

Breaking News in Physics

..... by *UP Staff*

Congratulations undergrads! Consider yourself privileged to be an undergrad in physics during this past week. In case you haven't noticed, this past week has been witness to some of the most exciting and bizarre events in physics. UP staffers collected a few events and compiled them for you below. But beware; do not stop reading this article in the middle. Continue to the end to understand the full significance of this series of events. It is essential that you continue to the end!

Bizarre event number one: Thermodynamics has taken a new turn. A paper published on April 1st 2006 conclusively proved that the entropy of the universe is actually decreasing. The paper goes on to predict that by year 3541 all life forms will have crystalline structure and all process efficiencies will be at 98% or higher.

Additional discoveries in physics were made. The magnetic monopole was discovered here at UF by professor Ima Parse. While the discovery has astounded scientists, none can deny the characteristic magnetic field lines observed when the bar magnetic monopole is placed in iron filings.

The best and most astounding discovery thus far:- NPB Janitor Unifies Physics! Read below:

In what has been hailed as one of the greatest accomplishments of humankind, a quantum theory of gravity has finally been achieved. The consensus is developing amongst theoretical physicists and mathematicians that quantum mechanics has finally been unified with Einstein's theory of general relativity. The paper describing this momentous feat, titled "On the Multidimensional Structure

of Space and Time," was recently put up on the Arxiv.org pre-print database. It has drawn extremely close scrutiny from all of the world's most prominent scientists. The highly mathematical nature of the paper, obviously, is extremely complicated and even many renowned physicists are said to be still trying to understand it. It is rumored to touch on far-ranging aspects of mathematics, from the Poincare Conjecture (thought to be recently proved by Grigori Perelman) to Godel's Incompleteness Theorem to the Riemann Hypothesis. Clearly, this paper will have a profound effect on the way we think about ourselves and the universe. Long-standing unanswered questions in physics such as quantum chaos, dark energy, dark matter, and the origin of the universe have said to be resolved in this incredible paper. History is in the making, and science as a whole has just entered a new era.

Furthermore, the author is not one who has been recognized as any leader in physics or mathematics, or for that matter in any field in the past. He is a custodian in the physics building at the University of Florida. Physics faculty members are coming to terms with the fact that he may be what many dubbed as the "Phantom of the New Physics Building." For years, the chalkboards in the physics building at UF had been scrawled with incredibly complex chains of equations. Some professors immediately recognized these equations as dealing with superstring theory, but most of the equations were entirely foreign to them. Many

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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.

BREAKING Finding the Buffalo in Gainesville

continued from front

by Nick Park

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research problems that UF physics professors were working on would mysteriously appear solved on the chalkboards in various classrooms of the physics building. Nobody knew who was doing this, and they dubbed him the "Phantom of the New Physics Building." Keep up to date on the Phantom and Unification by reading UP News.

In other discoveries, the origins of the foul smell occasionally observed at the NPB were recently located. While the smell was always reasonably assumed to be due to our neighboring water improvement facility, the truth is a little different. On April 1st, body parts were found near the Physics Building's entrance. They were mostly bone remains with a serrated knife scratch on the victim's left femur. The body parts were discovered by a student, who then informed officials. "The smell was awful! It smelled like a sewer." Police used gas masks and flashlights while sifting through the underbrush at night. Authorities speculate that the body is of a graduate student who worked him or herself to death (and the serrated knife mark is considered to be evidence of masochism). Officials declined to comment on the student's identity, but did say that this student had too many papers to grade as judged from the remains.

In perkier news, a new species of blind physics graduate student has been discovered living in dark, until recently unexplored regions of the NPB basement. Although startling in appearance, they are harmless and respond gratefully to offers of free pizza.

By an uncanny coincidence all events reported above whose dates were not reported, also occurred on April 1st, April fool's day. On this occasion, UP News would like to wish you a very Happy April Fools!

For most people, hotwings are a game-time snack, a sports-bar appetizer, or - for the guys - an excuse to see women wearing very short, bright-orange shorts. For me and my friend David, however, hotwings are a passion.

Some people are connoisseurs of wine, truffles, or caviar. We are hotwing connoisseurs. We love the rich, hot flavor of the red peppers and vinegar, the crispiness of well-fried wings drenched in sauce, and of course, the good times shared watching whatever game is on TV. For us, our love of hotwings started many years ago - and we've spent the past many years finding the best wings in Tampa, our hometown. With that, if you're in Tampa, pay a visit to Bilmar Station - you won't

regret it. We've even driven as far as Atlanta just for hotwings - and again, if you're in the area, be sure to check out Max Lagers and get the wings.

I wanted to not only extend this hotwing expedition to Gainesville, but to also share my reviews of our local hotwing-serving establishments. As a disclaimer, I'm reviewing food and as subjective as it all is, I should say that my preferences for hotwings are for crispy-fried chicken wings of medium-large size with a hot, but flavorful sauce that is close to a traditional Buffalo-style hotwing sauce, though I'm not a purist. As such, I will not address Hooters wings here other than to say that they are somewhat sweet, not particularly hot, incredibly greasy, and fairly "untraditional."

Gator's Dockside

\$6.50 for 10 wings

Gator's Dockside offers numerous wing options; with three cooking styles (grilled, breaded, and Buffalo) and 14 different sauces, you can mix and match more combinations than you can eat in one sitting. Traditionalist that I am, I ordered their Buffalo (or "naked") wings with their "hot" sauce. The wings were smaller than expected, in the small-medium range (in my experience), but were fried perfectly. They came out fairly saucy, but could have used a little more sauce. The "hot" sauce could have been hotter, but it had a solid Buffalo-wing flavor. Overall, the wings were good, but a little small and in need of some extra sauce.

Rating: 6 out of 10

Calico Jack's

\$6.95 for 10 wings

Calico Jack's claims to be "voted best wings in Florida" and while I cannot say I was part of that vote, I will certainly say that they have excellent hotwings. CJ's wings were medium-large in size and were also fried perfectly - crispy even when drenched in sauce and not over-cooked. Their "hot" wingsauce was a traditional Buffalo sauce with a good flavor and just the right amount of heat for a "hot" level of sauce. As (almost) always, a little extra sauce would again have been an improvement, but overall these wings were excellent.

Rating: 8 out of 10

Wing Zone

\$6.49 for 10 wings

These wings were ordered delivery from Wing Zone. Admittedly, this puts them at a slight disadvantage to the others, which were eaten fresh at their respective restaurants. Still, I enjoyed the Wing Zone wings, which are medium-large in size. The "hot" sauce was not particularly hot and much of the sauce had been soaked up by the wings, so a cup of extra wingsauce is recommended. This greatly improved the wings, both in spiciness-heat and overall flavor. The sauce is a traditional Buffalo sauce, though it has a "higher pitch" red pepper flavor as compared with the others. Overall, Wing Zone wings are good wings and probably best when eaten directly after pick-up at their storefront. The size of the wings helps make up for the "delivery disadvantage."

Rating: 6 out of 10

Tea with a String Theorist

... by Jonathan Young

Distinguished Professor Pierre Ramond spends most of his time working on the cutting edge of physics, but on Tuesday March 21, 2006, he took the time to speak about his field with physics undergraduates. For over an hour and a half he answered questions, gave advice, and lectured on string theory.

Professor Ramond began speaking about how he became involved in string theory, taking the audience on a historical tour from the birth of the theory to its present status. He explained several prominent ideas in theoretical physics such as supersymmetry and Yang-Mills theory, ideas that, without his commentary, would have seemed impenetrable and hopelessly complicated to the average student. He also shared invaluable advice to physics students, one of which was how to use the computer to explore wavefunctions

in quantum mechanics. Dr. Ramond also urged the young physicists in the audience to follow their passion and work on what they believed in, rather than cowering to what society expects of them. He spoke fondly of being a professor, noting that his job allowed him the freedom to go after his curiosity and get paid for it. He joked that to become a professor, of course, one had to painfully endure a rite of passage called graduate school.

It was quite an honor to be able to meet and discuss physics with Professor Ramond, who is well-known for pioneering work he did in string theory. Among his many honors and awards are the Guggenheim Fellowship, Boris Pregel Award, and the Oskar Klein Medal. In 2002, he was the Reimar Lust Lecturer of the Max Planck Society at the Albert Einstein Institute.

He has also been a participant of the famed Solvay Conferences in Brussels. His accomplishments in string theory have done much to advance the field. According to the Elegant Universe by Brian Greene, in 1971 "he took up the challenge of modifying the bosonic string theory to include fermionic patterns of vibration." Because of his work and others, a newer version of string theory began to emerge. A paper he published around this time, entitled "Dual Theory for Free Fermions," is listed on the SPIRES high energy physics literature database as a renowned paper, with over 500 citations. In theoretical physics, the Ramond-Ramond field is named after him. He continues to work today with his colleagues in the hopes of bringing physicist closer to Einstein's dream of a unified theory of physics.

SPS UPDates

Results of the 2006-2007 Officer Elections held on March 7

Tuesday, April 4

SPS General Meeting - 5:30pm
Important information about upcoming events will be discussed - don't miss it!

ROFU - 6 PM

Research presentations by Dr. Selman Hershfield and Dr. Andrew Rinzler
Both will be held in NPB 2205

Sunday, April 9

Annual SPS Picnic - 11 AM - 5 PM
Lake Wauburg South Park
South Pavilion #1
Faculty vs. Student softball game @ 2 PM

Saturday, April 22

Farewell Potluck &
Sigma Pi Sigma Inductions - 6 PM
Everyone welcome - seniors will offer advice on applications to grad school, the GRE, etc.

Location: Private Residence behind 620 SE 4th Avenue
E-mail sps@phys.ufl.edu to be involved in the carpool - if you need a ride or if you can give a ride.
See the SPS website for a map

Friday, April 28

SPS Senior Dinner - 7 PM
Location: Seniors, please e-mail sps@phys.ufl.edu with restaurant suggestions
SPS will pay for seniors' dinners

President



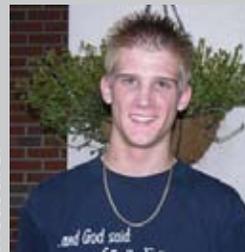
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Propagandist



Steven Lee

Propagandist



Paden Woodruff

Congratulations to next year's officers and thanks to the 2005-2006 officers for such a good year!

Summer Plans for Seniors

..... by Amruta Deshpande
 As the semester comes to a close, do you wonder what your fellow upper classmen will be doing at the end of this term? Are they planning for their next year study, or will they enjoy this one last summer before a few grueling years of graduate school, or their step into the 'real' world – gulp! Here's what some graduating seniors have on their summer to-do list, and general post-graduation list:



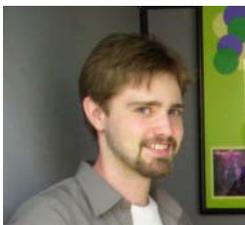
Chris Cook

Chris is going on a planned tour of Europe for a month after graduation. He expects to visit countries like France, Italy, Greece, Germany, and Holland. Coming back from his trip, he hopes to work until he goes off to graduate school in physics at UIUC.



Nick Kvaltine

Nick too graduates at the end of the Spring term. He has a number of job prospects for the summer including working at a NASA center. But not before he goes on a probably longed-for road trip with a good friend. In Fall he'll be attending graduate school for physics (decision pending).



James Davis

Jim will graduate at the end of Summer A after delving into some more German study. Then he plans to brave the wilderness and hike the Continental Divide from Yellowstone National Park to the Glacier (hopefully for 1-2 months). At the end of his journey, he will join Ohio State University in the fall for his graduate studies.



Doug Sparks

Doug plans to spend his summer in Tennessee where his family resides. Coming fall, he will join graduate school in physics.



Katherine Keller

UP staff's current production manager, Katherine graduates at the end of the Spring term. She'll be taking a year off, and then attend graduate school in the field of medical physics.



Jacob Tosado

Jacob plans to take a year off after graduating at the end of the spring term. He will be working at the Argonne National lab for the summer, and will visit Puerto Rico in the summer of 2007 before going off to graduate school. Good luck with that GRE before you apply to grad schools this fall!

We wish the best of luck to all of our seniors in all of their ambitions and exciting ventures. We'll miss you, so keep in touch and send UP News a postcard or two!

UP Staff

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Submissions

We welcome your news!
 Please send submissions to
 upnews@phys.ufl.edu by the third
 Monday of the month

11am - 5pm

SPS Spring Picnic
 society of physics students

Sunday, April 9th
 Lake Wauburg
 south shore, south pavilion #1

students vs. faculty
 softball game
 2pm

Everyone is welcome!
 including family + friends