



# Society of Women Engineers Outreach Newsletter

Winter 2009

Volume 5, Number 1

## SWE Mission:

- Stimulate Women to achieve their full potential in careers as engineers and leaders.
- Expand the image of the engineering profession as positive force in improving the quality of life.
- Demonstrate the value of Diversity.

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## We're on the Web!

See us at:

[www.swe-oc.org](http://www.swe-oc.org)

## Message from SWE-OC

**SWE's** mission of encouraging young women to consider and choose a career in engineering is best illustrated by the Orange County Section's Outreach programs.

These programs educate young women about engineering career opportunities and encourage them to pursue a math, science and engineering education. These programs also foster enthusiasm for technology; teach technical, organizational and leadership skills.

The purpose of this newsletter is to provide educators with information about the upcoming SWE-OC Outreach activities for their students (both male and female), connect them with science, math and engineering resources and offer them some tips to make science and math fun in the classroom. **Please pass this information along to your students, their parents, and other teachers.**

Sincerely, Shelley Merriman (SWE-OC President)

[swe-oc-president@swe.org](mailto:swe-oc-president@swe.org)

## Reward Your Outstanding Students

Do you have a female high school student that excels in science and math and/or is interested in pursuing a career in engineering, science or math? The Society of Women Engineers would like to recognize these students through our **Certificate of Merit** Program.

The SWE Certificate of Merit is presented to high school girls who have completed **three years of science and three years of mathematics with distinction**. A Certificate of Achievement may be awarded to a high school junior or senior who has not completed three years of science and mathematics but has achieved excellence in a related activity such as a science fair, math contest, etc. Please complete the form on the last page of the newsletter. SWE would love to present your student with a certificate.

The form can also be found and submit online at the following link:

<http://swe-oc.org/LinkClick.aspx?fileticket=noRkqE9T1m4%3d&tabid=83&mid=479>

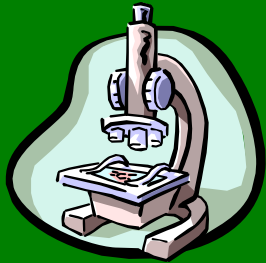
Mail the information to the address on the form or E-mail to Amy Lee at [Amy.Lee@boeing.com](mailto:Amy.Lee@boeing.com). Please contact Amy with any questions you have as well regarding the program.

Please return or submit the nomination form by not later than **May 1, 2010**.

Students Nominated will receive awards in May/June of 2010.



Society of Women  
Engineers



## Mark Your Calendars!

**Here are some upcoming events to promote during the Fall/Winter months.**

### **National Engineers Week: February 14-20, 2009**

**National Engineers Week** recognizes the need to increase public awareness of the positive contributions engineers make to their communities, this nation and to the world. SWE-OC encourages you to continuously promote the goal of E-week and visit <http://www.eweek.org/EngineersWeek/EngineersWeek.aspx>. Go to the Discover E / K-12 section. Here you will find some great activities and opportunities for your students. **Also, see page ?? for topics to discuss in your class that relate engineering to current events.**

**Email SWE-OC to book a speaker now ([swe-oc-outreach@swe.org](mailto:swe-oc-outreach@swe.org)).** A member of our organization will come to your class room and do a presentation on "What is Engineering". We also have some fun interactive activities to share with your students.

### **Orange County Science Fair**

We hope that you'll encourage your students to participate in the Orange County Science and Engineering Fair. Below is some important information for teachers.

**The Orange County Science and Engineering Fair (OCSEF) is an annual event organized to encourage the youth of our county to learn about science and to consider a career in science or engineering. The OCSEF is open to 6th - 12th grade students attending public or private schools in Orange County.**

**Friday, February 23, 2010**

(Last day to request more than 15 entries)

**Thursday, March 18, 2010**

(Last day for registration)

**Monday, April 5, 2009**

(Student check-in and exhibit setup)

**Wednesday April 7, 2010**

(Judging/Student Interviews will be held)

For additional information, please visit [www.ocsef.org](http://www.ocsef.org)

Need some help with a science project?

**Science Fair Central:** [www.engineergirl.org/?id=4593](http://www.engineergirl.org/?id=4593)

Information and links to help you improve your science fair project. Check out the Handbook for tips on everything from how to decide on a topic to how to organize your presentation.



## Did You Know?

The term 'Computer Bug' was coined in the 1940's when an insect got into a relay in a primitive electromechanical computer, causing computer malfunctions.

Visit [www.discoverengineering.org](http://www.discoverengineering.org) for more cool facts.



## Attention High School Teachers: Scholarship Opportunities for your Graduating Seniors

Please inform your graduating, female Seniors of the Society of Women Engineers **Freshman Scholarship opportunities**. These scholarships are awarded to graduating seniors with a 3.5/4.0 GPA or better that are planning on studying engineering. Encourage these women to visit [www.swe.org](http://www.swe.org). Click on Scholarships and Freshmen. The application and other requirements can be downloaded from this site. Online applications will be available February 2010-May 2010.

Encourage all graduating seniors to visit the Collegiate Membership section of the [www.swe.org](http://www.swe.org) website. Click on Membership and then Collegiate. SWE has sections at hundreds of college campuses throughout the country. Collegiate sections allow collegiate women studying engineering to become part of a community of peers with access to the tools, training and role models they will need to realize their aspirations as engineers and leaders. Collegiate section membership is a valuable resource for academic, professional and fun activities.

If you have students interested in SWE, please have them contact Autumn Smith for more information at [asmith477@yahoo.com](mailto:asmith477@yahoo.com)

## Would you like to have an engineer speak to your students?

Do your students know what an engineer does? Do they have an aptitude for math and science, but not know what to do with their gift? SWE-OC has some very accomplished women that would love to share their experiences which can inspire and hopefully lead your students into the fascinating world of science and engineering. If you would like more information about this program, please contact the SWE-OC **Speaker's Bureau** Chair, Jeannette Lindemann at [swe-oc-speakersbureau@swe.org](mailto:swe-oc-speakersbureau@swe.org)



Please include the following:

- Your Contact Information
- Time Frame for Speaking (Date, Time)
- Location
- Age Group



## SWE Outreach Programs & Resources

The national Society of Women Engineers website has a wealth of resources information for educators. Go to [www.swe.org](http://www.swe.org) Click on K-12 Programs. In this section you'll find information on available program, projects and resources targeted to all levels of students from kindergarten through high school. You'll also find resources for parents and educator regarding our national partnerships with other professional organizations.

### Website Resources:

-  [www.tryscience.org](http://www.tryscience.org)
-  <http://pbskids.org/zoom/>
- **NASA For Kids** <http://www.nasa.gov/audience/forkids/home/index.html>
-  <http://www.engineergirl.org/>
-  [www.fsea.org](http://www.fsea.org)
-  <http://www.ucop.edu/mesa/home.html>

## Extraordinary Women Engineers Project (EWEP)

The EWEP is an outreach and awareness program designed to encourage young women to choose engineering as a career. Approximately 10% of engineers in the workforce are women. While statistics show the same percentage of girls are taking science and math classes as boys in high school, there is a disconnect between the preparation and actual career choice. The program recently conducted research to find out why academically-prepared women do not consider engineering a desirable profession.

As a result of the study, the "Engineer your Life" campaign was recently kicked off as a means to get the word out about engineering in a way that was geared towards girls and young women. For more information on this great program, visit the website: <http://www.engineeryourlife.org/>

## Engineering Facts: Did you Know...

### Engineers design golf balls and clubs



Do you golf? Have you ever wondered why golf balls have dimples? The newest golf balls are coming out with increasingly complex dimple patterns. Is this just some marketing game or is there a good reason for it? Aerospace engineers know what that reason is. A dimpled golf ball creates turbulence in the air as it flies. This reduces drag compared to a smooth ball. A properly dimpled golf ball might go 250 yards on a drive, while an equivalent smooth ball might only go about 120 yards.

[Click here](#) for more information on engineering and golf.

Most people would rather buy new golf clubs that improve their game instead of putting in extra practice time. Materials engineers are busy designing the latest super light weight clubs and Mechanical engineers are designing the shape of the club heads to maximize power transfer to the ball.

### Engineering takes time



The Hubble Telescope, one of the largest and most complex satellites ever built, was the result of over 20 years of science research and engineering. It is the size of a school bus and orbits just 380 miles above Earth.

### Two U.S. presidents had engineering backgrounds

Majoring in engineering is considered to open all types of career doors after college. Even doors to the White House! Herbert Hoover and Jimmy Carter both had engineering backgrounds. Hoover (the 31<sup>st</sup> President) studied mining engineering at Stanford University. Jimmy Carter (the 39<sup>th</sup> President) attended Georgia Tech and the US Naval Academy. Carter served in the Navy for 10 years as an engineer working with nuclear-powered submarines.

## Questions, Comments & Requests



We hope you find our Outreach newsletter fun and informative. If there are any topics you would like us to cover in future issues, please send them to Kathleen Curley at [swe-oc-outreach@swe.org](mailto:swe-oc-outreach@swe.org)

Comments and Questions are also welcome. Please send us email addresses for teachers who would like to receive future copies of this newsletter.

Additionally, if you would like to be added to the SWE-OC mailing list so that you receive any future Outreach correspondence, please Contact Kathleen.



**Society of Women Engineers – Orange County Section**  
**Certificate of Merit Nomination Form**

**Criteria for nominating student:**

- Must be a female Junior or Senior in high school.
- Must have completed three years of college prep science with distinction.
- Must have completed three years of college prep mathematics with distinction.
- Must be an active citizen of the school and community.
- Nominated students should have above average grades in math and science classes and show enthusiasm in these curriculums.

NAME OF STUDENT NOMINATED: \_\_\_\_\_  
(please print clearly or type)

NAME OF SCHOOL: \_\_\_\_\_

SCHOOL ADDRESS: \_\_\_\_\_  
\_\_\_\_\_

SCHOOL CONTACT NAME: \_\_\_\_\_

CONTACT PHONE NUMBER: \_\_\_\_\_

Please provide a brief description of why you are nominating this student for a Certificate of Merit:

I certify that the school listed above has chosen the student nominated below and that this student meets the above criteria.

Signature of Guidance Counselor or Principal:

\_\_\_\_\_ Date: \_\_\_\_\_

Return this form by **May 1, 2010** to:  
[Amy.Lee@boeing.com](mailto:Amy.Lee@boeing.com)

The award will be mailed to your school in June.