

Hi, everyone! It was great seeing so many of you at the Spring Meeting at Drexel University in April! Friday's lecture by Dr. Demers was interesting and exciting, and our Saturday evening "Iron Physicist" was a hit with both experienced science teachers and the horde of small children who showed up courtesy of the Philadelphia Science festival. We also had some great workshop leaders, shared a bunch of resources, and beat SPS at Physics Jeopardy.

If you were there, or even if you weren't, Mary Chessey, of the Drexel SPS chapter, has posted an album of photos from the conference here. Check them out! And if you have photos to contribute, please send me an email and we can link them from our website and in the newsletter.

<https://plus.google.com/u/0/photos/100714909650521432639/albums/5873172799956424993>

In addition, slides from the talks are available on SEPS's website,

<http://www.physics.upenn.edu/aapt/>, including talks by:

- * Sarah Demers: Higgs Hunting at ATLAS
- * Dave Goldberg: How to make yourself a physics pundit
- * Michelle Dolinski - Diversity in Physics
- * Aline McNaull - Working with Congress: What can physicists bring to the table?

At the SEPS business meeting, we discussed upcoming events and the results of our survey; we also witnessed the official passing of the SEPS presidential baton from Carolyn Sealton (now past president) to Paula Miller, our new and current president. More detailed notes from the business meeting follow.

As usual, we also have several local job openings, and a number of exciting spring and summer professional development opportunities. Here's a summary of the remaining contents of this newsletter:

1. Business meeting notes from SEPS Spring Meeting (4/26-4/27)
2. Free online Mechanics Review Course on MITx (6/1-8/31)
3. Save the date for CSAAPT's Fall 2013 Meeting (11/8-9)
4. AAPT National Summer Meeting July 13-17 in Portland, OR (advanced deadline 6/6)
5. Rutgers University offers free Physics Union Mathematics Workshop (7/24-7/28)
6. National Academies release new report on Undergraduate Physics Education
7. Summer Opportunities at Penn LRSM: RET, PSSI, Teacher Workshops
8. 2013 Lunar workshops for Educators in Greenbelt, MD (6/24-28, 7/8-12)
9. Astrobiology for Educators at Penn State Abington (7/22-26)
10. Physics job opening for adjunct at Chestnut Hill College (fall 2013, posted 5/20)
11. Job opening for Physics teacher at Delaware County Christian School (posted 5/10)
12. Job opening for Physics teacher at Jack M Barrack Hebrew Academy (posted 5/13)
13. Job opening for Physics teacher at Germantown Friends (posted 4/26)
14. Job opening for Physics teacher at Springside Chestnut Hill (reposted 5/1)
15. Job opening for Physics teacher at St. Andrew's (posted 4/17)
16. Job opening for Physics teacher at Agnes Irwin (posted 3/29)
17. Summer Physics Teaching opportunities at CTY in Seattle
18. Job opening for Physics teacher at Episcopal Academy (posted 4/19)

19. Friends Select seeks Upper School Chemistry Teacher (posted 3/8)
20. Westtown School seeks Summer Science Institute Director (part-time)
21. Resources & Workshops available at NASA Teacher Center in NJ
22. Inquirer article about Robert Malkovsky (Penncrest HS) Memorial Scholarship fund
23. Widener University's Science Teaching Center offers STEM Teacher Exchange
24. AMTA offers Modeling Workshops this summer in PA, NJ and around the country (deadline 6/1 for South Jersey Institute)
25. Penn Monthly Outreach Lectures for Science Teachers at LRSM (6/13)
26. Penn LRSM Science Cafes in Wilmington and Philadelphia (5/20)
27. National Aerospace Training and Resource Center: Free Summer 2013 Teacher Programs (July 2013)
28. Online Interactive Multivariable Calculus Course (Fall 2013)
29. Online Interactive Digital Electronics Course (Summer 2013)
30. AP Physics Free-Response Questions
31. Cool physics links: Physics Careers, Dielectrics, Baseball
32. SEPS AAPT Online

Please continue to let me know about any exciting events, professional development opportunities, or resources you come across that you'd like to share with the rest of the Southeastern PA Section! I'd especially be interested in getting more resources that will be useful to college faculty, since most of the mailing lists I am personally on pertain to my own grade level, and I'd like this list to be useful for everybody on it.

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
AP & Honors Physics Teacher
Archmere Academy
Claymont, DE 19703

1. SEPS BUSINESS MEETING SUMMARY

Saturday's business meeting began with Carolyn Sealfon (past president) officially passing the baton to Paula Miller (formerly vice president, now president).

This was followed by Art Zadrozny giving the Treasurer's report: our finances are in good shape, largely due to the strong turnout at last year's spring meeting.

Ryan Batkie gave the Section Rep's report, largely concerning sites for future national AAPT meetings. The upcoming national meeting will be in Portland, OR, July 13-17; hotel rooms will be \$129/night, or possibly \$89/night at a cheaper hotel, but as of this writing, the national organization still hasn't established whether dorm rooms will be available at a reduced price. The Winter 2014 Meeting will be January 4-7 in Orlando, Florida, and the 2014 Summer Meeting will be July 26-30 in Minneapolis. The national organization is trying to boost conference attendance and section membership, in part with improved web design and better linking to our sections' and members' sites. We discussed linking the AAPT site

to physics teachers' personal sites and vice versa.

Jillian Waldman gave the secretary's report, including a summary of the mailing list membership (519 valid addresses) and results from the membership survey we did. We discovered -- perhaps unsurprisingly -- that distance, time, and scheduling constraints are the main reasons people are less involved. We discussed making sure new national AAPT members are added to the local mailing list, and making sure that SEPS shows up on the AAPT website for Delaware teachers looking for a local group.

We discussed sites for the fall demo meeting -- Lincoln High school and Sun Valley high school are currently on the table. Paula is looking into the feasibility of Lincoln, and Marc Baron graciously offered Sun Valley. We will let you know when a final date and location have been set. Those present seemed in favor of having the fall demo show take place on a Saturday morning again, preferably mid-morning so people have time to get there.

We discussed sites for our 2014 Spring Meeting. Sardari Khanna suggested having a joint meeting with the Central PA Section, of which he is treasurer, and there was enthusiastic support. Villanova was also suggested, and will hopefully host at a later date.

We nominated and elected new officers as follows:

President: Paula Miller was raised from Vice President to President (Carolyn Sealfon stepped down)

Vice President: Sardari Khanna was elected, to better facilitate the York meeting

Treasurer: Art Zadrozny will continue as treasurer

Section Rep: Jay Bagley will replace Ryan Batkie, who is departing for grad school in Wisconsin, for a full 3-year term

Members at Large: Bill Heffner, Craig Halpern, Bill Berner, Ling Liang

2. FREE ONLINE MECHANICS REVIEW COURSE

https://www.edx.org/courses/MITx/8.MReV/2013_Summer/about

[note: if this link doesn't work, try this one]

<https://www.edx.org/course/mit/8-mrevx/mechanics-review/748>

Mechanics ReView is a second look at introductory Newtonian Mechanics. It will give you a unified overview of mechanics that will dramatically increase your problem-solving ability. It is open to any students who meet the prerequisites (see right), but is especially designed for teachers and those who want to improve their existing understanding of mechanics. Newtonian mechanics is the study of how forces change the motion of objects. This course begins with force, and moves on to straight-line motion, momentum, mechanical energy, rotational motion, and angular momentum. Optional units include oscillations, planetary orbits, and a review of multi-concept problems.

Our approach to mechanics is a unique one. Through worked examples and online texts we introduce a strategic overview of core concepts in mechanics. This overview couples with a new approach to problem-solving that will help you break down and solve multi-concept problems. By choosing a system of objects, defining their interactions, and deciding on a model to use to describe them, you will come to solve physics problems more easily and more systematically.

The road to "easy" goes through "hard." This course is more challenging than a standard high school or introductory college physics offering. We will help you become a more expert problem solver, and that process involves solving a variety of problems, in many different ways, with our new approach. The reward is stronger problem-solving ability that carries over to other areas in physics.

Take this course to better organize your mechanics knowledge, to prepare for AP or

advanced standing exams, to teach more effectively, or if you enjoy attacking challenging problems!

If you are a teacher looking to improve your knowledge of mechanics, or to learn new approaches to teach your students, we encourage you to sign up. Our approach has been researched carefully and has proven effectiveness when it comes to preparing students for later courses.

Teachers in the United States, and especially in Massachusetts, can receive extra benefit from this course. We offer Professional Development Points (PDPs) at no charge to teachers in Massachusetts who complete our course. If you are in a different state, we instead offer Continuing Education Units through the American Association of Physics Teachers. There is a fee for this certificate.

3. SAVE THE DATE FOR CSAAPT'S FALL 2013 MEETING

Our southern neighbors in the Chesapeake Section of the AAPT (<http://www.csaapt.org/>) have set the date for their 2013 Fall Meeting. The meeting will be Friday-Saturday, November 8-9, 2013 in Virginia Beach, VA. The local contact will be David Wright ([dwright -at- tcc.edu](mailto:dwright-at-tcc.edu)) of Tidewater Community College. The conference hotel is the Barclay Towers (809 Atlantic Beach Avenue), right on the oceanfront. To make reservations, call and ask for the AAPT block of rooms. This block will be reserved until about a month prior to the meeting. The price including all taxes will be \$78.97.

Friday's events will include a workshop (topic TBD) and a 3D planetarium show "Dawn of the Space Age" at the Tidewater Community College Planetarium. On Saturday, there have contributed talks and demos, along with a luncheon with a guest speaker.

The contact person for the CSAAPT in general is Dr. Rhett Herman, Professor of Physics at Radford University, and communications officer for the CSAAPT. The Chesapeake Section serves the states of Delaware, Maryland, and Virginia.

4. AAPT NATIONAL MEETING THIS JULY IN PORTLAND

The 2013 AAPT Summer Meeting will be held this July 13-17 in Portland, Oregon at the Hilton Portland and Executive Tower with weekend workshops at Portland State University. The theme will be "Going Green with Portland". The early bird registration deadline of May 10 has passed; the next deadline is the Advanced Deadline, at a rate of \$484.

Much more information is available here: <http://www.aapt.org/Conferences/SM2013/>

5. RUTGERS UNIVERSITY OFFERS FREE PHYSICS UNION MATHEMATICS WORKSHOP

Physics Union Mathematics (PUM) Workshop

Rutgers University June 24th –28th

To sign up click on (the workshop is free)

<https://sites.google.com/a/gse.rutgers.edu/pumworkshop/>

Rutgers invites high school physics teachers, physical science teachers, and middle school physical science teachers to spend a week in June learning how to implement Physics Union Mathematics (PUM) curriculum. This workshop is offered at no cost.

Students learn physics by engaging in practices similar to that of physicists constructing and applying knowledge.

- Special focus on mathematical reasoning that strengthens students' reasoning abilities

in both math and physics.

- Students learn to collect data and to represent them in multiple ways, to use proportional reasoning to find patterns in the data, to explain them and to test their explanations in new experiments.
- Students work in groups designing their own experiments and have ample opportunities to pose and answer their own questions.
- PUM materials help teachers build a learning community in the classroom.
- Integrated videos of concept-developing physics experiments from the award winning website Rutgers Physics Teaching Technology Resource <http://paer.rutgers.edu/pt3>
- Pervasive use of the award winning PhET simulations from the University of Colorado <http://phet.colorado.edu>

PUM modules contain lesson activities, homework questions, daily quiz questions and final tests. They use simple equipment that any school is likely to have. In case of the lack of needed equipment, Rutgers has a small lending library. The modules work with any textbook and can be implemented “as is” or used to supplement any materials that the teacher already uses.

During the workshop the participants will:

- Improve their understanding of physics content, process, and specifically different productive representations such as motion diagrams, force diagrams, energy bar charts, graphs, and mathematical representations.
- Improve their understanding of student ideas and productive ways to help students learn.
- Learn about PUM philosophy and general module structure.
- Do most of the module activities for the modules kinematics, dynamics, momentum, energy, and electrostatics (including design labs) and reflect on the process.

During the subsequent school year the participants will:

- meet every two months to discuss their class progress
- have a listserv to share their ideas, questions, etc.

Logistics

Who: The workshop will be led by R. Zisk and S. Brahmia (Rutgers) and NJ high school and middle school teachers who participate in the development of the PUM modules and use them in their instruction (D. Bugge, and J. Flakker)

When and Where: The workshop will run from 9 am to 4 pm June 24th through June 28th at the Graduate School of Education, room 25A.

Cost: \$0. Lunch is not included, but we will have coffee and pastries in the mornings.

Parking: The participants will have a permit for the week of the workshop.

Your administration is welcome to visit any time but the best time is the morning of the first day of the workshop.

If you are interested, please contact Rob Zisk at [robert.zisk -at- gse.rutgers.edu](mailto:robert.zisk-at-gse.rutgers.edu)

6. NATIONAL ACADEMIES RELEASE NEW REPORT ON UNDERGRADUATE PHYSICS EDUCATION

The National Academies just released a new report on undergraduate physics education: http://www.nap.edu/catalog.php?record_id=18312

7. SUMMER OPPORTUNITIES AT PENN LRSM

The University of Pennsylvania's Lab for Research on the Structure of Matter has

the following programs available for teachers and students:

1) Research Experience for Teachers, RET This is a six week program of research for five teachers from the Delaware Valley. For details go to our website www.lrsm.upenn.edu/outreach under RET for an on-line application form. Please pass this information on to any teacher you think may be interested.

2) Pennsylvania Summer Science Initiative, PSSI This is a free, four week program for high school junior or good sophomores. Go to our website www.lrsm.upenn.edu/outreach and look under PSSI for information and the on-line application. Encourage your students to apply.

3) Teachers Workshops on (inexpensive) materials-related experiments for schools, These one-day workshops will be given in August (dates to be determined) on thermal properties of materials, mechanical properties of materials, and culinary materials. Check our website for details.

8. 2013 LUNAR WORKSHOPS FOR EDUCATORS IN GREENBELT, MARYLAND

NASA's Lunar Reconnaissance Orbiter, or LRO, mission is sponsoring a pair of workshops for educators of students in grades 6-9. These workshops will focus on lunar science, exploration and how our understanding of the moon is evolving with the new data from current and recent lunar missions. The Lunar Reconnaissance Orbiter has allowed scientists to measure the coldest known place in the solar system, map the surface of the moon in unprecedented detail and accuracy, find evidence of recent lunar geologic activity, characterize the radiation environment around the moon and its potential effects on future lunar explorers and much, much more! Workshop participants will learn about these and other recent discoveries, reinforce their understanding of lunar science concepts, gain tools to help address common student misconceptions about the moon, interact with lunar scientists and engineers, work with LRO data and learn how to bring these data and information to their students using hands-on activities aligned with grades 6-9 National Science Education Standards and Benchmarks. Workshops will take place: June 24-28 and July 8-12, 2013, at NASA's Goddard Space Flight Center in Greenbelt, Md. Workshop participants will have the opportunity to tour the LRO Mission Operation Center and the Goddard spacecraft testing facilities. Each workshop will be limited to 25 participants. Interested educators are encouraged to apply early to secure a spot. Qualified applicants will be accepted in the order they apply. For more information and to register for the workshops, visit <http://lunar.gsfc.nasa.gov/lwe/index.html> Questions about these workshops should be directed to Katie Hossen at [Katie.K.Hossen -at- nasa.gov](mailto:Katie.K.Hossen@nasa.gov)

9. ASTROBIOLOGY FOR EDUCATORS AT PENN STATE ABINGTON

Is There Life Beyond Our Planet? And How Would We Know? This course is designed to provide teachers in grades 4-12 with science content related to the cutting-edge field of astrobiology. Explore the latest discoveries in the search for conditions needed to support life on other planets, and learn how to integrate this multidisciplinary topic into existing curricula while still meeting state science requirements. This workshop will be held July 22-26th at Penn State Abington.

To learn more about this opportunity, see <http://www.abington.psu.edu/continuing->

[education/astrobiology-educators](#)

Questions about the workshop should be directed to Eva Klein at [evaklein -at- psu.edu](mailto:evaklein-at-psu.edu)

10. PHYSICS JOB OPENING FOR ADJUNCT AT CHESTNUT HILL COLLEGE

Chestnut Hill College is seeking an adjunct to teach a calculus-based college physics course starting in fall 2013. If you are interested, please send your resume to:

Kathleen Duffy, SSJ, PhD, Professor of Physics

Chestnut Hill College, 9601 Germantown Avenue, Philadelphia, PA 19118

215-248-7197, [kduffy -at- chc.edu](mailto:kduffy-at-chc.edu)

11. JOB OPENING FOR PHYSICS TEACHER AT DELAWARE COUNTY CHRISTIAN SCHOOL (posted 5/10)

<http://www.dccs.org/page.cfm?p=303>

DC is in need of a full-time High School Science teacher with a strong Physics background for the 2013-14 school year. A Bachelor's Degree in Science is required for this position. Previous teaching experience, ACSI educator certification, PA state teacher certification, and the ability to coach athletic teams or lead co-curricular activities are desired. DC seeks to educate students who will serve God and impact the world through biblical thought and action. Please check the school's website (www.dccs.org) regarding personal faith alignment and send a resume to Janet Grant at [jgrant -at- dccs.org](mailto:jgrant-at-dccs.org).

12. JOB OPENING FOR PHYSICS TEACHER AT JACK M. BARRACK HEBREW ACADEMY (posted 5/13)

The Jack M. Barrack Hebrew Academy located in Bryn Mawr, PA, has a full time opening for a science teacher starting September 2013. The teaching load will include 3 Middle School Science classes and one High School Chemistry class. Experience is preferred. Based upon the applicants, the position may be split into two part time teaching positions. Send a cover letter and resume to [raugust -at- jbha.org](mailto:raugust-at-jbha.org)

13. JOB OPENING FOR PHYSICS TEACHER AT GERMANTOWN FRIENDS (posted 4/26)

<http://careers.nais.org/jobs#/detail/5363789/>

Germantown Friends School is a Quaker, independent, co-educational day school serving approximately 860 students in grades K-12. Located in an historic, urban setting in northwest Philadelphia, the school takes its identity from a constellation of four distinct elements: a vibrant intellectual community, an historic urban setting, a diverse school community and a grounding in Quaker principles. For more information about the school, please visit the website at www.germantownfriends.org.

Germantown Friends School is seeking a Physics teacher to teach two sections of ninth-grade conceptual physics. The ideal candidate has a strong background in mathematics and science, has teaching experience, works collaboratively with colleagues, and will support the mission of the school. A masters degree is preferred. Qualified candidates may also have the opportunity to teach Upper School math, including Calculus, and provide math support to ninth-grade students. If interested, candidates should note this in their cover letter and include relevant education and teaching experience.

Germantown Friends School is an equal opportunity employer. People of color, individuals of the LGBTQ community, members of the Religious Society of Friends and people demonstrating a commitment to diversity and multiculturalism in education are especially

encouraged to apply.

14. JOB OPENING FOR PHYSICS TEACHER AT SPRINGSIDE CHESTNUT HILL ACADEMY (posted 5/1)

What? Full-time Physics teacher needed to teach Upper School Physics and a one-semester Physics II elective.

When and where? Starting end of August 2013 at Springside Chestnut Hill Academy.

How? Are you ready to join a team that is a leader in science education? Are you ready to design and implement learning experiences that foster 21st-century learning skills in students? Apply now at <http://teachphiladelphia.com>

More detail also available

here: http://www.sch.org/ftpimages/555/download/Physics_v.2_es.pdf

<http://careers.nais.org/jobs#/detail/5372822>

Job description:

- Collaborate with co-teachers teaching the same course to develop lesson plans and curricular materials
- Prepare course objectives and outline course of study following curriculum guidelines and any school requirements as mentioned in the mission statement
- Demonstrate, model, and design learning experiences that foster 21st century learning skills in students
- Integrate technology as an essential and regular component of student learning experiences
- Prepare, administer, correct, and record assessment results in a regular and timely manner
- Tailor instruction to meet the needs of students
- Provide students with a variety of formats by which they can demonstrate skill mastery
- Provide timely and regular feedback on students' progress toward skill mastery
- Teach rules of conduct and create a warm and welcoming learning environment
- Maintain order and enforce school policies in classroom and throughout common areas of the campus
- Counsel pupils when adjustment and academic problems arise
- Discuss pupils' academic and behavioral attitudes and achievements with parents
- Keep daily attendance and records of students' progress
- May coordinate field trips, and chaperone overnight field trips up to one week in length as part of the science or Upper School program
- Collaborate within the science department and with all departments and offices as required or requested
- Attend work and arrive/depart work at the appropriate times as determined by the immediate supervisor
- Take leave time in accordance with school policy and report all absences in a timely manner
- Assume other reasonable and equitable job-related duties assigned by the immediate supervisor, some of which occur on weekends and evenings, including science department initiatives like participating in the Philadelphia Science Festival, science competitions, etc
- Attend professional development workshops each year

Requirements for the position include:

- Excellent communication, both oral and written
- Ability to develop and implement curriculum, assessments, and utilize teaching

methodologies/best practices

- Strong background in Physics with advanced degree preferred; at minimum, a bachelor's degree in Physics
- At least two years of experience teaching Physics
- Strong interpersonal and communication skills and the ability to work effectively with a wide range of constituencies in a diverse community
- Knowledge of content, curriculum, methods, materials, and equipment for Physics education
- Knowledge of 21st century learning skills and practices, current science standards, and inquiry-based pedagogy
- Knowledge of applicable safety procedures
- Ability to provide a supportive, caring, and positive environment for students, and maintain classroom discipline
- Knowledge of child development theory and practice
- Ability to develop and present educational programs and/or workshops
- Records and course website maintenance skills using web-based applications
- Working knowledge of personal computer skills with experience in the use of such programs as MS Word, MS Excel, MS PowerPoint and e-mail
- Comfortable with a team-based work structure; ability to demonstrate flexibility on the job
- Demonstrates initiative, is conscientious, and provides complete follow-through on areas of responsibility

15. JOB OPENING FOR PHYSICS TEACHER AT ST ANDREW'S

St. Andrew's school, a co-ed boarding school of 300 in Delaware, is looking for a full-time physics teacher for the 2013-14 school year. We are a boarding school with a deep commitment to financial aid (nearly half the student body is on aid and the average grant is \$38,000). We offer introductory and honors physics, both of which follow a modified modeling curriculum, as well as a 2nd year physics course taught from the Matter and Interactions text. A typical class load is 3 or 4 sections of 12-15 students.

You can find more information about this position and the school at my blog:

<https://quantumprogress.wordpress.com/2013/02/20/were-looking-for-a-couple-of-great-teachers/>

You can find the job posting here: <http://www.standrews-de.org/aboutus/employment-opportunities/available-positions/index.aspx>

16. JOB OPENING FOR PHYSICS TEACHER AT AGNES IRWIN

<http://careers.nais.org/jobs/5292201/physics-teacher-full-time>

The Agnes Irwin School (<http://www.agnesirwin.org/>) is a Pre-K through 12, all-girls' school located in Rosemont, PA.

The Agnes Irwin School seeks a full-time **Upper School Teacher** to teach two or three sections of **9th grade Conceptual Physics** and one or two sections of **Math**. The position will begin in late August, 2013. Candidates should be excited to work in a rigorous academic environment with colleagues who value collaboration as well as independence. Please email resume and cover letter to [ApplyAIS -at- agnesirwin.org](mailto:ApplyAIS@agnesirwin.org). To the attention of Jennifer Hoffman, Science Department Chair.

The Agnes Irwin School is actively recruiting candidates in accordance with diversity plans and is an Equal Opportunity Employer.

Successful candidates must possess:

- Bachelor's degree in Education with strong experience in Physics or a Bachelor's degree

- in a science discipline; advanced degree preferred
- Minimum of three years experience teaching Upper School Physics
 - Proficiency with the use of computer technology relevant to the classroom (interactive white board, Vernier probes, Google products, etc.)
 - Experience with robotics and/or design and engineering education desirable
 - Strong interpersonal and communication skills
 - Ability to manage multiple tasks
- Ability and interest in coaching a plus

17. SUMMER PHYSICS TEACHING OPPORTUNITIES AT CTY

The Johns Hopkins Center for Talented Youth (CTY) has summer instructor positions available. Working with gifted pre-collegiate youth, instructors receive a competitive salary, a teaching assistant, and a generous lab budget. Room and board is provided at our residential sites. Class size is 12-18 students, depending on the age group of the children.

We are currently seeking candidates for the following courses, at the listed locations:

The Physics of Sports (grades 7-10):

<http://cty.jhu.edu/summer/grades7-12/academic/catalog/science.html#phsp>

- Seattle University, Seattle, WA, June 20-July 13 and July 13-August 3 (residential)
- Students use sports to explore mechanics through lectures, hands-on activities and labs, mathematical problem sets, and research projects. Competitive instructor candidates have undergraduate and/or graduate coursework in physics and experience teaching.

If you are interested in working for CTY this summer, please send a resume or CV to Rosa Villastrigo at rosa.villastrigo-at-jhu.edu.

More information about the program, courses, and our online application can be found at www.cty.jhu.edu/summer/employment.

18. JOB OPENING FOR PHYSICS TEACHER AT EPISCOPAL ACADEMY (posted 4/19)

<http://www.episcopalacademy.org/news/detail.aspx?linkid=1350&moduleid=23>

The Episcopal Academy is seeking to hire an experienced Upper School Physics teacher who can teach regular, Honors, or AP Physics. Candidates should have a degree in Physics or a closely related field with experience teaching upper level Physics. The ability to work closely with colleagues to coordinate multi-section courses is essential. Interest in mentoring students in science competitions desirable.

Candidates should send a cover letter and resume to jobs-at-episcopalacademy.org with the subject line "Physics" or via mail to: The Episcopal Academy, 1785 Bishop White Drive, Newtown Square, PA 19073. You may also fax to: 484-424-1606.

The Episcopal Academy does not discriminate in employment opportunities or practices on the basis of race, color, religion, sex, sexual orientation, national origin, age, disability and familial affiliation or any other characteristic protected by law. AA/EEO employer

19. FRIENDS SELECT SEEKS UPPER SCHOOL CHEMISTRY TEACHER

Friends Select School seeks a maternity leave Chemistry teacher for the start of the 2013-14 school year. Successful candidates should have the requisite experience to teach the curriculum left by the teacher. Interested applicants should send all information (resume,

cover letter, and list of references) to Science department chair Natalie Mayer Nataliem -at-friends-select.org, <http://careers.nais.org/jobs#/detail/5248387>

20. WESTTOWN SCHOOL SEEKS SUMMER SCIENCE INSTITUTE DIRECTOR

<http://www.friendscouncil.org/Library/Jobs/JobZoom.asp?FolderID=742&SessionID={ECCC A550-813C-4264-B1EC-FE2E0E828185}&JobID=3277>

Westtown School, founded in 1799, is a Quaker, co-educational school for grades PreK - 12. The school is located on a 600 acre campus in Westtown, Chester County, a suburb of Philadelphia. Westtown has approximately 780 students and over 200 employees.

<http://www.westtown.edu>

Position Available: Westtown Summer Science Institute Director

Job Description: Part Time, Administration 6th, 7th, 8th, 9th, 10th, 11th, 12th

Applications must be received by: June 30, 2013

Job posting expiration date: 7/1/2013

Applicants should supply the following materials: Cover Letter, resume, and references

Westtown Summer Science Institute Director: Westtown School has an immediate opening for a part-time (50%) Westtown Summer Science Institute Director. With a newly renovated and expanded Science Center opening January of 2014, Westtown will launch a research intensive summer institute for middle and high school students in June of 2014. The founding Director will oversee all aspects of the creation and running of the program. Responsibilities include envisioning and developing the program, finances, marketing, recruitment of students, hiring faculty, creating partnerships with local industry and universities, fundraising for scholarships, and managing the residential and day program. The position is intended to expand, creating additional science programming for adults and youth throughout the year. Send cover letter and resume to L. Jay Farrow, Assistant Head of School at employment-at-westtown.edu

21. RESOURCES AND WORKSHOPS AT NASA TEACHER CENTER IN NJ

You may have seen the beautiful glossy photos and other resources from the NASA Educator Resource Center that Anne Tabor-Morris brought to our spring meeting. More resources are available at the center's monthly open house: New Jersey's only NASA Educator Resource Center OPEN HOUSE Located at Georgian Court University, 900 Lakewood Avenue, Lakewood, NJ 3rd Sat of the month in the Library 10:30 am-12noon during the school year (May 18, 2013 and June 15, 2013 for the rest of this school year) Free posters, lithographs, calendars, ideas for teachers (only). Get on our email list: Email nasa-at-georgian.edu We are also happy to serve Eastern Pennsylvania as the NASA ERC of PA is located in Pittsburg. Teacher Professional Development Workshop Lunar Rock and Meteorite Workshop (6 hours) NASA Teacher training PLUS get certified to bring the NASA Lunar Rocks (yes from the moon) and Meteorites into YOUR classroom. FREE but reservations required. Limited seats available (waiting list will be kept). Get 6 hours of Professional Development (certified under State of New Jersey) Run by a Goddard Space Flight Center NASA Specialist Rich Varner <http://education.gsfc.nasa.gov/pages/listserv.html> At McCauley Heritage Center, Georgian Court University, Lakewood, NJ 08701 Thursday June 27, 2013, 9 am to 3 pm (bring your own brown bag lunch) Email: nasa-at-georgian.edu to register, seats are limited to 34. If you are looking up directions to Georgian Court University using GPS, MapQuest, Google

Maps, or similar, the best address to use is 517 Ninth Street, Lakewood, NJ 08701. Teaching Astronomy or Geology? Rock Around the World: <http://ratw.asu.edu/>

22. ROBERT MALKOVSKY MEMORIAL SCHOLARSHIP FUND

There was an article in the Philadelphia Inquirer on Monday about the Robert Malkovsky Memorial Scholarship Fund:

http://www.philly.com/philly/news/20130422_Fund_drive_in_Media_honors_very_special_teacher.html

Here is an excerpt from the article, which also includes an interview with Jim Ciccarelli, one of Robert's colleagues at Penncrest and a SEPS member.

"The great teacher, the one who inspired, the one who changed your life. For decades of students in Delaware County, Robert Malkovsky - Mr. Mal, or just Mal - was such a teacher. Six-foot-four with a booming voice and a big laugh, he was a gentle giant who ignited a fire for physics in his students. He explained the incomprehensible. He would quietly foot the bills for prom dresses. He made all kids feel as though they were worth listening to. And so Mal's death - so unexpected because he appeared to have won his long battle with pancreatic cancer - was devastating news to those who knew him, as though a light had gone out for them.

Now former students and colleagues are determined to see that light shine on.

Shortly after Mal died in February, some Penncrest High School alumni started Mal's Memorial Fund. The goal: to raise \$50,000 to create an endowed scholarship in Mal's name so that every year, one boy and one girl from the Media school would get \$1,000 to pursue an interest in science.

The drive has had amazing success. With just \$3,000 more to go to meet the endowment requirements, the fund's organizers will be able to give out the first scholarships to this year's seniors."

Dr. William Kane, a professor at Penn and former student of Mr. Mal's, writes:

"He was quite frankly one of the best educators many of us have ever been fortunate enough to know, and his tireless devotion to his students left a lasting legacy that has traveled through several generations of our community.

"In an effort to extend that legacy a group of alumni are establishing a scholarship fund in his memory. We're setting out to endow awards for a male and female graduating senior at Penncrest who will be majoring in a STEM field in college. Many of us, me included, were inspired and encouraged to enter the sciences thanks to Mr. Mal's guidance, and we feel encouraging others to do so is a fitting remembrance."

Mr. Mal's family, friends and colleagues will have an active role in awarding the yearly scholarship, and they ask for your support and generosity to continue his legacy for future generations. Mr. Mal was an incomparable educator who epitomized the dedication and love of learning that so many of you bring to the classroom every day. For more information and to donate to the scholarship, please visit the website at,

<http://www.malsmemorialfund.com/index.html>

All donations will be tax deductible through The Delaware County Community Foundation via a fund (501 (c)(3)) under the name "The Robert Malkovsky Memorial Fund." Checks may also be mailed to: The Robert Malkovsky Memorial Fund, c/o DCCF, P.O. Box 496, Wayne, PA 19087

23. WIDENER UNIVERSITY'S SCIENCE TEACHING CENTER OFFERS STEM TEACHER EXCHANGE

When – spring 2013 or fall 2013; approximately every 6 weeks

Where – Widener University Science Teaching Center (213 Kirkbride Hall)

Who – Middle Level and Secondary Teachers

The STEM Teacher Exchange is based on a teacher-led professional development model where local teachers come together and share ideas. Each exchange will be composed of two parts: The first part will be problem-based where teachers help one another solve problems through a process called "Tuning Protocol." Basically a few identified teachers bring an issue for sharing with the group. It might be something they are having trouble with in the areas of content, pedagogy, or assessment. Presenting teachers can bring along copies of lesson plans, student work or whatever else will help the group to understand the problem. The goal is to help the presenting teacher improve or "fine tune" his/her work. The scope of the group's work will largely be determined by a focusing question framed in advance by the presenting teacher. Since we will have this information before the actual meeting, other participating teachers can bring along artifacts that they use to address the issue being discussed. Widener University faculty from a variety of backgrounds (the sciences, mathematics, and education) will also be available to join in as problem solvers too.

Some themes that in-service teachers are especially interested in may include (1) exploring/assessing students' understanding/thinking/misconceptions based on their work; (2) how to respond to students' errors/misconceptions, such as how to help students correct mistakes; (3) classroom management; (4) engaging lesson planning; (5) pedagogical content knowledge, i.e., how to unpack content knowledge in ways that are comprehensible to students; (6) or sharing self-made videos. We may invite different experts on these themes to join us as we attempt to answer teachers' questions and provide substantive feedback.

Our first teacher exchange will be focused on motivating students in math and science classrooms. Once we get started, the topics may be drawn from a list of themes that teachers themselves identify.

First Teacher's Exchange Agenda

4:00-4:20 Welcome and Introduction to Tuning Protocol

4:20-4:50 Tuning Protocol –

~ 5-10 minutes: Presenter – brings one focus question with details based on the problem of motivating students in math and science

~ 5 minutes: Participants – ask clarifying questions and examine presented artifact; Presenter responds openly to questions

~ 10-15 minutes: Participants – provide warm and cool feedback; Presenter does not speak; writes down all ideas for reflection later

~ 5 minutes: Presenter – Summarizes the feedback and selects possible ideas for initial course of action

~ 2 minutes Facilitator: Debriefing – How was this helpful?

5:45-6:00 Top Ten List

~ Teachers will develop a list of issues that they would like to see the Teacher Exchange focus on in future meetings

~ Reflection on the teacher exchange – evaluation and suggestions for moving ahead.

The contact person for Widener's Teacher Exchange is: Nadine McHenry, Ed.D., Director of the Science Teaching Center, School of Education, Innovation, and Continuing Studies, 610-499-4259, 484-410-3806 (cell), ncmchenry -at- widener.edu

24. MODELING WORKSHOPS OPEN THIS SUMMER IN NJ, PA, AND NATIONWIDE

The American Modeling Teachers Association (AMTA) is sponsoring a number of workshops this summer for Biology, Chemistry and Physics teachers interesting in learning more about Modeling Instruction. A listing of these workshops can be found at:

<http://modelinginstruction.org/teachers/workshops-2013/> The AMTA website also contains other information pertaining to modeling instruction.

The Spring meeting will also feature a mini-workshop on Modeling, which will be an excellent opportunity to learn more about this effective instructional strategy.

I've attached the flyer and the application for the closest Modeling Workshop to Philadelphia, which I (Jillian) actually attended last summer, at Clearview Regional High School in New Jersey, near Rowan University. It was a FREE, interesting, and useful experience, and helped me rethink some of how I teach first-year physics. CRHS is about about a forty-minute drive from my house near Center City. Workshops are also available for Chemistry and Biology, although the Physics program is the oldest and most thoroughly developed.

Here is a full listing of the closest workshops and some more information about them:

SUNY-Buffalo State College

Dates: July 22-August 9

PHY620 (6cr) Powerful Ideas & Quantitative Modeling in Mechanics

leaders: Dr. Luanna Gomez & colleagues

Contact: Luanna Gomez

PHY622 (6cr) Powerful Ideas & Quantitative Modeling in Electricity and Magnetism with supplements (microscopic models of matter).

leaders: Dr. Dan Maclsaac & colleagues

Modeling workshop master teachers TBA

tuition: \$2245.20 in state, \$3595.20 non residents

some financing available

housing available on campus, approximately \$320 per week

parking permit \$10

Contact: Dan Maclsaac ([macisadl -at- buffalostate.edu](mailto:macisadl-at-buffalostate.edu)) or (716) 878-3802

Teachers College-Columbia University

Dates: July 22-August 9

Content: Mechanics

Leaders: Craig Buzska & TBA

Content: Electricity & Magnetism

Leader: Michael Crofton & Mark Schober

Content: Chemistry I (9 core units)

Leaders: Donghong Sun & Larry Dukerich

Contact: Fernand Brunschwig ([fbrunsch -at- gmail.com](mailto:fbrunsch-at-gmail.com))

Visit the Physics Teachers NYC for details

Clearview Regional HS – Mullica Hills, NJ

Dates: July 8 – 26

Content: Mechanics

Leader: Doug Valette

Content: Chemistry I (9 core units)

Leaders: Jim Navins & Maureen Huhman

Dates: July 29 – August 16

Content: Biology

Leader: Angela Gard

Limited housing is available – \$700 for 20 nights

A brochure with more details is here: <http://modelinginstruction.org/wp-content/uploads/2012/11/2013-Modeling-brochure.pdf>

Here is an application form: <http://modelinginstruction.org/wp-content/uploads/2012/11/SoJerseyModelingInst2013appli.doc>

General Information

Fifty Modeling Workshops in high school physics, chemistry, physical science, and biology will be offered in summer 2013, in many states. Modeling Workshops are peer-led.

Modeling Instruction is designated by the U.S. Department of Education as an Exemplary K-12 science program. Some sites offer stipends, usually for in-state teachers. Graduate credit is available at some sites. Pre-service teachers and TYC faculty are welcome too.

For general information:

<http://modelinginstruction.org/teachers/workshops-2013/>

Most workshops are described at <http://www.ptec.org/pd>.

Teachers say:

* "After the first year of teaching using the modeling method, I wished I had learned about modeling years ago." - David Braunschweig (retired; consultant for Vernier Software & Technology).

* In the one year that I have been modeling, I have seen wonderful results.

* [As a graduate student in physics], I discovered the modeling method of instruction to be a rigorous approach to physics instruction on the high school level, and one that is consistent with the way physicists understand the universe - Doug Valette

* Compared to "traditional" physics teaching, at our school modeling has created:

(A) Larger enrollment in physics and AP Physics

(B) Higher retention of students majoring in engineering and science when they go off to college

(C) Greater quantitative analytical skills

(D) Greater quantitative presentation skills

(E) Much higher ability for "future non-science students" to communicate with science people

(F) No plugging and chugging.

* We have had 3 physics teachers and 5 chemistry teachers enhance their professional development at your ASU modeling workshops. Modeling has made a world of difference in our science courses. -- Ray Howanski

Gwendolyn Hehemann <wendy -at- modelinginstruction.org> is the outreach person for the

Modeling Workshops, and can also answer any questions you might have.

25. 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, 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. The theme for this year's lectures is "Advanced Materials: Synthesis, Characterization, and Properties."

All lectures take place at the LRSM, which is located at 3231 Walnut Street, in Philadelphia. Upcoming lectures include:

June 13 -- Mojca Cepic, Physics, University of Ljubljana
"Liquid Crystals"

More information is available at the link below, and in the attached PDF. If you are interested in attending, please contact Andrew R. McGhie at 215-898-6461 or at mcghie -at- lrsm.upenn.edu. <http://www.lrsm.upenn.edu/outreach/teachers.htm>

26. PENN OUTREACH SCIENCE CAFE PROGRAM FROM LAB ON THE RESEARCH OF THE STRUCTURE OF MATTER

In October 2010, the LRSM (see above) also began a monthly series of materials-based Science Cafes. These are popular science talks on specific aspects of materials, such as fuel cells or solar power, given by affiliated faculty at a local restaurant or bar in a relaxed setting conducive to setting up a dialogue between the speaker and the audience. These talks begin at 6:30 PM, and are open to the general public, not just to science teachers. The 2013-2013 series has two primary regional locations -- at Stoney's British Pub in Wilmington, Delaware, and at the World Cafe Live in Philadelphia.

Upcoming talks include:

May 20, 2013 -- Doug Durian, Physics, University of Pennsylvania
"Granular impact craters and avalanches"
6:30 PM, Stoney's British Pub, 3007 Concord Pike, Wilmington DE

For more information, see the attached PDF, or check out the LRSM's website: <http://www.lrsm.upenn.edu/outreach/sciencecafe.html>

27. SUMMER 2013 TEACHER PROGRAMS AT THE NASTAR CENTER

<http://www.nastarcenter.com/education/teachers/>

NASTAR Center Teacher Professional Development Programming for 2013

Since 2010, more than 150 teachers have attended professional development programs at the National AeroSpace Training And Research (NASTAR) Center in Southampton, PA. The emphasis for teacher programming is on fun, experience-based learning that provides teachers with practical tools and activities that they can apply in a classroom

environment. Teachers can experience a 3-G suborbital spaceflight simulation in the NASTAR Center centrifuge, ascend to 8,000 feet in the altitude chamber, or learn how airplanes are controlled while piloting the GAT II simulator.

For 2013, the NASTAR Center is adding two brand new teacher professional development programs: "The Atmosphere and Weather," and "Exploring the Solar System." The NASTAR Center is an approved provider of Act 48 continuing education hours by the Pennsylvania Department of Education. Each program is worth 8 hours of continuing education.

The schedule for 2013 is as follows:

July 8, 2013, Monday	Flight Physiology
July 9, 2013, Tuesday	500 Years of Flight
July 10, 2013, Wednesday	The Magic of Flight
July 11, 2013, Thursday	Rocket Science
July 12, 2013,	Acceleration
July 15, 2013, Monday	The Atmosphere and Weather
July 16, 2013, Tuesday	Exploring the Solar System
July 17, 2013, Wednesday	500 Years of Flight
July 18, 2013, Thursday	Rocket Science
July 19, 2013,	Acceleration
July 22, 2013, Monday	The Atmosphere and Weather
July 23, 2013, Tuesday	Exploring the Solar System
July 24, 2013, Wednesday	The Magic of Flight
July 25, 2013, Thursday	Rocket Science
July 26, 2013, Friday	Acceleration

The non-profit NASTAR Foundation is sponsoring these programs so they are being offered AT NO COST TO TEACHERS. If you are coming from out of town, we have arranged a meal/room package at a special rate in an area hotel. For enrollment information, contact Greg Kennedy at (215) 355-9100, X 1512, or via email at gkennedy@nastarcenter.com. A registration packet may also be downloaded from the NASTAR Center website, www.nastarcenter.com.

Gregory P. Kennedy
Director of Educational Programs
PHONE +1.215.355.9100 x 1512
FAX +1.267.989.1251

THE NASTAR CENTER
125 James Way | Southampton, PA 18966 USA
www.NastarCenter.com

28. ONLINE INTERACTIVE MULTIVARIABLE CALCULUS COURSE

David Abineri, an AP Physics teacher, is offering an online Multivariable Calculus course next fall:

Students and Faculty, a **Multivariable Calculus** class is being offered again next year from September 2013 to May 2014. Ideal for students completing AP Calculus before the senior year and for faculty who might want to brush up on the subject.

This will be an online, totally interactive classroom **NOT just 'watch and work'**. There will be real discussions on all the major topics in such a way as to end up with a deep understanding of the subject.

Please pass on to friends, students and colleagues.

Class size will be limited, first come first served, all details

at: <http://calculusnow.blogspot.com/>

29. ONLINE INTERACTIVE DIGITAL ELECTRONICS COURSE

David Abineri (see above) is also offering a Digital Electronics Course, which will cover how logic chips can be connected to solve useful problems, the beginnings of how a computer works and, time permitting, work with a microprocessor.

This course, offered by an experienced Mathematics and Physics Teacher, will be a lab based class investigating digital electronics from simple logic gates to an introduction to microprocessors. Students will build and test their own circuits using computer chips in a safe 5 volt environment and may work with microprocessors if time permits. The class will be very interactive and the size will be limited, NOT just watch and work! There are no prerequisites: physics and electronics topics will be covered as they are needed. Math through Algebra II is helpful, but student interest is the most important thing. Tuition will be \$100, and equipment to build and construct circuits will cost about \$75.

Class size will be limited, first come first served, all details at: <http://summer-electronics.blogspot.com/>

30. AP PHYSICS FREE-RESPONSE QUESTIONS ARE UP

The AP Physics exam was last Monday, and the College Board posted the Free Response questions on Monday. (Some of the free-response questions, anyway -- about half of my students apparently got the secret form.) My personal favorites were E1 and M3. Here are the quick links if you want to check them out:

B-exam: http://apcentral.collegeboard.com/apc/members/exam/exam_information/2007.html

CE-exam: http://apcentral.collegeboard.com/apc/members/exam/exam_information/8039.html

exam: http://apcentral.collegeboard.com/apc/members/exam/exam_information/2008.html

31. COOL LINKS

APS Physics Insight Slideshow about Physics Careers:

<http://www.aps.org/careers/insight/contact.cfm>

In case you ever needed to know the dielectric constant of basic household stuff. Like butter. And bacon: <http://www.microwaves101.com/encyclopedia/Miscdielectrics.cfm>

Maybe more relevant last fall, but here's a GIF that shows Pete Kozma hitting a baseball three times to create a really cool spin: <http://www.mlb gifs.com/2012/10/hunter-pence-created-the-weird-spin-that-fooled-pete-kozma-by-hitting-the-ball-three-times/>

An NPR article on cultural differences in learning:

<http://www.npr.org/blogs/health/2012/11/12/164793058/struggle-for-smarts-how-eastern->

[and-western-cultures-tackle-learning](#)

32. 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>