



NEWSLETTER



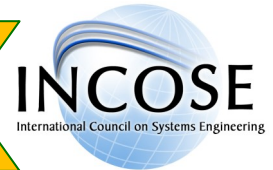
2004-14



2015



**2008, 2012
President's Award
for Most
Outstanding
Chapter**



2016 and 2017 Presidential Perspectives

2016 in Reflection

By 2016 President Terry Rector

Happy New Year INCOSE-LA! Your Chapter had another impressive year providing timely, relevant, and high-value content to the membership. The year started with our annual town hall meeting, at which Dr. Azad Madni installed the 2016 officers. Dr. Madni spoke of the mission, vision, and goals supporting both the members of the Chapter and INCOSE proper. Since that initial meeting, your Chapter officers and directors rose to the occasion and have not stopped since. By several counts, your INCOSE-LA Chapter provided 25 opportunities for membership to meet and network, to learn and teach, and to share the latest practices, to seek solutions, and to learn.

A key event for the chapter in 2016 was the Regional Mini-Conference, by all measures a great success. The conference was an opportunity for four INCOSE chapters (San Francisco Bay, San Diageo, Central Arizona and Southern Arizona) to join forces with INCOSE-LA to plan and execute the conference — a true learning experience for all.

A major activity was the preparations for the 2017 CSER conference, which will be in the Los Angeles area again this year, March 23-25, at the Crowne Plaza Hotel, in Redondo Beach. The technical agenda is nearly complete, papers have been accepted, speakers, sponsors, and exhibitors are all confirming their participation. As with past West Coast CSER conferences, USC and INCOSE-LA are planning the highly anticipated event and invite you to join us if you are not already planning to do so.

(See "Presidential Perspectives," on page 6)

CSER 2017: It's Coming! March 23 — 25, 2017

The Conference on Systems Engineering Research (CSER) is less two months away and, for many of us, now is the time to start planning to attend. As with past CSER events, CSER 2017 will be another superb opportunity for the systems engineering professionals to:

- Look into the future of the profession – the challenges of the future and research into how to meet those challenges
- Learn the latest thinking and concepts in the science
- See advances in the application of the profession by sponsors from industry and academia
- Attend leading-edge tutorials
- Hone his or her skills
- Exchange experiences with fellow systems engineers, and
- Hear about the challenges, opportunities, and potential solutions facing our profession from top leaders in industry, government, and academia.

Disciplinary Convergence: Implications for Systems Engineering Research.

All this in the pleasant setting of The Crowne Plaza Redondo Beach and Marina, venue for CSER 2017.

All in all, CSER 2017 is shaping up to be another excellent conference in keeping with past conferences hosted by the University of Southern California (USC) and the Los Angeles Chapter of INCOSE.

(See "CSER Technical Sessions," on page 5)

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Town Hall Meeting INCOSE-LA's Kickoff for 2017

By Jorg Largent

The first meeting of 2017 featured the annual activities of honoring volunteers, installing new officers, and an open forum to discuss activities for the upcoming year. The meeting was held in the Daily Grill at the upscale Westin hotel near Los Angeles International Airport, a venue with an elegant ambiance. Over thirty members, ranging from students through senior members, gathered for an evening that opened with excellent hors d'oeuvres, beverages, and conversation.

Due to unforeseen circumstances Immediate Past-president Terry Rector and President Phyllis Marbach were unable to attend. Stephen Guine (President in 2015) filled in ably.

Dr. Azad Madi of the University of Southern California presided over the installation of officers on the Board of Directors. The officers for 2017 are:

- Terry Rector, Immediate Past-president
- Phyllis Marbach, President
- Rick Hefner, Vice-president
- Jeffrey Willis, Secretary
- Lin Yi, Treasurer
- Mark TenEyck, Membership Director
- Michael Do, Programs Director
- Neil Wigner, Communications Director
- Tony Magorno, Systems Engineering Education Director
- Ways and Means Director, Stephen Guine

Dr. Madni, a long-time friend to, and champion of, the Los Angeles Chapter, is a Professor in the Daniel J. Epstein Department of Industrial and Systems Engineering in the Viterbi School of Engineering of the University of Southern California. He is the Director of the Systems Architecting and Engineering Program that is supported by engineering faculty school-wide. He is also the founder and Chief Scientist of Intelligent Systems Technology, Inc., a "high tech" firm specializing in enterprise and systems engineering research and development for defense and the commercial sector.

Recognizing volunteers is a part of the annual tradition of the town hall meeting. With so many volunteers working to make the Chapter a success, the process is difficult. Be that as it may, two worthy individuals were recognized. Phyllis Marbach received the 2016 President's Award for Outstanding Service to the INCOSE Los Angeles Chapter and Collette Kurtz received the 2016 Susan C. Ruth Award for her contributions to the Chapter — the quality of the *Newsletter* in particular.

Although unable to attend, President Marbach supported the meeting by providing guidance, deftly facilitated with wry aplomb by Stephen Guine, as noted above.

Phyllis' input included a questionnaire seeking member inputs on how the Chapter leadership could enhance the value of the Chapter to the members (the questionnaire is at the right).

(See "Town Hall," on page 12)

Town Hall Meeting... The Questionnaire

By Phyllis Marbach

For those who were unable to attend, the questionnaire is copied below. Please send your response and comments to Phyllis.

The operational responsibilities of monthly speaker meetings, annual conferences, tutorials and social events keeps the board busy. We would like to know what is working well for the chapter and what can be improved according to you.

1. What does the Chapter currently do well for its members?
 - Keeps event prices low
 - Keeps members informed via email
 - Offers a wide variety of topics
 - Keeps students involved, some get hired
 - Many networking options
 - Predictable meeting cadence (members know when to expect events)
 - The Mini-Conference
 - Keeps members informed of other groups' events
2. How can the Chapter improve the value to its members?
3. What opportunities have you had to network with systems engineering professionals from our local chapter, student divisions, industry, Working Groups, etc.? How can we improve engagement?
 - Student Divisions:
 - How do we engage volunteers?
 - Get undergrads involved in the Student Divisions
 - Offer smaller tasks to new volunteers
4. What makes the systems engineering topics and presentations provided via Chapter meetings of interest and of value (e.g., speaker meetings, tutorials, mini-conference, etc.)?
 - Job skills
 - New ideas
 - Challenges
 - Practical examples
 - Lessons learned
 - Workshops rather than tutorials – people learn by doing
5. Do you find the Chapter *Newsletter* and INCOSE publications to be helpful and informative (i.e, *Insight*, *INCOSE Systems Engineering Journal*, etc.)?
 - Use electronic means
 - Now that *Insight* is only online, how many people look at it these days?
 - Value propositions – information contained in it and the hard copy to spread the word
6. How is the INCOSE-LA Chapter website useful to you, and/or what improvements for communication would you like to see?
 - It is up-to-date
 - The Chapter events are posted there
 - It needs improvement — look more polished or professional
 - Use the website for content holding vs. all the emails the Chapter sends

Your inputs are appreciated and will be used as a basis for discussions at the February 18, 2017 Strategic Planning Meeting.

Systems Science Working Group Morning RoundTable

7 - 8 am, Sat-Tue, January 28 –31, 2017,
Suite 10 (2nd floor)

YOU ARE INVITED!

EVERYONE is invited to our INCOSE IW second annual daily RoundTable, hosted by the Systems Science Working Group. Join us every day, or whenever you like. You can pick up breakfast and coffee and bring it with you. (The hotel Starbucks opens at 6 am.)

OUR SUGGESTED TOPICS will include:

1. What is **SYSTEMS THINKING**?
What are the links between Systems Engineering and Systems Science?
2. Linking our conference aims (e.g., making a difference and best practices) to your field of expertise or study: what do you see as our challenges? What are your hopes?

OUR FORMAT IS: We spend 5 minutes listening to short readings. We then spend 50 minutes on individual reflections or learning reports, time distributed equally among all present (e.g. 25 people = about 2 minutes each).

OUR ROUNDTABLE PURPOSES are to open a space for daily reflection; to increase time for each of us to speak our views; and to be listened to by others, enjoying and learning with each other in a new way. It is an opportunity to link with people outside your working groups, and with people interested in systems science. Each day, a different topic will be suggested by a different volunteering facilitator in attendance.

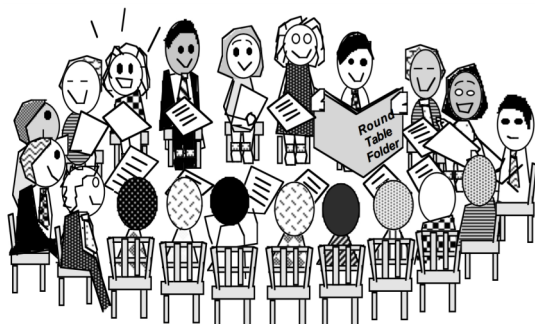
Folk wisdom and compelling research indicate that participants experience surprising benefits from this activity after just a few sessions. Our own experience with this format has resulted in the following theory:

Just as we break the sound barrier when we travel faster than the speed of sound, we break the communication barrier when we hear 25 authentic viewpoints in 50 minutes.

See you there!

For more information, please contact:

Sue Gabriele, INCOSE member Los Angeles
sgabriele@gemslarning.net, 310-848-7740



Marilee a winner Reaching out to Students

By Phyllis Marbach



Marilee Wheaton is an INCOSE Fellow and a longtime member of the Los Angeles Chapter. Marilee's is a name known throughout the Chapter — her having been highly active, serving as a volunteer in several capacities.

Marilee recently received the 2016 Volunteer Service Award from California State University Northridge, (CSUN) Oviatt Library. Ms. Wheaton was interviewed by Women In Science and Engineering (WISE)

intern Alexandria Chavez. **Chavez's questions are in bold.**

When you were contacted about being selected for the award, how did you feel?

When I got the call from Joyclyn Dunham, the Projects and Programs Supervisor for the Oviatt Library, last July, I was so pleased and honored to be selected. It has been such a privilege to work with the talented and dedicated advisory board members that we have serving on the WISE Board.

How did you become involved with WISE here at CSUN, and why do you think WISE is important?

My dear friend Sharon Cascadden, who has since passed away, was the person who invited me to attend my first WISE Board meeting. Sharon and I attended CSUN together during the early 80s. In addition, Bonnie Campbell was the person who got me my first engineering job through her industry contacts at Lockheed. I had been waiting tables while going to school. WISE is important, because what was true back in the 80s is still true now; we need to encourage more women to consider careers in STEM (Science, Technology and Mathematics) fields. I joined SWE (Society of Women Engineers) when I was going to school at CSUN. I served as President of the CSUN SWE student chapter, and then later served as President of the SWE Los Angeles Chapter. I am also active in AIAA (American Institute of Aeronautics and Astronautics) and INCOSE (International Council on Systems Engineering). Being involved in these societies has helped to grow my team building and leadership skills through the years, and the networking and continuous learning gained from professional societies is also a great benefit.

(See "Marilee" continued on page 12)

Data is not information, information is not knowledge, knowledge is not understanding, understanding is not wisdom.
The internet is a telephone network that's gotten uppity.

Clifford Stoll

Special GSAW INCOSE-LA Evening Event

The Interplay Between Test and Training for System Readiness

GSAW: Ground System Architectures Workshop Co-hosted by INCOSE-LA and the Software Process Improvement Network (SPIN)

SESSION ABSTRACT: Organizations often acquire systems that depend on different elements working together – systems in which at least one element has humans-in-the-loop. Testing for these systems needs to address both formal testing of the elements as they are intended to work together and the successful demonstration that the humans have been trained properly to use the system elements for their intended purpose. Military systems have a long history of performing operationally realistic testing and a commitment to having the various users of those systems trained for the use of these systems in anticipated conditions. The push for more cost effective acquisition brings up the notion that there may be an opportunity for some savings by examining the intersection of system testing with the final phases of training for ground system acquisitions.

Pre-launch mission operations rehearsals have long been identified primarily as a training activity. For the past few years discussions with development programs about performing “like you fly” system tests have led to some assertions that mission operations rehearsals essentially cover “like you fly” test objectives, so there is little need for a separate set of system tests. However, to the best of our knowledge, there has been very little codification of what needs to be in a mission operations rehearsal for training purposes and how that can be leveraged to include recognizable test objectives. At last year’s Ground System Architecture Workshop (GSAW), the attendees began to identify essential features of mission operations rehearsals and key distinctions between rehearsals and operationally realistic system tests. This year’s session will recap that work and then focus on the intersections between these two domains.

The group will expand on several topics, including, but not limited to:

1. A common lexicon for "operationally realistic" system tests and mission rehearsals
2. Derivation and decomposition of system requirements that can and should drive developers to implement mission rehearsals, and those that drive developers to implement "operationally realistic" system tests as a part of their system test development/planning.
3. Costs, Schedule Drivers, and Risks that may be incurred or minimized by developers and acquirers by synergistically planning operationally realistic system testing and mission rehearsals.

BIOGRAPHIES of SESSION LEADERS: Bruce Arnheim is currently The Aerospace Corporation’s Test and Evaluation lead to the United States Air Force Space and Missile Systems Center (SMC). In that capacity, he is responsible for policies, practices, training, and assisting SMC test programs with planning, executing, and fielding space systems.

No problem can be solved at the same level of consciousness that created it.

Julie White is the Director of the System Integration and Test Office in the Engineering and Technology Group of The Aerospace Corporation. She is responsible for establishing this office as the keeper of system integration methods, functional performance, “like you fly” tests, and internal and external guidance for integration and test.

AGENDA:

- 5:30 p.m. – 6:00 p.m. introductory presentation with a review of the 2016 session
- 6:00 p.m. – 6:30 p.m. goals for session presentation
- 6:30 p.m. break
- 6:45 p.m. – 8:15 p.m. facilitated discussion
- 8:15 p.m. – 8:30 p.m. wrap-up and way forward

PARTICULARS:

Date: Wednesday, March 15, 2017

Time: 5:30 p.m. – 8:30 p.m.

Location: Renaissance Los Angeles Airport Hotel
9620 Airport Boulevard, Los Angeles, California

There is no charge for the meeting, but there is a charge (discounted GSAW rate) for parking. Food and refreshments will be served.

Join a Space Consortium An Opportunity in Southern California

By Karen Grothe

At the last American Institute of Aeronautics and Astronautics (AIAA) Los Angeles – Las Vegas Section (LA-LV) Enterprise Program, Dr. Dennis Wonica presented about the local Space Enterprise Consortium that is forming to work with the USAF Space and Missile Systems Center (SMC). The local consortium is being formed by the Los Angeles County Economic Development Corporation (LAEDC), the AIAA LA-LV Enterprise Program, and the Advanced Manufacturing Partnership of Southern California (AMP SoCal). A Request for Proposal (RFP) is expected in the first quarter of 2017, and interested parties (individuals, small businesses, non-traditional defense contractors, universities, and non-profits) are encouraged to submit a letter of interest to the Los Angeles County Economic Development Corporation to support the anticipated RFP.

A Letter of Interest form can be obtained from AMP SoCal at AMPSoCal@usc.edu. Questions may be directed to Dennis Wonica at dwonica@laserlightnetworks.com.

For additional background, this local Space Enterprise Consortium began forming in October when a Request for Information (RFI) was issued giving only two weeks to respond. The LAEDC responded indicating intent to form a consortium and to act as the agent for that consortium. The idea is that the government would interface exclusively with the agent, and the consortium agent interfaces with members. The government acquisition agency would submit requests for white papers (WPs) through the consortium agent. The agent would ask members for WPs and then submit responses back to the acquisition agency. The government would review and select WPs for full proposals. The acquisition agency would request full proposals through the agent. Other Transaction Authority for Prototype Projects would be used for acquisition, allowing prototypes to be submitted with no requirement to conform to Federal Acquisition Regulations (FAR), Defense FAR (DFAR), or Defense Contract Audit Agency regulations.

A Report From the Americas Sector

In order to better meet the needs of the members in a growing organization, INCOSE has divided itself into three geographic areas. Los Angeles is in the Americas Sector. The leaderships of the sectors have been working to build the teams necessary to fulfill their new roles.

Dr. Steven Dam is the Director of the Americas Sector of INCOSE. Dr. Dam and the leadership team of the Americas Sector have been meeting to accomplish their goals. The most recent meeting of the Americas Sector leadership was on December 6, 2016.

Dr. Dam opened the meeting. Elizabeth Steiner, the Assistant Director (AD) of Marketing and Communication (MARCOM), read the list of attendees. Steve emphasized that the sector meeting is to help chapters solve problems and to inform chapter leadership about International Board of Directors (BoD) news and upcoming events.

The first item on the agenda was the end of year transition of officers. This included the need to update the email distribution with the 2017 Board of Directors members for each chapter. Chapter presidents were asked to email the list of 2017 board members to Steve as soon as elections are complete.

The budget for the Sector was presented. The budget includes some travel to support struggling chapters or to attend significant chapter events. INCOSE "International" (the overarching organization) has some BoD openings such as the Assistant Director for Retention, the Assistant Director for Recruitment, and the Assistant Director for Outreach to the Alliance Initiative. Names of candidates should be sent to Tina Srivastava, at: tinaps@sbglobal.net.

The INCOSE Institute for Technical Leadership:
A development program for active INCOSE members seeking to improve their leadership skills in an open, collaborative environment.

Mike Pennotti presented the status on the Institute for Technical Leadership. This was set up as a two-year program; structured in "cohorts." A new cohort formed annually. Part of the structure of this institute is that each cohort mentors the one following.

The goal of the "Inaugural Cohort" was to "introduce a technical leadership model at IS (International Symposium) 2016." There were four events in the first year, two were face-to-face and the other two were webcast.

The "Second Cohort" undertook five projects since IS 2016:

- Technical model analysis and improvement
- Mentorship perspectives for technical leaders
- Incorporating the Cynefin Framework into the leadership model
- Leadership competencies for systems engineering practitioners, senior practitioners and experts
- Technical leadership implications for systems engineering.

(See "Americas," on page 12)

(CSER Technical Sessions, continued from page 1)

The theme for CSER 2017 is, "Disciplinary Convergence: Implications for Systems Engineering Research," and serves as a spring board for papers and discussions across the spectrum of challenges facing the discipline in both the world of academia and the world of the practitioner.

TECHNICAL SESSIONS:

Over eighty papers have been submitted and will be distributed into the following technical sessions:

- Formal Methods in Systems Engineering
- Resilience and Affordability
- Model-Based systems Engineering
- Systems and System-of-Systems Integration
- System Architecture and Complexity
- Trade-Space Visualization and Analysis
- Cyber Secure Resilient Systems
- Systems Thinking and Complexity Management
- Infusion of System Science in SE
- Uncertainly Quantification
- Smart Manufacturing
- Advancing Systems Engineering Education
- Systems Engineering and Decision Science
- Systems Engineering and Healthcare

Attendees can expect to hear informative and challenging presentations from leading researchers from throughout the broad spectrum of the discipline.

Attend the conference for networking and learning opportunities on the world stage.

SPEAKERS:

CSER 2017 is honored to feature a stellar cadre of keynote speakers.

Dr. John Slaughter, a professor at the University of Southern California, will be the banquet speaker. Dr. Slaughter, "...is a visionary pioneer of mentoring in engineering and the STEM field in general. He is also an outstanding role model for all engineering students and professionals, particularly for African American and under-represented minorities. We are fortunate to have him at USC and treasure his advice and service," said USC Viterbi Dean Yannis C. Yortsos

"Dr. Slaughter has long been a role model to so many of us in the USC Rossier School of Education, where mentorship is critical to the teacher-student relationship," said USC Rossier Dean Karen Symms Gallagher. "In a career that has been rich in well-deserved plaudits, Dr. Slaughter's newest award captures the two things at the center of his remarkable career—a love for science and a commitment to nurture that passion in a diverse and always expanding group of students."

Dr. Yannis C. Yortsos, one of five keynote speakers, has served as Dean of the USC Viterbi School of Engineering since June 2005. He is the Chester F. Dolley Professor of Chemical and Petroleum Engineering, and holds the Zohrab A. Kaprielian Dean's Chair in Engineering.

(See "CSER Speakers" on page 7)

(Presidential Perspectives, continued from page 1)

Lastly, I thank our 2015 Vice-president, Phyllis Marbach and congratulate her on being the 2017 Chapter President. When my work ramped up instead of down, Phyllis stepped in and took charge of the Chapter in a big way. Job well done Phyllis. I as well as the Chapter, am indebted to you.

Have a great INCOSE-LA 2017. Join us and make a difference.

Goals for INCOSE-LA in 2017

By 2017 President Phyllis Marbach

As the INCOSE-LA Vice-president during 2016, one of my tasks was to review and update the Operating Plan for the chapter. Although I have been a member of the chapter for 3 years, I was unaware of the extent of activity that occurs to maintain our monthly speaker meetings, put on a mini-conference, workshop, or regional conference each year, to conduct tutorials, to support professional certification events, and to hold social or networking events. One of my goals for the Chapter during 2017 is to continue to operate at the high level of operational support for the membership that has been in place for many years. The Chapter Gold Awards year after year and the Platinum Award for 2015 (the first year it was offered) are testimony to the many strong operational activities that the Chapter offers our members.

Another goal I have for 2017 is to actively support INCOSE's Vision, Mission, and Goals which were updated during the 2016 International Symposium. INCOSE's Vision is to be "The world's authority on systems engineering". INCOSE's mission is "To share, advance and promote the best of systems engineering from across the globe for the benefit of humanity and the planet". This mission and vision, along with the goals, will be shared during the International Workshop coming up in Torrance (January 28-31, 2017) at the Torrance Marriott. Hope you are planning to attend. To register go to:

<http://www.incose.org/IW2017/home>.

In what has become a tradition, our Chapter will be hosting a soiree at the International Workshop — this year the soiree will be held on Tuesday, January 31, at 6:30 p.m. We are fortunate to have Dr. Steve Dam, the Americas Sector Director speak to us. All members are welcome to attend, regardless of attendance at the International Workshop itself.

The INCOSE-LA Strategic Planning Meeting (SPM) held at Caltech on November 5, 2016 included an exercise to define a Vision for our chapter for 2017. All attendees at the SPM wrote vision statements that were mapped to some of INCOSE's 5-year Strategic Objectives:

- Growth
- Alliances
- Education
- Products
- Forums
- Competency and
- Transformation.

(see <http://www.incose.org/about/strategicobjectives>)

The objectives are broad and our goal was to get specific about what we can accomplish in one year toward one or more of the objectives. Many of the statements fell into Education:

- Make systems engineering understandable
- Make the breadth of systems engineering knowledge, artifacts, and activities understandable
- Develop an educational path for execution of state of the art systems engineering practices
- Provide an opportunity for the membership to learn more about the systems engineering specialties defined in the Systems Engineering Handbook
- Encourage systems thinking for wider community problems.

Other vision statements such as "Alliances" and "Growth," could be grouped as "Outreach:"

- Engage with forward thinking companies.
- Make systems engineering implementable across domains.
- Help implement systems engineering specialties.
- Hold membership drives.
- Make systems engineering personally meaningful to new and potential members.
- Encourage systems thinking for wider community problems (this is both Educational and Outreach).

A few potential vision statements were in a category called "Other." Upon closer look, though, these "Other" visions statements could be classified as "Innovation," and could lead to new systems engineering products by identifying new areas to develop new technologies and by defining state-of-the-art systems engineering practices.

We don't have the resources to work on all of these simultaneously and we will discuss this more at the Strategic Planning Meeting (to be held on February 18, 2017 at Caltech) to help us define the Chapter's vision for 2017.

All our Chapter events can be found at www.incose.org/los-angeles, so check it regularly, register and join us! Especially plan to attend the Conference on Systems Engineering Research (CSER) March 23-25 at the Crowne Plaza Hotel, The Crowne Plaza Redondo Beach and Marina. This is the preeminent event for researchers in systems engineering across the globe. For more information see: www.cser2017.com.

I want to thank all the INCOSE-LA board members of 2016 for their dedication to meeting the Chapter goals. The election edition of the *Newsletter*, (Vol. 14, Issue 6), included biographies of our members running for board positions in 2017. I was very impressed with the knowledge and experience of our members who are willing to volunteer their time on the board of directors of the Chapter. I look forward to working with you.

As the late Gwen Iffill said "We can't expect the world to get better by itself. We have to create something we can leave the next generation." Together we can make a difference.

It is more fun to talk with someone who doesn't use long, difficult words, but rather short, easy to understand words like "What about lunch?"
A. A. Milne's Winnie-the-Pooh

(CSER Speakers, continued from page 5)

Dr. Yortsos is well-known for his work on fluid flow, transport and reaction processes in porous and fractured media with applications to the recovery of subsurface fluids and soil remediation. He has been actively involved in the peer review of the Yucca Mountain Project for the disposal of high-level radioactive waste.

Dr. Greg Hyslop is the Chief Technology Officer of The Boeing Company and senior vice-president of Boeing Engineering, Test & Technology. Dr. Hyslop oversees the development and implementation of the enterprise technology investment strategy, and his portfolio of responsibilities includes the companywide Boeing Engineering function; Boeing Research & Technology, the company's advanced central research and development organization; and Boeing Test & Evaluation, the team that verifies and validates Boeing's commercial and defense products.

Ms. Kristen J. Baldwin is the Principal Deputy to the Deputy Assistant Secretary of Defense for Systems Engineering (DASD(SE)). Ms. Baldwin acts on behalf of the DASD and is responsible for engineering and technical workforce, policy, and systems engineering planning for major defense acquisition programs. Her oversight includes concept engineering and analysis, design, development and manufacturing, and independent program review and assessment. She supports the DASD role of functional leader for more than 40,000 defense acquisition professionals in the Department of Defense (DoD) Engineering and Production, Quality, and Manufacturing workforce. She oversees the DoD strategy for Trusted Systems Design.

Dr. Paul D. Nielsen is Director and Chief Executive Officer of the Software Engineering Institute (SEI), a global leader in advancing software and cybersecurity to solve the nation's toughest problems through focused research, development, and transition to the broad software engineering community.

Professor John Doyle, is the Jean-Lou Chameau Professor of Control and Dynamical Systems, Electrical Engineering, and Bioengineering, at California Institute of Technology. Dr. Doyle received the Association for Computing Machinery "SIGCOMM" "Test of Time Paper Award" for a paper, *A first-principles approach to understanding the Internet's router-level topology*.

Panels:

CSER 2017 will feature two panels, an Executive Leadership Panel and a Systems Engineering Leadership Panel.

The Executive Leadership Panel is honored to have Dr. Elliot Axelband as the moderator. The panelists are:

Dr. Allen Adler
Dr. Wayne Goodman
Lieutenant General (Ret.) Larry James
Dr. Sandra Magnus
Mr. Marcus Nance

Check out a Use-Case-Oriented Vision Statement!
<https://www.youtube.com/watch?v=EQFYedsXg7M&feature=share>

The Systems Engineering Leadership Panel is honored to have Mr. Scott Lucero as moderator. The panelists are:

Ms. Christi Gau Pagnanell
Mr. Paul Gill
Dr. Jairus Hihn
Ms. Rosaland Lewis

Day-before-tutorials:

The University of Southern California and INCOSE-LA CSER team has arranged for four high-interest tutorials being conducted the day before CSER 2017 (March 22, 2017).

In the morning (from 8:00 a.m. to noon) there will be two tutorials: Cyber-Physical Systems and Data Analytics (running in parallel). In the afternoon (from 1:00 p.m. to 5:00 p.m.) there will be two additional tutorials: MBSE and Systems Thinking (also occurring in parallel).

Morning tutorials:

- ◇ Cyber-Physical Systems
Conducted by Dr. Azad Madni, from USC, and Dr. Michael Sievers, from JPL
- ◇ Data Analytics
Conducted by Dr. Courtney Paulson, from the University of Maryland

Afternoon tutorials:

- ◇ Model-Based Systems Engineering
Conducted by Dr. Mark L. McKelvin, from USC and The Aerospace Corporation
- ◇ Systems Thinking
Conducted by Dr. James Martin, from The Aerospace Corporation

The fee for one tutorial is \$175.00. The fee for two tutorials is \$300.00. Lunch and breaks during the tutorials are included.

Opportunities to Learn by Doing

CSER 2017 will be more than excellent papers, knowledgeable and erudite speakers, and a top-notch venue. The success of conferences such as this is tied to the sponsors who support the conference, and the INCOSE-LA team is well on their way to signing up a stellar group of sponsors, such as sponsored the CSER 2014 and the 2016 Regional Mini-Conference. There is always room for additional volunteers: developing electronic media and publicity, supporting panels, working with the sponsors, registering participants, and providing real-time coordination. Interested in joining this stellar team? Please contact Phyllis Marbach at prmarbach@gmail.com.



The neighborhood around the Crowne Plaza, venue for CSER 2017

IMPROVE YOUR PROJECTS AND YOUR COMPANIES WITH PROJECT PERFORMANCE INTERNATIONAL

Upcoming Systems Engineering Courses

| | |
|------------------|----------------|
| 6 - 10 Feb 2017 | Las Vegas, NV |
| 21 - 25 Aug 2017 | Washington, DC |
| 25 - 29 Sep 2017 | Las Vegas NV |
| 16 - 20 Oct 2017 | Boston MA |
| 4 - 8 Dec 2017 | Las Vegas NV |



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CSEP EXAM PREPARATION COURSES

CTI's CSEP Preparation Course provides the perfect grounding to take the INCOSE Knowledge Examination with confidence.

- »» 6 - 10 Feb, 2017 **Laurel, MD**
- »» 27 - 3 Mar, 2017 **Las Vegas, NV**
- »» 13 - 17 Mar, 2017 **Chicago, IL**
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 Morning tutorials, 8:00 a.m. to Noon
 > Cyber-Physical Systems -- conducted by Dr. Azad Madni, from USC, and Dr. Michael Sievers, from JPL
 > Data Analytics -- conducted by Dr. Courtney Paulson, from the University of Maryland
 Afternoon tutorials, 1:00 p.m. to 5:00 p.m.
 > Model-Based Systems Engineering -- conducted by Dr. Mark L. McKelvin, from USC and The Aerospace Corporation
 > Systems Thinking -- conducted by Dr. James Martin, from The Aerospace Corporation

Fees:
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Information and Registration Website

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CSU Fullerton Hosts the Sixth Annual Showcase of Local Student Video Games Judged by Industry Leaders

The IEEE Orange County Computer Society's Game Special Interest Group organizes an annual computer game showcase of student projects. Building upon our past success of the 2015 Showcase held at Chapman University, and the 2016 Showcase held at the University of California (UC), Irvine, the 2017 Showcase will be held on June 10, 2017 at the California State University (CSU) Fullerton campus. The time of the Showcase is from 1:00 p.m. to 6:00 p.m.

Students from CSU Fullerton, Chapman University, Santa Ana College, UC Irvine, UCLA, and others compete to be recognized for their technical, artistic, and narrative achievements. The event is organized and run by volunteers from the professional and academic communities in the spirit of friendly competition among the area's students and of forging stronger relationships between industry and academia.

The event will be held at the Titan Student Union Pavilion at the CSU Fullerton campus. The student games will be judged by a panel of industry celebrities. Past judges included Phil Adam (co-founded Spectrum HoloByte), Bill Fisher (president Quicksilver Software), Brandii Grace (co-founder Versus Gaming Network), ' Fargo' Kosak (World of Warcraft lead narrative designer), Jeff Luke (director of WayForward), Kevin Martens (Diablo III lead designer), Shaene Siders (technology writer and consultant), Tommy Tallarico (iconic video game composer), and Feargus Urquhart (president Obsidian Entertainment).

About IEEE GameSIG «<http://gamesigshowcase.org/>

Founded in 2006, it is the IEEE's special interest group in computer games. The mission of IEEE GameSIG is career development and the promotion of standards in computer game development. Its members include leaders in the video game industry and academia. Now in its the sixth year, the IEEE GameSIG Intercollegiate Computer Game Showcase is providing southland university and high school game developers the chance to present their best student-developed video games for judging by an elite panel of video game professionals.

INCOSE-LA and IEEE Collaboration

In cooperation with IEEE, last November INCOSE-LA provided a four-hour workshop at Santa Ana College to teach how to engineer a high-quality game using systems engineering planning and design as well as agile practices [see "GameSIG, Reaching out to Students," in the December 2016 Special Holiday Edition of the *Newsletter*]. As reported last month, Vice-president Phyllis Marbach, provided an Introduction to Systems Engineering and Agile Practices as applied to developing video games. The students then worked in teams to develop a concept for a Monster Whack game using the best practices. Several INCOSE-LA members of the GameSIG Working Group attended the workshop to coach the teams during the exercise including, Mark TenEyck, Shirley Tseng, Harvey Soldan, Michael Do, Connor Wynveen, Michael Fahy, and Varaz Shahmirian.

To arrange a workshop please contact Phyllis at prmarbach@gmail.com.

Best Engineered Game is a new category of the competition in 2017. This category is being sponsored by the International Council on Systems Engineering (INCOSE). INCOSE is the world's authority on systems engineering, an interdisciplinary approach and means to enable the realization of successful systems. It focuses on defining customer needs and required functionality early in the development cycle, documenting requirements, then proceeding with design synthesis and system validation while considering the complete problem.

Contact Information
William Fisher, Chair IEEE GameSIG
Quicksilver Software, Inc.
bfisher@quicksilver.com

Michael Shafae, Program Chair
California State University, Fullerton
657-278-3700
mshafae@fullerton.edu

(Town Hall, continued from page 2)

Phyllis' input also included a review of opportunities to learn by volunteering:

- Website: webmaster, website content
- Membership: surveys, member recruitment and retention, volunteer "databank", registration
- Ambassador(s): serve as liaison with companies, professional societies, Student Divisions
- Webcast Coordinator: Facilitate sites for speaker meetings; site coordinators
- Other – "create your own," such as special projects, STEM/First Robotics teams, local technical working group, etc.

The busy evening included a presentation by Dr. Dennis Wonica from the American Institute of Aeronautics and Astronautics Los Angeles. Dennis spoke about an opportunity to join a "space consortium" (see separate article on page 4).

The evening was enjoyed by bon vivants and blaggards alike, and the Board of Directors thanks those who attended and Mark TenEyck for suggesting and coordinating the event.

See pictures on page 13, to the right.

(Americas, continued from page 5)

A third Cohort is being formed. The goal for the third Cohort is to build on the first two Cohorts, The third Cohort is planned to have about twenty members. Candidates for the third Cohort will be individuals who show strong leadership potential. Nominees need to have a letter of endorsement from their employing organization. The endorsement must include a commitment to support sending the nominee to the 2017 International Symposium and to the 2018 International Workshop. The package of information about this opportunity was emailed to the Chapter Presidents. Candidates for the institute must be nominated by an INCOSE Leader. The third Cohort nominations will be announced during the International Workshop.

In other business, it was reported that Jim Armstrong is putting together chapter Working Group mappings. The seven objectives of the INCOSE 5-year objectives are being worked by program managers to ensure planning and progress toward those plans. The INCOSE BoD recently met in Fairfax, Virginia. At that meeting DeAnthony Heart, from Mitre, became the program manager of the Growth Initiative. Impactful forums were provided on the East Coast tour and the Great Lakes event. Perhaps they will do a West Coast Tour in 2017.

Chapters are encouraged to send their news to Elizabeth Steiner who will combine them into reports for the INCOSE newsletter.

For those in the Los Angeles Chapter who are interested in learning more about the Americas Sector and its programs, please attend the Chapter-hosted soirée at the International Workshop. Dr. Dam will be speaking to the Chapter and would be glad to answer any questions. The International Workshop is being held at the Torrance Marriott Redondo Beach, 3635 Fashion Way, in Torrance.

The cost is free, and all members of the Chapter are welcome to attend, and attendance at the International Workshop itself is not required.

Americas Sector Points-of-Contact:

- Dr. Dam can be contacted at: steven.dam@specinnovations.com
- Elizabeth Steiner, the Assistant Director of Marketing, can be contacted at: elizabeth.steiner@specinnovations.com
- Mike Pennotti can be contacted at: mpennott@stevens.edu

(Marilee, continued from page 3)

What is some advice you would give to someone like me who is working toward achieving their goals?

My advice would be to be persistent, even stubborn, in working toward your goals, and to not let others guilt you into uncertainty. As women, we need to make the best decisions given the information that we have at hand, and to follow through, and not let others second guess those decisions related to work and family. Mentoring and career development events are important and seeing role models' achievements, because it shows the many different paths that an individual can take in a STEM field.

Recognition for your contributions is a great feeling. What is your biggest accomplishment and why?

My biggest accomplishment is raising with my husband our twins Alanna and Travis, and seeing the wonderful human beings that they have grown up to be. I am so proud of their accomplishments and the generosity, compassion and empathy that they show.

Congratulations. I can't imagine that there is any more rewarding work than being a parent. And what about professionally? What accomplishment are you most proud of in that regard?

I am very proud of being recognized as a Fellow in three technical societies, Society of Women Engineers, the International Council on Systems Engineering (INCOSE) and the American Institute of Aeronautics and Astronautics (AIAA). A Fellow is the highest member grade and members are nominated and selected through a very rigorous peer process. So being recognized by your peers for accomplishments in your technical domain is a very great honor indeed.

Marilee Wheaton attended CSUN from 1978-1982 and holds a Master of Science Degree in Systems Engineering from the University of Southern California (USC). In addition, Marilee is a graduate of the UCLA Executive Program in Management, an adjunct associate professor in the Systems Architecting and Engineering Program at USC, and has served on the Oviatt Library's WISE Board since 2010.

Marilee is currently a Systems Engineering Fellow in the Engineering and Technology Group at The Aerospace Corporation. She was previously the Executive Director and General Manager of the Aerospace Institute.



INCOSE — LA Town Hall Meeting



One of the purposes of the systems engineering process, and a challenge to the systems engineering professional, is to recognize, at any point in time, that a project, in spite of all the best of efforts and intentions, is an intrinsic failure and to stop the project (avoid target fixation).

INCOSE-LA Chapter NEWSLETTER

Vol. 15: Issue 1, January — February, 2017

2016 Holiday Gala

By Karen Miller

The Marina del Rey yacht club provided a lavish setting for our annual Christmas party on December 11, 2016. Forty members and guests enjoyed the beautiful Christmas decorations and the gorgeous views of the marina. The yacht club set out many delicious appetizers, and the dinner included varied entree selections. Lively conversations preceded an even livelier gift exchange in which guests stood in a circle and passed gifts to the left or right as prompted by a funny Christmas reading until they finally ended up with a gift to keep. Phyllis Marbach welcomed everyone and honored those guests who have been members of INCOSE for 25 years or more.

Many thanks to Bo Oppenheim who arranged for us to be guests of the yacht club and for his coordination with their staff to provide the large private room and delicious food. Thanks also to Paul Cudney for registering and welcoming the guests. Karen Miller managed the event, and her husband, Charles Miller, led the gift exchange by reading the poem. Thanks also to Brian Marbach for doing the photography.

We look forward to returning to the yacht club again next year and possibly holding the event on the same evening as the lighted boat parade.

Photos courtesy Brian Marbach



INCOSE-LA Chapter NEWSLETTER

Vol. 15: Issue 1, January — February, 2017

The Board of Directors wishes to welcome the following new members to the Los Angeles Chapter of INCOSE.

Note: The information listed below is from the member directory and is based upon your initial membership application. If the information is not correct or complete, then please access the member directory (at www.incose.org) to update your information.

| Name | Organization |
|---------------------|---------------------------------------|
| Daniel Woo | Northrop Grumman Corporation |
| Somesh A. Agrawal | University of Southern California |
| Niharika | University of Southern California |
| Kristina Richardson | University of Southern California |
| William Yu | University of Southern California |
| Sahar Albinsaleh | Loyola Marymount University |
| Justine Han | Advanced Plasma Solutions |
| Nicholas Islas | Loyola Marymount University |
| Phillip Moon | Loyola Marymount University |
| Aziz Aldughaimi | Loyola Marymount University |
| Kevin Wyllie | Loyola Marymount University |
| Catherine Bienvenue | Aerospace Corporation, The |
| Jacquelin Maas | Embry Riddle Aeronautical University |
| Connor Wynveen | Booz Allen Hamilton Inc. |
| Michael Begich | Embry Riddle Aeronautical University |
| Juan Pablo Garcia | Large Latin-American Millimeter Array |

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| Immediate Past President | Terry Rector | Terry.e.rector@aero.org | Systems Engineering Education | Tony Magomo | tmagomo@gmail.com |
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| Treasurer | Lin Yi | Lin.yi.dr@ieee.org | Communications | Neil Wigner | Neil.wigner@ngc.com |
| Appointed Positions | | | Student Division Ambassadors | Scott Birtalan | scott.birtalan@ngc.com |
| Newsletter Editor | Jorg Largent | jorg.largent@incose.org | Reflector Manager | Deborah Cannon | Deborah.a.cannon@aero.org |
| Technical Society Liaison | Shirley Tseng | shirleytseng@earthlink.net | Industrial Relations Manager | OPEN | |
| Chapter Awards Manager | Rick Hefner | rhefner@caltech.edu | New Member Ambassador | Collette Kurtz | kurtz905@aol.com |
| Professional Networking Chair | Scott Birtalan | scott.birtalan@ngc.com | Volunteer Coordinator | Karen Miller | karmill888@aol.com |
| Representative to the SF Valley Engineer's Council | Stephen Guine | Stephen.Guine@ngc.com | | | |

Not a member? Join INCOSE!

Learn more about becoming a member by clicking on <http://www.incose.org/membership/valueofmembership.aspx>

INCOSE-LA Chapter NEWSLETTER

Vol. 15: Issue 1, January — February, 2017

INCOSE-LA Chapter NEWSLETTER

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The International Council on Systems Engineering (INCOSE) is a not-for-profit membership organization founded to develop and disseminate the interdisciplinary principles and practices that enable the realization of successful systems. INCOSE's mission is to share, promote, and advance the best of systems engineering from across the globe for the benefit of humanity and the planet. The Los Angeles Chapter meets several times per year for speaker meetings and, in addition, sponsors tutorials, mini-conferences and other activities of interest to those in systems engineering or related fields.

UPCOMING EVENTS

For more details on Chapter-sponsored events and registration, go to incose-la.org

International Workshop

January 28 — 31, 2017

Torrance, California

Go to incose.org/IW2017/home for cost and other details

Chapter Soirée at the International Workshop

Speaker: America Sectors President Dr. Steve Dam

Tuesday, January 31, 2017

6:30 p.m. to 8:30 p.m.

Torrance, California

GameSIG Workshop

February 11, 2017

Santa Ana College

At the corner of 17th Street and Bristol in Santa Ana, California

First Quarter Strategic Planning Meeting

February 18, 2017

California Institute of Technology

Pasadena, California

Ground System Architectures Workshop

Co-hosted by INCOSE-LA and
the Software Process Improvement Network

Date: Wednesday, March 15, 2017 Time: 5:30 p.m. – 8:30 p.m.

Location: Renaissance Los Angeles Airport Hotel

9620 Airport Blvd. Los Angeles, CA 90045

There is no charge for the meeting, but there is a charge
(discounted GSAW rate) for parking.

Food and refreshments will be served

Conference on Systems Engineering Research (CSER 2017)

Date: March 23 — 25, 2017

Location: The Crowne Plaza Hotel in Redondo Beach

See article on page 1 for more details

For more information on these and other events of interest in the Los Angeles area, look for a Reflector Notice in your email, and check the Chapter website: www.incose.org/los-angeles Also like us on facebook!