

AAPT Physics Day at the NSTA Area Conference, Baltimore, MD

Friday, October 6, 2017

Report submitted by Rachele Dominguez, President of the Chesapeake Section of AAPT

On October 6, 2017, the Chesapeake Section of the American Association of Physics Teachers and the National American Association of Physics Teachers organized, presided, and presented Physics Day at NSTA in Baltimore, Maryland. The day-long event consisted of six one hour long sessions including hands-on workshops, demonstrations, and presentations.

The first session was a hands-on workshop *Investigating Electrostatics with an Inexpensive Electrophorus* by Bob Morse from St. Albans School in Washington, D.C. About 17 were in attendance. This was very engaging, hands on workshop. We used simple and inexpensive materials to build an electrophorus, in addition to

The next session was *Women and Minorities in the History of Physics, Role Models for Today* by Greg Good from the AIP. He engaged the audience with a web resource, which highlights the physics accomplishments of women and minorities. There was quite a lot of audience interest in this project, and a good discussion of how to incorporate the materials Greg developed and presented into lessons. About 33 in attendance.

David Wright's Physics Demo show had over 100 attendees. We brought in a dozen more chairs, and still had standing room only. We passed out 75 take home bags which included materials and instructions making Cartesian diver demos and mystery bead bottles, some fun youtube video links, and more! The presentation was a lot of fun, and the audience definitely enjoyed themselves.

Larry Weinstein, from Old Dominion University, gave a talk called *Guesstimation: Solving the World's Problems on the Back of a Cocktail*. He began by giving some parameters for how to properly estimate any quantity and then went through many examples. He performed some quick calculations to answer some questions ranging from "Will recycling plastic bottles change the world?" to "how many people in the world are picking their nose right now?" And also wowed the audience by taking questions for

the audience and doing some estimations on the fly. About 18 were in attendance.

Ben Dryfus, from the University of Maryland, gave a workshop called *Students' Ideas about Physics: Insights from Physics Education Research*. The audience answered conceptual physics questions from the Force Concept Inventory. Then, small groups discussed possible student misconceptions and reasons for these misconceptions. Ben discussed findings from Physics Education Research, and how they can provide insights for teaching. About 24 were in attendance.

The last session, *Simple Lessons to Teach Confusing Physics Ideas*, was presented by Kristin Covalieskie, from Baltimore Public Schools. (Katya Denisova, who was originally scheduled to co-present, could not make it.) This was the only session officially targeting K-8 teachers, and had some great teaching ideas. The lesson ideas were based on research conducted as part of the SABES grant that Kristin has worked on for many years. She discussed activities such as formative assessment probes, and open-ended laboratory techniques with some hands-on examples like the Magic Tape Lab. There were about 22 in attendance.

I introduced the speakers and spoke briefly about the AAPT before each session, advertising our section meeting on October 21st. Our Vice President Alex Barr and our Secretary David Wright were also in attendance all. It was nice to have this representation to help throughout the day and keep things running smoothly. The hotel staff was fantastic. They helped with technology, extra chairs, and getting random stuff like cocktail toothpicks and sodas that we needed at the last minute for demonstrations. All of the materials that the National AAPT office sent were gone by mid-day. Overall, we had a great time, and attendees seemed enthusiastic about all of the sessions.