

## Report

# COACHing Women to Succeed in Academic Careers in the Chemical Sciences

by Geraldine L. Richmond

## Motivation for COACH

In 1998 a group of senior women chemistry faculty formed an organization called COACH (Committee on the Advancement of Women Chemists) to develop strategies and programs to increase the number and success of women chemists in academia. The motivation for COACH is the documented disparity in hiring, promotion, and advancement of women faculty in academic chemistry departments in the U.S. (1–5). Whereas women today earn approximately 30% of the Ph.D. degrees in chemistry, only 13.6% of the total chemistry faculty at all schools offering advanced degrees in chemistry and chemical engineering are women (6). A 2000 survey showed that at the 50 most research active chemistry departments (7), women account for just 6% of full professors with 21% and 18% of associate and assistant professors, respectively (8). Factors contributing to these low numbers are complex but what is clear is that lack of mentoring, family issues, the accumulation of disadvantage, and other forms of subtle discrimination play key roles (3, 8–10).

## COACH Today<sup>1</sup>

COACH currently has more than 300 members (male and female) from institutions across the country. The COACH Advisory Board of senior women chemistry and chemical engineering faculty oversee COACH activities and develop strategies and programs to advance the cause for increased diversity of chemistry departments. With financial support from the National Institutes of Health, the National Science Foundation, and the Department of Energy, COACH has been aggressively pursuing a number of activities aimed at assisting women in their pursuit of successful academic careers in chemistry.

## Workshops for Women in Academia

One of the most visible activities of COACH has been the development and implementation of a series of professional skills workshops tailored for women chemists in academia. For the past four years these workshops have occurred on the Saturday prior to the start of national ACS and

## Workshops for Women Chemistry Faculty and Postdoctoral Associates<sup>2</sup>

### Workshop 1: Coaching Strong Women in the Art of Strategic Persuasion

The first part of this workshop helps professional women be more effective when leading or participating in discussions, meetings, or group negotiations. This workshop, which combines self-presentation, leadership training, and faculty development in an interactive format that encourages highly personal learning, is designed to enhance women's abilities and confidence in such situations. The second part focuses on professional negotiation skills and its multi-faceted approach includes some pragmatic learning content, case studies, and incorporation of real issues facing those attending the sessions. With the intended outcome being professional growth, development of individual success through teamwork or the "Power of Partnerships" at the departmental, campus, and professional organizational levels will be discussed.

### Workshop 2: The Chemistry of Leadership: A Women's Leadership Program

This program is designed to give participants some basic concepts and tools to further develop their leadership skills. Participants will learn about various concepts of lead-

ership (including their own), explore what is known about gender and its role in leadership situations, reflect on their own leadership challenges, and do some self assessment and planning to identify/develop areas for skill enhancement. The program will involve a variety of instructional approaches, including presentation, small group discussion, and experiential learning.

### Workshop 3: Launching a Successful Academic Career in the Chemical Sciences (for postdoctoral associates)

This workshop introduces mutual interest-based negotiations or solution-finding to people considering entering academic careers. The content encourages developing understanding of parties' interests, developing alternatives that enhance the possibility of reaching agreement and packaging of the possibilities. A formal instrument helps identify negotiating styles of competition, collaboration, compromise, accommodation, and avoidance. Attendees practice through case studies including Developing a Strong Advocate, Credit for Research and Publications, Developing Connectedness, Obtaining Resources that Enable Productivity, Demonstrating Strong Performance, Career and Family, Letter of Reference, Contracting for a First/New Position, and Mediation for Problem Solving.

## Commentary

AIChE meetings. The full-day workshops have been designed to achieve these goals:

- Enhance communication and negotiation skills necessary to achieve the professional goals of participants
- Teach leadership techniques that are effective for women scientists in an academic setting
- Provide a forum for networking with other academic women scientists and engineers
- Develop effective strategies for making institutional and departmental change that improves the climate, recruiting, and retention of underrepresented groups.

A new workshop designed for female postdoctoral associates interested in an academic career has more recently been developed and was offered in 2004.

The workshop facilitators are experienced professional women in human resources, leadership training, teaching, and higher education administration, with extensive experiences in many professional venues. Descriptions of three of the COACH workshops are provided in the box on the previous page. Details on their content as well as registration information for upcoming workshops can be found on the COACH Web site (11).

To date, 211 women chemistry faculty and 38 postdoctoral associates have attended the workshops that take place prior to ACS and AIChE national meetings. The post-workshop evaluations show a very high degree of satisfaction with the content and skills learned at the workshop. Our follow-up studies conducted 1–2 years after the workshop find that the overwhelming majority of attendees (82%) have used their skills to negotiate for themselves and 65% have used these skills to negotiate for others. More than 90% state that learning these skills reduced their workplace stress. Furthermore, 95% of these women chemistry faculty attendees have mentored other women in their departments on the skills that they learned in the COACH workshops. The overall numbers of women impacted by COACH workshops have expanded even further as the word has spread of their high quality and value. More than 500 women scientists (including graduate students) in physics, chemistry, computer science, and mathematics have attended COACH workshops that have been conducted at their professional meetings, colleges, and universities. Approximately 250 more are expected to attend workshops scheduled for the first half of 2005.

### Workshops for Graduate Students

In addition to these faculty- and postdoc-oriented workshops, COACH has developed a variety of workshops for science graduate students that can be conducted either at meetings or in departmental settings. The topics have been tailored for science graduate students and include *Strategic Advancement and Performance*, *Powerful Presentations*, and *Negotiation Skills for Postdoctoral Associates and Graduate Students*. Although the workshops have been designed for female graduate students, male graduate students can also benefit from training in these areas.

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### Leadership Forums

At the other end of the spectrum, COACH has developed *The Academic Leadership Forum* that consists of a series of sessions that engage scientists in leadership positions (e.g. department heads, deans, institute and center directors) in subject matter contributing to organizational success, individual growth, and achieving a supportive culture that is inclusive of all who seek success in academic science. These workshops are led by professional facilitators that the COACH Advisory Board has worked with extensively. The forum includes several modules covering such topics as

- Academic planning, budgeting, policy, and stewardship
- Faculty recruitment and retention
- Leadership dynamics; faculty meetings, anatomy of power, and negotiation skills
- Rewards, risks, and current challenges of academic leadership
- Leading through consensus

The goal of the Leadership Forum is to measurably enhance the academic environment in chemistry departments and to facilitate transformation of the institutional climate. In these workshops, attendees (both male and female) experience collaboration among experienced and new academic leaders as they discuss issues regarding leadership challenges. Case studies, theater, and lively debate contribute to the learning experience. These sessions will be available in the next few months.

### Notes

1. Those attending the Spring 2005 ACS Meeting may learn more about COACH activities by attending Richmond's award address (ACS Award for Encouraging Women into Careers in the Chemical Sciences), "Working to Level the Playing Field for Women Chemists in Academia", Tuesday, March 15 (see pp 359, 361).
2. Information about these and other COACH workshops is available from [coach@uoregon.edu](mailto:coach@uoregon.edu) or the COACH Web site (11).

### Literature Cited

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