STEM SPOTLIGHT

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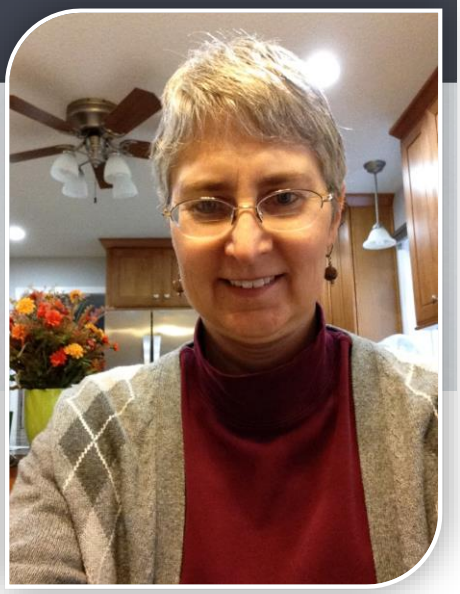

Q How did you select your college major?

A I was always interested in engineering, and my focus was always in the earth (geology, soil, hydrogeology) as well as in basic physics (statics, dynamics). When I first began my university studies, "environmental engineering" as we know it today was in its infancy. So I concentrated in civil engineering, which had the soil and water sciences, as well as road and structural design.

Q What was the biggest influence in your selection of major/career?

A I wanted to solve problems - and engineering is the "hands on" solution of problems using scientific principles. Consulting requires constant problem-solving for many different clients - that's what you're hired to do.

Q If you could go back to high school and select any elective course to take that would have better prepared you for college, what would it be?

A In high school, I had a great foundation in English and Social Studies - I wrote a lot of essays. What most people don't realize is that all scientists and engineers need to write about technical topics - to be able to communicate not just to their peers, but to non-technical audiences as well. I was very lucky because I was able to spend some extra time at UVA and double major in English. That extra time, working on my writing skills, has been invaluable in my career. Definitely don't skimp on your writing.

If I had more time, I should've taken additional chemistry and biology. I never thought I would need them again after first and second semester of college, and now that's mostly what I do.

Q What is your favorite aspect of your job?

A There are several great things about my job. As a remediation specialist in an environmental consulting company, I see all kinds of problems. My job is to figure out different ways to clean up contaminated soil or groundwater. Sometimes that might be remediating very aggressively (for example, to dig it up). But aggressive techniques have negatives - high costs, or interruption of business, or a lot of disturbance to the surrounding public. So there are often other methods that are not as disruptive - but these have positives and negatives too. I help the property owner and other stakeholders involved (like EPA or TDEC) understand the benefits and disadvantages of each option, and help them select the best remedy.

What is great is that each site is different, and the technology is constantly changing. I am always learning something new.

Q How do you/your company make a positive impact on society/our community?

A We're helping companies (large and small) make smart decisions about how to manage their environmental clean-ups efficiently.

Q What is the most interesting thing you have been able to do in your career?

A I've been lucky enough to do several cool things - like finding contaminant source areas, or reducing contaminant concentrations significantly through treatment. I'm also lucky enough to be working at the "cutting edge" of this industry. Sometimes I'm testing remedies or approaches which haven't been written up yet; we're either trying something new, or we're combining several different approaches to solve a problem - we think it will work, but we have to test it. When all the pieces fall together - that's pretty awesome.

Q What makes you get up each morning excited about your profession?

A The fact that I may be doing something absolutely new - something no one has ever done before to solve an environmental engineering problem. The creativity and problem-solving opportunities each day are amazing.

Q What advice would you like to share with K-12 students who are considering your profession?

A Take as much math and science as you can through high school. Push yourself - take the hardest courses offered at your school. Ask "why" things happen, rather than just memorizing facts. Go out and look for answers yourself. Experiment a little. Don't be afraid to make a mistake, because you can learn from your mistakes. Think things through; the first answer that pops into your head may not always be the best one. Value the opinions of others and remember that other people can sometimes see the problem from different angles. And work on your communications skills (written and oral) through your class work and extracurricular activities, because you will use them daily as an engineer.