

**2012 AP PHYSICS PROBLEMS RELEASED**

My congratulations and/or sympathies to everyone who had a class take one or more of Monday's AP Physics exams! The problems were posted Wednesday, and I've been having fun talking over solutions with other members of the College Board AP Physics mailing list. I thought the third C Mechanics problem was particularly interesting, although I think my students were less enthusiastic about it! If you'd like to take a stab at the problems, the released problems are here:

Physics C: [http://www.collegeboard.com/student/testing/ap/physics\\_c/samp.html](http://www.collegeboard.com/student/testing/ap/physics_c/samp.html)

Physics B: [http://apcentral.collegeboard.com/apc/members/exam/exam\\_information/2007.html](http://apcentral.collegeboard.com/apc/members/exam/exam_information/2007.html)

**DR. PAUL ANGIOLILLO RECEIVES LINDBACK AWARD:**

Congratulations should also be extended to Professor Paul Angiolillo of St. Joseph's University, who was recently awarded the Christian R. and Mary F. Lindback Foundation's Award for Distinguished Teaching. According to the SJU website the award is annually bestowed upon an academician who is recognized for outstanding achievement, exceptional expertise and professional excellence within their discipline. Paul writes:

Dear Friends and Colleagues,

I am not so inclined to send mass emails but in this case I have no other choice. I want to thank all of who have sent me emails congratulating me as a consequence of the recent news regarding the Lindback Award. I want to thank all of you for being part of a wonderful academic community - one which enriches our students and our peers, one which pushes us, at times, to our academic limits. I hope to continue in the pursuit of understanding the human condition as it relates to understanding of workings of the universe and to bring these musings into the classroom. In the words of Einstein, "The most beautiful thing we can experience is the mysterious. It is the source of all true art and all science. He to whom this emotion is a stranger, who can no longer pause to wonder and stand rapt in awe, is as good as dead: his eyes are closed."

I thank all of you,  
Paul

**SAVE THE DATE FOR THE FALL 2012 DEMO SHOW:**

We've picked the time and location for our 2012 Fall Demo Show, which will take place on a Saturday, rather than our usual Friday night time, in order to be accessible to a different/broader range of members. The demo show will take place on October 27, 2012, at Harriton High School in Rosemont, PA, where Bob Schwartz will be our host.

## JOB OPENING FOR HS SCIENCE TEACHER AT CREFELD SCHOOL:

The Crefeld School is looking for a High School Science Teacher to begin August 27, 2012. Competitive applicants will be certified in at least two of the following areas: Physics, Chemistry, Biology, and Forensic Science. Certification in math is also a plus. Faculty members at the school also act as advisors as well as lead community service groups and run various activities. Strong communication and organizational skills are important. Competitive benefits. Please send cover letter, resume, and list of three references to Angela Singletary [asingletary –at- crefeld.org](mailto:asingletary-at-crefeld.org).

<http://careers.nais.org/jobs/4749864/high-school-science-teacher>

## JOB OPENING FOR PHYSICS TEACHER AT MASTERY CHARTER:

Mastery Charter Schools is seeking dynamic and passionate secondary (7-12) physics teachers. Mastery teachers will work together to create a warm, welcoming school culture driven by student achievement. Teachers will be responsible for implementing Mastery's curriculum and utilizing classroom routines and procedures with consistency. Teachers will also be responsible for developing rigorous lesson plans, homework assignments and assessments. Working closely with school leaders, teachers will analyze student assessment data and use data to inform instruction. Teachers will collaborate in grade level teams to discuss student work, share best practices, and ensure student mastery of standards. Teachers will be expected to maintain close relationships with families, including phone calls and conferences, and will participate in on-going professional development in the spirit of continuous improvement. Mastery is looking for teachers committed to high expectations for students, teamwork, and our motto of "Excellence. No Excuses."

<http://tbe.taleo.net/NA8/ats/careers/requisition.jsp?org=MASTERYCHARTER&cws=1&rid=262>

## AAPT NATIONAL MEETING:

Our national parent organization, the American Association of Physics Teachers, is having its annual conference right here in Philadelphia this summer! (Last year it was in Omaha. The year before that it was in Portland. It hasn't been in Philadelphia since 2002, so this is a rare opportunity, to have it so close!)

The dates will be July 28-August 1, and the theme will be "Physics: The Experimental Core". Lots of information (and registration) is available on the AAPT website: <http://www.aapt.org/Conferences/sm2012/>. The early registration deadline is June 4th, and prices go up somewhat after that.

Registration rates are dramatically lower for undergraduates, and registration is complimentary for any high school student who attends. (They do have to register, though!) Additionally, if you are a high school teacher who's never attended a national meeting before, there is a special one-day reduced rate.

Here are links to the registration page and the tentative schedule:

<http://www.aapt.org/Conferences/sm2012/index.cfm>

<http://www.aapt.org/Conferences/sm2012/upload/beta-schedule.pdf>

Things you can definitely expect to happen at the national meeting:

- Plenary talk by Professor Amy Bug (Swarthmore College) on gender in physics
- Meet and mingle with peers from around the country
- Buy awesome things you could otherwise only get on the internet
- Talks, papers, and updates on the state of physics and physics education research
- Vote on the AAPT High School Photo Contest submissions
- Apparatus competition
- Demo show!

## HIGH SCHOOL TEACHER DAY

If you are a high school teacher who has never attended an AAPT National Meeting, you can attend the July 30th events of the National Meeting this summer for the severely discounted cost of \$75. (Or you can just register for the whole weekend, but this is a lot more affordable!) July 30th is the "High School Teachers' Day", and gatherings and presentations on that day have been promised to particularly focus on the interests of high school teachers.

## CALL FOR ABSTRACTS

The National Meeting is also seeking abstract submissions from local undergraduates and graduate students to present posters about their research or outreach experiences. AAPT has graciously extended the deadline for poster abstracts to June 15th. Abstract submission is free; conference registration once a student's poster has been submitted is very affordable (see below.)

Local **undergraduate** students are encouraged to contribute posters, particularly those relaying details about a research project, a physics outreach event, or a teaching experience. They are then invited to stay and partake in the exciting sessions and discussions at the AAPT Summer Meeting.

Local **graduate** students are encouraged to contribute posters that convey their research and its significance to a general physics audience (including undergraduates and high-school teachers), or that relay details about a physics outreach project or a teaching experience. They are also invited to take advantage of the exciting sessions, discussions, and networking opportunities at the AAPT Summer Meeting. If you're interested in teaching or physics education, this is a meeting you want to attend.

Submission instructions:

**Submit your abstract here by June 15:**

**Under "Paper Type," select "Poster".**

**Under "Persons responding to a call for contributed posters, select a session here," choose "SPS Undergraduate Poster Reception" if you are an undergraduate, or "Graduate Research" if you are a graduate student.**

**Fill in your information, title, and abstract.**

**Under "Footnotes," write "SEPA Section Poster" if you are an undergraduate, or "SEPA Section Graduate Poster" if you are a graduate student.**

Note: It is free to submit an abstract. Once your poster is accepted, you will need to register for the meeting in order to present. Student [registration](#) is only \$40 before June 4th if you are a member of AAPT (normal registration is \$350+). Undergraduates can become members of AAPT for \$24 by joining the [Society of Physics Students](#) and selecting the AAPT as the complementary professional membership. Any full-time student can also [join AAPT directly](#) at the student rate of \$45 (normal membership is \$140+)

## INTRODUCTORY LAB WORKSHOP

Mary Anne Klassen (Swarthmore College) and Scott Shelley (Haverford College) will be running a workshop on Introductory Physics Labs at the upcoming AAPT conference. Scott is a member of the AAPT National Laboratories Committee, and the workshop is described thus:

Whether your lab curriculum is ripe for an overhaul or well-established, this workshop will provide new ideas to bring home to your institution. Six presenters from colleges and universities across the United States will each demonstrate their approach to a favorite introductory lab exercise. Attendees will have the opportunity to work with each apparatus. Documentation will be provided for each experiment, with lab manuals, sample data, equipment lists, and construction or purchase information. This workshop is appropriate primarily for college and university instructional laboratory developers.

If this interests you, please register for the workshop along with your conference registration! (If the workshop interests you, but the conference doesn't, you can buy a "Workshops Only" conference registration at a significantly lower rate.) We've had difficulties with good workshops getting cancelled in the past due to lack of registrants, and this one promises to be interesting and informative!

## GLOBAL PHYSICS DEPARTMENT

The Global Physics Department is a group of high school and college physics educators who meet online weekly on Wednesday nights at 9:30 Eastern to discuss physics, physics learning, and physics teaching. They use Elluminate Live to transmit audio, video, white board data, and chat communication. Check them out at <http://globalphysicsdept.posterous.com/#/>

## MODELING WORKSHOPS

There are still opportunities for physics teachers to attend summer workshops on Modeling Instruction listed at [http://modeling.asu.edu/MW\\_nation.html](http://modeling.asu.edu/MW_nation.html). Modeling is an interactive, hands-on, research-based style that has been shown to improve students' understanding

of difficult concepts in physics by forcing them to think problems through for themselves. Students

design experiments, collect data, and develop concepts and models, which they use to solve problems. Students are empowered to examine and discard common naïve concepts, and they have been shown to demonstrate superior performance on standardized tests. Modeling instruction is widely recognized as an exemplary approach to science teaching, and in 2001 the US Department of Education recognized it as one of the only two such exemplary programs in the nation. The workshops are taught using the pedagogy of Modeling, so they should be fun and interactive themselves.

If the cost of attending a workshop seemed prohibitive to you in the past, check the list again: two nearby workshops have received the necessary funding to be free for attendants:

NEW JERSEY (funded in 2012 by The Boeing Company)  
South Jersey Modeling Physics Institute.

Three FREE workshops for high school science teachers nationwide. I just checked with the coordinator, Ron Antinori, and he confirms that there are three openings left for the Physics workshop, and nine slots for the Chemistry one.

Dates: June 25-July 13, 2012 (physics, chemistry)  
June 20-July 6, 2012 (biology)

Location: Clearview Regional High School, Mullica Hill, NJ (20 miles south of Philadelphia)

Content: mechanics (Doug Vallette)  
chemistry (Jim Navins and Maureen Blong Huhman)  
biology (Angela Gard)

Contact: Ron Antinori (AntinoriRo –at- ClearviewRegional. edu), science supervisor, 856-223-2747  
Information & application: <http://www.clearviewregional.edu/highschool/Departments/ Science/tabid/131/Default.aspx>

Download the application and brochure. Housing is available at nearby Rowan University for about \$600

## NEW YORK/PENNSYLVANIA (2012)

Mansfield University and Corning Incorporated

Location: Mansfield University (PA)

The summer workshop is free (funded by Corning Enterprises) with a free lunch every day. As of April 16, 2012, each workshop had openings, but the first chemistry workshop was almost full. Applications will be accepted through May 15, if space is available.

July 9-27, 2012

(8:00-4:00 Mon-Thu, 8:00-12:00 Fri)

Content: (four workshops) mechanics, chemistry, advanced (curriculum development in your choice of physics or chemistry)

Peer leaders:

Mr. Jess Dykes of Ridley High School near Philadelphia (physics)

Tammy Gwara of Desert Ridge High School in Arizona (chemistry)

Kathy Harper of The Ohio State University (advanced physics curriculum development)

Brenda Royce of University High School in Fresno, CA (advanced chemistry curriculum development)

Support sessions (October 15-16 and March 18-19) are optional for participants more than 2 hours drive from Mansfield and mandatory for participants who live closer. Support session fees are paid by participants' school districts (\$350 total).

Four optional graduate credits are available for the summer workshop. (In 2011, tuition was \$1880 for Pennsylvania residents; \$2808 for out-of-state)

Housing in a brand-new dorm is available at a cost of \$154 per week. Child care is also available at Mansfield University (\$27/day ages 1-2; \$25/day ages 3-5 in 2010). For older children, there are Mansfield University summer camps

The nearest airport at Elmira, NY is 45 miles away. To arrange group transportation, contact Greg Carson.

The informational flier is at <http://mansfield.edu/chemistry-physics/media/files/modeling-flier.pdf>. The application is at <http://mansfield.edu/chemistry-physics/media/files/modeling-application.pdf>. Contact Dr. Greg Carson ([GCarson@mansfield.edu](mailto:GCarson@mansfield.edu)) or at 570-662-4548 for more information.