

Empowering Systems Leaders in a Neighborhood Near You!

Alice Squires, ewlse@incose.org

Empowering Women Leaders in Systems Engineering (EWLSE) was busy supporting events and systems leaders at two important conferences this fall: the 12th Asia Oceania Systems Engineering Conference (#AOSEC2019) from 17-18 October in Bangalore, IN and the Society of Women Engineers' (SWE) Annual Conference (WE19) from 7-9 November in Anaheim, US-CA. The AOSEC events included an EWLSE-sponsored panel on "The Role of Diversity, Equity, and Inclusion in the Future of Systems Engineering Leadership" held during the main conference, and a Saturday post-conference EWLSE-sponsored workshop on "Thinking Traps and Building Resilience." EWLSE Asia Oceania sector lead Stueti Gupta led the AOSEC EWLSE-sponsored events and kicked everything off with a general overview of EWLSE's vision, mission, and initiatives (see Figure 1).

At SWE, EWLSE, with dedicated support from the INCOSE Los Angeles Chapter, supported an INCOSE EWLSE booth where the volunteers shared their professional experiences,

counseled students on careers, and answered a broad range of questions about systems engineering, INCOSE, and career choices. Incoming INCOSE president-elect Marilee Wheaton led the SWE booth activities with a volunteer team comprised of INCOSE Los Angeles program chair Nazanin Sharifi, INCOSE Los Angeles president Mark McKelvin, new INCOSE member Christine Faulkner, Deborah Cannon, INCOSE Los Angeles secretary Phyllis Marbach, Shirley Tseung, and returning SWE booth supporter Federica Robinson-Bryant (see Figure 2). Please see the related articles written by Stueti Gupta and Federica Robinson-Bryant for details on these two events.

Up and coming EWLSE-related news includes:

- EWLSE will be holding their annual working and outreach sessions at the INCOSE International Workshop (IW) 2020 on Monday afternoon, the 27th of January, starting after lunch and ending with a short reception for session attendees and EWLSE members in the evening. Please check the INCOSE IW



Figure 1. Stueti Gupta kicks off the EWLSE-sponsored events at AOSEC 2019



Figure 2. SWE 2019 INCOSE EWLSE booth volunteers from left to right: Mark, Federica, Marilee, Shirley, Nazanin, Phyllis

2020 event schedule and plan to join us at any or all of these events!

- Send your chapter ideas for unique, creative, and innovative leadership approaches for Emerging Trends in Systems Engineering Leadership to ewlse@incose.org and marilee.j.wheaton@aero.org through the end of 2019. These chapter submissions will support the final organization of the book chapters. We will be announcing a formal call for chapters at the INCOSE IW 2020 conference.
- The EWLSE publication team comprised of Lisa Hoverman, David Long, and Alice Squires are excited to announce the themed INCOSE INSIGHT edition, "Diversity in Systems Engineering" that has been released. INCOSE members please see: <https://onlinelibrary.wiley.com/toc/21564868/2019/22/3>. The document is also available through Wiley at <https://onlinelibrary.wiley.com/journal/21564868>.
- New for the INCOSE International Symposium (IS) 2020, Technical Operations has added "5.10 Diversity" (cultural boundaries, diverse engineering teams, training underserved groups) to cross-cutting categories. Plan to see submissions in this new category.
- Those interested in supporting the field of systems engineering by becoming a mentor for a systems engineer, or those seeking an experienced systems engineer as a mentor

who can help you navigate the field and INCOSE, please email mentor@incose.org or complete the brief survey at <https://bit.ly/2G6TJPL>.

- Please check out this latest resource on women around the world and their journeys to leadership in engineering in *Rising to the Top*, sponsored by the International Federation of Engineering Education Societies (IFEES) and the Global Engineering Dean's Council (GEDC) with a chapter from our very own INCOSE academic director, Ariela Sofer (see Journey 28). Ariela adeptly shares her journey with the reader in a way that is encouraging and also shows her and her mother's resilience; we get to know Ariela a bit better, and she offers excellent advice for all women. You can download the eBook here: <http://bit.ly/RT-eBook> and the PDF here: <http://bit.ly/Rising-to-the-Top>.

In closing, men and women are invited and encouraged to join EWLSE (see <https://www.incose.org/ewlse>) and support women in engineering by adding "Empowering Women" to your committee/working groups under your INCOSE profile (click on your name after you log into INCOSE, select Profile, select view to the right of Empowering Women found under Join a Working Group, and at the bottom of the roster that displays, you can select the option to join).

Asia Oceania Sector EWLSE Panel Discussion—The Role of Diversity, Equity, and Inclusion in the Future of Systems Engineering Leadership

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At the 12th AOSec, Stueti Gupta, Asia Oceania EWLSE lead, had the opportunity to host a panel discussion on "The Role of Diversity, Equity, and Inclusion in the Future of Systems Engineering Leadership." Alice Squires, founder of INCOSE's EWLSE Working Group, and Stueti planned the panel as part of the conference. The panel addressed going beyond traditional approaches and embracing diversity as a source of insight and skill, inclusion as shared influence and decision-making, and equity as a base requirement that starts with

equitable communication. Panel members shared industry's forward thinking on the role of diversity, equity, and inclusion in building strong systems engineering leaders, and challenges and success stories in this area, including personal stories from the panelists on the topic.

The moderator (listed first) and panelists included (see Figure 3):

- Alan Harding, experienced systems engineering leader with 32 years of experience in defence and security applications. Alan is the head of the information systems engineering discipline for BAE Systems Air. Alan is the immediate past president of INCOSE (2016-2017) and previously led INCOSE UK from 2013-2014. Alan co-chairs the INCOSE Systems of Systems Working Group.
- Seetha Rani, human resources director for HTS Aero and SW Talent. She is responsible for human resources for the HTS Aerospace Engineering organization. She provides strategic leadership across multiple countries and drives close partnership and strategic talent alignment with business and human resources engineering leadership in the US, Europe, the Middle East, and Africa, and Asia Pacific.
- Rema P R, director of engineering at Collins Aerospace, heads the engineering for the Power and Controls Division, spanning the disciplines of systems, electrical, mechanical,

and software. Rema is actively engaged in building a strong systems engineering team in India.

- Meenakshi D'Souza, associate professor and warden (women's hostel) at the International Institute of Information Technology (IIIT) Bangalore. She teaches courses in discrete mathematics, design, and analysis of algorithms, software testing, and theory of computation. Meenakshi is a council member of Association for Computing Machinery (ACM) India and drives activities related to gender diversity in IIIT Bangalore and in ACM India.

The panel was not only diverse from a gender lens, it brought together diverse experiences and diverse expertise from human resources to business to academia, and the topics discussed were about various dimensions of diversity from gender to disability to life experience.

The panel discussion triggered very engaging and interactive conversations on the role of diversity, equity, and inclusion (DEI) in the future of systems engineering leadership. The panelists discussed how DEI is vital to business outcomes, how DEI is vital to cope with today's complex challenges, and that it is high time to move away from traditional approaches and embrace diversity as a source of insight and skill, inclusion as shared influence and decision-making, and equity as a base requirement that starts with equitable communication.



Figure 3. AOSEC 2019 EWLSE panel moderator (on left) and panelists

For additional pictures of the event, see: <https://drive.google.com/drive/u/0/folders/1duiAgpjo80RgC5oicqwanxxFURM6N3EL>.

Thinking Traps and Building Resilience–EWLSE Workshop Organized in Bengaluru, IN

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EWLSE planned a one-day workshop on “Thinking Traps and Building Resilience” as a post-conference event in conjunction with Asia Oceania Systems Engineering Conference (#AOSEC2019). INCOSE’s EWLSE Working Group sponsored the workshop, and Smitha Rao, senior facilitator for The Painted Sky, facilitated the event. Stueti Gupta, Asia Oceania EWLSE lead, and Alan Harding, immediate past president of INCOSE, kicked off the session.

The workshop, targeted at experienced systems engineering professionals, discussed in detail the common thinking traps that overpower our thinking process and impact the way we make decisions. With thinking traps such as fortune-telling, mind-reading, or catastrophizing, we tend to oscillate our thinking to the worst that can happen in each situation. And thinking traps like labeling, over-generalization, or should statements lead us to build strong perceptions about a person or the outcome of a situation and assume unrealistic expectations from the person or situation. Acknowledging

and becoming aware of the trap(s) and exercising mental agility will go a long way in helping us to think rationally and stop us from making biased or hurried decisions.

Unlike other leadership workshops, the second half of this workshop was completely experiential, not in the comfort of our seats but moving around the room and using bodily movements (see Figure 4). This provided a heightened experience of noticing our body’s reaction to a conflicting situation, our own limiting behavior, and how we can build resilience to respond and react to the situation.

Riya Thakkar, one of the participants, says, “The things which have stayed with me post the workshop are

- Be aware of your beliefs about you and the world around you.
- Recognize the limitations of their application.
- Based on your awareness and recognition, change your perspective when needed.”

The premise of the training delivery was a theater-based training concept which all the participants thoroughly enjoyed. The facilitator kept the session so engaging that even though it was the last weekend before Diwali, everyone stayed one and a half hours past the planned end time.



Figure 4. Experiential portion of Thinking Traps workshop



Figure 5. Workshop facilitator Smitha Rao (left) and Stueti Gupta

For additional pictures of the event, see Figure 5 and: <https://drive.google.com/drive/u/0/folder/s/1ddWXwYioW1NEFLDafjpknC5grzUWgtpQ>.

See this LinkedIn post for a video summary of the event - https://www.linkedin.com/posts/the-painted-sky_thinking-inclusion-traps-activity-6593107790452088832-4J3Y.

Join the [EWLSE](#) working group to advance its mission to create a systems engineering environment welcoming to all; promote the demonstrated value of women as systems engineers and leaders; engage women in engineering and systems engineering at all levels of education around the world; and enable increased participation and retention of women in systems engineering leadership.

EWLSE at WE19

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Once again, INCOSE's EWLSE joined around 400 exhibitors at the world's largest conference and career fair for women in engineering. The SWE's Annual Conference (WE19) resulted in



Figure 6. Anaheim Convention Center, WE19

more than 14,000 individuals and organizations scattered around the Anaheim, US-CA Convention Center (see Figure 6) to experience programming around this year's theme, "We Live. We Learn. We Lead."

With extraordinary support from the local chapter, INCOSE Los Angeles, the booth welcomed individuals from near and far. Incoming INCOSE president-elect Marilee Wheaton, INCOSE Los Angeles program chair Nazanin Sharifi, INCOSE Los Angeles president Mark McKelvin, new INCOSE member Christine Faulkner, Deborah Cannon, INCOSE Los Angeles secretary Phyllis Marbach, Shirley Tseung, and returning SWE Booth supporter Federica Robinson-Bryant shared their extensive knowledge from industry, academia, and government experiences, as hundreds of conference participants encountered the booth each day (see Figures 7 and 8).

Representing INCOSE as an exhibitor at WE19 was very insightful and motivational. -Deborah



Figure 7. EWLSE booth (left to right): Mark, Federica, Nazanin, Marilee, Shirley, Phyllis

Serving as an exhibitor and INCOSE representative at WE19 was such an invaluable experience. I interfaced with so many different people of different demographics, interests, experiences, and outlooks. This positively influences the way I view myself in the discipline, and ultimately how I choose to navigate my career. I feel that this was reciprocated through my engagement with others. -Federica

Students, professionals, and representatives from exhibiting organizations visited the booth to learn more about INCOSE and systems engineering. Many existing members stopped by to share stories validating the value of membership to their career and expressed gratitude for an opportunity to dialogue with the exhibitors and garner a range of readily available information.

Questions ranged from fundamental ones, "What is systems engineering?" to ways to capitalize from joint membership strategies among related organizations to how to start a chapter in another country to ways to build and sustain relationships with existing chapters to strategies to improve women recruitment, retention, and promotion in systems engineering organizations. Regardless of the reason for stopping at the booth, interested persons had the opportunity to engage in adept conversations about membership, certifications, publications, local chapters, and diversity in systems engineering with the booth volunteers.

It is advantageous for INCOSE to take part in such large conferences to increase awareness about the organization and its presence worldwide on all things systems engineering related. I had the opportunity to meet engineers from Nigeria who, in our conversation, expressed interest to open an INCOSE chapter in their country. I introduced them to another INCOSE contact who will continue the conversation beyond the conference. -Nazanin

Interestingly, many students expressed interests in job placement. This provided an opportunity to highlight INCOSE resources like its job board and the extensive network of individuals and partnerships gained through membership, involvement in working groups, and ongoing EWLSE initiatives.

It was inspiring to see so many students and how SWE has grown over the years. Many students enthusiastically asked about our professional organization, which allowed me to discuss the Jobs link on the INCOSE webpage and their paths to joining INCOSE. -Deborah

On Thursday evening, the incoming INCOSE president-elect Marilee Wheaton received the Advocating Women in Engineering Award (see Figure 9) surrounded by the support of her peers. The award acknowledges her advocacy for women in engineering across several organizations including INCOSE. Marilee serves as a catalyst and role model for women in systems engineering and demonstrated



Figure 8. INCOSE EWLSE booth volunteers (left to right): Mark, Shirley, Federica, Nazanin, Phyllis, and Marilee



Figure 9. Keith and Marilee Wheaton standing in front of award winners board

humility, deep knowledge, and exemplary leadership throughout the conference.

When the announcement of Marilee's award was made, I felt an overwhelming sense of pride. It is important that we continue to acknowledge the work she and others alike are doing for diversity and equity in the discipline. – Federica

Interested in holding an EWLSE related event at your conference? Please send your request to ewlse@incose.org and we will put a plan in place to support your efforts!

PMI Global Conference 2019

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The Program Management Institute (PMI), an INCOSE Strategic Alliance partner, held its annual conference at the Pennsylvania Convention Center, in Center City, Philadelphia, US-PA 5-7 October 2019. An international audience of over 2,500 attended the conference. VJ Jhaveri and Laura Hart, Greater Philadelphia Chapter president, represented INCOSE and staffed the INCOSE exhibition booth. Greg Nieman, also from the local INCOSE chapter, helped with the Saturday booth setup and booth coverage.

