



THE DILATED TIMES

*The newsletter of the Drew University
Society of Physics Students*

April, 1996

Upcoming Events

Monday, April 15
SPS Awards Banquet

Saturday, April 20
Spring Saturday

Sunday, April 28
Spring Picnic

They Said What?

Dr. Supplee:

- ...rub your pith balls with a dead cat...
- Let's forget this unfortunate Benjamin Franklin thing (and imagine positive charges).
- Last lecture was a big lecture, but not as big as this piece of chalk.
- ...Don't you dare quote me on that.
- I believe in Huygens'.
- That's one more example of how spacey I am...

Dr. Carter:

- Every day at Rutgers, guys work like crazy on string theory...they're nuts!

Dr. Apelian:

- We definitely want to heighten remarkability in this class!
- You can think of this as a mug shot of your random variable.
- Is it hot in here, or am I just getting excited?
- It looks like there's no way in heaven, hell or earth that this formula will help you get something simple, but it does.
- Does that make sense to everyone, or does it just piss you off?
- I'm making up my own notation now!
- It's fun to torture yourself with these things - it's a pleasure/pain thing.
- I did think about a field trip for this class, but decided the legal implications were too much.
- How many people did I annoy by erasing the top part of that?
- ...That's like changing names to protect the divergent!
- I've got three minutes to put something on the board that resembles anything.

Note to Alums

Thanks to all the alums who have contacted us regarding receiving the Dilated Times. It was good to hear from some of you and catch up on your activities. We hope to continue to send this on a regular basis, and again welcome your comments. Perhaps we can add a "letters to the editor" section on careers or just general topics if warranted. Send communications to Dr. Fenstermacher in the physics department, or via e-mail at RFENSTER@DREW.EDU.

Dr. Fenstermacher Receives National Award

On Wednesday March 6, 1996, Dr. Fenstermacher was officially presented the SPS Outstanding Chapter Advisor Award by Dr. Dwight Neuenschwander, the Director of SPS. The presentation took place at a special dinner in the Faculty Club.

Dr. Fenstermacher Received this prestigious honor as a result of his tireless efforts to keep Drew's SPS an "Outstanding Chapter". Dr. Fenstermacher founded the Drew SPS Chapter in 1968, and it has since then won a host of Outstanding Chapter Awards. Last Year, both Dr. Carter and Larry Barisciano wrote letters on behalf of Dr. Fenstermacher, nominating him for Outstanding Advisor.

In addition to national recognition, the award was accompanied by a cash prize, which was used to bring in a guest speaker and set up the presentation.

An exciting physics talk kicked off the afternoon. Dr. Bastiaan Driehuys of Princeton University talked about medical imaging using polarized noble gases. The dinner and award presentation were held after the talk. Both Christian Alavanja and Larry Barisciano welcomed the guests, who included Drew SPS members, Physics Department faculty and Deans Cucchi and Salmore.

It was a special evening for Dr. Fenstermacher and a proud night for our SPS Chapter.

News Editor: Maurie Brewer

Contributors: Dr. Robert Fenstermacher
Larry Barisciano
Mike Marotta
Maurie Brewer

Observing the Comet

On two evenings during the month of March, SPS members and physics faculty gathered at the Drew Observatory for observation of Comet Hyakutake (C/1996 B2). Amazingly, the comet was discovered only recently in January of 1996 by Japanese amateur astronomer Yuji Hyakutake. Blazing naked-eye bright in the northern sky, the comet was easy to find near the north star and showed faint traces of a tail, even in the bright environment of Drew and Madison. SPS members and observatory assistants Jon Paley and Catherine Schaber kept the new 16" computer-automated telescope tracking the comet while dozens of campus and town visitors shared views through the eyepiece. On Sunday, March 24, the comet passed within 9.5 million miles of the earth and its motion with respect to the background stars was very rapid, almost 1 degree per hour. This rapid motion inhibited attempts to make long photographic exposures, however several good images were acquired using a 300 mm lens on a Nikon camera mounted piggyback atop a tracking Questar telescope. Since then poor weather and an ever brightening moon has hampered further comet watching, although it should be visible almost to the end of April before plunging nearest to the sun on May 1. After its re-emergence from the sun, alas it will be visible only from the southern hemisphere. But, not to worry, Comet Hale-Bopp will shortly become the object of our attention for almost the entire next year. Whether it becomes the bright comet predicted by astronomers remains to be seen. Stay tuned.

SPS Officers for 1996-97

On Tuesday April 2, new officers were elected for the 1996-97 school year. Next year's President will be Matt Diamond, the Vice-President will be Alice Chu, Helen Geib and Heather Hughes will be the Secretaries and Newsletter Editors, and Jon Paley will be Activities Director. Congratulations and Good Luck!

Independent Study/Honors Research

Upon reaching the senior year of the physics major, it is customary to complete some kind of independent study. This is not required, but is highly recommended, in order to gain experience in doing research and writing a research paper.

For those choosing to do a research project, a number of choices are available. First, it can be either one or two semesters and for two or four credits each semester. Honors theses are typically two semesters for four credits each semester, and with a thesis defense at the end of the spring semester. The second choice is the subject matter. The most common subjects are those that were only touched upon in class, leaving ample room for elaboration. The subject matter also usually determines the project advisor. Lab or observatory work is usually done with Dr. Fenstermacher or Dr. Boeshaar, while theoretical work would most likely be done with Dr. Carter or Dr. Supplee.

The five physics majors of the class of 1996 have all completed an independent project of some kind. Paul Quinn and Christian Alavanja are doing honors theses, while Larry Barisciano, Maurie Brewer and Mike Marotta did one-semester independent studies. Mike, Larry and Paul worked with Dr. Carter on aspects of scattering. Mike focused on the basics of scattering and applied the methods he described in a scattering experiment. Larry investigated the inverse problem of scattering, while Paul described the phenomenon of rainbows. Maurie worked with Dr. Fenstermacher on pulsed nuclear magnetic resonance, and Christian worked at Bell Laboratories on doping techniques to control diffusion in semiconductors.

It is a good idea for any physics major to do an independent study. It allows one to work closely with a professor, learn material not covered in the classroom, and become knowledgeable in a particular area. It also provides experience in putting ideas together in such a way that it can be easily understood by people who are not experts in your topic.

Sigma Pi Sigma Inductees

At the SPS Awards banquet, juniors Helen Geib, Sarah Adams and Heather Hughes will be inducted into Sigma Pi Sigma, the national physics honor society. In order to become a member of Sigma Pi Sigma, students must have completed at least two upper-level physics courses, have a 3.0 GPA in both physics and overall coursework, and be members of SPS. Congratulations to this year's inductees!

Drew Students' Continuing Education

This year, Drew's five graduating physics majors are all going on to graduate school. Larry Barisciano will be attending the Joint Institute for Advancement of Flight Sciences at George Washington University. Paul Quinn will be studying physics at Lehigh University. Mike Marotta, Christian Alavanja, and Maurie Brewer will be studying mechanical engineering, environmental engineering and medical physics respectively, and they will soon be deciding at which universities they will be studying.

Many juniors and sophomores will be using the summer to gain research experiences at other schools. Junior Jon Paley will intern at the University of Virginia, and junior Russ Castonguay and sophomores Alice Chu and Matt Diamond are waiting to hear from other programs.

Graduate Fellowships Awarded

Two of this year's graduating physics majors have received grants for their graduate study. Maurie Brewer has been awarded a NSF Graduate Fellowship, and Christian Alavanja will receive support from the Graduate Research Program for Women sponsored by Bell Laboratories. Congratulations!

Top Ten Things Said in Science Labs Throughout History

by Heather Hughes

10. My head hurts.
(Newton)
9. Is it hot in here?
(Kelvin)
8. I'm seeing stars.
(Galileo)
7. Are you pregnant? You're simply *glowing*.
(to Curie)
6. *That's* attractive!
(Coulomb)
5. Hey, baby, wanna see me flux?
(Gauss)
4. Shocking. Simply shocking.
(Volta)
3. Dots? What dots?
(Millikan)
2. That old thing? It's been in my brain for ages.
(Schrodinger)
1. Talk about your bad hair days...
(about Einstein)