



Spring, 2009

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SWE~Charlotte-Metrolina

# Chronicle

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## “Engineers are Cool!”

### Girl Scout Outreach Event

Twenty-five volunteers braved a cold February Saturday morning to assist with the biannual Girl Scout badge event “Engineers Are Cool!” This event is held twice per year by the Charlotte-Metrolina Section in association with the Hornets’ Nest Girl Scout Council. The event is limited to 50 Junior Girl Scouts (4th and 5th Grade) and we almost always have a full event with a large waiting list. This year our waiting list was over 25 girls!

Our 25 volunteers conducted five sessions around various fields of engineering including mechanical, structural, civil, electrical, and chemical engineering. A

single volunteer generally leads each session and is assisted by other volunteers so that the Girl Scouts are provided with a lot of attention.

Our structural session was led by the students of the UNC Charlotte Collegiate Section with Rebecca Turner, Collegiate Section President heading up the team. The students explained the basics about

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### Volunteers for the Girl Scout Event:

(front row) Elizabeth S., Heather Harkenrider, Phon Bouaphanh, Matt Johnson, Stephanie Cellemme, Rebecca Turner, Jennifer Burley, Amie Sparnell (back row) Zhengzheng Hu, Crystal Freeburg, Sandra Kolvick, Leigh S., Ann Prock, Ju-Ian Shen, Tiffani Teachey, Angela Berry, Michelle Dixon, Crystal Williams, Monifa Hendrickson, Alisha Taylor, Brittany Kinsey, Taylor Dixon (not pictured) Vickie Burley, Chris Cathcart, Emily Reiniker



# President's Corner

By: Chris Cathcart

As the year comes to a close for FY09, I want to thank the officers and chairs that provided such

great support this year. We have been very successful this year! I won't bore you with a review (that comes in an article later). I can't wait to see what new ideas and events come up for next year!

I would like to take this opportunity to share a few things I have been learning over the last several months. I have been taking a webinar in pieces so that I could take the time to complete the homework for it. There are 8 total sessions but this goes fast. One of the things I have learned and want to share is the idea that you need continuous work on your weaknesses. I have had this drilled into me for years now. The only way to get better is to take a weakness and turn it miraculously into a strength. It has never worked for me before and now I get why. One path to success is to focus on your strengths. Improve those areas and manage around your weaknesses. This was a whole new way of thinking for me. To allow myself the option to "manage around my weaknesses" and focus on my strengths was one of the biggest "Aha" moments I have experienced.

The second thing I want to share is the new definition of strength and weakness. I have always thought and been taught a strength was something you were good at and did well. A weakness was something you were not really good at and did not do well. I have new definitions now! A strength is something you do that makes you feel stronger. One of the exercises from this webinar is to write out several strength

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# Annual Awards & Recognition Banquet

June 27, 2009; 6:00PM

Each year the Charlotte-Metrolina Section hosts an Awards & Recognition Banquet to celebrate our accomplishments, thank our outgoing officers, announce and install our incoming officers, and recognize any award winners, including the recipient of the Distinguished Engineering Service Award.

This year the banquet is being held on Saturday, June 27 at 6:00PM at the Lake Wylie Junction located at 13105 South

Tryon Street, Charlotte, NC 28278. This is near the corner where highways 49 (Tryon St.) and 160 (Steele Creek Rd.) cross.

Please join us for the year in review, awards, and introducing the new officers. Dinner will be separate checks. To view the menu, visit the restaurant's website:

[www.lakewylie-junction.com](http://www.lakewylie-junction.com). RSVP to Chris.Cathcart @ swe.org by June 22.



# SWE Region D Conference 2009

By: Sandra Kolvick

In March, the Georgia Tech Section hosted the Region D annual conference, which was my first SWE conference. I really enjoyed the experience, particularly since it included a trip to my alma mater. The workshops and panel discussions were interesting, with learning about everything from the new projects at the Savannah River Site, an image consultant, wealth management, fracture mechanics, SWE initiatives with STEM and Title IX, and of course the SWE regional business. Dinner the first evening was in the Egyptian Ballroom at the Fabulous Fox Theater, with Gina Lester Evans, PhD, Executive Director, State Road and Tollway Authority as the keynote speaker. She was the first woman commissioner of the Georgia DOT, and her degrees are in civil engineering. She discussed how your career can go in a path that you may have never imagined and to stay open to different opportunities.

The second evening was the awards dinner and our section took home awards for Professional Development Event and

Professional Development Program. Overall it was a great conference; we had a great time networking, learning, and enjoying the beautiful spring weather in Atlanta.

The national conference is scheduled for October 15-17 in Long Beach, California.



R: Egyptian Ballroom, Fox Theater

<http://swe-cm.org> | [Charlotte.Metrolina @ swe.org](mailto:Charlotte.Metrolina@swe.org) | PO Box 37784 | Rock Hill, SC 29732





## Member Profile: Kristine Barnes

Coming to us from the Chicago Regional Section in Region H, is Kristine Barnes. Kristine has a BS in Civil Engineering from Valparaiso University in Valparaiso, IN and a MS in Structural Engineering from Marquette University in Milwaukee, WI. She chose Valpo for its highly ranked undergraduate engineering program as well as the small university feel which enabled her to have a lot of quality interaction with professors. She chose Marquette for the same reasons and she was also interested in the research in composite bridge decks that was being done, which she was able to join. She first got started because she is a roller coaster fanatic and wanted to be a roller coaster designer. She ended up really enjoying structural analysis, steel design, and concrete design. She is an EIT and has received the Outstanding Senior Award at Valparaiso University and various awards recognizing excellence for projects at work.

Kristine works as a Structural Engineer II with AREVA NP performing analysis and design of structural components for nuclear power plants, currently for steam generator replacement projects. She chose AREVA because she thought designing and servicing nuclear plants sounded like an interesting opportunity and also liked that She's able to say she 'working towards a future of clean energy'. AREVA is the first company she worked for out of graduate school. She worked in an office in Naperville, IL for 2 years before being accepted into AREVA's new rotation program. She will be rotating through groups within AREVA for the next 3 years, one year in each group. She has just started her first rotation here in Charlotte working for the Steam Generator Replacement Group. She enjoys being an engineer because she enjoys the challenge and problem solving. She also enjoys the occasional

fast paced, emergency situations that call for quick thinking, collaboration, and problem solving.

Kristine joined SWE in FY02 to help out with a Girl Scout outreach program at Valpo and it continued from there. SWE has been a huge help for her from meeting new people to strengthening her soft skills such as public speaking and communication. She loves to go to conferences for networking and professional/personal development. Kristine cannot say enough about the benefits of SWE. Since she just transferred to the Charlotte-Metrolina Section in October, she looks forward to meeting people in the section and helping out with activities when able. She has held various positions in SWE: FY08/09 - Region H/D Collegiate Leadership Coach; FY08 - Secretary, Chicago Regional Section; FY07 - Newsletter Editor, Chicago Regional Section; FY06 - Region H Collegiate Representative; FY05/04 - President, Valparaiso University Section; and FY03 - Secretary, Valparaiso University Section. She is also a member of American Institute of Steel Construction, American Nuclear Society and U.S. Women in Nuclear and participates in Habitat for Humanity.

Kristine and her husband Aaron recently moved from Chicago, IL to the Charlotte area because of her job. They enjoy going to wineries, festivals, music events, and spending time with their Miniature Schnauzer Weslie. She likes the colors blue and pink and enjoys eating anything chocolate. Her favorite movie is The 10th Kingdom, technically a mini-series, and she likes Harry Potter, The Golden Compass Series. Her favorite words are defenestrate and terse. She says the first is just fun to say and the second is a very nice little adjective.

statements that start with "I feel strong when". A

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weakness is something that drains you and makes you feel weak. Another exercise was to write out several statements that started with "I feel drained or weakened when I". I was amazed at the lists. Two things that I have always been told were my strengths actually drain me and make me feel weaker.

The last item I want to cover is this concept of being told what your strengths and weaknesses are. Does someone else actually know you better than you know yourself? We (especially women) should stop doubting ourselves and take stock of what we know. Everyone has the ability to give yourself great feedback. If you are like me, I can come up with every weakness in the book and then give myself that list of strengths that says I know my weaknesses. Using this technique from this webinar, I have been able to help myself realize that I have many strengths and some that I do not do very well yet. With this realization also came the realization that I have some things that I need to change. Change does not happen overnight but realizing you need to make changes is a good start.

I found this by reading an article on CNN about having a "bad manager". You just never know what something you read for a rather negative reason can lead to something this positive. Please take the time to invest in you. No asset you have is greater than you are.

The website for the webinar is [http://www.oprah.com/package/money/career/pkgmarcus/20080401\\_orig\\_marcusbuckingham](http://www.oprah.com/package/money/career/pkgmarcus/20080401_orig_marcusbuckingham). This is not sponsored or acknowledged by SWE.

## Upcoming Events

Details for each of the following events can be found on the Calendar of Events page of our website.

**May 1-25** – Officer Elections

**June 27, 6:00PM** – Annual Awards & Recognition Dinner

**July TBA** – Leadership Team Planning Meeting

## SWE Webinars

Free for SWE members, \$49 for non-members. Details for each of the following events can be found on the Professional Development (PD) page of our website. Directions for webinar registration are located at the top of the PD page.

**She Said/He Said How to Understand and Leverage Communication Style Differences: Part 2**

May 27, 2009, 5 p.m. (EDT)

Speaker: Pamela Fay, President and founder of Three Basic Consulting

**She Said/He Said How to Understand and Leverage Communication Style Differences: Part 3**

June 9, 2009, 5 p.m. (EDT)

Speaker: Pamela Fay, President and founder of Three Basic Consulting

## Slate of Officers for FY10

Crystal Freeburg served as the Section's Nominating & Teller Committee Chair this year and presented the following slate of officers for FY10.

**President:** Chris Cathcart

**Vice President:** Angela Berry

**Secretary:** Leigh Simpson

**Treasurer:** Kerrie Goforth

**Section Representative:** Sandra Kolvick

Ballots were distributed to Section Members on May 1 to be submitted by May 25. FY10 Officers will be announced and installed at the Awards & Recognition Dinner being held on June 27, 2009.

## Celebrate Women's History Month by Getting Healthy

By: Crystal Freeburg

In honor of Women's History Month, our March meeting focused on Women's Health. Nicole Martin from Presbyterian Healthcare was our guest speaker. Nicole spoke on overall health and wellness and ways to improve your heart health. She also gave information on the Mediterranean-American Food Plan. Recent studies have found that a diet rich in fruits, vegetables, olive oil and fish, such as the Mediterranean-American combined with an active lifestyle, have a significant impact on reducing cardiovascular disease mortality. The meeting was very informative and filled with practical tips for healthy living. For more information on heart healthy living visit [www.presbyterian.org/heart](http://www.presbyterian.org/heart).



## Joint Meeting with PENC

By: Jennifer Braganza

On April 27th, 2009, the Society of Women Engineers with the Professional Engineers of North Carolina welcomed Dr. Gary Ferraro, Professor Emeritus of Anthropology from UNC Charlotte for his presentation on "Global Brains: Competencies for the 21st Century." In his presentation, Dr. Ferraro explained how globalization is affecting American business and gave several examples of how companies have failed to adapt. Additionally, he discussed how we could prepare ourselves to work globally. Dr. Ferraro also signed his book, "Global Brains" at the end of the meeting.

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bridges such as the components that make up a suspension bridge as well as the basic compression and tension forces that are balanced. Each group of 10 Girl Scouts was broken into teams of 5 to build suspension bridges out of chairs (towers), rope (cable), string (stringers) and poster board (deck). At the end, each bridge is loaded with engineering text books until the bridges collapse to the cheers and groans of the Girl Scout teams. While having fun, the girls learn to work together.



*Rebecca Turner shows different types of bridges during the Structural Engineering Session.*

A new leader, Leigh S., stepped forward to lead the ever popular chemical engineering session on making slime (a polymer). This session teaches some basic principles of chemistry such as measuring ingredients to the right proportions. The Girl Scouts were thrilled as usual to take home their colored slime (pictured below) in plastic sandwich bags to share with their delighted parents.



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In the mechanical engineering session the Girl Scouts make an air



quick oats, and sprinkles (various sizes of aggregate materials). After stirring all their ingredients into the “binder” the girls roll out their “asphalt” between two pieces of wax paper similar to a drum roller being used to roll and compact real asphalt.

Another new leader, Phon Bouaphanh, volunteered to lead the loud, but fun, session on electrical engineering. In this session the Girl Scouts use a manila folder, a plastic straw, aluminum foil,



wire, a buzzer, battery connector, and 9V battery to construct a pressure switch that is a burglar alarm (*pictured above*) they can use on their bedroom doors. Again, another big take home hit with the parents!

Our event is so well received by the Hornets’ Nest

Council and Junior Girl Scout troops that we have been asked if we could offer it more frequently than twice per year. Many thanks go out to our great, and varied, volunteer pool that makes this event possible every time. Our volunteers include men and women, architects, engineers and bankers. We couldn’t hold this event without these great people who are willing to give up a Saturday twice per year to interest young girls in the profession of engineering.



## FYog Leadership Team

### President:

Chris Cathcart  
Gulfstream  
Chris.Cathcart @ swe.org

### Vice President:

Sandra Kolvick  
Fluor  
Sandra.Kolvick @ swe.org

### Secretary

Cheryl Kinchen  
SAIC  
Cheryl.Kinchen @ swe.org

### Treasurer & Website Coordinator:

Kerrie Goforth  
Goforth Residence  
Kerrie.Goforth @ swe.org

### Section Representative:

Angela Berry  
City of Charlotte - DOT  
Angela.Berry @ swe.org

### Alternate Section Rep & Nominating Committee Chair:

Crystal Freeburg  
WK Dickson  
Crystal.Freeburg @ swe.org

### Outreach Committee Chair:

Mandi Brigman  
Duke Energy - Catawba  
Mandi.Brigman @ swe.org

### Professional Development Chair:

Jennifer Braganza  
UNC-Charlotte  
Jennifer.Braganza @ swe.org

(sail) powered car called a Puff Mobile. Jennifer Burley, a senior at UNC Charlotte in Motorsports Engineering, enthusiastically led this session as usual. She was aided by Section Vice-President Sandra Kolvick who was learning the ins and outs of air powered vehicles made of one sheet of paper, 4 lifesavers, 3 paperclips, 2 plastic straws and all the tape the girls can use.

Emily Reinicker stepped forward again to lead our civil engineering session where the Girl Scouts make chocolate asphalt. Emily brings in pictures of paving equipment and explains the purpose of each. She also has cores of real asphalt sections for the girls to look at and compare what they see in the core against the ingredients in their “asphalt.” The chocolate asphalt (*pictured below*) is made from melted chocolate chips (binder), chopped walnuts, shredded coconut, old fashioned and

