

NCW 2007: The Many Faces of Chemistry

Career Profile: Environmental Chemist

by Frankie Wood-Black

Describe your present position.

I recently moved from the position of Consent Decree Coordination with ConocoPhillips to an environmental consulting position with Trihydro Corp. Both of these positions are related to supporting environmental compliance within the petrochemical industry. At ConocoPhillips, I have been working with National Emissions Standards for Hazardous Air Pollutants (NESHAP) compliance for benzene waste and leak detection and repair regulations. My environmental work is broad-based and has included work with Community Right-to-Know as well as the Toxic Substance Control Act.

Did you get to your present position because of your background in chemistry and area of specialization or did life experience(s) take you there?

I started my career as a bench researcher. My research led me to the environmental arena, which in turn led me to positions within operating refineries. My career has been diverse—laboratory management, finance, site remediation, and now working with environmental permits and future sustainability.

In what areas of chemistry did you specialize?

I am a chemical physicist by training, but my “day job” has me applying environmental chemistry, chemical health and safety, analytical chemistry, and dealing with the science behind the regulations.

Do you use chemistry on a daily basis? Describe what you do on a day-to-day basis.

On a daily basis, my job requires an understanding of refinery processes as well as environmental testing methods. I evaluate the impact of regulatory requirements on refinery operations and ultimately the products. As a consultant for refining operations, one has to understand the challenges and chemistry of what is happening in the operating units on a day-to-day basis. As the Environmental Protection Agency (EPA) and the public require more environmental testing and controls, understanding the tests as well as the process chemistry becomes increasingly important since modifications to the process can impact the efficiency and the ultimate product.

Describe the personal skills that have played an essential role in your present position.

In addition to the technical skills required for this position, it is essential that I communicate with others frequently. I work in a team environment and need to constantly balance the needs of the various team members as well as the needs of the overall project. Communication is essential. It requires not only the fundamental skills of writing and speaking, but it also means that you have to understand the communication preferences of the receiver. Leadership skills are also incredibly important. My position requires that I influence people with whom I have no direct control in order to complete the required tasks. Robert

Think of yourself as You, Inc. You need to continually assess what you want to do and what your career goals are.



photo by ConocoPhillips

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Fulghum said aptly “All I really ever needed to know I learned in kindergarten”; it is essentially correct.

What advice do you have for those who wish to pursue this or some other nontraditional career path?

Think of yourself as You, Inc. You need to continually assess what you want to do and what your career goals are. The current work environment does not have that once-familiar fraternal feel, i.e. the company would help you along the way. You now have to be your own career manager. Find a mentor, ask questions, read the job wanted ads (even if you aren’t looking for a job since these are great skill building tools for the future), and remember you are always on a job interview (even if you don’t know it).

How and where can readers learn more about this type of career?

Look to the American Chemical Society. Attend ACS local section meetings, talk with people in the field, and talk with people in the other technical divisions.

Are there other thoughts or lessons learned that you would like to share with our readers?

My grandfather gave me three pieces of career advice that I use every day: 1. You have to learn something new every day or you die. 2. It is okay to get mad about something, but you have to do something about it. 3. It is okay to fail but it is not okay not to try. And there is a corollary to these three: You have to make a decision. If you don’t, you have made one by default.

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Related Resources

1. Donahue, Craig J. Lubricating Grease: A Chemical Primer. *J. Chem. Educ.* 2006, 83, 862.
2. Vartanian, Paul F. The Chemistry of Modern Petroleum Product Additives. *J. Chem. Educ.* 1991, 68, 1015.