Darleane Hoffman, Priestley Medalist 2000, was the WCC luncheon keynote speaker at the ACS national meeting in Washington, D.C. The title of her talk was “You’ve Come A Long Way, Baby—but?” Dr. Hoffman spoke of the challenges women face now that they have more freedom to choose their careers. Before World War II, married women were expected to resign from the workforce, and most spinsters became home economics teachers. Now, women have to overcome challenges associated with two-career marriages, decide when and if they should have children, whether to place them in day care or stay home with them, and consider how their decisions will affect their careers and families. Dr. Hoffman’s career started in the early 1950s. She worked for one year at Oak Ridge National Laboratory before joining the Los Alamos Scientific Laboratory. Currently, she is a chemistry professor at the graduate school of the University of California, Berkeley, and the senior adviser and charter director of the Heavy Element Nuclear & Radiochemistry Group at Lawrence Berkeley National Laboratory. —Renée Niziurski-Mann

Message from the Chair

Change. It is the time of year when nature says it is time for a change—a very visible change of season. It is also time for the WCC to change and move forward along the course that has been set over the past several years. This will be my last column as chair of the WCC. The past three years have truly been a learning and growth experience for me, and I have been very fortunate for the opportunity. I have had the chance to work with some very wonderful people and together we have been able to accomplish my major goals as chair of the WCC: to make the WCC more visible within ACS and to keep the momentum for change going.

The WCC has been, in the words of Fast Company magazine, a change insurgent: a true catalyst for changing the way things are and helping the organization and the culture to grow. The October issue of Fast Company has a wonderful article on change. The article emphasizes that a change insurgent is necessary for change to happen. The characteristics of a change insurgent are influence within an organization (not necessarily at the top), knowledge of the facts, and an ability to work with the system. The WCC has cultivated all of these characteristics during the past several years. By the team effort of committee members and ACS members, the WCC has gained some influence and the organization is listening to the issues we’ve brought forward. The WCC has been the repository of information about the status of women, which has allowed the WCC to understand the issues important to women chemists and to provide sound reasoning for our initiatives. And finally, the WCC has worked within the Society to “sell” the initiatives throughout the organization and foster change at all levels.

While these efforts have put the WCC on the path to achieving the changes we all would like—more women participating in ACS governance and more women working at all levels of the chemical profession, for example—it does not mean the work is done. During the past year, the WCC has seen a great deal of data that indicates that while everyone thought the pipeline (having more women with chemistry or chemical engineering degrees and time) would ultimately take care of the “problem”, it has not. Women are voting with their feet and are not staying in the pipeline. Why?
Successful Women in Chemistry

The WCC would like to introduce you to another success story: Kim Martin, a technical sales specialist for Bayer Corp.’s Plastics Division. Kim earned a B.S. in chemistry, with an emphasis on polymer science, from the University of Pittsburgh. Kim won several awards during college and has been hooked on chemistry since high school. After college, Kim joined Bayer as a central marketing representative for three years and then moved into a field market development position. This position involved calling on original equipment manufacturers or end users of Bayer plastics. Kim worked with these engineers to qualify Bayer plastics to be used in their parts or applications.

After three years in the marketing field, Kim decided to move from the Midwest to southern California. While working full time, she earned her MBA from Pepperdine University. Kim has been working in California for six years with increasing levels of responsibility. As a technical sales specialist, she sells resin to custom molders who make the parts for the end users. When Kim has free time, she likes to exercise. She and her husband, Larry, climbed Mt. Whitney in Bishop, CA, which is the highest mountain in the contiguous United States, in one day.

Q. How did you get started in your field?
A. I had a great, very inspiring chemistry teacher in high school, Raymond DelGreco. I decided to take chemistry as a major in college with an emphasis on polymer science. I thought I also wanted to earn a Ph.D. eventually, but I realized after a few semesters of working directly with professors in the lab, during my junior and senior years, that I would prefer working with people instead of glassware.

Q. What took you to where you are today?
A. A Bayer site was located between my parents’ house and the university. I passed it every day on my way to school and knew it was a chemical company. I worked there as a summer chemist for two summers during college, and then decided to work there full time after graduation. I originally started at the corporate headquarters in Central Marketing for Plastics, but knew that to become more “well-rounded” and prepared for upward mobility, I needed “field” experience. This took me to a field marketing job in Indiana where I was very much on my own. I worked out of my house, which was kind of lonely, and I was on the road more than four days per week. I usually only had enough time to come home, do laundry, and buy groceries before having to leave again. Also, I wanted to get my MBA, but my travel schedule wouldn’t allow it. Then, there was an opening for Bayer Technical Sales in southern California. I would need to travel each day, but I would be home each night and could thus work on my MBA. This is my current position.

Q. What did you have to sacrifice along the way, if anything?
A. To get my MBA and work full time, I basically sacrificed my “play time”. I had to finish my work by 5:00 p.m. to attend school from 6:00 to 10:00 p.m., two nights per week, and I studied every other evening. All of my weekends were also spent studying with groups and doing school-related projects. It did pay off with a good general knowledge of business to round out my chemistry and technical background. I still sacrifice some personal and family time by working long hours. However, in general, these were not huge sacrifices, but just typical sacrifices that I am sure many of us make.

Q. How have you changed and/or how has the “work climate” changed since you started your career?
A. The work climate is much more, and in some cases, too politically correct now versus when I started in 1987. Yes, we need to be discreet and professional, but I think the situation has gone beyond common sense and what is practical. With regard to seeing more women in this field, I have seen some progress since I started working 12 years ago, but there is still work that needs to be done.

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Q. Does success require compromise?
A. I believe so, at least in the early stages of building your career. However, it should be a compromise that suits not only you and your company, but also your family.

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Successful—Continued from page 2

Q. Did/do you have mentors and how have they helped? (i.e., what was most beneficial to you in a mentor?)
A. My high school chemistry teacher, Raymond DelGreco. He was inspiring, optimistic, and saw potential in me. He had confidence in my abilities and was very encouraging. We still keep in touch today.

Q. How do you balance work and life?
A. Not very well at the moment or in the past. I thought once my MBA was finished, I would have all of this free time on my hands. However, work seems to have filled all of that time and more. I was just married last year and really need to do a better job at separating work from home and family and give a fair share of time to both. Right now, it is more work and less family. I really need to make a conscious effort to balance them better.

Q. What worked for you that would be good advice for someone else coming up in their career?
A. • Study/stive hard and long to get the opportunity to work almost anywhere you choose.
• Listen and learn in your career. Never stop doing this!
• Meet as many people as you can and treat them all with the respect that you would want. In this business, you will run across the same people over and over in different positions who can help you along the way (whether within your company or other suppliers or customers). It is one big family in the chemical industry and it may be 10 years in between or so, but most likely the same people will show up several times during your career.
• Make sure to balance work and family!

The WCC would like to thank Kim Martin for sharing her thoughts and advice with us. We hope that this interview has sparked ideas that will help you in your career. Look for more interviews with other successful women in upcoming issues of the WCC newsletter.

—Amber Hinkle

Lifetimes in Chemistry—The Mature Chemist’s Survey

On Monday morning, August 21, the WCC cosponsored with the ACS Committee on Economic & Professional Affairs (CEPA) a symposium centered on the recently completed mature chemists (age 50–69) survey. A copy of the survey findings can be obtained by calling ACS at 800-227-5558.

Janice Farkas, a sociologist at Pennsylvania State University and a statistical consultant to ACS for this study, presented key findings from the study. As a sociologist, she found us to be an interesting group, specifically, the differences between male and female chemists in this age group. Some key observations were:

• Women make up 13% of the ACS membership in the 50–69 age group.
• Eighteen percent of female chemists in this age group did not marry, compared with 9% in other career fields (male chemists in this age group marry at equal levels as do males in other career fields). In addition, a higher fraction of female chemists are childless compared with male chemists.
• When they decide to marry, female chemists are significantly more likely than male chemists to wed a scientist.
• Sixty percent of female chemists in this age group took a hiatus from employment compared with 1% of male chemists in this age group.
• In the highest age group (65–69), less than 60% of female chemists received pensions compared with more than 80% of male chemists. In addition, female chemists are less aware of their pension payout than male chemists.
• Women chemists are slightly more likely to work full- or part-time at older ages than male chemists, but men are more likely to be self-employed (generally as consultants). The study assumed women must continue working later in life because of the greater incidence of career hiatus and the high percentage of unmarried or childless female chemists compared with male chemists.
• More than 60% of women chemists in this age group reported experiencing sexual discrimination, and nearly 25% reported experiencing age discrimination. For men in the same age group, the numbers are 3% and 18%, respectively. Since most chemists, regardless of gender, do not have long-term care, Dr. Farkas was especially concerned about women chemists who do not have children or spouses to support them in a long-term care situation.

Several eminent chemists were also invited to share their lifetimes in chemistry, drawing conclusions from the survey results. Gordon McCarty was invited to speak first; however, because of illness, James Long, the symposium organizer, presented McCarty’s talk. McCarty spent time in both academia (West Virginia and the University of South Carolina) and industry (Miles Labs). He noted that although the same key skills (technical competence, communication, and interpersonal skills) are required for both careers, he believes that some individuals are better suited for industry and vice versa.

Mary Good, dean at the University of Arkansas, Little Rock, noted that although the report was an excellent piece of work, she did not conform to a majority of the findings. Throughout her career in academia, industry, and government, she did not receive lower pension or pay than male colleagues, did not have a career hiatus, and did not suffer sexual discrimination. However, she did not feel that her experience should detract from the study’s findings. Good then walked the audience through her life story and described how her choices took her to a variety of careers. Although her ultimate choices were never ideal, they were always chosen with the best considerations for herself and her family, she said. Her advice to attendees was to keep their skills in good shape, network, be ready to respond to opportunities (they come and go quickly), and not to be afraid to take them.

Helen Free reiterated the importance of being prepared for opportunities. Although her original intention was to major in English and Latin, in 1941, the men went off to war and she...
Lifetimes—Continued from page 3

was able to fill an open spot in the chemistry department. Dr. Free noted that the disparities between male and female chemists are not just limited to the United States. A study by Britain's Royal Society of Chemistry found that according to current trends, men and women will be equally represented in university faculties by 2020, but chemistry faculties will not reach equality until 2070. At the same time, there are signs of success. For example, Free noted that women have a higher success rate for Petroleum Research Fund grants than male colleagues.

The final speaker was Dr. George Parshall, currently in consulting after a long career with DuPont. He noted that the survey found that although a full 50% of mature chemists have considered consulting, only 14% were actually doing it. His message was to the remaining 36% Parshall passed along several observations and activities that people could do in their current positions to prepare for a later career in consulting, including writing reviews or books and serving on professional committees to establish the required network.

The group panel took questions from the audience. Responding to a question regarding the survey sample, Mary Jordan, senior research analyst for the study, noted that the sample is selected—chemists who drop out of the workforce generally would not be part of the survey and hence do not influence the findings. Much of the remainder of the panel discussed the future of chemistry. With so many chemistry faculty retiring in a few years, there is the potential for a significant departure of knowledge, but retirements also present opportunities for women to make up lost ground. There is a pipeline—35% of the granted Ph.D.s go to females.

—Alan Wilson

WCC Presents Awards in Washington

The WCC recognized 10 travel award recipients at the fall national meeting. Funded by Eli Lilly & Co., the WCC Travel Award Program enabled eight students to attend the Washington meeting and two additional students to attend other major scientific meetings to present research. Those who received travel grants were Rachell Booth, University of Southern Mississippi; Holly Deak, Boston College; April Getty, University of Washington; Leila Jackson, Drexel College; Jin Kim Montclare, Yale; Melissa Oberbeck, University of Wisconsin; Karen Padden, University of Kansas; Angela Sutterer, Washington University; Toni Trumbo, University of Louisville; and Andrea Van Gilder, Rutgers University.

The WCC also presented its first Overcoming Challenges Award to Virginia Hanson, a junior chemistry major at the University of North Florida in Jacksonville and an analytical laboratory technician at Hercules, Inc. Pulp and Paper Division.

For more information on the WCC Award Program, contact Cheryl Brown, staff liaison, at wcc@acs.org. Applications for WCC Travel Awards are due February 15, 2001, for meetings between July 1 and December 31, 2001; and September 15, 2001, for meetings between January 1 and June 30, 2002. Applications for the WCC Overcoming Challenges Award are due May 1, 2001.

Local Sections To Recognize Efforts of Women Chemists

In 2001, for the first time, awards will be presented to local sections that promote women in the chemical sciences through programs and activities at the local level. These awards will be presented at the ACS ChemLuminary Awards in Chicago on August 28, 2001. Local sections will be recognized in the following three categories:

- **Best Single Event in a Local Section Promoting Women in the Chemical Sciences.** This award will recognize an event supported by a local section, such as an outreach program to women science students or an event that offers networking or training opportunities to women actively engaged in the chemical sciences.

- **Best Overall Local Section Women Chemists Committee.** This award will recognize a local section that has an ongoing commitment to programs that address the concerns of women in the chemical sciences. Examples include student mentoring programs or participation in Expanding Your Horizons conferences.

- **Most Innovative Recognition of Women in the Chemical Sciences.** This award will recognize a local section’s efforts to honor a woman or women working in the chemical sciences. Examples include an award, a series of lectures, or a news release promoting local women chemists.

Nominees for the awards will be selected from the Local Section Annual Reports, which are submitted each year by February 15 to the ACS Office of Local Section Activities. Awards will be chosen by a subcommittee of the WCC.

Message from the Chair—Continued from page 1

University and college faculty still do not have significant numbers of women professors. Why? What is driving the choices women are making? And, data are beginning to indicate that work and life issues are driving the decisions of many of our male counterparts. Thus, the work is truly just getting started. Let’s all continue to be change insurgents. Thank you for all of your help and encouragement.

—Frankie Wood-Black
Women Make Significant Gains in Science and Engineering Fields—Minorities Show Limited Progress

(Reprinted with permission from CPST)

Women are more likely than men to graduate from high school, to enroll in college, and to graduate from college. In addition, they are making inroads into men's dominance of science and engineering (S&E) careers, according to the latest compendium of education, employment, and demographic data, Professional Women and Minorities, published by the Washington, D.C.-based Commission on Professionals in Science and Technology (CPST). In 1997, women comprised 56% of undergraduate enrollment and earned nearly 56% of the 1,186,589 baccalaureates awarded.

The 13th edition of this compendium compiles, in tables and charts, data that trace the gains made by women and members of minority groups and shows the shortfalls of these groups, particularly in science and engineering fields, as they move toward parity in these fields. Specifically, the report finds that:

- in the science and engineering fields, women have nearly doubled their proportion of earned baccalaureates over the last 30 years. In 1967, they earned slightly more than 25% of S&E baccalaureates; by 1997, they earned 48%. In the natural sciences, which includes the physical, math, computer, environmental, and life sciences, women's proportion of earned baccalaureates was less—37% in 1997—but up from 17% 30 years earlier.
- At the master's level, women have been slowly increasing their proportional advantage over their male counterparts from 1982, when they first became a majority by earning 50.3% of all master's degrees granted, to 1997, when they earned nearly 57% However, in the science and engineering fields, women are still a minority at the master's level, earning 41.5%.
- At the Ph.D. level, while women earned nearly 42% of the doctorates awarded in 1998, their proportion of S&E doctorates was only 34.3% and when the social and behavioral sciences are excluded, the proportion drops even more.
- The gains by the underrepresented minority groups (African Americans, Hispanics, and Native Americans) have not been as substantial as those evidenced by women. At the baccalaureate level, African Americans saw their proportion of S&E degrees grow slightly from 5.5% in 1990 to 7.7% in 1997, while Hispanics increased their proportion from 4.2% to 6.4% and Native Americans from 0.4% to 0.6% in the same time period. Asian Americans increased their proportion from 3.7% to 5.9% during the 1990–1997 time frame.
- These small gains made by underrepresented minorities at the baccalaureate level translate into even smaller gains at the graduate level. By 1997, of the science and engineering master's degrees awarded, African Americans earned 5.7%, Hispanics earned 4.3% and Native Americans 0.5%. In absolute numbers, these percentages translate into 2200 S&E master's degrees earned by African Americans, 1306 by Hispanics, and 155 by Native Americans. And the figures are more dismal at the doctoral level. In 1998, of the 18,125 S&E doctorates awarded to U.S. citizens and permanent residents, African Americans earned 3.5% (639) of the S&E doctorates, Hispanics earned 4.1% (752), and Native Americans 0.5% (96). In contrast, Asian Americans earned 11.8% (2140).
- Women also have made great inroads toward preparing for careers in medical-related fields and law. In just 20 years—from 1977 to 1997—women entered these areas in such numbers that they now receive a majority of the degrees awarded in optometry, veterinary medicine, and pharmacy. And they are approaching parity in medicine, earning 41.7% of the degrees awarded in 1997 and in law, earning 43.7%.
- Not surprisingly, women and minorities comprise a smaller proportion of the S&E workforce than they do of S&E degree recipients. Women earned 48% of the bachelor's degrees in science and engineering, 43% of the master's degrees in 1997, and 34% of the Ph.D.'s. However, they made up only 23% of the S&E labor force in 1997, and that proportion varied widely by occupation, as shown in the accompanying chart.
- Despite some progress by minorities in preparing for careers in science and engineering, whites continue to be the major group of the S&E labor force, comprising 83.5% in 1997.

The 13th edition of Professional Women and Minorities: A Total Human Resources Data Compendium is available for $125 (nonmember) or $100 (member) prepaid from the CPST, 1200 New York Ave., NW, Ste. 390, Washington, DC 20005. These data tables, along with salary data, and CPST comments will soon be available online to CPST members and affiliates through the Commission's new S&E human resources database at www.cpst.org.
**Become Active in an ACS Division!**

Before I was appointed to the Divisional Activities Committee, where I chair the Divisional Enhancement Subcommittee, I was not fully aware of how the divisions influence the Society and dominate the national ACS meeting program. It is written in their charters to perform this programming function for the Society. For this and several other reasons, I encourage all women chemists to become active in at least one ACS division. Since the divisions are run by volunteers, there are ample leadership opportunities. So just ask a division volunteer how you can become active in the division. The following are some examples of how you can become involved:

- Chair a symposium. I’ve heard many chemist colleagues ask, “why doesn’t ACS have a symposium on __________ topic?” I remind the requester that ACS includes us, and that if it’s really an idea of interest to her or him, it could be incorporated into a division’s planning if it’s suggested. It’s a matter of figuring out which division would be appropriate and then pursuing the idea with that division’s program chair. Sometimes funding is available within divisions or from other ACS sources for such programming.
- Look over the lists of “award-winning” ideas for divisions and local sections. Does one of these ideas excite you? Reinvent it for another division.
- Is a division coordinating a symposium, short course, or training program that interests you? Talk to the organizers and mention both your interest and your desire to help. Leadership roles usually come about only after successfully assisting with projects.

The coordinators of most corporate “gain-share” or improvement processes recognize early on that the person who sees the opportunity for improvement is most often the person who has both a keen interest in its solution and information about what that solution might look like. Similarly, if you see opportunities for improvement within ACS, it’s a good idea to learn the background of whatever it is and then seek out people who can either facilitate the change or point you to someone who can.

We will thoroughly enjoy watching you succeed and will celebrate your success!

—Lissa Dulany

**Women in Industry Breakfast**

The WCC-sponsored Women in Industry Breakfast at the fall national meeting attracted 75 attendees who were divided into groups to discuss topics such as “Résumés and C.V.s—what is needed?”, “Impressions—how to overcome bias”, “Selling yourself—tips and techniques”, “Coaches—who they are and where to find them”, and “Business etiquette—how to use it to your advantage”.

Each group outlined their results and reported to the entire group. Discussions focused on bias in the business environment and ways to overcome it. Business etiquette was also a major topic of discussion at this event as well as at the Women Chemists Open Meeting. These two issues are being evaluated as possible workshop topics at future ACS meetings.

**COACH Workshop—San Diego**

The Committee on the Advancement of Women Chemists (COACH) will sponsor a workshop titled “Coaching Strong Women in the Art of Strategic Persuasion” to be held Saturday March 31st in San Diego, prior to the ACS Spring National Meeting. Targeted for tenured women faculty in the chemical sciences, the workshop will provide training and discuss career-enhancing strategies for effective communication skills pertinent to specific issues facing these women.

This is the first in a series of workshops sponsored by COACH. These workshops are intended to provide professional training for women in academic chemistry as well as to provide a forum for networking with other women faculty. This particular workshop will be repeated in subsequent years at the ACS Spring National meetings in 2002 and 2003. We encourage all interested to apply as soon as possible as there are a limited number of slots available. Priority is being given to tenured women in the first workshop with later workshops to include untenured women faculty. Following each workshop there will be a reception for all women in academics and those students and postdoctoral associates interested in meeting other women in academics.

For more details on the workshops, reception, and registration information, consult the COACH Web site at [http://coach.uoregon.edu](http://coach.uoregon.edu). Registrations should be submitted by February 1st to coach@darkwing.uoregon.edu. A travel scholarship to attend the workshop will be provided to those requiring assistance.
**Women Highlighted in History Symposium**

The ACS Fall National Meeting in Washington, D.C., featured a symposium entitled “Historically Important Chemical Educators” that was cosponsored by the WCC, the Division of the History of Chemistry, and the Division of Chemical Education. A range of chemical professionals were profiled by different speakers who shared the life histories and contributions of these distinguished educators. The following are biographical sketches of a few of the women who were highlighted at the symposium.

**Dorothy Hodgkin** (1910–1994) taught chemistry at Oxford University, where she was tutor and professor at Somerville College. She received the Nobel Prize in Chemistry in 1964 for her use of X-ray crystallography to elucidate the structures of biologically active molecules, including penicillin, vitamin B12, and insulin. Hodgkin married and had three children along with an active research and teaching career.

**Mary E. Kapp** (1909–1983), who preferred to be called “Chief”, headed the chemistry department at Virginia Commonwealth University and left the department her entire estate of more than $1 million. She was only the second woman to receive a Ph.D. (in analytical chemistry) from the University of North Carolina, and she served as the first woman chair of the Virginia Section of ACS.

**Margaret Roberts Thatcher** (b. 1925) read chemistry at Oxford University under Dorothy Hodgkin and pursued a short career as an industrial research chemist before changing to the study of law. She eventually became Britain’s first female Prime Minister and remained a strong proponent of education.

——Mary Singleton

More biographical sketches from this symposium will be published in future WCC issues.
Women Chemists Committee—2000

The Women Chemists newsletter is published twice a year and is distributed by the Women Chemists Committee of the American Chemical Society. All comments, questions, and suggestions should be directed to Cheryl Brown, Staff Liaison, ACS, 1155 Sixteenth St., N.W., Washington, DC 20036. Committee Chair: Frankie Wood-Black. Editor: Valerie Barrett. Copyright © 2000, American Chemical Society