NJAAPT
189 Richard Drive
River Vale, NJ 07675

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President's Message

Spring is just around the corner and our activities are blooming just as the bulbs in our gardens. It is time to cultivate our minds to be able to bring the best to our students. How do we achieve this goal? Simple and yet so difficult is this task. But I have a couple of ideas for you to contemplate as you begin to approach the time of the school year when you must think of what you have accomplished. Here a some suggestions:

1. Attend the sectional meeting at Princeton University March 17- 18. (See article)
2. Take your classes to Great Adventure for Physics Day
3. Attend the AAPT Summer Meeting at Syracuse University (See insert)
3. Consider getting involved in the section by coming to an executive board meeting

Any one of these will result in benefiting you and your students.

The message is short but it is very important for you to consider becoming an active participant in the NJ Section. We want to provide our membership with programs that will pay immediate rewards. It's up to you.

Ray Polomski

Sound, Waves, and Other Make-n-Take

Physics Make-n-take –**"Sound, Waves, and Other"** was held at Monmouth Regional High School on Saturday, February 4, 2006. There were fifteen people in attendance. John Valente had people construct a standing wave apparatus, and shared other ideas on sound and resonance. Harry Rheam used his homemade Flame Tube to show a standing wave. He also used an oscilloscope to show compression and rarefaction, beat frequency. He also had materials for people to take home to show the distribution law with a diffraction grating. Anne Tabor Morris introduced the resonance Bowl, showed comparison of whistles and the sound one hears to include the train whistle and bird whistle. She also discussed the Maury Project that discusses Ocean Currents and is part of the American Metrological Society. Nicholas Piccone shared ideas and gave out flyers on using Winplot. Rob Schanne shared some information on light. Jessie Blair shared ideas on sound and gave everyone a singing cup as well as preparing coffee, tea, hot chocolate, bagels and Danish and cleaning up. Even though it was scheduled until 11:30, most people stayed until 12:30 sharing ideas. It was a Great Meeting!

Sectional Meeting
Princeton University
March 17 – 18, 2006

The time is fast approaching when we will hold our Sectional Meeting. What a great way to meet others from the section and to have a good time. The executive board has planned the program around the celebration of the three hundredth anniversary of Benjamin Franklin's birth.

On Friday evening we will host a buffet dinner to kickoff the festivities. Tom Greenslade of Kenyon College, a contributor to *The Physics Teacher* and one of the nation's foremost collectors of antique physics equipment will be our featured speaker. Tom is also the Column Editor for *From Our Files* in *TPT*. There is another very important reason for joining us at the dinner because Tom Greenslade is a Rutgers graduate and former student of Peter Lindenfeld.

Saturday brings us a most interesting group of people to entertain and inform you. Beginning with Bo Hammer, the Vice President of the Franklin Center at the Franklin Institute in Philadelphia, we will hear of Benjamin Franklin – The First Civic Scientist. And what could be better than an appearance by the great man himself – Benjamin Franklin will regale us with tales of his life and times.

John Johnston will present his "Candy Store of Physics Demonstrations." John has been involved in demonstration shows on the state and national levels since he attended the famous VMI Demonstration Workshop in the 1970's. Using the knowledge he acquired at VMI, he has modified some of the equipment and developed some of his own which are extremely useful in the classroom. A word to the wise – John always has some of his materials with him that can be purchased at very reasonable prices – bring along something extra just in case.

Ed Groth from Princeton University has put together another stellar demonstration show for us. Those who attended the meeting in the past know that the Princeton staff do an excellent job of providing demonstrations for the masses.

Think real hard about coming to Princeton University and remember, we are a provided certified by the state of New Jersey and you will receive a certificate for your attendance. Visit our website for the program and registration information.

AAPT Summer Meeting
Syracuse University
July 22 – 26, 2006

Just a reminder that the Summer Meeting is very close this year. You can drive to Syracuse and enjoy a meeting which will bring together over 1000 individuals from all branches of education. Go the www.aapt.org for details Take advantage of this opportunity.

SEPA Sectional Meeting Announced
Friday & Saturday, March 24th & 25th, 2006
St. Joseph's University
Philadelphia, PA

Friday, March 24

6:00 – 7:00	Dinner	Student Center
7:00 – 9:00	Demonstrations and Talks	Science Center

Saturday, March 25

8:30 – 9:45	Registration and Breakfast	Science Center
9:45 – 10:00	Welcoming	
10:00 – 10:30	Ariel Michelman-Ribeiro Boston University	"Increasing the Participation of Women in Physics"
10:30 – 11:00	Bill Berner University of Pennsylvania	"Exponential Phenomena in Introductory Physics"
11:00 – 11:45	Paul J. Steinhardt Princeton University	"A Tale of Two Universes"
12:00 – 1:00	Lunch	
1:00 – 1:30	General Business Meeting	
1:30 – 2:00	Doug Kurtze St. Josephs University	"Ocean Circulation and Climate"
2:00 – 2:30	Peter Habdas St. Josephs University	topic is on condensed matter physics
2:30 – 2:45	Door prizes	
2:45 – 3:30	Tour of laboratory facilities	

For further information: www.physics.upenn.edu/~aapt

Dave's Dazzling Demos, circa 2006! If you missed.....

Once again, for the 15th year in a row, NJAAPT hosted a night of physics demonstrations here at the Rutgers University Dept. of Physics and Astronomy. It occurred on February 17th, a Friday night, from 6 PM till 11 PM when we all left. For the first hour, 6-7 PM, we had food and drink provided by Jessie Blair (thanks Jessie!) and set up the presenters on various tables in the Physics Lecture Hall and in the Preparation Room in the PLH.

At 7 PM, after a brief introduction to the event from our President, Ray Polomski, as well as a listing of the various events which NJAAPT is hosting this spring, we got started. For the evening, we had 7 presenters. In order, they were Harry Rheam,

Anthony Lapinski, Ray Polomski, Jonathan Gaffin, Borislaw Bilash, and myself. Harry, having survived a fall from a metal beam which was testing his weight, performed various demonstrations with aplomb until the last which was his famous "Walking on broken glass", a real crowd pleaser. He survived this one also. Anthony then did about a half-hour of demonstrations, including his version of the "Waiter's tray" and handy hints on safely using a Tesla Coil, also a huge hit.

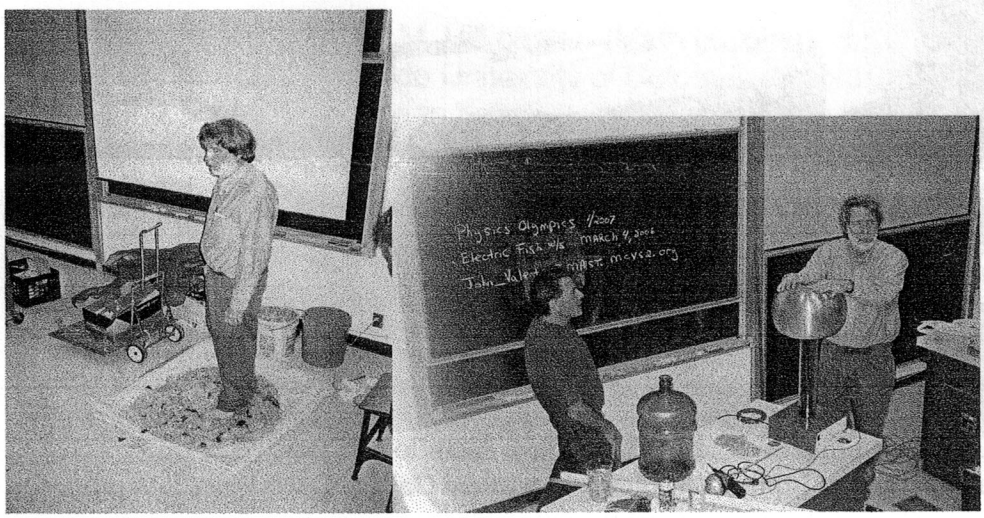
It was already about 8:15 PM, but we took a 15 minute break to serve the liquid nitrogen strawberry ice cream and set up for the next round of demos. Starting us off was Ray Polomski, who presented a series of ideas on how to keep the class engaged in the lesson at hand, using various tools such as pertinent physics cartoons or intriguing physics toys. Next, Jonathan Gaffin went projectile crazy as he illustrated various methods of throwing items across the class room. A catapult, an adapted Thigh-master, and other tools tossed balls and grapefruits, as well as other items, all over the room. Last in this series of presentations was Borislaw Bilash, who used his time well and introduced a couple really neat items to our audience, including the world's smallest motor and 100 and 1 ways to use a ball type washing machine softener dispenser in explaining the forces inherent in circular motion.

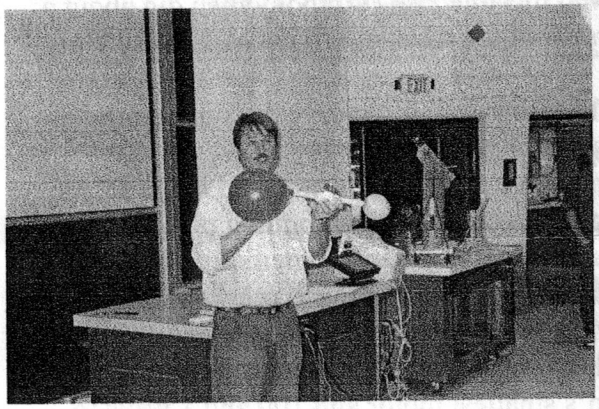
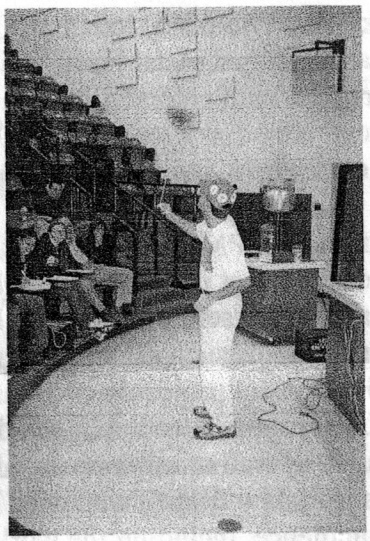
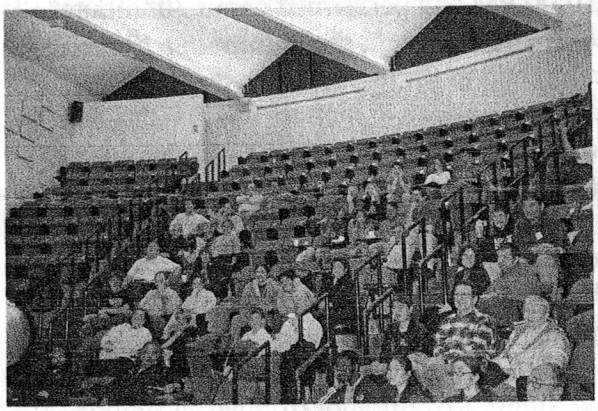
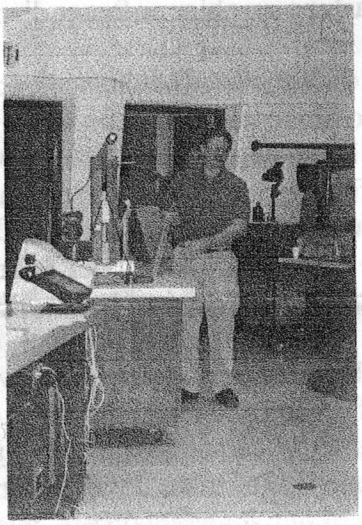
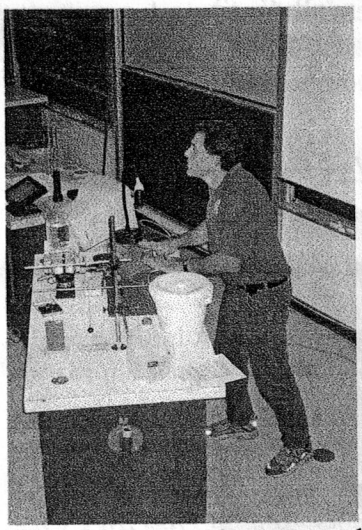
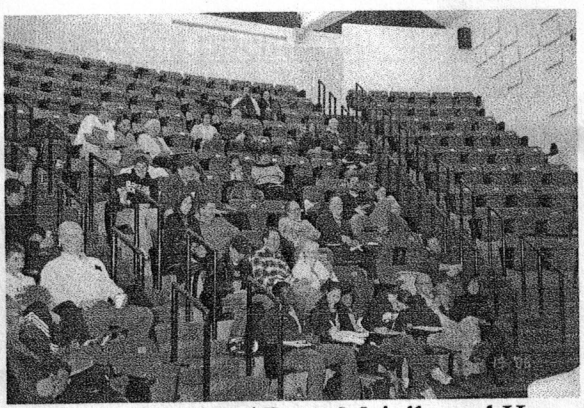
By now it was 9:45 PM, but after the audience assured their host, myself, that they didn't want or need to go home yet, I went on about 10:00 PM and performed about 30 minutes of demos. These included the "new" PASCO human hovercraft, the current in a broken light bulb, and a full explanation on the correct method to setting up and using the Chinese water bowl to illustrate resonance.

By the end of the event, we were all quite tired yet satisfied. Many ideas and thoughts on the use of demos in teaching had been shared and illustrated over the length of the evening.

If you have any thoughts on how future "Dave's Demos" should be organized or run, including types of demos and which is better, Friday night or Sat morning for this workshop, please feel free to email me at maiullo@physics.rutgers.edu.

In closing, I'd again like to thank Jessie Blair for all her assistance in making the night a success. The help of our student workers, Pooja Singh, Rozalia Ziobro, Thasha Ramdas, and Krishna Zaveri, was also invaluable. Of course, the presenters all deserve a huge round of applause, and they got one!



Photos: Harry Rheam standing on broken glass/ Dave Maiullo and Harry Rheam / Borislaw Bilash/ Anthony Lipinski/ audience/ Jonathan Gaffin/ Dave Maiullo//audience

World-Renowned NASA Climatologist, James E. Hansen, Ph.D. To Speak on Global Warming At Bergen Community College, Friday, March 10

World-renowned NASA Climatologist, James E. Hansen, Ph.D., will speak on Global Warming on Friday, March 10, 2006, at 7:00 p.m., in Room Tech-128, Technology Education Center, Bergen Community College, 400 Paramus Road, Paramus, NJ. This event is free and open to the public.

Dr. Hansen heads the NASA Goddard Institute for Space Studies (GISS) at Columbia University, a division of the Earth Sciences Directorate of the Goddard Space Flight Center. He is the United States' foremost scientific authority on global warming, and is best known for his testimony on climate change to congressional committees in the 1980s that helped raise broad awareness of the global warming issue. At these sessions, Dr. Hansen explained how gases being produced by the combustion of fossil fuels were contributing to a "greenhouse effect" by retaining heat on the planet like glass panels do on a greenhouse. He is widely credited with bringing the problem of global warming and the effects of greenhouse gases to the world's attention.

Dr. Hansen was trained in physics and astronomy in the space science program of Dr. James Van Allen at the University of Iowa and received a B.A. in Physics and Mathematics, a M.S. in Astronomy, and a Ph.D. in Physics there. His early research on the properties of the clouds of Venus led to their identification as sulfuric acid. Since the late 1970s, he has worked on studies and computer simulations of the Earth's climate, for the purpose of understanding the human impact on global climate.

In addition to his duties as Director of GISS, Dr. Hansen is author or co-author of over one hundred articles for periodicals and scientific journals, and is an Adjunct Professor in Earth and Environmental Sciences at Columbia University. Dr. Hansen was elected to the National Academy of Sciences in 1995 and he received the prestigious Heinz Environment Award for his research on global warming in 2001.

Irons Lectures at Rutgers University

On Friday April 7, 3:00 P.M. Hill center (Math building) rm 114, Carl Wieman Of the University of Colorado University of Colorado will present a lecture on "Using the Tools of Science to Teach Science".

On Saturday April 8, at 10:30 AM he will present a lecture, "Bose Einstein Condensate: Quantum Weirdness at the Lowest Temperature in the Universe".

Prof. Carl Wieman is a Distinguished Professor at the University of Colorado. He is the co-winner of The Nobel Prize in Physics, 2001, "for the achievement of Bose-Einstein condensation in dilute gases of alkali atoms, and for early fundamental studies of the properties of the condensates." His work is supported by the National Science Foundation and the Kavli Operating Institute.

For information about the content of the lectures visit: www.njaapt.org.

American Association of Physics Teachers
PHYSICSBOWL 2006

Calling All High School Physics Teachers!

Enter your students in PHYSICSBOWL 2006 and receive national recognition for your school, your students, and your teaching excellence.

Here's how the contest works:

Your students will take a 40-question, 45-minute, multiple-choice test in the period of April 3–14, 2006, under your school's supervision. Exam questions are based on topics and concepts covered in a typical high school physics course. To enhance the distribution of awards, Division I is for first-year students and Division II is for second-year students and AP students. Each division has 15 regions across the country to allow schools in each region to compete against one another. Specialized math and science schools compete in their own region. Winners will be announced in the first week in May.

Participant Gifts:

- Each participating teacher will receive **an Updated Educational Resource Kit** to assist in their use of technology with activities, helpful tips, software updates, and information about free educator support programs, compliments of **Texas Instruments**.
- Each participating student will receive a commemorative AAPT 75th Anniversary TI-84 Slidecase cover, compliments of **Texas Instruments**.

School/Teacher/Student Awards:

- Sixty $100 Gift Certificates awarded to schools placing first and second in each region. (***Frey Scientific**)
- One TI-84 Plus Silver Edition Calculator awarded to the top student in each region. **(Texas Instruments)**
- All expense-paid trip to AAPT Summer National Meeting awarded to the top student in each division. **(Texas Instruments)**
- All expense-paid trip to the Physics Teaching Resource Agents Institute (AAPT/PTRA), scheduled July 15–22, 2006, at the Syracuse University, Syracuse, NY, to the teacher from the top school in each division. Winning schools identify the teacher who will attend the meeting. **(Texas Instruments)**
- Sixty free AAPT memberships for one year awarded to the schools placing first and second in each region. (*AAPT)
- T-shirts awarded to the four top students in the top scoring school in each region. (*AAPT)
- Certificate of Participation awarded to all teachers and students competing. (*AAPT)

* Note: School team scores are determined by the sum of the scores of the top four students competing.

[redacted]

Shipping and Handling Chart

Exam Cost	Shipping & Handling
$12.50–$25	$7
$37.50–$62.50	$8
$75.00–$112.50	$9
$125.00–$150	$11
$162.50–$187.50	$12
$200 + add $2 for each additional Exam Packet.	$15

U.S. territories, Canada & Mexico: Add $8 to the above amount.

FORMS AND PAYMENT MUST BE RECEIVED BY MARCH 20, 2006

Please send_____Exam Packets @ $12.50 per set_____ plus shipping/handling _____= Total_____

Teacher's Name:_____

School:_____

School Address:_____

City:_____ State:_____ Zip:_____

Phone: _____ Fax:_____

Email Address:_____

Mail to: PHYSICSBOWL – American Association of Physics Teachers • One Physics Ellipse • College Park, MD 20740-3845
http://www.aapt.org/Contests/physicsbowl.cfm