

Greetings again! It sounds like many of you had an excellent time at the Fall Demo Day at West Chester on the 18th — I wish I could have been there, but it sounds like we had a great turnout and lots of excellent ideas shared!

For those who couldn't make it (or those who want to remember what all we did), we have some photo and video documentation:

Barry Feierman put together this collection of photos: <http://www.physics.upenn.edu/aapt/2014falldemo/2014fall.html>

Oliver Perry has shared this video: <https://vimeo.com/109351904>

We also have photos from the October 4th Force and Energy Workshop:

Barry Feierman's: <http://www.physics.upenn.edu/aapt/2014fallws1/2014fall.html>

Bill Berner's: <https://www.dropbox.com/sh/5g6x43q0o8mjaoe/AABbZ3VGzthk3hrbgmuQW8jOa/AAPT%20SJU%20Wkshp%20%231>

There's the usual wide variety of stuff going on locally, summarized below, including a mid-year job opening for Physics and Computer Science at Archmere Academy. And we're making progress on planning speakers and events for this our Annual Meeting at Swarthmore this March, so please stay tuned for more details about that!

Brief summary:

1. Vernier Engineering Contest for Educators (deadline 1/15)
2. Call for Abstracts: APS April Meeting in Baltimore (deadline 1/5, meeting 4/11-15)
3. Perimeter Institute offers fall PTRS Workshop at Millersville University (\$74, workshop 11/14, register by email)
4. Freehold Regional High School District seeks long-term sub in Physics (posted 10/9)
5. Archmere Academy seeks full-time Physics & Computer Science teacher (posted 10/28)
6. Nobel Prize in Physics awarded to inventors of blue LED
7. Intel Science Talent Search seeks student applicants (transcripts and recs due 11/5, applications due 11/12)
8. Save the Date for SEPS AAPT Spring Meeting at Swarthmore College (3/6-7)
9. Swarthmore College Hosts Telescope Open House on Second Tuesdays (next one 10/14)
10. EdCampNJ Hosts Free Education Unconference in North Brunswick (11/22)
11. Penn Outreach Lectures at LRSM
12. LRSM Science Cafes at Saint Declan's Well and Stoney's British Pub (next science cafes 11/5 and 10/10 in Philadelphia, 11/10 and 10/8 in Wilmington)
13. Cool physics links: Chris Hadfield reassures a small child that Voyager isn't lonely, Hiding Nobel Prizes in acid during WWII, 3D sculptures created using reverse stereographic projection
14. SEPS AAPT Online

Please read on for more information and local events! If you know anyone who is in need of a biweeklyish info dump of local physics-education events, please pass their contact information on to me so that I can add them to the list! Or if you have any events you want to publicize, please let me know about those, too.

Feel free to email me or Jeremy Carlo ([jeremy.carlo -at- villanova.edu](mailto:jeremy.carlo-at-villanova.edu)) if you have any questions about our upcoming spring meeting. And as always, please let me know by email ([jwaldman -at- archmereacademy.com](mailto:jwaldman-at-archmereacademy.com)) if you would like me to change your subscription, or if you have friends or colleagues who would like to be added.

Best

Jillian Waldman
Secretary, SEPS AAPT
Science Teacher
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Claymont, DE 19703

1. VERNIER ENGINEERING CONTEST FOR EDUCATORS ACCEPTING APPLICATIONS THROUGH JANUARY

Vernier Software & Technology is committed to helping educators develop the next generation of engineers and scientists. To show our

support, Vernier will recognize three instructors, one middle school, one high school, and one college instructor, with the Vernier

Engineering Award. This \$5,500 award will be presented to instructors who are creatively using Vernier sensors to introduce engineering

concepts or engineering practices. This may be in conjunction with Vernier's Logger Pro software, NI LabVIEW software, LEGO NXT, VEX, or

any other system incorporating Vernier sensors.

Each \$5,500 award is presented to one middle school teacher, one high school teacher, and one college instructor. Applications are

accepted through January 15, 2015. Applications will be judged on innovative ideas, engineering objectives, and the ease for others to replicate the project. Middle school and high school applicants will specifically need to explain how the project addresses the engineering practices called for in the Next Generation Science Standards (NGSS).

For more information, please see: <http://www.vernier.com/grants/engineering>

2. APS APRIL MEETING IN BALTIMORE CALLS FOR ABSTRACTS

The April Meeting of the American Physical Society will be held April 11-15, in Baltimore, MD, and will include sessions on physics education and outreach. Abstracts are due Friday, January 5th, 2015, at 5:00 PM.

For more information, or to submit an abstract: <http://www.aps.org/meetings/april/scientific/index.cfm/>

3. PERIMETER INSTITUTE OFFERS FALL PTRA WORKSHOP AT MILLERSVILLE UNIVERSITY

Via the Central Pennsylvania Section of the AAPT, the Perimeter Institute is offering a fall teachers' workshop on November 14th. The Perimeter Institute for Theoretical Physics is a research institute whose mission is to make breakthroughs in our understanding of our universe and the forces that govern it. Such breakthroughs drive advances across the sciences and the development of transformative new technologies. Located in Waterloo, Canada, Perimeter also provides a wide array of research, training, and educational outreach activities to nurture scientific talent and share the importance of discovery and innovation with students, teachers, and the general public.

This workshop will introduce participants to the Perimeter educational materials and allow interaction and experience with these high quality materials on the cutting edge of modern Physics. Following the completion of the workshop participants will be able to join the Perimeter Teacher Network to share with other teachers in giving students and unparalleled education in Modern Physics. Participants will also be given access to the materials.

Please contact Dave McCachren [kmccachren -at- comcast.net](mailto:kmccachren-at-comcast.net) or Pat Callahan ptcallahan -at-aol.com if you have questions about the workshop. Please use PTRA in the subject line.

Cost of the workshop is \$75 per participant. Make checks payable to AAPT-CPS Location: Millersville University of Pennsylvania

Date: November 14, 2014

Time: 8:30 a.m. to 3:00 p.m.

Please email Dr. Mehmet Goksu indicating that you will attend and pay at the workshop.

Dr. Mehmet Goksu Millersville University Department of Physics PO Box 1002 Millersville, PA 17551

Email: Mehmet.Goksu -at- millersville.edu

An attractive flyer containing the same information is attached to this email.

4. FREEHOLD REGIONAL HIGH SCHOOL DISTRICT SEEKS LONG-TERM SUB IN PHYSICS (posted 10/9)

Freehold Borough High School, located in Monmouth County, NJ, has an anticipated opening for a long-term substitute teacher in Physics. Appropriate New Jersey Physics or Physical Science certification is required. Interested candidates must apply online. If you have questions or might be interested, you may also contact Justin Son, physics teacher at Marlboro High School, json -at-

frhsd.com, 732-617-8393 x6140.

<http://www.applitrack.com/frhsd/onlineapp/default.aspx?Category=High+School+Teaching>

5. ARCHMERE ACADEMY SEEKS FULL-TIME PHYSICS & COMPUTER SCIENCE TEACHER (posted 10/28)

Archmere Academy is a highly rigorous, highly competitive independent school located in Claymont, at the northern tip of Delaware. Archmere Academy is seeking a full-time Physics and Computer Science teacher to begin December 1, 2014. A degree in Physics is required; experience and a graduate degree are preferred.

The teacher would teach a combination of physics and computer science courses including AP Computer Science and Honors Physics. Experience with AP computer science is desirable. We would be willing to consider two part-time positions in place of full-time if needed. Contact Glenn Hartman at 302-798-6632 for information.

Please send resume to Glenn Hartman at [ghartman -at- archmereacademy.com](mailto:ghartman@archmereacademy.com) or by mail to Archmere Academy, Attn: Glenn Hartman, Science Department Chair, 3600 Philadelphia Pike, Claymont, DE 19703.

I've attached a Word Document with the job posting. Casual informational questions may also be addressed to your SEPS Secretary, Jillian Waldman, by replying to this newsletter. We have a gorgeous campus, MacBook Airs, and small class sizes!

6. NOBEL PRIZE IN PHYSICS AWARDED TO INVENTORS OF BLUE LED

You've almost certainly seen this by now, unless you've been completely buried under work, but the Nobel Prize in Physics was awarded a couple weeks ago to an international team of scientists — Isamu Akasaki (Meijo University, Japan), Hiroshi Namano (Nagoya University, Japan), and Shuji Nakamura (University of California at Santa Barbara, US) — for invention of the blue LED. Having all three colors of LED available suddenly made possible the creation of all those tremendously efficient (but still quite expensive per unit) LED light sources we now have today!

http://www.nobelprize.org/nobel_prizes/physics/laureates/2014/

7. INTEL SCIENCE TALENT SEARCH SEEKS STUDENT APPLICANTS

Since 1942, the Science Talent Search, a program of Society for Science & the Public, has been rewarding the best and brightest young scientists and engineers. In 2015, more than \$1.25 million in awards will be distributed to students and their schools.

We invite you and your students to [take a fresh look at the Intel Science Talent Search](https://student.societyforscience.org/intel-sts-educators) (Intel STS: <https://student.societyforscience.org/intel-sts-educators>) and to consider applying today! Students are eligible to apply in their last year of secondary school; the application deadline is in mid-November each year. Those students who complete an entry by the deadline will also be eligible for entry awards including t-shirts, laptop stickers, and digital badges.

Visit student.societyforscience.org/intel-sts-educators to request an Intel STS jump-start packet for your classroom and to be automatically entered for a chance to win one of ten \$250 Fisher Scientific gift cards. The first 200 teachers to sign up will also receive a free Intel STS t-shirt.

We look forward to assisting you and your students with the Intel Science Talent Search application! Questions, please ask: Caitlin Sullivan, Program Manager, Intel Science Talent Search, Society for Science & the Public, [sts -at- scienceforscience.org](mailto:sts@scienceforscience.org)

This year the deadline for transcripts and recommendations is November 5; the overall application deadline is November 12th.

8. SAVE THE DATE FOR SEPS AAPT SPRING MEETING AT SWARTHMORE COLLEGE

Our Spring conference will be held March 6-7, 2015, at Swarthmore College. This conference gives high school and college faculty the chance to hear from noted speakers on some of the most current topics in both Physics research and Physics education strategies.

Unlike the others, this will have an associated registration fee — details will follow later in the year as they are hammered out. If you have any questions or suggestions, our SEPS AAPT President, Jeremy Carlo, [jeremy.carlo -at- villanova.edu](mailto:jeremy.carlo@villanova.edu), is probably the best person to ask.

9. SWARTHMORE COLLEGE HOSTS TELESCOPE OPEN HOUSE SECOND TUESDAYS

The Swarthmore Department of Physics and Astronomy (located in Swarthmore, PA) hosts a telescope open house each month. It is on the second Tuesday of the month and is held from 8 to 9 PM from October through March and from 9 to 10 PM from April through September.

The open houses are held at the new [Peter van de Kamp Observatory](#) on the roof of the Science

Center. Here is a [map and directions: http://astro.swarthmore.edu/observatory_directions/index.html](http://astro.swarthmore.edu/observatory_directions/index.html)

Note: They cancel the open house if it is too cloudy. A notice will be posted on the [department page \(http://www.swarthmore.edu/physics-astronomy\)](http://www.swarthmore.edu/physics-astronomy), but sometimes not until the last few hours before the open house is due to start, as [the weather \(and weather forecast\)](#) can change quickly.

For more information, check out <http://astro.swarthmore.edu/>

10. EDCAMPNJ HOSTS FREE EDUCATION UNCONFERENCE IN NORTH BRUNSWICK

Check out edcampnj.org. Tickets to this FREE unconference are going fast.

When: Saturday November 22, 2014

Where: Linwood Middle School, North Brunswick New Jersey

Cost: FREE!

Who should attend?: Teachers, Administrators, Superintendents... All Educators

What is Edcamp?

Edcamp is a form of unconference designed specifically for teachers and their needs.

What makes Edcamp an unconference?

Unlike traditional conferences which have schedules set months in advance by the people running the conference, Edcamp has an agenda that's created by the participants at the start of the event. Instead of one person standing in front of the room talking for an hour, people are encouraged to have discussions and hands-on sessions. Sponsors don't have their own special sessions or tables, all of the space and time are reserved for the things the people there want to talk about. People could pay hundreds of dollars to attend another conference, or they could go to Edcamp for free.

Built on principles of connected and participatory learning, Edcamp strives to bring teachers together to talk about the things that matter most to them: their interests, passions, and questions. Teachers who attend Edcamp can choose to lead sessions on those things that matter, with an expectation that the people in the room will work together to build understanding by sharing their own knowledge and questions.

Edcamps are:

free

non-commercial and conducted with a vendor-free presence

hosted by any organization interested in furthering the edcamp mission

made up of sessions that are determined on the day of the event

events where anyone who attends can be a presenter

reliant on the "[law of two feet](#)" that encourages participants to find a session that meets their needs

Over 250 Edcamp events have been held to date around the world.

11. PENN OUTREACH LECTURES AT THE LAB FOR RESEARCH ON THE STRUCTURE OF MATTER (LRSM)

Since 1994, the LRSM has presented a monthly series of materials-based lectures during the school year to science teachers. These are given by faculty and staff associated with the LRSM. The lectures are free, generally take place on Thursday evenings at 5:30 pm and are followed by food and refreshments during which teachers can engage the speaker in conversation about the talk or other aspects of education. Teachers can also receive Act 48 credit. All talks take place at: LRSM, 3231 Walnut Street, Philadelphia

Pizza and refreshment always follow and that parking is available on-street via Pay and Display kiosks. Come and bring a colleague or good student! More information about the LRSM's outreach lectures is available at the link below. For more information, or to get on the mailing list to be notified about upcoming lectures, please contact Andrew R. McGhie at 215-898-6461 or at [mcghie -at- lrsm.upenn.edu](mailto:mcghie-at-lrsm.upenn.edu).

There is some further information and a list of past lectures at: <http://www.lrsm.upenn.edu/outreach/teachers.html>

12. LRSM SCIENCE CAFES AT ST DECLAN'S WELL AND STONEY'S BRITISH PUB

LRSM also offers a series of science cafes, open to the public. The Science Cafés, which are science talks for laymen about materials-related topic of current interest, will take place at 7:30 pm at Stoney's British Pub, 3007 Concord Pike, Wilmington DE and Saint Declan's Well, 3131 Walnut St. Philadelphia, PA, at 6:00 pm.

Upcoming Science Cafes include:

November 5, 2014 at St Declan's Well in Philadelphia: David Salas-de la Cruz, Ph.D., EIT, Rutgers University, Camden, "3D Printer: Materials and Custom-made Manufacturing Revolution"

November 10, 2014 at Stoney's British Pub in Wilmington: Karl Adamsons, Axalta, "Art Preservation

Over the Last ~5000 Years"

December 8, 2014 at Stoney's British Pub in Wilmington: Alain Plante, Earth & Environmental Science, University of Pennsylvania, "The Carbon Beneath Our Feet"

December 10, 2014 at St Declan's Well in Philadelphia: Charlie Johnson, Physics & Astronomy, University of Pennsylvania, "Can Dogs Teach Us How to Use Nanotechnology to Smell Ovarian Cancer?"

Full schedule here: <http://www.lrsm.upenn.edu/events/sciencecafes/>

13. COOL LINKS:

Chris Hadfield reassures a small child about the happiness of Voyager: <http://www.radiolab.org/story/its-very-tough-little-spaceship-and-it-knows-what-its-doing/>

Article and video about Niels Bohr and Georgy de Hevesy frantically dissolving two Nobel Prizes during WWII: <http://www.npr.org/blogs/kulwich/2011/10/03/140815154/dissolve-my-nobel-prize-fast-a-true-story>

Beautiful 3D sculptures created using reverse stereographic projection: <http://www.theguardian.com/science/alex-s-adventures-in-numberland/2014/oct/30/pumpkin-geometry-stunning-shadow-sculptures-that-illuminate-an-ancient-mathematical-technique>

14. SEPS AAPT ONLINE

For news, upcoming events, and photos of past events, check out the SEPS AAPT web presence online and on Facebook!

Website: <http://www.physics.upenn.edu/~aapt/>

Facebook: <https://www.facebook.com/?ref=logo#!/group.php?gid=166735829132>