Region 2 Report

Carole C. Carey
IEEE Women in Engineering Coordinator

Region 2 Annual Meeting
Hershey, PA, May 3-5 2019
Points

▸ Background
  - WIE Mission and Global Profile
  - Membership Stats: IEEE, women in IEEE, and WIE, WIE Affinity Group (AG)

▸ Focus on Region 2 (current landscape)
  - Sections with and without WIE Affinity Groups
  - Examples of WIE AG activities
  - Identified Gaps, Challenges, and Opportunities
  - A new Proposal moving forward

▸ WIE Committee meeting, March 23-24, 2019

▸ Appreciate Your Feedback!
The IEEE Women in Engineering (WIE) is one of the largest international professional organizations dedicated to promoting women engineers and scientists, and inspiring girls around the world to follow their academic interests to a career in Science, Technology, Engineering and Math.

The mission of IEEE WIE is to facilitate the recruitment and retention of women in technical disciplines globally.

- 21,000+ Members in more than 100 countries
- 860+ Section and Student Branch Affinity Groups
- WIE Magazine
- Newsletter
- Conference (ILC)
- Leadership Summits

**WIE Forum USA East** (co-founded by Charles Rubenstein (R1) and Felicia Harlow (R2))
Total IEEE and Women Membership

**Total IEEE Membership**

<table>
<thead>
<tr>
<th>Year</th>
<th>Membership</th>
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<tbody>
<tr>
<td>2010</td>
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<tr>
<td>2011</td>
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<tr>
<td>2017</td>
<td>430000</td>
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<tr>
<td>2018</td>
<td>435000</td>
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**Women Membership in IEEE**

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage</th>
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<tbody>
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<td>2012</td>
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<td>10.1%</td>
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<td>12.4%</td>
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<td>2016</td>
<td>13.9%</td>
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<tr>
<td>2017</td>
<td>14.5%</td>
</tr>
<tr>
<td>2018</td>
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*Since 2013 data was based on those reporting gender to IEEE.*
## Total IEEE and WIE Membership

### Total IEEE Membership

#### WIE Membership in IEEE

<table>
<thead>
<tr>
<th>Year</th>
<th>IEEE</th>
<th>WIE</th>
<th>% WIE</th>
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<tbody>
<tr>
<td>2010</td>
<td>407,541</td>
<td>12,707</td>
<td>3.1%</td>
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<tr>
<td>2011</td>
<td>415,989</td>
<td>14,662</td>
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<tr>
<td>2012</td>
<td>429,085</td>
<td>14,723</td>
<td>3.4%</td>
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<tr>
<td>2013</td>
<td>431,191</td>
<td>15,455</td>
<td>3.6%</td>
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<tr>
<td>2014</td>
<td>426,488</td>
<td>15,681</td>
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<tr>
<td>2015</td>
<td>421,355</td>
<td>17,554</td>
<td>4.2%</td>
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<tr>
<td>2016</td>
<td>423,566</td>
<td>20,379</td>
<td>4.8%</td>
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<tr>
<td>2017</td>
<td>417,429</td>
<td>22,968</td>
<td>5.5%</td>
</tr>
<tr>
<td>2018</td>
<td>422,460</td>
<td>21,808</td>
<td>5.2%</td>
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## Everyone Welcome!

*Data is based on those reporting gender to IEEE*

### Grade

<table>
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<th>% change</th>
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<tbody>
<tr>
<td>Honorary</td>
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<tr>
<td>Fellow</td>
<td>119</td>
<td>122</td>
<td>3%</td>
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<tr>
<td>Senior Member</td>
<td>833</td>
<td>974</td>
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<tr>
<td>Member</td>
<td>4,722</td>
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<td>Associate Member</td>
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<td>212</td>
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<td>Graduate Student</td>
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</tr>
<tr>
<td><strong>Total</strong></td>
<td>22,968</td>
<td>21,808</td>
<td>-5%</td>
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### Region

<table>
<thead>
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<th>Dec-18</th>
<th>% change</th>
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<tr>
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<td>3,587</td>
<td>3,707</td>
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<tr>
<td>Canada</td>
<td>453</td>
<td>458</td>
<td>1%</td>
</tr>
<tr>
<td>Europe, Africa &amp; Middle East</td>
<td>4,040</td>
<td>3,931</td>
<td>-3%</td>
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<tr>
<td>Latin America</td>
<td>2,886</td>
<td>2,558</td>
<td>-11%</td>
</tr>
<tr>
<td>Asia &amp; Pacific</td>
<td>12,002</td>
<td>11,154</td>
<td>-7%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>22,968</td>
<td>21,808</td>
<td>-5%</td>
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### Gender

<table>
<thead>
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<th>Gender</th>
<th>Dec-17</th>
<th>Dec-18</th>
<th>% change</th>
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<tbody>
<tr>
<td>Female</td>
<td>12,464</td>
<td>12,423</td>
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</tr>
<tr>
<td>Male</td>
<td>6,563</td>
<td>6,214</td>
<td>-5%</td>
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<tr>
<td>Not Provided</td>
<td>3,941</td>
<td>3,171</td>
<td>-20%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>22,968</td>
<td>21,808</td>
<td>-5%</td>
</tr>
</tbody>
</table>
IEEE & WIE Membership Worldwide

R7 - 17,253
WIE - 458

R1 to 6 - 178,937
WIE - 3,707

R9 - 18,224
WIE - 2,558

R8 - 77,519
WIE - 3,931

R10 - 130,527
WIE - 11,154

TOTAL MEMBERSHIP – 422,460

Source: Membership Stats 2018, IEEE WIEC March 2019 Meeting
<table>
<thead>
<tr>
<th>Region</th>
<th>IEEE</th>
<th>WIE</th>
<th>% WIE</th>
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<tbody>
<tr>
<td>R1</td>
<td>30,491</td>
<td>636</td>
<td>2.2%</td>
</tr>
<tr>
<td>R2</td>
<td>25,960</td>
<td>544</td>
<td>2.2%</td>
</tr>
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<td>R3</td>
<td>28,291</td>
<td>591</td>
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<td>R4</td>
<td>20,490</td>
<td>463</td>
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<tr>
<td>R5</td>
<td>26,226</td>
<td>467</td>
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</tr>
<tr>
<td>R6</td>
<td>53,053</td>
<td>1,006</td>
<td>2.0%</td>
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<tr>
<td>R7</td>
<td>17,743</td>
<td>458</td>
<td>2.7%</td>
</tr>
<tr>
<td>R8</td>
<td>79,970</td>
<td>3,931</td>
<td>5.1%</td>
</tr>
<tr>
<td>R9</td>
<td>18,493</td>
<td>2,558</td>
<td>14.0%</td>
</tr>
<tr>
<td>R10</td>
<td>134,179</td>
<td>11,154</td>
<td>8.5%</td>
</tr>
</tbody>
</table>

Source: Membership Stats 2018, IEEE WIEC March 2019 Meeting
IEEE WIE Membership, March 2019

IEEE WIE Membership
Total Membership 13,634

Membership Grade
- Honorary: 2
- Fellow: 122
- Senior Member: 938
- Member: 2,688
- Associate Member: 42
- Graduate Student: 1,860
- Student: 7,982

Membership by Region
- US: 2,774
- Canada: 310
- Europe, Africa & Middle East: 2,352
- Latin America: 1,563
- Asia & Pacific: 6,635

IEEE Region 2 WIE

The current landscape – Best information I can find

Sources:
• Feb 2019 Region 2 Vitality Program Presentation (Betterman and Farrell)
• 20 Sections’ Individual Websites
• WIE member/student individual contributions
• IEEE WIE website, IEEE WIE Staff, WIE Presentations, March 23-25 Committee Meeting

Issues Encountered:
• R2 WIE website very limited information, outdated, and no link to WIE main page.
• Little or no information about WIE on Section websites.
• Broken links / errors found in several instances.
• Meetings and activities in vTools are under reported. Information limited and incomplete.
• Data requested and provided by IEEE staff show inaccuracies.
FOCUS AREAS

▸ Our IEEE industry members, the “working professionals”, who have needs which might include continuing educations opportunities, career services, or networking opportunities.

▸ Young Professionals are the key to sustaining our organization. We must engage our Young Professionals, and allow them opportunities for leadership.

▸ Population needs more support from us than provided in the past to increase their visibility and ability to contribute and lead in our engineering profession.

Women as successful leaders
### Region 2 WIE Membership by Section

**Central Area: [WIE] (Section)**

- [7]- Central Pennsylvania (457)
- [2]- Erie (128)
- [5]- Johnstown (116)
- [57]- Pittsburgh (2,297)
  *No information on Chair*
- [2]- West Virginia (145)
- [10]- Susquehanna (684)

**East Area: [WIE] (Section)**

- 86- Philadelphia (3,653)
  *Maria Tabbut*
- 12- South New Jersey (150)
  *Laurie Dobbs*
  - 8- Lehigh Valley (1,032)
  - 12- Delaware Bay (607)

**Totals: [83] (3827)**

**Source:** Feb 2019 Region 2 Vitality Program Presentation (Betterman and Farrell) and Sections Individual Websites
Region 2 IEEE WIE Membership by Section

South Area: [WIE] (Section)  West Area: [WIE] (Section)

[82] - Baltimore (3,902)  Raenita Fenner
[99] - Northern Virginia (4,490)  Chandra Curtis

Totals: 266 (12,145)

[7] - Akron (552)
[15] - Cincinnati (829)
[20] - Cleveland (1,039)
[29] - Columbus (1,234)  Helen Winfrey
[18] - Dayton (991) YP-WIE Chapter
   Brooke Hayden, Laynce Yoder
[3] - Lima (91)

Totals: 96 (4780)

Source: Feb 2019 Region 2 Vitality Program Presentation (Betterman and Farrell) and Sections Individual Website
Student Chapter WIE AG also Matters!

@Section Chairs: please verify WIE AGs and WIE Student Branches

1. Temple University (April 2, 2007)
2. University of Delaware (Nov 12, 2014)
3. University of Dayton (Jan 22, 2015)
4. DeVry University Online (Feb 23, 2015)
5. Rowan University (Jan 29, 2016)
6. Shepherd University (April 14, 2016)
7. Cleveland State University (Oct 18, 2018)
8. Penn State Brandywine ?
9. Ohio State University?
Gaps and Opportunities: Form New WIE AGs

<table>
<thead>
<tr>
<th>Sections</th>
<th>Chair</th>
<th>Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Central Area:</strong></td>
<td>James Beck</td>
<td>Central Pennsylvania, Erie, Johnstown, Pittsburgh, West Virginia, Susquehanna</td>
</tr>
<tr>
<td><strong>East Area:</strong></td>
<td>Philip Gonski</td>
<td>Philadelphia, Southern New Jersey, Lehigh Valley, Delaware Bay</td>
</tr>
<tr>
<td><strong>South Area:</strong></td>
<td>Robert Renczewicz</td>
<td>Baltimore, Northern Virginia, Washington D.C.</td>
</tr>
<tr>
<td><strong>West Area:</strong></td>
<td>Chang Liu</td>
<td>Akron, Cincinnati, Cleveland, Columbus, Dayton, Lima, Youngstown</td>
</tr>
</tbody>
</table>

**Petition Process**

1) Recruit 6 IEEE members.
2) Select interim Chair until first meeting and Officers are installed.
3) Obtain approval from Section or Student Branch Executive Committee.
4) Submit petition.

https://www.ieee.org/communities/forms_petitions.html

20 Sections in R2
- 8 Sections have WIE Affinity Groups; 8 Student Branch AG (?)
- **12 (Highlighted) Sections have no WIE Affinity Groups**

AG depends administratively and financially on the Section
2018 Activities (Examples Reported)

Conferences
- 2018 IEEE WIE Forum USA East (Joint R1 & R2)
  - Nov 29-Dec 1, White Plains, NY
- 2018 RISE (R2 Joint YP/WIE)
  - Oct 6, Philadelphia, PA

Reported from vTools
- STEM Career Fair for Girls, Speed Mentoring Night, Diversity Talks Series
- Annual Robot Challenge Project
- Student Mentorship and Networking Dinner
- Technical and Professional Development Talks
- Monthly Admin meetings
- Social (Field Trips/Outings)
- Others
IEEE WIE Philadelphia

New Chair: Maria Tabbut  Vice Chair: Nannette D’Impresio
Secretary: Nive P Narasimman

WIE Activities Report for 2018-2019

• We have monthly WIE meetings
• We have a new WIE Student Branch at Penn State Brandywine (PSB) 2016
• Spring 2018 – Speaker Series with WIE Student Branch PSB
• WIE Student Branch Rowan – Wearable Mechanical program
• Summer tour of Philadelphia Eagles Stadium – Lincoln Center
• Attended Penn State one day camps – participated on the panel
• Volunteered for the Maker Faire – Philadelphia
• Volunteered to work at the Tech Girlz Summer Coding Camp at Villanova
• Attended the WIE ILC – San Jose
• Attended the RISE Conference
• Organization Meeting in January 2019
• Spring 2019 – WIE Speaker Series with WIE Student Branch PSB
• Social event with Young Professionals
• WIE Tour of the Phillies Stadium planned
• A First – Two WIE Student Awards at the IEEE Philadelphia Award Gala
  • Olga Koturlash - Alan L. Kirsch Award - Rowan University
  • Alexandra Haggar - Merrill Buckley - Rowan University
OFFICERS
• WIE Chair – Laurie Dobbs-Condon
• Vice Chair – Mary Delemarre
• Secretary – Maryfaith Rogers
• Treasurer – Heather Tomasello
• Robot Challenge Chair - Christina Young

Membership – Approx. 23-26

GOALS FOR 2019
• Increase participation at meetings and events by 25%
• Hold 50% more events then in 2018
• Begin hosting monthly YP outreach and development events
• Improve engagement of students at local Stockton University

Events in 2018 & 2019
• IEEE Monthly Dinner Meetings with speaker
• Co-host SNJPS Annual Engineer Awards Banquet Nov ‘18 ~150 guests
• SNJ IEEE-WIE Hold annual Robot Challenge event held at Stockton Univ.
• STEM Activities- Participate and conduct Engineering workshops at TEEN Tech, Tech Trek Camp, and ATCA/ Tech Center family day
• workshop
• IEEE WIE member presented at IEEE WIE Forum USA East, NY
• IEEE WIE member co-presented at IEEE STEM Conference Princeton, NJ
• IEEE WIE and YP members attended Future Leaders forum in Austin, TX
• IEEE-WIE held social events, Kayaking, Show & Dinner in Cape May, Philly Flower show, whale watch boat ride & Longwood gardens
• Host SNJPS Annual holiday luncheon
• IEEE-WIE members supported AvSTEM activities
• IEEE-WIE members construct an Engineering and IEEE table display at the WJHTC in support of Engineering week

Upcoming 2019 Events
• IEEE-WIE 10th annual Robot Challenge held at Stockton Univ. - 11 schools, 125 students, in 39 teams plan to participate – May 4
• Attend ATCA Women in Aviation Technology breakfast - May 16
• Participate and conduct an Engineering workshop, as part of a TEEN Tech workshop for 9-11th graders - May 29
• Conduct an youth Engineering workshop, as part of a ATCA/ Tech Center family day workshop for attending children - May
• Facilitate a session for the Annual YES! for Girls Youth Empowerment Summit, held at Cumberland County College - June 1
• Participate and conduct an Engineering workshop, as part of a Tech Trek Camp at Stockton Univ. - July 21-27
• Co-host 22nd Annual Awards Banquet Nov ‘19 with local ITEA, INCOSE, NSBE, AIAA, and HFEs – Nov.
• Host SNJPS annual holiday luncheon – Dec.
Rowan University WIE Student Affinity Group
Glassboro, NJ

Purpose: To improve the confidence of all engineering students through technical workshops and events

Competitions
- **Wearable Electronics Competition**
  - Students wire pieces of clothing with LEDs and program them with unique light designs to be modeled and judged by professors

Workshops
- Host beginner and advanced workshops for our members to learn technical programs and improve their confidence in the classroom
  - Machining
  - Programming
  - CAD

Outreach
- **WIE Teach**-
  - 1 day competition where middle school girls learn in-depth topics about a discipline of engineering from college students
- **Local middle school outreach**-
  - Go to a local middle school twice a week during the semester to help them build UROVs

• Arts and Engineering
  - Art and engineering students work together to make an art piece that contains creativity and technical rigor
Gaps, Challenges, and Opportunities

Membership Recruitment and Retention, Visibility and Broader Appeal, Women Leaders in Engineering and Technology

- 2018 Female membership in IEEE is about 15%,
  What can we do better to attract women into IEEE?

- The number of WIE members is low. Only a little bit over 5% have elected to join IEEE WIE,
  What can we do better to engage women & men in IEEE into joining WIE?

- 25,000+ R2 IEEE members, 563 WIE members, 8-8 WIE Affinity Groups,
  What can we do better to increase the formation of Affinity Groups and for existing AGs share their best practices?

With little information, communication, and feedback about what our Affinity Groups are doing, there is lack of visibility and recognition,

We have an opportunity to explore innovative ways and build a more engaging, collaborative, interconnected and a more cohesive community across Region 2, look into effective schemes to “stand out”, and earnestly consider partnering with other external organizations (e.g., SWE, WIT), industry, government and academia.
Proposal: Form a WIE Steering Committee

Dialogue and Start with Enhancing the Communication Structure

**Purpose:** To strengthen the IEEE WIE AG ecosystem within the R2 infrastructure with a robust, sustainable and interoperable communication infrastructure and interactive websites.

**Scope and Objective**
Build a vibrant, collaborative, and interconnected communities of WIE Affinity Groups across Region 2 in order to effectively contribute to,

1. the general mission of IEEE WIE (i.e., to facilitate the recruitment and retention of women in technical disciplines globally), and
2. the Region Director’s specific WIE established goal (i.e., increase visibility and ability to contribute and lead in our engineering profession).

**Sub-Objectives (just to name a few)**

- Develop new approaches to strengthen communication, engagement, and cooperation with other Region 2 units (e.g., Young Professionals, Standing Committees, Technical Society Chapters, etc.) as well as with organizational units outside of IEEE (e.g., Industry groups, Schools/Universities, Government, Community Groups, etc.).

- Help enhance volunteer skills through officer training and use of MGA volunteer eTools, define procedures for funding requests and required Reports (that are meaningful), facilitate best practices sharing, networking, etc.

- Provide opportunities for WIE AG members to participate in local activities such as coordinating professional and technical events/workshops, mentoring, serving as an officer, participating in community outreach programs, giving presentations, submitting articles, participating in technical standards development, etc.

- Recognize members through IEEE/WIE awards, Senior member level progression, etc.
WIEC Meeting, March 23-24, 2019

Final rank of priorities

1. Increasing visibility of women in IEEE. **21 votes**
   Short-term goal: Increase number of women Fellows by nominating at least one woman per society.
   Longer-term goal: develop database of women in IEEE to be nominated for DL/speakers/conferences/boards/editors/awards, etc.

2. Create a subcommittee in charge of **standardizing roles and responsibilities for liaisons and regional coordinators** from WIE to TAB and Regions (MGA), resulting in a defined list of roles and responsibilities. **16 votes**

3. Level-up/career progression mentorship **10 votes**

4. Assess what Affinity Groups are doing. **8 votes**

5. Revamp funding/travel grant criteria and processes. **7 votes**

6. Collaborate with EAB tracking/metrics for existing programs; formalize structure **6 votes**

7. No all-male panels pledge – ask S/Cs, OUs, to create; endorse pledge **4 votes**

8. Develop childcare best practices. **2 votes**

*Note: added 4-page Trip Report as a separate document.*
Thank you for your feedback!