

Program Report

PROF 1 How the ACS helps you attain your career goals

Jean Parr, Department of Career Services, American Chemical Society, 1155 16th Street, N.W, Washington, DC 20036, j_parr@acs.org

The ACS Department of Career Services provides a wealth of information and assistance regardless of where you are on your career path – your first job or a career transition. The career services include one-on-one career counseling, data and information about the chemistry workforce, and direct contact with employers.

PROF 2 ACS career assistance programs

Elaine Diggs, Department of Career Services, American Chemical Society, 1155 16th Street, NW, Washington, DC 20036, e_diggs@acs.org

ACS Career Consultants offer assistance in fine-tuning your resume and job search skills. Career Services offers this career consultant program year-round and at local, regional and national ACS meetings. Want to know how to handle tough interview questions? Looking for some career strategies to help you get ahead without leaving your current employer? Learn how to use this service and let experienced chemists help to guide you through your career.

PROF 3 Using the ACS online employment databases

Tanya Fogg and **Jean Parr**, Department of Career Services, American Chemical Society, 1155 16th Street, NW, Washington, DC 20036, t_figg@acs.org, j_parr@acs.org

ACS has completed the most extensive overhaul of the National Employment Clearing House (NECH) in its 65-year history. NECH is using a new state-of-the-art online database system, which allows you to sign up and manage your account, keep track of changes to your interview schedule, and use a private e-mail system for communication between job seekers and job hunters, ChemJobs. Come to hear how to make these systems work for you.

PROF 4 Trends in employment for 2003

Mary Jordan, Department of Career Services, American Chemical Society, 1155 16th Street, N.W, Washington, DC 20036, m_jordan@acs.org

What is the job market like for chemical professionals today? How will it evolve in the future? The ACS Department of Career Services can assist your job search through the recent salary data it collects about chemists' salaries and employment trends and about the skills employers are seeking. In addition, attending this paper will help you learn how the ACS Salary Comparator (available on the ACS website) can help you find answers to your salary-related questions by providing current information applicable to specific employment situations.

PROF 5 ACS books that promote career management and success

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

Besides the excellent job-hunting and career management publications offered by the ACS Office of Career Services, ACS has published three books on career management and job-hunting subjects. Specifically tailored for chemical scientists and technicians, these books are more useful than general books on similar subjects that have not been tailored to the specific situations researchers, plant chemists, chemical managers, chemical information specialists, other chemical scientists and technicians face. The books are "Career Management for Scientists and Engineers" (now available from Oxford University Press- USA at the Chemical Exposition), "Careers for Chemists: A World Outside the

Lab," and "Career Transitions for Chemists." The speaker will review the contents of each book.

This information will also be presented as a poster at Sci-Mix.

PROF 6 My professional partner

Margaret E. Wickham St. Germain, U.S. Environmental Protection Agency Region VII, 9102 E. 50th Terrace, Kansas City, MO 64133-2120, Fax: 913-551-9209, stgermain.margie@epa.gov

Do you invest in your professional life? I do. I will share my personal story about my professional investments, and how ACS was there to support me as a BS chemist. I will share the events of my life as a new member, an experienced member, a member in need, and an older member. I will share the benefits derived from my membership to the society during each of these stages. Hopefully, you too will come to invest in your professional life, and share your stories with others.

PROF 7 Job survival skills: ACS was there!

Michael J. Brownfield, Raytheon Corporation, 3122 Parnell Avenue, Ft. Wayne, IN 46805, Fax: 260-429-4774, mike_j_brownfield@raytheon.com

Over the past 30 years, there have been many changes in my professional career. My career has included teaching, supervising, and managing in a non-chemical environment. In each of these positions, the American Chemical Society and its Career Services and Resources has played a major role in helping me define and adjust my career path. While teaching at the high school level and later at the college level, using the vast information available through the ACS member services, I was able to enhance my teaching skills and stay current on the changes occurring in the chemical world. After switching to the industrial environment, interaction through the use of Local Section activities and participation in ACS meetings, made me aware of the career opportunities and potential new positions available. The ACS and Career Services were there when job prospects were dim and being "laid off" became a reality. Again, the resources and information available only through the American Chemical Society assisted moving into a new position, which eventually developed into a twenty-five year career. This talk will cover using the resources of the American Chemical Society to survive the job market and how to enhance one's career.

PROF 8 Part I. Documenting the status quo: Getting information on MS programs—An ACS registry, a work in progress

Marjorie Caserio, Department of Chemistry & Biochemistry, University of California San Diego, 9500 Gilman Drive, La Jolla, CA 92093, Fax: 858-534-5383, mcaserio@chem.ucsd.edu, and **Marta Gmurczyk**, Education & International Activities Division, ACS, 1155 Sixteenth St, NW, Washington, DC 20036, Fax: 202-776-8202, m_gmurczyk@acs.org

There is speculation that the strongest growth area in graduate education in chemistry will be at the masters level. If so, students and employers will need much better access to reliable information on the different types of MS programs and employment opportunities than currently exists. Compared with the BS degree, there is no standard by which to evaluate an MS degree program - either its objectives, its content, or raison d'être. However, the ACS has initiated a project to capture as much information as academic institutions are willing to provide on their masters programs and to make the information available by way of a registry or database on the ACS website, chemistry.org. In this session, we will review information on MS programs, the number of degrees awarded annually, and employment opportunities. In conclusion, we will address the status of the ACS-MS registry project in anticipation of more detailed information on specific programs to be described by other speakers in this symposium.

PROF 9 Graduate education in master's-only institutions

Stanley H. Pine, Department of Chemistry and Biochemistry, California State University, 5151 State

University Drive, Los Angeles, CA 90032, Fax: 323-343-6490, spine@calstatela.edu

Many US colleges and universities award graduate degrees in chemistry only at the Master's level. According to the ACS-Directory of Graduate Research, these schools produce almost one-third of all MS chemistry graduates annually even though they are outnumbered nearly 4:1 by the doctoral institutions. These Master's programs are the most diverse of graduate offerings in chemistry. We will focus on the multitude of programs offered, their impact, the issue of course-versus-research curriculum, where the students come from and the career paths they follow upon graduation.

PROF 10 Opportunities for master's graduates in teaching

Amina K. El-Ashmawy, Department of Chemistry, Collin County Community College, 2800 E. Spring Creek Pkwy, Plano, TX 75074, Fax: 972-881-5619, ael-ashmawy@ccccl.edu

Accreditation associations' requirements may differ from what institutions of higher education look for in hiring faculty. This paper will address these differences as well as some of the presenter's experiences that have made her teaching more effective.

PROF 11 Part II. Professional science master's degrees: The Sloan science master's program

Sheila Tobias, author and consultant, 724 N. Campbell Ave., Tucson, AZ 85719, Fax: 520-882-6973, 102531.1746@compuserve.com

In this session, I and colleagues from Sloan Science Master's programs will propose a three-part strategy for increasing the value and popularity of the MS in chemistry by means of 1) enlarging some of the degree programs to incorporate modules in management, communication, and regulatory affairs; 2) enlarging the catchment pool of potential enrollees by opening the master's to geochemistry, biology, physics, and engineering science majors; and 3) expanding the range of careers and industries to which the chemistry Science Masters graduate will be attracted and where their particular skill sets will be highly valued.

In other disciplines, new Professional Science Master's (PSM) programs are now offered at more than 30 universities, including one wholly new graduate school dedicated to biotechnology. Graduates are launched on a wide variety of careers in business, industry, consulting, and work in the public sector -- careers that are closely allied with science and/or mathematics but not limited either to research or technical problem solving. Like master's in engineering, these programs are wholly self-contained and not way stations to the PhD. In addition to graduate-level coursework, a two-to four-month internship in a private or public enterprise is offered, and candidates can get exposure to economics, negotiation and consensus building, managerial accounting, legal environment of business (including patent law), and regulatory affairs. All programs are guided by business/industry advisory committees in order to build programs that fit employers' needs and expectation. (See www.sciencemasters.com)

In the chemical sciences, the number of Sloan-funded PSM's is currently eight. In the following segment of this session, colleagues will describe the organization and objectives of several chemistry-related PSM programs.

PROF 12 Professional masters in the postgenomic era or why chemists should become system biologists

Greg Dewey, Applied Life Sciences, Keck Graduate Institute, 535 Watson Drive, Claremont, CA 91711, Fax: 909-607-8086, GregDewey@kgi.edu

Post-genomic biology has emerged as a quantitative science involving nanoscale molecular biology, laboratory automation and robotics and information science. In this new era, both pure and applied

researchers are taking a systems wide approach to biological problems. This shift provides new challenges for the education and training of life scientists. To meet this challenge, the Keck Graduate Institute has developed the Master's Bioscience (MBS) degree that integrates computational biology, bioengineering and systems biology, and focuses on applied problems. KGI challenges the traditional barriers between the academic and corporate worlds and sets industry/academic partnerships as a cornerstone of its curriculum and research. KGI's approaches to educating this new breed of scientists are discussed along with the opportunities for chemists to transition into these fields.

PROF 13 The trials and satisfaction of launching new master's degree programs

Donald W. Genson, College of Science, PennState Eberly College of Science, 0428 Joab L. Thomas Bldg, Fax: 814-863-1003, dwg9@psu.edu, and **A. Daniel Jones**, Department of Chemistry, The Pennsylvania State University, 152 Davey Laboratory, Fax: 814-865-3314, djones@chem.psu.edu

Under any circumstances, developing and implementing new degree programs is a daunting task for most academic institutions and is traditionally a slow process. But the workforce needs of a rapidly changing industrial world provides the academy with an extraordinary challenge and opportunity, as will be described in the new PSM programs at Penn State.

PROF 14 Part III. Instruction by nontraditional means: Perspectives of the corporate world—The role of distance education in the delivery of master's degree programs in chemistry

Ned D. Heindel, Department of Chemistry, Lehigh University, 6 East Packer Avenue, Bethlehem, PA 18015, Fax: (610) 758-3461, ndh0@lehigh.edu

The Lehigh Educational LESN Satellite Network is a digital network which carries live, on-campus classes to students at multiple corporate sites, enabling them to pursue graduate degrees and continuing education at work. Through this easily accessible form of distance education, students can earn a master's degree in several areas of applied chemistry. LESN-Online delivers the graduate courses as streaming video directly to individuals and international students. The Masters in Pharmaceutical Chemistry is one example of the MS programs offered. This interdisciplinary degree from the departments of Chemistry and Biological Sciences, offered entirely online as well as by satellite on LESN, provides specialization in medicinal chemistry, drug development, diagnostic technologies, pharmaceutical spectroscopy, analytical methodologies, process chemistry, metabolism mechanisms, and molecular biological approaches to selected topics in pharmaceutical chemistry.
