSU Fresno grad student Dan Tennant, on “Scattering of Light in Born-Infeld Electrodynamics”, Dulce G. Romero, also of CSU Fresno, on “Progress towards Growth and Characterization of Rare-Earth Nanoparticles using the Inverse Micelle Method”, and Dusty Gilbert, of UC Santa Cruz, on the “Development of a One Meter Railgun”.

A coffee break was held from 5 PM to 5:15 PM, featuring coffee from a local artisanal coffee roaster and coffeehouse, Lulu Carpenter’s.

At 5:15 PM, we concluded with a keynote address by Dr. Martin Perl, of the Stanford Linear Accelerator Center, and recipient of the 1995 Nobel Prize for the discovery of the tau lepton. Dr. Perl’s talk was entitled, “An Experimental View of the nature of Mass, Dark Energy, and Dark Matter”, and was a run-down on the state and prospects of many different current approaches to some of the fundamental questions concerning cosmology and the Standard Model.

After Dr. Perl’s talk, we took a group photo of all attendees, which can be found on page 4 of this report. We then stood around and chatted for a while, while the planning committee and many of the UCSC SPS members helped clean up the facilities, after which most people dispersed. We held

a small stargazing party later that evening for those who could attend, the original plan for which was thwarted by a dense fog. We thus decamped for a higher elevation and had much success stargazing at a different location, and were joined by the attendees from the University of Nevada, Reno. This was the official end of the 2008 SPS Zone Meeting for Zone 18.

Finally, we note that a remarkable sense of collaboration and camaraderie permeated the entire event. The initial breakfast period set the tone for the rest of the day: attendees from all around the zone arrived, ate bagels, drank coffee, and struck up conversations with those around them, leading to unpredictable connections and invaluable comparisons between academic experiences at each of the represented chapters / universities. This attitude of fellowship remained present throughout the day, leading to some wonderful interactions, especially during question and answer periods at the end of each of the student presentations. It certainly appeared as though the large majority of the attendees departed with a very good opinion of the event and with several new contacts and potential future collaborators.

Throughout the day, we estimate that we had an attendance of between 60 and 80 people at any given time.

The schools and/or chapters that had members in attendance are as follows:

- CSU Chico
- U. of Nevada Reno
- CSU Sacramento
- UC Riverside
- CSU Fresno
- UC Irvine
- UC Berkeley

- UC Davis
- UC Santa Cruz

The initial \$250.00 provided to us by the SPS National office was supplemented by additional funds provided by the UCSC Physics Department (with the understanding of partial reimbursement by way of an additional \$250.00 from the SPS National office, later) and the total financial breakdown for the Zone Meeting was as follows:

- Breakfast: bagels — The Bagelry — \$42.00
- Breakfast: juice — CostCo — see below
- Breakfast: muffins — CostCo — see below
- Breakfast and lunch: fruit — CostCo — see below
- Lunch: sandwiches — Zoccoli's Delicatessen — \$350.00
- Lunch: chips — CostCo — total CostCo amount: \$139.00
- Movie Night and Zone Meeting: Media Services — UCSC Media Services — \$239.00

The SPS at UCSC is honored to have had the opportunity to host the 2008 Zone Meeting and would like to cordially thank Zone Councilor Dr. William DeGraffenreid, of Sacramento State; Associate Zone Councilor Brendan Diamond, formerly of Chico State; and Kendra Rand and everyone at the SPS National Office for their assistance, guidance and stewardship.



The Society of Physics Students -- 2008 Zone Meeting for Zone 18
University of California, Santa Cruz -- 3 May 2008