

by UP Staff

UP WELCOMES YOU

To welcome this year's new arrivals to UF Physics, we thought we'd compile small advicettes to help them better find their way and provide them with a cursory perspective on the times ahead.. But first a brief introduction on who we are.

We are UP News! Some twenty and four score physics years (three college years) ago, a girl named Cathy Yeh thought it would be great to harvest the undergraduate physics minds for some funnies as well as stories of physics experiences across the nation each month. With the help of the all-female troop that joined her, UP News was born spitting out Star Trek fanaticism, adventures on a scooter, and other must-hear stories. There's also news of SPS (society of physics students) events like "tea with a professor", and the yearly picnic, along with happenings in the department and physics in general. It was and is *the* forum for the quintessential physics undergrad. *Gotta have your UP News!*

Well Cathy graduated last spring, and we miss her, but it hasn't slowed us down! We're still as kooky and ruthlessly informative! And we haven't forgotten what the newsletter is all about - us. So for those of us just entering the scene, here's some survival tips put forth by the generous, sarcastic souls of two UP staffers:



Cathy Yeh

5 Tips to Surviving Physics Classes: 1) Develop Herman like biceps and pectoral muscles. These will come in handy when you try to open the 2-ton steel barricades they call "doors" at the main entrance, while carrying all your stuff. 2) They purposely schedule physics classes before the crack of dawn so that only the most motivated actually make it to class. Heed this: three or four hours of sleep before other classes might work, but not for physics classes! 3) Make sure you're good at Frogger before you try to cross Museum Road and scurry into the Physics building. In this high-traffic zone, almost nobody watches where he or she drives (and busses have terrible deceleration). 4) Get yourself acquainted with room 2229--a.k.a. the Physics Lounge. This is where all the other lost students go. At least you can be lost together. 5) Don't be a magnetic field. Ask questions often and be prepared to DO WORK.

Another UP staffer wanted to point out that any student of general relativity knows that taking physics classes is the mathematical equivalent of physics classes taking you. But, you can be a physics major and keep up an ortho-normal life. To counter the stress and the strain of your classes, learn to integrate with the flow, or just curl up with a good B-field. If some of this doesn't make sense now, it surely will soon. With the help of the wonderful professors here at UF, enthusiasts in the Physics Lounge (again, NPB 2229), and SPS, you're on your way to a great four years of your life.

Welcome to UF physics!

who we are

UP is a monthly undergraduate physics newsletter sponsored by the University of Florida's chapter of the Society of Physics Students, for students, by students. We seek to strengthen the undergraduate physics community at the University of Florida by providing a forum for undergraduates to share their views and experiences with each other and acting as a source of information for opportunities and events in physics.

**FREE
MONEY
DETAILS ON
THE BACK**

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UNDERGRADUATE ADVISORS

Feel free to visit one of our department advisors if you have any questions about classes, schedules, research, or about a future in physics. Many of them would be happy to see you outside of their office hours as well - just drop them an e-mail.



Darin Acosta

Advising Hours: Monday 2pm - 3pm

Email: Acosta@phys.ufl.edu

Phone: 846-3144

Office: NPB 2035

Research: Experimental Particle Physics

Hobbies: Playing with his children

Favorite Restaurant: Harry's

Favorite Physics Class: Applied Classical Mechanics



Gene Dunnam

Advising Hours: Tuesday and Thursday 9:30am - 10:30am

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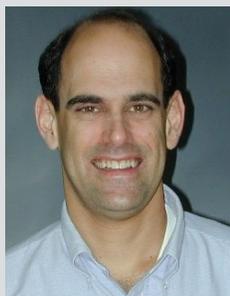
Office: NPB 2364

Research: Experimental Nuclear Physics; PIXE Analysis

Hobbies: Sings in the Gainesville Civic Chorus, building a pipe organ in his home

Favorite Gainesville Restaurant: Szechuan Panda

Favorite Physics Course: Modern Physics and Honors Energy



Selman Hershfield

Advising Hours: Monday, Wednesday, and Friday afternoons

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Phone: 392-9387

Office: NPB 2138

Research: Condensed Matter Theory

Hobbies: Spending time with his children

Favorite Gainesville Restaurant: Leonardo's 706

Favorite Physics Course: Quantum Mechanics



Yookseok Lee

Advising Hours: Tuesday 2-4pm

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Phone: 392-6689

Office: NPB 2233

Research: Low Temperature Physics

Hobbies: Cooking, listening to classical music

Favorite Gainesville Restaurant: Pio's Pasta Co., Paramount Grill, Chutnees

Favorite Physics Course: Thermodynamics



Katia Matcheva

Advising Hours for Female Students: Thursday 11am-12pm

Email: katia@phys.ufl.edu

Phone: 392-0286

Office: NPB 2073

Research: Astrophysics Theory- the Physics of Solar System Planets

Hobbies: Playing with her son

Favorite Gainesville Restaurant: Leonardo's

Favorite Physics Course: Electromagnetism

UF REU : SUMMER 2006

by Amruta J. Deshpande

One of the benefits of being an undergraduate in physics is the amount of money colleges and institutions will spend on you to help you gain research experience. A well-known program to this end is the REU or Research Experiences for Undergrads Program, funded by NSF. NSF sponsors universities across US (and select ones outside) to accept students for 10 weeks of research in exchange for a housing allowance as well as a stipend, which is a great opportunity to do physics while having fun in different parts of the US. www.nsf.gov/home/crssprgm/reu/



Here are the UF participants in this year's program, overseen by professor Kevin Ingersent. These students conducted research in fields ranging from nanoscale physics to scales extending out in space. Amy,



one of the REU students, had as her first task to find spheres stuck on double stick tape of diameter 100 micrometers with a magnifying glass and then to move them using very pointy tweezers. How did she do it? Very very carefully! She helped improve the technique of depositing a gold film on these spheres for a better measurement of the Casimir force. Kevin

was working with brand new compounds recently created by chemists to characterize them magnetically, and in select other ways.



David made trips back and forth to the magnet lab in Tallahassee for his research with a Quantum 1-D antiferromagnet. Jeremy worked



with lasers and electro-optic modulators to advance control techniques for the land based detectors of LIGO (Laser Interferometer Gravitational



Wave Observatory). Luis and Ben worked on LISA (Laser Interferometer Space Antenna) which aims to detect gravity waves from outer space. Luis extended code that

simulated L I S A operation by accounting for parameters previously not encoded.



Ben worked with Hydroxy-Catalysis bonding, a fairly new bonding technique in optical applications, which sees material failure before bond failure. David worked on a technique to measure femtosecond laser pulses; a difficult task since there is nothing available of shorter length with



which to measure the length of a specific pulse. These were 7 of 14 projects carried out in this year's program, including some in the field of biophysics.

Amid research, trips were made to St. Augustine and Itchetucknee Springs. A barbecue was also held for students in the Keys Residential Complex where they were all residing during the program. Some

students ventured to Orlando to see Florida's tourist sites independently from the planned REU trips.



All in all, students really enjoyed themselves. Proof of their good time was found in the final presentations during which three performed a musical parody to the techno song "I'm Blue" in honor of the blue light emitting, quorum sensing bacteria studied by Rachel. The performance involved Rachel's keyboard styling, David's guitar playing, and the vocal styling of Kevin who moved in and out of a Blue flashing screen singing the parody, bulging his eyes, contorting his face, and hammering on a pot with a metal spoon!

While it is common for REU projects to not produce conclusive results, this year's group was unique in that most did. Students appreciated the research, the organized group activities and their successes, and organizers and students alike had a good time!

Photos, left to right from top (Credit): Summer 2006, UF REU Students (UF REU), Amy (Luis Colon), Jeremy (UF REU), Annie barbecuing (Luis Colon), Luis (left) and Ben (right) (UF REU), St. Augustine Trip (Luis Colon), Kevin with Dr. Meisel (UF REU), David (leftmost) (Luis Colon), David (UF REU)

SPRING 2006 VINDICATION

by Amruta J. Deshpande

Vindication was ours! Every spring SPS (Society of Physics Students) hosts a picnic. Students, faculty and friends and family are all invited to enjoy food and lots of games with the highlight of the afternoon being the student vs. faculty softball game. I remember going to my first picnic 2 years ago thinking, we have good professors here at UF. Ergo, they must be involved in their work and teaching and have noooooo time for exercise and sports. The student-faculty softball game should be a joke with the students coming out victorious. I have never been more wrong in my college career! It was one of several sad days for students as faculty not only won, but also humiliated the student team. We began to assign secret identities to our professors' of characters like the Rock to soothe our pain.



But this year, whoo-wee! Students won 11-9! A crowning achievement that pales the next scientific marvel! Students were distracted by nothing.

No amount of bustling, no teasing, not even a low flying airplane! That's right an airplane. Former student Joe Gleason flew over the softball game in his Champ doing stunts for



the crowd of bystanders. But the students held focus. Each had pigged out on the various burgers, salads, chips and cookies provided at the preceding barbecue. There's always a ton of food, with leftovers sitting in the lounge for frequenters to enjoy. Stomachs hitting the floor and feet dragging, students trudged behind the batting fence, and gave it their all. In case you find yourself playing softball this spring, and realize you're playing a losing game, think of the Spring 2006 Vindication, and know that you too have been vindicated. And to distract yourself later, you've always got other games, more food, and I wonder - another low flying airplane?

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CALL FOR WRITERS
UPNews is always looking for undergraduates who want to contribute. If you'd like to get involved, e-mail us at upnews@phys.ufl.edu (no experience necessary)



We'd like to wish a fond farewell to two of our graduating seniors. Katherine Keller and Jacob Tosado both graduated in Spring. Katherine was one of the founding members of UP News. She started as an Editor and Writer and acted as Production Manager for the 05-06 school year. Jacob joined UP in 05 and contributed several articles. We will miss them both.

FREE MONEY

As a Physics/Liberal Arts and Science major, you've got a variety of specialty scholarships and paid fellowships available. The first thing you'll want to do is check www.clas.ufl.edu/scholarships. CLAS has compiled a list of outside and UF-endowed scholarships worth thousands.

There are many different scholarships, such as the Society of Exploration Geophysics Scholarship. Entering students pursuing a career in geophysics, physics, mathematics and/or geology may receive awards of \$500-\$3,000. Deadline: September.

Another scholarship detailed there is from The American Physical Society. APS (who fathers the Society of Physics Students) has minority scholarships worth \$2000. Eligibility: Black, Hispanic, or Native American; www.aps.org. Deadline: February. Value: \$2,000.

Make sure to check out fellowships, such as those from the National Science Foundation. Physical science students may get details at www.orau.org/nsf/nsffel.htm. Deadline: November 14. Value: \$12,300.

UF is also offering guaranteed employment at this very university for four entering students with an interest in physics. Those interested can also benefit from research and laboratory work. Contact: Selman Hershfield, New Physics Building. Value: up to \$500 within an academic year.