

# Michigan Section of the American Association of Physics Teachers

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<http://web.miaapt.org>

James Gell  
2012-2013 President



**Save the date!** Our Spring 2013 meeting will be **Saturday, April 20** at **Henry Ford Community College**

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## Spring Meeting Destination: *Mars!*

Plans are already underway for our next section meeting! Mark your calendar for the Spring 2013 meeting at **Henry Ford Community College** (Dearborn, MI) on **Saturday, April 20**.

We are honored that **Dr. Nilton O. Renno** (see inset), Professor of Atmospheric, Oceanic and Space Science at the University of Michigan, will join us as plenary speaker. He will present an overview of, and discuss his work on, the Mars Opportunity Mission.



Keep your eyes peeled on e-mail for a Call for Presentations for the meeting! And for up-to-date details on the meeting, visit our website, <http://web.miaapt.org>.



President  
James Gell  
Plymouth High School

## Keep up-to-date on new science standards

The Next Generation Science Standards (<http://www.nextgenscience.org>), are now being revised after the completion of the second draft public review period, which ended last month. The NGSS working drafts have now been

removed from the above website. Revised materials are scheduled to be posted in March 2013.

Many thanks to MIAAPT members who have offered feedback for either or both of the public draft reviews!



1<sup>st</sup> Vice President  
Scott Cochran  
Kirtland CC

	Physical Science Progression INCREASING SOPHISTICATION OF STUDENT THINKING			
	K-2	3-5	6-8	9-12
PS1.A Structure of matter (includes PS1.C Nuclear processes)	Matter exists as different substances as exhibited by their observable properties. Different properties are suited to different purposes.	Matter exists as particles that are always conserved even if they are too small to see. Measurements of a variety of observable properties can be used to identify particular substances.	The fact that matter is composed of atoms and molecules can be used to explain properties of substances, diversity of materials, states of matter and phase changes.	The sub-atomic structural model and interactions between electric charges at the atomic scale can be used to explain interactions of matter, including chemical reactions and nuclear processes. Repeating patterns of the periodic table reflect patterns of outer electrons.

Excerpt from *Disciplinary Core Idea Progressions* (Appendix E) of the second draft of NGSS (<http://www.nextgenscience.org/next-generation-science-standards>).

## Fall 2012 Meeting Recap



2<sup>nd</sup> Vice-President  
Alan Grafe  
University of Michigan-Flint



Secretary/Webmaster  
Steve Dickie  
Divine Child High School



Treasurer  
Don Pata  
Grosse Pointe North HS



1<sup>st</sup> Past President  
Brad Ambrose  
Grand Valley State University

The fall meeting of MIAAPT took place [October 6, 2012](#) and was hosted by [Hope College](#) in Holland, Michigan. Almost 50 attendees from the high school, two-year college, and four-year college communities were present as well as a few students. The meeting was chaired by our President Jim Gell (Plymouth High School) and coordinated by our 1<sup>st</sup> Vice President Scott Cochran (Kirtland Community College).

**Keynote address.** Our plenary speaker was [Dr. Don Lincoln](#), Senior Physicist at the Fermi National Accelerator Laboratory (see inset below) and adjunct professor at Notre Dame University. Dr. Lincoln collaborates with researchers from both the Tevatron and from the CERN Large Hadron Collider in Switzerland. He is a member of the team that discovered the Top Quark and now what is likely to be the Higgs Boson.



**Contributed presentations.** The morning schedule included presentations by Chris Pearson and Alan Grafe both from the University of Michigan - Flint discussing their transition from traditional lecture style classes to a studio format. Steve Dickie and Serge Danielson-Francois (Divine Child High School) presented how they are implementing journal articles into their current Honors Physics Seminar class.

**Roundtable discussions.** Based on a survey done by MIAAPT about two years ago, we experimented with roundtable discussions as a new session format. Separate roundtables for four-year

college, two-year college, and high school faculty, moderated by Brad Ambrose (Grand Valley State University), Scott Cochran, and Don Pata (Grosse Pointe North High School), convened for open discussion on questions raised by the participants. Upon reassembling later in the day, each group summarized their discussions for the other groups, often pointing out that they wished they had input and perspective from the other groups. The lively roundtable discussions convinced attendees that we should hold more of them at future meetings.

**MIAAPT 2012 Distinguished Service Award:** [Dr. Drew Isola](#). Sponsored by Arbor Scientific, this award was presented to Dr. Drew Isola for his service to the physics and science community in Michigan. Drew has presented numerous workshops for teachers at MIAAPT, MSTA, APS, and AAPT meetings. He also has served on several Michigan Department of Education's Science Content committees and was in the executive office chain of MIAAPT, serving as president during the 2009-2010 school year. He teaches AP Physics, AP Calculus, Algebra, Geometry, and Personal Finance at Allegan High School.

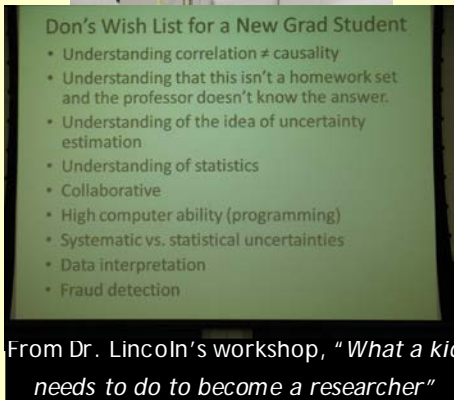
**Workshops.** The meeting closed with two engaging workshops. Dr. Don Lincoln presented a workshop titled "What a kid needs to do to become a researcher," which included a good deal of interaction through informal conversation and question and answer. Mandi Frantti from Munising Middle/High School also gave a workshop titled "Active Galaxies: What is All This Energy?" She presented activities suitable to a high school physics or astronomy class related to conclusions made from current research in astrophysics.

- by [Michael Faleski](#) (Delta College and MIAAPT Section Representative)

## Fall 2012 Meeting Snapshots



Dr. Drew Isola (left) receives from Al Gipson (center) and Steve Rea the 2012 MIAAPT Distinguished Service Award



From Dr. Lincoln's workshop, "What a kid needs to do to become a researcher"



MIAAPT Liaison to MSTA  
Alex Azima  
Lansing Community College



Kathy Mader (left) and Mandy Frantti discussing "Active Galaxies"



Section Representative  
and 2<sup>nd</sup> Past President  
Michael C. Faleski  
Delta College

## Sign up for PhysicsBowl 2013!

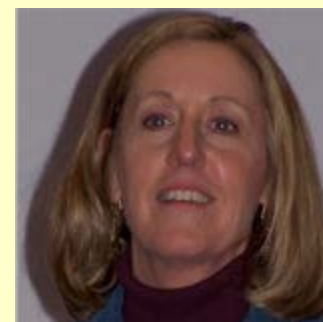
AAPT's annual physics contest for the spring of each year is the PhysicsBowl. This is a one-time 40-question multiple-choice exam with a 45-minute time limit. This contest covers all aspects of physics and is broken into two divisions: students taking their second year of physics compete in one division, while students taking physics for the first time compete in another division.

In addition to the two divisions, students also compete within their respective geographical regions. 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 4<sup>th</sup>. The contest takes place between April 3<sup>rd</sup> and 17<sup>th</sup>. For details, click on the links below!

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



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



3<sup>rd</sup> Past President  
Drew Isola  
Allegan HS

## A tip of the hat to: Dr. Mike LoPresto

Congratulations to Mike LoPresto (Henry Ford CC) upon completing his Ph.D. last Fall from the James Cook University Centre for Astronomy (now at the University of Southern Queensland). His advisor was Dr. Carl Pennypacker of Lawrence Berkeley Labs and his dissertation was titled, "Comparing Modern Methods of Active & Collaborative Learning & Learner-centered Teaching to Traditional Lectures."



**The Michigan Section of  
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Plymouth High School

**First Vice-President**

Scott Cochran  
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Portage Northern HS

**Liaison to MST A**

Alex Azima  
Lansing Community College

**Website:**

<http://web.miaapt.org>

**Facebook:**

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

## 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):

- Summer 2013 AAPT meeting: July 13-17, Portland, OR. Theme: "Going Green with Portland." <http://www.aapt.org/Conferences/sm2013>
- Fall 2013 MIAAPT meeting: Kirtland Community College, date TBD.
- Spring 2014 MIAAPT meeting: Western Michigan University, date TBD.

In addition to the above meetings, several others of interest are the

following (note *imminent* registration deadline for MST A!):

- MST A 2013 Conference: March 8-9, 2013, Eastern Michigan University, Ypsilanti: "Pure Science - The Next Generation." Early registration deadline is SOON (Feb. 11)! For details visit: <http://www.msta-mich.org/conference-a-events/msta-conference>
- Detroit Metro Area Physics Teachers (DMAPT): Plans for March meeting underway; for updates, visit: <http://www.dmapt.org/>

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.



The MIAAPT Newsletter  
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