

3-14-2007

## Arkansas Physics Times, March 14, 2007

Society of Physics Students (American Institute of Physics)

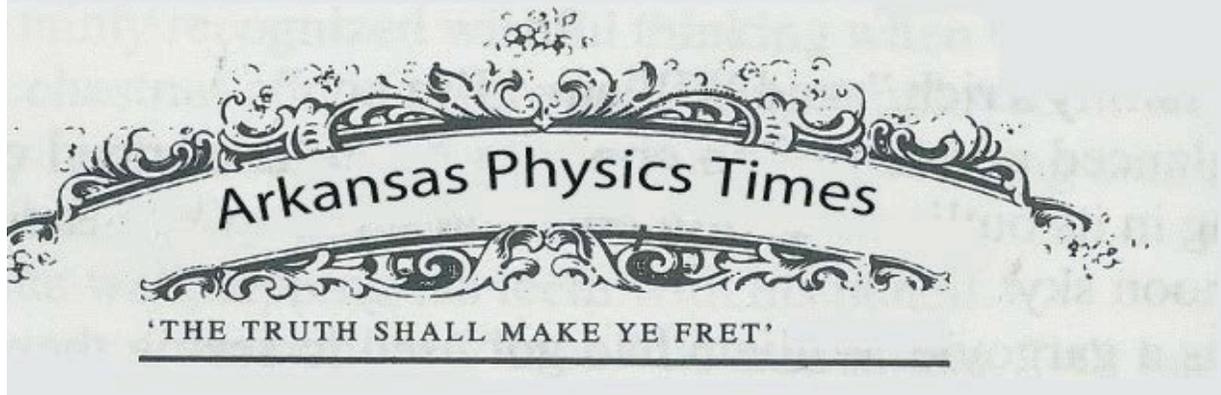
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### Citation

Society of Physics Students (American Institute of Physics). (2007). Arkansas Physics Times, March 14, 2007. *Arkansas Physics Times*. (2) Retrieved from <https://scholarworks.uark.edu/arkansas-physics-times/2>

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## Wimhurst Machine Refurbished

By: John Stewart

After a long convalescence, the Wimhurst machine lives again thanks to Matt McKnight. A Wimhurst machine generates impressive sparks by repeatedly using charging by induction. Yes, that is the same Matt McKnight of Fort Smith quiz bowl fame (man am I tired of hearing about this). For his UPII honors project Matt rebuilt the machine. He replaced all the sectors and rebuilt the high voltage capacitor. On a dry day, the machine will generate 8cm sparks. The Wimhurst is available for classroom demonstrations. An instructor wishing to use the machine should give Stephen some advanced notice to allow time to transport the machine. The Wimhurst is fairly safe with only 8 Joules of energy stored in its capacitors, well below the government's 10-Joule limit for hazardous.



### Calendar of Events

- Friday March 16 - High School Physics Day
- Saturday March 31 - Physics Rides II
- Monday April 9 (tentative) Marurer Lecture - Prof. Dudley R. Herschbach, The Nobel Prize in Chemistry 1986
- Thursday April 5 - SPS Meeting 6-7pm - Speaker to be announced. More bowling or some other event
- Wednesday April 11 - SPAC Lecture - 7:00pm Poultry Science - "Geology in Frozen Places"
- Tuesday April 17 - Undergraduate Colloquium Dr. Julia Kennefick - Quasars.
- Thursday April 26 - GRE kickoff for seniors planning on graduate school.
- April 21 - Race for Cure and Springfest Booth Outreach 10:00am-3:00pm
- End of year party

Naturally, Matt could not leave well enough alone. He constructed an additional capacitor bank that brings the total energy stored to almost 100 Joules, above the government's rating for deadly. The additional capacitor bank should be used only with extreme care and is shown below.



## PHYSICS SOCCER TEAM FINDS INTRAMURAL SUCCESS

By Matt Naglak

The Fall 2006 Physics intramural co-rec soccer team, appropriately named "Newton's Second Law of Funk," represented the U of A Physics department well in its inaugural season. After a rough first game, the team bounced back to claim two straight victories. The first was a 4-0 shutout of a strong ROTC team, followed by a hard-fought 3-2 victory over the Civil Engineering team. With a winning 2-1 record, Newton's Second Law of Funk finished second in their division and advanced to the co-rec playoffs.



The captains of the team would like to thank everyone involved with the team and everyone who came out to cheer the team on. The success of the team once again goes to show that physicists are a successful mixture of brains and athletic ability. We look forward to building on our success next fall, when our department will once again form a victorious team. Group picture (back left to right) Colin Paul, David Latchet, Sam Christman, Matt Naglak, Josiah Walton. (Middle left to right) Jordan Greenley, Randi Butler, Caleb Sieck, Shawn Ballard, Elaine Christman, Ashley Stewart, Aston Holland. (Front) Jessica Rutledge, Jackie Carter.

## Haunted Physics Lab 2006

By: John Stewart

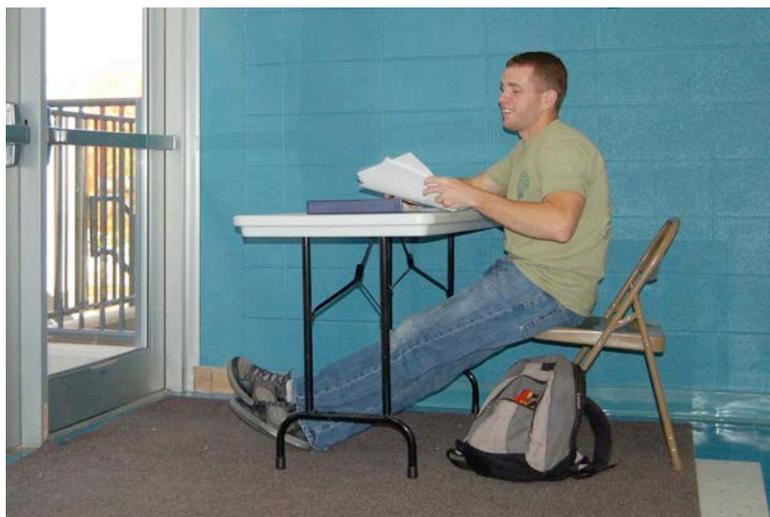
The Haunted Physics Lab is the primary fall SPS fundraiser and outreach event. This year's Haunted Lab was the most successful ever attracting over 100 participants. The lab presents the physics department's most creepy demonstrations, gives local children some hands-on experience with science, and gives physics students some experience with teaching. Society of Physics Students volunteers staff the event. Ashley Stewart, the editor of this newspaper, is shown to the right making liquid nitrogen ice cream. The recipe was contributed by Hannah Deberg (internet) and we think it's ready to challenge Dr. Harter's legendary liquid nitrogen ice cream.

Some familiar faces attended this year's event. Kathy and Peter Gea are shown below making resonance patterns with sand on a metal plate. (below)



The success of this year's event was mostly the result of the improved advertising campaign. The campaign was so successful that the university actually noticed that the event was happening and promptly tried to stop it. For the first time in the Haunted Lab's almost decade-long existence, it had its own security, Tyson Lawrence (below).





Tyson was amply rewarded for this dangerous assignment when Kathy's and Peter's dad gave him a hint on the Quantum Mechanics take-home test.

The night ended with the traditional dumping of the remaining liquid nitrogen in the parking lot. Shown below from left to right, Yang Teng (the silver thing), Robert Housely,

Colin Paul, Ashley Stewart, Shawn Ballard (in Ireland, where are those pictures she was going to send?), and Elaine Christman, our president.

### Fun and Games



			2			1		3
		2			7			6
	6					4	7	
		4		8	2			1
	8		7		3			6
	3		5	4		7		
	1	8						3
6			1			8		
7		3			8			

Sudoku - Fill in the grid so that every row, column, and 3x3 box contains the digits 1 through 9.

**Horoscopes:** Last issue's scientifically correct horoscopes generated a cacophony of complaints (Dr. Stewart and Matt Naglak) about the changed zodiac signs. Obviously there must be something to this stuff. To test astrology scientifically, six members of the department who we all know well were selected. A famous person with the same birthday was also selected. The order of the pairs was randomized. If there is any validity to a newspaper astrology column, we should be able to use our knowledge of the personalities of both groups to match the pair with the same birthday. The answer is at the end of the newspaper.

Match the professor with their astrological counterpart

Julia Kennifick

Carol Lombard

John Stewart

J. Edgar Hoover

Gay Stewart

Dick Chaney

Surrendra Singh

Donna Summer

Lin Oliver

Mick Fleetwood

Raj Gupta and Jaili Le

Christopher Walken

Well that was easy. I guess we have to take this stuff seriously. This month's horoscopes: These horoscopes were scientifically generated by a reputable on-line astrological site that Dr. Stewart found at random on the Internet.

**Aries (3/21-4/19):** THINK - today is too valuable to waste on what you have got in mind.

**Taurus (4/20-5/20):** Try to be patient and do not make rash decisions or promises. You are far too impetuous, especially when selecting clothing. Look in the mirror and visit a clothes designer.

**Gemini (5/21-6/21):** You put potential suitors off by your unintentional tendency to be exceptionally ugly. However, do not give up your search for your soul mate for it is said that even the dull, ignorant and the hideously grotesque have a perfect partner somewhere in the world. Be prepared to travel long distances.

**Cancer (6/22-7/22):** Beware the newstart is aware that you are an idle slob. This will allow you a lot of free time to consider what your future career path should be.

**Leo (7/21-8/22):** Be prepared to be shocked at unexpected news around 11:32 today. Ensure that your passport is in order!

**Virgo (8/21-9/22):** The months ahead are a time for you to apply your energy to new adventure - write a book, paint a masterpiece, climb a mountain. But always keep a packet of painkillers close to hand.

**Libra (9/23-10/22):** Beware - kissing spreads diseases. Always place a handkerchief over your mouth while snogging.

**Scorpio (10/23-11/21):** Warning - your boss is going to have you sacked for that stupid incident that happened last week. But not everyone will believe the stories about you and eventually everything will cool down. Examine the sky - there is a high probability that you will be abducted by aliens today.

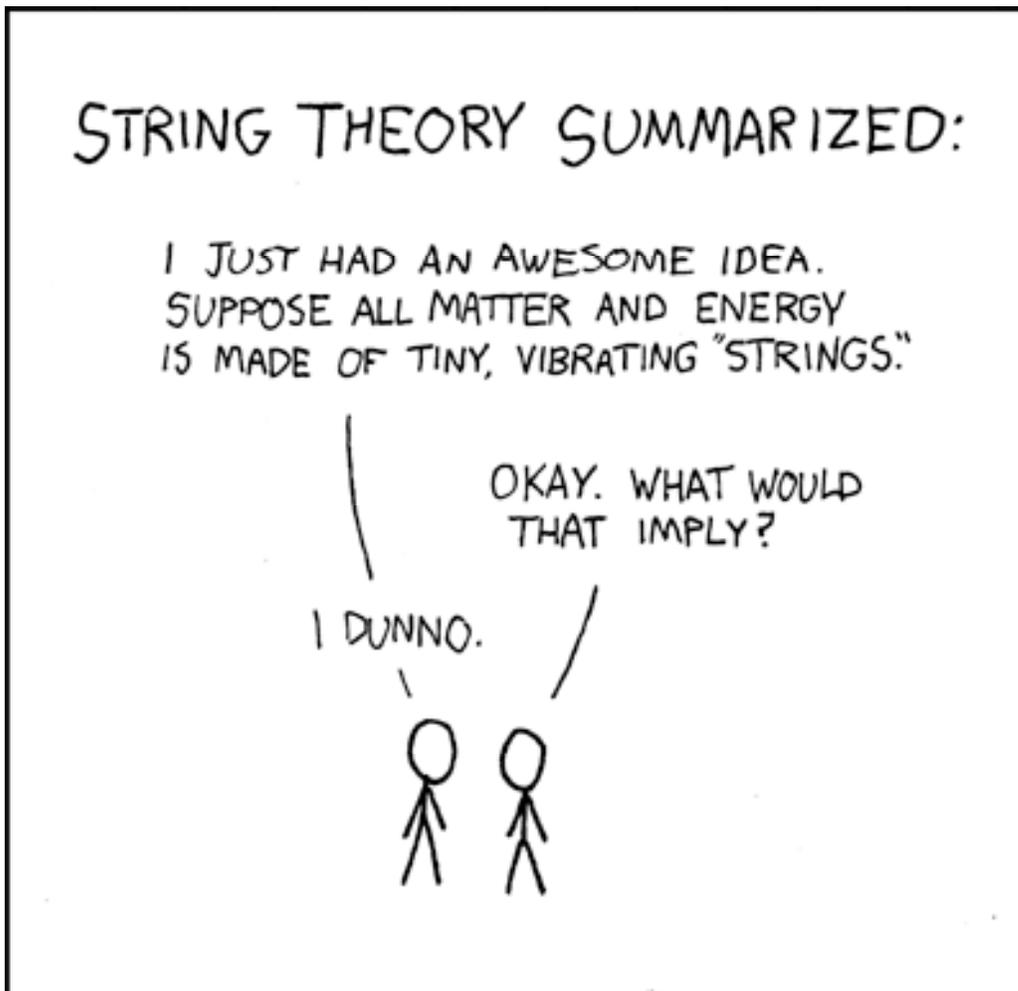
**Sagittarius (11/22-12/21):** Stop procrastinating - you will only get the job done if you can convince people who are less inept to do some work. Seek solitude in the toilet and enjoy these moments of peace.

**Capricorn (12/22-1/19):** You are considered attractive by many - especially lunatics, drug addicts and social outcasts. Although you find it difficult to relate to people, as you mature you will eventually be able to say more than "hi" without blushing and around the age of 87 will settle down to marry and start a family.

**Aquarius (1/20-2/18):** Today a stranger will become a lifetime friend but beware, an unfamiliar person will seek to harm you.

**Pisces (2/19-3/20):** You must take care of any small details that may equate to money in your pocket at a later date. An older relative or friend will help you in more ways than one. Purchase some cyanide.

\*Answer to the matching quiz: (Julia Kennifick = Dick Chaney, John Stewart = Christopher Walken, Gay Stewart = Carol Lombard, Surrendra Singh = Mick Fleetwood, Lin Oliver = Donna Summer, Raj Gupta and Jaili Le = J. Edgar Hoover)



Xkcd.com

## Meeting Highlights -

### General Meeting

February 6, 2007

6:00 pm

- Speaker: Kenneth G. Vickers
  - Mr. Vickers began his talk with advice on choosing careers and on how to prepare for achieving career goals.
  - He also discussed the Micro and Nano Materials Processing and Devices Program at the University of Arkansas (<http://microep.uark.edu>) and the brand new undergraduate minor available to students.
  
- Semester Schedules Distributed
  
- Spring 2007 Officers Introduced
  - President - Elaine Christman
  - Vice-President - Josiah Walton
  - Treasurer - Hannah Deberg
  - Secretary - Rachel Lee
  - Newspaper Editor - Ashley Stewart
  - Webpage Manager - Brandon Renuard
  - Sports Coordinator - Matt Naglak
  
- Undergraduate Colloquium Discussed
  - A list of people interested in dinner afterwards with the speaker was collected.
  
- University Day
  - Volunteers were recruited for this February 15<sup>th</sup> and 16<sup>th</sup> program.
  
- Discussed Next Meeting
  - The next meeting will be on Thursday March 1 at 6:00 pm.
  - A list of people interested in bowling after the next meeting was collected.

## General Meeting

March 1, 2007

6:00 pm

- **Speaker: Dr. Greg Salamo**
  - Dr. Salamo gave a presentation entitled "A New Era of the Physics of Materials."
  - He discussed the exciting opportunities available in the area of nanostructures.
  
- **Undergraduate Colloquium Discussed**
  - On Tuesday, March 13<sup>th</sup>, Dr. Chakhalian will give a talk on nanostructures.
  
- **High School Physics Day**
  - Volunteers were recruited for this March 16<sup>th</sup> event.
  
- **Bowling**
  - After the meeting, members were invited to go bowling.
  
- **Next Meeting**
  - The next meeting will be on Thursday, April 5<sup>th</sup> at 6:00 pm.

## Contact Information

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