



# SWE Outlook

September 2004

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We will gladly include news items and activities from SWE Student Sections and nearby SWE Sections in *SWE Outlook*. Announcements for other organizations will be included as time and space permit. Please send inputs to [Barbara.Faust@swe.org](mailto:Barbara.Faust@swe.org)

*SWE Outlook* is published on our website and is available for direct mail to Section Members and other interested parties in electronic and/or paper formats. Please forward your preferred e-mail address and option for electronic copy only or for both electronic and paper copies to [Carole.N.Stowell@lmco.com](mailto:Carole.N.Stowell@lmco.com) or [Barbara.Faust@swe.com](mailto:Barbara.Faust@swe.com).

## President's Corner

Welcome back to another year with SWE. Last year the board decided to try and improve member participation. We made great strides last year with attendance at monthly meetings doubling. Once again we are looking to improve participation, but in a broader sense.

Our goal for this year is to get 75% of our members to participate in at least one activity. That doesn't mean we expect everyone to attend a monthly meeting. You can participate in any number of ways. For example you could volunteer for the engineering mini-camp, work at the Girl Scout Junior Jamboree workshop, judge scholarship applications, present a Certificate of Merit award, or help out with a committee. Your participation can take as much or as little time as you have available. It is a great way to network with other SWE members and even improve your professional skills. Please look for calls to participate over the next year and take a look at our available committees.

Once again we will hold our meetings on the second Monday of the month. Our first meeting this year will be another social. The social last year was a great success, so we decided to do it again. The location will be the same place, Champps in King of Prussia, but we will meet for a casual meal in the side room. This will give us more space than we had last year and it will allow for better socializing. See Page 3 for more details.

*Heather Bernardin*

## Girl Scout Junior Jamboree

Junior Jamboree 2004 for the Freedom Valley Girl Scout Council will be held on October 1-3 at Camp Tohikane (near Quakertown, PA). The scouts are interested in having us provide some engineering workshops on Saturday, **October 2th**. There are four 30-minute workshop sessions, with the first starting around 9:00 am. Please contact Barbara Faust at 215-257-6463 or [Barbara.Faust@swe.org](mailto:Barbara.Faust@swe.org) for more information.

## Join the SWE-Philadelphia Team for a Five-Mile Walk to Fight Breast Cancer

Sunday, **October 10**, 2004 is the date for the fifth annual Making Strides Against Breast Cancer Walk in Philadelphia, and a team from SWE will again "fun raise" for this important cause. This five-mile walk to benefit the American Cancer Society starts at the Philadelphia Museum of Art, proceeds down West River Drive, and returns to the Art Museum. For more information, contact Lisa Colosimo at 610-219-6690 or [lisa.colosimo@siemens.com](mailto:lisa.colosimo@siemens.com). TOGETHER WE CAN MAKE A DIFFERENCE!

### The **SWE MISSION** is to:

- stimulate women to achieve full potential in careers as engineers and leaders;
- expand the image of the engineering profession as a positive force in improving the quality of life; and
- demonstrate the value of diversity

## SWE Calendar - FY04

Date	Event	Location
Sept 13	SWE-Philadelphia Section Social - Networking	Champps, King of Prussia
Oct 2 10 11 14-16	Girl Scout Junior Jamboree Walk for Breast Cancer Awareness Section Meeting - Professional Certification, speaker from PSPE SWE National Conference	Camp Tohikanee Philadelphia LaCampagnola, Lansdale Milwaukee, WI
Nov 8	Section Meeting - Project Management, speaker: Larry Cone	TBD, Horsham
Dec 13	Holiday Social	TBD
Jan	Section Meeting - Recycling Plastics, speaker from Merck Philadelphia Regional Future City Competition	TBD
Feb	Engineering Mini-Camp for High School Girls Engineers' Week Activities	Widener University Various
Mar	Joint meeting with another professional society Science Fair Judging AAUW Touch the Future Program	TBD Various TBD
Apr 11	Awards Banquet	Sheraton Parkridge, King of Prussia
May	Technical Tour Certificate of Merit Presentations	TBD Various
June	Section Planning Meeting Certificate of Merit Presentations	TBD Various

### Announcements

- The **2004 SWE National Conference: Engineers Leading Change** will be held on October 14-16, 2004 at the Midwest Express Center in Milwaukee, WI. Latest information and detailed descriptions of conference events may be found at [www.swe.org/2004](http://www.swe.org/2004). Conference registration may be made on-line at [www.swe.org](http://www.swe.org). Registration questions may be directed to SWE Registration by phone (312-596-5223), Fax (312-596-5252), or E-mail ([registration@swe.org](mailto:registration@swe.org)).
- **Call for Papers for ICWES 13:** The 13th International Conference of Women Engineers and Scientists (ICWES) will take place on August 28-31 at Ewha Woman's University in Seoul, Korea. This event is being organized by the Association of Korean Women Scientists and Engineers (KWSE) in conjunction with the International Network of Women Engineers and Scientists (INWES). The conference theme is *Women Engineers and Scientists: Main Force to Reshape the Future World*. Program areas are: Science and Technology, Information Technology, Nanotechnology, Biotechnology, Energy/Environment/Space, Education and Ethics, Gender Issues and Leadership. Deadline for submission of abstract is November 15, 2004. For updated information, please refer to the ICWES 13 website: [www.icwes13.org](http://www.icwes13.org) (If prompted to install a language pack, click "Cancel" and you will be able to view information in English.).
- **Become a Mentor:** New Media Charter School (NMTCS) is recruiting mentors for its inaugural ninth grade class scheduled to begin in September. NMTCS is supported by the Bill and Melinda Gates Foundation, the Black Alliance for Educational Options, and The Lotus Academy. This small, digital multi-media project-based high school will be located at 7800 Ogontz Avenue in West Oak Lane. NMTCS students will meet state academic standard through their choice of one of the following majors: Presentation Software, Digital Photography and Videography, Web Design and Development, and Video Game Design. As part of its educational programming, NMTCS has committed to providing a mentor for every student. Especially sought are mentors from the digital multimedia and other technology fields. Mentors will be expected to meet monthly with the student at the school. For additional information, please contact Keisha Hegamin at 215-717-3584, e-mail to [Keisha@BAEO.org](mailto:Keisha@BAEO.org), or visit NMTCS at [www.newmediatech.net](http://www.newmediatech.net).
- Lisa Colosimo, acting Section Membership Chair, is updating our Section e-mail lists using the information in the National on-line Member Directory. If your contact information is not current, please update your profile by sending an e-mail to [hq@swe.org](mailto:hq@swe.org). If you have stopped getting Section e-mails or if they are being sent to the wrong address, please send a message to [owner-phila\\_section@swe.org](mailto:owner-phila_section@swe.org).
- Access to the national **SWE on-line directory** requires your member ID and password. If you've misplaced or forgotten your password (or don't know your new member ID), please e-mail the member services center at [hq@swe.org](mailto:hq@swe.org).
- **SWE membership application form.** Download the form to be used for new member application or for requesting a membership upgrade from the national SWE website [www.swe.org](http://www.swe.org).

# Section News

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## Planning Meeting

Section officers and committee heads held a planning meeting on June 22, 2004 at the Merck Meeting Room in the North Wales facility to plan activities for FY05. The President's Letter describes our overall plan for the year.

The section meetings will include social/networking events, dinner meetings with speaker, a joint meeting with another professional society, and a technical tour. On-going student outreach activities will include: participation in the Philadelphia Regional Future City Competition and other Engineers' week events; staffing hands-on workshops for the Girl Scout and for the AAUW Touch the Future and programs, our Engineering Mini-Camp for High School Girls, judging at county and region science fairs; section scholarship and Certificate of Merit awards; and serving as SWE counselors to local SWE student sections. In addition, Section members plan to provide a SWE presence in community events such as the Walk for the Cure breast cancer awareness program. Your participation in just one of these activities can help us maintain a strong and active SWE Section.

## New Section Officers

Philadelphia Section Officers elected for FY04 are:

President	Heather Bernardin
Vice President	Lisa Colosimo
Section Representatives	Jennifer Garner Suzanne Rowland
Treasurer	Barbara Faust
Secretary	Carole Stowell

## Future City Volunteers Needed

Volunteers are needed to serve as mentors and judges for the 2005 Future City Competition. For more information, visit [www.futurecityphilly.org](http://www.futurecityphilly.org) or contact Jen Wetzel at [jwetzel@futurecityphilly.org](mailto:jwetzel@futurecityphilly.org).

## Section Volunteers Needed

Consider using SWE as a non-threatening environment for developing your management and organizing skills. By serving as a committee head or member, you may become more comfortable in delegating and/or sharing work with others. Check the Contact List on Page 11 to see if any of the open positions interest you. This year we are subdividing larger tasks into several smaller tasks to allow more people to participate and to ease the burden on any one person. For more information contact Heather Bernardin at 610-454-0146 or [habernardin@yahoo.com](mailto:habernardin@yahoo.com).

## September Meeting

### Welcome Happy Hour Social Event

All Section Members, especially those who are new to the Section and others who are interested in learning more about SWE-Philadelphia, are invited to join us in celebrating the upcoming year. This welcome meeting will help us get to know more about each other. Please bring your business card. Take advantage of this great opportunity to network and meet new people.

### Top 10 Reasons to Come to the SWE-Philadelphia Social

- 10) When else can a "Girls' Night Out." be considered "professional development"?
- 9) Find out what the Section has planned for the year.
- 8) No cooking and better yet....no cleaning!
- 7) Network, network, network.
- 6) A great excuse to blow your diet
- 5) Share your ideas about what you'd like to see from the section this year
- 4) It's Monday night...there's nothing good on TV anyway.
- 3) Catch up with old friends or meet some new ones.
- 2) Admit it....what's more fun than a room full of engineers? and the #1 reason to come to the SWE Philadelphia Social
- 1) We'd love to see you there!

Date: Monday, September 13, 2004

Time: 6 - 8 pm

Place: Champps Restaurant and Bar, Patio Room  
330 Goddard Boulevard (Mall Blvd & Goddard Blvd)  
King of Prussia, PA 19406  
610-491-8001

Cost: \$15.00 per person

RSVP: to Heather Bernardin,  
610-454-0146 or [habernardin@yahoo.com](mailto:habernardin@yahoo.com)  
by September 10, 2004

Please indicate meal choice:

Vermicelli Al Pomodoro  
Southwest Chicken Caesar Salad  
Thai Chicken Lettuce Wrap  
Cheeseburger

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Financial web site of interest [www.womenswallstreet.com/WWS/](http://www.womenswallstreet.com/WWS/)

# Philadelphia Section Highlights for FY 04

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## Overview

SWE-Philadelphia had a busy year, with at least 30% of our Section members participating in one or more local SWE activities. In addition, several members were active on SWE regional and/or national committees. We provided \$8000 in scholarship awards to outstanding female students enrolled in engineering, computer science, or engineering technology programs at schools located within the Philadelphia Section boundaries. We also provided a \$500 Science Fair award for an outstanding project by a 12th grade girl who will be attending an accredited engineering school in the fall. Certificates of Merit were awarded to 244 girls from 85 high schools in our section. We served as judges and provided awards for the Philadelphia Regional Future City Competition, the Bucks County Science Fair, and the Delaware Valley Science Fairs. Our Fifth Annual Engineering Mini-Camp was a success with participation

by 83 high school girls, about 60 parents, and 33 professional and student volunteers. About 90 scouts participated in our Chocolate Asphalt workshops at the Freedom Valley Girl Scout Junior Jamboree and we conducted three different engineering workshops for middle school students at the AAUW Touch the Future Program. Section meetings included two successful networking socials, a dinner meeting with a speaker, two business communications seminars, a joint meeting with another professional society, and general business/planning meetings. The Lockheed Martin SWE Subsection in Moorestown, NJ hosted a Women in Engineering day for 10th grade students and conducted a panel discussion on Careers in Engineering at Drexel University. For the second year, a SWE-Philadelphia team joined in the Five-Mile Walk to Fight Breast Cancer.

## Meetings and Other Events

- **Social/Networking Meetings** Kick-Off Social on September 8, 2003 at Champps Americana in King of Prussia and Holiday Party on December 8, 2003 at the Manayunk Brewery and Restaurant in Manayunk. These successful networking events provided opportunities for members and guests to learn more about the Section and each other.
- **Dinner meeting** on October 13, 2003 at Sping Hill Suites in Willow Grove. Lynda Brittain, Financial Advisor and Chartered Financial Consultant, provided valuable tips for keeping the financial house in order when facing major life changes such as marriage, the arrival of a new child, layoff from a job, and retirement. Meeting turnout was good, and the Q&A session was both lively and informative.
- **Joint dinner meeting** with ISA, the Instrumentation, Systems, and Automation Society, on January 21, 2004, at the Siemens Campus in Fort Washington. Joe Valencia for AutomaTech, Inc. provided an interesting overview of web-based technologies and several vendors provided displays and personnel to discuss specific applications. The meeting was a success and both ISA and SWE are looking forward to other joint meetings.
- **Planning Meeting** on June 22, 2004 at the Merck facility in North Wales. The Board and other interested members met to review section status and plan events and activities for FY05.
- **Awards Banquet** on April 19 at the Sheraton Park Ridge in King of Prussia to honor our FY04 scholarship recipients and recognize contributions of our corporate sponsors. Guest speaker Suzanne Chiavari, P.E., Philadelphia Section Member and Senior Operations Engineer at long-time corporate sponsor American Water, shared her career experiences as a woman engineer and provided advice and encouragement for both members and award winners.
- Participation in the **Making Strides Against Breast Cancer Walk** on October 12;2004. The SWE team of Nicole Johnson, Lisa Colosimo, Jennifer Garner, Lindsay Mussleman and Nicole's mother and niece raised over \$1200, which is about 2.5 times what was raised in the previous year.
- **Participation in Region and National Events**
  - ▶ Susan Best, Region E Bylaws Chair and member of the national Bylaws Committee, represented our section in the historic discussions and voting to significantly change the organizational structure of the Society at the National Conference in Birmingham, AL on October 9-11, 2003.
  - ▶ Rachel King represented the Section at the Region E Meeting on March 5-7, 2004 in Baltimore, MD.
  - ▶ During the Membership Meeting at the National Conference, **SWE Outlook** was named FY03 Best Section Newsletter- Medium Section and the Section received a \$50 award.

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*The SWE Vision is to be the recognized authority on, and advocate for, women in engineering*

# **More Philadelphia Section Highlights for FY 04**

## **Student Outreach and Award Programs**

### **Freedom Valley Girl Scout Council Junior Jamboree 2003**

By special request, we again presented our Chocolate Asphalt workshop at the Girl Scout Junior Jamboree on October 4, 2003 at Camp Towihanee near Quakertown, PA. About 90 scouts, some leaders, and SWE-Philadelphia members Jen Troeschel, Maggie Schwartz, and Barb Faust participated in the workshops.

### **Philadelphia Regional Future City Competition**

Teams of 7th and 8th graders from 44 schools within the Philadelphia Region participated in this competition that included designing a city of the future, building a working model of a portion of their city, writing an essay about city planning and design issues, and verbally presenting their city design to a panel of judges from the engineering, planning, and architectural communities. Judging took place at Widener University on January 24, 2004. SWE members served as Volunteer Coordinator (Jen Wetzel), Judging Coordinator, (Susan Best), Essay Judge (Maggie Schwartz), Special Awards Evaluator (Danielle Cunne, Michelle Fuller, Antionette MacIntyre, Lindsay Musselman, Jennifer Vondran/Drexel SWE), and Preliminary Judges (Preasha'a Brittingham and Betty Jacob). Ridley Middle School received the SWE-Philadelphia Section Award of \$250 for the project that best incorporates "Quality of Life" considerations (ergonomic features) in the city design.

### **12th Annual AAUW Touch the Future Program**

For the fourth year, SWE-Philadelphia conducted hands-on workshops at the Touch the Future (TTF): A Celebration of Women in Math and Science program sponsored by the American Association of University Women (AAUW) for middle school students. At this event, which was held on March 20, 2004 at the Pennbrook Middle School in Lansdale, PA, each student could participate in up to five 30-minute workshops that represent a wide range of scientific and engineering activities. Workshops by SWE members included: H2Olympics by Kathryn Smith, Polymer Possibilities by Danielle Dunn, and Roller Coasters by Barb Faust and Maggie Schwartz. At least 80 students participated in the workshops.

### **Container Design Project**

SWE members Doreen Nixon and Barb Faust served on the Review Board held on May 25, 2004 at Archbishop Ryan High School in Philadelphia to evaluate container design projects developed by teams of calculus students at the school. The students use engineering problem-solving techniques and a decision matrix to determine the best design solution for their proposed product based on consideration of at least three different shapes, surface area, and at least three other criteria such as cost, usability, aesthetics, liability, or environmental impact.

### **SWE-Widener Engineering Mini-Camp**

Each high school girl could experience 4 of 10 different workshops in the Fifth Annual SWE-Widener University Engineering Mini-Camp for High School Girls held at Widener on February 7, 2004. Participants in this event included 83 high school girls, about 60 parents, and 33 volunteers representing undergraduate and graduate engineering students, engineers, and engineering professors from a range of engineering disciplines. SWE volunteers from the Philadelphia and DelMar Peninsula Sections included Vicki Brown, Widener Civil Engineering Department Chair who has organized and coordinated each of the camps, Doreen Nixon, Christine El-Beyrouy, Regina Bowie, Amy Koser, Sue Ford, Karyn Witkowski, Laura Felten, MaryAnn Skeehan, Jen Garner, Carole Stowell, Yun Gong, Renee Nussbaumer, Tricia Bailey, Diane Ess, Lisa Colosimo, Maggie Schwartz, Monica Sweeney, Danielle Dunne, Susan Gianantonio, Barb Faust, and Ayana Wood. Widener undergraduate and graduate student volunteers included Sabrina Chowdhury, Shiny Mather, Nehlima Thota, Michelle Marolda, Neeta Barathansur, Megan Winkelman, Jen Hayes, Melissa Devlin, Lauren Conova, Sharmila Rao, Renee Robert, and Lindsey Smith.

### **Certificate of Merit Program**

SWE-Philadelphia participates in the national Certificate of Merit program to recognize high school girls who have achieved three years of excellence in their math and science courses and who are active in their school or community. This year personalized certificates were awarded to 244 girls from 85 schools within our area. Section members who participated in the school award ceremonies included Ayana Wood, MaryAnn Skeehan, Carole Stowell, Lindsay Musselman, Jen Wetzel, Barb Faust, and Lisa Colosimo.

### **Women in Engineering Programs**

A Women in Engineering day for 10th grade students was hosted by the Lockheed Martin Subsection at the NESS facility in Moorestown, NJ on November 21, 2004. Engineering students from Drexel and Rutgers were on hand to interact with the girls. The Subsection also conducted a panel discussion at Drexel University on Careers in Engineering. Participants included Doreen Nixon, Lisa Colosimo, two Drexel professors, and several LM engineers.

### **Outreach to Local College Students**

As a general practice, students are invited to Philadelphia Section events and student meal costs are subsidized by the section. SWE-Phila members also serve as SWE Counselors to local SWE Student Sections to provide a liaison between the students and the Section. SWE Counselors for FY 04 included: Heather Bernardin at Villanova University, Michelle King at Drexel University, MaryAnn Skeehan at Widener University, and Jennifer Garner at Swarthmore College.

# More Philadelphia Section Highlights for FY 04

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## Student Outreach and Award Programs Continued

### Science Fair Awards

SWE-Philadelphia provides Special Awards for the best engineering or engineering-related projects by girls in science fair competitions within our area. The students enter their projects in one of 14 science fair categories. In FY04, we provided special judges and awards for the Bucks County and Delaware Valley competitions. SWE-Philadelphia members also served on the Special Awards team for the Lehigh Valley competition. We are pleased that several of the our SWE award winners were also selected as "Category" winners who advanced to the next level of competition. Each SWE award recipient receives a personalized SWE Science Fair Award Certificate. The SWE First and Second Place awards also include a book (e.g., *The Way Things Work*, *How Stuff Works*, *Science Encyclopedia*, *Scientific Inventions*) or a book gift certificate to Waldenbooks for \$50 or \$35. We also have a scholarship award of \$500 for an outstanding project by a senior high school girl who will be an in-coming freshman in an engineering program at an ABET-accredited school.

The **Bucks County Science Research Competition** was held on March 9, 2004 at Delaware Valley College: Barb Faust and Maggie Schwartz served as Special Awards judges. Each SWE First Place, Second Place, and Honorable Mention winner received a personalized SWE Certificate of Achievement, books and/or book gift certificates were also given to First and Second Place winners. Recipients of the SWE Special Awards for the Bucks County competition are:

#### C Fair for 10th, 11th, 12th Grade Students

First Place: **Elena Glassman**, 12th grade, Central Bucks High School West, Doylestown, PA, *Brain-Computer Interface for the Muscularly Disabled*

Elena advanced to the DVSF and ISEF competitions.

Second Place: **Maria Rozploch**, 11th grade, Villa Joseph Marie High School, Holland, PA, *Beyond JPEG - Can Advanced Image Compression Techniques Be Used to Improve Beyond Today's Industry Standard?*

Maria advanced to the DVSF competition.

Honorable Mention: **Christina Amodei**, 11th grade, Villa Joseph Marie High School, Holland, PA, *How's the Weather Up There?*

Christina advanced to the DVSF competition.

#### D Fair for 9th Grade Students

First Place: **Kristen Beebe**, Villa Joseph Marie High School, Holland, PA *High Tension Fruits and Vegetables*

Kristen advanced to the DVSF competition.

#### E Fair for 6th, 7th, and 8th Grade Students

First Place: **Michele Daukas**, 8th grade, Log College Middle School, Warminster, PA, *Noise, Noise, Noise: An Attempt to Build a Better Muffler.*

Michele advanced to the DVSF Competition.

Second Place: **Caroline Lang**, 7th grade, Independence Home School, Yardley, PA, *Design of a Video System to Assure Doneness in Hamburger Cooking.*

Caroline advanced to the DVSF competition.

Honorable Mention: **Adria Lamba**, Lenape Middle School, Doylestown, PA, *Without a Trace; Uncovering the Best Invisible Inks.*

Honorable Mention: **Ruth-Anne Langan**, Klinger Middle School, Southampton, PA, *Conductors vs. Insulators*

The **Lehigh Valley Science Competition** was held on March 13, 2004 at Lehigh University. SWE-Phila members Barb Faust and Lindsay Mussleman served on the SWE Lehigh Valley Special Awards judging team.

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The **SWE OBJECTIVES** are:

- to inform young women, their parents, counselors, and the general public of the qualifications and achievements of women engineers and opportunities open to them;
- to assist women engineers in readying themselves for a return to active work after temporary retirement;
- to serve as a center of information on women in engineering; and
- to encourage women engineers to attain high levels of educational and professional achievement.

# More Philadelphia Section Highlights for FY 04

## Science Fair Awards, continued

The **56th Annual Delaware Valley Science Fairs** (DVSF) competition was held on April 7, 2004 at the Fort Washington Expo Center. Student competitors in this event are medal winners from the 12 regional fairs in Delaware, Southern New Jersey, and Southeastern Pennsylvania. DVSF awards First Place, Second Place, Third Place, and Honorable Mention for each of the 14 judging categories in each of the five fairs in the competition. The overall DVSF medal winners in the upper four fairs (high school students) and teacher/advisor for the Gold and Silver Medal winners earn an all-expense-paid trip to the 55th International Science and Engineering Fair (ISEF) that was held this year in Portland, Oregon on May 9 through 15. The eight DVSF gold and silver medalists also win the right to compete against medal winners from other regional fairs throughout the U.S. and the world. SWE-Phila Special Awards judges included Maggie Schwartz, Carole Stowell, and Barbara Faust. Each SWE award winner received a personalized SWE Certificate of Achievement. First and Second Place winners also received a book or a book gift certificate. This year we were also able to provide a scholarship award to a 12th grade girl who has an outstanding project and has been accepted in an engineering program at an ABET-accredited school. Recipients of the FY04 SWE Special Awards at the DVSF are:

### Delaware Valley Science Fair (12th Grade)

First Place: **Elena Glassman**, Central Bucks High School West, Doylestown, PA *Brain-Computer Interface for the Muscularly Disabled*.

Elena also won DVSF First Place in the Computer category and was named Silver Medalist in the fair and advanced to the ISEF competition where she received the Grand Award of First Place and several Special Awards in Computer Science. Elena has selected MIT for her engineering studies.

Second Place: **Karen Thudium**, Souderton Area High School, Souderton, PA, *The Race for Blinding. A Comparison of Solid Phase Supports*.

Karen also won DVSF First Place in Chemistry.

### Marie Curie Science Fair (11th Grade)

First Place: **Maria Rosploch**, Villa Joseph Marie High School, Holland, PA, *Beyond JPEG - Can Advanced Image Compression Techniques Be Used to Improve Beyond Today's Industry Standard?*

Maria also won DVSF Third Place in Engineering.

### Ben Franklin Science Fair (10th Grade)

First Place: **Anjali Gupta**, Charter School of Wilmington, Wilmington, DE, *Transgenic Plants and Vaccines*.

Anjali also won DVSF Second Place in Botany.

Second Place: **Sarah Genter**, The Pilgrim Academy, Egg Harbor City, NJ, *Can a Blend of Volvox and Oscillatoria Recycle Carbon Dioxide, Nitrate, and Fecal Material into Dissolved Oxygen and the Original Components?*

Sarah also won DVSF Honorable Mention in the Environmental category.

Honorable Mention: **Becky Lineman**, Bishop McDevitt High School, Wyncote, PA, *An Electrostatic Thermal Super Insulator*

### Benjamin Banneker Science Fair (9th Grade)

First Place: **Tori Chu**, Charter School of Wilmington, Wilmington, DE, *The Fourth State of Matter*,

Tori also won DVSF First Place in Engineering and was named Gold Medalist in the fair, which advanced her to the ISEF competition where she received a Special Award of First Place in Engineering from DuPont's Center for Collaborative Research and Education.

Second Place: **Victoria Arena**, Mt. St. Joseph's Academy, Flourtown, PA, *All Golf Balls Are Not Created Equal: Does a Golf Ball's Core Affect its COR?*

Honorable Mention: **Christina Powell**, Parkland High School, Allentown, PA, *Up, Up, and Away! The Effect of the Width of the Wings Has on an Airplane*

Honorable Mention: **Eileen Ke**, Germantown Academy, Fort Washington, PA, *Predicting Weather*

Eileen also won DVSF First Place in Computers and was named a Silver Medalist in the fair and advanced to the ISEF competition where she received a Grand Award of Third Place in Mathematics.

### Albert Einstein Science Fair (6th-7th-8th Grades)

First Place: **Michele Daukas**, 8th grade, Log College Middle School, Warminster, PA, *Noise, Noise, Noise: An Attempt to Build a Better Muffler*.

Michele won DVSF Honorable Mention in Engineering.

Second Place: **Caroline Lang**, 7th grade, Independence Home School, Yardley, PA, *Design of a Video System to Assure Doneness in Hamburger Cooking*.

Caroline also won DVSF Third Place in Engineering.

Honorable Mention: **Jennifer Feldman**, 8th grade, Mast Charter School, Philadelphia, *Soundproofing*  
Christie was also awarded Third Place in Chemistry.

Team Award: **Alyssa Schulz, Victoria Bacon, Katherine Branca**, 7th grade, Ursuline Academy, Wilmington, DE, *Which Wheels Work Best?*

This team also won DVSF First Place in Team Projects.

# More Philadelphia Section Highlights for FY 04

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## Philadelphia Section Scholarship Award Program

The SWE-Philadelphia Scholarship Program provides awards for full-time undergraduate and graduate female students enrolled in an engineering, engineering technology, or computer science program at a school located within the Section's geographic boundaries (essentially all of southern Pennsylvania east of the Susquehanna River). The criteria for selection include academic performance, science/math/engineering activities, teamwork, leadership, and an essay on the student's personal motivations for studying engineering. Thanks to the generosity of corporate and member sponsors, this was the tenth year that we were able to provide financial assistance to women students in our area. This year we provided eight scholarship awards of \$1000 each, with named awards to honor donors of \$1000 or more. We are pleased to announce the following FY04 Scholarship Award recipients.

### **Sabrina Chowdhury** **Lockheed Martin Award**

Sabrina is a senior in Mechanical Engineering at Widener University. Her senior project was to design, build, and fly a model radio controlled aircraft. She has performed research projects on her own, presenting results to the American Institute of Aeronautics and Astronautics and the American Helicopter Society. The AHS awarded her 2nd place for the presentation competition. During summer 2003, she worked on a project on "Dielectric Elastomer Artificial Muscles" through the National Science Foundation Research Experience for Undergraduates at the Pennsylvania State University. Sabrina served as captain of both the Widener University Women's soccer and tennis teams and is a member and officer of the University Honors Program.

### **Jennifer Hays** **Lockheed Martin Award**

Jennifer is a junior in Electrical Engineering at Widener University. She is concentrating on computer architecture and programming. In her current co-op assignment at Triumph Controls she is designing electrical tests for the qualification of new products in the aerodynamics field. She has completed a class project to design and program an EKG monitor that would transmit a wireless signal from a patient's heart rate to a monitoring station via blue tooth technology. Jennifer is active with both the Widener University Girls' Camp and the SWE-Widener Engineering Camp where she enjoys working with high school students in the LEGO Mindstorms lab, building and programming robots to go through a maze.

### **Melissa Simon** **Rohm & Haas Award**

Melissa is a junior in Bioengineering at the University of Pennsylvania. She has completed several summer research assignments, one through the Food and Drug Administration and two through the Immune Tolerance Network. She helped develop protocols and programmed

systems for sample tracking related to the study of tolerance in humans to kidney and liver transplants. Her current laboratory experience at Penn involves research with brain injury; she performs immunofluorescence-staining experiments and stress-strain experiments on neurons and astrocytes. She is currently taking a course "Preceptorship in Clinical Bioengineering" which includes hands-on experience working with clinicians in the hospital's pediatric cardiology department. Melissa is a member of the Alpha Phi Sorority and serves as the director of scholarship for its 120 members. She worked on the committee to plan the annual philanthropy event, Heartthrob.

### **Regina Cagle** **Rohm & Haas Award**

Regina is a freshman in Electrical Engineering at Drexel University. She found her interest in engineering through pre-college programs at Rice, Rensselaer, Dartmouth, and Worcester Polytechnic Institute and is now a STAR scholar (Students Tackling Advanced Research) at Drexel. Regina plans to work with a Drexel Electrical Engineering professor and staff on a research project for a pressure-sensor designed for insertion into the human eye to test pressure gradients and fluctuations. This research is funded by NASA due to the potential applications for astronauts. Regina has performed extensive volunteer work at Drexel and the Philadelphia community: She spoke to freshman girls at Springside High School about engineering and worked with them on bridge design projects, mentored a FIRST robotics team at Cheltenham High School, and launched the Drexel University / City High School partnership of Mathematics Engineering Science Achievement to work with high school students weekly on science lab projects. Regina is a member of the Society of Hispanic Professional Engineers, MESA, and Women in Engineering.

*Humor is a presence in the world - like grace - and shines on everybody.  
.....Garrison Keillor*



# **More Philadelphia Section Highlights for FY 04**

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## **Scholarship Winners, continued**

### **Renee Robert American Water Award**

Renee is a junior in Civil Engineering at Widener University. She first became interested in structures through the Odyssey of the Mind competition for elementary school students and continued to explore civil engineering through junior high school science fair competitions. Renee participated in the Delaware Valley American Concrete Institute's Concrete Beam Competition and the Fiber Reinforced Polymer Composites Competition. Her team placed 2nd internationally in the composites competition. She completed summer work assignments at Keystone Consulting Engineers and Lehigh Valley Technical Associates, exploring the highway systems and structural design aspects of the civil engineering field. Renee serves as a math center tutor and a peer academic advisor at Widener University and participates in the SWE-Widener Engineering Girls Camp. She has served as the secretary for the university section of the American Society of Civil Engineers for 2 years.

### **Marla K. Stump Merck Award**

Marla is a junior in Bioengineering at the University of Pennsylvania. She is pursuing this engineering degree before going on to medical school. She has worked in the Bioengineering Injury Lab at Penn for the past two years, including design work for cell preparation monitoring and calibration of force transducers. She spent one summer working in a neurological research lab in Phoenix, AZ, designing a method to study three-dimensional cell invasion. Marla spent a semester abroad in Sydney, Australia to learn about the field in another culture. She is a member of the Society of Bioengineers, and was co-chair of the Penn SWE Student Section corporate dinner event.

### **Lindsey Smith Philadelphia Section Award**

Lindsey Smith is a junior in Civil Engineering at Widener University. She looks to use her knowledge and experience to improve community life around her. She won the Delaware Valley Engineers Week technical paper contest and competed in the Delaware Valley American Concrete Institute's Fiber-Reinforced Polymer Composites concrete beam contest. Lindsey plays in the Widener University String Ensemble and serves in Alpha Phi Omega service fraternity. She participated in the Robotics, Aerodynamics, and Chocolate Asphalt labs for the SWE-Widener University Engineering Girls Camp. Lindsey devotes her time to others through Habitat for Humanity's Alternative Spring Break where she worked with 20 others to build a home in one week and took a leadership role in the ground crew.

### **Angela Woodall Philadelphia Section Award**

Angela Woodall is a freshman in BioEngineering at the University of Pennsylvania. She is performing research on new surgical devices, using finite element analysis, with a spinal surgeon at the Hospital of the University of Pennsylvania. Working with another student, she designed a spinal disc implant and obtained a provisional patent with backing from the spinal surgeon. Angela entered and won a high school science fair with an invention for an Abdominal Aortic Aneurysm (AAA) stent, which she developed after learning about related technology shortfalls from a surgeon's lecture. With help from the Weiss Tech House at Penn, she has obtained a provisional patent for her AAA stent and is currently developing the design further with plans to incorporate soon. Angela was active in her high school drama productions and served as stage manager for three years, each time taking on larger and more challenging productions with a leadership role.

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# **Professional Development**

## **Educational Programs for Fall 2004**

Courses offered by **The Engineers' Club of Philadelphia** for Fall 2004 are listed below. Two Continuing Education Units (CEUs) may be granted for each course. Upon request, the 2005 dues and application costs for initial membership in The Engineers' Club of Philadelphia will be waived for those taking an 8, 9, or 10 session Engineers' Club course. For registration and detailed course information, please call Tom Payne, Director of Education, at 215-985-5701 or e-mail: [info@engrclub.org](mailto:info@engrclub.org).

### **Construction**

- C-1 The 2003 International Building Code - 10 weeks starting Mon 9/20/04, 6-8:30 pm, \$600
- C-2 Home and Building Inspection - 10 weeks starting Mon 9/20/04, 6-8 pm, \$500
- C-3 Construction Project Management - 8 weeks starting Wed 9/22/04, 6-8:30 pm, \$500; Option to take 4 sessions of Planning & Scheduling for \$275 or 4 sessions of Estimates & Financial Control for \$275
- C-4 Construction Issues on Coordination and Responsibilities - 10 weeks starting Tues 9/21/04, 6:30-8:30 pm, \$500
- C-5 Owners Representative for Construction - 9 weeks starting Thurs 9/23/04, 6:30-8:30 pm, \$500
- C-6 Contracts, Specifications, and Law for Contractors and Engineers - 10 weeks starting Mon 9/27/04, 6-8 pm, \$500

### **Electrical**

- E-1 Basic Protective Relaying - 10 weeks starting Wed 9/22/04, 7-9 pm, \$500
- E-2 Fundamentals of Instrumentation and Control - 8 weeks starting Thurs 9/23/04, 6:30-8:30 pm, \$550
- E-3 Fiber Optics & Network Wiring - 12 weeks starting Tues 9/21/04, 6:30-8:30 pm, \$650

### **Fire Protection Engineering**

- F-1 Fire Alarm & Detection Systems - 10 weeks starting Mon 9/20/04, 7-9 pm, \$500
- F-2 Advanced Sprinkler Systems Design - 10 weeks starting Wed 9/22/04, 6-8 pm, \$500

### **Mechanical**

- M-1 Heating & Ventilation - 10 weeks starting Wed 9/22/04, 7-9 pm, \$600
- M-2 Basic Piping Design - 10 weeks starting Tues 9/21/04, 6:30-8:30 pm, \$500
- M-3 Air Conditioning - 10 weeks starting Wed 9/22/04, 7-9 pm, \$500

## **Fall 2004 Engineering Tours of the Delaware Valley**

The Engineers' Club of Philadelphia sponsors a series of tours geared to the technical professional. Participants may be awarded 2.5 Professional Development Hours (PDHs) per tour for P.E. license renewal requirements. Anyone can participate in these tours; Club membership is not required. The cost is \$10 per person per tour; Engineers' Club members and one guest may attend at no charge. Tour group size is limited to 40 persons and participants must be at least 12 years old. Tour reservations are on a "first come, first served" basis. For more information, please contact The Engineers' Club directly by phone at 215-985-5701, e-mail to [info@engrclub.org](mailto:info@engrclub.org), or Fax to 215-985-5704.

**United States Mint**, Philadelphia, PA on Wednesday, September 15, 2004 at 9 am - See engraving and production of dies for US coins and medals as well as production of actual coins and medals. Birthdates and social security numbers are required to gain admission.

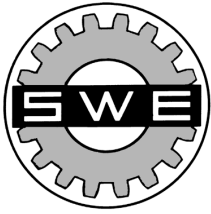
**Police Forensics Laboratory**, Philadelphia, on Wednesday, September 29, 2004 at 12 noon - Visit this newly constructed facility which provides invaluable support and assistance to the Police Department in its crime-solving efforts.

**Lincoln Financial Field**, Philadelphia, PA on Wednesday, October 13, 2004 at 3 pm - See this new facility which serves as the home of the Philadelphia Eagles. Lincoln Financial Field has been named the Notable Engineering Achievement for 2004. Tour group is limited to 30 persons.

**Mutter Museum**, Philadelphia, PA on Saturday, October 23, 2004 at 10 am - Visit this historic museum which has been established by the College of Physicians. The museum is replete with fascinating medical displays and curiosities.

## **A Ground-Breaking Masters Degree at Villanova University**

Combining expertise from the business and engineering faculty, the Master of Technology Management (MTM) is designed for practicing engineers who want to move forward in their chosen field and acquire competence in business and management practices. By choosing an area of specialty, students customize the curriculum and master state-of-the-art fields in engineering. With a well-rounded education, graduates of the MTM Program will be truly ready to embrace broad responsibilities, manage the challenges of information technology, and most importantly, provide innovative solutions to both clients and employers. If you have your eye on the future, contact Karen Ringlaben, Coordinator of Graduate Business Programs, College of Commerce and Finance, Villanova University, at 610-519-6959, e-mail to [mtm@villanova.edu](mailto:mtm@villanova.edu), or visit Web site: [www.gradbusiness.villanova.edu](http://www.gradbusiness.villanova.edu).



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## **SWE Philadelphia Section Newsletter September 2004**

### **Philadelphia Section Social**

Catch up with old friends, make some new friends, network and learn more about the Section  
Monday, September 13, 2004  
6 to 8 pm  
Champps, King of Prussia, PA  
RSVP to Heather Bernardin by September 10, 2004

Newsletter copying and distribution is underwritten by a grant from  
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*Thank you!*

*The Society of Women Engineers is a non-profit, educational service organization  
dedicated to making known the need for women engineers and  
encouraging young women to consider an engineering education.*