

Michigan Section of the American Association of Physics Teachers

Summer 2011
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Michael C. Faleski
2010-2011 President



Join us for the Fall MIAAPT meeting ... details to be announced.

Coming Attractions

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This is an exciting time for MIAAPT as we look to the future of the organization. In the next few months, members of MIAAPT can expect to read and learn about

- 1) proposed modifications to our section meetings based on the results from the received online surveys.
- 2) the person running for the 2nd Vice-President position of MIAAPT
- 3) how we are going to conduct a vote for the new 2nd VP as this election is supposed to happen before the May Board meeting.
- 4) the fall section meeting... including dates, location, and emphasis.

5) news from the national AAPT body obtained at the summer meeting in Omaha.

More details will be coming about how we plan to handle the election of the new 2nd VP position via email.

While the school year is winding down, it is not a long time until the fall... so this is a great time to think about any sort of presentation that you would like to make to the group! Do you have a neat demo to share? Do you have a puzzler of something that has bothered you in class that you'd like to open up to the group? Do you have work-in-progress that you would like to share? Start writing your ideas down so that you can share in the New Year!



President 2011-2012
Brad Ambrose
Grand Valley State University



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

APS Fellow from Michigan

In November of 2010, the American Physical Society Council elected six new Fellows based on the nomination from the Forum on Education. One of those elected was David Van Baak from Calvin College.

The following is taken from the announcement on the APS website: <http://www.aps.org/units/fed/newsletters/spring2011/fellows.cfm>

"At its November meeting, the American Physical Society Council elected to Fellowship six people nominated by the Forum on Education. The contributions of these new Fellows range from seminal scholarship in physics education to extraordinary leadership of a national society."

David's entry reads as follows:

"**David Van Baak** currently is a Professor at Calvin College and was honored for developing equipment and tutorials for use in laboratory-based physics education. He earned his B.S. from Calvin College and his M.A. and Ph.D. from Harvard University. Before joining the faculty at Calvin College, he was an NRC postdoctoral fellow at JILA."

The other elected Fellows were Bruce Mason (U of Oklahoma), John Mateja (Murray State), Jose Mestre (U of Illinois), Gary White (AIP), and Lawrence Woolf (General Atomics).

Congratulations to David and all of the Fellows!



2nd Vice President 2011 - 2012
This could still be you!
Somewhere CC



Section Rep. 2009 - 2012
Al Gibson
Adams Rochester HS (ret.)



Secretary/Webmaster 2010 -
Steve Dickie
Divine Child High School



Treasurer 2010 -
Don Pata
Grosse Pointe North HS



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

Spring 2011 MIAAPT Meeting Recap

The Spring 2011 MIAAPT meeting took place at Grand Valley State University in Allendale, MI from April 15-16. This was a meeting not to be missed!

One of the unofficial themes of the meeting was radiation physics. We got started in the morning session with a talk by Kevin Dehne of Delta College demonstrating the radioactivity of various items and some of the history of those items (such as the “radium girls”). Kathy Mirakovits followed this talk with an introduction to the workshop that she was going to run later in the morning on teaching nuclear forensics. The morning session ended with a special presentation by Michael Hartman from the University of Michigan giving a very informative session about nuclear reactors and he also answered questions about the ongoing situation with the Fukushima nuclear power plant in Japan.

In a change of pace, we next had 3 workshops, including one by AAPT President David Sokoloff (on using MBL

in active learning), one by Kathy Mirakovits and Cathy Mader about teaching nuclear science in nuclear forensics, and also one by Brad Ambrose about using guided inquiry in intermediate mechanics.

After lunch, David Sokoloff gave the keynote speech titled “Active Learning of Introductory Optics: Strategies for the U.S. and the Developing World.”

The afternoon session began after the business meeting with several very interesting talks about topics such as optics, linear momentum, twitter, and radiation cooling.

At the end of the meeting, there were door prizes for those that stayed. Phil Kaldon from WMU won the “Fermi Problem” prize... and because of how things worked out... EVERYONE present walked away with some prize!

Our next meeting will be this fall (details to follow soon)... come and join the fun!!!!

Modeling in High Schools Physics Instruction

Don Pata (Grosse Pointe North High School) and Laura Ritter (Troy High School) will be co-facilitating a physics modeling workshop this coming summer in Royal Oak, MI.

This three-week summer workshop will thoroughly ground physics teachers in the methods of “Modeling Instruction” - an approach recognized as EXEMPLARY by the U.S. Department of Education. The content focus will be on Mechanics, typically a first semester of high school physics.

The workshop will take place Thursday, June 23, 2011 to Friday, July 15, 2011 (no class on weekends or July 4th & astronomical misconceptions workshop. 5th) 8:00 AM-4:00 PM each day.

The workshop will take place at the Oakland Schools Technical Campus Southeast, 5055 Delemere Avenue, Royal Oak, MI

The cost is \$100, which includes coffee, lunch, and materials.

Registration:

1. Interested teachers must complete an *Application for Review* online at: <http://www.surveymonkey.com/s/modelingphysics>
2. **HURRY!** The deadline to complete an application is May 20, 2011.
3. Selected participants will receive a link to register and pay online through Oakland Schools Event Management.

Michigan Physics Competition Results 2011

In January of 2011, physics students across the country competed in the preliminary round to determine the US Physics Team. The first round exam called “ $F_{\text{net}}=ma$ ” consists of 25 multiple choice questions dealing with mechanics. Students have 75 minutes to answer the questions.

This past fall, of the top ~350 Semi-Finalists (high scorers), 13 of them came from students in Michigan. The schools that these students attended were Detroit Country Day School (4 students), Saginaw Arts & Science Academy (1 student), Rochester Adams High School (1 student), Wylie E. Groves HS (1 student), St. Joseph’s HS (1 student) and Troy High School (3 student1). Well done to both students and teachers! The full list can be found in the Winter Newsletter!

The top 20 scorers on the semi-final exam make the team. Unfortunately, no students from Michigan got this far... but there is always next year!

The full list of US Physics Team members can be found at <http://www.aapt.org/physicsteam/2011/team.cfm>

In April of 2011, the PhysicsBowl took place around the world. This is a 45 minute multiple choice exam covering all areas of physics. Students have 40 questions to answer with no penalty for incorrect answers. Schools from the U.S., Canada, China, Japan, and the Republic of Korea competed. There are 2 divisions (1st year physics and 2nd year physics) and there are both individual and school awards.

In Michigan’s region (Region 08), there were several winners:

Individuals:

David Bai: 1st place Div. 1 (Troy HS)

Sanders Aspelund: 2nd place Div. 1 (Eisenhower HS)

Mason Liang: 2nd place Div. 2 (Troy HS)

Team (top 5 scores from a school):

1st place Div. 1 **Ludington HS**

2nd place Div. 1 **De La Salle Collegiate HS**

2nd place Div. 2 **Eisenhower HS**

Well done to all!! The full list of winners can be found at

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

Cell Phones and Wireless Communication

Summer workshop on cell phones and wireless communications

The Square One Education Network is sponsoring 2-day workshops for teachers in the Great Lakes states to discover the science and engineering of cell phones and wireless communications. Workshops will be held on **June 21-22** and **August 25-26** in Michigan. This innovative program combines traditional topics of vibrations and waves, sound and light, e & m, and digital communications. Join us to discover our inquiry based, “modeling friendly” curriculum. Each teacher will receive a complete classroom set of equipment and materials (\$1,900 value).

Contact Mark Davids markdavids@frontier.com for the workshop details and application form.

Where: Macomb Intermediate School District in Clinton Township, MI

When: June 21st and June 22nd from 8:30 AM till 3:30 PM.

Or

Where: Portage HS in Portage, MI

When: August 25th and 26th from 8:30 AM till 3:30 PM

Cost: \$325/Person or team

HURRY!!! Registration is required by May 19th!!!



**The Michigan Section of
The American Association of
Physics Teachers**

President

Brad Ambrose
Grand Valley State U

First Vice-President

James Gell
Plymouth High School

Second Vice-President

This could be you!
Nature hates a vacuum

Section Representative

Al Gibson (ret.)
Adams Rochester HS

Secretary/Webmaster

Steve Dickie
Divine Child High School

Treasurer

Don Pata
Grosse Pointe North HS

Liaison to MI State Brd of Ed

Kathy Mirakovits
Portage Northern HS

Liaison to MST A

Alex Azima
Lansing Community College

Website:

www.miaapt.org

AAPT 2011 Summer Meeting

The Summer Meeting of AAPT in will take place in Omaha, NE from July 30 to August 3, 2011. For more information, go to www.aapt.org and click on the link for the Summer Meeting.

The theme of the meeting will be related to the communication of physics. There is still time both to register for the meeting (do so soon to take advantage of the lower prices) and also to submit an abstract

One of the highlights of the meeting as far as Michigan physics is concerned will

be the presentation of a Distinguished Service Citation to Drew Isola from Allegan High School. His bio at the AAPT website can be accessed at http://www.aapt.org/aboutaapt/SM11D_SC_Drew-Isola.cfm

Drew has been a long-time active participant of MIAAPT and is currently serving in the role of Second Part-President.

Congratulations, Drew and we will see you receive your award in Omaha!

Door Prize Opportunity

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

A few rules:

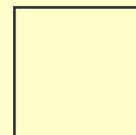
- 1) To receive the door prize, you must be present to win!
- 2) If you wish to send a solution and cannot attend the Fall Meeting... that is fine... we may still feature unique and interesting solutions in the next Newsletter or online.
- 3) The *best solution*... very subjective... however, one guideline...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

Please send solutions to michaelfaleski@delta.edu with Subject line "MIAAPT Door Prize Challenge." Word docs are the preferred format.

Question:

A point-like block of mass m is placed on a fixed inclined plane of angle θ to the horizontal. When released from rest, the block slides down the incline that has coefficient of friction μ . In terms of these parameters (and "g"), determine the minimum vector force that a person must apply to the mass so that it would remain at rest on the surface of the incline.

The MIAAPT Newsletter
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