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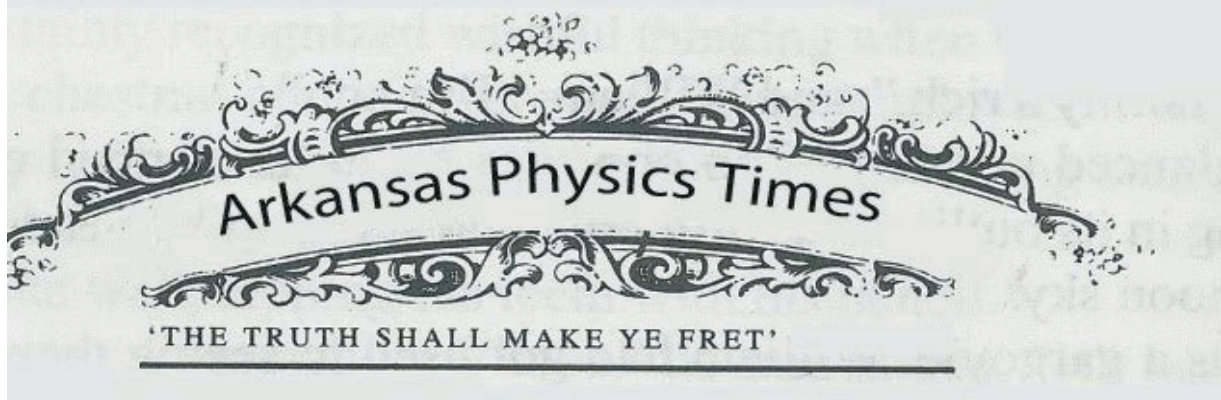
Society of Physics Students (American Institute of Physics)

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PHYSICS DEPARTMENT TO CELEBRATE ITS CENTENNIAL

By Dr. Raj Gupta

The 2007-08 academic year is the Physics Department's centennial year. To celebrate this important event, we have planned a series of public lectures by distinguished physicists throughout this academic year as part of the Centennial Lecture Series. Details of the lectures can be found at our website at

<http://www.uark.edu/depts/physics/centennial/index.html>.



Calendar of Events

- Sunday, Sept. 23 - Celebrate the first day of autumn with SPS, Bike Ride at Pea Ridge, 12:00 a.m.
- Monday, October 8 - second SPS meeting, 6:30 p.m. in PHYS 134
- Haunted Lab, Saturday and Sunday, October 27-28
- Monday, Nov. 12 - third SPS meeting, 6:30 p.m. in PHYS 134

The main festivities will take place on April 3-5, 2008. The starting event will be the Centennial Maurer Distinguished Lecture (a public lecture) at 7:00 pm on Thursday, April 3, 2008 by Wolfgang Ketterle, John D. MacArthur Professor of Physics at M.I.T. and a winner of the 2001 Nobel Prize in Physics. On Friday, April 4, we have planned a presentation of the highlights of the Department's research, a talk on the history of the department, a tour of its research laboratories, opening of the centennial exhibits, and a formal banquet in the evening at the Fayetteville Town Center. We will conclude the program on Saturday morning April 5th with a reunion of our old friends, former faculty and alumni. This will be one of the highlights of the program with talks, anecdotes, and reminiscences by the participants. We are expecting most of the former faculty to attend, and we hope that a majority of alumni will also attend. Details of the program will be available at the above website.

Adventures in Research: A Summer of REU/Study Abroad Experience



Rachel Lee, an enthusiastic member of the study abroad club, participated in the College of Engineering's study tour of India last summer. The trip focused on learning about the culture of India and specific engineering challenges there through classes and traveling around the country, rather than in a laboratory setting. Rachel rated the overall experience as very positive, noting in particular that her favorite side trip was to Allepy Backwaters in Kerala, India where the group spent the night on a houseboat. The opportunity to build relationships

with fellow engineers while enjoying a very cool country made this trip one of the best Rachel has ever been on. She says further that the trip changed her view of the world. Pictured (front row from left): Jon Conley, Rachel Lee, Troy Long, and Adam Barito.

When asked about his summer REU, Matt Naglak responded, "Now I'm more interested in high-energy physics, which is the best physics." Naglak spent ten weeks this summer in what is commonly referred to as "the armpit of hell," that is, Waco, Texas. Matt notes that the rumors about Waco are probably true, but says his enjoyment of Baylor University and his fellow students working on the REU made his trip to a place the devil typically avoids worthwhile. In the lab, Matt spent most of his time writing a computer program for a device at Fermilab, which he admits could have been more exciting, but it did get him a trip to Fermilab itself. The few days in Chicago held special significance for Matt who hopes to work there someday. In addition to the useful professional contacts and connections Matt made, he also made lifelong friends. Looking back on the experience as a whole, Matt rated it as positive, but noted that it couldn't hold a candle to the Humanities department's "Arts and Architecture" summer study tour of Italy.



Josiah Walton had what he calls his best summer ever at Kitt Peak National Observatory in Arizona. Most of his laboratory time was spent at the National Optical Astronomical Observatory headquarters on the University of Arizona campus where he worked on computers with the other REU students. Josiah spoke of the great friendships he made with physics students from top schools all over the country, noting that he felt well-prepared by the UA



Physics Department to competitively engage with his fellows. During his time out West, Josiah went on several educational excursions including trips to Apache Point Observatory, White Sands National Monument, the VLA radio astronomy observatory in Socorro NM, and the National Solar Observatory in Sacramento Peak, NM. He also spent a full week doing observations on Kitt Peak and working with the telescope, an amazing experience even during the non-ideal monsoon season. About the overall REU

experience, Josiah says it opened his eyes to what real astrophysics research entails. After his work at Kitt Peak, he feels he has gained the necessary exposure to astronomy and the proper connections with top astrophysicists to successfully pursue a career in astrophysics research.

Chris Sharp spent the summer in Washington, D.C. working on an REU at the Smithsonian Air and Space Museum. His work was in the field of planetary sciences and entailed searching for subsurface craters in the Northern Hemisphere of Mars. While the work was very interesting, Chris says his favorite part was pretending to know about craters no one else did, craters that he may eventually get to name. When asked about what sorts of names he'd give the craters, Chris responded, "I'd name them after my cat, my dog, and Misti, my fiancée. In that order," though he noted that he might also just go with something fun or the names of people he knows. During his free time around D.C., Chris enjoyed backpacking and camping along the Appalachian Trail. Fun times at work in the museum included spending time with the other 20 interns, answering questions for the general public on Mars Day about the Pathfinder Rover, and enjoying the artifacts on display everyday. The awesomeness of going to work with the real Apollo 11 never wore off, nor did the excitement about close contact with real moon dust. Chris still isn't sure that he wants to pursue a career in planetary sciences, but he found the experience very cool and a lot of fun.



Ashley Stewart spent her summer working with the Arkansas Center for Space and Planetary Sciences based at the University of Arkansas in Fayetteville. She worked with Dr. Julia Kenefick on quasar surveys to continue her research from the previous regular school year. Graduate and undergraduate students from all over the world gathered in Fayetteville to make a very diverse

space center. In addition to laboratory work, the research group took several field trips, such as a visit to the Oklahoma Aquarium in Jinks and a trip to Westward to Mars in Oklahoma where they hiked on Glass Mountain and in Alabaster Caverns, which contains a lovely gypsum cave. The largest excursion was to Houston and Galveston, Texas, where the group visited the Natural Science Museum and toured the Johnson Space Center, which included time in Mission Control and Building 31 where all the meteorites from all over the country are kept. Ashley reported that all these experiences were very exciting, though they might have been more so from a more exotic location (such as Hawaii where she attended an astronomy conference last spring). She plans to use her work from this summer in her senior thesis, then continue in the area of astrophysics as a researcher for her career.

Elaine Christman spent this summer working at the University of Arkansas Physics Department's REU with Dr. William Oliver. Elaine also worked with several other UA student researchers and seven REU students from other schools around the country. Her project, Optical Methods for Biophysics, involved the use of dynamic light scattering to study the thermal denaturation of staphylococcal nuclei, and will eventually become part of her honors thesis. Elaine noted that competition for lab time was pretty fierce, with several other labs going on in the same space at the same time, but the team was able to gather interesting results despite that. During the 10-week program, the REU students took a trip to exciting Dallas, Texas, where they saw parts of Texas Instruments, several nanotechnology start-ups, and visited Six Flags (woohoo!). They also viewed what Elaine now refers to as the worst movie ever, Transformers. At least she got to see the beautiful Shia LaBeouf on the big screen. Discussing her REU experience as a whole, Elaine said it wasn't so much life changing as a confirmation of her interest in biophysics and good research experience. Beyond her senior research in the same project, Elaine plans to become a physics teacher, saving the world one well-trained student at a time.

Graduation 2007 - by Dr. John Stewart

We said goodbye to a lot of old friends this summer. Hannah Deberg graduated with an NSF graduate fellowship and went to graduate school in physics at Illinois. Lucija Rakocevic will also attend Illinois in Mechanical Engineering. They will share an apartment and a cat. They join Stan Kondov, who has made it through the qualifying exam. Matt Reaves will attend graduate school in optics at the University of Rochester. Tom Akin and Matt Burch will go to graduate school in physics at Oklahoma. Adam Goldstein will attend Alabama-Huntsville for a graduate degree in physics. Trevor McGarrah and Nick Shapter plan to teach physics at the high school level. Drew Kincannon (Albemarle), Jesse Buffington (NASA), James Cope (General Dynamics), and Ashley Kelly (Tyson) went into industry. Frank Scopa was commissioned as a Space and Missile officer in the Air Force. Jared Beck will attend graduate school here in the microEP program. Ginny Cato and Dhaval Shah will pursue careers in medicine. Darren Novotny will continue his musical career and continue to run his engineering firm.

A few notes on previous graduates. Jessica Clanton completed her MA in physics here and took a job as a math and science instructor at Arkansas Tech - Mountain Home. Andy Bratcher completed a MS in physics with Dr. Salamo and took a job with Lockheed Martin. Josh Hess completed his MS with Dr. Lacy and is doing something no one is very clear about in France, but that's Josh. Jason Lee joined the microEP program in pursuit of a Masters degree.

The picture below was taken at the honors graduation ceremony. From left to right, Nadeem Akbar (previous graduate 2002, working as a doctor in Ann Arbor), Dr. Lin Oliver, Matt Reaves, Lucija Rakocevic, Ginny Cato, Hannah Deberg, Matt Burch, Drew Kincannon, and Dr. Gay Stewart.



Ask Toby - by Maxwell's dog

Dear Toby,

Suppose a TA, we'll call him M-squared, spills two liters of Pepsi on a pile of students' tests. What is the correct etiquette for removing the soda? Should M-squared have to slurp it all up? Or would some other drying method be better? Furthermore, are bonus points required for the students whose exams were defiled? Should the rest of the class be afforded the opportunity to have their tests dipped in soda so they can receive bonus points?

Sincerely, Carbonated Carl

Dear Carl,

I am absolutely delighted to hear from you on an issue that is so common around late night labs, but so rarely addressed. (For more information on the best sources of caffeine for those long grading sessions, see my book *Red Bull: Energy Booster or Home-wrecker, the Liquid Yoko Ono.*) Luckily, in this case the answer is simple. All you have to do is pour cola over every student's exam, giving each test that lovely spilled Pepsi seal of approval. Do be sure to mop the cola up as usual, either via manual slurping or with towels, and let the exams dry before returning them. Then, award bonus points only to those clever and daring students who ask why their exams are cola stained. As they say, fortune favors the brave.

Yours Furrily, Toby

Monster SuDoku

Each row, column, and box must contain the numbers 0 -9 and the letters A -F. Good luck!

7				C		A		3	5			8		
	9	4			5	8				0				
3			5	1	D	9		7	B	6				
			D	7		2		5	6		1	F	B	
4					9		B						5	
C	1				8	E		D	A				4	9
	8		E		5			2	0				7	6
	F	2	B	0		A	9	C					8	E
0	5				8	2	F			1	4	3	B	
F	C				0	6			E		9		5	
D	E				9	7			2	B			0	F
9						4			7					A
E	7		9		4		1		F		A	8		
			6	A	F			3		8	E	D		1
		3						D	0				2	C
1			F	8			D			C				4

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Horoscopes (Scientifically Stolen from the Onion)

Aries (March 21 - April 19) The presence of a "push" sign on a door that obviously must be pulled in order to open will give you overwhelming insight into the futile and picaresque nature of the human experience.

Taurus (April 20 - May 20) Neighbors will continue to complain about your horse-training technique until your thoroughbreds stop making such a racket when they run full-tilt into the Invisible Fence.

Gemini (May 21 - June 21) Recent changes to the Cosmic Transportation Authority Code mean the mystic Path to Happiness will now run through the pain center of your brain. Luckily, almost no one ever travels it.

Cancer (June 22 - July 22) You've been struck by Cupid's magical arrow before, but you and dozens of others will be unprepared for his use of an enchanted Gatling gun.

Leo (July 23 - August 22) *Consumer Reports* loved your generous size, high capacity, and ease of operation, but was forced to rate you lower for your high fuel consumption and low resistance to fire and acid.

Virgo (August 23 - September 22) While you're aware that people enjoy watching you get hit by buses, you're still surprised that so many are spending \$54.95 to sign up for next Sunday's pay-per-view accident.

Libra (September 23 - October 23) This would be a good week to make big plans at work if it weren't for the fact that last week was a good week to be fired for no reason after 15 years at the same company.

Scorpio (October 24 - November 21) You'll inspire disbelief, jealousy, and not a little hatred when you, rather than Puerto Rico, are named as America's 51st state.

Sagittarius (November 22 - December 21) Unfortunately, this is not in fact your horoscope but a nefarious form of demonic sorcery. Do not read it lest you wish to unleash horrors and abominations unspeakable.

Capricorn (December 22 - January 19) While your claims of being a self-made woman are valid, everyone's still a little distracted by all the purplish-black scars and amateurish stitching.

Aquarius (January 20 - February 18) Although you keep insisting that print is dead, it doesn't seem to have hurt your ability to find newspapers to cover yourself with while sleeping on park benches.

Pisces (February 19 - March 20) String theory turns out to be completely correct; so you owe ten bucks to the Easter Bunny.

Contact Information

President: **Josiah Walton**

Email: jwalton@uark.edu

Vice President: **Shawn Ballard**

Email: scballa@uark.edu

Treasurer: **Rachel Lee**

Email: rml02@uark.edu

Secretary: **Elaine Christman**

Email: christm@uark.edu

Newspaper Editor: **Ashley Stewart**

Email: alstewa@uark.edu

Activities coordinator: **Matt Naglak**

Email: mnaglak@uark.edu

Web Master: **Brandon Renuard**

Email: brenaur@uark.edu