

NJAAPT LETTER- NOVEMBER 2005

PRESIDENT'S MESSAGE

We are in that time of the year when our members look with anticipation for the sponsored events at Anchor Scientific and Holiday Treats. These workshops provide numerous items for use in the classroom as well as the opportunity to meet other members in a very informal setting. We are proud of our ability to present so many occasions at a very reasonable cost to the attendees. Although the cost of producing these opportunities does not have much of an impact on the section financially, it does have a high cost in terms of the number of hours spent in preparation by those who volunteer to help make each event a success. Workshops require schedule planning, purchasing and copying materials, and readying the location. The Demo Dens at the NJSC (see the article by Borislav Bilash) are a success because of the individuals who give up their time to provide everyone with demonstrations that can be readily duplicated. The Holiday Treats in December is probably the most labor-intensive activity of the year. The numerous hours spent contacting sources for materials, the construction of demonstration devices, the purchasing of items, and the filling of the boxes takes its toll on the members who assist in the program.

What we need are some new faces who can step in and offer help to the section for a particular event. I have spoken to members at the Amusement Park Physics workshop and maybe a few will become more involved. We are in dire need of your stepping up to make the work a little easier for those who have for years been making this organization function. Here are some thoughts as to how you can help:

volunteer to demonstrate at the Demo Dens next October

volunteer to demonstrate something at Dave's Demo Night in February

volunteer to help at the Physics Olympics in January

volunteer to help plan for the Sectional Meeting in March

volunteer to join the executive board

If you notice, the operative word is VOLUNTEER. I am aware that there are many pressing needs in our lives, but maybe you could just give a few hours a year to make the NJAAPT even better than it is today. If you can assist, visit our website and contact one of the officers.

Happy Thanksgiving to all.

Ray Polomski

2005 The President's Recognition Program Excellence in Service Award

David Maiullo, Physics Support Specialist, Department of Physics and Astronomy at Rutgers University was nominated by Mark C. Croft, Professor, Department of Physics and Astronomy for the award for 2005.

David's primary role is to support all physics courses by providing access to the wealth of physics demonstrations available from the Physics Lecture Hall facility that he oversees at the university. However, he has also been categorized by his colleagues as a one-man traveling outreach and ambassador-of-good-will program for the general public and science-teaching professionals.

In 2004 and 2005, he performed numerous physics demonstration shows for over 2,200 children and adults at libraries and high schools throughout the state to generate excitement in the study of science. David tangibly makes physics fun for students to learn and for faculty to teach.

EMAIL DELIVERY OF INFORMATION

Last June's newsletter ask for those that would like to receive their information by email. About thirty took advantage of this request and received the last newsletter electronically. Using the email services of the internet reduces the cost to the section of not only the mailing but also that of duplicating. The costs of these we can determine but the time spent in compiling the newsletter, affixing the labels and stamps, and the time required getting back and forth to the duplicating facility and the post office are not.

Since no one has stepped forward to take on the job of editor of the newsletter, that task has fallen to me. It could make the time invested shorter if more individuals would consider receiving their notices, etc by email.

I ask you to think seriously about it and if you make the decision to go with the email delivery system, contact our webmaster, Jim Kovalcin at: jimthx@comcast.com and provide him with your email address. We

hope to have at least half of the membership on our emailing list before the end of the school year. It would provide you with a faster delivery that translates into your being able to plan your activities sooner.

MEMBERSHIP RENEWAL

Please check the address label for the year that your membership expires. IF the date is 2005, please renew before the end of December. This will ensure receipt of all the information that comes from the section.

The renewal form can be found at:

www.njaapt.org and should be sent to:

DAVE BANDEL

TREASURER NJAAPT

41 DEER PATH DRIVE

FLANDERS, NJ 07836

2006 PHYSICS DAYS AT GREAT ADVENTURE

Mark your calendars and begin planning for next year's Physics Days at Great Adventure. It has been announced that the official **Physics, Science, and Math Days** are **Friday, April 28 and Friday May 5**. If your classes have attended this event before, then you know how much of a learning experience the amusement park rides provide. If you have not had the opportunity to participate in this event, maybe this year will be a first for you. Teachers from the tri-state area use the day as part of their final exam or as a lab. Think of how you can fit the day into your teaching plans. Materials on the rides will be available from Great Adventure and are the result of our partnership with the park. The revised edition of the workbook, which will be on a CD, should be completed by mid- January 2006

2006 Physics Olympics

WELCOME!

We look forward to your school's participation at the NJAAPT sponsored "NJ Physics Olympics" to be held on Saturday, January 14th, 2006 at Monmouth Regional High School. The competition is a lot of fun and your students will meet, share experiences, and compete with other students from various parts of New Jersey.

In order to participate you must complete the **registration form** and send your check within the prescribed deadline. Registration form, rules & directions can be obtained by visiting the NJAAPT web site @ www.njaapt.org. Or, you can contact John Valente at john_valente@mast.mcvsd.org.

This year's events are the:

- **FERMI QUESTION** - To estimate the order of magnitude of a quantity that is difficult or impossible to measure.
- **CATAPULT** - To build a catapult that will launch a penny.
- **TOWER OF CARDS** - To build the tallest tower with the smallest base using index cards.
- **LIGHTEST SUPPORT TOWER** - To build the lightest tower that can support a 1 kg mass.
- **EGG THROW** - To surround an egg with a device that will allow the egg to be thrown towards a wall, without breaking, resulting in the greatest bounce distance.
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- **ZERO IMPACT VEHICLE** - To build a vehicle that will move as close as possible to a wall without touching it.

Dumont Sharing Session

The Dumont Sharing Session began its nineteenth year on October 12 with a meeting hosted by Ray Polomski at Dumont High School. Lively discussions relating to activities and concepts proved to be the motivation for the participating teachers to try some new approaches in their classes. Ray Polomski discussed the AAPT Summer Meeting in Salt Lake City and the upcoming Winter and Summer Meeting venues. He also brought to the attention of the group the activities of the NJAAPT for the rest of the year. Frank Oleksy of the Academies at Hackensack brought up the idea of a competition to determine which type of food can rolled the slowest or the fastest. This is an activity he used at Clarkstown South High School in NY during their food drive to encourage student to help the needy. This activity served two purposes: to collect food for the less fortunate and to understand some physics principles. By rolling various cans down an inclined plane, he and the students discovered some very interesting, and in some cases, confusing results. This is an activity you should try with your students if there is a food drive sponsored by a club or the school. Bill Koenig of Pascack Valley Regional HS in Hillsdale discussed the *Downy Ball*. This item that is normally filled with laundry fabric softener can be used to demonstrate some of the concepts in circular motion. As he explained, the *Downy Ball* has a plug that seals in the

liquid, but as the washer rotates to a certain speed, the plug is pulled into the *Downy Ball* releasing the liquid. This works on the principle of centripetal force and it is spun in a vertical circle, a pop can be heard at the bottom of the rotation. This is where the greatest force acting on the plug would be and from that you could calculate the velocity of the object.

John Johnston introduced the group to the newest book written on Benjamin Franklin, *Stealing God's Thunder*. This book discusses Franklin's scientific contributions that led to his becoming the premier electrician in the New and Old Worlds. John pointed out the innovative devices Franklin used in his discoveries about the nature of electricity, including the shape of the lightning rod. This led to a very lively discussion about the construction and method of operation of present day lightning rods. The subject will be continued at our next meeting at which static electricity will be the main topic of demonstration and discussion.

For information on the next sharing location and date, visit our website:

www.njaapt.org or contact Ray Polomski at r7429@optonline.net.

Physics Demo Dens at the NJSC

This year members of NJAAPT presented four one-hour physics demonstration shows in the Demo Den at the NJ Science Teachers Convention. The meeting was held at the NJ Convention Center in Somerset, NJ on October 5 & 6, 2005. Each of the hour-long presentations was filled to capacity

with approximately 100 teachers in attendance. The sessions included: "Impulse & Momentum", "Newton -- It's All About Laws", "Light in a Well-Lit Room", and "Pressure & Fluids". Although each of the demo "shows" included a comprehensive collection of 15-20 demos it's worth singling-out some of the highlights including Dave Bandel (Chatham) using an air-powered "gun" to launch a blunt-ended pencil into a 1/2" wooden plank (1.27 cm for you metric pholks). Harry Rheam (Eastern Regional) was seen running off of his extra long skateboard – but didn't get very far (think – Newton's 3rd law). Dave Maiullo (Rutgers University) rode his CO₂ fire extinguisher-powered car around the demonstration floor and swept-up the crowd. Bob Dubas (James Caldwell) gave a lesson how to properly unroll an almost-empty toilet paper roll, verses a new one. (There were no standing ovations for this one, since this demonstration required sitting down). John Valente (Marine Academy) did a bang-up job when he shared some ideas on how to use Pasco Carts in teaching about collisions. Jay Waldstein (Dwight Englewood) elevated the audience by demonstrating the Bernoulli Effect using a vacuum cleaner output to "float" and spin a golf ball. And finally, Borislav Bilash II (Pascack Valley HS) blew off some steam when he used a household pressure cooker to show what would happen to a Styrofoam cup when exposed to high pressures (it shrinks). Other demonstrations included showing techniques of making light and optics demos visible in an un-darkened room, such as using the newly-available *brighter* green lasers or making the paths of laser beams visible using the mist from a humidifier or the fog from a fog machine.

Demo Den is designed to showcase both old and new demonstrations. Foremost the audience had an opportunity to see the various demonstration and teaching styles and techniques used by each of these demonstrators making it attractive to both novice and experienced teachers alike. Hopefully everyone in the audience, as well as the presenters were able to bring something back to their classrooms.

If you are interested in sharing your ideas at next year's Demo Den please contact Borislaw Bilash II at borislaw@verizon.net.

Five Honored at NJSC Dinner

Five members of the NJAAPT were recently honored at the NJSC Awards Banquet on October 6, 2005. The honorees were: Barbara Wolff-Reichert, Yitzhak Sharon, Brian Holton, Jessie Blair, and Ray Polomski. The award was for Lifetime Contributions to Physics Education and each was presented with a plaque to commemorate the occasion.

Barbara Wolff-Reichert served two terms as president and was a member of the executive board. She taught at Chatham HS and Columbia HS in Maplewood. Barbara was instrumental in forging our alliance with Great Adventure and was one of the writers of the workbook used on Physics Days. After her career in NJ she left for Buffalo, NY and currently works with her husband, Jonathan Reichert in managing their company, TeachSpin, which produces physics equipment for upper level physics courses.

Yitzhak Sharon has served as an executive board member and is currently teaching at Rutgers University. He has held previous posts at Stockton State and

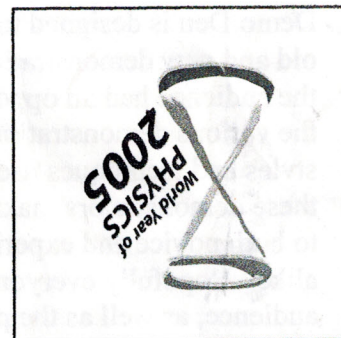
Princeton University. Yitzhak is a valuable contributor to the success of the regional meeting and to the education of physics students at any level of study.

Brian Holton, past president and executive board member. Brian helped establish the Math and Science Learning Center at Rutgers University and with his wife owned Discovery House – a hands-on science museum for children. Brian is currently teaching at Science HS in Newark.

Jessie Blair of Monmouth Regional HS has been a two-term president, an executive board member, and is currently the recording secretary. A tireless worker who conducts numerous make and take workshops for high school and elementary school teachers. Jessie is a vital member of the planning committee for sectional meeting from the planning of the agenda to the planning of the Friday night dinner and breakfast and lunch on Saturday.

Ray Polomski retired from 35 years teaching at Dumont HS. Currently he is in the second term as president and has also been vice president, treasurer, executive board member, and acting section rep to AAPT. He began in 1987 and continues to host a sharing session allowing physics teachers from the northern counties to exchange ideas on strategies for teaching physics.

*Happy
Thanksgiving*



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