MEMBERS NEWSLETTER

June 2018 - Q2

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President's Corner

Garry Roedler, president@incose.org

In the last newsletter I highlighted several things that we need to address to take INCOSE and our systems engineering discipline into the future. One of these is "Evolving the Discipline".

Evolving the Discipline – We need our systems engineering practices to be able to address change, increasing complexity, cost effectiveness, agility, resilience, and to better deal with the learning, discovery, and evolution that accompanies more dynamic environments. To do this, we will be taking actions to evolve the discipline as envisioned in the "INCOSE Systems Engineering Vision 2025."

As we look forward at the potential changes in the future systems and the environments in which they operate, will we as systems engineers be ready, and will our systems engineering discipline be ready, to keep pace with those changes?

Over the last decade, INCOSE did many things to evolve the discipline, including the following:

- Led the way defining standards and guidance that start to get us away from a linear, sequential perspective.
- Catalyzed and led the ongoing transformation of systems engineering into a model-based discipline.
- Added working groups and collaborations focused on emerging areas of importance to systems and systems engineering.
- Expanded the body of knowledge for system-of-systems engineering, complex systems, agile systems engineering, and many other evolving areas.
- Established a project led by the INCOSE Fellows to examine the current definition of "system" to ensure consistency with the envisaged scope of systems engineering, which will guide future development of systems engineering and facilitate engagement with stakeholders.

But if we are going to address the challenges identified in the "INCOSE Systems Engineering Vision 2025," then we need to do much more. Many factors, including rapid technology advancements and changing systems, business, and work environments, have us in a position where the environment is changing faster than our practices. Recognizing that we need to lead the way to evolve systems engineering, at the 2018 International Workshop we kicked-off a significant collaborative initiative to look at the future needs. The initiative, called "Systems Engineering of the Future" (SEOTF) is summarized as follows:

- Imperative: Address current and future systems challenges to enable necessary evolution of the discipline
- Intended Outcome – Evolving systems engineering so we can leverage the new technologies that drive us toward a dynamic, nondeterministic, and evolutionary environment
- Initial Output: Draft Framework – Includes definition of the problem statement and challenges that are driving change; identification of the impacts to the systems engineering roadmap of systems engineering capabilities needed to meet the challenges; and action planning.
- Team Composition - Initiative is being led by INCOSE but is a collaborative effort with 10 other organizations.

Bill Miller (wdmiller220@gmail.com) is the initiative lead and the primary point of contact. If you are interested in participating in this effort, please contact Bill. .In keeping a focus on the future, we established a technical program for the upcoming International Symposium (IS2018) that addresses the necessary and inevitable changes in systems engineering if it is to continue to be a relevant discipline that helps ensure project success. These include:

- President's Invited Panels
  - The Impact on Systems Engineering from Future Technology Advances
  - Future Directions of Systems Engineering Research
  - Systems Engineering: Taming the Inevitable Controller of Capabilities (dealing with the technologies of tomorrow: software-enabled and software-controlled capabilities)
  - Systems Approaches to Governance and Policy
- Government Interagency Panel on Systems Engineering of the Future
- One additional session per day reserved by the INCOSE Technical Operations leadership for Advanced Topics - presentations on new technology or state-of-the-art systems applications, such as artificial intelligence, autonomy, augmented reality, internet of things.

President's Corner

Garry Roedler, garry.j.roedler@lmco.com

IS2018 promises to be a great event. It will be held in Washington DC, USA during 9-12 July. In addition to the content discussed above, IS2018 will include an exciting set of keynote speakers, a diverse and high-quality set of paper presentations and panels, and a set of presentation-only sessions - a first for the symposium. Join us at the symposium to engage in the full breadth of INCOSE activities, listen to thought-provoking presentations about the state-of-the-practice and the state-of-the-art of systems engineering, network with others, visit the exhibition hall, and get involved in the technical program.

President-Elect's Corner

Kerry Lunney, kjlunney@tpg.com.au

2018 - A Great Year!

Hello All,

2018 appears to be shaping up to be a great year. Numerous activities are in the INCOSE pipeline. Internationally, INCOSE is making its mark. Below are just two examples I participated in recently.

In April this year I had the honour and privilege to present at the Systems Engineering Summit, Bengaluru, India. This is an event organised by the INCOSE India Chapter, the Indian Society of Systems Engineering (ISSE) and the Indian Space Research Organisation (ISRO), a great example of collaboration across three organisations to bring the best to participants. Going forward it is this type of cooperation that will assist us in expanding into new domains and provide us access to a larger pool of talent to tackle the future in "all things systems".

This event was preceded by a two day Systems Engineering training class attended by over 160 people! Imagine giving a class of that size. Indian efficiency came through when 168 certificates were personally handed out, each individually photographed, all under 50 minutes – a record I believe! The means to provide this training came about initially through INCOSE connections, more specifically SESA, the Australian Chapter of INCOSE, another wonderful example of team work and support.

While at the Summit, the INCOSE India Chapter signed a Memorandum of Understanding (MOU) with ISSE to work together on future events and to support each organisation in the promotion of Systems Engineering and their respective organisations. This is a strong combination as ISSE is a large and active national technical organisation which will bring strength and opportunities to the INCOSE India Chapter and to INCOSE overall. Reciprocated, INCOSE can provide the international element that ISSE can benefit from. The result is a great achievement for INCOSE India and I applaud their forward thinking.

One thing to note – when you receive a lovely memento from India and continue to travel onward to Germany carrying it in your hand luggage, it is best not to have the security officers loudly declare "we have a rocket launcher" while you are being bodily scanned! You would be surprised at how much unwanted attention you get. Technically I did have a model of a rocket from ISRO, but it was not the first thing that came to the security officers' minds when they came running towards me.

Next came SESA's annual conference, SETE 2019, which is a combined conference between SESA and the Southern Chapter of ITEA, the International Test and Evaluation Association. The arrangement between the two organisations has successfully operated for over 15 years and was the local platform underpinning the International Symposium 2017 event in Adelaide last year. Further expansion over the last three years continued with the annual conference running in parallel with the Australian New Zealand technical rail conference CORE, the Conference on Rail Excellence. On one day we share keynote speakers and presentation sessions all related to Systems, Systems Thinking and Systems Engineering. Likewise, between the two events we have a common exhibition area and share breakouts, meals and social functions. This example further reinforces INCOSE's objectives of expansion and increased value to members through impactful forums.

At SETE2019, the MOU between Engineers Australia (EA) of which SESA is a technical society, and INCOSE renewed for another three years. INCOSE and EA also signed a renewed agreement for their "Chartered Australian Systems Engineers" (CASE), a dual path for certification. The CASE certification helps systems engineers build and/or strengthen their skills to further their professional growth and knowledge.

President-Elect's Corner

Looks like we have a photo Bomber – Where's Kevin!

India and Australia are just two examples of many collaborations and alliances being worked by INCOSE. Our ability to grow and advance systems is quite exciting. I'm glad to be part of this journey - please join me.

Notes from the Board

Rachel LeBlanc, marcom@incose.org

The Board of Directors (BOD) met in Hamburg, Germany for the Q2 meeting with a focus on strategy and alignment. There were lengthy discussions about the INCOSE strategic objectives, including healthy debates about the direction of the objectives and necessary next steps to maintain forward progress. We thank all of the initiative leads for their hard work in building and executing on ambitious plans that will further the INCOSE Mission.

The Board discussed the upcoming European Union General Data Protection Regulation (GDPR) and is actively engaged in planning for adjustments that need to be made to current processes in order to comply with this new regulation.

We established an effort to make sure our policies are accurate and current. This effort resulted in the record-setting approval of 22 policies! Additional policies are being reviewed each quarter with the goal of completing the review within a year. The policies can be found on the website: https://www.incose.org/about-incose/policies-and-bylaws.

Additional activities of note include the launch of the new INCOSE website. This website is a work in progress and will continue to be updated with new content. The execution of the new chapter governance and finance model continues. In addition, the locations for IS2019 and IS2020 have been approved – Orlando, FL, USA and Cape Town, South Africa, respectively.

Notes from the Board

The following appointments were made at the BOD meeting:

- Certification Advisory Group (CAG) Chair – Rusty Eckmann
- Technical Operations (TechOps) Assistant Director for Standards Initiative – Ken Kepchar
- TechOps Deputy Assistant Director for Standards – Richard Martin
- TechOps Assistant Director for Technical Events – Erik Belle

Welcome and thank you for your service to our new appointees!

Nomination and Elections continues work on identifying candidates for the following positions that will be on the ballot in 2018 – Secretary, Director of Marketing and Communications, Sector 1 Director. Please see the nominations website for more details: https://www.incose.org/about-incose/Leadership-Organization/nominations.

INCOSE State of the Discipline Survey

As an International Council on Systems Engineering (INCOSE) member, we invite you to participate in our "State of the Discipline Survey."

This short survey (10 questions, about 10 minutes to complete) will help INCOSE take an informative look into the status of systems engineering and the industry today. It will serve as a benchmark for INCOSE's Systems Engineering Vision 2025, be used to develop a State of the Discipline Report that will be publicly available and help inform future efforts of INCOSE.

Your participation is voluntary and anonymous (IP tracking has been disabled and no information that can be used to identify you is required).

If you would like to give INCOSE your contact information at the end of the survey (for INCOSE's records only), you can enter the raffle for a one-year INCOSE membership. There will also be unique opportunities to fill this out and win at the upcoming International Symposium, so stop by the INCOSE booth to find out more!

We do ask that you please complete the survey before it closes on Wednesday, July 11 at 12 p.m. EST -- mid IS!

https://www.surveymonkey.com/r/INCOSESurvey

Thank you for your time and support!

IT Update

Bill Chown, cio@incose.org

With the introduction of the European General Data Protection Regulation (GDPR) which came into force on the 25th of May 2018, I am sure that most of you have seen numerous statements about how organizations that you interact with are handling this new attention on personal information.

INCOSE is also taking this seriously, both now and as we move forward. Personal data held by INCOSE, INCOSE Chapters, and INCOSE members is sensitive information, and will be treated as such and handled securely and lawfully.

Key provisions of the GDPR regulation require us to inform you about our actions in this area, offer you the opportunity to review our policy in this area, and to select or reselect the ways in which you would like us to keep in touch.

Our Data Protection Plan was approved by the officers of INCOSE and also came into force on the 25th of May 2018. We will be posting our updated Data Privacy Statement on the INCOSE website, and encourage you to review the selections that you made in the membership options the next time that you renew your INCOSE membership. You can also access those selections at any time by logging in to INCOSE.org, selecting your Profile Home (Click on your name at the top), and then select "Edit My Information."

INCOSE has kept your personal information secure and will be continuing to review and improve our data protection resources to offer as effective as possible capabilities to all situations where such information is collected, processed, and disposed. If you have any questions about this topic, please contact me at cio@incose.org.

Sector Updates

Asia-Oceania

India Chapter

Sewalkar Swarupanand,

SewalkarSwarupanand@JohnDeere.com

Systems Engineering Summit 2018

The INCOSE India Chapter and Indian Society of System for Science and Engineering (ISSE) organized the System Engineering Summit 2018 (SysES2018 - http://www.syses2018.org/) in Bangalore, IN.

The summit program included a two-day systems engineering training on the 11th and 12th of April. Mark Eggler, from Eggler Technology Training–Australia (http://www.ece.net.au/) conducted the training. The training gave a practical introduction to systems engineering and provided a comprehensive overview of all the real-world systems engineering issues systems engineering teams are likely to be encounter. The training program received an overwhelming response and had 169 participants from various organizations attending the training.

S. Somanath, director of the Vikram Sarabhai Space Center of the Indian Space Resource Organisation (ISRO) inaugurated the summit on the 13th of April. During the inaugural function, the Summit Advisory Board chairman, Dr. B. N. Suresh, the summit chair, Dr. Kota Harinarayana, and INCOSE president-elect, Kerry Lunney addressed the delegates. S. Somanath delivered the summit key note address on space launch vehicles. Subsequently, the program witnessed various plenary sessions. Plenary session speakers included Kerry Lunney, INCOSE president-elect; Serge Landry, INCOSE Asia-Oceania director; Prashant Dhawan, co-founder of Biomimicry India; Kishan Vemuri, founder and CEO of ProInn Consultancy; and Mark Eggler of Eggler Technology Training. Over 300 delegates from various industries and universities, including ISRO, John Deere, ADA, Honeywell, Medtronic, IISc, and Robert Boschand Boeing participated that day.

The summit also witnessed the signing and exchange of a memorandum of understanding (MOU) between ISSE and INCOSE. This MOU is intended to promote a collaborative relationship related to professional areas that are of mutual interest and benefit to the INCOSE India and ISSE, namely: (1) promote the art and practice of systems engineering through conferences, events, symposiums, and joint working groups, (2) promote systems engineering certification, and (3) promote best practice processes and guidance, training, and supporting materials that can be used in projects and organizations in the field of systems engineering.

By joining efforts, both INCOSE and ISSE expect this collaboration to further the development of knowledge and best practices towards comprehensive integration into the design and operation of successful complex systems and systems of systems. Kerry Lunney and Dr. B. N. Suresh exchanged the signed MOUs during the event in the presence of Dr. Kota Harinarayana, Serge Landry, Ramakrishnan Raman (assistant sector director, INCOSE Asia-Oceania), Stueti Gupta (INCOSE India Chapter president) and Dr. M. V. N. Prasad (ISSE Bangalore Chapter president).

11th April: Training Inauguration: On stage (from left) Ramakrishnan Raman, Dr. Kota Harinarayana, Mark Eggler, Dr. M. V. N. Prasad. The Chief Guest, Dr. Jitendra Jadhav, Director – NAL, is addressing the delegates

Mark Eggler conducting the systems engineering training

Sector Updates

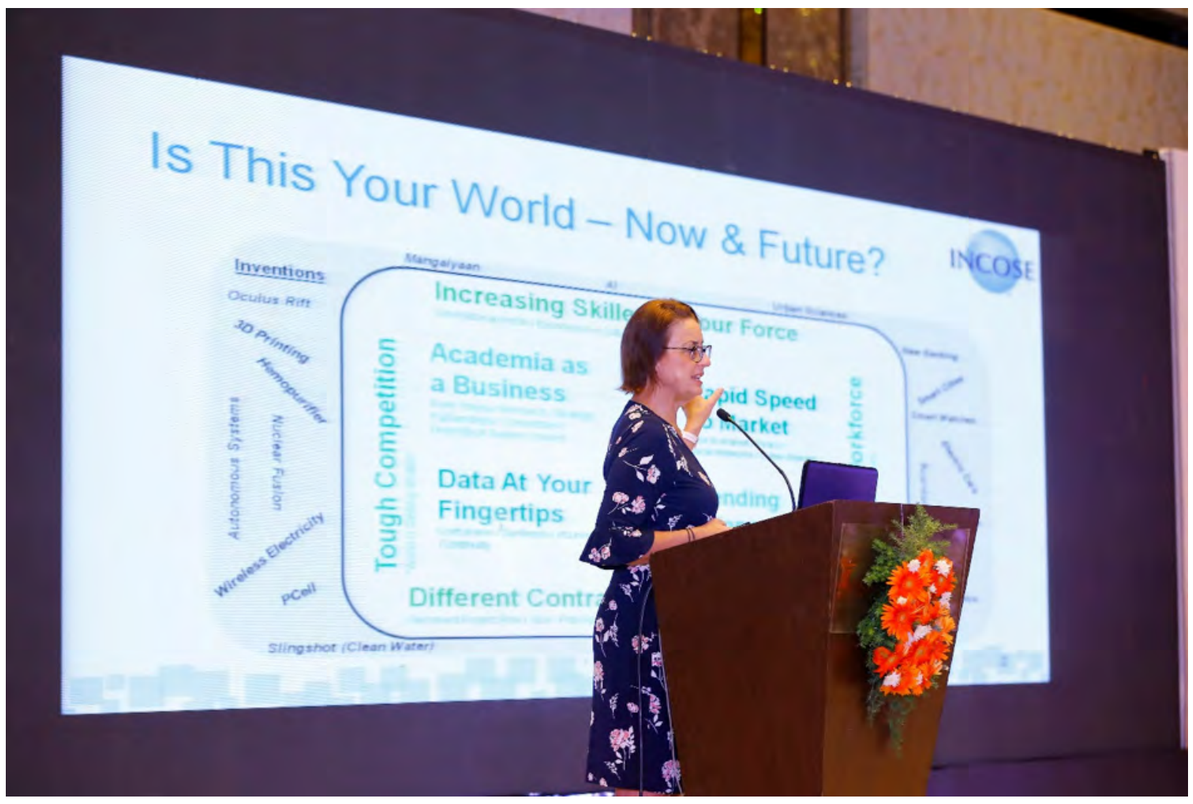
Asia-Oceania

Kerry Lunney distributing the training completion certificates to the participants

13 April: Summit Inauguration. Seated on stage (left to right): Ramakrishnan Raman, Kerry Lunney, S. Somanath, Dr. B. N. Suresh, Dr. Kota Harinarayana, Dr. M. V. N. Prasad

S. Somanath, director of VSSC ISRO, delivering the summit keynote address

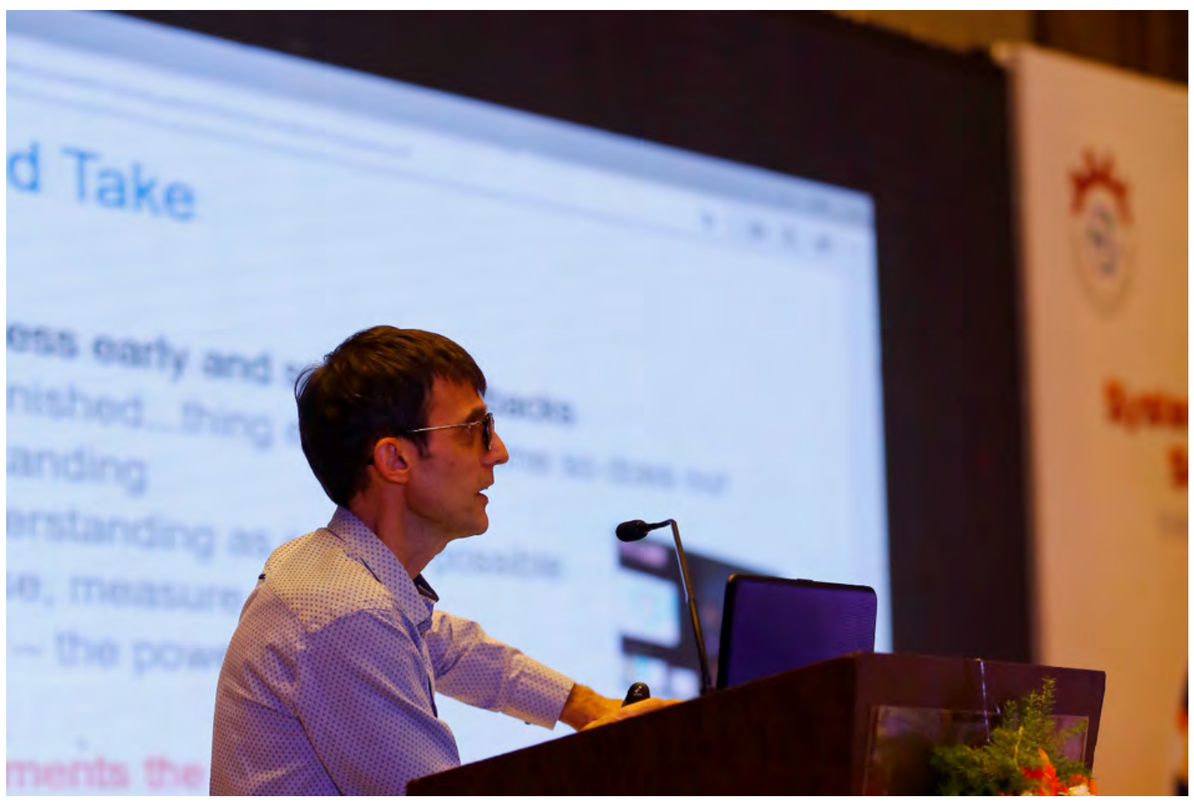
Over 300 delegates attended the summit on the 13th of April



Kerry Lunney, delivering plenary session talk on "Is Systems Engineering Ready for the Future?"

Asia-Oceania

Prashant Dhawan delivering plenary session talk on "Biomimicry-A Bioinspired Approach to Systems Thinking"



Serge Landy delivering a plenary session talk on "Dealing with Uncertainty and Ambiguity in Complex Systems"

Australia-Systems Engineering Society of Australia (SESA) Report

Bill Parkins, president-elect@sesa.org.au

Systems Engineering Test and Evaluation (SETE) Conference

INCOSE – ISSE MOU: On stage (from left to right) Dr. M. V. N. Prasad, Dr. Kota Harinarayana, Dr. B. N. Suresh, Kerry Lunney, Serge Landry, Ramakrishnan Raman, and Stueti Gupta

On 2 May 2018, we concluded our annual three-day Systems Engineering Test and Evaluation (SETE) Conference at the International Convention Centre at Darling Harbour in Sydney, AU. Members can find the details of the program at https://sete2018.com.au/.

This year's SETE was particularly significant for me as I was conference chair and incoming SESA president. I am very pleased to report the conference exceeded our plan in attendance (aimed for 200, achieved 202), in diversity (geographical, age, and gender), in technical format (tutorials, papers, keynote speakers, three streams of presentations over two days, panels, and exhibits), with the social interaction at meal breaks and the gala dinner.

The highlight for most is the opportunity to meet old friends and colleagues and make new connections. This year we had the current INCOSE president, Garry Roedler, past president, David Long, and president-elect, Kerry

Asia-Oceania

Lunney in attendance, enriching the event with their great talents. I wish to thank them and the many current and former SESA office bearers for their contribution to the conference.

In addition to the traditional defence capability development themes, SETE 2018 had a significant focus on the transportation sector. SESA held the conference in collaboration with the Conference on Railway Excellence (CORE 2018) which was in the same location over the same days. We shared a common exhibition hall for session breaks, meals, and receptions. Part of the CORE program included a SETE keynote address and two sessions dedicated to systems engineering, test, and evaluation. The SETE Conference registration fee also included attendance at the CORE Gala Dinner which was a fun event with excellent entertainment. The entertainer this year was Anh Do, who is well known to the Australian audience and was very well received by our international guests (see link http://www.anhdo.com.au/).

This was the second time we held SETE in conjunction with CORE and once again it provided an opportunity to collaborate with other engineering organisations and highlight INCOSE and systems engineering.

There was so much of the technical program that was applicable to both sectors that it will provide direction for our future technical program. Our technical director, Charles Homes is actively planning our conferences and workshops to meet the needs of our membership and collaborating with other INCOSE initiatives in the region and globally.

We will evaluate the successes and weaknesses of SETE 2018 and learn the lessons to help guide our planning for future successful events. Our SESA president, Ray Hentzschel and I had many people at SETE 2018 who indicated interest in getting involved in future planning, so we encourage member not to miss this opportunity.

Front Row: Garry Roedler, president of INCOSE, holding the MOU Ray Hentzschel, president of SESA, holding the MRA (upside-down!) Back Row: Kerry Lunney, president-elect of INCOSE, and board member responsible for certification, Wayne Biden, SESA CASE manager.

It is in the direction of communicating the value of systems engineering that I would like to take INCOSE Australia into 2018-19. I look forward to INCOSE International Symposium (IS) 2018 to continue working on ideas to develop events and activities of value to our members and their sponsoring organisations.

Systems Engineering Society of Australia (SESA) Milestone Agreements

At the Australian SETE 2018 conference, SESA reaffirmed strong ties between INCOSE and Engineers Australia (EA) by the signing of two critical documents that firmly establish INCOSE as the primary reference source for systems engineering in Australia.

The first document we signed was a memorandum of understanding (MOU), which refreshed the former document signed in 2015. It incorporated aspects of the new chapter governance and financial model, and firmly established SESA as the only recognised representation of INCOSE in Australia. This MOU is the basis on which other more formal agreements can rest.

One of these, and the second document we signed at SETE 2018, was a mutual recognition agreement (MRA) for the certification of professional systems engineers. This is a renewal of a successful trial agreement established in 2016, whereby EA recognized INCOSE CSEP as evidence of attainment of all the technical competencies required for the award of chartered status (CPEng) as a systems engineer. SESA executes this agreement through its Chartered Australian Systems Engineer (CASE) program. This is the first time in the history of SESA that systems engineering has been formally recognised by Australia's peak engineering body as its own unique area of practice to which SESA members can now be chartered.

SESA also established other agreements that strengthen ties with EA. Of note is an enhanced management services contract that provides several services relating to:

- Member management
- Financial management
- Secretarial functions
- CASE administration
- Marketing services
- Meeting facilities including national video conferencing
- Event management services.

These services free the busy volunteer members of the SESA management committee of day-day administrative functions and allowed them to focus their efforts more strategically.

29th Annual INCOSE international symposium

Orlando, FL, USA
July 20 - 25, 2019

Engage with your colleagues from the Systems Engineering community!

Learn about state-of-the-art methods and essential skills for Systems Engineers.

Find out how people are making a difference with Systems Engineering.

Mark your calendar now!

July 20 – 25, 2019

Sector Updates

Asia-Oceania

Singapore Chapter

Diego Abas, diegoabas@yahoo.com

INCOSE Singapore Chapter Annual General Meeting

The INCOSE Singapore Chapter held their Annual General Meeting (AGM) on the evening of 23 March 2018 in a relaxing atmosphere at NTUC Club, Happy Days. The chapter management committee was not due for election in this AGM, except for the appointment of two new honorary auditors. The AGM saw President Yip Yew Seng's welcome address, followed by the chapter financial report from Treasurer Jean Lancelin, and the program report from Programs Chair Ramesan Panicker. The AGM also discussed potential programs for the coming year to further reach out the chapter members and public.

Group photo after the AGM 2018

Welcome address for the chapter's president, Yip Yew Seng

Americas

Colorado Front Range Chapter

The Colorado Front Range (CFR) Chapter held an INCOSE table at the annual Aerospace Day in Denver, US-CO on the 19th March. Aerospace company employees, various university and high school (STEM) students, and other engineering professionals from the aerospace industry attended this one-day event. The objective of attending was to advertise INCOSE to the attending public and promote the Western State Regional Conference (WSRC) event being held later in this year. Overall, it was a successful event that led to discussions with university and STEM school students about INCOSE, as well as dialogues with representatives from across the aerospace industry.

On the 24th of April, the CFR Chapter hosted a speaking event with guest Jim Adams, who presented a first-timer's perspective on the INCOSE International Workshop (IW) and summary of the IW 2018 activities. Mr. Adams received a special grant from the chapter to attend IW 2018 and provided unique insight into what one can expect when attending the IW. The objective of the event was to provide members who have never attended IW with a more detailed understanding of workshop activities, content, social events, and benefits of participating. This event also served as a segue to the upcoming International Symposium (IS) in Washington, US-DC, for which the local chapter will be offering a similar sponsorship to its local members. The recorded video of this event may be accessed from the following link: IW 2018 Summary - Jim Adams - 24 April 2018

Sector Updates
Americas

Los Angeles Chapter

Phyllis Marbach,
prmarbach@gmail.com

Our membership enjoyed the presentation on "A Systems Engineering Approach to Aerospace Technology Maturation for Development Programs" by Andrew Murrell and John Borghese of Rockwell Collins at the March Speaker meeting on March 13th, 2018. The April 10th, 2019 Speaker Meeting topic was "Agile Systems Engineering and Earned Value Management" by Phyllis Marbach, formerly of Boeing. On April 14th,2018 the chapter provided a Tutorial at Caltech on "Agile Systems Engineering" by Rick Hefner and Nate Crew. Kay Das presented "The Connected Vehicle Revolution" on May 8th, 2018. In June our membership is looking forward to hearing from a member of the team that won the Solar Decathlon in 2017. Alex McDonald will discuss his graduate work at the University of California, Irvine: designing and building a modular, solar powered house for the U.S. Department of Energy's Solar Decathlon 2015. To register for a speaker meeting please go to www.incose.org/los-angeles.

The INCOSE Training Working Group and the INCOSE Los Angeles Chapter recently completed INCOSE SE Handbook v4.0 free training webinars for all INCOSE members and employees of INCOSE CAB organizations. This weekly series, began on Thursday, October 5th, 2017, and ran through April 26th, 2018. These webinars were created by and recorded when John Clark presented the course in 2015/2016. Course materials included the shared documents, tutorial slides, questions, and audio and video recordings available for downloading and using at your convenience. Each session 5 to 10 employees of Rockwell Collins Irvine attended from their location in Irvine and others called into the session from multiple states. The group completed all 34 sessions in 8 months with a few weeks off during winter and spring for normal school breaks. We were happy to coordinate two CSEP/ASEP paper test sessions soon after the completion of the trainings, one at LMU on Friday morning May 4 and one at Rockwell Collins Irvine at 4:30 p.m. Prior to the tests, Stephen Guine, CSEP, conducted an in-person Jeopardy Game at Northrop Grumman Corporation in Redondo Beach and a virtual Jeopardy Game for LMU to help students prepare for the testing. Thanks go to John Clark, Stephen Guine, John Poladian, Andrew Murrell, and Carol Berardino for all their support during the trainings and tests.

Our second quarter Strategic Planning Meeting was held on May 12th, 2018 in Manhattan Beach where the board members reviewed the budget from 2017 closely and discussed how to reduce costs and increase income for 2018.

INCOSE-LA is proud to be one of the western states chapters teamed with the INCOSE Wasatch Chapter who is leading the team to plan the first annual Western States (US) Regional Conference (WSRC) on September 20-22nd, 2018. The venue is in scenic Ogden Canyon, US- UT, 42 miles north of Salt Lake City, US-UT. The theme is "Systems Engineering out W.E.S.T.: Workplace, Environment, Sustainment, Technology." Save the date and plan to join us in Utah or join us remotely during the Systems Engineering Professional Development Day (SE-PDD) on September 21. More information is included from the INCOSE Wasatch Chapter.

San Diego Chapter

Greg Bulla,
gbulla@yahoo.com,
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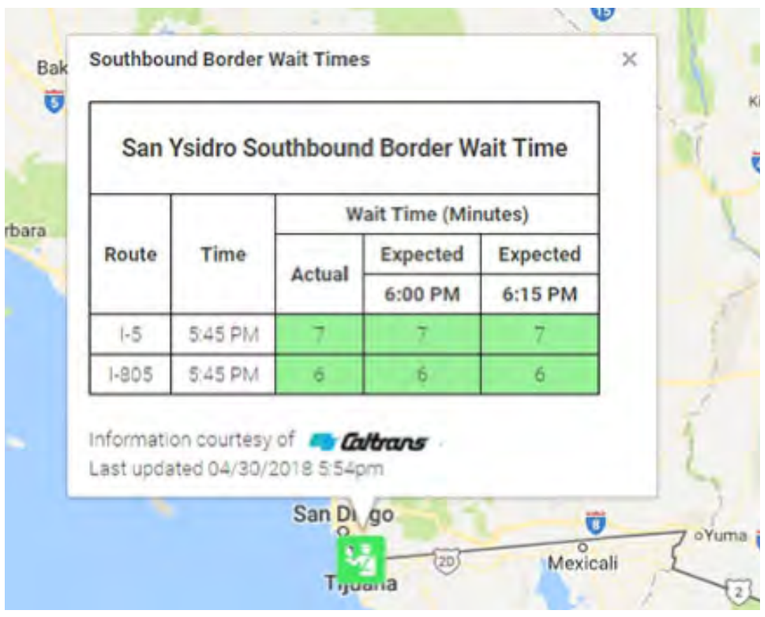
San Diego Chapter Hosts Presentation and Webinar on Border Wait Time Detection System

Significant economic interdependence exists between Southern California and Northern Mexico regions, with a large magnitude of cross-border personal travel and freight movements at the region's ports of entry. Without mitigation steps and increased traveler information, delays and economic losses will more than double in the next ten years. Systems engineering and affordable detection technologies can be used to determine travel times and border wait times in order to provide accurate data to industry and the traveling public, helping to inform optimal decisions regarding the movement of both goods and people. This presentation will explore the existing pilot project for Southbound Border Wait Times at the San Ysidro port of entry, along with current efforts underway to expand the system to other ports of entry along the southern border in California, as well as Northbound waits in collaboration with Mexican authorities.



Sector Updates

Americas

Border Wait Time Detection System Speaker: Ian Kilgour

Ian Kilgour is a Transportation Systems Engineer with IBI Group in San Diego, specializing in Intelligent Transportation Systems and Communications Systems. He has been with IBI for 12 years, working in different offices throughout North America, and holds a Bachelor of Applied Science in Electrical Engineering from the University of Waterloo in Ontario, Canada. Ian has been a member of Professional Engineers Ontario since 2010 and an INCOSE member since 2018.

Location: Filippi's Restaurant in Kearny Mesa at 5353 Kearny Villa Rd, San Diego, US-CA 92123

Date/Time: Wednesday, June 20th, 2018, 5:30-7:00 pm

Presentation and Dinner: The first half-hour is for dinner and networking. The optional buffet dinner starts at 5:30 pm, and the presentation begins at approximately 6:00 pm. The cost of the buffet is $10 for members, $15 for non-members, and includes pizza, salad, pasta, and soft drinks.

Webcasting: This presentation will be webcast, please check back later for instructions for the login name and how to download software to view the video.

RSVP or Register: https://sdincose.org/rsvpmaker/border-wait-time-detection-system-2018-06-20/

Southern Arizona Chapter

Brian Selvy, brianselvy@hotmail.com

The INCOSE Southern Arizona Chapter sponsored a two-day tutorial led by Rick Dove, entitled "Agile Systems Engineering as Risk management - Problem Space Analysis & Solution Space Synthesis." The workshop was held April 27-28th, 2018 on the University of Arizona campus. Jack Ring, who participated in the tutorial, stated that the tutorial had high ROI for three reasons: "1) The session grounded the several principles and practices of Agile by sharing the findings of case studies at five diverse companies engaged in implementing agile methods. 2) The session involved participants in four-person teams to experience applying this knowledge in seven phases of an agile systems engineering to a situation of their choosing. 3) It was not a tutorial. It was a well facilitated co-learning adventure."

Wasatch Chapter

Charles Vono, charlesvono@gmail.com; Paul White, paul.white@kihomac.com

The INCOSE Wasatch Chapter cordially invites you to the inaugural Western States Regional Conference (WSRC) in Ogden, US-UT. The conference will occur from Thursday through Saturday, 20-22 September 2018, at the Orbital ATK Conference Center in the beautiful Ogden Canyon (fifty minutes north of Salt Lake City) and near Hill Air Force Base, the second largest United States Air Force installation.

Nine INCOSE chapters across the Western United States region have joined with us to have a successful WSRC. We are grateful to our sponsoring organizations who have generously donated to the conference. In addition, we are grateful for help, lessons learned, and approaches that have made the Great Lakes Regional Conference, Texas Gulf Coast Chapter Systems Engineering Conference, and INCOSE Regional Los Angeles Mini-Conference successful. We anticipate an audience of at least eighty local and one hundred remote attendees.

We will offer plenty of opportunities to chat with experts from Hill Air Force Base and our many systems engineering contractors locally and from throughout the West. You can join us as we discuss new and intriguing techniques and applications in the field of systems engineering. Plus, you can relax and enjoy some extra time to bike, walk, or jog over our miles of incredible paved and unpaved mountain and valley trails. (Take a look at fun events our ski resorts have planned to celebrate our fantastic fall colors.)

Americas

Systems Engineering out WEST: Workplace, Environment, Sustainment, and Technology

A few examples from the program in keeping with the themes of workplace, environment, sustainment and technology (WEST):

- Keynote speakers from the top leadership of Orbital ATK (Dr. Ben Goldberg, Propulsion Systems Division Science and Engineering Directorate, and Charlie Precourt, former astronaut), INCOSE (President Garry Roedler), and the Hill Air Force Base Sustainment Center (to be announced).
- Technical presentations such as: "What is a System?" (Hillary Sillitto), "Agile Systems Engineering," "Leveraging Organizational Systems to Maximize Systems Thinking," and "Systems Engineering on Legacy Systems"
- Panel discussions such as: "Using Systems Engineering to Make Sustainment Successful" and "Pain Points of Systems Engineering Leadership"
- Tutorials such as "High Performance Teaming," "Basics of Complex System Sustainment," and "Applying Systems Thinking to Systems Engineering"
- INCOSE working group leadership meetings, informal social events to promote networking, and an SEP Beta Exam

Interested in learning more? Look up details of the program (coming soon) to see well-recognized names in our field and more intriguing titles by going to https://incose-wsrc.eventbrite.com. Still have questions? Contact Paul White, WSRC 2018 conference chair, at paul.white@kihomac.com.

Texas Gulf Coast Chapter

Jason Baker, Jason.Baker@deepwater.com

The Texas Gulf Coast Chapter (TGCC) hosted its second annual conference "A Renewal of Exploration" on May 3rd and 4th in Houston, TX. The focus was on collaboration and knowledge transfer between the Aerospace and Oil & Gas industries. There was a very strong turnout with over 120 attendees. The conference featured two keynote speakers, sixteen technical presentations, six exhibitors and three training sessions.

Brian Hebert (BP's VP Global Well Operations) started the day with his personal testimony and details regarding BP's implementation journey for systems engineering. Todd May (NASA Center Director of the Marshall Space Flight Center) highlighted the latest developments of the NASA Space Launch System.

There were sixteen technical speakers ranging in topics such as digital transformation, systems engineering implementation/success stories, MBSE, and requirements management. The conference was supported by 11 partners including the following organizations: Jama, IBM, Mathworks, Shell, Transocean, Baker Hughes, a GE Company, Barrios Technology, Anylogic, Vitech, QRA and GMI. Six of the partners showcased their software packages and methodologies.

Overall the conference was a great success and the TGCC looks forward continuing the collaboration between the Aerospace and Oil and Gas industries and partnering with other industries and organizations in the Houston area.

EMEA

The South European Systems Engineering Tour 2018

Jean-Claude Roussel, jean-claude.roussel@airbus.com

The 4th edition of the South European Systems Engineering (SESE) 2018 Tour occurred in Firenze (Italy) on the 21st of May, Toulouse (France) on the 22nd of May, and in Barcelona (Spain) on the 23rd of May. The respective INCOSE Chapters, AISE for Italy, AFIS for France and AEIS for Spain jointly organised the SESE 2018 Tour.

The success of the 2018 edition included more than 150 participants in total (77 in Firenze, 54 in Toulouse and 32 In Barcelona) including 76 attendees who took the CSEP exam (22 in Firenze, 17 in Toulouse, 15 in Barcelona, and 22 in Madrid)

The purpose of this event is to promote systems engineering among practitioners and to strengthen the links between the chapters. The format of the event is a lecture day at each venue and the intention is to have four talks that are repeated at each venue and complemented by a number of talks held locally.

The former editions were in held in 2014 (Switzerland, France, Spain), 2016 (Italy, Switzerland, France, Spain) and 2017 (France, Italy, Spain). All information related to these events is available on the dedicated site (www.sese.aeis-incose.org)

We extend great appreciation to all participants and congratulations to the organization team for this achievement.

2018 Annual INCOSE
Great Lakes Regional Conference
SYSTEMS AT THE CROSSROADS
17 - 20 October 2018 | Indianapolis, Indiana

Call for Proposals

The Program Committee for the 2018 Great Lakes Regional Conference (GLRC2018) of the International Council on System Engineering (INCOSE) is excited to open the GLRC2018 conference with a call for proposals to this year's theme: **Systems at the Crossroads**

We live in evolving times with ever increasing access to knowledge and data. New and emerging technologies are expanding and enhancing engineering and scientific capabilities. Many challenges exist in security, increasing speed to market, increasing reliability, better safety, greater sensitivity to environmental needs, and optimizing system costs. A wide range of industries have these challenges from aerospace, to manufacturing, to healthcare and are at various stages of utilizing a systems approach. We are at an exciting time with many "Systems at the Crossroads".

GLRC2018 invite participants to submit proposals for:

- **Presentation** (Individual presentations 30 min long including a 5 min Q&A)
  Proposals for **presentations** are sought that will help improve systems engineering discipline or practice. Presentations may have optional accompanying papers which will be published as part of the conference proceedings. For last year's proceedings please click here.
- **Panel discussion** (Moderated discussion with 2 to 4 panel members, 1 hour long)
  Proposals for **panel discussions** are sought on significant or controversial subjects in systems engineering, about which different points of view are held. Proposals for panel discussions should nominate knowledgeable, eloquent, polite members who can forcefully and succinctly advocate different positions on the panel topic.
- **Tutorial** (hands on/didactic sessions can range from half to full day session)
  Proposals for **tutorials** (half- or full-day) are sought that will teach systems engineering skills, tools, techniques, and knowledge. Proposals for tutorials should specify what will be gained by those attending.

GLRC2018 will feature keynote presentations from SE thought leaders, papers from SE practitioners and academia, panels on important SE topics, and world-class tutorials from SE experts. Those delivering content will cover a breadth of information around key decisions or 'cross-roads' that are common in multiple product domains and applications.

GLRC2018 will also feature an INCOSE *SE Professional Development Day (SE-PDD)*. This will be a virtual extension of the conference, with featured sessions broadcast to several satellite sites. Last year over 45 people participated remotely. INCOSE Past President David Long was a key note speaker and topics spanned from SE fundamentals, risk management, systems of systems, MBSE, to the work of INCOSE on an ISO Standards initiative. The SEP knowledge exam will be administered at the conference for those seeking certification. Submittals may be invited to participate in the SE-PDD track as the technical program is formed.

Important Dates

3 April 2018	Call for Proposals (Papers, Panels, Tutorials) Opens
10 June 2018	Deadline **Extended** for Proposal Submittals to Easy Chair
24 July 2018	Notification of Acceptance
19 August 2018	Deadline for Initial Presentation Submittals to Easy Chair
9 September 2018	Feedback on Initial Submittals
29 September 2018	Deadline for Final Presentation Submittals to Easy Chair
18-19 October 2018	GLRC 2018 Keynotes, Presenters, Panelists
19 October 2018	GLRC 2018 SE-PDD Virtual Broadcasts to Satellite Sites
17 and 20 October 2018	GLRC 2018 Tutorials

For questions and comments, please contact the GLRC 2018 Technical Program Chair:

Christopher D. Hoffman: christopher.d.hoffman@cummins.com

GLRC 2018 Topics of Interest

This is provided for generating proposal ideas, and is not an exhaustive list. The proposals to be submitted shall concern both methods for the online and on-site teaching of systems engineering as well as key decisions or 'cross-roads' in your product domains and applications of Systems Engineering.

Strategy, methods, processes, or tactical deployment of Systems Engineering topics are requested with examples of how those problems were solved within any domain (such as: aerospace, agriculture, automotive, biomedical & healthcare, defense, academics and education, energy, environmental sciences, government, information, infrastructure, safety & security, space, or transportation domains).

- Integrated Healthcare
  - Integration of clinical pathways, managing care flow processes
  - Medical devices, clinical instruments
  - Clinical personnel, clinical data, payment structure, patient outcomes.
  - Medications, personalized medicine, drug research
  - *Click here for Integrated Healthcare Call for Proposals pdf file*
  - …
- Online and on-site challenges in teaching
  - Teaching students specializing in systems engineering, in other areas of engineering including engineering management, and those not specializing in engineering, e.g. project management or business
  - Teaching students with no work experience or continuing education of students with considerable experience either in systems integration or as suppliers to systems integrators
  - Effective methods, e.g. regular lecture, flipped classroom, class projects
  - Effective materials, e.g. model-based systems engineering software, case studies and readings, appropriate topics (risk analysis, systems dynamics, etc)
  - …
- Strategy
  - ‘Selling’ Systems Engineering to C-suite
  - Digital Engineering
  - Systems Engineering and Industry 4.0 / Industrial Revolution 3

    - Formation of an Ongoing Collaboration on Digital Engineering
    - Political influences on engineered product development
    - …
- Methods
    - Systems Engineering and Systems Science (foundational principles)
    - Lean systems engineering
    - Agile approaches
    - …
- Processes
    - Requirements capture, review, validation, and management
    - Risk capture & technical impact
    - Systems optimization
    - Design (& peer) Reviews
    - Decision analysis
    - …
- Tactical
    - Middleware / systems integration of enabling software for SE
    - Integration of Systems (especially between open and closed systems)
    - MBSE
    - …
- Collaboration / Organization
    - Collaboration across professional organizations
    - Emerging standards – ISO
    - Systems Engineering and Organizational Change Management / Organizational Design
    - …

GLRC 2018 Proposal Submittals via EasyChair

All proposals will be submitted through Easy Chair, and must include:

- Title
- Abstract which clearly and concisely describes the subject
- Presenter's or instructor's name, affiliation, contact information, and brief biography
- Whether a paper to accompany the presentation will be submitted for inclusion in conference proceedings (note: draft papers are welcome, but not required, at the time of proposal)
- Additional presenters or instructors, if any
- For panels: why the topic is relevant; nominations for panel participants, summary of position statements
- For tutorials: Benefit for tutorial attendees; top-level learning objectives; tutorial outline; proposed duration (half- or full-day)

Abstracts have no word limit, but should be a concise paragraph, summarizing the proposed presentation/tutorial/discussion perspicuously to entice conference participants to attend and provide enough detail for evaluation.

Presenters must obtain all necessary authorizations and clearances from their organization(s), prior to the start of the conference.

- Presentations shall be unclassified and cleared for release to the public.

- At least one presenters/instructors and the panel chair and all panelists must register for the conference and pay the applicable registration fee.
- Presenters grant INCOSE the right to record, publish, and distribute their presentations, including audio, video, and slide-show content, unless expressly denied in writing.
- The INCOSE Author IP Release and INCOSE Tutorial IP Release forms are available via the GLRC website.

For questions and comments, please contact the GLRC 2018 Technical Program Chair:

Christopher D. Hoffman: christopher.d.hoffman@cummins.com

Call for SE PDD Site Participation

The 12th annual INCOSE Systems Engineering (SE) conference of the Great Lakes region, GLRC2018 will have featured presentations from SE thought leaders and papers from SE practitioners and academia on important SE topics around the theme “Systems at the Crossroads”.

For the third year the GLRC conference will feature an INCOSE Systems Engineering Professional Development Day (SE PDD). The SE PDD is a virtual extension of the conference, with featured sessions broadcast from the host site in Minnesota exclusively to several satellite sites on Friday the 19th of October. The objective is to create mini-satellite conferences that give a portion of the GLRC experience without having to travel, thus expanding the impact and value of the conference to the entire region.

Why be an SE PDD Sites?

The GLRC is one of the strongest regional conferences, with a broad range of industries represented.
The SE PDD will extend the interactive value of the GLRC to your area with content from proven presenters.
This experience will build on the benefits that your chapter members receive with their memberships.

What is the SE PDD?

Participants will see live feed presentations following one of the tracks from GLRC 2018 and have interactive discussions on these topics. The SE PDD sites are set up with A/V equipment for the live feed from Indianapolis. Last year’s SE PDD included nine satellite sites in the Great Lakes Region and around the country.

A site leader and co-leader will be needed at each site to work with the SE PDD site coordinator. The SE PDD presentations will not be available to individuals. The objective is to create mini-satellite conferences that give a portion of the GLRC 2018 experience without having to travel, thus expanding the impact and value of the conference to the entire region. All participating sites will be required to execute an SE PDD agreement to establish a consistent quality experience across all the sites. All participating sites are required to complete the INCOSE GLRC2018 Site Participation information page here.

Important Dates

30 June 2018	Deadline for SE PDD Proposal and Agreement Submittals
07 July 2018	Notification of Acceptance
July-September 2018	SE PDD Site Training and Preparation
19 October 2018	GLRC2018 SE PDD Virtual Broadcasts to Satellite Sites

For questions and comments, please contact
GLRC 2018 SE PDD Chair:
Gary Houchin-Miller
gary.houchin.miller@gmai.com

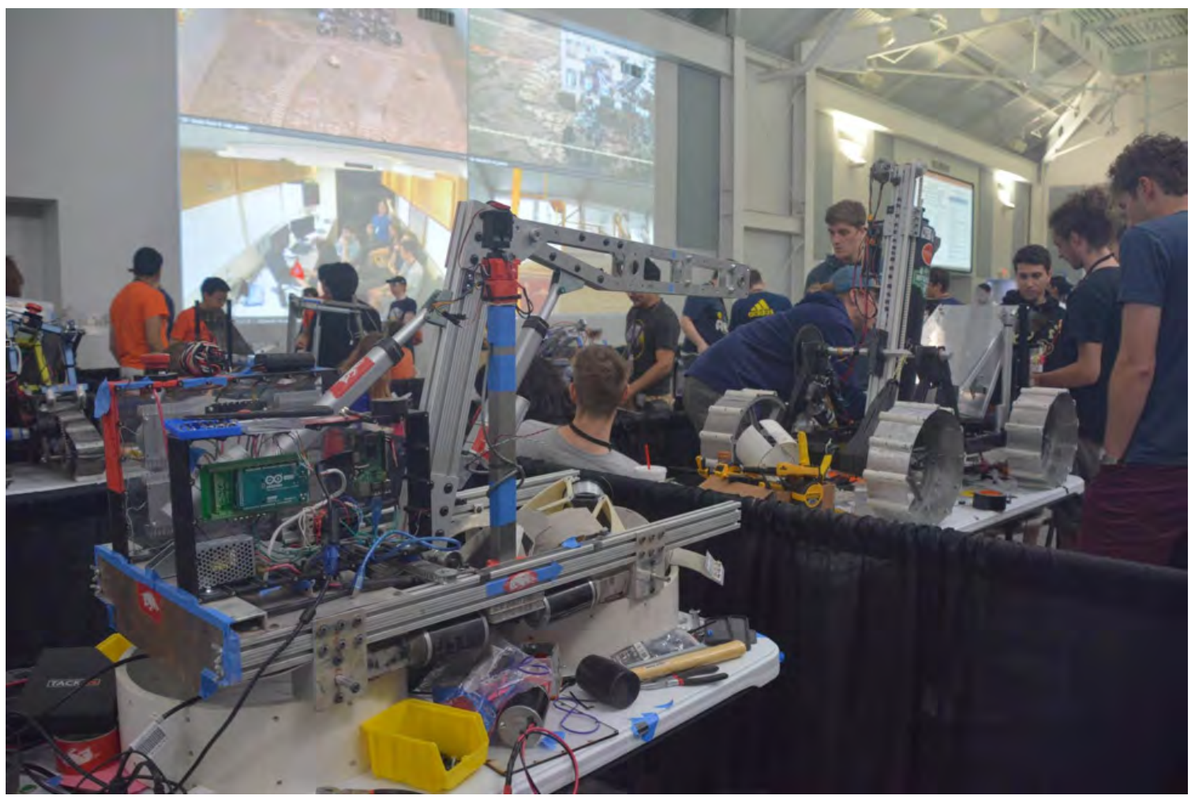
RMC Update

Jonette Stecklein, jonette.m.stecklein@nasa.gov

INCOSE Members Promote Systems Engineering and INCOSE at the NASA Robotics Mining Competition (RMC)

This year, Lead Systems Engineering Paper Judge Jonette Stecklein (INCOSE member #462) helped over 900 university and college students learn and apply systems engineering throughout a project lifecycle.

During the RMC awards presentation at NASA Kennedy Space Center (KSC), RMC Head Judge Rob Mueller from NASA told us "The RMC is not a robot design competition, it is a systems engineering competition." In fact, it is the largest university and college systems engineering competition in the world, now completing its ninth year, having hosted during those years 129 different universities and colleges from 11 countries, 38 states, and Puerto Rico. In the future, regional RMC competitions are expected to be held in Europe, Mexico, and Japan.



The RMC requires students to work through the entire project life cycle, from ideation to system disposal, doing the systems engineering and design of an autonomous robot system, fielding that system, and culminating in mining simulated ice in a simulated Martian environment at KSC, including remote observation and control. A major component of the competition is a required Systems Engineering Paper where the students describe in 25 pages the systems engineering they performed throughout the life cycle for their robot system. Jonette Stecklein leads a team of 25 judges each year in reviewing and scoring the Systems Engineering Papers, awarding the winning schools trophies and scholarships. The Systems Engineering Paper scores contributed the major component this year towards the Grand Prize "Joe Kosmo Award of Excellence."

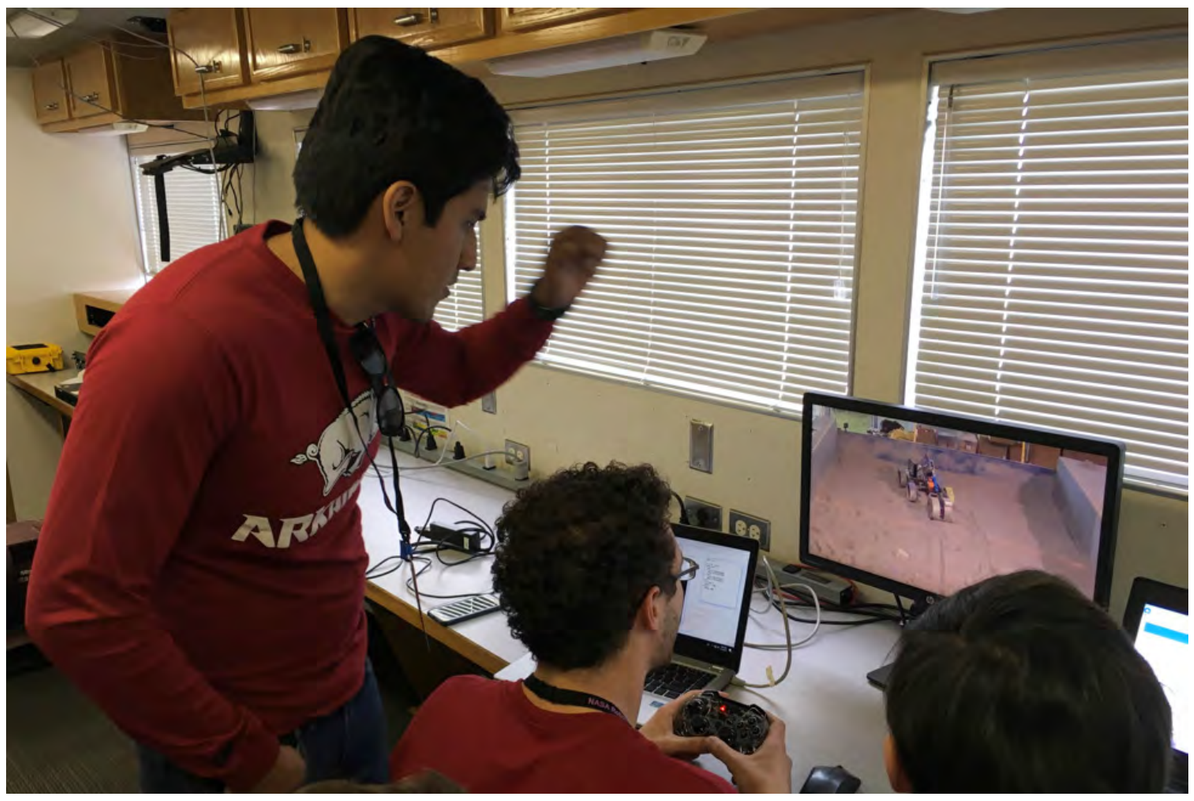
For the past three years, Jonette hosted faculty and student round tables with question and answer sessions on systems engineering during the on-site competition week in May. Few if any of these teams are from schools where systems engineering courses are available in their curricula. Since introducing these roundtables, RMC judges noticed significant improvements not only in the Systems Engineering Paper, but in mining performance as well.

New this year at the RMC, Jonette Stecklein and Mark Powell (INCOSE member #453) produced and presented a two hour short course titled "Introduction to Systems Engineering and the Project Life Cycle." The inaugural course drew a full house with extra chairs brought in for faculty and students attending. Students responded enthusiastically to the course, some declaring that they now want to pursue careers in systems engineering. Others reported that they used the methods presented in the course at the competition in real time to improve their robot system's performance in the mining arena.

We'd like to get more INCOSE members and chapters involved. INCOSE chapters can get started by providing experienced systems engineers to act as external reviewers and provide feedback during a student team's technical maturity reviews: Systems Requirements Review, Preliminary Design Review and Critical Design Review. Going further, INCOSE chapters can "adopt a team" and provide systems engineering mentors throughout the development of the robots.

RMC Update

It has been exciting to see university and college students absorb systems engineering principles and become true systems engineering believers. Please join us.



Working Group Updates

Systems Science Working Group

Hillary Sillitto, hillary.sillitto@blueyonder.co.uk

Systems Science Working Group Members Participate in the International Federation for Systems Research (IFSR) Event: Gaining New Insights into the Nature of Systems

Several INCOSE members participated in the International Federation for Systems Research (IFSR) conversation held in April 2018 in Linz, AT, and some interesting results came out of this activity. INCOSE joined the IFSR in 2012, interfacing through the Systems Science Working Group, and INCOSE members have participated in each conversation since the year we joined.

One of the major activities of the IFSR is the conversation held every two years in Linz, AT, where several teams of typically six to eight people spend a week discussing different current issues in systems research. The format is a "conversation" or "systemic inquiry" rather than a conference, and the teams spend most of the time in their own group, exploring their specific topic and attempting to achieve new insights by integrating the different perspectives and worldviews of the different team members.

Over forty organisations are currently IFSR members. This year, the conversation involved people from INCOSE, International Society for the Systems Sciences (ISSS), American Society of Cybernetics (ASC), the IFSR itself, and one representative from the System Dynamics Society (SDS).

The 2018 Conversation addressed four topics: "Systems Practice" led by members and associates of Malik Management, which focused on challenges set by senior-level input from the Government of Vietnam; "What is Systems Science?" led by Gary Smith of INCOSE with a team of INCOSE and IFSR members; "Active and Healthy Aging" using Beer's viable system model and a subset of Len Troncale's system processes as reference models to understand the challenges facing older members of our communities; and "Data Driven Systems Engineering Approaches" led by Ed Carroll of INCOSE and Sandia Labs, with several INCOSE members, the SDS representative, and several others from Sandia.

Ed Carroll's team considered the problem of integrating the heterogeneous model types used by different engineering domains, discussed issues such as how to get people to trust models, identified the need for systems engineering to shift from a process-centric to an information-centric perspective if model-based systems engineering (MBSE) is to succeed, and were inspired by the "agile manifesto" to start working up an analogous "MBSE manifesto." They advocated viewing the model as being the focus, rather than the process of creating it. Others

pointed out the tension between this perspective and the verified success of "shared model building" as a method for engaging stakeholders and developing their trust in the model. Someone suggested that "no-one understands a model except the people who created it." I look forward to seeing the MBSE manifesto and to the discussions it will undoubtedly provoke about the culture change required in the systems engineering community to take full advantage of the model-driven approach while being fully aware of its limitations: not all systems are deterministic, some systems "have a mind of their own," and for these, modelling can indicate the range of possible future trajectories but not the precise one they will follow.

Gary Smith's team discussed "What is Systems Science." Gary Smith made a plausible argument that in historical terms, systems science is now where chemistry was before the periodic table of the elements– sytems scientists have described lots of phenomena, many of them understood as individual phenomena, but they have not yet integrated this knowledge around a single foundational structure. Further, the current systems science literature in most cases does not clearly distinguish between fundamental ingredients of all systems (think electrons, protons, and neutrons), properties of all systems (think properties of atoms and elements due to the electron orbitals), and properties that can be synthesised with combinations of different "elemental types" of systems (think compounds, crystals, and alloys, to name a few). Most systems science literature also does not clearly distinguish between "how people perceive and interact with systems," and fundamental "properties of systems in the natural world." (Robert Rosen's book Anticipatory Systems is a notable exception.) We spent the week exploring whether existing systems science knowledge could usefully be organised in this sort of structure, and concluded that it could, and that such a structure offers promise in terms of integrating the seven different worldviews on systems we have identified within the INCOSE community. Also, we identified an eighth worldview about systems, that "systemness" might be a fundamental organising principle of nature. We are posting our output and subsequent reflections to a website which we will progressively open up to SSWG members and then more widely as the content matures.

I participated in the "What is Systems Science?" team and represented INCOSE at the IFSR board meeting on the Friday afternoon at the end of the conversation. The notable points of the board meeting were: our old friend Gerhard Chroust stood down as IFSR's secretary general after twenty-seven years of service; Gary Metcalf, Jennifer Wilby, and Mary Edson also finished their terms of service; new faces joined the board, and Ray Ison took over for Mary as president; George Mobus took over as general editor of the IFSR book series; and the System Dynamics Society's membership application was approved.

Systems Science Working Group (SSWG) Members Attend the National Science Foundation Design Circle Workshop

Peter Tuddenham,
Peter@coexploration.net

Members of the INCOSE Systems Science Working Group (SSWG) recently attended a National Science Foundation (NSF) Design Circle Workshop http://blogs.oregonstate.edu/designcircle/ hosted by Oregon State University (OSU) in Corvallis, US-OR from the 22nd-24th of March. The three-day event was the third in a series to bring engineering professors and researchers together to learn more about NSF systems engineering and engineering design priorities for funding, and to encourage research collaboration. The focus for this year's event was "Designing and Developing Global Engineering Systems."

The INCOSE SSWG's purpose is to promote the advancement and understanding of systems science and its application of systems theories to systems engineering. Attending this workshop helps us encourage the advancement of systems science principles and concepts as they apply to systems engineering as well as explore and promote awareness of systems science as a foundation for systems engineering. It is also an excellent opportunity to promote INCOSE membership advantages to potential new members.

The workshop explored how the design and systems engineering research communities address global challenges and problems. Workshop organizers used a specific "micro-design" approach to encourage the ninety participants to follow a design approach to elicit themes and issues that can contribute to a research agenda for NSF and other agencies.

There were several keynote presentations. Professor Panos Papalambros presented the work of the Design Society and advances in design science. Timothy Weber, Global Head of 3D Metals for HP 3D Printing challenged us to think about the Fourth Industrial Revolution as new approaches to additive manufacturing and localized printing can now include steel, carbon fiber, and plastic at the voxel level. Jamon Van Hoek and Kendra Sharp from OSU gave keynotes on their work using engineering, design, and systems thinking to address sustainable development goals and energy and settlement issues in developing countries. Two industry panels addressed a broad spectrum of design, systems, and engineering challenges in the alternative power, aircraft manufacturing, nuclear power, and consumer goods industries.

The NSF held this Design Circle Workshop at OSU in the same location as the next annual conference for the

Working Group Updates

International Society for the Systems Sciences on the 22-27 of July 2018. The theme is "Innovation and Optimization in Nature and Design." Current INCOSE President Garry Roedler will be giving a keynote. INCOSE members are invited to attend the conference in July. More information is at http://isss.org/world/ISSS2018_Corvallis.

Technical Operations Training Working Group

John Clark, clarkjo713@gmail.com

The INCOSE Technical Operations Training Working Group is conducting a survey to determine the training needs of our members and what members can provide that training (i.e., members training members). Please complete the survey at https://www.surveymonkey.com/r/CDMQ223 by June 30th, 2018.

EWLSE Update

Alice Squires, ewlse@incose.org

Empowering Women as Leaders in Systems Engineering

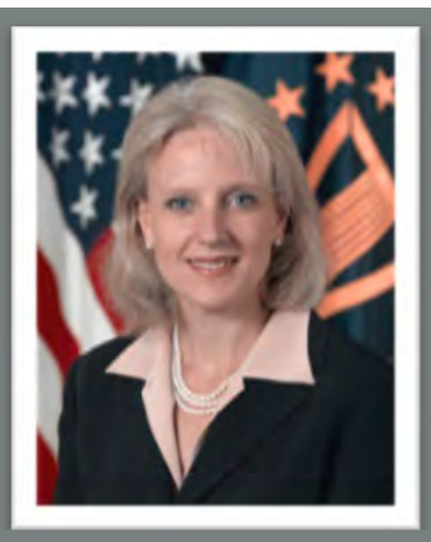
INCOSE IS 2018 Empowering Women Events Feature a Saturday Leadership Forum on Embracing Systems Engineering Leadership Diversity

INCOSE EWLSE and the Systems Engineering Research Center (SERC) would like to invite all to attend the "Empower Women Leadership Forum: Embracing Systems Engineering Leadership Diversity" on Saturday July 7th from 8 am – 4:45 pm, followed by a reception from 5 – 6 pm, to hear from leaders in the systems engineering field.

The morning includes keynotes from Kristen Baldwin and Victoria Cox. David Long, and Bill Parkins will join them after the morning networking break for the "Leadership Journey" panel. Panelists will provide personal experience on leadership styles, what works for them, what has been challenging, and will include anecdotal examples that have been turning points in their leadership journey, and more.

After lunch, the forum will pick back up with a professionally led hands-on interactive workshop, includes an afternoon networking break, and ends about 4:45pm to allow time for the 5:00 – 6:00pm Empowering Women Reception setup.

Forum attendees are invited to the Reception and can expect attendance from many INCOSE leaders at this informal networking reception. Please send an email to ewlse@incose.org to let us know you will be attending the Leadership Forum and / or the Reception, "last minute" attendees are also welcome. We hope to see you there!



Ms. Kristen J. Baldwin was appointed the Acting Deputy Assistant Secretary of Defense for Systems Engineering (DASD(SE)) in January 2016 while continuing as Principal Deputy, SE. She is the principal systems engineering advisor to the Secretary of Defense and is responsible for establishing and executing engineering policy and oversight across the Department. Her oversight includes concept engineering and analysis, design, development and manufacturing, and independent program review and assessment of the Department's major acquisition programs. She leads more than 50,000 Defense acquisition professionals in the DoD Engineering (ENG) and Production, Quality, and Manufacturing (PQM) workforce. She also serves as the acting Defense Standardization Executive. She oversees the DoD strategy for Trusted Systems Design and related Program Protection Planning activities.

A member of the Senior Executive Service since 2007, Ms. Baldwin leads digital engineering, system security engineering, mission engineering, and system-of-systems engineering initiatives. She oversees the DoD Systems Engineering Research Center, a University-Affiliated Research Center; and the MITRE National Security Engineering Center, a DoD Federally Funded Research and Development Center.

Before her current position, Ms. Baldwin served as Deputy Director, Software Engineering and System Assurance. Before joining the Office of the Secretary of Defense, Ms. Baldwin served as a science and technology advisor in the Army's Office of the Deputy Chief of Staff for Operations and Plans. She began her career at the U.S. Army's Armament Research, Development, and Engineering Center, Picatinny Arsenal.

Ms. Baldwin is a recipient of the Meritorious Presidential Rank award in recognition of exemplary service, and the National Defense Industrial Association Lt Gen Thomas R. Ferguson, Jr., Systems Engineering Excellence Award.

As the Federal Aviation Administration's Assistant Administrator for NextGen, Victoria Cox led the transformation of the national airspace system with responsibility for the multi-billion-dollar NextGen portfolio. Cox is currently employed as Senior Technical Advisor for Veracity Engineering and serves on the Systems Engineering Research Center (SERC) Advisory Board, the Oklahoma University Remote Sensing & Radar Advisory Team, and the Virginia Aviation Board.

Previously, Cox was Director of International Technology Programs in the Office of the Director of Defense Research and Engineering. She supported the Deputy Undersecretary of Defense for Science and Technology as the DOD Laboratory Liaison and served as Chief of Physics and Scientific Director of the European Office of Aerospace Research and Development in London. She has served as a Commissioner on the Unmanned Systems Commission of the Commonwealth of Virginia. She is a graduate of Converse College and received a master's degree from East Carolina University. Cox has a certificate in U.S. National Security Policy from Georgetown University. She is an Associate Fellow of the American Institute of Aeronautics and Astronautics (AIAA) and holds a private pilot license.

For over 25 years, David Long has focused on helping organizations increase their systems engineering proficiency while simultaneously working to advance the state of the art across the community. David is the founder and president of Vitech, where he developed CORE™, a leading systems engineering software environment. He co-authored A Primer for Model-Based Systems Engineering and is a frequent presenter at industry events around the world. A committed member of the systems community and Expert Systems Engineering Professional (ESEP), David was the 2014/2015 president of the INCOSE.

Bill Parkins is currently transitioning out of the role of Principal Engineering Manager and Chief Engineer at Rockwell Collins Australia. This transition will complete on 30 June 2018, when Bill will retire from full time employment and engage in occasional contract assignments.

Bill had a 25 year career in the Royal Australian Navy progressing from a Naval Artificer Apprentice to the role of Assistant Director, Naval Communications Design with the rank of Commander. A second career in industry began in 1988 built on the foundations systems engineering and management background from the Navy. Bill worked in several companies in Systems Engineering, Technical or Project management roles. Companies included Andrew Australia, Telstra Applied Technologies, Rockwell (later Boeing) and back to Rockwell Collins.

Bill is a foundation member of SESA and is currently the President-Elect, assuming the role of President 1 July 2018. He has been an INCOSE member since 1993 and is certified as an Expert Systems Engineering Professional (ESEP).

Bill has been engaged in several leadership panels, at IS 2017 and at the Australian Systems Engineering, Test & Evaluation (SETE) Conference earlier this month in Sydney. In both panels there has been diversity in gender and background resulting in an interesting range of views on factors which influence careers in leadership. Continuing research in this field should provide guidance for INCOSE leaders into the future.

EWLSE Update

EWLSE-Themed Paper Presentations at the INCOSE IS 2018

Two EWLSE themed papers will be presented at INCOSE IS 2018 on Monday in the Systems Engineering Education track, please plan to attend Session 1.5.3 from 11:30-12:10, to hear Heidi Ann Hahn discuss What Can You Learn About Systems Engineering by Building a Lego™ Car? and Session 2.5.2 from 14:15-14:55 to hear about Professional Development of Student Engineers using Design Thinking with authors Heidi Ann Hahn, Valerie J. Lawdensky, Lia C. Meirose, Hannah D. Mohr, Haley B. Turman, and Sandra J. Zimmerman.

Embracing Diversity in the Design and Deployment of Autonomous and Cyber-Physical Systems – an EWLSE Panel at CSER

Empowering Women as Leaders in Systems Engineering (EWLSE) sponsored a two-session panel at the Conference on Systems Engineering Research (CSER) in Charlottesville, Virginia on May 8th. CSER 2018 included many opportunities to hear about autonomous and cyber-physical systems prior to the start of the panel on Tuesday afternoon. The conference opening keynote speaker announced that the human-machine interface for autonomous systems was ranked in the top ten skill gaps. Sessions on smart cities and smart transportation also laid groundwork for the panel, citing systems that are frequently used in unanticipated contexts.

The broad topic of the panel covered "Embracing Diversity in the Design and Deployment of Autonomous and Cyber-Physical Systems." The panel (Rusty Eckman, Cecilia Haskins, Alice Squires, Lory Wingate,) was tasked to provide varying perspectives and propose methods for incorporating the diverse needs of users and stakeholders affected by deployed autonomous and cyber physical systems of the future, and the audience (including Tom McDermott and Larry Strawser) was tasked to share their perspective on approaches, best practices, and related research.

The early dialogue on autonomy attempted to distinguish between programmed behavior, such as elevators or airport monorails, and systems that learn – for example, between automated, and autonomous. Jean Charles Domercant (audience member) suggested that the systems map onto a matrix that consider an individual's personal past experiences, perception of risk, and the complexity of the system. There were differing opinions about whether these systems should be introduced gradually or big-bang; or whether these futuristic systems were being deployed 'overnight' or going through a transition period. The group acknowledged the very human challenge of the transition period – even in cases where the switch to autonomously-run systems has already been made, there is a push for the "human" to remain in the loop; and in cases where autonomy is clarified, this can create a non-acceptance of using the autonomous system. This was accompanied by concern that keeping a human in a system as a "just in case" mitigation was not only monotonous for the person, but also potentially ineffective if the person is not alert at the moment their intervention is needed. One challenge during the transition period is the mix of human-driven and autonomously-driven system interacting in close proximity, increasing the overall level of uncertainty. Tom McDermott spoke of the importance of establishing a "Human-machine conversation" as one way to address the uncertainty. The social context of these systems requires trust and scalability to help cope with unanticipated consequences. Larry Strawser discussed how the INCOSE Academic Council-sponsored project on "The Future Directions of Systems Engineering Research" has found that the topic of this EWLSE panel is related to a major "gap" in Systems Engineering capability. That is, there is a need for research that explores how the social, political, and economic aspects of systems challenges can be incorporated into the "usual" systems engineering approach.

Between the two sessions for this panel, nineteen audience members and four panelists attended the panel, both experts and novices contributed to the positive and learning-rich atmosphere in the room and generated a lively and relevant dialogue shared by all.

As a side note, Alice Squires also supported a second two session panel at the CSER 2018 conference on systems engineering Careers on May 9th and had the pleasure of speaking to a fair-sized audience, along with four other gentlemen on the panel of various backgrounds and experience levels, about our career paths and the future of systems engineering-related careers. The only thing missing were female engineers in the audience, hence the need to raise awareness of the importance of proactively making an effort to be inclusive with opportunities involving career related opportunities, even something as simple as a supportive and empowering conversation.

Success Factors for Technical Leadership – an EWLSE Panel at SETE 2018

Bill Parkins,
bill.parkins@rockwellcollins.com

Building on the successful experience from the INCOSE International Symposium in 2017 in Adelaide, AU we decided to include panel sessions in the Systems Engineering Test and Evaluation (SETE) 2018 program.

One panel, which I was a moderator for, was: Success Factors for Technical Leadership.

The panelists were

- Helen Williams, Director Rail Systems Development, Transport for NSW,
- David Long, President Vitech Corp, INCOSE Past President,
- Shannon Standing, Senior Eng. Dir. Rockwell Collins Simulation and Training Systems and,
- Kerry Lunney, Country Engineering Director & Chief Engineer Thales Australia, and INCOSE President-Elect

Helen is a chartered engineer with qualifications in Aeronautical Engineering and Railway Signalling Engineering. She spent her early career in the UK Royal Air Force. She specialised in system safety for complex and critical systems, working for several years in the Defence Evaluation and Research Agency, testing and evaluating jet aircraft.

In her role as Director of Rail Systems Development Helen is currently building and deploying an integrated team that offers technology strategic direction for rail systems, best practice in systems engineering, operational integration and systems assurance to programs across the Infrastructure & Services Division of Transport for New South Wales.

Helen is passionate about building an inclusive, flexible team that attracts and develops great people. This experience, passion and other life experiences, including raising a family made Helen's presentation entertaining and insightful. Helen's

EWLSE Update

message was 'Let it go!' meaning you can't do everything as a leader, you have to let some things go.

Helen has taken on a role in the SESA Management Committee and her involvement should be thoughtful and of great value.

David is well known to the INCOSE global community, both as a contributor in events all over the world and as the CEO of a successful business focused on systems engineering tools and methods. Once again David travelled to Australia to participate in SETE and contributed papers and this panel.

David recounted the great influencers on his accidental journey to leadership and clearly he is now carrying on that guidance to current and future generations of systems engineers.

Shannon Standing also travelled to SETE from the Washington area, combining some work engagements with the conference commitments. I was personally thrilled that Shannon was able to attend and contribute to the panel. Shannon has led avionics programs for nearly 20 years and has found a balance between technical skills and soft leadership skills was necessary on her journey of technical leadership. Her Art Class for Systems Engineers is a great tool for teaching teams how to communicate. Ask her!

Kerry is also well known to the INCOSE community. Kerry is a foundation member, a former President of SESA, and has contributed significantly to our conferences for over 20 years.

Kerry's presentation recounted her journey through technical leadership. There are many twists and turns in the journey but a knowledge of yourself, modelling your styles and behaviour on people who inspire you, and emulating a champion in your field are factors which and in her case have contributed to success, and can in others' lives.

The Question and Answer session lasted nearly an hour with both the panel and audience thoroughly enjoying the exchanges. Feedback was extremely positive, and the panel concept was a great success. One regret is that we didn't record the panel session as I think there are some important factors which should be added to our body of knowledge. I have tried to distil some key points and would encourage readers to reach out to the individual panellists for further discussion.

Interested in joining EWLSE? We welcome you! To become a member of EWLSE please log into your account on incose.org, go to Profile Home and add "Empowering Women" to your Committees/Working Groups. Are you interested in being matched to a systems engineering mentor who is standing by ready and waiting to be connected with you? Please start by emailing ewlse@incose.org with your interest.

Spotlight ON!

Interviewed by Sandy Young, info@incose.org

Name: Heinz Stoewer

Title/Organizations: President at Space Associates GmbH, advisor at Airbus, chair emeritus for systems engineering at Delft University of Technology and "Distinguished Visiting Scientist" NASA Jet Propulsion Laboratory

Place of Birth: Giengen, Germany

Current Residence: Munich, Germany and Kaag-Dorp, Netherlands

Domains: Aerospace

Studied in college: Technical physics, business administration/operations and systems management

Year joined INCOSE: 1996

Role(s) in INCOSE: Deputy chair tech board, fellow, president (2004-05), life member

Years in systems engineering and program management: more than 50

Author's Note: We are breaking from tradition for this Spotlight and will be featuring statements that Heinz Stoewer developed based on one question we asked him. We thought readers would find these statements interesting instead of the usual Q&A format.

Stoewer is a pioneer in aerospace systems engineering, most well-known for his work on Space Tug, Europe's first human space laboratory; Spacelab, many Earth-focused satellites; and for infusing and broadening systems engineering in Europe and beyond.

Most recently, Stoewer received the 2018 Simon Ramo Medal "for pioneering accomplishments in and technical leadership of space systems engineering, and for his profound influence on the teaching and practice of systems engineering."

The award inspired the establishment of a new annual student prize (carrying Stoewer's name) for the best master's thesis of the year by the renowned aerospace faculty of the TU Delft.

Since the start of your aerospace career to now, what are the biggest changes you have seen in the use of systems engineering?

a. From simple engineering solutions to growing and sometimes not sufficiently well understood complex systems

b. From single purpose to systems with an abundance of functionalities

c. From systems with limited isolated software packages to systems with overwhelming software content where software has sometimes become the "system glue"

d. From a risk-conscious decision culture to protracted risk-averse decision making

e. From a product to an occasionally exaggerated process focus

f. From sometimes too strong a technical focus to a business orientation with an occasional lack of sufficient domain knowledge

g. From a limited set of technological choices to a diverse and rapidly changing technology inventory

h. From a cooperative acquisition environment to a lengthy legal and contracts dominated process

i. From empowered system and project teams to an overly "controlling and justification" culture

j. From pro-active change management to configuration management and bookkeeping

k. From a limited number of essential requirements to a plethora of detail requirements, which often constrain decision and design trade-off spaces during project execution

l. From documents-based information sets to digital environments with multi-dimensional product and process virtualization and visualization capabilities

m. From independent tools to an emerging interrelated digital environment

n. From extensive test articles and prototypes to digital twins and "virtual verification"

o. From "seat of the pants" decisions to more informed and substantiated analysis-based decisions

p. From sequential (waterfall) development approaches to more concurrent design, development, manufacturing, and certification cycles

q. From partial system views to more holistic life-cycle "end-to-end" system implementation approaches

r. From product-focused to more sustainable and services-oriented business models

s. From relatively well-defined projects to systems of systems whose boundaries, interfaces, and evolutions are sometimes not well understood

t. From searching questions into cost and schedule overruns to a recognition that better up-front project attention can often prevent or mitigate later project failures

u. From a single company focus to extended enterprise and supply chain considerations

v. From single site hosted developments to a collaboration environment involving various sites and regions across the globe

w. From separate systems engineering and project management stovepipes to a recognition that the two are vitally interdependent

x. From an aerospace dominance in systems engineering to a recognition that systems engineering is a crucial discipline also in other industrial fields such as automotive, shipbuilding, and energy systems

y. From relying on past knowledge to continuous learning with an embrace of innovation and a more pronounced openness towards disruptive opportunities

z. From limited systems engineering recognition to a belief that systems engineering can solve most everything

INCOSE INSIGHT

William Miller, insight@incose.org

The focus of the upcoming June 2018 issue of INSIGHT is "enabling and practicing systems engineering agility." Theme editor Rick Dove successfully proposed a formal INCOSE project to me several years ago to determine the meaning of agile systems engineering when I was serving as the organization's technical director. Was this a simple matter of adopting or adapting agile software engineering principles, processes, and methods? Did the phrase mean agile "systems engineering" or "agile systems" engineering? The project team led by Rick met with groups in different domains around the globe and unsurprisingly found a diversity of meanings and applications. The good news is that an agile systems engineering life cycle model (ASELCM) framework emerged out of the project work. Rick notes in his theme prelude (be sure to access INSIGHT to read!) that the value proposition is risk and opportunity management–sustainability of innovation/process/product at risk. This is in contrast to a more common belief, and a side benefit, that agile systems engineering is just faster, lower cost systems development.

The Systems Engineering Handbook (INCOSE 2015) illuminates the international standard for system life cycle processes (ISO/IEC/IEEE 2015) and is the basis for the INCOSE certified systems engineering professional (CSEP) examination. The processes defined in the ISO/IEC/IEEE standard and discussed in the INCOSE handbook are descriptive, not prescriptive. That is, they define/describe what to do, but not how to do it, neither spatially nor temporally. The handbook describes several life cycle approaches, such as the waterfall (Royce 1970), spiral (Boehm 1986), and vee (Forsberg and Mooz 1991). A common misconception by the uninitiated is that these

approaches are linear and sequential. The handbook explicitly notes that graphical representations of these life cycle approaches are high-level abstractions that hide the true incremental, iterative, and recursive nature of the underlying processes. A critical finding by the agile systems engineering project team is that the ASELCM framework is compatible with the 15288 standard and companion specifications, and hence, the INCOSE handbook.

Feedback from readers is critical to the quality of INSIGHT. We encourage Letters to the Editor at insight@incose.org. Please include Letter to the Editor in the subject line. We hope you continue to find INSIGHT, the practitioners' magazine for systems engineers, informative and relevant. As a special note, copies of this issue of INSIGHT will be available at the Wiley booth at the upcoming INCOSE International Symposium (IS). I hope to see many of you there.

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#SocialMediaUpdate

Alan D. Harding, alandharding@gmail.com

Amplifying Our Conversations

Hashtags are one way we can make our postings on social media more accessible to people with similar interests. They make it easier for people searching for a topic to find what we are talking about, and similarly for us to track what people are talking about.

Hashtag (noun): a word or phrase preceded by a hash sign (#), used on social media websites and applications, especially Twitter, to identify messages on a specific topic. It creates a searchable link.

Most major social media platforms support hashtags. Amongst others these include: Twitter, Facebook, and Instagram. Hashtags can help you shape your voice while joining in a larger discussion. Here is some guidance for using them:

1. Be specific: If you're using a hashtag to join a conversation, make sure the hashtag is specific and relevant to your topic. A vague or generic hashtag like #health or #opinion isn't effective either.
2. Keep it simple: Hashtags, like links, look like spam if they are used too often. Three hashtags should be the maximum on Twitter and Facebook, but you can get away with more hashtags on Instagram.
3. Give context: A tweet that contains only hashtags is not only confusing — it's boring. If your tweet simply reads, "#happy," your followers will have no idea what you're talking about. Similarly, if you tweet, "#SystemsEngineering is #awesome," you're not really adding much to the conversation.
4. You can really use any word or phrase you like as a hashtag, as long as its alphanumeric and has no spaces (although underscores "_" are allowed).

I thought I would give you an idea of the hashtags we use frequently so that you might choose to use them too, and to give you some ideas for how you might create and use hashtags yourself. Here is a list of the main hashtags we use:

- INCOSE and systems approaches
  - #systemsengineering, #systemsengineer, #systemsthinking
- Events
  - Global - #incoseIW, #incoseIS
  - Regional – #emeasec, #aosec, #SEDC, #GLRC
- Publications
  - #SEJournal, #INSIGHT, #JET
- Certification
  - #SECertification
  - #ASEP, #CSEP, #ESEP
- TechOps
  - #SEofTheFuture
  - #MBSE
  - #SOSE
  - perhaps WG leads will want to suggest hashtags for their areas of interest? Please email me!

And the wider INCOSE community:

- #SELeadershipInstitute
- #incoseFoundation
- #incoseScholarships
- #omegaalpha
- #EWLSE

So … I hope that this has been of some interested and use for you.

Please continue to use social media to promote and discuss @incose_org and #systemsengineering and have fun with it!

EWLSE Call for Papers
Diversity in Systems Engineering

Empowering Women as Leaders in Systems Engineering (EWLSE) invites everyone to submit papers focusing on diversity in systems engineering and related systems areas for consideration for publication in INCOSE's journals. We invite articles on any topic relevant to diversity, equity, and inclusion in systems related fields across industry, government, and academia.

We are especially interested in papers addressing topics that show the importance and value of diversity in enabling, promoting, and advancing systems engineering and systems approaches to address complex societal and technical challenges for a better world.

Possible topics include, but are not limited to:

- Effective techniques for overcoming the challenges of working across cultural boundaries
- Global diversity policies, best practices, and lessons learned in creating an inclusive systems engineering enabled workplace
- How building diverse systems' teams produces optimal systems
- How diversity drives innovation and competitive advantage
- The role of diversity, equity, and inclusion in a well-prepared systems engineering workforce
- Institutional considerations or approaches for creating an open inviting systems focused culture
- Broad training in knowledge, skills, and ability that includes traditionally underserved groups
- Case studies demonstrating the importance and value of diversity in systems engineering
- Embracing diversity of thought or approach for resourceful problem solving

EWLSE is working with INSIGHT (INCOSE's journal on state of the practice of systems engineering) toward a dedicated *Diversity in Systems Engineering* themed volume in 2019. The EWLSE publications committee will also be assessing articles for fit within the SE Journal (state of the art of research in systems engineering). Please first send an abstract (up to 500 words) by July 31st, 2018 to receive an invite to submit a paper due by October 30th, 2018. Both should be sent to the EWLSE publications committee at ewlsepubs@incose.org. We welcome topics that fit within either journal.

Papers will be peer reviewed and judged on the degree of innovation, intellectual merit, described outcomes or impact, and relevance to diversity, equity and inclusion in systems engineering and related fields. EWLSE uses double-blind review for papers. Until final papers are uploaded all references to the author(s) and their institution should be redacted in some way. Citations that would identify the author(s) should state, "details withheld for review" in the bibliography. Other formatting and technical guidelines are found here. ALL authors must review the Style Guide and Citation Quick Guide before submission to be certain to meet all requirements.

For more information, contact the EWLSE Publications Committee: ewlsepubs@incose.org

EWLSE Call for 'Interest' in Letters Written to Your Younger Self

Empowering Women as Leaders in Systems Engineering (EWLSE) invites all systems engineers to consider submitting a letter written to your younger self for an upcoming INCOSE EWLSE Book titled: "**Letters To My Younger Self: How Systems Engineering Changed My Life"** targeted to the systems engineers of the future. The goal of the book is to serve as an engaging and enlightening resource for those early in their education or career considering engineering and systems engineering as part of their future career path.

INCOSE EWLSE plans to produce a book targeted to secondary and higher education students and young professionals with contributions from our global membership and interested parties, that contains an equal number of letters from men and women in systems engineering from around the world – letters written to their younger self about lessons learned from pivotal moments in their systems engineering journey that changed their life making them the systems engineer they are today. These pivotal moments could include challenges, events, overcoming obstacles, whatever you are passionate about sharing that had an impact on your systems engineering journey. Authors will need to provide permission for letters to be published and the book is intended to represent a diverse set of individual viewpoints. Specific criteria for what we would like included in the letter and limits on length and other guidance will be forthcoming.

Please express your interest in writing a letter for the book and/or serving as an associate editor by July 31, 2018 to be considered for Volume 1, by sending your name and a description of your interest to ewlsepubs@incose.org. We will share additional criteria for associate editors and first-pass letter due dates to those who express an interest in being authors on, or shortly after, August 5, 2018.

Join EWLSE!

We invite men and women to join EWLSE to advocate for women as leaders in systems engineering. Sign-up and to be added to the email distribution list is through www.incose.org:

- Login to your member account
- Select 'Profile Home'
- Scroll to 'My Committees/Working Groups' and select 'Browse/Join a Working Group'
- Select 'Empowering Women' on the right
- Scroll down to Committee Tasks and select 'Join this Working Group'
- You will now also have access to the Empowering Women area on INCOSE Connect

Note from the Editor

Lisa Hoverman, newsletter@incose.org

Welcome to the 2nd Newsletter of 2018. With the exciting 28th International Workshop (IS) just a month ahead of us, and great events just behind us, like CSER, the SESE Tour, SETE, INCOSE Board Meetings in Germany, and the new INCOSE website, 2018 is really highlighting how INCOSE is leading as an organization for the Systems Engineering of the Future.

The Newsletter continues to grow and improve in content to inform our readership on all things INCOSE – both current, upcoming, but also historically. There are some interesting updates on chapters, working groups, and our many outreach initiatives of INCOSE in this 2nd Newsletter of 2018. We are in our fourth year of publication and growing with your insightful submissions – so Thank You! Please keep sharing these with us as we continuously work to improve our communications. I hope that you see some of your suggestions and contributions in this issue. As always, we welcome feedback and contributors.

We look forward to seeing you participating, networking at, and presenting at the 28th INCOSE IS in the United States Capitol in under a month. If you are on the fence about attending, register! This year promises to be stellar with insights to the future of systems engineering in nearly every presentation.

I end with a sincere note of appreciation to all who contributed to this Newsletter and updated members on the many events, and opportunities in INCOSE and your niches of systems engineering. I look forward to your upcoming contributions (submission dates below) and articles as we continue to improve and grow the Newsletter. Have a wonderful June, I hope to see you in DC!

Due Dates for Q3 2018 Newsletter:

General Content (GC): Late Breaking News (LBN): August 25, 2018 (with permission from the editor)

Due Dates for Q4 2018 Newsletter:

Q4 Newsletter, GC: November 15; LBN: November 20

Publication of the International Council on Systems Engineering

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Publication Schedule. The INCOSE Member e-Newletter is published four times per year. Issue and article/advertisement submission deadlines are as follows:
Q2 Newsletter, GC: May 15; LBN: May 20; Q3 Newsletter, GC: Aug 15, LBN: Aug 20; Q4 Newsletter, GC: Nov 15, LBN: Nov 20. For further information on submissions and issue themes, visit the INCOSE website as listed above.

Who are we? INCOSE is a nearly 16,000+ member organization of systems engineers and others interested in systems engineering. Its mission is to share, promote, and advance the best of systems engineering from across the globe for the benefit of humanity and the planet. INCOSE charters chapters worldwide, includes a corporate advisory board, and is led by elected officers and directors.

30th Annual INCOSE international symposium

Cape Town, South Africa
July 18 - 23, 2020

Mark your calendar now!
July 18 – 23, 2020

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