

BY  
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# IEEE Women in Engineering WIE

## Two Decades of WIE

PAST FOUNDERS AND CHAIRS REFLECT  
ON WIE'S 20th ANNIVERSARY

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IEEE Women in Engineering (WIE) is a unique organization in many ways, one of which being that it exists to serve the needs of the women who serve it as well; often the members who get the most out of WIE are those who have been actively involved. Most women will tell you that it is the entirety of everyone's efforts that have spurred the organization forward. Now, on the occasion of WIE's 20th anniversary, 12 women who were instrumental in bringing the group to the present day recall fond memories from the last two decades. These women, past founders and chairs, are the ones who led the community through the creation of the opportunities so many others enjoy, such as launching student affinity groups, funding awards, and editing the very magazine you are reading.

WIE cofounder Jan Brown recalls the support of many key players in setting up the group. "By virtue of the staff wisdom, expertise, and willingness to be a part of the endeavor, we were able to establish a foundation and accomplish a number of initiatives to jump start the organization," she says. Brown, who had begun lecturing worldwide on issues concerning women in science and engineering during the late 1980s and 1990s, served as IEEE Ultrasonics, Ferroelectrics, and Frequency Control Society (UFFC) president in the early 1990s. During her tenure, the UFFC held receptions designed to provide networking opportunities for women and a forum to discuss issues concerning women in engineering. "It was because of the



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**Jan Brown (center) at the 2006 IEEE International Ultrasonics Symposium awards luncheon in Vancouver, Canada, with Art and Margaret Ballato.**

success of these receptions, the issues raised, and the global concern about the lack of women in engineering that one of our AdCom members, Dr. Gerald W. Farnell, made the motion to request that the IEEE create a committee on women in engineering,” explains Brown. The motion passed and, by 1994, Women in Engineering was an ad hoc committee with leadership from Brown as well as Martha Sloan and Helen Wood.

That first year was what Brown calls a “fact-finding year” of gathering information about women in engineering in society at large as well as within IEEE. The group also produced the first WIE newsletter. Progress continued rapidly and, throughout 1995, the committee accomplished many milestones, including defining scopes of interest, beginning a series of articles in *The Institute*, setting up a Web site and e-mail address, establishing additional subcommittees, and appointing liaisons to major boards within IEEE.

In the spring of 1995, *IEEE Spectrum* convened a roundtable of women to discuss the issues facing women in engineering. Topics covered spanned from the discouragement in pursuing engineering to problems identifying an engineer’s image and how to circumvent awkwardness across gender stereotypes. Many of the women involved became WIE Committee members and two, April Brown and Julie Brown, served as the next chairs of WIE.

By 1997, WIE was recognized as a standing committee of the IEEE Board of Direc-

tors, which Jan Brown highlights as a key achievement because, with this acknowledgment, “anyone looking at IEEE would see that women were visible and important at the highest level of the organization.” Julie Sheridan Eng, who served as chair 1997–1998, recalls this being a “formative time” for the committee.

“At one point, we received a letter from parents whose 11-year-old daughter wanted to become an engineer,” she shares. “Neither of them were very technical, and they didn’t know how to expose her to the more scientific side of engineering and asked for our help. Sometime shortly after, the IEEE regional meeting happened to be in their hometown of Detroit, so we invited the girl and her parents to hear the speaker and join us for dinner.” Eng contrasts letters such as those with ones written by people who didn’t think the IEEE should have a dedicated women’s committee. In encountering conflicting attitudes, she remembers fondly the opportunity to bond with other women on the committee. “We came from different backgrounds and different industries, but we had several things in common,” she says. “Most of us either were or were becoming recognized leaders in our industry. We were often the only women in the room at our workplace meetings. We were dealing with demanding careers while also rais-

ing children. But you could see that if one woman could do it, you probably could, too. Although our backgrounds and careers were different, there was a kinship among us from our shared experience.”

This fondness is echoed by Karen Moore, who became involved with WIE through professional contacts and served as Educational Activities Board subchair for two years before becoming WIE chair. “When the numbers of your group are as small as they are for women in engineering (10–20% most of the time), it’s both heartening and fun just to be around so many peers,” she says. “There are days when it’s draining to be the only woman in the meeting. I have been very fortunate to work in a largely bias-free environment throughout my career, but I am also aware that this is not true for everyone, even today.”



**Julie Sheridan Eng**

### **An Affinity for WIE**

Moore and other chairs around her time made sure to expand this feeling of community through the growth of affinity groups, which were added to the WIE charter in 1998 but saw most of their growth from the year 2000 and beyond. “I am particularly excited to see affinity groups being formed around the world, especially when they are in countries where I can only imagine how difficult it could be to be a professional woman,” says Moore.

The first worldwide affinity group was actually born in Spain by a group of women from various Spanish universities in 1999–2000. One of its cofounders, Magdalena Salazar Palma, had been serving as chair of the IEEE Spain Section when she was approached by some female colleagues and asked to support a WIE affinity group proposal. “I feel honored to be a cofounder of the first WIE affinity group,” says Salazar Palma, who had been an active IEEE volunteer since 1989 and later served as WIE chair in 2003–2004.



**Karen Watson speaking at a graduation ceremony at Texas A&M University.**



WIE's network grew deeper with the launch of affinity groups for students, an audience well known to Karan Watson, who was the associate dean of engineering for the Dwight Look College of Engineering at Texas A&M University when she assumed the role of chair. "As dean, I was responsible for enhancing student success," explains Watson. "I was involved in national efforts to enhance the experiences for women in all engineering fields and felt particularly committed to helping my own professional society, IEEE." During her time as chair, the committee worked to get more online materials up and running, but they weren't just for students. "We also wanted to be sure that more senior women were aware of the path to becoming a fellow of IEEE," adds Watson.

In the mid-2000s, membership continued to grow rapidly among all age groups and industries. Mary Ellen Randall, who served as chair in 2004–2005, was proud to see WIE affinity groups grow from 61 to 134 worldwide during her tenure and for WIE membership to surpass 12,000 members. "Region and Society participation in WIE grew significantly



(From left) Valencia Joyner, Karen Panetta, and Ramalatha Marimuthu at Tufts University in 2009.

during this time with several Societies starting to hold WIE events at their technical conferences," she explains. "When I first started as chair, there was very little Society involvement. It was great to see us leverage all of the strengths of IEEE."

But like so many others, it always seems to come back to "the next genera-

tion." Randall's fondest memories revolve around interactions with students. "We held one of our committee meetings in conjunction with a Region Student Congress, and it was wonderful to meet the students and feel their enthusiasm and energy," she recalls. As the mother of two sons, Randall reminds her family that



Mary Ellen Randall (at right) with her Insight Racing Team. The team developed an autonomous Lotus Elise and competed in the DARPA Urban Challenge.

## SPECIAL MESSAGES FROM PAST LEADERS OF WOMEN IN ENGINEERING ON THE OCCASION OF WIE'S 20th ANNIVERSARY

### DR. JAN BROWN, COFOUNDER, 1995

*Currently:* President, JB Consulting, Whately, Massachusetts, United States

*Message:* I would encourage all WIE members to become actively engaged in IEEE, network, and find mentors. While it is possible to go it alone, the journey is more fun and rewarding when shared with others.

### DR. JULIE SHERIDAN ENG, CHAIR 1997–1998

*Currently:* Senior Vice President of Engineering, Finisar, Sunnyvale, California, United States.

*Message:* I am quite sure the committee has had great outputs in the past 20 years that we couldn't have imagined when it was first set up in 1994. I hope that the members of IEEE WIE find the same kinship in it that we did 20 years ago. I wish the women engineers success in their careers and their family life, and I hope they will invest time to inspire the next generation of women engineers.

And, if the young girl from Detroit who joined our regional meeting is reading this, I hope she'll contact me!

### KARAN WATSON, CHAIR 2001–2002

*Currently:* Provost and Executive Vice President, Texas A&M University, College Station, Texas, United States

*Message:* Congratulations to the IEEE and its WIE, keep up the good work—it is making a difference.

### MARY ELLEN RANDALL, CHAIR 2005–2006

*Currently:* President/CEO, Ascot Technologies, Inc., Raleigh, North Carolina, United States

*Message:* WIE shows the power of synergy when all areas of IEEE work together. WIE is about outreach and securing a future.

### DR. KAREN PANETTA, CHAIR 2007–2009

*Currently:* Professor and Dean, Tufts University, Medford, Massachusetts, United States

it's important to invest in future women engineers, which might someday include her now two-year-old granddaughter.

### Tangible Benefits

Karen Panetta was also working with students and young girls interested in engineering as a professor and dean at Tufts University before stepping into her role as chair in 2007. "I was fortunate that my predecessors did so much work surveying and drafting a strategic plan, and my job was to execute that plan," she says. "The first thing I did was address the issue that members wanted tangible benefits of membership. I am proud that in my very first year, WIE successfully developed a business plan and got approval for *IEEE Women in Engineering Magazine*." She was part of another major WIE milestone: cochairing the first solo IEEE WIE

Region 10 conference with Ramalatha Marimuthu. "I think the enthusiasm and industry interaction proved that WIE is respected and valued beyond IEEE," she shares.

Panetta enthusiastically expanded upon her work with budding engineers by traveling around the world to meet members, particularly Student Members. "I didn't even own a passport before I assumed this position," she says. "Now, I have made lifelong friends and have enjoyed seeing the young students I met and mentored blossom into wonderful professionals and leaders."

Irena Atov, who became chair in 2010 after Panetta, recognizes the progress WIE has made in putting so much emphasis on encouraging the next generation. "I

*Message:* I look forward to the day when many of the young women I met as students assume the leadership roles on the IEEE WIE committee and the day when an IEEE WIE leader becomes an IEEE Medal of Honor winner!

### DR. IRENA ATOV, CHAIR, 2010

*Currently:* Program Director, Core Network Analytics and Resilience, Telstra Corporation, Australia

*Message:* On one level, I would encourage young IEEE Members to become involved and use their imaginations to run activities of special interest and relevance. New fields are opening up in engineering that are particularly well suited to women professionals. The other point I would suggest is that there is so much that can be learned from related fields and the WIE is one very good way of bringing women together to share this knowledge and establish a professional network in an especially relevant and fruitful way.

### DR. RAMALATHA MARIMUTHU, CHAIR 2011–2012

*Currently:* Professor and Head of Department of Information Technology, Kumaraguru College of Technology, Coimbatore, Tamilnadu, India

*Message:* I appreciate my IEEE and WIE friends who have taught me, molded me, and shaped me. My special words to all women are "Believe in yourselves! When you need someone to boost your morale up by sharing your concerns, by being a role model or, by simply being a friend, remember there are 15,000 of us ready to extend our hands."

### NITA PATEL, CHAIR 2013–2014

*Currently:* Systems/Software Engineering Manager, L-3 Warrior Systems, Insight Technology, Londonderry, New Hampshire, United States

*Message:* WIE has made a difference, and our members have changed the world. I'm proud to have the honor of serving as the chair of this truly vibrant, active community. We have incredible potential to influence others and impact lives. I hope that WIE members will recognize the greatness in them and continue to help shape our world.



Irena Atov

detect that there is a generational change taking place, where many more young girls, who have gone through student WIEs and joined full-member WIEs, have a confident and self-assured approach to the profession," she describes.

Atov, who was a Student Member herself before founding the first WIE group in Australia and serving in various leadership roles, is proud of the way WIE has helped improve the status of women within the profession. In one particular example, she recalls the first workshop on science, engineering, and technology (SET) held during the APEC (Asia-Pacific Economic Cooperation) Women Leaders Network Meeting in Tokyo, under the



leadership of the IEEE WIE Japan Council. “This work subsequently led to participation in the United Nations 55th Commission on the Status of Women, which had a focus on enabling access for young girls to SET fields,” she explains. On a broader level, as chair, Atov initiated the setup of the WIE Foundation Fund that allows WIE to support a wide range of educational and public awareness activities.

For Ramalatha Marimuthu, humanitarian efforts were of key importance when she led affinity groups in India and it continued to be an area she focused on as WIE chair. “I introduced novel projects, such as Project Sangamam, which aimed to enhance the lifestyle of rural women and children,” she says. “Under this project, activities like rural electrification, computer literacy workshops, and eco-development projects were executed, and the significance here is they were all executed by students who had a hunger to change the world.”

Marimuthu also clarified governance issues for the WIE, overseeing the committee’s transition to the Member and Geographic Activities Board and editing the selection process for committee members. With this change, winners of the Affinity Group of the Year and Student Branch Affinity Group of the Year awards could serve as committee members, ensuring that highly active members will be selected from all over the world every year.

## Coming Together

The makeup of the committee is an integral part of WIE, not only in the activities accomplished but in the environment under which committee members can lead. “My fondest memories are of the cooperation I had from the committee members in executing targeted projects,” says Marimuthu, “as well as the goodwill I could develop with the IEEE WIE members from all over the world.” Part of her agenda was to expand activities for women globally, and she did so by introducing successful congresses for women and Student Members, organizing the first IEEE WIE Conference with Google,



**Ramalatha Marimuthu receiving the Anita Borg Institute Change Agent Award in a Grace Hopper Celebration in Baltimore, Maryland, October 2012.**

initiating awards for WIE members, and other accomplishments.

Conferences have always been a key-stone of WIE programming, for the educational aspect as well as for the networking and community-building atmosphere they provide. In May 2014, the inaugural WIE International Leadership Conference was held, launched by current Chair Nita Patel, who hopes the meeting will help develop strong female technologists into leaders.

In particular, the international aspect of this conference appeals to Patel, who enjoys meeting volunteers and members worldwide. “There are so many incredible people doing awesome work to promote engineer-

ing, to make their communities better, and to make a difference in the world,” she says. “It’s incredible to see how people have truly changed the world around them.”

The previous founders and chairs of WIE would definitely be considered change agents, having guided the group through much of what it set out to do when the first scopes of interest were laid out 20 years ago. “In the beginning, we said that we would be successful if there was no longer a need for WIE,” says Jan Brown. “Given the number of IEEE members engaged in WIE, it is clear our work is not yet done.” Still, adds Patel,



**Nita Patel**

“we were charged with a broad, grand challenge when WIE was established, and over the past 20 years, we have taken concrete, tangible steps to define where WIE can make a difference. I think we have done an incredible job in this regard. I truly believe that we inspire, engage, and advance women in technology.”

Even as WIE takes great strides toward advancement, members might argue that there will never cease to be a need for the group. Over the past two decades, WIE has grown from a professional organization into a true community, connecting women with shared interests and experiences. “Women need to know that they are not alone in their challenges,” says Panetta. “While every family struggles with life balance, it’s organizations such as WIE that empower both women and men to change corporate cultures and to create work environments that respect the importance of a person’s family in her or his life, which makes for a hardworking, dedicated employee.”

Patel says WIE is also important because it makes a positive statement. “WIE does not worry about battling or changing stereotypes/biases, which do exist,” she says. “Rather, WIE focuses on providing role models, doing good work, and reaching young girls; that is, making a positive difference.” Like those highlighted here, WIE offers many role models across the globe, women who have faced a varying set of opportunities and challenges but who are able to share those experiences with the community when members connect with them. As Panetta points out, “WIE shows us mentors and wonderful role models that we can actually reach out to and interact with, not just read about!”

—Leslie Prives is a freelance writer living in New York City.

