

2013 WCC Rising Stars

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DR. GWEN GROSS



Dr. Gwen Gross, 2013 Rising Star Award Winner, moved around with her family from New Mexico to Texas before settling in Arizona where she attended high school and received a B.S. in Chemistry from the University of Arizona. She then headed to the Northwest to attend the University of Washington where she received a Masters in Chemistry followed by a Ph.D. in Analytical Chemistry. While working on her graduate degree under *Dr. Robert Synovec* in the Center

for Process Analytical Chemistry, she did her first work for The Boeing Company, which set her on her career path.

Gwen is currently a chemist for The Boeing Company in Seattle, Washington, where she is the resident chemist for the Structural Composites group within Boeing Research and Technology. In this role, *Gwen* works closely with internal and external engineers, material scientists, buyers, and others to ensure the integrity and quality of composite materials for the duration of an airplane program. This includes developing the next generation of structural composite materials as well as maintaining focus on current composite manufacturing issues at suppliers and locations around the world. *Gwen* is regularly called upon to lead investigations involving chemical systems from across the Boeing Enterprise. She has developed accelerated test methods for rapid screening of new materials based on aircraft operational requirements and material compatibility for materials such as composites, paints, specialty films, tapes, and sealants. *Gwen* has also developed methodologies for shop floor sampling of complex parts and structures where rapid response times are critical and the parts in question can be valued in the millions of dollars. This work includes the development of methodology for real-time analysis in production to determine mix ratios and to predict final tensile strength for flight-critical polymeric coating. She has been the Principal Investigator on multiple projects including development of quality control systems for nanocomposites, and she currently holds two patents with filings for several others.

Although *Gwen* has had a successful professional career as a chemist, she has found it challenging to gain recognition as Boeing traditionally gives awards and recognition to Engineers. Therefore, she successfully nominated herself for the Rising Star Award to gain recognition not only for herself but for chemistry and other non-engineering technical personnel. She also hopes to gain added recognition for the American Chemical Society and its many benefits. [QU: As meant?]

On a personal note, she is married to a computer “geek” and they have a beautiful five-year-old daughter.

—*Lisa Houston*

DR. MICHELLE HAMM



Dr. Michelle Hamm, Associate Professor and Chair of the Chemistry Department at The University of Richmond, in Virginia, uses synthetic and physical organic chemistry to address specific biological questions. She enjoys teaching undergraduate students in the areas of Organic Chemistry and Biochemistry. She is an amazing mentor and role model for teaching at a Primarily Undergraduate Institution (PUI) and is one of the 2013 winners of the Rising Star Awards. In effort to get

to know Michelle a little better we asked her a few questions and share her insightful responses here.

Q. How did you get started in your field?

When I was a junior in high school, I took my first Chemistry class and was introduced to the periodic table. I was amazed how atomic properties could be predicted by an element's place (column and row) on the table. That our world is governed by provable rules hooked me then and still inspires me now.

Q. Did/do you have mentors and how have they helped?

I had great advisers during both my Ph.D. and post-doc, though if I could go back, I probably would have asked for more help and advice from them (and others). I have an independent personality where I don't want to bother people, so I tend to do things on my own. Even in my current department, though I have great colleagues, I did not seek out their advice as much as I should have early on and thus, made mistakes that could have easily been avoided (too much service, etc). That is probably my biggest advice to young scientists: Don't be afraid to ask for help and mentoring.

Q. How do you balance work and life?

Balancing my home and work life is definitely one of the biggest challenges I face. I have two children (6 and 4 years old) and a husband who is trying to make partner at a law firm, so our days are very busy. I also have a hard time leaving my work at work, so turning off the iPad/iPhone/computer after we get home at night but before the kids' bedtime is tough, but something I know I must do. Like any working mom, I sometimes have to miss important work meetings for family events and other times must miss a personal event for work. My life really is a balance, with some days more work focused and others more family focused, but with most days a good combo of both.

Q. Do you have any advice for other women in chemistry?

Keep your eyes on your goals and don't let anything distract you from what you want. It can be a difficult road in graduate school and during a post-doc (I definitely had to deal with lots of drama, as well some sexism.), but do your best to keep moving forward during those tough times. Try and not let difficult events or people hinder your ability to work hard and get what you want.

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