

Greetings again!

There's the usual wide variety of stuff going on locally, summarized below, including a mid-year job opening for Physics/Physical Science at Clearview Regional High School in NJ, and one for part-time instructors at Penn State Abington. Today is the last day to register your students for the AAPT Physics Olympiad, if you have high-schoolers who want to give it a shot. And please watch this space for details about our spring meeting this March at Swarthmore!

Brief summary:

1. Registration deadline for AAPT Physics Olympiad is TODAY, DECEMBER 8th (contest takes 90 minutes during January 19-24, 2015)
2. Clearview Regional High School seeks High School Physics/Physical Science Teacher (posted 12/2, starts 2/3)
3. Penn State Abington seeks part-time Physics instructors for Spring 2015 (posted 11/12)
4. University of Delaware Engineering hosts middle/high school programming competition
5. ASU offers summer MNS degree in Physics or Chemistry (3 summers, apply by 4/1)
6. Vernier Engineering Contest for Educators (deadline 1/15)
7. Call for Abstracts: APS April Meeting in Baltimore (deadline 1/5, meeting 4/11-15)
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. Penn Outreach Lectures at LRSM
11. LRSM Science Cafes at Saint Declan's Well and Stoney's British Pub (next science cafes 12/10 and 1/21 in Philadelphia, 12/8 and 1/19 in Wilmington)
12. Cool physics links: Short clip about astronauts adjusting back to life on earth, why British electrical plugs are better than American ones, very cool visualizations of sound, pictures showing how big space is, swimming pool vortices, make an electric train with a battery, magnets, and wire.
13. 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) if you have any questions about our upcoming spring meeting. And as always, please let me know by email (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
Archmere Academy
Claymont, DE 19703

1. REGISTRATION DEADLINE FOR AAPT PHYSICS OLYMPIAD IS TODAY, DECEMBER 8TH

Hello Physics Teachers,

Get your students [registered](#) for the preliminary exam in the U. S. Physics Olympiad selection process. All physics students are encouraged to participate in the [American Association of Physics Teachers' F=ma Contest!](#) (<http://www.aapt.org/physicsteam/2015/>)

The F=ma Contest is the United States Physics Olympiad selection process that leads to participation in the 46th International Physics Olympiad (IPhO) in Mumbai, India, July 5 - 12, 2015. The U. S. PhysicsOlympiad Program provides a once-in-a-lifetime opportunity for students to enhance their physics knowledge, as well as their creativity,

leadership, and commitment to a goal. Listen to stories from students at this year's Training Camp at <https://www.flickr.com/photos/physicsteachers/14442779041/>.

The registration process for the 2015 F=ma Contest is quick and easy.

Register online with a credit card or, if utilizing a purchase order, you may download a PDF form, complete and mail it to the AAPT National Office at One Physics Ellipse, College Park, Maryland 20740 or fax [301-209-0845](tel:301-209-0845). THE REGISTRATION DEADLINE IS DECEMBER 8, 2014.

Specific student names are not needed at this time, only the total number of students who plan to take the exam.

Information regarding fees, exam formats and testing dates are available on the registration page at <http://www.aapt.org/physicsteam/2015/registration.cfm>.

(PLEASE NOTE: Only a faculty member from the school or host site may register. Student-initiated registrations are ineligible.)

2. CLEARVIEW REGIONAL HIGH SCHOOL SEEKS HIGH SCHOOL PHYSICS/PHYSICAL SCIENCE TEACHER

There is an opening for a full-time, tenure-track physics teacher at Clearview Regional High School, in Mullica Hill, NJ, about half an hour south of Philadelphia. The position starts on February 3rd. Ron Antinori says Clearview has a "great community, wonderful students, beautiful campus-like environment, and supportive immediate supervisor," and asks that any interested parties contact him:

Ron Antinori
Instructional Supervisor of Science, Career & Technical Education, and Family & Consumer Sciences
Clearview Regional School District
625 Breakneck Rd.
Mullica Hill, NJ 08062
[856-223-2790](tel:856-223-2790)

Skype: ronantinori1

New Jersey certification is required. Here's the direct link to the Employment page:

http://www.clearviewregional.edu/administration/employment_opportunities

3. PENN STATE ABINGTON SEEKS PART-TIME PHYSICS INSTRUCTORS FOR SPRING 2015

At Penn State Abington, we are hiring part-time physics instructors for several courses for the spring semester 2015. We require at least a MS degree in physics or a related field. Please consult jobs.psu.edu, choose Abington and Academic and search for job 54156. All applicants should apply online.

4. UNIVERSITY OF DELAWARE ENGINEERING HOSTS MIDDLE/HIGH SCHOOL PROGRAMMING COMPETITION

With generous support from the Dow Chemical Company, UD K-12 Engineering is pleased to announce an upcoming Scratch programming contest! The details will hit our website on December 8th, 2014, in celebration of Hour of Code!

So brush up on your Scratch programming and get ready to register on the 8th! There will be cash prizes for the winners in three age groups: 3rd-6th grade, 7th-10th grade, and 11-12 grade.

Keep an eye on this space:

<https://sites.google.com/a/udel.edu/k-12engineering/events/the-house-that-engineering-built-website-launch>

And get ready to explore and create in The House That Engineering Built!

Best,

UD K-12 Engineering
University of Delaware
College of Engineering
125 East Delaware Ave
Newark, DE 19716

302-831-3016 tel
302-831-6316 tel

302-831-7484 fax

www.engr.udel.edu/k-12engineering

5. ARIZONA STATE UNIVERSITY OFFERS SUMMER MNS DEGREE IN PHYSICS OR CHEMISTRY

Attention high school physics & chemistry teachers! Would you like to earn the Master of Natural Science (MNS) degree in physics at Arizona State University (ASU)?

ASU is offering in-state tuition (a considerable savings) through WICHE, but you have to be a teacher in one of 15 eligible western states to apply for it. Good news: ASU postponed the deadline to apply to APRIL 1, 2015. Apply for in-state tuition at <http://physics.asu.edu/graduate/mns/financial>

(Mark McConnell, at a public school in Colorado, was accepted last year for in-state tuition for the 3 summers -- a huge saving! His school is paying part. We arranged his dorm housing, at \$20/day for a private bedroom and kitchen privileges.)

About the MNS degree:

Physics and chemistry teachers say that the ASU summer MNS degree program is of great value.

- * includes Modeling Workshops: an effective implementation of STEM.

- * aligned with NGSS.

- * hands-on, minds-on, practical courses for the high school classroom.

Interdisciplinary courses make it useful for chemistry teachers too.

- * Almost 70 high school teachers have earned the MNS degree since it was founded in 2001 by Prof. David Hestenes.

- * Teachers love the courses. Teaching is satisfying because students learn more.

- * It can qualify you to teach Dual Enrollment physics courses.

- * It is similar to Finland's Master degree for high school physics teachers, in that courses combine content with research-based pedagogy, and teachers do research. (Finland is tops in the world in test scores of 15-year-olds, as you know.)

- * Most teachers take 3 summers, but some finish in two. Flexible; no cohorts.

- * Courses begin on June 8, 2015. 2 sessions in summer. 2nd session ends on July 31.

Visit <http://modeling.asu.edu/MNS/MNS.html> for info & a tentative list of courses through 2016.

To apply to ASU for the MNS degree program, click on "ASU logistics and the application process". Start now, and submit it well before April 1, 2015. (This is a separate application. Both are needed.)

Questions? ask [jane.jackson -at- asu.edu](mailto:jane.jackson-at-asu.edu), 480-965-8438.

Josh Clearman wrote: "This is an affordable, summer based content degree in physics or chem. It is a very good and challenging degree that is an alternative to an Ed masters. I am a grad of this program and recommend it highly." Josh is a Dean at Green River CC and formerly taught high school physics in Florida.

FINANCIAL AID for TEACHERS NATIONWIDE:

1) Teachers in high poverty (usually Title I) schools nationwide can get FORGIVABLE Stafford loans.

See <http://modeling.asu.edu/MNS/MNS.html>

2) New out-of-field physics teachers nationwide can apply for TEACH grants of up to \$2000 per summer if you teach in a high-poverty school. See <http://modeling.asu.edu/MNS/MNS.html>

3) Ask your principal to request NCLB Title II-A funds from your school district.

4) Teachers in small rural schools can ask their principal for funds from the Small, Rural School Achievement program (REAP) of the U.S. Department of Education. <http://www2.ed.gov/nclb/freedom/local/reap.html>

MNS degree TIPS:

- * The GRE is no longer required.

- * Teachers can transfer up to TWELVE credits into the degree program!

Some teachers take PHS 530, modeling workshop in mechanics, BEFORE they apply for the MNS degree. (We will also hold the Modeling Workshop in mechanical waves & sound, led by Michael Crofton.) Consider doing that, next June 8-26.

peace,

Jane Jackson, Co-Director, Modeling Instruction Program
Box 871504, Dept.of Physics, ASU, Tempe, AZ 85287

480-965-8438/fax:965-7565 <http://modeling.asu.edu>
Jane.Jackson-at-asu.edu

For 24 years, Modeling Instruction has helped teachers attain knowledge and skills needed to benefit their students. Modeling Instruction is designated as an Exemplary K-12 science program by the U.S. Department of Education. The American Physical Society recognized it with the 2014 Excellence in Physics Education Award.

The American Modeling Teachers Assn (AMTA) is expanding the work: <http://modelinginstruction.org>. AMTA is a 100Kin10 Partner.

6. 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>

7. 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>

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, 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](http://astro.swarthmore.edu/observatory_directions/index.html) 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. 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>

11. 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:

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?"

January 19, 2014 at Stoney's British Pub in Wilmington: Stewart Ramsey, Farmer, topic TBA

January 21, 2014 at St Declan's Well in Philadelphia: Doug Durian, Physics, University of Pennsylvania, "Grains of Physics", about avalanches, sandcastles, quicksand, and the physics of granular materials

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

13. COOL LINKS:

Quick short about astronauts adjusting back to life on earth: <https://www.youtube.com/watch?v=PVxaL8CAO4M> (satire by students at NASA but with a valid point)

Why British electrical plugs are better than American ones: https://www.youtube.com/watch?v=UEfP1OKKz_Q

Sound visualized, with lots of 2D standing waves and not enough explanation: <http://vimeo.com/111593305>

Space is big, you are small, with pictures: <http://www.buzzfeed.com/daves4/the-universe-is-scary?bffb>

Pool vortex, with physics explanation: https://www.youtube.com/watch?feature=player_embedded&v=pnbJEg9r1o8

How to build a model of the simplest electric train, using an AA battery, magnets, and wire: <http://laughingsquid.com/how-to-make-an-extremely-simple-electric-train-from-household-parts/>

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>