



The Pittsburgh Professional Engineer
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The Pittsburgh Chapter of the Pennsylvania Society of
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APPRENTICESHIP PROGRAM 2008 - 2009

The Apprenticeship Program has been an ongoing effort of the Pittsburgh Chapter since I, Virginia Dailey, began working with this organization, which is at least as far back as 1988. The number of participating students has increased to about 40, the capacity of our volunteer staff and hosting and scheduling capabilities. If there is one effort that this Chapter has pursued and maintained that truly reflects the efforts of the entire Pittsburgh engineering community, it is the Apprenticeship Program. In the November 2008 Newsletter, there was an article listing the visits and supporting engineering organizations who participate and make this program a success with us. Thank you to: **Astorino, Bombardier Transportation, DMJM Harris, HDR Engineering, Maglev, Medrad, Michael Baker Jr., Inc., Pittsburgh Materials Technology, Inc., University of Pittsburgh, UPMC and the Army Corps of Engineers.** Without these supporting organizations, this program would not succeed in showing young and talented students the wonders and interesting projects in the engineering world.

From time to time in the newsletter, we share the reports that the students are required to write and submit after their visits. Please read the very interesting and interested details they provide.

Jonathan Timcheck and Alexander Riddle — Group 1 Engineering Apprenticeship Medrad Report

Medrad Incorporated is a company that manufactures ways to improve medical imaging technology. As part of an engineering apprenticeship, Alex Riddle, Jonathan Timcheck, and the rest of our group visited the company on November 4th, 2008. While there, we learned about possible job opportunities at Medrad with a degree in engineering.

Once everyone had arrived, Susan Felix greeted us all and we told the group what school we were from and what type of engineering we were interested in. She showed us a video about Medrad and elaborated about what the company does. Medrad's main products are contrast injectors which improve the quality of medical imaging devices. They are a world leader in this technology.

The next presenter was Adrienne Fazio. Even though she has a degree in engineering, she deals mainly with marketing and improving upon the products. Her job is to find out what customers want in terms of modifications and interfaces. She then sits in on design meetings and her input helps increase sales and customer satisfaction of Medrad's products.

The third presenter was John Rovnan. John is the Senior Software Engineer. He writes some of the code for the machines. He is in charge of making the equipment work correctly with computers and making the computers easy to run. He passed around packets containing the actual code used in some of Medrad's machines.

Michael Swantner showed us how the small plastic components are designed and modeled with computer software. Medrad uses 3-D imaging programs to design and fit together components of the machines. When these models are created, there must be a margin of error calculated and incorporated to avoid mishaps and unusable parts. Michael also took us to a machine that tests materials to the breaking point and generates a stress over strain curve. This is used to determine the best materials for each component.

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MATHCOUNTS 2009 – February 21 PLEASE VOLUNTEER

This year is the 26th year of the Pittsburgh Chapter sponsoring the local competition portion of the National Mathcounts Competition. For the second year, the competition will be held at Robert Morris University, Sewall Center. We are looking forward to another successful competition.

One thing that does not change is the Chapters’ need for volunteers and companies who are willing to donate time and financial support for the competition.. We would like to extend a special thanks to the corporations and individuals for their historical support. We recognize these donations in the Mathcounts Competition Booklet and in the program and during the presentations at the National Engineer’s Week Banquet.

We would like to send out a request for individuals and engineering firms in the Pittsburgh area to consider financial support for this wonderful opportunity. There are many needs for this support. If you or your company would like to make a donation to MATHCOUNTS, please contact Virginia Dailey at ddengr@city-net.com.

If you may be interested in volunteering for the February 21, 2009 Competition at Robert Morris University, please contact Tom Schwartzmier via e-mail toms@nauticom.net.



Celebrate - National Engineers’ Week Banquet

This year, our celebration of National Engineers’ Week will take place at the Club at Nevillewood, on **Saturday, February 28, 2009**. Some of you may ask, “why then?” In order to be able to hold our Mathcounts competition at RMU, the competition needs to take place on February 21, 2009. As one of our special recognitions during our banquet is of the wonderful Mathletes who are the top team and individuals at our Chapter competition, we needed to be flexible and make our banquet on February 28th.

Mark your calendar for that Saturday evening. It is always a wonderful event and one of the times when we can recognize those within our profession who have excelled.

2008-2009 Chapter Officers

President – Tom Weber, P.E.	Executive Secretary – Jon Drosendahl, P.E.
President Elect – Dave Samek, P.E.	Treasurer - John Broscius, P.E.
Vice President – Joe Garlicki, P.E.	Financial Secretary - Reyman Branting, P.E.
State Director - David Briskey, P.E. 2005-2008	Immediate Past President – Virginia Dailey, P.E.

2007-2008 Chapter Directors

Vacant Position 2005-2008	Brian Schull, P.E. 2006 - 2009
Vacant Position 2006 - 2009	Kirk Thompson, P.E. 2007 – 2010



PENNSYLVANIA SOCIETY OF PROFESSIONAL ENGINEERS
PITTSBURGH CHAPTER

Invites all current and prospective members to the

January 23, 2009 Meeting

***Meet the State Board of Directors
& Presentation on State Rt. 28 Remediation***

Sheraton Four Points, Cranberry

On Friday evening, January 23, 2009 at the Sheraton Four Points, the Pittsburgh Chapter is proud to co-sponsor, in conjunction with the Beaver Chapter, a reception for the State Board of Directors for PSPE. In addition, there will be a presentation by James A. Foringer, Assistant District Engineer for PennDOT District 11-0 on "Rocks in the Road" – a picture presentation of the remediation of the Route 28 hillside. Those who travel this route are familiar with the origins and remediation of this work.

If time permits, there will be a short presentation by John Wanner on the status of the continuing education legislation for Pennsylvania.



Cocktails: 6:00 PM Social (Cash Bar) with Hors D'oeuvres
(Hors D'oeuvres sponsored by the Pittsburgh and Beaver Chapters)
Presentation by Mr. Foringer – 6:45PM
Socialization with the Board thereafter

In order for us to plan for the proper number of attendees, kindly make your reservation by filling in the form below and mailing or faxing it to the numbers indicated. You may also call in your reservation.

Name : _____

Guest: _____

Office Phone number (412) 391-0615

Office fax (412) 261-1606

(Mapquest: Four Points, 910 Sheraton Drive, Mars, PA 16046)

e-mail: PSPE@PittsburghPE.Org

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***PENNSYLVANIA SOCIETY OF PROFESSIONAL ENGINEERS
PITTSBURGH CHAPTER***

**Invites ALL Engineers and their guests to the Annual
NATIONAL ENGINEERS' WEEK BANQUET**

On Saturday, February 28, 2009

At The Club at Nevillewood, 1000 Nevillewood Drive, Presto, Pa. 15142

Please Join us for a wonderful evening of fellowship, great food
and the presentation of the 2009 Engineers' Week Awards

Cocktails: 6:30 p.m. (Cash bar)

Welcome & Presentation of Mathcounts Awards: 7:00pm

Dinner: 7:30 pm

Presentation of Awards: 8:30pm

You may make your reservation by filling in the form below and mailing or faxing it to the Chapter office. You may also phone in all of this information to us. If you opt to make your reservation via e-mail, do not e-mail your credit card info. Payment may be made by calling in your credit card info, faxing this filled in form, or mailing this form with credit card info or enclosing a check. **Cost of Dinner is \$57.00/person if reservations are made by February 13, 2008.** After that, the cost is \$65.00/person.

Office Phone number (412) 391-0615 e-mail: PSPE@PittsburghPE.Org

Office fax (412-261-1606) Mailing Address: PSPE, 337 Fourth Avenue, Pittsburgh PA 15222

Dinner Choice : Choose one of the following:

- Herbed Chicken** stuffed with spinach, prosciutto ham, swiss cheese and baked
 Nevillewood Spots, baked Tilapia lightly seasoned and dredged in fresh bread crumbs
 Roast Tenderloin of Beef, with mushroom sauce

Name : _____ Dinner Choice: _____

Name : _____ Dinner Choice: _____

Payment Options:

Credit Card: MASTERCARD VISA Card Number: _____ Exp. Date _____

Name (as it appears on the credit card): _____

Check enclosed payable to PSPE Pittsburgh Chapter & mailed to 337 Fourth Ave., Pittsburgh, PA 15222

Directions: On Mapquest.com, enter this address: The Club at Nevillewood, 1000 Nevillewood Dr., Presto, PA 15142

Apprenticeship Program 2008 - 2009



Abhinav Kalavar and Matt Getty – Group 3 Engineering Apprenticeship Maglev Engineering Report

Upon arriving at the Maglev laboratories for our apprenticeship, our group sat down in the meeting room for an incredible presentation describing the Maglev train in China and future projects potentially bringing the Maglev to Pittsburgh. What we consider the most impressive feat accomplished by the Maglev train is its economic and environmental friendliness. Economically, the train costs about as much money to build as a highway. However, in

respect to highway maintenance cost, the Maglev train's maintenance cost is only a fraction. Environmentally, the train does not use natural gas or fossil fuels to run. Therefore, its energy costs are almost negligible. After learning about the train itself, we moved on to the Pennsylvania High-Speed Maglev Project. The Pennsylvania High-Speed Maglev Project corridor extends from the Pittsburgh International Airport to Greensburg, with intermediate stops in downtown Pittsburgh and Monroeville. This initial project will serve a population of approximately 2.4 million people in the Pittsburgh metropolitan area. The Baltimore proposal is competing with the Pittsburgh proposal for a \$90 million federal grant. The point of the project is to see if the Maglev system can function properly in a U.S. city environment. After discussing the Pennsylvania Project, we concluded the presentation.

After completing the presentation, the entire group was given a tour of the Maglev facility. First, before going into the actual plant, we took a short tour of the upper classrooms where students from CCAC, Penn State Greater Allegheny, and Carnegie Mellon were taught by many knowledgeable professors. After putting on our hard hats and safety goggles and walking through the door, we were thoroughly impressed by the large trapezoidal box beams that were sitting near the entrance. These scaled-down models were actually pieces of the track that were used in the building of the high speed Maglev train. After that, the group got to see the lasers that were used for precise measurement of the trapezoidal boxes. These lasers took over 40 points on the boxes to get as accurate a measurement as possible. Once the demonstration of the lasers was finished, we walked past some of Maglev's best welders and got to see the robotic welding system that makes everything possible. These welding arms, controlled by computer, and the unique fit-up table sections that adjust the position of the beams, are the fantastic structures that build the car tracks. After thanking our tour guide and removing our safety gear, we left the plant and returned to the meeting room for the conclusion of our amazing tour.

(continued from page 1)

Bryan Pavlisko and Ryan Petrick gave us a tour of the electronics lab. They design circuit boards with microcontrollers and test them with various equipment. One of the tests dealt with possible radio wave emissions from devices Medrad designed. They showed us a specially built full-room chamber in which radio waves could not enter or escape so their radio wave antennas could catch any radio waves generated from a device. This test tells whether or not a device will pass federal regulations on radio wave frequencies.

Andy Hutelmyer and Lynn Flaherty presented industrial engineering concepts and thought processes. They explained how industrial engineers find ways to optimize efficiency to maximize profits. An industrial engineer at Medrad would be assigned to either manufacturing, global facilities, inventory planning, or supply chain optimization projects. For example, if a manufacturing process involved any non value added time (such as a worker waiting for new materials), an industrial engineer would try to find a way to turn that non value added time into value added time (possibly giving the worker a task while he/she would otherwise be waiting).

At Medrad, there are a wide variety of engineering positions. We learned each of these positions' differences and similarities. In all, we gained a clearer picture of what an engineering degree can really mean in a career at Medrad. We thank Medrad for their time and appreciate the valuable experience they provided us.

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2008-2009 CALENDAR

MEMBERSHIP EVENTS & MEETINGS

Date	Time	Description	Location
Jan. 23, 2009	6:30pm	Meet the State Board	Four Points Sheraton/Cranberry
Feb. 21, 2009	8:00am	MATHCOUNTS Competition	RMU
Feb. 28, 2009	6:30pm	Engineers' Week Banquet	The Club at Nevillewood
Mar., 2009	6:30pm	Monthly Meeting	ESWP
April, 2009	6:30pm	Monthly Meeting	ESWP
May, 2009	6:30pm	Monthly Meeting	ESWP
June 2008	TBD	Installation of Chapter Officers, & Recognition of Apprenticeship Participants	TBD

BOARD OF DIRECTORS MEETINGS WILL BE HELD ON: Feb. 12, 2009, Mar. 12, 2009, April 16, 2009, May 14, 2009 and June 11, 2009

All BOD meeting are to held @ 5:30PM @ the ESWP Building pending further notice.