

# Raise the Visibility of Women in Engineering

By Laura Margheri

Inspiring and advancing women in engineering (WIE) is our major mission. Providing opportunities to raise their visibility is a way to pursue this mission. In the next couple of months, we will see two great events in which women in robotics will be leading actors: the second IEEE WIE International Leadership Conference (ILC), 23–25 April 2015 in San Jose, California (<http://ieee-wie-ilc.org/>), and the all-female-organized IEEE International Conference on Robotics and Automation (ICRA) 26–30 May 2015 in Seattle, Washington.

I took this chance to interview the two leaders of these events: Nita Patel, the IEEE WIE chair, and Lynne Parker, the general chair of ICRA 2015. I want to thank them for this opportunity and particularly for their passion, effort, and positive influence for inspiring, engaging, and advancing WIE.

Enjoy their interviews and do not miss the events.

## Lesson Learned, Opportunities and Challenges: One-on-One Spotlight with the WIE Chair

The IEEE WIE ILC is the flagship conference of the IEEE WIE. The first WIE ILC was held last year in San Francisco (May 2014) with the theme “Lead Beyond. Developing Inspirational Women Who Change the World.” More than 350 women engineers, managers, scientists, entrepreneurs, and many young girls and young researchers met

to share new ideas, gain inspiration, foster discussion, and encourage collaboration, all with the common vision of advancing career opportunities for WIE. I had the opportunity to attend the first conference and to meet a large number of women who are successful in their professional careers and personal lives and to share with them stories and get advice. It was a great experience that I described in the September 2014 issue of *IEEE Robotics and Automation Magazine*.

On August 2014, the WIE ILC Planning Committee announced the 2015 WIE ILC with a theme of “Lead Beyond. Accelerating Innovative Women Who Change the World.” The conference will be focused on leadership, innovation, and entrepreneurship, and together with Allison Okamura, Lynne Parker, and Jing Xiao, we will have the opportunity to speak at the event in a panel session “Leading Innovation in Robotics.”

### Nita Patel



Nita Patel is the main organizer of the WIE ILC. I asked her to tell us something about her experience as WIE chair, her vision for WIE, the experience gained from the first WIE conference, and what she envisions for the second.

**Q:** How did you get where you are today in WIE? Why did you choose to become the WIE chair?

**A:** It may sound silly, but mostly luck got me to my position as WIE chair. I did not set out to become IEEE WIE chair. I was an active IEEE volunteer as a student at Southern Methodist University. After graduation, I was a member but not an active volunteer for a few years. When I started volunteering again, I rotated through several roles in my Section. After being chair in the Oklahoma City Section, I wanted a larger role. I was appointed Region 5 WIE coordinator. I really enjoyed my time on the committee, but after that, I held a few roles in IEEE-USA and the Computer Society and was not particularly active with WIE. Three years ago, I randomly got a note asking if I would be interested in running for WIE chair. I said yes because I think the mission of WIE is very important. To my surprise, I was elected as WIE chair. I have enjoyed the incredible experience of the past two years.

**Q:** Which is the most important lesson learned as WIE chair that you want to share with us?

**A:** That each of us contributes to the whole of humanity. Your actions do make a difference. I have met so many people in the past two years, and each is doing fabulous work within their local communities. The impact each person has is incredible. I think the most important lesson that I have learned is that we, as individuals, can truly change the world through our positive influence, small actions, and big heart.

I have also learned that IEEE volunteers around the world are very similar. We are all passionate individuals

working hard in our respective areas of interest. Even though we are very similar, the most wonderful aspect is that we are all very different. Each of us brings a unique perspective that makes the whole so much stronger, vibrant, diverse, and interesting. I love that about IEEE—we can have shared stories and experiences but retain our personal cultures and individual perspectives.

**Q: Considering your experience and vision, which are (if there are) those characteristics that women have and that can be used as tricks to become more effective leaders?**

**A:** I would not call the unique skills with which women are endowed tricks. I think all individuals have special qualities, but certain groups do have a higher tendency for certain characteristics than other skills. Collectively, there are some characteristics that come more naturally to women. These include the ability to collaborate, excite with passion, reach consensus, listen empathetically, bring together disparate ideas, and engender support/enthusiasm. Women have the advantage in these skills, which I think are essential for leaders.

Women can emphasize these characteristics to their advantage. I agree with your statement (from the September 2014 “Women in Engineering” column) that there is no single formula for becoming an incredible leader. I also agree that you have to embrace what makes you unique and different. More importantly, I think you have to accept what makes you unique. You have to be authentic in your communications, and the best way to do that is to accept yourself as you are not as who you want to be. I think women tend to be more self-aware so can identify their strengths, but we might need to learn to be a little more compassionate with our faults. But we also have the capacity for unparalleled compassion for others. I think these are some of the qualities that make us tremendous leaders.

**Q: The first WIE ILC was “Lead Beyond. Developing Inspirational Women Who Change the World”; the second will be “Lead Beyond. Acceler-**

**ating Innovative Women Who Change the World.” From development to acceleration. Can you comment on this?**

**A:** The goal of the first conference was to provide encouragement and a forum for skills building for women to advance in their leadership roles. The reason for the theme around developing inspirational women was to truly provide development opportunities through training-oriented tracks. Inspiration came from my awe at the power and energy of the many women I had met through WIE. I felt that WIE was truly a community of inspirational women changing the world. I wanted to provide an opportunity for them to develop leadership skills through this conference.

We changed to accelerating innovative women who change the world for a couple of reasons. First, we wanted to move the conference to San Jose, which is known as the capital of Silicon Valley. Second, we wanted to focus on not only leadership but also innovation. As a result, we decided to change to accelerating to showcase that the conference and its tracks would provide women that acceleration or advantage. We also changed inspirational to innovative because I think women are very innovative. We are creative by nature. This also aligned with the purpose of the conference to provide training/presentations to accelerate innovation.

**Q: What do you expect for the future of WIE?**

**A:** I think the future of WIE is incredibly exciting. I see the IEEE WIE ILC continuing to grow. I think we will be taking major leaps in the next few years to not only grow the event but also increase the impact of the event.

In addition to the flagship conference, I see WIE expanding its portfolio of local events (known as WIE Summits) and products/services (e.g., more special project funds, travel grant support, awards). I think as we continue to engage our members and enhance our corporate partnerships, we will be able to inspire more young women to pursue science, technology, engineering, and mathematics (STEM) careers and will be

able to advance more women into larger leadership/organizational roles.

In addition to expanding the events for WIE, I see WIE significantly enhancing its Web site and communication mechanisms. This will allow for better information sharing, highlighting of our impact, and truly global interchanges among our affinity groups. The affinity groups are the lifeblood of WIE. We truly are an organization that thinks globally but acts locally through the inspiring affinity group volunteers.

Ultimately, the goal is to increase IEEE female membership but, more importantly, to take the lead as the number one STEM resource for women and girls internationally. Through these steps, I think we can truly fulfill our mission to inspire, engage, and advance women in technology.

### Lynne Parker



An all-female-organized ICRA is already a success because everybody is talking about it. Indeed, it is a great way to give visibil-

ity to women in robotics. Lynne Parker, general chair of ICRA 2015, is leading this event, and I asked her to reveal a few aspects behind and beyond this initiative.

**Q: An all-female organizing team for ICRA: why not?**

**A:** The idea for the all-female-organized ICRA actually came from George Lee, who has been a strong supporter of the ICRA and the IEEE/Robotics Society of Japan International Conference on Intelligent Robots and Systems (IROS) conferences. He is also a strong supporter of women in robotics. He suggested to me several years ago that he would love to see an ICRA organized by an all-female team. I kept thinking about the idea for a long time; he kept coming back to me with the idea, so I ultimately agreed. I agreed to the idea because I think it gives an opportunity to raise the visibility of women in robotics in the ICRA and IROS communities. Nearly all previous ICRA/IROS conferences have had only one or two women

# 2015 RAS ADCOM ELECTION

## CALL FOR NOMINATIONS

The IEEE Robotics and Automation Society membership will elect six new members of the Administrative Committee in 2015, each to serve a three-year term beginning in January of 2016. The AdCom is the governing body of the Society.

### RESPONSIBILITIES OF ADCOM MEMBERS

AdCom members must attend two formal meetings each year, one in conjunction with ICRA and the other usually in October/November in conjunction with another major conference. Each AdCom member is expected to serve on at least two of the boards and/or committees of the Society.

### ELIGIBILITY

Any higher-grade member of the Society is eligible to serve and all higher-grade members plus graduate students may nominate candidates and vote.

### TO NOMINATE A CANDIDATE

To nominate a candidate or offer yourself as a candidate, contact the Society at [ras@ieee.org](mailto:ras@ieee.org) by 1 May 2015.

### PETITION CANDIDATES

Candidates may also petition to be on the ballot. All persons who, by the deadline, submit petitions with valid signatures and IEEE member numbers with at least 2% of the year-end voting membership will be placed on the ballot.

Only original signatures on paper or electronic signatures submitted through the RAS petition website will be accepted. Faxed or emailed signatures are NOT acceptable. Contact the Society at [ras@ieee.org](mailto:ras@ieee.org) to obtain a paper petition form or to set up an electronic petition. Completed petitions must be received by 1 May 2015 to be placed on the ballot.

### SELECTION OF FINAL BALLOT

The Nominations Committee will consider all nominations and petitions and select the candidates to be placed on the ballot.



on the organizing committee. In addition, usually the women on the team are one of a small group of senior women in the field, with the same ones being included over and over. When we ask the organizers why they do not include a few additional women, they say they have trouble identifying other qualified women with conference organizational experience.

Thus, my goal with this all-female organizing team is to raise the visibility of women in robotics around the world. I want to provide them the opportunity to gain experience on the organizational team so that other conference organizers in the future can draw from

this field and then include more women in the leadership of the field. We have several senior women on the ICRA 2015 team, but we also have a large number of earlier-career women who are outstanding researchers; these earlier-career women are perhaps not well known outside their research specialties. I am hopeful that by serving on the organizational team, they will become better known to the broader robotics community and, thus, will be called on more in the future.

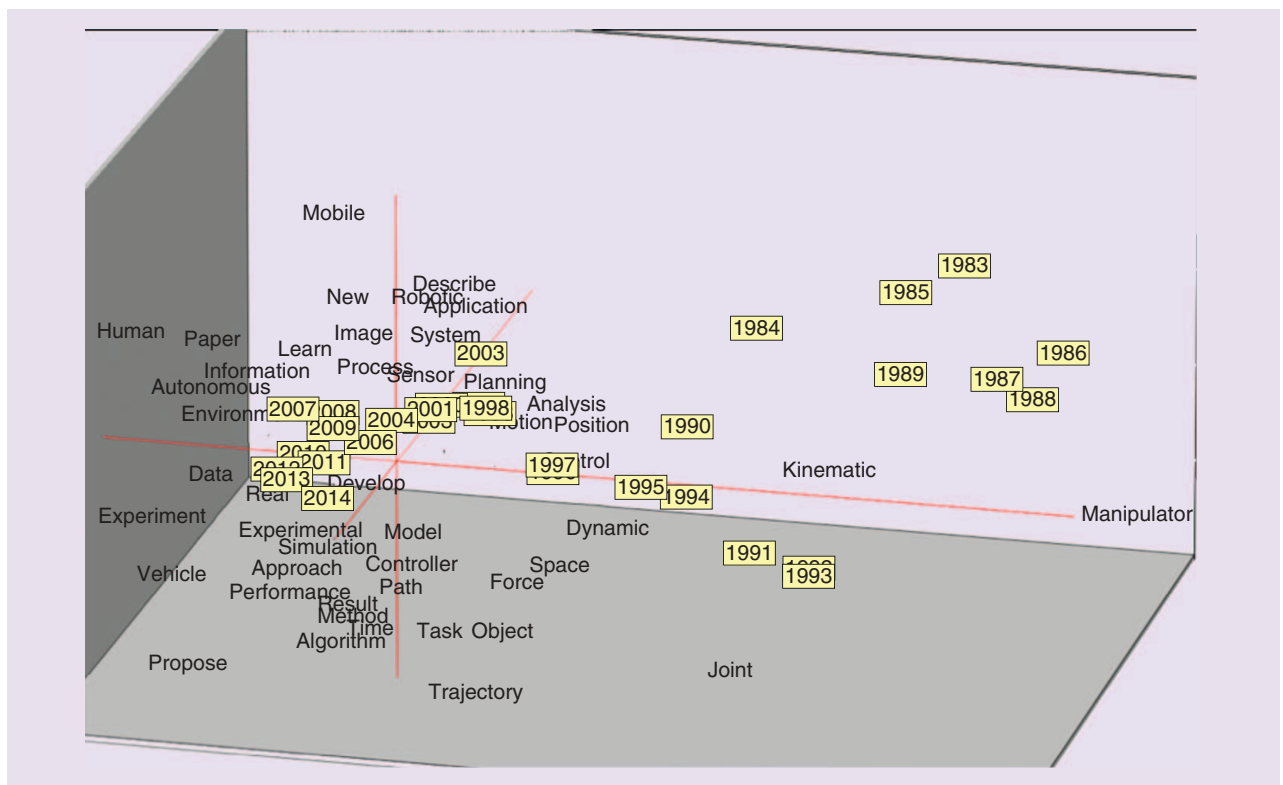
This activity is especially important for increasing the visibility of women in robotics in parts of Asia and the developing countries, as women in these

regions typically find many more roadblocks to their professional advancement than do women in the Western world. My hope is that this step will also encourage young female students in robotics, giving them many strong female role models to follow. Hopefully, they will then become leaders of the field and we can help address the disappointingly low numbers of women included in robotics leadership within the ICRA/IROS communities.

We have received much positive feedback from the IEEE Robotics and Automation Society for taking this step.

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## HISTORY *(continued from p. 142)*



**Figure 4.** The multidimensional scaling diagram between the terms and publication time periods.

digitally available information on robotics publications from the past decades. This provides an unprecedented opportunity for scholars and the public to learn about the changes in this quickly developing field of scientific and technological innovation. At the same time, these narratives

can provide inspiration and guidance to new robotics researchers and educators, making this technically complex field more approachable, understandable, and human. Time will show the various exciting uses that will be found for this new resource for understanding robotics.

## References

- [1] Interview with Oussama Khatib, Apr. 2013.
- [2] [Online]. Available: [http://www.ieeeeghn.org/wiki/index.php/Oral-History:Robotics\\_History:\\_Narratives\\_and\\_Networks](http://www.ieeeeghn.org/wiki/index.php/Oral-History:Robotics_History:_Narratives_and_Networks)

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