

Meeting Announcement and Call for Presentations

2014 Fall Meeting – October 4, 2014

University of Michigan Flint

Deadline for Presentation Proposals: Friday, September 19, 2014

Are you interested in physics, physics education, or science literacy? If so, you are invited to the Spring 2014 meeting of the Michigan Section of the American Association of Physics Teachers! Join colleagues from across the state to exchange innovative ideas in the teaching and learning of physics.

Featured speaker: Dr. Jeff McMahon (University of Michigan)

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.



Meeting location: University of Michigan Flint, Flint, Michigan

Information on parking, and maps for U of M Flint can be found at: <http://maps.umflint.edu/> Information about hotels in the area can be found at the Flint Chamber of Commerce <http://www.flintandgenesee.org/visit/lodging/> Stay tuned for the full program announcement and information about lunch on Saturday.

Keynote address: Saturday, October 4, (exact time TBA)
Dr. Jeff McMahon (University of Michigan)

New Physics with the Cosmic Microwave Background

The Cosmic Microwave Background (CMB) is the afterglow of the big bang and the oldest light in the universe that we can observe. Measurements of faint signals encoded in this radiation have already provided unique information about fundamental physics and general relativity. Recently the signature of gravitational waves generated by quantum fluctuations when the universe was only 10^{-34} s old may have been detected. If this results holds it will represent the discovery of physics at an energy scale a trillion times higher than will be probed by the Large Hadron Collider and the first observation of an effect of quantum gravity. However, much work must be done to confirm this detection. In this talk I review what the CMB observations have already taught us and discuss tests for new physics that will be enabled by the coming generation of CMB experiments.

Presentation Information

All who are planning to attend the meeting are also encouraged to contribute presentations on favorite physics demonstrations, classroom experiences, teaching experiments (*i.e.*, teaching a familiar topic with a “new twist”), and ongoing projects in teaching or scholarship. Presentations at the meeting may take on a variety of forms, including the following:

- **Oral Presentations** may be formal (*i.e.*, PowerPoint) or informal. Engaging presentations, including those that are interactive with the audience, are always highly encouraged. Oral presentations are limited to **15 minutes** each, including follow-up questions and discussion.
- **Workshops** for high school teachers and college faculty form an integral part of every meeting. Workshops, usually 2 or 3 hours long, will be scheduled for Saturday afternoon (October 4). Unless announced ahead of time by the presenter(s), workshop registration takes place on a “walk-in” basis.
- **Poster Presentations** are welcome especially if you wish to share teaching ideas or apparatus for which the time constraints might not work for an oral presentation.
- **My Favorite Demonstrations and “Physics Puzzlers”** are quick but unique physics demonstrations with which to share favorite challenge questions or to share unexpected or unusual outcomes from an experiment. These are limited to **5 minutes** each.

If I want to contribute a presentation, how do I submit information about it?

You may fill out the attached “[Presentation Proposal Form](#)” on page 4 (you can complete it electronically in Microsoft Word) or compile the following information about your presentation:

1. **Type of presentation** (oral, workshop, poster, or My Favorite Demo/Physics Puzzler)
NOTE: If it is a **workshop**, please indicate at which times you could present.
2. **Title** (10 words maximum...longer titles will be edited to 10 words or fewer)
3. **Name and contact information of (primary) presenter** (school, institution, or other affiliation; address; phone number; and e-mail address)
4. **Brief description** (100 words maximum) of your presentation
5. **Description of any A/V equipment needed.** (Rooms for oral presentations and workshops will be equipped with computer projector and overhead projector.) It is the **presenter’s** responsibility, though, to bring a laptop and any special equipment.

Please submit your completed “Presentation Proposal Form” so that it arrives **by Friday, September 19**. Please send it by e-mail (*highly preferred*) or “snail mail” to:

Les Latham
Port Huron Northern High School
1799 Krafft Rd
Port Huron, MI 48060

E-mail: llatham@phasd.us
Phone: (810) 984-2671 ext 1952

For updates on the Fall 2014 meeting: Check out the MIAAPT website: www.miaapt.org.

MIAAPT Mission Statement: The Michigan Section of the American Association of Physics Teachers is dedicated to promoting excellence in physics education in the state of Michigan and to supporting physics educators statewide. This organization shall endeavor to advance the knowledge of physics, to improve the teaching of physics, and to interest an increasing number of young people in making a career of physics.

MIAAPT Presentation Proposal Form: Fall 2014 Meeting

1. Type of Presentation (*select one*): Oral Workshop Poster Favorite Demo/Puzzler

If a **workshop**, please indicate: - approximate length:
- time constraints:

Title of presentation, maximum **10 words**:

2. Name of (Primary) Presenter:

School/Institution/Affiliation:

Address:

E-mail address:

Phone number:

3. Brief description/summary of presentation (max. 100 words). In addition, you may include names of co-presenters with their affiliations; references/citations; etc.

4. Equipment needs:

**** IMPORTANT:** Presentation rooms will have computer projector systems and overhead projectors, but presenters should bring their own laptops.