

SPS University of Florida Zone 6 Meeting

November 11 & 12, 2005

Summary Report

The University of Florida chapter of SPS hosted a Zone 6 Meeting on Friday and Saturday, November 11 and 12, 2005. The first part of the Friday meeting was comprised of SPS research poster and oral sessions held in conjunction with the Southeastern Section of the American Physical Society (SESAPS) meeting, which was taking place that same week. Because the event was in the same place as the SESAPS meeting, students could participate in SESAPS talks and interact with researchers outside of the SPS sessions. The second part of the Friday meeting took place on the UF campus. This evening meeting consisted of an awards presentation to best oral and poster presenters, a talk from guest speaker, national SPS director Dr. Gary White, a brief round of introductions from each SPS chapter, a movie about the UF physics department created by the UF SPS chapter especially for the zone meeting, and an evening mixer, including dinner, game show with prizes, and liquid nitrogen ice cream. Afterwards, participants had the option of walking to the nearby Campus Teaching Observatory for the Mars Public Night Open House. On Saturday, tours were given by UF physics faculty of 4 research laboratories. In all, there were approximately 60 participants.

Agenda

Friday November 11

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|---------------|----------------------------------|----------------------------|
| 8:30 | Registration | Hilton Hotel |
| 10:45 – 12:30 | SPS Poster Session | Hilton Hotel – Cypress Rm |
| 14:00 – 16:00 | SPS Oral Session | Hilton Hotel – Cypress Rm |
| 16:30 – 17:30 | Snacks and drinks | New Physics Building Lobby |
| 17:30 – 17:40 | Best presentation awards | NPB 1002 |
| 17:40 – 18:40 | Guest Speaker Lecture | NPB 1002 |
| 18:40 – 18:50 | Movie showing on UF SPS activity | NPB 1002 |
| 18:50 – 21:00 | Mixer | NPB Lobby |
| | Food and drinks | |
| | Trivia Game Show w/ prize | |

Saturday November 12

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|--------------|----------------------------|
| 9:15 – 12:00 | UF Physics Laboratory Tour |
| | Coffee and Doughnuts |

Lab Tour Guides: Professors Darin Acosta, Arthur Hebard, Yoonseok Lee, David Tanner

Budget

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|------------------|---|
| \$62.00 | Snacks, Finger Food on 11/11/05 |
| \$40.00 | Coffee on 11/12/05 |
| \$20.00 | Doughnuts on 11/12/05 |
| \$430.00 | Dinner (catered by Moe's Southwest Grill) on 11/11/05 |
| \$25.00 | Liquid nitrogen ice cream ingredients on 11/11/05 |
| \$60.00 | Game show prizes on 11/11/05 |
| \$10.00 | Game show materials on 11/11/05 |
| \$20.00 | Drinks on 11/11/05 |
| \$15.00 | Plates, napkins, utensils, cups on 11/11/05 |
| \$560.00 | Student travel support (funded by the Center for Condensed Matter Science and the College of Liberal Arts and Sciences of UF) |
| \$150.00 | Information packets (paid by the Department of Physics of UF) |
| \$1392.00 | TOTAL |

Participants

| Name | Affiliation |
|----------------------|--|
| Alex Daly | UF |
| Simcha Korenblit | UF |
| Amruta J. Deshpande | UF |
| Erica Bolin | UF |
| Jacob Tosado | UF |
| Catherine Yeh | UF |
| Donald J. Burnette | UF |
| Christine Laufer | UF |
| Harold Rodriguez | UF |
| Kaitlin Harley | UF |
| Yoon Lee | UF |
| Robert DeSerio | UF |
| Gary White | SPS National Office (AIP) |
| Justin Cohen | UF |
| Summet Jain | UF |
| Amlan Biswas | UF |
| Tarek Saab | UF |
| James Wells | Davidson College |
| Christine Gabrielse | Florida Inst. of Tech. |
| Jennifer Kissinger | Florida Inst. of Tech. |
| Keri Salvador | Florida Inst. of Tech. |
| Donald Schumacher | Florida Inst. of Tech. |
| Uzma Naeem | LSU |
| Monica Villarreal | Middle Tennessee State |
| Charles Duck | Northwestern State University |
| Paulo Andres Garcia | Randolph-Macon College |
| Jarrett Lancaster | U of North Carolina at Greensboro |
| Pontus Ahlqvist | Univ. of Central Florida |
| Tania D. Cubano-Cruz | Univ. of Central Florida |
| Keith Thomas | University of North Carolina at Greensboro |
| Justin M. Sanders | University of South Alabama |
| Kristen Lackeos | University of South Alabama |
| Daniel Strickland | Francis-Marion University |
| Sakamoto Taka | Francis-Marion University |
| Ross McLemdon | Francis-Marion University |
| Samantha Penland | Francis-Marion University |
| Paul Triplett | Francis-Marion University |
| Sheena Gause | Francis-Marion University |
| Weston Jordan | Francis-Marion University |
| Miles Norton | Francis-Marion University |
| Amber Ellis | Francis-Marion University |
| Matthew Brown | Francis-Marion University |
| Lakia Lasani | Francis-Marion University |

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|--------------------|----------------------------------|
| William Lee | Francis-Marion University |
| Tommy Starling | Francis-Marion University |
| Bart Snyder | Francis-Marion University |
| Robert Smith | Francis-Marion University |
| Byron Brown | Francis-Marion University |
| James Wilson | Northwestern State University |
| Lacey Sepulvado | Northwestern State University |
| Jena Nugent | Northwestern State University |
| Alice Quan | Middle Tenn. State |
| Corey Clift | Univ. North Carolina, Greensboro |
| Erin Riley | UCF |
| Yogesh Sharma | UCF |
| Jonathan Arnold | UCF |
| Renee Royal | FCC Jacksonville |
| Daniel Jordan | FCC Jacksonville |
| Szabolcs Rembeczki | FIT |
| Don Green | UCF |

Accounts of the research talks session and evening mixer

(written by UF students for the December issue of UP News, the UF undergraduate physics newsletter)

SPS Zone Meeting Talks

By Amruta J. Deshpande

A few of you remember having a great dinner catered by Moe's, followed by liquid Nitrogen ice cream and game show on Friday, November 11th, 2005. The occasion you may also remember was the 2005 SPS Zone meeting. Of 18 SPS zones, we are zone 6 comprised of colleges in Florida, the Carolinas, etc... It was great to meet fellow SPSers from other schools and to see what they do. It was especially great to learn of various research conducted by their members. Research was presented in two ways at the meeting: poster and oral presentations. The best presenters were eligible for the Marsh White award, which boasted a sum of \$200. That got the presenters going!

Whatever the students' motivations, the quality of presentations was excellent. There were 10 presentations in a 2 hour span with 10 minutes per presentation and 2 minutes for questions. This time, the students presented and beckoned lots of questions from professors interested in finding out more. 2 minutes were not nearly enough for some presentations. The back of the room was in fact packed with people looking for part of a wall to lean against between talks.

Presentations spanned a wide range of topics. On the cosmic scale, there were efforts to measure the water content of Martian soil and intermediate efforts toward detecting gravity waves. On the molecular scale, there was a surprising number of talks in the field of biophysics. Biophysics topics dealt with tasks such as constructing layers of certain lipids in a specific configuration, or injecting mice with fluorescing inert particles known as

"Quantum Dots" to image them. There was research on the atomic scale dealing with photo-detachment as well as research in good old condensed matter physics dealing with magnetism. There was even some research in classical mechanics: an effort to characterize the force distribution between two bonded objects under a certain loading. It was great to see theory presentation as it well illustrated that undergraduates can contribute effectively to ongoing theoretical research.

Some entertainment also came the listeners' way in addition to information. Presenters adorned their talks with bloopers they encountered during their experiments. We learned how injecting mice with quantum dots was a bit of a problem as the needle was slightly larger than the vein being injected. We were assured the mice experienced no trauma during this process however. There was also a story of a first time visit to the campus of Florida Gators, where a real live gator jumped out to extend its welcome during a promenade around Lake Alice. Since all was fine, this presenter was especially thrilled to be presenting.

The talks were indeed a good experience. "The quality of presentations was so good, that we had to give 2 awards," said Prof. Yoonseok Lee, SPS advisor and one of the organizers of this meeting. Instead of one, two awards were given to oral presenters back at the NPB. Winners were presenters for determining water content of Martian soil, and for characterizing the force distribution on the surface of two bonded masses. The oral session was quite a success given the crowd that attended and how happily the number of awards was increased.

SPS Zone Meeting Mixer

By Cathy Yeh

Question: “What animal is the subject of Schrodinger’s famous paradox concerning the measurement process of quantum mechanics?”

The 5 people on the Landstander’s team answered “cat” without hesitation, while the Yokish team howled at the simplicity of the question and waved their hands in disbelief. Audience and contestants were engrossed in the battle of physics wits. The group trivia round ended with the Landstanders a few points in the lead.

Next, the teams each selected a representative from amongst themselves to answer a series of 10 questions in 2 minutes. The 10 questions for the individual round were contributed by Dr. Louis Bloomfield, author of **How Things Work: the Physics of Everyday Life**. Earlier in the day, he had stopped by the SESAPS registration counter at the Hilton where Justin Cohen and I were desperately pouring over physics textbooks and even old physics GREs in search of trivia question fodder. Dr. Bloomfield had a huge store of physics questions at his fingertips that were unique for being tied to everyday experiences e.g. “You tip over a 1 m stick and a 2 m stick. Which hits the ground first?” The representatives from the two teams, Yogesh Sharma from the University of Central Florida and Alex Daly from our own department, excelled under pressure, and they were honored with bottles of sparkling grape juice.

In the last round, the teams were given 5 minutes to build the tallest possible free-standing structure out of drinking straws and masking tape. The Landstanders utilized a tripod base, and the Yokish team tried to implement an assembly line process that never quite took off. The Landstanders scored a definite victory and were awarded UF SPS quarks t-shirts. SpongeBob Squarepants mechanical pencils went to the Yokish team.

The physics game show was one of several events in the SPS zone meeting mixer. Around 4 PM, participants in the SPS poster and oral presentation sessions at the SESAPS conference began arriving at the New Physics Building. They were entertained by Drs. Lee and DeSerio with physics demos until 5:30 PM, when the winners of the poster and oral sessions were presented with prize money and certificates signed by physics department chair, Dr. Alan Dorsey. The awards were followed by a talk from SPS national director, Dr. Gary White, entitled “Why Physics? Why 2005? Why Einstein?” At one point during his talk, he asked the audience to grab the edges of a large piece of red spandex and roll marbles over it in an attempt to simulate planetary motion, drawing some parallels between the spandex and gravity.

After Dr. White’s talk, representatives from SPS chapters introduced themselves and discussed their activities. A movie created by SPS webmaster Harold Rodriguez was played about life in our own physics department. (It will be available for your viewing pleasure on the SPS website.) Dinner catered by Moe’s, the physics game show, and liquid nitrogen ice cream followed. With registration beginning at 8:30 AM and evening activities ending around 9 PM and around 60 participants, it was a busy but memorable day.