



# SWE Outlook

September-October 2002

## Inside this Issue

- 2 SWE Calendar  
Announcements  
Women's Hall of Fame  
World Space Congress 2002  
NE Regional PSPE Meeting  
National On-line Directory  
New Member Application Form  
SWE National Conference  
PSPE Initiative
- 3 Section News  
September Planning Meeting  
Girl Scout Junior Jamboree  
Making Strides Walk  
Moorestown Meeting
- 4 Around the Region  
Lehigh Valley  
DelMar Peninsula
- 5 Student Corner  
Drexel Student Section  
AAUW Fellowships
- 6 National News  
New Executive Director  
National Conference in Detroit
- 7 More National News  
TOYchallenge Competition
- 8 Professional Development  
AAAS Fellowships  
Value of Support Networks  
Engineering Dropout Rate
- 9 FY02 Contact List

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 for the next edition to [Barbara.Faust@swe.org](mailto:Barbara.Faust@swe.org) by close of business on Friday, October 25, 2002.

## October Meeting

### Intelligent Search: Finding the Best Talent for your Company and the Best Company for your Talent

Join us on October 22 to learn about job seeking and personnel recruiting in today's marketplace. Our speaker, Pamela J. Ciccantelli, is a Recruiting Strategist who spent over 15 years in the talent search business. Her career has spanned many roles beginning with a career in the contingent search, or agency, world where she spent over five years and successfully placed hundreds of professionals. Pamela's career also led to selling recruitment radio advertising for a major Philadelphia radio station, filling executive searches for a retained search firm, and building an internal recruiting team for a computer consulting firm. Pamela is a graduate of Bryn Mawr College. Most recently, she has been consulting to Philadelphia-area companies while searching for her next full-time position. Her book, titled "Intelligent Search" and subtitled "Finding the Best Talent for your Company and the Best Company for your Talent", is due out within six weeks. Pamela can be contacted through [pamela@intelligent-search.com](mailto:pamela@intelligent-search.com).

Date: Tuesday, October 22, 2002

Time: 6 pm

Place: Chumley's Restaurant  
1160 First Avenue, King of Prussia, PA 19406  
Phone: 610-337-2000

Cost: \$25 for Members and Guests; \$15 for Students

RSVP: by Monday, October 21 to  
Barbara Faust, [Barbara.Faust@swe.org](mailto:Barbara.Faust@swe.org) or 215-257-6463

Directions: Chumley's is in the Radisson Hotel (formerly the Sheraton) in the Valley Forge Conference Center at North Gulph Road and First Avenue, across from the American Baptist Headquarters complex.

**From the PA Turnpike:** Exit at Valley Forge onto the Schuylkill Expressway (I76). Get into right lane and take the first exit onto North Gulph Road. Follow N. Gulph Rd for about 1 1/4 miles to traffic light at First Avenue. Turn right onto First Avenue and then turn left into the hotel parking lot.

**From Great Valley area:** Take 202 N - Exit onto 422. Take 422 W for about 1 mile to the first exit. Ramp ends at traffic light at Gulph Rd. and First Ave. Stay in middle lane to cross Gulph Rd. Turn left into hotel parking lot.

**From Philadelphia:** Take the Schuylkill Expressway (I76) West to Valley Forge. A possible way to avoid 202 construction is to take the last exit before the turnpike. At the traffic light at the end of the exit ramp, turn right (K of P Plaza is straight ahead at the light). Travel about 1/4 mile to dead end at Gulph Rd. Turn right onto Gulph Rd. Travel about 1 1/2 miles to traffic light at First Avenue. Turn right onto First Ave. and then left into the hotel parking lot.

## SWE Calendar - FY03

| Date      | Event   | Location                      |
|-----------|---|-------------------------------|
| Oct 5     | Girl Scout Junior Jamboree                                  | Camp Tohikanee                |
| 4-5       | National Women's Hall of Fame Induction: Beatrice A. Hicks  | Seneca Falls, NY              |
| 9-12      | FY03 National Conference-The Art of Engineering             | Detroit, MI                   |
| 13        | Making Strides Against Breast Cancer Walk                   | Philadelphia Art Museum       |
| 22        | Section Meeting: Intelligent Search - Finding the Right Job | Chumley's, King of Prussia    |
| Nov 14    | Section Meeting: Eating Well for the Holidays               | Williamson's, Willow Grove    |
| Dec 12    | Montco Sub-Section Meeting                                  | Bertucci's, Plymouth Meeting  |
| Jan 16    | Professional Development Seminar: Technical Report Writing  | Villanova University          |
| Feb 16-22 | Engineers' Week<br>SWE-Widener Engineering Mini-Camp        | Various<br>Widener University |
| Mar 12    | Professional Development Seminar: Technical Presentations   | Villanova University          |
| 28-30     | Mid Atlantic Region (E) Meeting                             | Hampton, VA                   |
| Apr       | Section Awards Banquet                                      | TBD                           |
| May       | Technical Tour  | TBD                           |
| June      | Sub-Section Meetings  | Various                       |

### Announcements

- **Dr. Beatrice A. Hicks**, a founding member and the first President of SWE, will be formally inducted into the **National Women's Hall of Fame** during the **Induction Ceremony** and Honors Weekend for both 2001 and 2002 inductees on October 4-5, 2002 in Seneca Falls, NY. Last year's event was canceled in the aftermath of 9/11. Betty Lou Bailey, a former Philadelphia Section member who is now living in Schenectady, NY, is coordinating the SWE delegation to the ceremony. If you are interested in attending, please contact Barb Faust, 215-257-6463 or Barbara.Faust@swe.org. Other SWE members in the Hall are: Dr. Grace Murray Hopper (1906-1992), inducted in 1994; Dr. Lillian Moller Gilbreth (1978-1995), inducted in 1995; and Dr. Sally Ride (1951- ), inducted in 1998. For more information on the National Women's Hall of Fame, visit [www.greatwomen.org](http://www.greatwomen.org).
- **World Space Congress 2002** (WSC 2002) will be held on October 10-19 in Houston, TX. Once every decade, the world's space community assembles to take stock of the present and chart new directions for the next ten years in space. Visit <http://www.aiaa.org/WSC2002> for more information and to register on-line.
- The **2002 Northeast Regional Meeting of the National Society of Professional Engineers** will be held October 24-26 at the Christiana Hilton in Newark, DE. The keynote speaker is Lt Gen Henry J. (Hank) Hatch (retired), former Chief of Engineers and the Commander of the US Army Corps of Engineers. Workshops to be held during the meeting will address topics such as the business case for diversity, how your attitude affects your work, and business and engineering ethics. For more information, contact Deb Grubbe ([Deborah.L.Grubbe@USA.dupont.com](mailto:Deborah.L.Grubbe@USA.dupont.com)) or Dawn Johnson at Pennoni Associates in Wilmington, DE (302-655-4451). More information can also be found at the Delaware Engineering Society website [www.udel.edu/DES](http://www.udel.edu/DES).
- The national **SWE on-line directory** has been updated. Your member ID and password will allow you access to the directory. In conjunction with the update, **all members have been issued a randomly-generated new ID**. Your new ID number is on the dues bill and member update form sent to you from headquarters. 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).
- **Changes** have been made to the **SWE membership application form**. Visit <http://www.swe.org> to download the updated form to be used for new member application or to request a membership upgrade.
- The **National SWE Conference** for FY 03 will be held on **October 9-12, 2002 in Detroit**. For up-to-date information on the conference schedule and other activities, visit [www.swe.org/SWE/Convention/detroit](http://www.swe.org/SWE/Convention/detroit).
- The Pennsylvania Society of Professional Engineers (PSPE) is encouraging more engineers to sign up for **The Pennsylvania Initiative**, a voluntary assistance program to provide engineering recovery services in the event of emergencies or disasters such as the terrorist attack on New York city. Oversight for The Initiative is provided by PSPE. All engineers are welcome to join; you need not be a member of PSPE or a licensed professional. For more information, send a message to [info@pspe.org](mailto:info@pspe.org). Questions regarding the PA initiative to assist New York City should be directed to Harve Hnatiuk, P.E., by e-mail ([harvaehnat@aol.com](mailto:harvaehnat@aol.com)) or phone (215-542-8700, ext 133).

## Section News

---

### September Planning Meeting

A SWE Business Meeting was held September at the FCG facility in Wayne. Officers, Committee Heads, and other interested members met to firm up plans and activities for this SWE Fiscal Year. Thanks to all who replied to the Membership Survey; many of your responses are incorporated into the plans.

Section meeting plans include dinner with a speaker in October and November, Sub-Section meetings in December and June, late afternoon/early evening Professional Development seminars in January and March, the Annual Awards Banquet in April, and a technical tour in May. Ongoing events and activities include our joint SWE-Philadelphia/Widener University Engineering Mini-Camp in February, the Future City Competition and other events held in conjunction with Engineers' Week, Girl Scout and AAUW workshops, Certificate of Merit Program, Scholarship Awards Program, and our Science Fair Awards Program. New events include fielding a SWE group for the Annual Making Strides Against Breast Cancer Walk in Philadelphia, supporting development of a SWE Sub-Section in the Moorestown, NJ area, and supporting the SWE-Lehigh Valley participation in a Habitat for Humanity project.

One of our big goals for this year is to have each member in the Section participate in at least one SWE-related activity, event, or program. Participation can take many forms: attending a Section or Sub-Section meeting or activity; conducting an engineering-related workshop to a group of elementary or high school students; presenting Certificate of Merit awards at a local high school; serving as a mentor or judge for the projects in the Future City Competition; serving as a judge for Section College Scholarship and Science Fair awards; making a monetary donation to help fund Section programs and student awards; setting up or coordinating a Section meeting or activity; serving as a SWE Counselor to a local SWE Student Section; serving as a speaker or panel member at a SWE meeting (Section, Sub-Section, Student Section); participating in our Engineering Mini-Camp at Widener; serving on a Section, Region, or National committee; providing inputs for the newsletter; voting in an election; forwarding your ideas about SWE to the Section Officers and/or Committee heads; and so on. Each member has something that she/he can provide to help Section vitality, encourage girls to become engineers, or be a resource for other women engineers.

### Girl Scout Junior Jamboree 2002

The Freedom Valley Girl Scout Council Junior Jamboree 2002 will be held on October 4-6 at Camp Tohikanee (near Quakertown). We received a special request to conduct our "Chocolate Asphalt" workshop during the events on Saturday, October 5th. There will be four sessions, with the first starting around 9:00 am. About 20 girls will be in each session. If you wish to participate in this fun activity, please contact Barb Faust (215-257-6463 or [Barbara.Faust@swe.org](mailto:Barbara.Faust@swe.org)).

### Annual Making Strides Against Breast Cancer Walk

*by Nicole Johnson*

If you are not attending the SWE Conference this year, why not take a nice stroll on West River Drive with other SWE members for a good cause. On Sunday, October 13, 2002 at 9 am, the American Cancer Society (ACS) is hosting their Annual Making Strides Against Breast Cancer Walk. This five-mile walk along West River Drive is designed to raise funds for Breast Cancer Research. According to the ACS, this disease will strike more than 200,000 times this year and claim 400,000 lives.

If you would like to participate in this event as part of a SWE group, contact Nicole Johnson at 215-879-1617 or [nmjworld@yahoo.com](mailto:nmjworld@yahoo.com) by October 6, 2002. If you can not attend the walk, but would still like to make a donation, feel free to contact Nicole or the ACS. Additional details about the walk and the goals of the organization can be found at [www.cancer.org](http://www.cancer.org). I hope to see you on October 13th!

### SWE Interest Group in Moorestown, NJ

As part of Lockheed Martin's diversity initiative, Doreen Nixon, Director of Mechanical System Design for Lockheed Martin NE&SS-SS in Moorestown, NJ, organized a lunch-time meeting of employees to encourage women to join SWE and become active members. Representatives from the New Jersey and Philadelphia Sections made presentations about SWE and their Section activities and answered questions from those present at the Tuesday, September 17th meeting. Over 90 people signed up for the event. Management is highly supportive of partnering with SWE in outreach programs to encourage middle-school students to learn about science and engineering. Carl Banner, Vice President of Technical Operations in Moorestown and initiator of the idea for LM-Moorestown to participate in SWE, also spoke at the luncheon. Philadelphia Section Members at the meeting included Maggie Schwartz, Rachel King, Barbara Faust, and Susan Hougendoubler.

---

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

# Student Corner

---

## Drexel University Student Section

- At the SWE meeting on July 10, 2002 the Student Section discussed the following events and activities:
  - The **National Conference** on October 9-12, 2002 in Detroit, Michigan. Estimated costs are:
    - Approximately \$20/day for food
      - \$150 for registration (due by mid-Sept, can do it online at SWE's site)
      - About \$250 for plane fare
      - SWE(Drexel) will help defray some of these costs based on the point system
      - For more information, visit the Conference website, <http://www.swe.org/SWE/Convention/detroit/>
      - September Update: at least five students will be attending the National Conference in Detroit
  - **Get Connected Program** - Freshmen recruiting-surveys asking the Freshmen which groups they are interested in joining. SWE will contact them within the first 2 weeks of the Fall term. Their names, e-mails, and phone numbers will be available to us.
  - **Flyers to pass around at orientations/classes in the Fall.** These flyers will also be hung up around campus
  - **Mentoring** - thinking about starting up again in the Fall
  - **2002-2003 Student Club Annual Recognition Forms** - members signed this form
  - **National Membership** Fiscal year started July 1; cost is \$15 for student members; forms can be found outside the SWE office or at (<http://www.swe.org/SWE/MemberServices/appform.htm>)
- For information on activities of the SWE Drexel Student Section, visit [www.pages.drexel.edu/~dsoswe](http://www.pages.drexel.edu/~dsoswe). Send all your ideas/questions/comments to SWE's e-mail, [swe@drexel.edu](mailto:swe@drexel.edu)
- Another September Update:
  - SWE-Drexel is participating in **Activities Unlimited**, a university wide event that showcases all recognized on-campus organizations. Every club, frat, team or sorority on campus will have a table that is set up under a tent in the Quad. This gives the freshman and all students a chance to get information about all the groups and decide which to join.
- The SWE Drexel Student Section is starting a **mentoring** program. Upperclassmen will be matched to incoming freshmen. They also wish to have professionals as mentors for the upperclassmen. If any SWE Members are interested in becoming a member, please contact Susan Hougendobler, [Hougendoblersa@nswccd.navy.mil](mailto:Hougendoblersa@nswccd.navy.mil).

---

## AAUW Fellowships for Engineering

Women graduate students in designated fields traditionally under-represented by women can receive one-year fellowships from the American Association of University Women (AAUW) Educational Foundation. Applicants must be US citizens or permanent residents.

Master's and first professional awards range from \$5,000 to \$12,000. Applications are available until December 20, 2002 and must be postmarked by January 10, 2003 for the fellowship year beginning July 1, 2003.

Engineering dissertation awards are \$20,000. Applications are available until November 1, 2002 and must be postmarked by November 15 for the fellowship year beginning July 1, 2003.

For more information and an application, visit [www.aauw.org/3000/fdnfelgra/selectprof.html](http://www.aauw.org/3000/fdnfelgra/selectprof.html)

---

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*



# Around the Region

## Lehigh Valley Section

SWE-Habitat for Humanity  
from Liz Davidson, LV Section President

Time is getting closer to the Accelerated Build Week for the Habitat for Humanity Women Build Project. This is the first Women Build Project in Pennsylvania! We have been told that this is the ONLY Women Build in all of Pennsylvania being done at this time, possibly all year. Saturday, October 12th from 2-6PM has been selected as the day in which SWE members will volunteer their time for this project. We are trying to have a SWE day on Saturday, October 12. If you can not make it then, feel free to sign up for any of the dates. This is a great way to meet other women interested in helping the community. Contact Kate Griffith (Griffikl@apci.com) or Maria Rebollo (Office: 610-712-6679; Pager: 610-712-4100 Pin 4743; E-mail: mrebollo@agere.com) to sign up. The schedule with the current openings (as of Sept 11) is given below. A few shifts have already closed and others are filling up fast.

|           |        |                  |                  |             |
|-----------|--------|------------------|------------------|-------------|
| Saturday  | Oct 5  | 8:00 - 1:00 FULL | 2:00 - 6:00 FULL | 5:00 - 7:00 |
| Sunday    | Oct 6  | 1:00 - 6:00      | No Lunch/Dinner  | 4:00 - 6:00 |
| Monday    | Oct 7  | 8:00 - 1:00      | 2:00 - 6:00      | 5:00 - 7:00 |
| Tuesday   | Oct 8  | 8:00 - 1:00      | 2:00 - 6:00      | 5:00 - 7:00 |
| Wednesday | Oct 9  | 8:00 - 1:00      | 2:00 - 6:00      | 5:00 - 7:00 |
| Thursday  | Oct 10 | 8:00 - 1:00      | 2:00 - 6:00      | 5:00 - 7:00 |
| Friday    | Oct 11 | 8:00 - 1:00 FULL | 2:00 - 6:00 FULL | 5:00 - 7:00 |
| Saturday  | Oct 12 | 8:00 - 1:00 FULL | 2:00 - 6:00      | 5:00 - 7:00 |
| Sunday    | Oct 13 | 1:00 - 6:00      | No Lunch/Dinner  | 4:00 - 6:00 |
| Saturday  | Oct 19 | 8:00 - 1:00      | 2:00 - 6:00      | 5:00 - 7:00 |

No Lunch/Dinner

If you are going to participate in the Accelerated Build Week, it is **STRONGLY RECOMMENDED** that you attend an Orientation Meeting on September 28 from 10:00 - 11:30 at Lafayette College. This meeting will include Safety Training, Information about a Habitat Build, and Directions to the Site as well as any additional questions answered. Some Tee Shirts and Pins will be available for sale (Tee's are \$10.00 and Pins are \$2.00 each). The Groundbreaking Ceremony was held at 8:30 am on September 14, 2002

### HABITAT FOR HUMANITY WOMEN BUILD HOME SITE DIRECTIONS

**From Rte 22:** Take the 4th St. exit. Head south on 4th St. Cross over Northampton St and proceed to Ferry St. Turn left on Ferry and go to 3rd St. Turn right onto 3rd St Take 3rd St south over the river, following Rte 78 signs. Get on Smith Ave/St. John's St running south. Follow St. John's to Berwick St (at the stop light). Turn left onto Berwick. Berwick will dead-end into Philadelphia Rd, running at an angle to it. Turn left onto Philadelphia. At the stop sign, turn right onto Kleinhans St. The Habitat site is the field on the right hand side at the intersection of Kleinhans and James (actually, park on James St).

**From Rte I-78:** Take Exit 75. Turn left at stop sign at the bottom of the ramp onto Morgan Hill Road. Bear right at the next stop sign as the road turns into Philadelphia Rd. At the next stop sign continue straight, staying Philadelphia (main road to the left is St. Johns). At next stop sign, turn right onto Kleinhans. There will be a field on your right at the corner of Kleinhans and James. This is the Habitat work Site.

## DelMar Peninsula Section

- The DelMar Peninsula Section **Kick-Off Meeting** for the season was held at the Stewarts Brewing Company in Bear, DE on September 10, 2002. Upcoming events for the year were discussed.
- The **SWE Speaker's Bureau Series** of talks has been scheduled to help SWE members and the local community to learn, network, and develop professionally. The Series Kick-Off was held on September 23, 2002. Dave Clark, DuPont Process Safety & Fire Protection Engineer and a member of the Delaware Professional Engineers Society, provided an "Update on the Motiva Incident." Future scheduled themes or topics of the Speaker's Bureau are Work/Life in November 2002, Local Industries in January 2003, Technical/Career Guidance in March 2003, and Women's Health Issues - Breast Cancer in May 2003. For more information, contact Kerry Anne Rick at [riekka@ace-net.com](mailto:riekka@ace-net.com) or Pamelyn Lindsey, SWE Speaker's Bureau Chair, at [pamelyn.g.lindsey@usa.dupont.com](mailto:pamelyn.g.lindsey@usa.dupont.com).

# National News

---

## New Executive Director Named

*From Rachel A. B. McQuillen, PE, SWE President*

Last spring, the Board of Directors made a strategic decision to seek an Executive Director with a background in engineering as the consistent face of SWE. We have matured as a 52 year old organization, and we felt that it was time for us to have a spokesperson who understands the challenges that our members face and can speak as a true advocate of the Society. As we look at the opportunities for SWE to develop external affiliations and have a "seat at the table" on issues affecting women in engineering, we felt it was important for that person to be a woman engineer.

I am very pleased to announce the appointment of SWE's new Executive Director, Elizabeth Shanahan, known to many of our members as Betty Shanahan. Betty is a Senior Life Member of SWE (Chicago Regional Section) and has maintained continuous membership since joining as an electrical engineering student at Michigan State University. Prior to joining SWE, Betty was the Vice President of Marketing for Stellent, Inc., a business content management company. Betty brings many strengths to the Executive Director position including:

- her passion for SWE and its mission
- strong skills in management, strategy, marketing and communications
- an understanding of the corporate perspective
- an understanding of what it means to be a woman engineer

Betty was chosen from a field of extremely well-qualified candidates as part of a very thorough selection process. The Executive Director Search Committee was chaired by Past President Jill Tietjen. The other members of the Committee were selected from throughout SWE. That Committee included: SWE Past Presidents Suzanne Jenniches, Northrup Grumman, and Maggie Hickel, 3M; Rodney Chip Award Winners Truman Bell, ExxonMobil, and George Brewster, Big Flats, NY; Board of Trustee member, Dorothy Morris, Bridgewater, NJ; Walter McFall, Chicago; Mary Petryszyn, Raytheon; Meredith Ross, Palo Alto, CA; Kristy Schloss, Schloss Engineered Equipment; Jane Daniels, The Henry Luce Foundation; Kimberly Gavaletz, Lockheed Martin; Sharon Bennett, SWE's Chief Operating Officer; I was also a member of the Committee.

The Committee established job qualifications, required background and characteristics and then thoroughly went about interviewing candidates. We appreciate the commitment shown by Jill and her Committee. Betty's first day at headquarters was Monday, September 30.

## SWE National Conference

This year, the National Conference is being held on October 9-12, rather than at the end of June as has been the custom. For last minute information, visit [www.swe.org/SWE/Convention/detroit](http://www.swe.org/SWE/Convention/detroit).

SWE has been working on a restructuring plan. Among other things, the bylaws have been completely rewritten. It is anticipated that discussions will abound concerning the proposed new bylaws and how the restructuring may impact SWE at all levels. Late-breaking news is that voting for the proposed new bylaws has been taken off the agenda for the Council of Representatives (COR) meeting so that the membership will have more time to review the proposed changes and iron out some of the details before a structure is put into place. Copies of the existing and proposed new bylaws are published on the national SWE web site ([www.swe.org](http://www.swe.org)). Each member should also receive a paper copy for review. Please forward any comments to our Section Representative, [Maggie.Schwartz@swe.org](mailto:Maggie.Schwartz@swe.org), any Philadelphia Section Officer, or directly to Headquarters so that all concerns may be addressed.

Another topic on the COR agenda is a proposed hike in the Society dues. This topic is also likely to provoke much discussion. Feedback from the Conference will be included in the next newsletter.

---

*The **SWE OBJECTIVES** are:*

- *to inform young women, their parents, counselors, and the general public of the qualifications and achievements 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 National News

---

## TOYchallenge Competition

Former astronaut Sally Ride, America's first woman in space, has taken on a new mission: a national toy-making competition designed to get middle-school students - and particularly girls - hooked on engineering. Dr. Ride says she hopes the TOYchallenge contest, announced this week, will help draw more females into a field that's long been dominated by males. (The TOY stands for "Teaching Our Youth.")

Statistics consistently show that women make up less than 10 percent of America's engineering workforce - even though in their younger years, girls and boys exhibit roughly equal interest and skill in math and science. "Starting at around middle school, it's not quite as cool anymore to be a girl who says she wants to be a rocket scientist," Ride explains. TOYchallenge would serve as an "engineering design competition that is not geared toward something that boys will flock to and girls will think is just for geeks," she says.

Here's how it works: Students in grades 5 through 8 can set up design teams, with girls making up at least half of the team members. The teams, headed by an adult coach, should register by Nov. 15, then start designing their toy. The toy doesn't have to be a rocket, a robot or a dragster - it could also be a board game, a craftmaking kit, or anything covered by the contest's categories. At the end of the competition's first phase, 10 teams will receive \$250 each to turn their designs into prototype toys. Those 10 groups, plus the other teams, can show off their creations at a national showcase in June - and judges will award prizes such as a week at Space Camp or a VIP tour of NASA's Kennedy Space Center. (Check the TOYchallenge Web site for official rules, registration and further details.) "Creativity is the name of the game here: going through the process of taking an idea and developing it, putting it down on paper, both in words and in drawings, and putting some meat on the idea," Ride says.

TOYchallenge was inspired by the TOYtech program at Smith College, the country's largest undergraduate women's college. Smith's program puts first-year engineering students to work designing educational modules for middle-school classrooms, says Domenico Grasso, chair of Smith's Picker Engineering Program. One module, for example, demonstrates simple machines by pitting students against their teacher in a pulley-enhanced tug-of-war game. "No matter how big the adults are, the students will always win, because the students have the mechanical advantage," Grasso says. "That's kind of exciting, because students like beating teachers." Smith College and the Sally Ride Science Club are organizing the TOYchallenge

with sponsorship from the Hasbro toy company. Students from Smith and toymakers from Hasbro will make themselves available online to answer questions as the design competition proceeds. Like Ride, Grasso emphasizes that the process is more important than the toy itself: "If we can get students, especially girls, excited about the idea of what can happen when you design and build things, then we think we might encourage people to think about careers in science and engineering - that it's not a stale, boring profession, but that it really is about changing the quality of life." Socially clueless engineers may be good for a laugh in the "Dilbert" comic strip, but Grasso winces when the stereotype is carried over into real life. "One thing that I find very depressing is when I see people say they take pride in being a nerd, or that it's 'great to be a geek.' ... Engineers should never be proud of the fact that they are geeks or nerds, because what they're saying is, 'It's OK not to understand my fellows in humanity.'"

No one could accuse Ride of lab-coated geekhood: Her shuttle flights in 1983 and 1984 put her in the history books and earned her a place in the National Women's Hall of Fame. She's a physics professor at the University of California at San Diego, but is taking a leave this year to concentrate on TOYchallenge and other educational outreach activities - including a nationwide series of science festivals. "We're putting together a whole series of events and programs that really try to make it clear to girls that this stuff is cool, and it's fun, and it's for them," she says.

Ride left NASA in 1987, after serving on the panel investigating the Challenger explosion and working on strategic planning at the space agency's Washington headquarters. But she still keeps her eyes on the skies. Amid the controversy over 'N Sync singer Lance Bass' bid to fly to the international space station, Ride says she would love to see musicians, historians, writers and other creative types take trips to the final frontier. "In the long run, I am all for space tourism," she says, "and in the near term I'm all for giving people from a variety of different backgrounds an opportunity to experience what I was lucky enough to experience. ... A merit-based system would be a good way to do it, rather than (deciding on the basis of) who's got the biggest checkbook."

And as for her? "I love the John Glenn model," the 51-year-old says, referring to the pioneer astronaut's return to space at the age of 78. "So I think in about 25 years I'll call NASA and see if they'll send me to Mars."

# Professional Development News

---

## AAAS Science and Technology Policy Fellowships 2003-04

Help shape science and technology policy in Washington, DC. Contribute scientific and technical information and external perspectives while learning how government works. The American Association for the Advancement of Science (AAAS) programs provide a unique participatory public policy-learning experience for scientists and engineers, through one-year assignments involving domestic and international science policy issues in the Congress and several executive branch agencies. Stipends begin at \$58,000.

Applicants must have a PhD or an equivalent doctoral level degree from any physical, biological or social science, any field of engineering or any relevant interdisciplinary field. Individuals with a master's degree in engineering and at least three years of post-degree professional experience may apply. U.S. citizenship is required. Federal employees are ineligible. Approximately 50 fellowships are awarded in nine different programs. Under-represented minorities and persons with disabilities are encouraged to apply. To receive an application booklet and further information, please e-mail your contact information to [science\\_policy@aaas.org](mailto:science_policy@aaas.org) To learn more about the AAAS fellowship programs, please visit [www.fellowships.aaas.org](http://www.fellowships.aaas.org) or call 202-326-6700.

## Study Stresses Importance of Support Networks for Female Engineers

By Elizabeth F. Farrell

*This article, which came from the website <http://chronicle.com> ("The Chronicle of Higher Education Friday, May 31, 2002), references SWE's programs and was provided by Michelle Tortolani, FY03 SWE Region E Director.*

Female engineering students are more likely to complete a degree when they have strong social support networks within the engineering field, according to a report released Wednesday. The report, titled "Women's Experiences in College Engineering," was based on a study conducted over a three-year period by the Goodman Research Group Inc. in Cambridge, Mass., with financing from the National Science Foundation and the Alfred P. Sloan Foundation. The study's findings are based on data collected from more than 20,000 female undergraduates, and faculty members and administrators at 53 colleges and universities. According to the report, mentor programs, opportunities to network with practicing female engineers, and clubs like the Society for Women Engineers-which has branches and arranges activities and schedules speakers at numerous engineering schools-are the types of efforts that make women feel confident and valuable to the field, thus increasing the likelihood that they will stick with engineering.

For those familiar with the plight of engineering schools-which currently have an average female population of about 20 percent at a time when other historically male-dominated fields

such as law and medicine have almost reached gender parity-these findings confirm the conclusions engineering students and faculty have drawn from anecdotal evidence. "There aren't really any surprises in these findings," said Irene F. Goodman, one of the co-authors of the study. "The significance of the survey is the weight of statistical proof it carries by showing that the social environment of the school is related to the persistence of female students on such a large scale."

Although support groups and other efforts to draw more women to the field have existed for years, Ms. Goodman said the study helps to further debunk outmoded notions of why women are leaving engineering and also encourages schools to expand their support efforts for women. For instance, the study provides evidence that women aren't dropping out of engineering programs because of poor academic performance, finding instead that two-thirds of women who dropped out of engineering had A or B averages. With that in mind, the authors of the report suggest that self-esteem issues are affecting females to a larger extent than their male counterparts, and they stress the need to educate engineering faculty members about such issues.

## Why More Women Drop Out of Engineering

Analyzing the reasons why the dropout rate among female engineering students is high when compared to males, a recent study conducted by the University of California-San Diego provides some insights. The survey's main finding is that females tend to view math and science abilities as innate, so when coursework becomes too challenging, they often question whether they are cut out for the profession. On the other hand, male students are more likely to see difficult classes as a challenge that can be overcome with hard work.

"Women feel that they have to perform better than their male peers to fit in. When they face a difficult situation, many women fear that people will question whether they belong in engineering, and they may even start believing the stereotypes," noted co-researcher and professor Gail D. Heyman, as quoted in the San Diego Union-Tribune.

Further, the study found that women often blame themselves for failures, whereas men look to external elements such as their professor's teaching abilities. For more information, visit the University of California-San Diego's web site at [www.ucsd.edu/research.html](http://www.ucsd.edu/research.html).



SWE Philadelphia Section

*The Engineers' Club of Philadelphia*  
215 South 16th Street, Suite 36  
Philadelphia, PA 19102

Visit our Web Site: <http://www.libertynet.org/sweps>  
Contact Us by E-mail: [phila\\_info@swe.org](mailto:phila_info@swe.org)

## **SWE Philadelphia Section Newsletter September-October 2002**

**October Meeting**  
**Intelligent Search: Finding the Best Talent for your Company**  
**and the Best Company for your Talent**  
**Tuesday, October 22, 2002, 6:00 pm**  
**Chumley's Restaurant**  
**1160 First Avenue**  
**King of Prussia, PA**

Newsletter copying and distribution is underwritten by a grant from  
Lockheed Martin Management and Data Systems.

*Thank you!*