NCW 2007: The Many Faces of Chemistry

Career Profile: Lecture Demonstrator

by Jim Maynard

Describe your present position.

My position is "instructional specialist", but my working title is "The Lecture Demonstrator". My lab sets up lecture experiments for university faculty, staff, and myriad others to perform in classrooms, public places, and in special stage areas for filming. We also perform lecture demonstrations and evaluate and research new demos to film and perform. I help set up for visiting lecturers when they come to give talks in our seminar hall, occasionally recording talks as videos, implement new classroom learning technology, and generate great looking chemistry for photographs. In short, I help the department get as much out of teaching and learning chemistry as it can.

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 got my present position mostly by luck. I graduated with a B.S. in chemistry from UW–Madison in August of 2000. That school year, I had 30 initial interviews, one second interview, and no job offers. I happened to be in the chemistry building looking at want ads when the chemistry department advisor asked if I had found any work yet. My answer was a glare and a shrug towards the want ads, finally capped with a "No".

"Come with me" he said.

I got picked up as a faculty assistant for one section of general chemistry to replace a TA with whom the section was unhappy. I enjoyed teaching and survived end-of-semester evaluations. I was signed up to teach two sections during the following semester, but was then asked if I wanted to interview for another position. The former lecture demonstrator had left, and her successor balked at the last moment, opting to stay where he was. Classes were only four days away. I started work that next week, and have been working here since. I don't think I would have been considered for the position if not for my degree from UW–Madison. The practical troubleshooting experience I got as an electrician's mate in the U.S. Navy submarine force has helped. In that situation, once you were underwater there was no one to call for advice. To repair necessary equipment, you had only the gear you brought, and just had to make it work. I sometimes had to fabricate tools on the spot.

photo by Jerrold J. Jacobsen

Jim Maynard applies neat ethanol to a small pile of chromium trioxide, resulting in a spontaneous combustion.

I'm ready to do just about anything I am asked to... It's like being a short-order cook sometimes, but with chemicals.

In what areas of chemistry did you specialize?

I have a B.S. in chemistry; my undergraduate research projects involved inorganic and computational chemistry, particularly metal bond enthalpies and reaction coordinates.

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

I use chemistry every day. On an average day I might set up between 5 and 40 lecture experiments, answer two or three email questions from educators about how to perform or troubleshoot demos, set up the seminar hall for lecturers, erase boards, review a paper, videotape an experiment, develop and improve demos, and interact with many of the faculty. I'm ready to do just about anything I am asked to, such as blowing up explosive chemicals for educational purposes. It's like being a short-order cook sometimes, but with chemicals.

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

The most crucial personal skills for this job are communicating in a diplomatic and technically proficient manner, effectively budgeting and organizing time and resources, attention to fine detail, and remaining calm under pressure, both temporal and personal. There are only 15 minutes between classes to remove the old demos, set up new ones, and clean the boards, plus any last-second needs the lecturer may have.

Related Resources

1. Maynard, James; Jacobsen, Erica K. Iron in Breakfast Cereal. Demonstrations for National Chemistry Week 2004. *J. Chem. Educ.* **2004**, *81*, 1544.
2. Bain, Rachel; Jacobsen, Jerrold J.; Maynard, James H.; Moore, John W. Chemistry Comes Alive!, Volume 7 Abstract of Special Issue 32, a CD-ROM of Flames and Explosions. *J. Chem. Educ.* **2005**, *82*, 1102.
3. Bain, Rachel; Jacobsen, Jerrold J.; Maynard, James H.; Moore, John W.; Mitschele, C. Jonathan. Chemistry Comes Alive!, Volume 8 Abstract of Special Issue 34, a CD-ROM. *J. Chem. Educ.* **2006**, *83*, 1406.
4. Maynard, James H. Using Hydrogen Balloons To Display Metal Ion Spectra. *J. Chem. Educ.* in press.

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

Keep an open mind. Let events take you where they lead, rather than trying to impose your desires upon a given situation. See what's needed, and ask yourself, "Would I be happy doing it?"

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

I share insights into my demo life in a quarterly electronic newsletter called "The Demoist". Contact me at *maynard@chem.wisc.edu* to subscribe. I also have a Web area called the "Demo Corner" at *JCE Online* (*http://forums.jce.divched.org:8000/JCE/DigiDemos/DemoCorner/*, accessed Jun 2007). Contact your local large college or university for information on staffing opportunities and to see what kinds of specialized work they do.

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

Chemistry is not just a course, not just a career, not just a profession. It is a way of looking at the world. Problem solving, critical analysis, teamwork; all these skills will be of value whatever you do and wherever you go in life.

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