

## Program Report

### **PROF 1 Critical non-technical skills: What are they and how do you get them?**

**Robert H. Rich**, Department of Career Services, American Chemical Society, 1155 Sixteenth Street, N.W, Washington, DC 20036, Fax: 202-872-4529, r\_rich@acs.org, and Dorothy Rodmann, Rodmann Consulting

In today's competitive job market, technical competence is not always sufficient to obtain the ideal opportunity. Certain non-technical skills are increasingly being demanded by employers as well. A recent study by the ACS Department of Career Services found that eleven of these skill areas are critical for career success. This list includes written and oral communications, computer and information technology, team interaction and management, effective presentations, product stewardship, Responsible Care principles, initiative, vision and maturity. The paper will highlight those important areas and provide a list of resources for developing these skills.

---

### **PROF 2 DPR Henry Hill Award: A tribute to Henry Hill**

**E. Ann Nalley**, Physical Science Department, Cameron University, 2800 W. Gore Blvd., Lawton, OK 73505, Fax: 580-591-8011, annn@cameron.edu, and Attila E. Pavlath, Western Regional Research Center, USDA

Henry Hill was one of the early pioneers of professionalism in chemistry. When the word professionalism was considered unprofessional, he with a few other dedicated chemists kept the issue on the front burner. Unfortunately, he did not live long enough to see the fruits of his efforts. However, before he died, he did become the ACS President, where he was able to apply his efforts at promoting professionalism at the highest level. The Division of Professional Relations established the Henry Hill Award in 1986 to recognize the person who in the spirit of Henry Hill promotes the advancement of professional relations. This presentation will feature the past winners of the Henry Hill award emphasizing the contributions each has made to promote professionalism in chemistry.

---

### **PROF 3 His and hers chemistry careers ?**

**Mary Welsh Jordan** and Bruce M. Millar, Department of Career Services, American Chemical Society, 1155 16th Street, N.W, Washington, DC 20036, Fax: 202-872-4529, m\_jordan@acs.org

During the past quarter century, women have entered the professional chemical workforce in growing numbers and as an increasing proportion of the whole. At the start of this millennium, women now comprise about half the new bachelor's and master's chemistry graduates, and one-third of new Ph.D.s. However, some important questions remain on the experiences of both men and women in the chemical workforce. Do women have the same careers as men? Do they feel the same about their careers as men? Do they have different perceptions of their career prospects ? This paper examines the latest ACS data from ChemCensus 2000 regarding careers in chemistry and discusses some of the questions arising from the more recent feminization of the chemical workforce.

---

### **PROF 4 Intellectual property agreements and policies in academe: A comparison of practices**

**David J. Chesney**, Department of Chemistry, Michigan Technological University, 1400 Townsend Drive, Houghton, MI 49930, Fax: 906-487-2061, djchesne@mtu.edu, and James R. Baker, Corporate Services, Michigan Technological University

How is intellectual property dealt with in an academic environment? What are the steps that you must follow to protect your rights as the developer of intellectual property? How are the proceeds of the intellectual property which you have created distributed between you as the inventor and your university? What services are available from university staff to you as an inventor? How do university policies differ from those in other public sector institutions and the private sector? Most faculty have only a vague idea of their rights and responsibilities in the intellectual property arena. Moreover, there is

variation between universities regarding intellectual property policies and procedures. This presentation is intended to both address the questions above and to illustrate the differences in intellectual property agreements between various universities as well as contrast them with those of other public and private institutions.

---

### **PROF 5 Scientists influencing science policy**

**Ellen E. Burns**, ACS Congressional Science Fellow, Office of Rep. Nick Smith, 306 Cannon House Office Building, Washington, DC 20515, Fax: 202-225-6281, ellen.burns@mail.house.gov, Kathryn L. Parker, ACS Congressional Science Fellow, Office of Senator Ron Wyden, and Catherine Woytowicz, ACS Science Policy Fellow, Office of Legislative and Government Affairs

Thomas Jefferson said "Science is my passion and politics is my duty." The American Chemical Society (ACS) offers two fellowship programs to encourage the civic scientist. Two congressional science fellows serve one-year terms in the office of a member of Congress or as committee staff. Since only a handful of legislators have a science background, fellows fill a critical need for technical expertise, helping to shape policies and provide advice on important scientific issues.

One ACS member joins the Society's Office of Legislative and Government Affairs for a one or two-year stint. The science policy fellow helps to determine ACS's policy on issues affecting chemistry and contributes to the Society's efforts to educate policymakers.

The current ACS Fellows will share their personal "behind-the-scenes" stories about decisionmaking in Washington, DC. They will provide an overview of their experience and explain why the fellowships are excellent career changing or sabbatical opportunities.

---

### **PROF 6 Where have all the chemists gone?**

**John K. Borchardt**, Southaven Communications, 8010 Vista del Sol Drive, Houston, TX 77083-5039, Fax: 281-544-8687, jkborchardt@hotmail.com

ACS surveys, NSF studies and U.S. Bureau of Labor Statistics (BLS) data indicate employment patterns of industrial chemists are changing substantially. An increasing fraction of chemistry graduates are going to work for pharmaceutical and biotechnology companies and contract R&D labs. Some industries formerly hiring substantial numbers of chemistry graduates no longer do so and are reducing the number of chemists they presently employ.

Smaller companies are hiring a larger fraction of chemistry graduates. In addition, although huge pharmaceutical and chemical company mergers have grabbed the headlines, many large companies are selling chemical businesses to small companies or forming independent companies owned by venture capitalists. As a result, many mid-career chemists, chemical engineers and technicians once working for large companies suddenly work for smaller ones.

1998-2008 BLS employment projections indicate these trends will continue. Chemical scientists at all stages of their career need to consider them in their career planning.

---

### **PROF 7 Career changes: Planned and unplanned**

**Eli M. Pearce**, Department of Chemical Engineering, Chemistry and Material Science, Polytechnic University, 6 Metrotech Center, Brooklyn, NY 11201, epearce@duke.poly.edu

I will discuss my career directions in over 50 years in chemistry. After my BS from Brooklyn College, I worked at NYU-Bellevue Medical Center and continued part-time studies at NYU receiving an MS. Also part-time, I continued part-time at the Polytechnic Institute of Brooklyn, and after 2 years in the US

Army, completed my PhD in 1958. My first position was Research Chemist at DuPont's Carothers Lab, followed as Supervisor at JT Baker, manager, technical supervisor, VP-Research staff at Allied Chemical and Director of the Dreyfus Laboratory at Research Triangle Institute. Then I joined Polytechnic University as Professor of Chemistry and Chemical Engineering in 1974, and was Head of Chemistry Dept., Dean of Arts and Sciences, Director of Polymer Research Institute, and University Professor. I will discuss the background of the changes in each stage of my career.

---

### **PROF 8 Changing faces of chemical careers**

**Mary Welsh Jordan**, Department of Career Services, American Chemical Society, 1155 16th Street, N.W, Washington, DC 20036, Fax: 202-872-4529, m\_jordan@acs.org

In the past two years, ACS Department of Careers Services and the Committee on Economic and Professional Affairs have conducted two surveys that asked respondents about interruptions and changes in their careers. Throughout 1999, ACS members 50 through 69 were asked in detail about their "Lifetimes in Chemistry." Also last year, ChemCensus 2000 surveyed all ACS regular domestic members, under the age of 70. Both these studies provide a wealth of information about changes in chemical careers extending from individual members to the whole of the chemical workforce. This presentation will offer insight into the latest data regarding chemical careers on both macro and micro levels.

---

### **PROF 9 Surviving and thriving in an unplanned big company - small company employment change**

**John K. Borchardt**, Westhollow Technology Center, Tomah Products, P.O. Box 1380, Houston, TX 77251-1380, Fax: 281-544-8250, jkborchardt@hotmail.com

As part of Shell Chemical Company's sale of 40% of its chemical operations in 1999-2000, the business I worked in was sold to a small chemical company. This sale resulted in more than 30 chemical professionals facing career changes and the corporate culture shock of switching from a very large to a quite small company. Additional Shell business sales resulted in more than 1,000 chemical professionals facing similar situations. Similar divestments have become common in industries employing chemical professionals.

One day I was working for a company with more than 15,000 employees and the next a company with less than 100. I will describe the steps I took during the sale process to investigate other job options in industry, academia and alternative careers. Also, I will review the accommodations that persuaded me to do something I originally did not think I would do: work for the small company that bought the business.

---

### **PROF 10 Life after the lab**

**Ruth A. Hathaway**, Hathaway Consulting, 1810 Georgia St, Cape Girardeau, MO 63701-3816, Fax: 573-334-2551, hathaway\_consulting@hotmail.com

Making a career change, by choice or by force, can be traumatic. Stepping into the unknown (as a consultant) from the routine (a lab employee) takes planning. The presenter will share how she made the transition, along with the pitfalls and successes encountered.

---

### **PROF 11 What's a nice chemist like you doing in a place like a law firm?**

**Hubert Dubb**, Professional Intellectual Property Management Corporation, 1 Lyndhurst Court, Belmont, CA 94002-3758, Fax: 650-631-8146, hdubb@home.com

Doing research was fine but I didn't like the atmosphere and restraints encountered in industry. I like to feel that my work product is of value. As a result I decided to become a patent lawyer. This took about

four years going to night law school while working full time in industry and then passing both the California State Bar examination and the Patent Agents examination. Finding a law job was difficult since I had to take a cut in pay and possible employers were uncertain I could handle that fact. Within a year my pay as a lawyer exceeded that I had been making as a program manager in aerospace. The change worked out fine. Those who hired me valued my services and advice and I was able to contribute to society.

---

### **PROF 12 Consulting: An ideal career for (some) technical professionals**

**Geoffrey E. Dolbear**, G.E. Dolbear and Associates, 23050 Aspen Knoll Drive, Diamond Bar, CA 91765-2545, gedolbear@gedolbear.com

A consultant has been defined as a person who borrows your watch to tell you what time it is - and then sends you a bill. For a scientist working as a consultant, knowing how to read the watch takes a strong education coupled with years of experience. Technical consulting makes use of all the scientific, problem solving, communication, and personal management skills learned over years in large companies. This is a career that offers challenges and rewards that make it very satisfying.

This paper tells how a physical chemist from the petroleum industry got into consulting and why. In it he discusses some of the most important lessons he learned along the way. Chief among these is the importance of marketing his skills effectively.

---

### **PROF 13 Changing career directions while continuing to march forward**

**Kathryn L. Parker**, ACS-Congressional Fellow, 232 E St. NE, Washington DC, DC 20002, Fax: 202-228-2717, kathryn\_parker@wyden.senate.gov

Career opportunities for chemists are numerous and varied and choosing an initial career does not mean one is precluded from subsequent choices. For those willing to change career directions, there are some exciting opportunities in today's evolving job environment. Changing from one career to another, however, can be daunting due to concerns about losing one's prior investment and the anxieties that arise from confronting new work environments. I will focus on mid-career changes from my personal experience. I have been a researcher, teacher, and project manager in the public and private sectors. Currently, I am a Congressional Fellow for ACS. I plan on using the fellowship experience to launch a new career in the science and public policy arena, thus following some of my own advice, which I will share with you.

---