



# IEEE Women in Engineering (WIE)

Takako Hashimoto, WIE Committee Chair  
Nita Patel, Past Chair, WIE Committee  
Keyana Tennant, WIE Program Manager  
Paola Bringas, WIE Administrative Assistant

Presentation for Region 3 Meeting at SoutheastCon 2015  
By Cathy Freeman, Region 3 WIE Coordinator

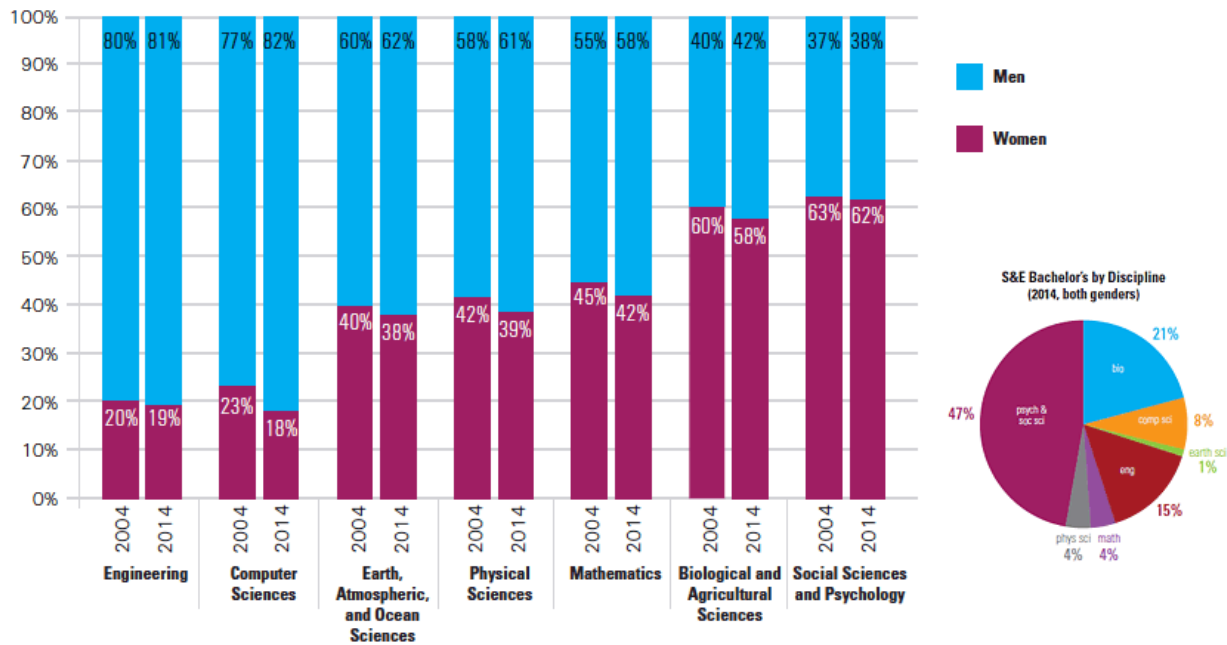
# Mission

- ▶ The mission of IEEE WIE is to facilitate the global **inspiration, engagement** and **advancement** of women in technical disciplines. IEEE WIE envisions a vibrant community of IEEE women and men **collectively** using their diverse talents to innovate **for the benefit of humanity**

# Why WIE?

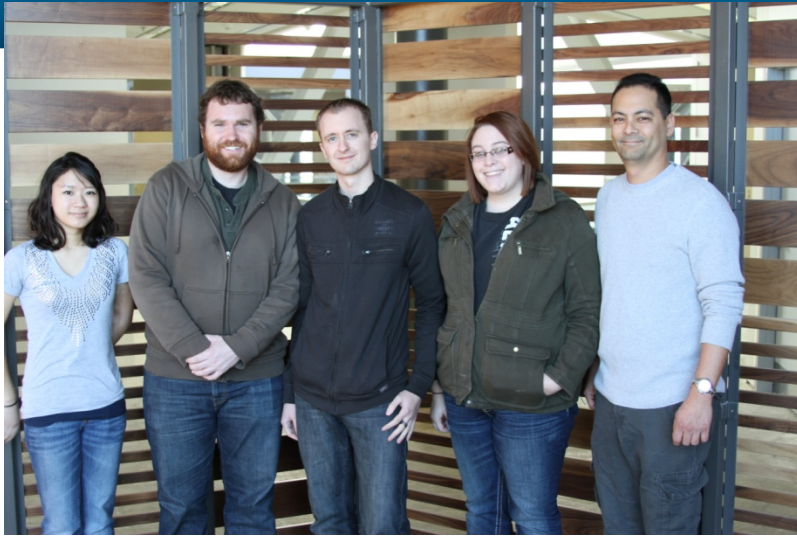
With data current through October 2014

## Gender Distribution of Bachelor's Degrees in Science and Engineering Disciplines (2004, 2014)



Note: Analysis is based on Clearinghouse degree records with field of study reported, which represent approximately 87 percent of all degrees reported to IPEDS. Percentages may not sum to 100 percent because of rounding. Professional degrees excluded. Detailed data tables for all 11 years can be downloaded from the NSC Research Center website at [http://nscresearchcenter.org/wp-content/uploads/Snapshot\\_15\\_S-E\\_Degrees\\_Data\\_Tables\\_2013-14.xlsx](http://nscresearchcenter.org/wp-content/uploads/Snapshot_15_S-E_Degrees_Data_Tables_2013-14.xlsx).

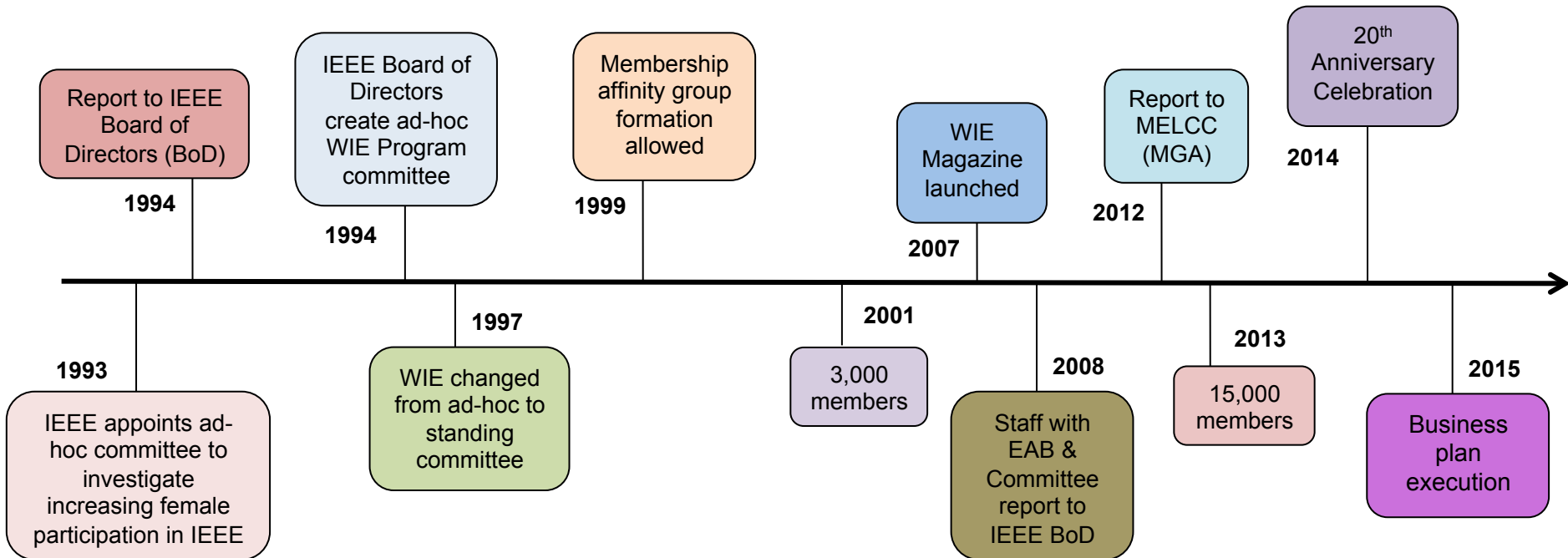
# Where are the WIE?



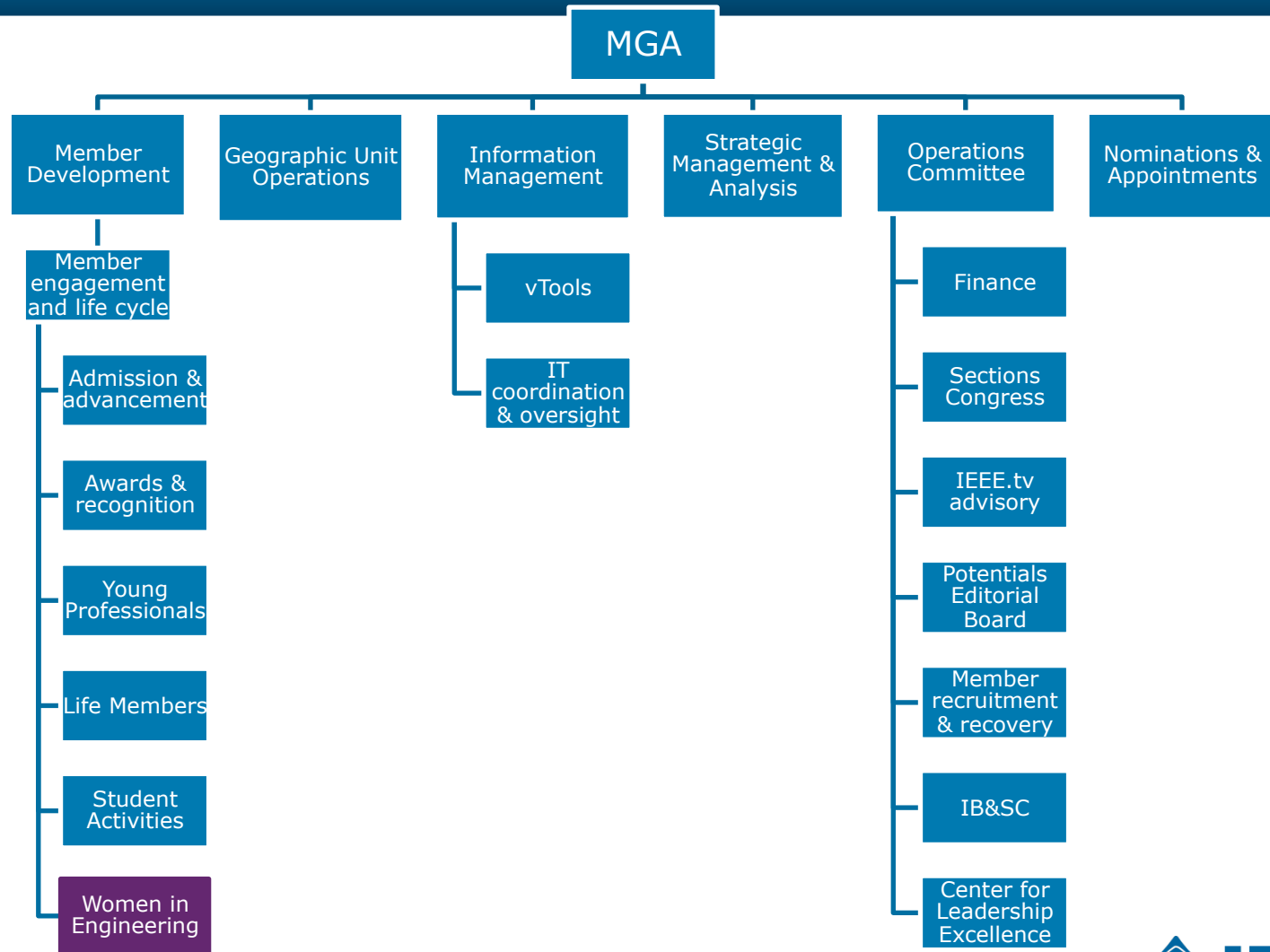
# Objectives

- **RECOGNIZES** women's outstanding achievements in electrical and electronics engineering,
- **ORGANIZES** receptions at major technical conferences to enhance networking and to promote membership in WIE
- **ADVOCATES** women in leadership roles in IEEE governance
- **PROVIDES** assistance with the formation of new WIE Affinity Groups and supports ongoing activities
- **ADMINISTERS** the IEEE (STAR) Program- Pre-University Outreach
- **PROMOTES** member grade advancement
- **FACILITATES** the development of programs and activities that promote the entry into and retention of women in engineering programs

# WIE History



# MGA Organization

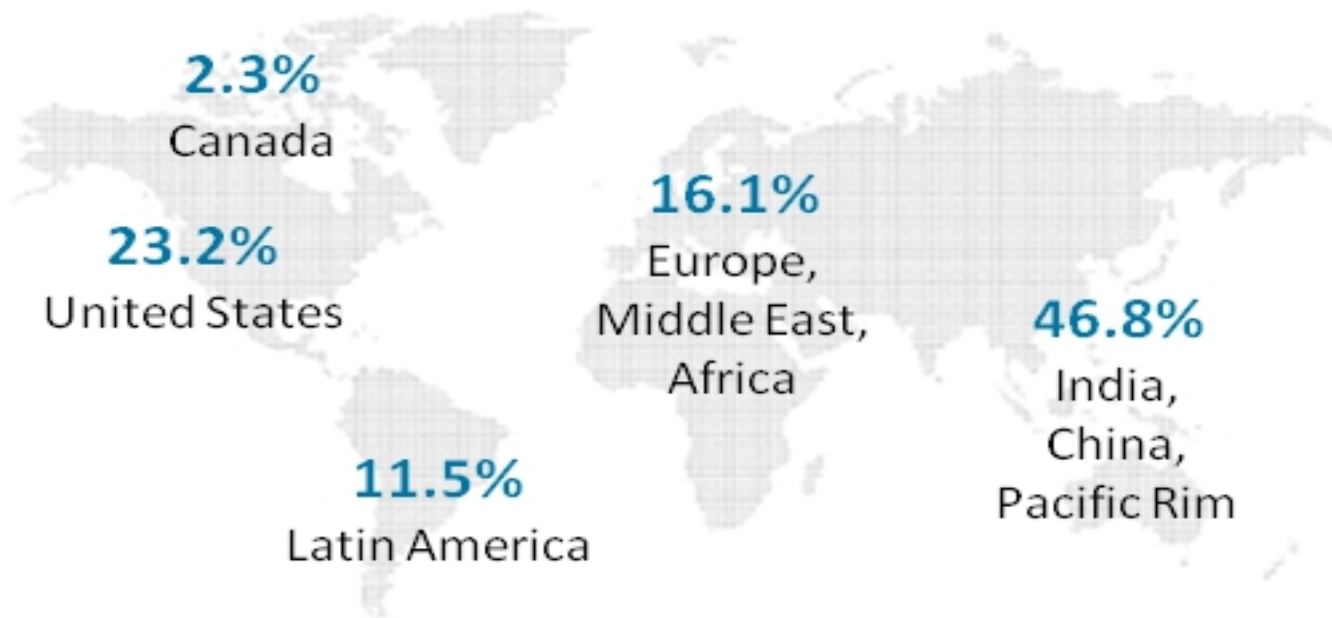


# WIE Membership

- Membership option available to both men and women.
- Dues waived for Student Members, Graduate Student Members, and Life Members.
- Higher Grade Members pay a fee of \$25 US.
- FYI- a 1/3 of WIE's Membership is male.

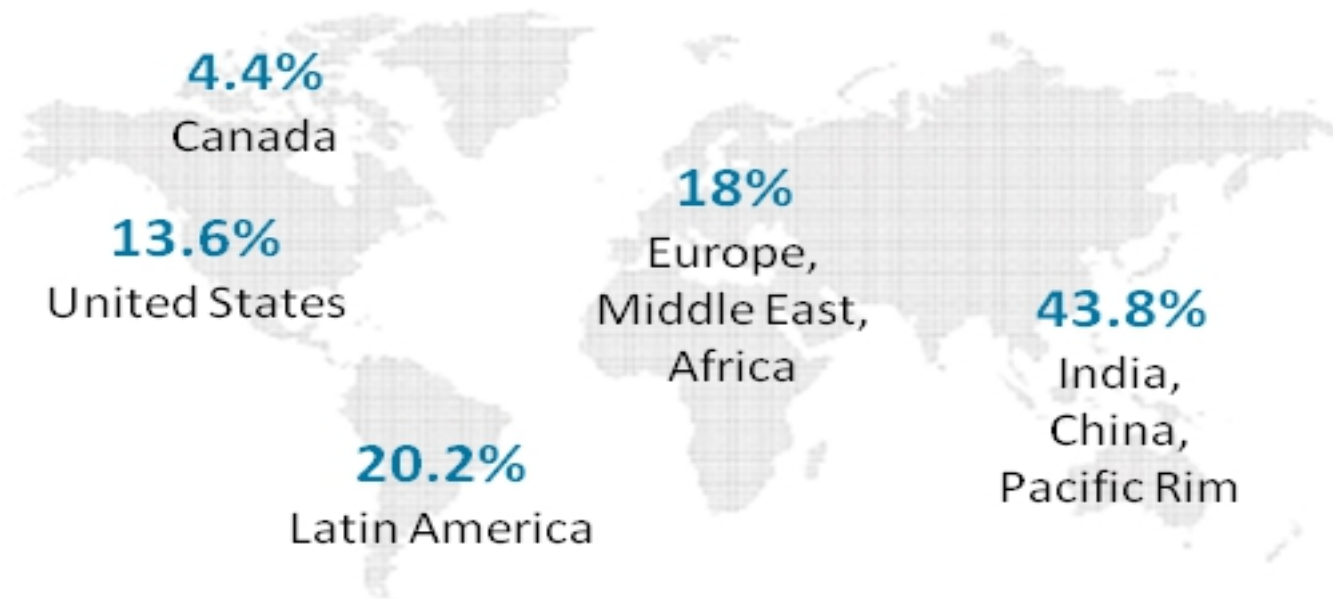


# WIE Membership (~16,422)



WIE Global Membership

# WIE Affinity Groups (~515)



WIE Global Affinity Groups



# 2014 Highlights and Resources

# 2014 IEEE WIE (Looking Back)

- ☑ 20th Year Celebration
  - Faces of WIE
  - Sections Congress 2014
  
- ☑ International Leadership Conference
  - Net positive (\$20k+)
  
- ☑ WIE In-person meeting
  - 56 attendees!
  
- ☑ Business Plan
  - ☑ MGA OpCom
  - ☑ June board series – plan approval
  - ☐ November board series – budget approval
  
- ☑ Affinity Group Support
  
- ☑ AG volunteer training
  
  
- ☑ WIE chats/webinars
  - IEEE-USA eWeek (6)
  - Global Marathon (2)
  - Young Professionals (3)
  - Regular (5)
  
- ☑ Communications
  - Facebook (106,000+ likes)
  - E-mail campaigns (6)
  - Magazine (2)  
(Won APEX Award)
  - Newsletter (10)

# 2014 Highlights

- 20th Year Anniversary Activities
- Member Testimonials Submitted
- The growth of Affinity Groups continued increase, as of January 2015, there are **515 WIE Affinity Groups**
- The 2013 IEEE Student WIE Student Branch Affinity Group of the Year Award went to the **IEEE WIE University of Melbourne**
- The 2013 Affinity Group of the Year went to the **IEEE WIE South Brazil (R9)**
- The IEEE WIE Edith Hannigan McHale Scholarship was awarded to **Chrishawna Martin(High School)**

# 2014 Highlights

- **15,600+ Members** as of December 2014
- IEEE Societies appointed **36 Society Coordinators to the WIE Committee**
- WIE Facebook page reached **110,600+ “likes”**  
[www.facebook.com/ieewomeninengineering](http://www.facebook.com/ieewomeninengineering)
- Engaged **100,000+** professionals and students
- **150+ WIE events in 2014\*** including professional, regional, and student activities
  - \*indicates only the activities made known to WIE Staff
- IEEE WIE Frances Hugle Scholarship approved \$100,000 endowment

# 2014 WIE Committee



# 2015 IEEE WIE (at a glance)

- ☑ Business Plan
  - Staffing
  - Budget allocation
  - Operational changes
  - Program initiatives
- ☑ Women in Leadership Summits
  - ☑ R1&R2 Joint (Nov)
    - R10 (Aug)
    - R9
- ☑ International Leadership Conference
  - Apr. 23-25, San Jose, CA
- ☑ Communication Platform
  - Website
  - Magazine
  - Newsletter
  - Marketing, publicity



# LEAD BEYOND

Accelerating Innovative Women  
who Change the World

@WIEILC #WIELEAD

[ieee-wie-ilc.org](http://ieee-wie-ilc.org)

23-25 April 2015

Capital of Silicon Valley

San Jose, CA (Marriott Downtown)



# 2015 IEEE Women in Engineering International Leadership Conference (ILC)

- San Jose Marriott, California, USA
- April 23 -25, 2015 (pre-reception April 23rd)
- \$122.5k in corporate Partnerships secured (as of January 2015)
- 162 Registered Attendees
- 46+ program speakers confirmed (including Intel CEO, Brian Kraznich and Lisa Su, CEO AMD)
- 31 Travel grant recipients (\$25k in travel stipends)
- Limited space, register soon! [ieee-wie-ilc.org](http://ieee-wie-ilc.org)

**Limited Seating**  
**Register Now**



# Women in Leadership Summits - NEW

- ▶ Chair: Ramalatha Marimuthu
- ▶ Members: Darwin Jose Raju., Holly Cyrus, Rabail Raza

**Support the development and execution of Regional WIE Leadership Summits. The theme of the workshops can be chosen by the organizer in line with the goals of IEEE Women in Engineering. The summits allow for continuation of discussion on leadership topics raised at the Leadership Conference. Events to be conducted every year under the banner of IEEE women in engineering**

- MOU – financial structure
- Open call for proposals for GEs starting in 2017
- Report on the events in 2015 & 2016
- Looking at this committee to develop foundation of the event for future years
- Develop marketing materials and pitch for future exchanges. Information for the web pages. Not individual events but a general marketing/pitch for what a global exchange would be. Links to the calls & local events.
- Align initiatives with business plan

# STAR Program -Continuing

The IEEE Women in Engineering STAR Program is a pre-university outreach program and was developed to address the growing concern that, at a young age, girls are discouraged from careers in mathematics, science, and engineering.

- Sample of STAR activities:
  - Classroom Activities
  - Humanitarian Projects involving the pre-university community
  - Competitions
  - Hands on Activities
  - Training of pre-university teachers
  - Mentoring
  - Public Awareness Activities

More information on STAR can be found on the WIE webpage.

# IEEE WIE Videos

<https://ieeetv.ieee.org/player/html/viewer?dl=&channel=wie#i-change-the-world-i-am-an-engineer>

<https://ieeetv.ieee.org/player/html/viewer?dl=&channel=wie#changing-the-world-wie>

The screenshot shows the IEEE.tv website interface in a Mozilla Firefox browser. The address bar displays the URL: <https://ieeetv.ieee.org/player/html/viewer?dl=&channel=wie#changing-the-world-wie>. The page features a navigation menu with options like "Member Sign In", "Join IEEE", "About IEEE.tv", and "Feedback (+)". Below the menu, there is a search bar and a "Public Access" button. The main content area displays a video player with the text "sponsored by the IEEE Life Members Fund of the IEEE Foundation" and the IEEE.tv logo. A horizontal scroll bar below the video player shows various video thumbnails, including "Reducing Electricity Usage: APEC 2013", "Volunteers: The IEEE Perpetual Power", "Engineering Meets Biology in Tech News", "Changing the world: IEEE Women in...", "I Change the World: I am an Engineer.", "Tech News on IEEE.tv June 2012 Edition", and "EMBC 2011 - Course: Virtual Reality...". At the bottom, there is a banner for "Discover. Play. Achieve. IEEE Try Computing" and a footer with "Site Policies | Advertise with us".

The screenshot shows the IEEE Women in Engineering (WIE) channel page on IEEE.tv. The page features a featured video titled "Changing the world: IEEE Women in Engineering (WIE)" with a "Join IEEE Today" button. Below the video, there is a "SERIES" section with a list of content including "IEEE Spectrum Reports", "Conference Highlights", "IEEE.tv Specials", "Technical Tours", "Meet the Authors", "IEEE Products", "History", "Careers", "Technology", and "Marketplace". An "EVENT SHOWCASE" section lists various events such as "International Microwave Symposium", "APEC 2013: The Applied Power Electronics Conference and Exposition", "IEEE Smart Grid World Forum", "Global Humanitarian Technology Conference 2012", "Cloud Computing for Emerging Markets", "IEEE Life Sciences Grand Challenges", "EMBC 2012: Engineering Innovation in Global Health", "2012 IEEE Honors Ceremony", "Power and Energy Careers Fuel Our Future", and "2012 International". A "CHANNEL: IEEE Women in Engineering" section displays a "View by: All programs" dropdown and a grid of video thumbnails. The thumbnails include "Reducing Electricity Usage: APEC 2013 KeyTalk with Dr. Jayant Baliga", "Volunteers: The IEEE Perpetual Power Source", "Engineering Meets Biology in Tech News", "Changing the world: IEEE Women in Engineering (WIE)", "I Change the World: I am an Engineer.", "Tech News on IEEE.tv June 2012 Edition", "EMBC 2011 - Course: Virtual Reality and Robotics in...", "2011 IEEE Jack S. Kilby Signal Processing Medal - Ingrid Daubechies", "EMBC 2011-Speaker Highlights-Mary Tolikas, PhD, MBA", "EMBC 2011-Course-", "EMBC 2011-Course-", and "EMBC". The page also includes a "FOLLOW US" section with social media icons for Facebook, Twitter, YouTube, and LinkedIn, and a "GADGETS" section with icons for Android Market, App Store, and Facebook. An advertisement at the bottom right reads "You work to change the future. We work to protect it. IEEE Member Group 10-Year Level Term Life Insurance Plan." and includes a "Subscribe to IEEE.tv Updates" button.

# IEEE WIE Webpage

[http://www.ieee.org/membership\\_services/membership/women/women\\_profiles.html](http://www.ieee.org/membership_services/membership/women/women_profiles.html)

[http://www.ieee.org/membership\\_services/membership/women/index.html](http://www.ieee.org/membership_services/membership/women/index.html)



This screenshot shows the main navigation and introductory content of the IEEE WIE website. On the left, there is a vertical menu with links for 'Join IEEE WIE', 'IEEE WIE Publications', 'Awards & Recognition for Women', 'Local IEEE WIE Involvement', 'For IEEE WIE Members & Groups', 'IEEE WIE Directory', and 'Frequently Asked Questions'. The main content area features a 'Who we are' section with a 'Mission' statement: 'The mission of IEEE WIE is to facilitate the global recruitment and retention of women in technical disciplines. IEEE WIE envisions a vibrant community of IEEE women and men collectively using their diverse talents to innovate for the benefit of humanity.' Below this, there are three featured items: an interactive e-book, event posters, and an award-winning magazine. A 'Write to us' sidebar on the right includes contact information, a donation form, and a news section.

**Join IEEE WIE**

- IEEE WIE Publications
- Awards & Recognition for Women
- Local IEEE WIE Involvement
- For IEEE WIE Members & Groups
- IEEE WIE Directory
- Frequently Asked Questions

**Who we are**

**Mission**  
The mission of IEEE WIE is to facilitate the global recruitment and retention of women in technical disciplines. IEEE WIE envisions a vibrant community of IEEE women and men collectively using their diverse talents to innovate for the benefit of humanity.

- Learn more about IEEE WIE
- Download the IEEE WIE logo

**Meet us in our interactive e-Book**  
Page through this robust e-book and read all about members of IEEE WIE by industry, profession, schooling, their many impressive achievements, and much more.

- View the IEEE WIE e-Book

**Hang our event posters**  
Perfect for the classroom, these colorful, large posters feature inspiring messages from and photos of the engineers and technology experts who are proud members of IEEE WIE.

- View and request posters for your classroom or event

**IEEE WIE award-winning magazine**  
Congratulations to all involved in the production of IEEE Women in Engineering Magazine. Your contributions helped earn the publication the 2009, 2010, 2011, and 2012 APEX Award of Excellence in the category of New Magazines and Journals.

- Preview the premiere issue (PDF, 2.5 MB)

**Write to us**

- Contact IEEE WIE at [women@ieee.org](mailto:women@ieee.org)

**Donate**

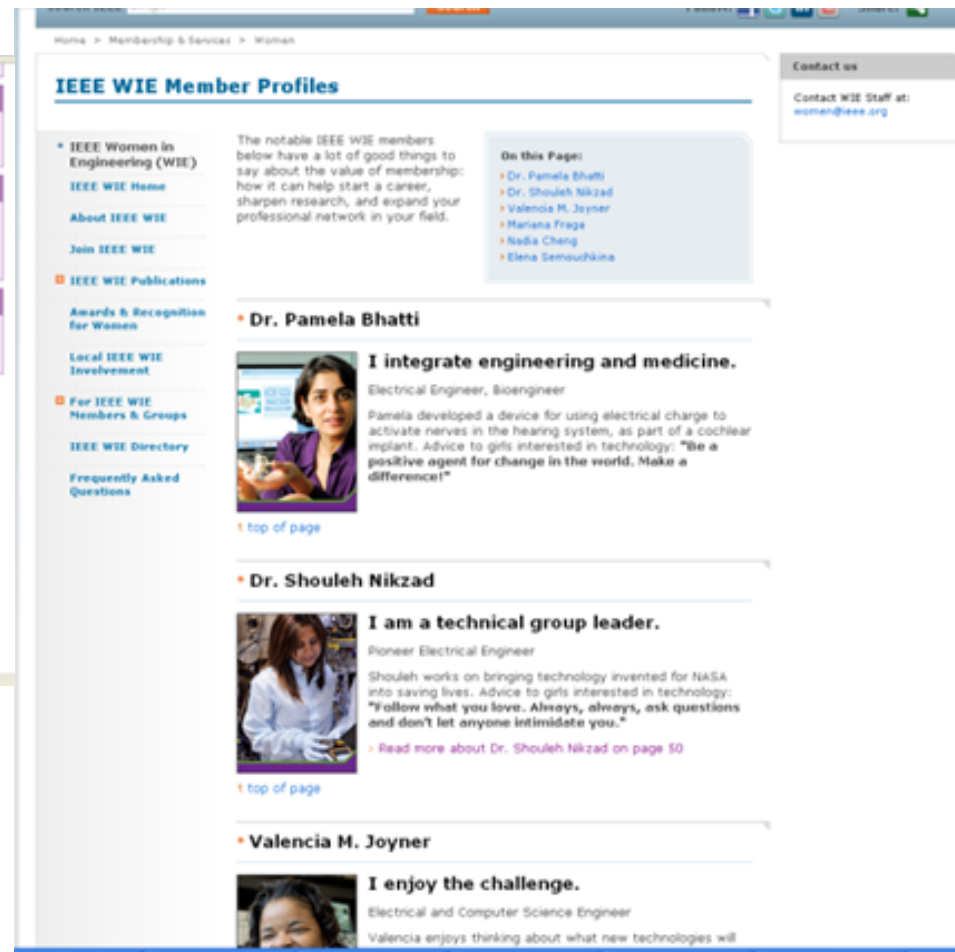
Please donate to the IEEE Women in Engineering fund.

- Donate today

**IEEE WIE news**

Read the latest news.

- Get the newsletter



This screenshot displays the 'IEEE WIE Member Profiles' page. The page title is 'IEEE WIE Member Profiles'. Below the title, there is a navigation menu with links for 'IEEE Women in Engineering (WIE)', 'IEEE WIE Home', 'About IEEE WIE', 'Join IEEE WIE', 'IEEE WIE Publications', 'Awards & Recognition for Women', 'Local IEEE WIE Involvement', 'For IEEE WIE Members & Groups', 'IEEE WIE Directory', and 'Frequently Asked Questions'. The main content area features a list of member profiles. Each profile includes a photo, a headline, a short bio, and a link to read more. The profiles shown are for Dr. Pamela Bhatti, Dr. Shouleh Nikzad, and Valencía M. Joyner. A 'Contact us' sidebar on the right provides contact information for IEEE WIE staff.

**IEEE WIE Member Profiles**

The notable IEEE WIE members below have a lot of good things to say about the value of membership: how it can help start a career, sharpen research, and expand your professional network in your field.

**On this Page:**

- Dr. Pamela Bhatti
- Dr. Shouleh Nikzad
- Valencia M. Joyner
- Mariana Fraga
- Nadia Cheng
- Elena Semushkina

**Dr. Pamela Bhatti**

**I integrate engineering and medicine.**  
Electrical Engineer, Bioengineer  
Pamela developed a device for using electrical charge to activate nerves in the hearing system, as part of a cochlear implant. Advice to girls interested in technology: "Be a positive agent for change in the world. Make a difference!"

- top of page

**Dr. Shouleh Nikzad**

**I am a technical group leader.**  
Pioneer Electrical Engineer  
Shouleh works on bringing technology invented for NASA into saving lives. Advice to girls interested in technology: "Follow what you love. Always, always, ask questions and don't let anyone intimidate you."

- Read more about Dr. Shouleh Nikzad on page 50
- top of page

**Valencia M. Joyner**

**I enjoy the challenge.**  
Electrical and Computer Science Engineer  
Valencia enjoys thinking about what new technologies will

**Contact us**  
Contact WIE Staff at: [women@ieee.org](mailto:women@ieee.org)

# WIE Webpages

The WIE webpages includes up-to-date information such as:

- WIE TV Channel on IEEEtv
- Monthly WIE Newsletter
- List of WIE Affinity Groups
- Resources for Affinity Groups
- Call for Articles/WIE Magazine
- Affinity Group of the Year Award Information
- WIE Membership Directory
- Events
- Committee Membership Information
- Volunteer Opportunities
- Employment and Career Resources
- News and Initiatives
- Frequently Asked Questions
- Join WIE
- Contact for WIE

The WIE website can be found at [www.ieee.org/women](http://www.ieee.org/women)



# Forming a WIE Affinity Group

- ▶ Please send petitions to [petition@ieee.org](mailto:petition@ieee.org) and copy [women@ieee.org](mailto:women@ieee.org)
- ▶ Group formation may take from 6 to 8 weeks

[http://www.ieee.org/societies\\_communities/geo\\_activities/forms\\_petitions/index.html](http://www.ieee.org/societies_communities/geo_activities/forms_petitions/index.html)



# Affinity Group Email Address

- ▶ WIE is requesting all WIE Affinity Groups to develop a generic email address for their group. This will be the official contact year to year. This will allow continuous communication once a new chair is appointed.
- ▶ Example: [wie-UAE@gmail.com](mailto:wie-UAE@gmail.com) or [wie-utahstate@gmail.com](mailto:wie-utahstate@gmail.com)\*

Once the address has been created please inform [staff](#).

\*not actually email addresses

# Funding Available to WIE Affinity Groups by WIE

- ▶ Newly established WIE AGs and SBAGs are eligible to request up to \$200 US in start up funding.
- ▶ Established WIE Affinity Groups are eligible to request up to \$400 US for special projects.
  - Must be submitted at least 3 months prior to the activity.
  - WIEC will review the request at their next scheduled meeting.
  - The WIE Affinity Group will be advised if the request has been approved.
  - The WIEC may consider funding beyond \$400US if a project is considered especially valuable to the WIE mission.
  - If a report is not received for special funding, future funding will not be approved.

Funding forms can be found at [www.ieee.org/women](http://www.ieee.org/women) under resources for Affinity Groups.

# IEEE Required Reporting

- ▶ Reports can be submitted Electronically
- ▶ Affinity Groups should report all meetings including social events and administrative meetings to their Section and Student Branches.
- ▶ WIE Regional Coordinators are encouraged to ensure all requirements are submitted to the IEEE MGA Department annually.
- ▶ For Reporting Requirements visit [http://www.ieee.org/societies\\_communities/geo\\_activities/required\\_reporting/index.html](http://www.ieee.org/societies_communities/geo_activities/required_reporting/index.html)

# Role of WIE Regional Coordinator

- ▶ Act as a liaison between the Region and the WIE Committee
- ▶ Participate in WIE Committee meetings and report to the Region Director at regional meetings on WIE status and activities
- ▶ Inform WIE Committee of local activities that might be of interest to the WIE membership.
- ▶ Facilitate the establishment of local IEEE WIE Affinity Groups within a Section and/or Society, including student branches, in the regional area.
- ▶ Provide support and guarantee that the WIE Groups in the Region maintain a good level of activity.
- ▶ Support initiatives to increase awareness of WIE in each region.
- ▶ Support membership development initiatives
- ▶ Participate in sub-committee activities



Women in Engineering

Thank you!

WOMEN

Centered Learning

Research Center

WV STATE UNIVERSITY

WV STATE UNIVERSITY

Centered Learning

WV STATE UNIVERSITY

Centered Learning

WV STATE UNIVERSITY

$$f(x) = Bx(x) \\ x(x) = \int_0^x A(x-z)T(x-z) \\ f(x) = \int_0^x (Bx-z)T(x-z)$$

$$f(t,s) = A(t,s) \\ f(t,s) = B(t,s) \\ f(t,s) = C(t,s)$$

011

2012

2012

2012

2012

# Membership:

increased from 16,031 (Jan 2014) to 16,422 (Jan 2015)

Grade	Jan-14	Jan-15
Honorary	5	
Fellow	91	99
Senior Member	531	582
Member	3640	3889
Associate Member	85	128
Graduate Student	2114	2154
Student	9565	9570
<b>Total</b>	<b>16,031</b>	<b>16,422</b>
Region	Jan-14	Jan-15
US	3394	3508
Canada	349	365
Europe, Africa & Middle East	2590	2715
Latin America	2183	2312
Asia & Pacific	7515	7522
<b>Total</b>	<b>16,031</b>	<b>16,422</b>
Gender	Jan-14	Jan-15
Female	5267	6648
Male	2157	3109
Not Provided	8607	6665
<b>Total</b>	<b>16,031</b>	<b>16,422</b>

# WIE Affinity Groups

- Currently have **515 Affinity Groups**

