ISPP REMINDER

September 2009

Our next meeting…

…is at Niles West High School
Wednesday, September 16, 2009
6:30-8:30 PM

Scroll down for a map and directions.

At our last meeting…

…at the Museum of Science and Industry, **Ruth Goehmann** passed around a nice little spectroscope. It was only about 5cm x 3cm x 2cm and fit easily into the palm of my hand. It was made of paper wrapped with electrical tape and used a piece of cut off a CD for a grating. The slit was a 1mm gap in the electrical tape.

We didn't have a good light source in the room and it took me a minute or two to see the ceiling lights through the slit, but when I did I got a surprisingly nice line spectrum. Others have made spectroscopes out of CDs and shoeboxes, but I've never had success with them. I could do this one. The information you need to do your own is at www.uwm.edu/~awschwab/specweb.htm which is Alan Schwabacker's college address. This is a very nice class project.

The new teacher bag went to **Matt Nemeth** who was finishing up at National-Louis Universityand will be looking for a position in the Fall. Mnemeth@live.com If you know of anyone looking for someone young and enthusiastic to energize their program.

Lindsay Bartholomew (MSI) showed slides about a big new exhibit next Spring emphasizing Physics and Chemistry. Watch for it.

Roy Coleman then showed the Wolfram Demonstration Project. It's at www.demonstrations.wolfram.com If you teach high school you can get a copy at Mathematica for yourself for $49, if you're willing to watch three 10 minute videos.

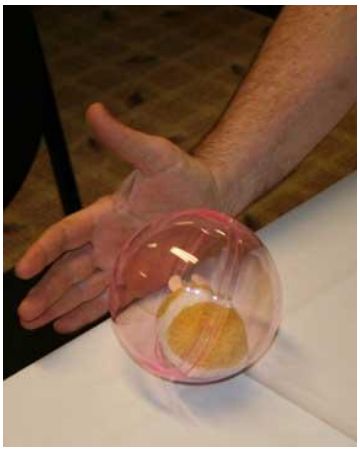
Brian Sievers (Thornridge High School) used the computer to show some of his students who won a large cash award for developing a bio diesel. Here's a link to some info and pictures:
http://www.biodieselpictures.com/viewtopic.php?p=1377&sid=8631240eba7eaa17b5713138f4ac55c8

Brian then showed some mobiles his class had made. He gave them string, tape, and three (or more) pencils and they could use any stuff they brought. At the end of 45 minutes each team had constructed a mobile, and each student had answered some questions on static equilibrium and drawn a free body diagram of the forces. Brian hung the mobiles around his room for a week.

This is a second very nice class project. You can point out the effect of the weight of the pencil torque if the suspension point is not at the center of the pencil. Brian passed out the sheet of questions he used.

Pete Insley (Columbia College) found Whizzer-style tops at American Science and Surplus for $2. And they light up! He also gave away some stopwatches.

Paul Dolan (Northeastern Illinois University) found a hamster in a ball (around $10) at American Science and Surplus. It's fun but no one was sure how you could use it in class.



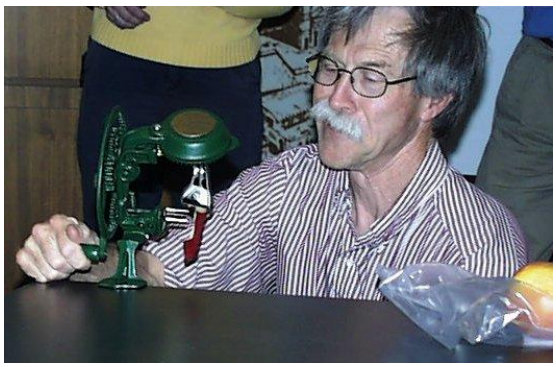
Paul also had some rolls of paper. They could be used as cylinders to roll down an inclined plane. But Paul asked how would it be different if the cylinder were allowed to unroll and lose mass and diameter as it rolled. Paul sketched out a free body diagram and conserved energy for the cylinder and the cylinder unrolling. Something to think about. There's more in *American Journal of Physics.*

Art Schmidt (Northwestern University) brought a "Super Sized Light Doodler" he got from his students. It has a variable speed motor and a 15cm hoop with LEDs. The spinning hoop produces various light patterns and you can freeze the patterns by looking through your fingers and moving your hand, producing a strobe effect. I think you can also vary the flash rate for the LEDs. One source to buy them online is www.scientificsonline.com/ where they list for $29.95.

Kevin McCarron (Oak Park - River Forest High School) brought a ball (about 10cm in diameter) filled with a liquid, presumably water, and some glitter. He hoped to put it on a lazy susan and get the glitter to form bands so the ball would look like Jupiter. He said it kind of worked, but when he left it to do something else the ball in the sunlight melted his lazy susan. It made a pretty good spherical lens. The balls are available at Walgreens.

Larry Alofs (CPS, retired) continues to give away his equipment. This time it was a "vacuum bazooka." The two-meter PVC pipe was fitted to shoot a ping pong ball. Put the ball in and seal the ends with packing tape. Evacuate the air and then pierce the tape at the ball end. The enter air propels the ball through the tape at the other end fast enough to go through a pop can.

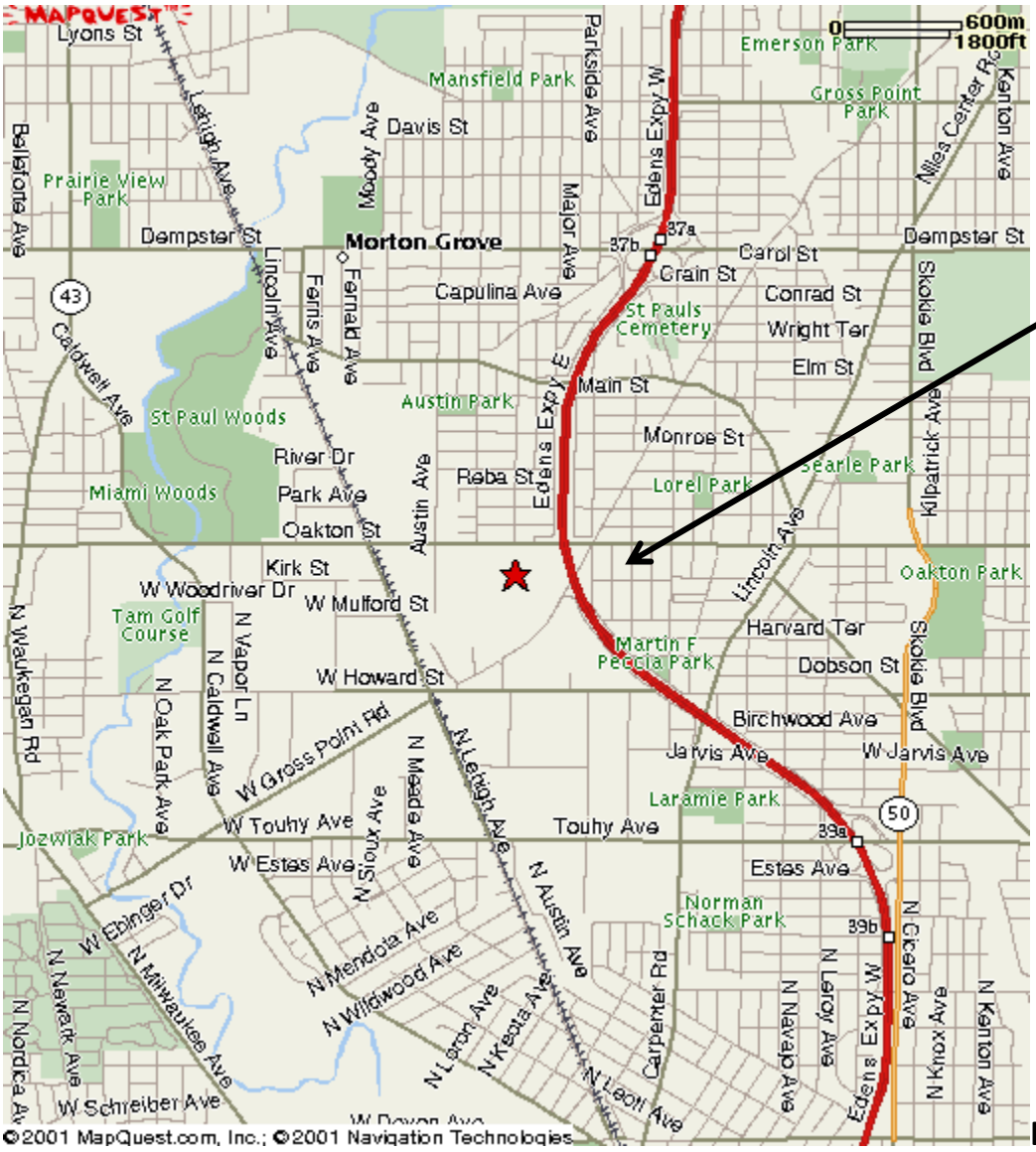
The John Rush award this year went to **Rich DeCoster** of Niles West High School. Especially well-deserved! Congratulations!



Finally **Ruth** sent us home with free parking passes and a very nice little screwdriver kit. There were some great ideas at this meeting – I'm glad I attended!

Reported by Pete Insley

Map to Niles West High School



Directions:

From North or South: Take I-94 to Dempster Street, exit going east. Go to the second light stop light (Gross Point Rd.) and turn right. Take Gross Point Road south to Oakton, and turn right onto Oakton. The entrance to the school is the first left after the bridge over the highway**. Due to school security, you must enter through the auditorium entrance in front of the building. Signs will guide you to the appropriate room(s).**

From West: Take Touhy east from I-294 to Harlem Ave. Turn left. Take Harlem north to Oakton. Turn right. Take Oakton east to the high school, and follow the directions above.