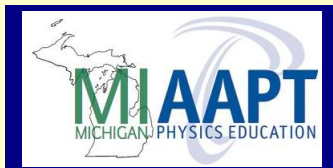


Michigan Section of the American Association of Physics Teachers

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<http://www.miaapt.org>

Brad Ambrose
2011-2012 President



Join us for the Spring MIAAPT meeting ... April 20 – 21, 2012 at
Grand Valley State University – Allendale, MI

2012 MIAAPT Spring Meeting

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April 20 - 21, 2012

We are looking forward to our upcoming Spring 2012 meeting—just a couple months away!—on the weekend of April 20-21 at Grand Valley State University (Allendale, MI).

We will be welcoming Prof. Bernard Pope, who is an experimental high energy physics researcher and leader of the ATLAS research group at Michigan State University. He will share with us some highlights of his group's work at the Large Hadron Collider (LHC) in Geneva, Switzerland and how their work is being used to guide the direction of future experiments using the LHC.

In addition to the fun and learning of our regular meeting, we are holding elections at the Business Meeting for

- 2nd Vice President (4-year college)
- Section Representative

In addition to these elections, we are looking for nominations for the 2012 MIAAPT Distinguished Service Award. Any nominations should be forwarded to Al Gibson (fziksman@yahoo.com)

The meeting fee is \$10, lunch costs typically ~\$8.00, and the regular meeting begins at ~8:30 AM on Saturday. The meeting fee is waived for students showing proper ID. The Call for Presentations has already been posted with a proposal idea required by Saturday, March 24th.

We hope to see you there!

All presentation abstracts, details, and updates for this meeting will be available on the MIAAPT website (www.miaapt.org).

Maps and directions to the GVSU campus can be found at the following website:

<http://www.gvsu.edu/maps.htm>.

Michigan Science Teachers Meeting

The 59th Annual Michigan Science Teachers Association meeting is taking place March 8-10, 2012 in Lansing. The meeting is returning to its traditional 3-day format this year. For full details about the meeting, please check <http://www.msta-mich.org/conference/>

While it is impossible to list all talks related to physics at the meeting, there are several presentations being made by Board members of the MIAAPT.

Friday:

9:00 - 9:45 AM - *Forensic analysis: Stringing a Bloodstain* by Kathy Mirakovits

9:00 - 10:45 AM - *Cool Tools for Force and Motion* by Donald Pata

1:00 - 1:45 PM - *Physics on a*

Michigan Budget by Lindsey McConney and Kathy Mirakovits

2:00 - 3:45 PM - *Cool Tools for Electrostatics and Magnetism* by Donald Pata

Saturday:

9:00 AM - 12:00 PM - *Reflection, Refraction, Mirrors and Lenses Teaching Optics with the Modeling Method* by Donald Pata

10:00 - 11:45 AM - *Teaching Ray Diagrams for Concave and Convex Lenses and Mirrors* by Drew Isola

11:00 - 11:45 AM - *Cool Tools for Projectile Motion* by Kathy Mirakovits

Be sure to check for these sessions!



President 2011-2012
Brad Ambrose
Grand Valley State University



1st Vice President 2011 - 2012
James Gell
Plymouth High School



2nd Vice President 2011 - 2012
Scott Cochran
Kirtland CC



Section Rep. 2009 - 2012
Al Gibson
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Secretary/Webmaster 2010 -
Steve Dickie
Divine Child High School



MIAAPT Liaison to MI State Bd of Ed.
Kathy Mirakovits
Portage Northern High School

MIAAPT Fall 2011 Meeting Recap

For the second consecutive Fall meeting, MIAAPT members were graciously hosted by the Physics Department at UM-Dearborn on October 7-8, 2011. About 40 teachers and students enjoyed an exciting astronomy-themed meeting.

MIAAPT was honored to welcome Dr. Kevin Lee as our featured speaker and invited workshop presenter. A member of the NSF-Funded CATS (Community of Astronomy Teaching Scholars) team centered at the University of Arizona, Dr. Lee is currently leading a group of artists and programmers who are developing astronomy education materials including online labs, in-class think-pair-share questions, and assessment tools such as ranking tasks. His keynote address and workshop focused on recent developments in computer-based Eric Mazur-style "peer instruction" strategies for teaching astronomy.

In addition to Dr. Lee, we wish to extend our thanks to the other workshop presenters at the Fall 2011 meeting:

1. Michael LoPresto (Henry Ford Community College) led a workshop co-sponsored by NASA/JPL-Center for Astronomy Education (CAE) on the use of various active-learning teaching strategies for teaching astronomy.
2. Steve Dickie (Divine Child High School) and fellow Detroit Metropolitan Area Physics Teachers hosted a make-and-take featuring several innovative (yet inexpensive) classroom demonstrations.

Participants at the regular meeting were treated to presentations and puzzlers on a number of physics and astronomy topics, including measurements of spectral class, student conceptions of cosmology, student learning of large-scale structure in astronomy, and computational tools for variable-mass dynamics problems. We are also grateful to UM-Dearborn's "next door neighbors" at Henry Ford Community College, including the aforementioned Michael LoPresto, who hosted MIAAPT members to a Saturday afternoon show at the HFCC Planetarium.

Upcoming Professional Development

There are many opportunities for upcoming conferences and workshops, both local and national. Here are a few from which to choose:

March 8 - 10, 2012: Michigan Science Teachers Association (MSTA) - Lansing, MI

March 20 or 21 or 22, 2012: [Detroit Metropolitan Area Physics Teachers \(DMAPT\) Meeting](#)

March 29 - April 1, 2012: [National Science Teachers Association \(NSTA\) National Conference](#)- Indianapolis, IN

April 20 - 21, 2012: [MIAAPT Spring Meeting](#) - Grand Valley State University - Allendale, MI

April 26 - 28, 2012: [Ontario section of AAPT meeting](#), at the Perimeter Institute for Theoretical Physics in Waterloo, Ontario, Canada

May 1 or 2 or 3, 2012: [DMAPT Meeting](#)

June 17 - 22, 2012: [Gordon Research Conference on Astronomy's Discoveries and Physics Education](#)

July 28 - Aug 1, 2012: AAPT National Summer Meeting - Philadelphia, PA ([Abstracts are now being accepted!!!](#))

Jan 5 - 9, 2013: AAPT National Winter Meeting in New Orleans, LA

July 13 - 17, 2013: AAPT National Summer Meeting

High School Physics Competitions 2012

In January of 2012, physics students from around the country entered the US Physics Team first round exam called "F=ma". The top ~350 student scores on this difficult multiple choice contest in the country are then invited to participate in the next round of the competition. These outstanding students get to take an even more difficult physics exam testing their problem-solving abilities over the course of three hours! ☺

The state of Michigan had 7 students placing from three different schools. These outstanding students (and teachers) are

Sidharth Chand and **David C Lu** from Detroit Country Day High School (teacher: **Dan Berger**)

Ena Hariyoshi, **Raj Krishan Raina**, and **Apurva Shrivastava** from Novi High School (teacher: **James Didio**)

Allen J Chen and **Matthew J Cui** from Troy High School (teacher: **John Morrison**)

Good luck to all in the next round!



Summer Modeling Workshops

This summer, there will be **two** modeling workshops in Michigan.

More details will be coming, but questions can be directed to Laura Ritter (lr Ritter77@gmail.com)

1. June 20 – July 12, 2012 (no class July 4th or July 6th) Weekdays 8am-4pm
Location: Oakland Schools Technical Campus – Royal Oak
Co-facilitators: Don Pata & Laura Ritter
Fee: \$100 registration
SBCEUs or graduate credits available for an additional fee
An application link available soon.
2. July 16 – Aug. 3, 2012
Weekdays; Times TBD
Location: Eastern Michigan University
Co-facilitators: Laura Ritter & Bryan Battaglia
This class is for EMU students and guest students and can be taken for graduate or undergraduate credits.

The other physics contest run 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 is March 5!**

Click on the following links for more information!:



or

<http://www.delta.edu/michaelfaleski/PhysicsBowl>



MIAAPT Liaison to MSTA
Alex Azima
Lansing Community College



1st Past President
Michael Faleski
Delta College



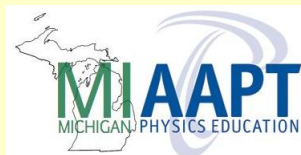
2nd Past President
Drew Isola
Allegan HS



3rd Past President
Charles Henderson
Western Michigan University



Treasurer 2010 -
Donald Pata
Grosse Pointe North HS



The Michigan Section of The American Association of Physics Teachers

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Grand Valley State U

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Kathy Mirakovits
Portage Northern HS

Liaison to MST A

Alex Azima
Lansing Community College

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<http://www.facebook.com/groups/156771657721956/>

The MIAAPT Newsletter
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MIAAPT is YOU... bring a friend!

If you are reading this newsletter, then the Michigan section of AAPT is for you.

MIAAPT is a group dedicated to promoting physics education around the state. We do this by promoting and attending MIAAPT meetings, AAPT national meetings, as well as MST A (Michigan Science Teachers Association) meetings.

With recent difficulties in budgets, it is becoming more difficult to have folks come to the professional development opportunities available at these meetings. As a result, we need to evolve.

MIAAPT is trying to reach more teachers of physics, physical science, astronomy and chemistry in several ways. These include better promotion of our meetings, continuing with high quality meetings, and initiatives to improve these meetings which we plan to roll out next year. In addition, we have a

Facebook page

<http://www.facebook.com/groups/156771657721956/>

The success of the organization, though, depends on the membership! We need YOU to help promote this group, to promote the Facebook site, and to let instructors in your area become aware of what we can do for them.

So, please consider how you can influence at least one person to check out our next meeting, come to website, join the Facebook page, or become involved. With more reports coming out about the state of education not only in Michigan but across the nation, it is vital for us to come together and help each other!

We look forward to seeing you at the next meeting and hopefully bringing a new friend!

Door Prize Opportunity - Spring Meeting

At the Spring Meeting of MIAAPT, we will award a door prize for the person producing the best solution to the following challenge problem.

A few rules:

- 1) To receive the door prize, you must be present to win!
- 2) If you wish to send a solution and cannot attend the Fall Meeting... that is fine... we may still feature unique and interesting solutions in the next Newsletter or online.
- 3) The *best solution*... very subjective... however, one guideline... Physics elegance wins over mathematical grinding.

Please send solutions to michaelfaleski@delta.edu with Subject line "MIAAPT Door Prize Challenge." Word documents (including .docx) are the preferred format.

Question:

A point mass connected to a massless string acts as a simple pendulum. The mass is released from the horizontal position at rest. When the mass makes an angle θ with the horizontal as shown, the total linear acceleration of the mass is directed completely to the right. What is the numerical value of the angle θ at which this occurs?

