

Michigan Section of the American Association of Physics Teachers

Fall 2014
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<http://web.miaapt.org>

Alan Grafe
2014-2015 President



*Our Fall 2014 meeting will be
October 4th at The University of
Michigan Flint!*

Western Michigan University Hosts Michigan Physics teachers for Spring 2014 Meeting

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The Spring 2014 meeting of MIAAPT was held April 12th at Western Michigan University in Kalamazoo, Michigan. The meeting was chaired by our President Scott Cochran (Kirtland Community College) and coordinated by our 1st Vice President Alan Grafe (University of Michigan Flint).

Keynote address. Our plenary speaker was **Dr. Justin Kaspar** who spoke about the experiments on board the Sun Solar Probe spacecraft which will make direct measurements of the sun's corona to try to determine why the temperature of the corona is so much higher than the surface. The measurements tie into the concepts of pressure, temperature, angular momentum, gravity, and magnetic fields - concepts that students encounter in the physics classroom.



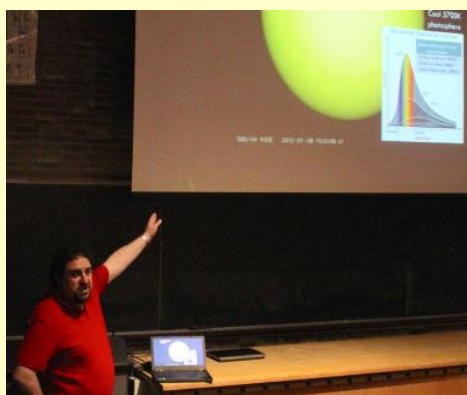
President
Alan Grafe
University of Michigan-Flint



1st Vice-President
Les Latham
Port Huron Northern HS

economical alternative to the traditional textbook and Phillip Kaldon (Western Michigan University) related the highs and lows of using Skype to overcome adverse weather conditions. Laurence Tarini (Grand Valley State University) presented a quick and easy way for students to determine the direction of eddy currents induced by electromagnetic induction. Micheal LoPresto (Henry Ford Community College) demonstrated the use of resonance boxes with tuning forks and an oscilloscope to analyze waveforms. Beth Kubitsky (Eastern Michigan University) discussed the development of materials to expose future teachers to the modeling philosophy of science teaching. Alan Grafe presented some new approaches to teaching the concept of "g".

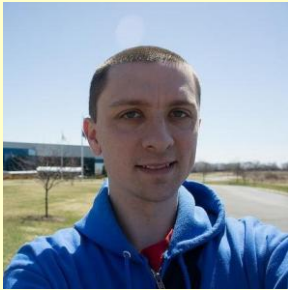
Workshops and posters After lunch and after a business meeting that featured the annual election for a new 2nd Vice President (see p. 2 for more), the afternoon offered several options for attendees. James Laverty (Michigan State University) facilitated a workshop on a new look at the core ideas and practices in an introductory physics class. Mike Faleski (Delta College) presented some ways of helping students who are learning about resistors in parallel and series circuits. Other offerings included posters from several attendees and a high school physics photo contest.



Contributed talks and roundtable discussion. The morning schedule highlighted the use of some technological innovations. Steve Dickie (Divine Child High School) presented an

Use the link to the MiAAPT web site below for a full description of the presentations:
<http://web.miaapt.org/meetings/spring-2014>

Meet David Shane, Elected 2nd Vice President



2nd Vice-President
David Shane
Lansing Community College



Secretary/Webmaster
Steve Dickie
Divine Child High School



Treasurer
Don Pata
Grosse Pointe North HS



1st Past President
Scott Cochran
Kirtland CC

At the Spring 2014 meeting elections were held for a new 2nd Vice President, this year from the two-year college teachers in the MIAAPT membership. We are pleased to report that **David Shane** of Lansing Community College was elected to this position.

With the Executive Board meeting on May 24 David will begin his service. Also at the meeting **Alan Grafe** (UM-Flint) will move up the MIAAPT officer chain to 1st Vice President, while **Scott Cochran** (Kirtland CC) will become President and **James Gell** (Plymouth HS) will step down from President to 1st Past President.

As a way to introduce himself to the entire MIAAPT membership, we have asked David to compose a brief biographical sketch. Here is what David wrote:

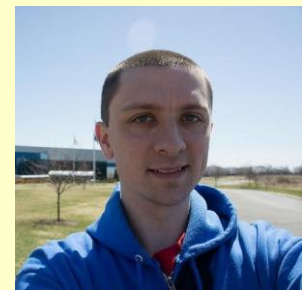


Hello! For the last three-plus years, I have been teaching all manner of introductory Physics courses at Lansing Community College. I very much love the integrated lab/lecture style we employ here and wouldn't want to teach any other way, and the small classes mean that I get to know all my students - of course that's half the fun in teaching.

Prior to moving to Lansing, I was doing my PhD at Washington University in St. Louis, Missouri (not in Washington state or Washington DC, to much confusion). My thesis work involved the NMR study of metal hydrides, with an eye toward hydrogen-storage applications in hydrogen-fueled vehicles.

Prior to that I obtained my BS at Truman State University in Kirksville, Missouri, a delightful small town where I also met my now-wife Rebecca, who also obtained a Physics (and a Chemistry) degree from Truman. She now works at the Facility for Rare-Isotope Beams at Michigan State University in East Lansing.

When we aren't doing Physics, we enjoy bicycling all over the place (but not these crazy long rides some of you do, just everyday reasonable-length rides). I also have fun with photography, and lead the technology team at our church in East Lansing.



We thank David for his willingness to step up to this leadership role in MIAAPT!

We also are grateful Scott Cochran and Alan Grafe for their past and continuing service as members of the MIAAPT Executive Board as well as the continued support of our webmaster Steve Dickie, Treasurer Don Pata, and Liasons Michael Faleski, Alex Azima, and Kathy Mirakovits!

Physics Competitions for High School Students

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 2015, physics students across the country will compete in the preliminary round to determine the US Physics Team. The first round exam called "Fnet=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.

Last year, 5 Michigan students made the semi-finals for the team.

- Aaron L. Zeng from Detroit Country Day HS earned a Gold medal.
- Jackie M. Bredenberg from Detroit Country Day HS earned a Bronze medal.
- Stephen Z. Li from Troy HS earned a Bronze medal.
- Omkar B. Shende from Troy HS earned a Bronze medal.
- Justin J. Xu from Troy HS earned an Honorable Mention

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. The application deadline for the PhysicsBowl usually is in early March. For more information, visit the Physics Bowl web site: <http://www.delta.edu/michaelfaleski/PhysicsBowl>

PHYSICSBOWL

Last year's winners from Michigan were as follows:

Individuals:

- Joshen P. Patel: 1st place Div. 1 (Detroit Country Day HS)
- Aaron L. Zeng: 1st place Div. 2 (Detroit Country Day HS)

Team (top 5 scores from a school):

- 3rd place Div. 1: Detroit Country Day HS
- 1st place Div. 2: Detroit Country Day HS
- 4th place Div. 2: Brother Rice HS

Michael LoPresto Honored with Distinguished Service Award

Dr. Micheal LoPresto of Henry Ford Community College was presented with the Physics Educators Distinguished Service Award for 2014 by Al Gibson at the Spring 2014 MiAAPT Meeting at Western Michigan University. This award recognizes the dedication and significant contributions of individual physics teachers to their students and profession.

The Physics Distinguished Educators Award is sponsored by Arbor Scientific, Inc.



2nd Past President
James Gell
Plymouth High School



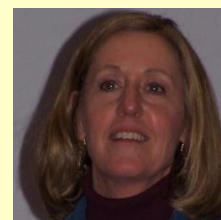
3rd Past President
Brad Ambrose
Grand Valley State University



Section Representative
Michael C. Faleski
Delta College

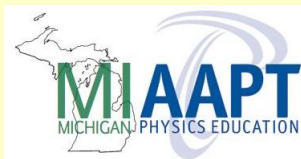


MIAAPT Liaison to MST
Alex Azima
Lansing Community College



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

Fall Meeting Invited Speaker



MIAAPT Executive Board Members

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Alan Grafe
University of Michigan-Flint

1st Vice-President

Les Latham
Port Huron Northern HS

2nd Vice-President

David Shane
Lansing Community College

1st Past President

Scott Cochran
Kirtland CC

2nd Past President

James Gell
Plymouth High School

3rd Past President

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Liaison to MI State Brd of Ed

Kathy Mirakovits
Portage Northern HS

Liaison to MSTA

Alex Azima
Lansing Community College

Website:

<http://web.miaapt.org>

Facebook:

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

MIAAPT Newsletter
James Gell, Editor
Plymouth High School
8400 Beck Rd
Canton, MI 48187

On October 4th the MiAAPT will welcome our keynote speaker Dr. Jeff McMahon. Jeff McMahon is an assistant professor in the department of physics of the University of Michigan, Ann Arbor. He and his group build instruments to improve our knowledge about the mysteries of the universe including inflation, dark energy, and dark matter. Highlights of his work include building the South Pole telescope, developing cameras for the South Pole Telescope and the Atacama Cosmology Telescope, and the many scientific results that have followed from these instruments. His research is currently focused on Advanced ACTPol, a new camera for the Atacama Cosmology Telescope that will be deployed in 2015. It will make sensitive maps of half the sky which will be used to probe inflation and test general relativity.

Jeff McMahon's keynote will focus on New Physics of the Cosmic Background Radiation.



Individuals interested in presenting at the meeting, can submit an abstract using the forms available on the MiAAPT web site: <http://web.miaapt.org/home>

Look for the Call for Presentations link on that page.

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.

