

Michigan Section of the American Association of Physics Teachers

Fall 2013
Volume 7, Number 1

<http://web.miaapt.org>

Scott Cochran
2013-2014 President



*Announcing our Fall 2013 Meeting!
Saturday, October 12
Kirtland Community College*

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Lead developer for *Next Generation Science Standards* will be keynote speaker

Mark your calendars! The Fall 2013 meeting of MIAAPT will take place on **Saturday, October 12**. The meeting site will be Kirtland Community College in Roscommon, MI, giving us the opportunity to enjoy some autumn foliage in central Michigan. Thanks to our President Scott Cochran for serving also as site coordinator for the meeting. Our 1st Vice President Alan Grafe (UM-Flint) will chair the meeting.

We are fortunate to have for our keynote speaker **Dr. Joseph Krajcik**. A former high school chemistry and physical science teacher, Dr. Krajcik is currently a science education faculty member at Michigan State University.

Throughout his career Dr. Krajcik has focused on improving the teaching and learning of science by designing, developing, implementing and testing innovative environments that match what is known about the how students learn. A prolific author in science education, Dr. Krajcik currently serves as director of the Institute for Collaborative Research in Education, Assessment, and Teaching Environments for Science, Technology, Engineering and Mathematics (CREATE for STEM). He also serves as co-editor of the Journal of Research in Science Teaching.

In his keynote lecture Dr. Krajcik will share with us his experiences as the lead writer of the Physical Science Design Team for K-12 Framework for Science Education as well as the lead writer to develop the Next Generation Science Standards.

For additional information about the Fall 2013 meeting, see our upcoming Call for Presentations as well as our website, <http://web.miaapt.org>.

We hope to see you at Kirtland Community College on October 12! Be sure to invite a colleague too!

- Contributed by Alan Grafe
& Brad Ambrose



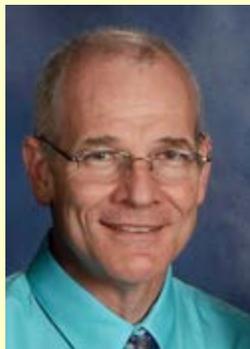
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Join the Global Physics Department!

Every Wednesday night at 9:30 pm people from around the world (though mostly North America) participate in a meeting to discuss a special selected topic related to physics education for an hour. Unlike most faculty meetings you may have attended, this is the Global Physics Department (found at <http://globalphysicsdepartment.org>).

Participants login to a Blackboard application from a link on the Global Physics Department web page. The application temporarily installs software for an interface that includes an audio and video feed, a chat space, and application sharing window. Most

participants interact through the chat space. Participants, like the members of the MIAAPT, include high school teachers as well as 2-year college and university professors.

Most of the meetings feature a presentation by an invited speaker or one of the regular participants. Past presenters include such notable Michiganders as Gary Abud and Steve Dickie. Over the course of the school year there are a variety of issues discussed. Each of the sessions is recorded available at the web site to watch at anytime.

- Contributed by Jim Gell

Great App for Teaching Force and Motion

Ubersense is a free app available for iPhone or iPad. (Android users will have to wait till 2014.) It was designed to allow coaches to record and critique their athletes. However, my students and I have co-opted its video recording and frame-by-frame playback features for doing physics. Capture collisions to investigate Newton's Third Law (see inset) or use it as a very accurate stopwatch between recorded events.



- Contributed by Steve Dickie

Feynman Lectures now online

A collaboration between Caltech and The Feynman Lectures Website has begun to create a [free](#) online version of *The Feynman Lectures*.

The first volume (mostly on mechanics) and can currently be accessed at <http://feynmanlectures.caltech.edu> on devices of any size. Check it out!

- Contributed by Alan Gibson



Richard Feynman, Robert Leighton and Matthew Sands, with a teaching assistant (from feynmanlectures.caltech.edu).

High School Physics Competitions for 2014

Each year, the American Association of Physics Teachers runs two separate physics contests for high school students. These contests are the US Physics Team competition and the PhysicsBowl.

In January of 2014, physics students across the country will compete in the preliminary round to determine the US Physics Team. The first round exam called " $F_{net}=ma$ " consists of 25 multiple choice questions dealing with mechanics. Students have 75 minutes to answer the questions with the contest generally taking place at the home school. Registration for the exam takes place with AAPT and is due usually during the first week of January.

The top ~350 students on the preliminary round exam move to the semi-finals of the contest which is given at the home school in March. By May, the top 24 students are selected to be members of the US Physics Team. The members take part in a training camp for about 10 days in order to determine the traveling team that in 2014 will be headed to Kazakhstan!! Click on the link for more information!



The other physics contest runs through AAPT is the PhysicsBowl. This is a one-time 40 question multiple choice exam with a 45 minute time limit. This contest covers all aspects of physics and is broken into two divisions so that students taking a second year of physics compete in one division, while students taking physics for the first time compete in another division.

In addition to the two divisions, there are many geographical regions in which students compete. In this way, there are many prizes awarded to students and schools for outstanding performances. In addition to individual competition, schools compete by having the top five scores added together to create a team score. The top two schools in each region and division also win prizes. The application deadline for the PhysicsBowl typically is at the start of March.

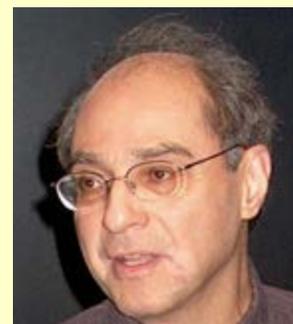
Click on the following links for more information!



- Contributed by Michael Faleski



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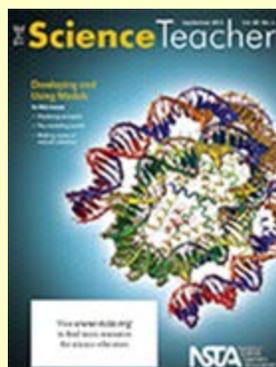
Section Representative
and 3rd Past President
Michael C. Faleski
Delta College

Maria Kerekes, MIAAPT student presenter, now co-author in The Science Teacher

You may remember Maria Kerekes, then a physics student at Henry Ford CC, who presented at the Spring 2012 MIAAPT meeting about predicting and measuring the frequencies produced by a flute.

Maria, along with co-author Dr. Mike LoPresto (HFCC), presented her work in the September 2013 issue of The Science Teacher. Congratulations to Maria on this accomplishment!

- Contributed by Mike LoPresto



MIAAPT Liaison to MI State Bd of Ed.
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Upcoming Professional Opportunities

Throughout the coming academic year there are many opportunities for physics, chemistry, physical science, and astronomy teachers to attend conferences, workshops, and meetings. Listed below are upcoming AAPT and MIAAPT meetings so that you can mark your calendars (follow links to active webpages with detailed information about those meetings):

- *Winter 2014 AAPT meeting:*
January 4 - 7, 2014, Orlando, FL
Theme: "The Magic of Physics"
<http://aapt.org/Conferences/wm2014>

- *2014 MST A Conference:*
March 6 - 8, Lansing, MI
Theme: "Pure Michigan Science"

Note: If you want to be a presenter, better hurry!
Applications due October 1.
<https://www.msta-mich.org>

- *2014 NSTA Conference:*
April 3 - 6, Boston, MA
Theme: "Leading a Science Revolution"
<http://www.nsta.org/conferences/2014bos/>
- *Spring 2014 MIAAPT meeting:*
Western Michigan University
Date to be announced soon.
- *Summer 2014 AAPT meeting:*
July 26 - 30, Minneapolis, MN
(Mark your calendars; this national meeting is almost in our own backyard!)

These meetings represent only some of the professional teaching conferences scheduled through the end of the current academic year. If you are interested in any of these—or know of others that the MIAAPT community should know about—contact anyone on the MIAAPT Executive Board (see our website, <http://web.miaapt.org>).

Resources for Teachers

Are you starting out as a physics teacher? If so, consider becoming a member of the MIAAPT by attending one of our meetings. For more information, see <http://web.miaapt.org>. Below are a series of websites that provide lessons, tips, ideas, news, and demos for class. Clicking on the icons below will take you to the individual sites.

