



SWE Outlook

May/June 2005

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We welcome your contributions
to *SWE Outlook*!

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 Barbara.Faust@swe.com.

President's Corner

While the year is winding down and the weather feels more like summer than spring, there are still a few activities planned. The planning meeting will be held at 6pm on June 13th. All are welcome to attend, and the board looks forward to your inputs for FY06. Look for details about the planning meeting in an upcoming e-mail or contact me at habernardin@yahoo.com or 610-454-0146. It is also time again for the high school Certificate of Merit awards; see page 8 for details. We are also still considering a facilities tour of the new Phillies ballpark. The tours start between 10am and 3pm Monday-Friday. We had originally planned on doing this in May but decided to postpone until after the school year ended so that families could attend. If this is something you would be interested in, please let me know so that I can move forward with the plans. Finally, it is time once again to vote for section officers. Please return your ballots to Jen Wetzel by May 30th.

As you will read in the Region E Conference report on page 3, we are considering putting in a bid to host next year's Region E conference. Jen Garner will be taking the lead on this, so please contact her at foilfencer27@verizon.net, if you are interested in helping out. If you have never attended a Region conference, it is a lot of fun and very informative. It is also a great place to network.

Several weeks ago I updated the section e-mail list based on the SWE national online database. If you are not receiving section e-mails, let me know. I recommend being on the e-mail list as it is the board's quickest way to get up-to-date information out to the section. Also we are using the preferred mailing list from this database to send out hard copies of the newsletter. To update your information go to <http://www.swe.org> and select member login. Your login information is on your renewal form or you can select the "forgot your login..." link if you don't have the information.

Finally, I want to thank everyone involved in making this year's scholarship awards successful. Thanks go out to the scholarship committee, the scholarship judges, the science fair judges, corporate liaison, publicity and last but not least all of the corporations and members who made generous donations. Without all of your help we could not have awarded 6 college scholarships and 1 science fair scholarship.

Heather Bernardin

Planning Meeting: 2006 and Beyond!

We'll discuss plans for next year, from meeting topics and technical tours, to the regional conference. Come share your ideas and your vision for SWE-Philadelphia!

Date: Monday, June 13, 2005 **Time:** 6-8 pm **Place:** TBD
RSVP: Heather Bernardin, habernardin@yahoo.com, 610-454-0146

SWE Calendar of Events - FY05

Date	Day	Event	Location
May - Sept.		Technical Tour Certificate of Merit Presentations	TBD Various
June 13	Mon.	Section Planning Meeting Certificate of Merit Presentations	TBD Various

Announcements

- Don't forget to renew your membership in national SWE at www.swe.org/renew !
- **New SWE National President:** SWE has formally inducted the fiscal year 2005 elected board of directors and president of the Society, including DuPont engineer Ronna Robertson as president elect. She will take office July 1, with formal installation in office to take place in Wilmington, DE on August 19. Ronna, a senior life member of the Society, will serve as SWE president-elect for one year. She has been a member of the organization for 16 years and began her SWE membership as a student at Purdue University. Ronna is a Six Sigma Black Belt and has been a DuPont employee for six years.
- **"Mom-trepreneur" Opens a Business with a Purpose:**

SWE member Susan Sciarratta is a professional engineer, and has worked in the environmental field for over 14 years. So what is the most challenging job she has faced so far? Parenting. Ever since 2001, when the first of her two children was born, Susan has sought that hard-to-find balance between work and family.

Recently, Susan quit her job at the U.S. Environmental Protection Agency to spend more time at home with her family and to focus on her new part-time business, "Young Engin'uity." Established in January 2005, Young Engin'uity offers hands-on workshops to kids of all ages on science, engineering, and the environment. The venues may include public and private schools, homeschool groups, churches, Parks and Recreation programs, Scouting groups, YMCAs, summer camps, and private parties.

"My workshops are all hands-on and very interactive, because that enables kids to participate in the learning process in a fun and meaningful way," says Susan. It is widely accepted that there is an increasing gap between the demands of our technology-driven society and the number of future scientists and engineers who can meet these demands. Moreover, several national commissions and studies on this issue have consistently pointed to the lack of science and technology proficiency in the K-12 age group, and the need for more and better science, math, and technology education for children. "If I can put even the smallest dent in this wall, and perhaps inspire some future engineers, then that will be the greatest reward," says Susan, who, as a female engineer, is eager to be a role model.

Examples of programs that Young Engin'uity provides include: *Designs on the Future* (an introduction to engineering), *Surf the 'Shed* (about watersheds and water quality), *Fearless Physics*, *What's Your Habitat*, and *Subsurface Sleuths* (about aquifers and groundwater pollution). Currently, Susan is developing some summer camps, including an engineering camp that was inspired by the popular television show, "The Apprentice." But will campers get fired one by one? "Not at all," says Susan, "Actually, we intend to keep it positive by selecting a 'Most Valuable Engineer' for each design challenge."

Interested teachers, program directors, scout leaders, and parents may reach Susan Sciarratta at 215-579-1377 or at youngenginuity@comcast.net.

Section News

Region E Conference Report: Rochester, NY - April 2005

by Jen Garner

This year's student and professional conference was held April 8-10 in Rochester NY. Between the quality of events, the great organization by the conference chairs, and the fantastic weather, we couldn't have asked for a better weekend to connect with other SWE members and get motivated by SWE itself! After a casual networking event on Friday evening, the conference kicked off Saturday with a presentation by keynote speaker Dr. Sophie V. Vandebroek, Chief Engineer of Xerox Corporation. She led us through a discussion on "Innovation and Intrapreneurship," highlighting the importance of these concepts to corporations as well as the impact women can have while contributing to their group's success in an organization such as Xerox.

At lunchtime, which was also set up as an ideas exchange at the various tables, we heard from Margaret Ashida, a recruitment leader for the IBM corporation. She told the audience, "Well-behaved Women Seldom Make History"! Her topic applies to all women engineers embarking on a career that is still not the norm for women in industry. She encouraged us to work further for change and progress for women in engineering.

Finally, during the evening banquet, SWE President-elect Ronna Robertson brought us her own life and career experiences as well as reflections on the events of the conference as she encouraged us to imagine "the Day Engineering becomes a Girl's Job". Overall, the weekend was nothing short of inspiring, as the theme "Women Making History" was explored. A career fair provided opportunities to seek out new positions, and the workshop schedule was divided into four tracks: SWE Vitality, Career Preparation, Real World, and Education, with a total of 16 workshops available. Sunday opened with a brainstorming session on what students and professional envision SWE to be. The organization, on a National level, is truly striving to make the society a powerful force in the world of engineering. We also want SWE to have benefits for all members from student level through their careers and into retirement.

In this regard, we as the Philadelphia section can do the same: while we will support initiatives communicated from National to us, we should also provide as much constructive feedback as possible to the local board officers as well as regional and national leaders. On a

personal note, I'd like to say that I encourage all section members to attend Regional conferences, even if it is just for the Saturday, when the bulk of the activities take place. Before I was an officer, I didn't really think that the conference was something I should be thinking about. On the contrary, it brings you a whole new level of awareness of SWE. Whether you want to attend workshops to help you grow personally, or network with students, or just listen to the amazing speakers at the events, I believe every section member can have a positive and rewarding experience at our Regional (and National!) conferences.

Looking Ahead: 2006 Region E Conference

Looking ahead: 2006... The Philadelphia section is considering putting in a bid to co-host next year's regional conference with Drexel University. This is an exciting time to get involved with SWE and with conference planning. I can only try to describe how exciting it was just to attend this year's conference - next year, it may be in our own backyard, and there is so much we can do to host an equally educational, motivational, and fun event. Of course, there will be a lot of work to do for an event such as this, but I personally see it as a great opportunity for the section to come together and achieve success! Contact Jen Garner at foilfencer27@verizon.net if you would like to volunteer to help out.

2006 SWE-Phila Board: Cast Your Vote!

Included with this issue of the SWE Outlook is a ballot for electing the 2006 SWE-Philadelphia board members. Don't forget to send in your ballot to our teller, Jen Wetzel, postmarked by May 30, 2005. Details are printed on the ballot itself.

Congratulations

SWE Scholarship Awards Banquet Monday, April 11, 2005

One of SWE-Philadelphia's most enjoyable annual events, the awards banquet, was held on April 11 at the Sheraton Park Ridge in King of Prussia. Six students from colleges and universities in the Philadelphia region were awarded \$1000 scholarships. One high school senior with an outstanding science fair project was also given a special award. Our speaker for the evening, Christine Miller of Rohm & Haas, shared her advice for achieving career and life success. One of her key points, which may have had the most resonance with the students, was that completion of a college degree is essential. Each of these students will have an engineering degree for the rest of her life, and no one can ever take that achievement away from them. The award recipients are:

Rohm & Haas Scholarships:

Jennifer Louise Vondran - Biomedical and Materials Engineering, Drexel University
Jessica Mandrick - Engineering and Art, Swarthmore College

Merck & Co., Inc. Scholarship:

Emily Chang - Chemical and Biomolecular Engineering, University Pennsylvania

Lockheed Martin Scholarships:

Maila Sepri - General Engineering, Swarthmore College
Angel Feng - Mechanical Engineering, Drexel University

Philadelphia Section Scholarship:

Noel Camacho - Bioengineering, University of Pennsylvania

Special Award - SWE First Place, Delaware Valley Science Fair

Maria Rozploch - Villa Maria High School, Holland, PA
"Algorithmic Techniques for the Analysis of Genomic and Proteomic Data Sequences"



Scholarship winners at the banquet.

Professional Development

Graduate Programs at Penn State Great Valley

Penn State Great Valley in Malvern offers the following degrees for working adults: Master of Science in Information Science, Master of Software Engineering, and Master of Engineering in Systems Engineering. Graduate certificates are offered in: Bioinformatics, Industrial Statistics, Problem Solving, Research Methods, Informatics, Enterprise Integration and Information Security. For more information on these courses or to register for an information session, please call 610-648-3243, email gvengin@psu.edu, or visit <http://www.gv.psu.edu/>

Villanova University's Master of Technology Management (MTM)

Many working engineers, computer scientists and information technology professionals are torn between advancing in their chosen field or obtaining the business expertise that will allow them to understand the overall company goals. Villanova University's

Master of Technology Management (MTM) program addresses both desires together and allows the students to grow without making that choice. For further information and to apply for the fall, attend our open house on Tuesday, May 17th, visit www.mtm.villanova.edu or call 610.519.6959.

Pennsylvania Public Works Symposium

Each year public works folks gather for a conference. This year we are having a "Women in Public Works" Day. The three-day event will take place in Grantville, PA (near Hershey) Sept. 6-8, 2005. September 7th will be devoted to women associated with public works or those interested in expanding opportunities for women. There will be a separate luncheon that day, and Pam Nelson of CCGS will speak. Pam owns a software firm involved in the public works field and is a great motivational speaker. If you are interested in the conference, contact Philip Tiewater, P.E., ELM Consulting, 215-801-4473

Remembering our Purpose: What is the Society of Women Engineers?

The **SWE Mission** is to:

- stimulate women to achieve their 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
- demonstrate the value of diversity

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

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.

Science Fair Awards

SWE members from the DelMar Peninsula, Lehigh Valley, and Philadelphia Sections serve as Special Awards Judges in several of the science fair competitions in their local areas. Medalists from twelve regional fairs held in Delaware, Southern New Jersey, and Southeastern Pennsylvania advanced to the Delaware Valley Science Fairs (DVSF) competition. Medalists from DVSF advance to the International Science and Engineering Fair (ISEF) to be held in Phoenix, AZ on May 8-14, 2005. This year SWE-Philadelphia provided Special Awards at the Bucks County and DVSF competitions. These SWE Special Awards are provided to acknowledge the achievements of middle school and high school girls for their outstanding engineering or engineering-related science fair projects.

Bucks County Science Research Competition - SWE Special Awards

Judging for the Bucks County Science and Research Competition was held on March 15, 2005 at Delaware Valley College. Over 230 projects were entered in the competition, with about 35 by high school students and the rest by middle school students. The SWE judge was Barbara Faust. Each winner received a personalized SWE Certificate of Achievement. First and Second Place winners also received a book gift certificate (A Fair) or a book (B Fair). Half of our SWE Special Award winners advanced to DVSF.

A Fair (Grades 9 - 12)

- **First Place - Maria Rozploch** for project: *Algorithmic Techniques for the Analysis of Genomic and Proteomic Data Sequences*, Villa Joseph Marie High School. Maria advanced to the DVSF competition.
- **Second Place - Brittney Kern** for project: *Game On: What Really Defines a Great NFL Quarterback*, Villa Joseph Marie High School. Brittney advanced to the DVSF competition.
- **Honorable Mention - Natalie Sheils and Lori Wojcik** for team project: *Bridges*, Villa Joseph Marie High School. Natalie and Lori advanced to the DVSF competition.

B Fair (Grades 6 - 8)

- **First Place - Christine Lai** for project: *How to Create a Better Bouncing Robotic Rover*, Lenape Middle School
- **Second Place - Victoria Avanzato** for project: *Recycling Robot*, Klinger Middle School. Victoria advanced to the DVSF competition.
- **Third Place - Courtney Gregor** for project: *Solar Cell Car*, Unami Middle School
- **Honorable Mention - Alyssa Baldassarre** for project: *Smart Solar Panels*, Lenape Middle School. Alyssa advanced to DVSF competition.
- **Honorable Mention - Megan Nadzan** for project: *How Does the Type of String Affect the Breaking Point of the String?*, Log College Middle School
- **Honorable Mention - Joy Waldinger** for project: *How Does the Thickness of the String Affect the Breaking Point?*, Log College Middle School
- **Honorable Mention - McKenna Kardish** for project: *Bouncing Balls*, Our Lady of Mount Carmel School

Science Fair Awards

Delaware Valley Science Fairs - SWE Special Awards

Judging for the DVSF competition was held at the Fort Washington Expo Center on April 6, 2005. Approximately 1000 projects were entered, with about 500 by high school students and 500 by middle school students. SWE-Philadelphia Special Awards judges were Carole Stowell, Maggie Schwartz, and Barb Faust. All SWE winners received a personalized SWE Certificate of Achievement. First and Second Place winners also received a book gift certificate or a book, with the exception of our First Place winner in the 12th grade competition who qualified for our \$500 scholarship award. We are pleased to announce that two of our winners are among the 10 students selected to represent DVSF at the ISEF competition.

Delaware Valley Science Fair (12th Grade)

- **First Place - Maria Rozploch** for project: *Algorithmic Techniques for the Analysis of Genomic and Proteomic Data Sequences*, Villa Joseph Marie High School, Holland, PA.
- **Second Place - Christina Bergey** for project: *A Statistical Analysis of Literature*, North Penn High School, Lansdale, PA.

Marie Curie Science Fair (11th Grade)

- **First Place - Erin Fischell** for: *The Effect of Frequency Response of the Skull on Intelligibility of Speech from Piezoelectric Transducers*, High Technology High School, Lincroft, NJ. Erin will present at ISEF.
- **Second Place - Rebecca Lineman** for project: *Generating Electricity from the Ocean's Waves*, Bishop McDevitt High School, Wyncote, PA

Ben Franklin Science Fair (10th Grade)

- **First Place - Tori Chu** for project: *Security in Numbers*, Charter School of Wilmington, Wilmington, DE
- **Honorable Mention - Annie Gurevich** for project: *The Difference in the Concentration of Solar Energy Using Mirrors and Mylar*, High Technology High School, Lincroft, NJ.
- **Honorable Mention - Meaghan Callen** for project: *How Do Different Types/Angles of Light Affect the Productivity of Photovoltaic Cells?*, Academy of Notre Dame de Namur, Villanova, PA.

Benjamin Banneker Science Fair (9th Grade)

- **First Place - Hannah Wolf** for project: *Using Resistivity to Determine Depth to Bedrock*, Parkland High School, Allentown. Hannah will be presenting her project at ISEF.
- **Second Place - Mary Chessey** for *Efficiency of Parachute Shapes*, Downingtown West High School, Downingtown, PA
- **Honorable Mention - Nicole Triner** for *LED Light and Electricity*, Villa Joseph Marie High School, Holland, PA
- **Honorable Mention - Morgan Farnsworth** for project: *Rockin Rolls*, Parkland High School, Allentown, PA

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

- **First Place - Victoria Ananzato** for project: *Recycling Robot*, Klinger Middle School, Southampton, PA
- **Second Place - Olivia Yearwood** for project: *Shear Walls and Earthquake Safety*, Holy Family School, Phoenixville, PA
- **Third Place - Caroline Mills** for project: *Using the Solar and Helio-Spheric Observatory to Determine the Rotation of the Sun*, Abington Junior High School, Abington, PA
- **Honorable Mention - Alyssa Baldassarre** for project: *Smart Solar Panels*, Lenape Middle School, Doylestown, PA
- **Honorable Mention - Rebecca Jackson** for project: *Which Is More Filling?*, Immaculate Heart of Mary School, Wilmington, DE
- **Honorable Mention - Prastuti Singh** for project: *Is It Hot or Cold?*, Orefield Middle School, Orefield, PA
- **Honorable Mention - Sarah Hall** for project: *How Does a Sugar and Water Solution's Concentration Affect the Refraction of Light?*, Owen J. Roberts Middle School, Pottstown, PA

Volunteer Opportunities

Presenters Needed for Certificate of Merit Awards

This year, we anticipate that more than 80 schools within our section area will participate in our Certificate of Merit program to recognize the achievement of high school girls who have demonstrated three years of excellence each in the study of mathematics and science. As of press time, more than 40 schools have responded. Several of these schools have requested a presenter for their awards ceremony. The time commitment may range from about 1/2 hour to two hours or so, depending on the school. For more information, please contact Barb Faust by e-mail (Barbara.Faust@swe) or phone (215-257-6463) if you are willing to make the presentation at any of the schools listed below. It is likely that additional schools will be added as more schools send in their nomination forms.

Pottstown High School, Pottstown – Monday, May 16, 6:15 pm
St. Basil Academy, Jenkintown – Wednesday, May 25, 8:30 am
Abington Senior High School, Abington - Wednesday, May 25, 7:30 pm
Garden Spot High School, New Holland – Thursday, May 26, 6:45 pm
Wissahickon High School, Ambler - Wednesday, June 1, 7 pm
Central Bucks High School, East Doylestown – Thursday, June 2, 6:30 pm
Academy Park High School, Sharon Hill – Thursday, June 2, 7 pm
Owen J. Roberts High School, Pottstown – Thursday, June 2, 8 am
Nazareth Academy, Philadelphia – Thursday, June 2, 8:30 am
Pottsgrove High School, Pottstown – Thursday, June 9, 8:25 am
Springfield Township High School, Erdenheim – Monday, June 13, 10:30 am
Sun Valley High School, Aston – Monday, June 13, 6:30 pm
Mast Community Charter School, Philadelphia – Wednesday, June 15, 4 pm
Note: Ceremony to be held at Holy Family University, Philadelphia

If you are interested, please contact Barb by phone (215-257-6463) or e-mail for more information.

HABITAT FOR HUMANITY

Habitat for Humanity in New Castle County is looking for female volunteers who, this spring, will begin building homes for two families and help address the problem of substandard housing and its effects on the health and well-being of children. The project helps empower women of every race, age and skill level to plan and build decent, healthy and affordable homes. More than 450 Habitat homes have been built in the United States by female crews, one of which was completed in New Castle County in 2003.

The Habitat for Humanity Women Build Team has asked us to participate in a Charity Walk on June 4 in Bethlehem. It is a 5K walk beginning at 9:45 am. A SWE team captain, walkers, and donations are needed. Contact Kathy Kinsey at 610-481-3323 or kinseyko@apci.com if you are interested, or visit www.habitatlehighvalley.com. It shouldn't be too hot by then, so it would be a nice Saturday morning walk for a great cause!



SWE Philadelphia Section
*The Engineers' Club of
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Address Correction Requested

Visit our Web Site at <http://www.swephila.org>
Contact Us by E-mail: phila_info@swe.org

SWE Philadelphia Section Newsletter
May/June 2005

Section Meeting: 2006 Planning Meeting

Monday, June 13, 2005
6-8 pm
RSVP to Heather Bernardin
Details inside!

Newsletter copying and distribution is underwritten by a grant from
Lockheed Martin Integrated Systems and Solutions.

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.*