Fall-Winter 2009

Women Chemists

To Be Leaders in Attracting, Developing, & Promoting Women in the Chemical Sciences and Related Disciplines

American Chemical Society
Women Chemists Committee
1155 Sixteenth St., N.W.
Washington, DC 20036
http://membership.acs.org/W/WCC

What's Inside This Issue?

A Note from the WCC Chair

Hello and welcome to another edition of the Women Chemists Committee (WCC) newsletter!

As the new chair for the WCC, I would like to introduce myself to those of you whom I may not have had the chance to meet in person. I have been with the WCC since 1999, most recently serving as chair for the subcommittee whose focus is attracting women to chemistry and related disciplines. A primary effort for the subcommittee is administration of the WCC/Eli Lilly Travel Award program. We believe it is essential that women in the early years of their career are enabled to attend and present technical results at scientific meetings. The WCC/Eli Lilly Travel Award program provides female students (undergraduate, graduate, and postdoctoral) grants to present the results of their research for the first time at a major scientific meeting within the United States. Grants cover recipients' registration, travel, and accommodations (less funding available to the applicants from other sources, including their department, advisor, etc).

Through funding from Eli Lilly, this program, celebrating its 20th year, has provided travel grants to more than 450 female students since 1989. Those receiving funding to attend a biannual ACS national meeting are given an opportunity to present at the WCC/Eli Lilly Poster Session, in addition to their technical presentation. Awardees are also recognized during the WCC Luncheon. In addition to the award, students have the opportunity to enhance presentation skills and to network with colleagues within and outside their discipline. I hope you will join us at a future WCC luncheon and will take the opportunity to meet these dynamic women!

My other full-time job is as a senior director for Eli Lilly and Company in Chemical Product Research & Development in Indianapolis, Indiana. However, my most important job is raising two small girls, ages five and six months.

Now that you know a little about me, I would like to share some exciting activities that the WCC will focus on in 2009. We will provide great networking opportunities and speakers at the ACS national meetings, including the WCC Open Meeting, Women in Industry Breakfast, and the WCC Luncheon. We continue to strengthen our formal partnership with other ACS committees whose focus is diversity, so that we can combine resources when appropriate. We are also focusing considerable effort on outstanding national, regional, and local programming, while administering academic lectureships and select scholarship programs.

Being comprised primarily of volunteers, the ACS and its committees are operated by members for members, like yourselves. Each of us, as individuals, is a piece of the solution. I am honored to be chair of the Women Chemists Committee and I look forward to serving you. I welcome your ideas and suggestions.

—Dawn Brooks, 2009 WCC Chair

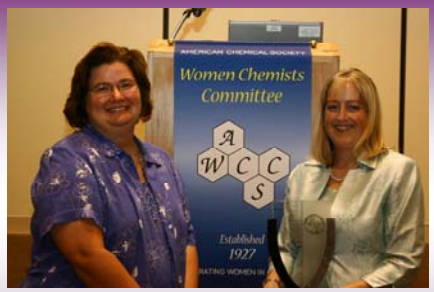
A Note from the WCC Immediate Past Chair

Dear Women Chemists Committee (WCC),

Thank you very much for making me feel so special at the ACS National Meeting in Philadelphia! Your overwhelming show of appreciation and care touched me deeply. I have been so honored to serve as chair of this great committee for the last three years. It was the icing on the cake of my service with the WCC. I will miss you all, old friends and new, as I continue my journey on a new path. However, I will strive to be a piece of the solution, no matter where I serve. I hope some day we can all celebrate together that the services of the WCC are no longer needed – because the problems are solved!

Warmly,

—Amber Hinkle, WCC Immediate Past Chair



Jody Kocsis & Amber Hinkle

Photo courtesy of Linda Wang

Anna J. Harrison, First Female ACS President

Photo courtesy of Mount Holyoke College

Anna Harrison was a remarkable woman for her time. She was the first woman to be elected president of the 150,000-member American Chemical Society in 1978 and the fourth woman elected to become president of the American Association for the Advancement of Science. She served in that capacity from 1983 to 1984. In addition to her teaching and writing, Harrison served on the National Science Board from 1972 to 1978.

Harrison was born December 23, 1912 on a Missouri farm in Benton City, the daughter of Albert and Mary (Jones) Harrison. She attended a one-room rural school where she later taught for two years after her graduation from the University of Missouri in 1933. She went on to receive her Ph.D. in physical chemistry from the University of Missouri in 1940. She started her career in college chemistry teaching at H. Sophie Newcomb College of Tulane University in 1940.

She joined the faculty at Mount Holyoke College as an assistant professor in 1945, rose to professor in 1950, and headed the Department of Chemistry from 1960 to 1966. She became the William R. Kenan Jr. Professor of Chemistry in 1976 and held that post until she retired in 1979.

Among her numerous awards were two awards for teaching from the American Chemical Society: the Chemical Education Award in 1982 and the James Flack Norris Award for Outstanding Achievement in Teaching of Chemistry, Northeastern Section, in 1977. She also received 20 honorary degrees.

She was active throughout her life in public service and in scientific societies. One of her chief professional interests was the impact of science on society, and a major goal of her work was providing information that voters and legislators could use to form effective judgments on scientific and technical issues.

Her interest in science education for all caused her to attend a National Science Teachers Association conference. There she met Alleen Johnson, a retired Summit High School chemistry teacher. When Ms. Johnson learned that Dr. Harrison's hotel reservation was out of town, she offered to have her room with her, this before she realized that Dr. Harrison was the ACS President. Ms. Johnson said Anna had a pleasing personality. Dr. Harrison was also voted by the class of 1968 of Mount Holyoke as "one of the people who has had the greatest impact on my life".

Among her publications is a textbook, *Chemistry: A Search to Understand* (1989), written with the collaboration of Edwin Weaver, also at Mount Holyoke, that was intended to serve the needs of students whom she characterized as "intellectually curious but not professionally driven".

Dr. Harrison died of a stroke on August 8, 1998.

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Anna J. Harrison, First Female ACS President

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In the spring of 2001, the Connecticut Valley Local Section of the American Chemical Society established the Anna J. Harrison Awards to honor the memory of Dr. Anna Jane Harrison. There are two awards that were first awarded in the spring of 2003. The first is a high school chemistry student award of $1,000 to be given to the female high school student who is the top performer in the Connecticut Valley Local Section's Chemistry Olympiad. The second is a college-level award of $1,000 to be presented to a woman who has carried out a research project in chemistry as part of her undergraduate degree program. It is tied to the Undergraduate Research Symposium sponsored by the ACS Connecticut Valley Local Section each spring. These awards are funded by a generous gift from Griffith and Joan Garland to endow the award fund. Joan was a student of Dr. Harrison when attending Mount Holyoke during the early 1950s.

—Jeannette Brown, WCC Historian

The information for this article comes from the following sources:

Mount Holyoke College. Office of Communications. (12 August 1998). *Anna Jane Harrison, chemical education leader and first woman president of the American Chemical Society, dies at 85* [Press release]. Retrieved from http://www.mtholyoke.edu/offices/comm/press/releases/annaharrison.shtml.

Toxipedia. http://www.toxipedia.com (accessed December 2008).

ACS Connecticut Valley Section Site. http://membership.acs.org/c/connval/default.htm (accessed December 2008).

Metals in Biochemistry

The symposium in honor of Elizabeth Theil, 2008 Garvan-Olin Medalist, was sponsored by the American Chemical Society Division of Inorganic Chemistry (INOR) and cosponsored by the Women Chemists Committee. This full-day symposium was organized and presided over by John Magyar, Barnard College, and Harry B. Gray, Beckman Institute at the California Institute of Technology. Elizabeth's research at Children's Hospital Oakland Research Institute focuses on ferritin, the iron protein complex that manages iron and oxygen levels in vivo. Elizabeth's impact as a mentor for scientists researching the interface between biology and chemistry was obvious from the memories of science, history, and personal interactions shared by the other speakers. Such memories included the story of the largest ferritin molecule, an architectural model at the Beckman Institute.

JoAnne Stubbe, Massachusetts Institute of Technology, led off the morning session with a report on the assembly and maintenance pathways of the diferric-tyrosyl cofactors in ribonucleotide reductase, speaking of the rolls of biological redundancy and differences between in vitro and in vivo mechanisms. Joan Valentine, University of California at Los Angeles, spoke of the roles of manganese salts in antioxidant protection of aerobic cells that lack superoxide dismutase. John Magyar, Barnard College, directs the research of undergraduate students, who gather materials from sites as far apart as Antarctica and the La Brea Tar Pits to study the role of transition metal ions as trace nutrients in the major metabolic cycles. Stephen Lippard, Massachusetts Institute of Technology, working in the new area of metalloneuro-chemistry, appends zinc to fluorescently labeled metal-chelating units. With sensors programmed to visualize zinc in damaged neuronal cells, his research may potentially gain insight into mechanisms of neurological diseases such as Alzheimer's, where a lack of zinc is a notable characteristic. The morning session concluded with a talk by Harry Gray, Beckman Institute at Caltech, on electron flow through metalloproteins. His group has recently found that 20-angstrom pore hopping through intervening tryptophan residues is more efficient than single step electron tunneling.

Ivano Bertini, Magnetic Resonance Center at the University of Florence, Italy, opened the afternoon session with a talk on the value of heteronuclear detection methods for the study of metalloproteins. Akif Tezcan, University of California at San Diego, spoke of the use of non-natural ligands to control protein-protein or metal-protein interactions responsible for metalloprotein self assembly. In a similar vein, Carol Fierke, University of Michigan, spoke of metal switching as a potential mechanism for regulation of metalloenzyme reactions. Ivan Dmochowski, University of Pennsylvania, moderator for the afternoon session, called ferritin a well-rounded protein with roles in nanomaterials, bioinorganic, and medicinal chemistry. To conclude the symposium, Elizabeth gave a tour of the ferritin molecule from start to finish, with questions yet to be addressed.

—Ellie Brown

The Merck Index 2008 Women in Chemistry Scholarship Results Announced!

ACS Meeting Symposium and Poster Session Honors Recipients

The Merck Index launched an annual scholarship program in 2007 for outstanding women entering a graduate program in synthetic organic or medicinal chemistry. Winners are chosen based on academic performance and undergraduate research accomplishments.

The Merck Index 2008 Award Winners

Photo courtesy of Linda Wang

The 2008 winners were:

Karen Brown

Karen holds a B.S. in chemistry from Harvey Mudd College. She has completed numerous undergraduate research projects including studies toward the concise, biomimetic synthesis of (+)-davanone under the direction of David A. Vosberg at Harvey Mudd, and studies of the catalytic asymmetric arylation, alkylation, and allylation of nitroalkanes with Alessandro Boezio at Amgen. Karen has won numerous awards and honors including the Dorothy C. and J. Arthur Campbell Prize for achievement and promise in chemistry at Harvey Mudd College, the William S. Sly Chemistry Prize for excellence in chemistry at Harvey Mudd College, and a Barry M. Goldwater Scholarship. She was a four-year Harvey S. Mudd Merit Scholar and a National Merit Scholarship recipient. Karen plans to pursue a Ph.D. in chemistry as a Springborn Fellow at the University of Illinois at Urbana-Champaign where she will also be supported by a National Science Foundation (NSF) Graduate Research Fellowship.

Sarah Goforth

Sarah completed a dual major in chemistry and mathematics at Furman University. She has conducted undergraduate research in the synthesis of chromium(III) diimine complexes and diimine ligands as model systems for Cr(III)-DNA adduct formation under the direction of Noel A. P. Kane-Maguire. Sarah presented her work at the 59th Southeastern Regional Meeting of the American Chemical Society, where she was a poster session winner. She has won numerous scholarships, including a Wylie Mathematics Scholarship, a Vogel Chemistry Scholarship, a Furman University Achiever's Scholarship, and a Robert C. Byrd Scholarship. Sarah plans to pursue a Ph.D. in chemistry at the University of Florida and a career in academia.

Sandra King

Sandra recently graduated with a double major in chemistry and mathematics from Grinnell College. As a Snyder Scholar, Sarah completed a research project involving synthesis of ligands for an enantioselective iridium-catalyzed allylic alkylation and amination methods study under the direction of John Hartwig at the University of Illinois at Urbana-Champaign. She also conducted theoretical and computational chemistry research with Xueyu Song at Iowa State University as part of an NSF Research Experiences for Undergraduates Award. Sarah's other awards and honors include a Smith Family Prize, a Chemistry Alumni Prize, a Joe Wall Scholarship, a Joyce Buck '56 Award, Academic All-Conference Honors, and Honorable Mention for the NSF Graduate Research Fellowship. Sandra plans to pursue a Ph.D. in chemistry at Yale University, and a career in synthetic chemistry research in the pharmaceutical industry.

Chawita (Jelly) Netirojjanakul

Jelly maintained a perfect 5.0 GPA at the Massachusetts Institute of Technology (MIT), where she received a B.S. degree in chemistry. She also earned first class honors during a one-year exchange program at the University of Cambridge, Trinity College. Jelly has completed undergraduate research with John Essigmann at MIT, investigating how mismatch repair proteins collaborate with methyltransferases in the repair of O^6-methylguanine. She also worked with Steven Ley at the University of Cambridge on developing a unified strategy towards the development of piperazic acid derivatives. Her numerous achievement awards include a scholarship from the Institute for the Promotion of Teaching Science and Technology in Thailand, and a gold medal at the 35th International Chemistry Olympiad in Athens, Greece. Jelly plans to pursue a Ph.D. in chemistry at the University of California at Berkeley. Her long-term career goal is to address global health issues as a chemistry professor.

Amy Tremblay

Amy holds a B.S. in chemistry, and is currently pursuing an M.S. degree in organic chemistry from Carleton University. Her undergraduate research focused on synthesis of fatty acid analogues required for the mechanistic analysis of selected desaturase-mediated oxidations, under the supervision of Peter H. Buist. Amy's research has been published in *Organic & Biomolecular Chemistry*, *Magnetic Resonance in Chemistry*, and *Organic Letters*. Amy also presented her work at the 8th Tetrahedron Symposium in Berlin, Germany in 2007. Amy has received numerous scholarships and other awards for excellence in chemistry, including the John W. ApSimon Graduate Student Award in Chemistry and Biochemistry, an Alfred Bader Scholarship, and three undergraduate research awards from the National Science and Engineering Research Council of Canada. Amy will continue her graduate studies as a Ph.D. candidate at Carleton University. Amy plans to pursue a career in teaching and research as a university professor.

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WCC Open Meeting

At the 2008 ACS National Meeting in Philadelphia, the Women Chemists Committee (WCC) hosted an Open Meeting, which also included a reception for local WCC networking. We were pleased to have several cosponsors for this event including the ACS Philadelphia Local Section, the Chemical Heritage Foundation as well as Air Products and Chemicals, Inc. As part of the theme of the meeting, "Celebrating Women in Chemistry", there were two main programming events.

First, Kathy Shaginaw, ACS Philadelphia Local Section WCC Chair, presented a highlight of their current local section events. It was with great sorrow that we noted the recent passing of Deborah E. Kilmartin, a strong supporter of the WCC and past chair of the Philadelphia Section. Kathy gave a very poignant reflection of Deborah's devotion to encouraging young women into the field of science. Deborah often participated in the Chemist in the Classroom Program at many schools in the area as well as volunteering each year for the local Expanding Your Horizons workshops. It was also special to have Deborah's sister and niece with us during the meeting to celebrate her life.

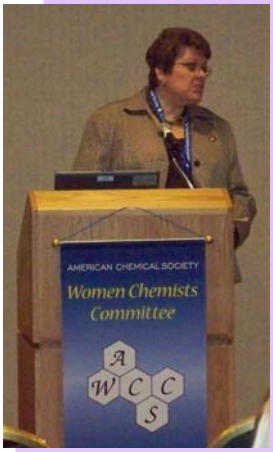
For the second half of the meeting, Hilary Domush from the Chemical Heritage Foundation (CHF) gave a presentation on their new oral history project, "Women in Chemistry". CHF's mission is to preserve and promote science - particularly the chemical sciences. This is carried out through a variety of means including collections, rare books, artwork, personal papers, and oral histories. As part of the evening, Hilary provided posters describing this project and a blank poster for people to make suggestions for future interviewees.

The WCC is planning a similar event on Saturday evening in Salt Lake City, so be sure to check the WCC website for details. While visiting the WCC website, check to see that we have current e-mail addresses for the leadership of your local WCC and inform Judith Cohen, jcohen@crdus.jnj.com, of any updates.

—Judy Cohen

WCC Open Meeting

Photo courtesy of Janet Bryant



Kathy Shaginaw

Photo courtesy of Janet Bryant

The Merck Index 2008 Women in Chemistry Scholarship Results Announced!

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Each winner received a $5,000 scholarship and a personalized imprinted copy of *The Merck Index*. The awards were presented at the Women Chemists Committee's Women in Industry Breakfast at the 236th ACS National Meeting on August 18, 2008 in Philadelphia, PA. Immediately following the awards breakfast, the scholarship winners presented their research at a symposium titled, "*The Merck Index* Women in Chemistry Award Symposium". Mervyn Turner, Senior Vice President of Worldwide Licensing and External Research for Merck Research Laboratories, delivered a keynote presentation titled, "Best of Times, Worst of Times: Challenges of Bringing Drugs to Patients in the 21st Century". In addition to the five scholarship winners, the selection committee identified ten outstanding applicants who received $500 and a personalized imprinted copy of *The Merck Index,* and presented their work at "*The Merck Index* Women in Chemistry Poster Session". The poster session awardees are:

Kristen Clary (University of Calgary)
Anna Dawsey (University of Southern California)
Maggie He (University of Pennsylvania)
Casie Hilliard (Texas A&M University)
Lauren A. Martini (Yale University)
Alison Oostendorp (UCLA)
Caroline Proulx (University of Montreal)
Lindsay Repka (Caltech)
Kelly A. Volp (University of Minnesota)
Christina M. Woo (Yale University)

The 2009 scholarship application deadline is March 16, 2009. The full application criteria and application forms can be found at: http://www.merckbooks.com/mindex/scholarship.html.

—Amber Hinkle and Maryadele O'Neil

Scholarship in Honor of Priscilla Carney Jones

Priscilla Anne (Carney) Jones,
April 30, 1937 to August 5, 2007

Chemist and long-time ACS member, Priscilla Carney Jones, passed away in August of 2007. However, because of her experiences as a woman chemist, she left a legacy to assist other women chemists with their journeys in the chemical sciences. Priscilla was born to Priscilla Anne Mullin and William L. Carney in Malden, Massachusetts on April 30, 1937. She graduated from Melrose High School in Melrose, Massachusetts in 1954. Her father was the head of the English Department and her mother a substitute mathematics teacher at that school. She earned a B.A., cum laude, from Wheaton College in Norton, Massachusetts, in 1958 with a major in chemistry. At Wheaton she supplemented her scholarship money by working for the college food service. She also served as editor of the *Wire*, Wheaton's student newspaper. She subsequently earned an M.S. degree in chemistry in 1960 at Bryn Mawr College, Bryn Mawr, Pennsylvania where her thesis dealt with the kinetics of electrophilic aromatic halogenation. She then worked for several years in the Boston, Massachusetts area, at the basic research laboratory of a major chemical company. Her work there with hydrocarbon swollen polymers as a safe method for transporting flammable liquids ultimately led to the development of napalm. She also studied the use of stannous fluoride salts in dentifrices as a tooth decay retardant.

When, in the early 1960s, Priscilla told the company that she was going to the University of Wisconsin to earn a Ph.D. in chemistry, she was told that she would not have a job there when she completed the degree because company policy at that time did not permit the hiring of female Ph.D.-level scientists. At the University of Wisconsin, Madison, Priscilla was one of two women in an entering class or over 100 graduate students. She worked under the direction of Professor Robert West on the polylithiation of acetylenes and toluene and was the first person to prepare and characterize the tetralithium derivative of propyne, C_3Li_4. (Robert West, Priscilla A. Carney, and I.C. Mineo, *J. Am. Chem. Soc.,* 1965, 87, 3788). With the awarding of her Ph.D. in 1968, she became the second woman to earn a doctorate in chemistry at the University of Wisconsin.

While in Madison she met and married her husband of nearly forty years, Paul. They have two children, a son Kevin, a daughter, Anne Carmel Martinez, and three grandchildren, Trent Fleming, Kevin Paul Jones, and Jessica Lea Jones. Priscilla accompanied Paul to Denton, Texas, in 1968 when he accepted a teaching position at the then North Texas State University.

Other colleges in the area stated that they could not hire her because of nepotism considerations. She sought positions at many companies in the north Texas area and usually was told, "We're sorry, but you are overqualified for the position we are trying to fill." After the children were grown and attending school, Priscilla served as a research associate and a temporary adjunct professor in the Chemistry Department of the University of North Texas for many years, teaching in the freshman chemistry program. Because of the difficulties she faced as a female chemist early in her career she wished to establish a scholarship for women studying chemistry, the Priscilla Carney Jones Scholarship. The Scholarship, to be awarded both on the basis of need and academic success, intends to support an undergraduate woman entering her junior or senior year in the study of chemistry or a chemically related area. The selection committee is a joint subcommittee of the Women Chemists Committee and the Younger Chemists Committee of the American Chemical Society. Donations may be made to the Alpha Chi Sigma Educational Foundation, 2141 N. Franklin Rd., Indianapolis, IN 46219-2497.

In August of 2008, Rhoda Ballentine received the inaugural Priscilla Carney Jones Scholarship. Rhoda is a chemistry major at Spelman College in Atlanta, GA with a 3.74 GPA. She participates in various clubs and organizations such as the Chemistry Club, the Science and Mathematics Space Academy, the Spelman Student Ambassador Program, the Summer Science and Engineering Program, and the NASA Summer Program. While maintaining her academic record, Rhoda is actively involved in community and civic organizations with the Cobb County School System, the Morehouse Mathematics Teacher Assistant Program, the Girls to Women Mentor Program, the Bridging the Gap Program, and the South Cobb Boys and Girls Club.

Last summer, Rhoda participated in a collegiate research program designed to help undergraduate students strengthen their research skills while exposing them to various career opportunities. She also tutors young inner-city children and models excellence as she tries to motivate them to achieve their goals. Rhoda has received numerous awards and honors including the National Collegiate Scholars Award, Alpha Lambda Delta Honors Society, Dean's List, and Spelman College Summer Science and Engineering Program's Most Outstanding Student Award in Chemistry and Pre-Calculus. She is also a member of Delta Sigma Theta Sorority, Inc.

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Women in Chemical Technology Professions

The ACS Division of Chemical Technicians and their chair, Mary Moore of Eastman Chemical Company, organized the "Women in Chemical Technology" symposium with cosponsorship by the Women Chemists Committee at the ACS National Meeting in Philadelphia. Mary presided over the session. The seven speakers presented a wide variety of topics of concern and of interest to women in chemical technology professions.

Mary Moore introduced the audience to the National Girls Collaborative Project (NGCP), which is funded by the National Science Foundation. The NGCP seeks to maximize and strengthen resources, organizations, and programs which support science, technology, engineering, and mathematics (STEM) education and careers for young women. She spoke about the NGCP program directory and the mini-grants that the local collaboratives will administer. Ms. Moore is a member of the leadership team for the Girls Raised in Tennessee Science (GRITS) Collaborative.

Sharon Vercellotti also talked about the NGCP mini-grant program. She pointed out the value of collaboration and sharing resources. The Chlorine Chapter of Iota Sigma Pi of Louisiana partnered with the Girl Scouts for a one-day science badge workshop. The Brownies and Junior Girl Scouts attended with professional and student members of Iota Sigma Pi serving as mentors. This was a perfect example of collaboration and the leveraging of resources to support girls in STEM.

Judith Iriarte-Gross, Middle Tennessee State University, talked about the importance of mentoring undergraduate and graduate women in chemistry. She credited Donna Dean, past president of AWIS for the phrase, "Move Up, Reach Down", and how these four words struck a chord about mentoring and being mentored. Judith discussed programs such as GRITS and Women in Science and Engineering (WISE) on her campus which provide young women with the skills that are not taught in the classroom, yet, are necessary for success in a chemical technology profession.

Cacy DeSheles, Jabe Kiri, Katie McKnight, and Alexis Schaible are members of the Middle Tennessee State University WISE student organization. They discussed how they established a close and fruitful mentoring relationship with women scientists and engineers at Eastman Chemical Company in Kingsport, TN. WISE members were inspired by this relationship to "Move Up, Reach Down" to middle school girls in the community. This talk focused on the activities and experiences of WISE members with their protégés.

Reneé Brown of Bayer Material Science talked about "shift work" and its prevalence in the chemical industry. She pointed out the job performance, safety, health, and family life can suffer as a result of shift work. In this talk, she focused on how companies can take specific measures to improve the shift work lifestyle of its employees.

Debbie Bailey of Dow Corning Corporation explained how microscopy is a valuable tool for the characterization of materials. She defined microscopy for the uninitiated and gave some examples of practical applications. Microscopy is an indispensable tool which helps researchers understand properties of materials. The take-home message of this talk was to know what you are looking for so that you can choose the right tool and analytical technique.

John Engelman closed the symposium with a presentation "ACS Resources for Your Career". He talked about the many valuable resources that ACS offers to its members at all stages along their career path. He discussed résumé preparation and review, mock interviews, job search assistance, and how to become an ACS volunteer. The students in the audience found this symposium to be very informative and learned how the ACS and its Division of Chemical Technicians supports its members.

—Alexis Schaible and Judith Iriarte-Gross

Scholarship in Honor of Priscilla Carney Jones

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Due to her dedication as a woman chemist, Priscilla Carney Jones accomplished many great things in her lifetime; in her honor, this scholarship will help a great many more women chemists succeed as well. The deadline for applying for the 2009 Priscilla Carney Jones Scholarship is April 1, 2009. Application information can be found on the WCC website, http://membership.acs.org/W/WCC/.

—Amber Hinkle and Paul Jones

YCC Chair Mick Hurrey, Paul Jones, & Amber Hinkle

Photo courtesy of Linda Wang

Successful Women in Chemistry

An Interview with Kathryn E. Uhrich, Rutgers, the State University of New Jersey

Kathryn Uhrich is a professor of chemistry and associate chair of the Department of Chemistry and Chemical Biology at Rutgers University. She received a B.S. degree (1986) in chemistry at the University of North Dakota, and a Ph.D. degree (1992) in organic chemistry from Cornell University. Before moving to her present post at Rutgers in 1995, she held postdoctoral positions at AT&T Bell Laboratories (1992) and the Massachusetts Institute of Technology (1993-95).

Her research is funded by the National Institutes of Health and the National Science Foundation (NSF). Several industrial and government agencies have recognized her research: Professor Uhrich has received the Johnson & Johnson Discovery Award (1996), the Hoechst Celanese Innovative Research Award (1996 and 1997), the NSF CAREER Award (2000), and has been elected a Fellow in the American Institute for Medical and Biological Engineering (2003). Recent awards include the Thomas Alva Edison Patent Award (2003), New Jersey's Outstanding Scientist in Biomedical Research Award (2004), the ACS-sponsored Buck-Whitney Award (2005), and the New York Academy of Sciences Blavatnik Award for Young Scientists Finalist (2007). A different "honor" that Dr. Uhrich's research has received includes popular press articles and books that describe her research results including *Newsweek*, *Business Week*, *New York Times*, New Jersey's *The Star-Ledger,* and several pages dedicated to her research innovations in the 2004 book entitled *Aspirin: The Remarkable Story of a Wonder Drug*.

She is cofounder of Polymerix (2000-08), 2003 recipient of New Jersey's "Best Life Sciences/Healthcare Company", and currently, she is codirector of an NSF Integrative Graduate Education and Research Traineeship on biointerfaces (2004-08) and on stem cells (2008-12).

Her research focuses on the synthesis and characterization of biocompatible polymers for medical and dental applications such as drug delivery and tissue engineering and her research accomplishments have been recognized and disseminated in hundreds of publications and conference proceedings along with hundreds of invited presentations at local, national, and international levels. In addition, she currently has over one hundred US and world-wide patents and applications. Her innovative research in polymer chemistry and biomaterials at Rutgers has trained nearly one hundred graduate and undergraduate students.

The following excerpts are from an interview with Professor Kathryn Uhrich where she shared her personal experience and insights.

How did you get started in your field?
I started doing research in the summer after my junior year in high school, at a research center in my hometown. Once I realized that research paid more than babysitting and that asking questions was actually a *good* thing, I was hooked.

What took you to where you are today?
My enthusiasm for learning and ability to work hard.

How have you changed and/or how has the "work climate" changed since you started?
I'm now more comfortable being one of the few women in the room. The environment has changed some and for the better, but most of the change has been in my own comfort level.

How do you define being successful?
Doing what you love and love what you're doing.

Does success require compromise?
Yes, sometimes one spends less time on important things (like relationships) in order to spend time on things that move a career forward (like writing grants).

Did/do you have mentors and how have they helped? (i.e. what was most beneficial to you in a mentor)
I've had many mentors in my career-starting with the research supervisor who hired a high school junior. The common factor amongst my many mentors is confidence; they gave me confidence by having confidence in me.

How do you balance work and life?
I don't. I don't seem to have enough time for either. My husband, Jeff, is very good at 'forcing' me to take vacations as well as scheduling a 'date night' once a week.

What do you do outside work for fun?
I love to travel, hike, explore new cultures, snorkel, visit galleries and museums as well as to read.

What worked for you that would be good advice for someone else coming up in her career?
Don't be afraid to ask for help, seek a mentor. In addition, always make some time for yourself – whether that's having coffee with a friend or reading a great book.

What do you like best about your current work?
The opportunity to work with intelligent, enthusiastic people is the best. The freedom to pursue innovative or crazy research ideas is a close second.

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Successful Women in Chemistry

An Interview with Kathryn E. Uhrich, Rutgers, the State University of New Jersey

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Have you faced particular challenges as a woman in the field of chemistry?
A challenge is often being one of the few women, sometimes the only, in a meeting and hearing my colleagues discuss how difficult it is to find other women. There are plenty of excellent women, yet they are often not noticed. Women need to network more.

What kind of traits makes a good manager?
Being fair. Talking to people when they are doing poorly and encouraging them when they are doing well.

What kind of traits makes a good chemist?
Being curious, yet careful.

What kind of traits makes a good leader in a scientific field?
Being able to inspire others and good listening skills.

What about careers in general – what should people look for in a satisfying career?
You should do something that you enjoy. I'm a strong believer that work shouldn't be work, it should be an environment that allows you and others to learn and to explore.

What was/is your favorite (work-related) book?
Winning the Games Scientists Play by Carl Sindermann.

Best overall developmental tool?
Time, make time for personal development (e.g., exercise and time with friends) as well as time for professional development (e.g., coffee with your mentors).

Most important skill for advancement?
Do your job well, or as one friend says "make your boss look good".

What percentage of your time is spent on professional development?
Not enough. Fortunately, I had the wonderful opportunity to participate in a four-week leadership program for women this summer (HERS Summer Leadership Institute). It was a spectacular opportunity to learn from and share with 60 other super-smart women on work/life balance, networking, and the inner workings of administration in higher education.

How in-tune are you to current job market?
Reasonably in tune.

How often do you update your résumé?
Daily.

More information on Professor Kathryn Uhrich and her research can be found on her Rutgers faculty webpage: http://rutchem.rutgers.edu/content_dynamic/faculty/kathryn_uhrich.shtml.

—Almudena Prudencio

WCC Luncheon

Over 200 people attended the Women Chemists Committee Luncheon on Tuesday of the ACS National Meeting in Philadelphia. We were delighted to present the Overcoming Challenges Award to Mrs. Erika Tutko, a Marine veteran who is continuing her undergraduate studies in chemistry at Coastal Carolina Community College despite interruptions in her schooling and physical challenges. Five of the WCC/Eli Lilly Travel Award winners who attended the meeting and presented their research at a poster session prior to the luncheon were also recognized. They are Bridget Alligood (University of Chicago), Meredith Foley (New York University), Elizabeth Harker (Yale University), Andria Panagopoulos (Loyola University-Chicago), and Danielle Schuehler (Syracuse University).

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Tom Lane, Frankie Wood-Black, Erika Tutko, Amber Hinkle, & Bruce Bursten

Photo courtesy of Janet Bryant

WCC Luncheon

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Following this presentation, Trish Maxson, Vice President of Human Resources, Merck & Co, was our distinguished speaker. She shared the stories of five women she befriended in graduate school at UC Berkeley who went on to careers in industry. Common to most of the stories were opportunities that arose in other areas of chemistry, life's hardships, and the large role that family plays in the work/life balance mix. Some of the advice these women had for the future generation of women chemists ranged from paying attention to multidisciplinary areas of research to listening to one's body for signs of stress. At the conclusion of the luncheon, Jody Kocsis and Judy Cohen presented our outgoing chair, Amber Hinkle, with a plaque for her unwavering service to the WCC committee. Amber also left the audience with her words of advice and encouragement for continuing the goals of the committee.

—Laura Sremaniak

Amber Hinkle and Trish Maxson

Photo courtesy of Linda Wang

Spring 2009 Travel Awardees

The Women Chemists Committee/Eli Lilly Travel Award program continues in its 20th year of funding women chemists at the undergraduate, graduate, or postdoctoral level to make their first research presentation at a national scientific meeting. For spring 2009 meetings, 16 women were selected among 48 applicants. Those attending the 237th ACS National meeting in Salt Lake City will be recognized at the WCC luncheon. The spring 2009 awardees are:

Kathy Beckner-Woody (Georgia Institute of Technology)

Michelle Cortes-Salva (University of South Florida)

Maria Deslandes (Case Western Reserve University)

Rebecca Frey (University of South Carolina)

Nadine Hanhan (University of California, Davis)

Patricia Hredzak (Tufts University)

Karen Johnson (Fordham University)

Amy Kallmerten (Northeastern University)

Ratika Krishnamurty (University of Washington)

Kristie Ruddick (The University of Memphis)

Claire Schmerberg (University of Wisconsin-Madison)

Laura Sprunger (University of North Texas)

Kiley White (University of Pittsburgh)

Sharla Wood (Wayne State University)

For program information and the award application, please see http://membership.acs.org/W/WCC/.

Gender and Workforce Studies

Several recent articles and studies on gender and the workforce draw attention to some key trends for women in the chemical enterprise.

"Is the Gap More Than Gender? A Longitudinal Analysis of Gender, Gender Role Orientation, and Earnings", a study recently published in the *Journal of Applied Psychology,* has received a lot of attention for its findings. The purpose of the study was to determine what factors are predictors of gender role orientation, or the beliefs that individuals hold about the appropriate roles for men and women at work and home. These beliefs can range from traditional, where women should fulfill a family role and men should fulfill a work role, to egalitarian, where gender roles should be balanced at work and home. The researchers also sought to determine if gender role views affect earnings.

Study participants were a subset of a longitudinal panel study by the U.S. Department of Labor Bureau of Labor Statistics. Participants, interviewed four times over a twenty-five year span, were asked questions to measure the degree to which they endorse traditional versus egalitarian views. Participants responded on a scale of strongly disagree to strongly agree on five items concerning the employment of women outside the home and its relationship to factors such as a woman's happiness and juvenile delinquency. Participants were also asked about factors such as gender, age, race, years of education, region of U.S. residence, and job complexity.

The study found that men who hold traditional gender views earn more money than men who don't whereas the reverse is true for women – those who hold traditional gender views earn less money than women who don't. Controlling for job complexity, education, and number of hours worked, the study found that men who hold traditional gender role views make an average of $8,500 more annually than men who hold less traditional views; for women, those with less traditional views make on average about $1,500 more annually than those with more traditional views.

The study also found associations between gender role attitudes and variables such as age and region of U.S. residence. As the researchers hypothesized, women have less traditional views of gender roles as do African Americans, those with more education, those with more complex jobs, those who live in the Northeast, and those who live in cities. Not supporting the researchers' hypothesis, the education of the participants' mothers did not correlate to their gender role views.

Since some of the predictors for more egalitarian gender role views could be associated with chemical professionals – more years of education, greater job complexity, and greater general mental ability – one might want to hope that gender inequality isn't an issue in the chemical enterprise.

"Academic Salaries" in the July 14 edition of *Chemical & Engineering News* did indeed find that gender is no longer a major factor in faculty salaries at bachelor's- and master's-granting schools. The article summarized the results of the American Association of University Professors' (AAUP) survey of the economic status of the academic profession in 2007-08. While a larger gap exists at PhD-granting schools, it may be attribution to women faculty being younger than male faculty. The latest employment survey of American Chemical Society members in the domestic workforce shows similar data with women's average salaries at about 90% of men's salaries.

While salary data for chemists in academia are promising, one shouldn't feel at ease about the status of women in chemistry. Alarming trends still exist. "Academic Salaries" makes mention of one - that relatively fewer women are full professors. Chemistry falls particularly short. While the AAUP survey found that 26% percent of full professors are women, the ACS survey found that 16% of full professors are women. This problem is not isolated to academia; the underrepresentation of women in senior-level positions is a persistent problem in all sectors of the chemical enterprise.

"Women in Industry" published in the August 11 issue of *Chemical & Engineering News* highlights the results of *C&EN*'s annual survey of women serving as company executives and directors. The survey showed that there has been little change in the advancement of women in the upper corporate ranks of chemical companies. The survey of 42 publicly-traded U.S. chemical companies shows a modest increase from 2007 in the percentage of female directors from 2007, but is still lower than the 2003 percentage. Perhaps more alarming is the decrease from the 2007 survey in the percentage of women serving as top executives. Of the surveyed companies, nine have no women serving on their board of directors, five have no women directors or executive officers, and none are led by a female chief executive officer.

The lack of women in senior positions in academia may be due, in part, to the fact that women leave at higher rates than men, the "leaky pipeline" effect. "Gender and Science", published in the *European Molecular Biology Organization Reports*, shares the results of a survey of two large European research networks which sought to investigate job-related perceptions and motivations to complement data on the exodus of women from scientific careers. The study found that traditional gender roles play a part in this phenomenon. An online questionnaire based on sociological criteria confirmed that women sacrifice professional ambitions to raise children. Women pay a professional price for assuming the traditional caregiver role. The majority of both men and women surveyed responded that childcare is difficult to combine with a scientific career. Gender-attributed behaviors were also a factor. Over half of the women surveyed responded that women don't reach higher levels because they are less willing to assume the competitive behaviors characteristic of males. About three-fourths of the women felt that "research is ruled by men" compared to about half of the men. About one-third of the men and over three-fourths of the women participants believe that women are too often assigned to administrative or subordinate roles. The researchers aren't sure whether the large discrepancies in the perceptions of men and women should be attributed to a limited ability to perceive inequalities or a reluctance to admit that inequalities exist

The recent articles are an important reminder of the inequalities that women scientists still face. The Women Chemists Committee serves an ever-vital mission of attracting, developing, and promoting women in the chemical sciences and related disciplines.

—Katherine Hoffman,
WCC Staff Liaison

2008 WCC ChemLuminary Awards

The 10th annual ChemLuminary Awards ceremony honoring ACS volunteers was held at the ACS National Meeting in Philadelphia with a “Sounds of Philadelphia” theme. These awards recognize participants in ACS local sections and divisions whose efforts have helped to achieve excellence. Local sections nominated their Women Chemist Committee (WCC) groups for these awards and the winners are chosen by the Local Section and Regional Outreach Subcommittee. The WCC was proud to present three awards.

Finalists for the Outstanding Outreach to Girls and Young Women Award were the Georgia, Nashville, and Richland Local Sections. The winner was the Nashville Local Section, which participated in several events this year concentrating on outreach to girls and young women. The first was an invited visit to Eastman Chemicals where women chemists and engineers held a panel discussion to talk about their career paths in chemistry. The WCC also participated in the 11th Expanding Your Horizons in Science and Mathematics Conference at Middle Tennessee State University by presenting several chemistry workshops. Finally, the Nashville WCC was invited to be a part of the new Girls Raised in Tennessee Science (GRITS) program directed by Judith Iriarte-Gross, which "advances the knowledge and understanding of STEM education and opportunities for middle and high school girls throughout Tennessee”.

Finalists for the Outstanding Overall Local Section Women Chemists Committee Award were the Michigan State University, Nashville, and Richland Local Sections. The winner was Michigan State University Local Section, which organized multiple events this year including four Meet the Speaker events and numerous outreach activities. They provided badge activities for both Girl and Boy Scouts; participated in the Girls Math/Science Conference held at a local high school; designed and monitored the Chemistry Laboratory event for the Michigan Science Olympiad held at Michigan State University; presented three hands-on demonstrations at Chemistry Day held at a local museum; and, participated in the American Cancer Society Breast Cancer Walk.

Finalists for the Outstanding Single Event in a Local Section Promoting Women in the Chemical Sciences Award were the Georgia, Indiana, and Nashville Local Sections. The winner was the Indiana Local Section, which marked the national WCC 80th anniversary milestone with a networking and recognition brunch at the Indiana Historical Society. As part of this event, the WCC selected seven “women in the lead” to receive a framed Outstanding Achievement Award in Chemistry certificate. These scientists and educators are doing great things for the chemistry profession and each has demonstrated dedication, scientific excellence, and leadership in different ways.

Details on all the programs presented by the finalists are available on the WCC website, along with information about past award winners: http://membership.acs.org/w/wcc/.

Photos courtesy of Linda Wang

Outstanding Overall Local Section Women Chemists Committee Award

Outstanding Outreach to Girls and Young Women Award

Outstanding Single Event in a Local Section Promoting Women in the Chemical Sciences Award