

NEWSLETTER



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



2004-14



2015-16

The 2017-to-2018 Segue: The Fourth Quarter Strategic Planning Meeting

This edition of your *Newsletter* bridges the end of 2017 and the beginning of 2018. This time of year is a time of reflection, a time of looking to the new year and a time of change.

The Fourth Quarter Strategic Planning Meeting was an opportunity for Chapter Board of Directors to review the accomplishments of 2017 and to start implementing plans for 2018.

2018 promises to be a year filled with opportunities for the members of the Chapter to strengthen their professional skills, to network with colleagues, and to participate in the growth of our science — the latter by supporting the systems engineering of tomorrow through STEM (science, technology, engineering and mathematics) outreach to promising youngsters all the way up to developing the definition of the underlying theory of the science of systems engineering.

(See "Strategic Planning" on page 10)

Like the new masthead? Let us know.
jorg.largent@incose.org

The President's Corner

By President Phyllis Marbach

INCOSE-LA's strategic direction for 2017 is "Encourage systems thinking for wider community problems". On October 14 we held a Systems Thinking Tutorial consisting of a two-hour tutorial of Systems Thinking by Dr. Rick Hefner, a one-hour Systems Thinking Roundtable facilitated by Dr. Sue Gabriele, and a 1-hour networking lunch. During the roundtable many topics were mentioned to which systems thinking could be applied. The group broke into smaller groups to discuss three specific topics: homelessness, complexity and creativity. Another article in this edition of the *Newsletter* describes the day in more detail.

In addition to the normal monthly speaker meetings, the chapter has been busy with educational opportunities. The educational opportunities over the past three months included a Systems Security Engineering Tutorial at The MITRE Corporation, a Systems Engineering – Professional Development Day (SE-PDD) at Caltech and a Model-Based System Engineering (MBSE) Tutorial at The Aerospace Corporation. We hope you have been able to attend the topic of interest to you.

(See "Corner" continued on page 10)

Don't forget to vote!

The election of Chapter officers for 2018 continues through December 10, 2017.

To vote, open the email message,

"Cast Your Vote in the INCOSE-LA 2018 CHAPTER Elections"

From Terry Rector, INCOSE-LA Past President

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One-Day Systems Thinking and Networking Event

By Padman Nagenthiram

A one-day Systems Thinking and Networking event was held on Saturday October 14, 2017 at the California Institute of Technology (Caltech). The day began with a tutorial on Systems Thinking given by Rick Hefner, Ph.D. of Caltech. Rick works at the Caltech Center for Technology and Management Education, where he helps industry professionals and high-tech companies understand and apply systems engineering concepts. This was followed by a Roundtable on Systems Thinking led by Sue Gabriele, Ph.D. of Gabriele Educational Materials and Systems. Sue is an innovator and consultant in systemic school and workplace renewal. After lunch participants broke-up into several small groups to discuss topics related to Systems Thinking.

Systems thinking is a holistic approach to understanding a system by examining the interactions among its components and between the system and the external environment. Systems thinking is essential for proper systems engineering, because it provides a framework for understanding and influencing the system's behavior. The ability to design systems relies on applying systems thinking rules to the definition of the systems boundary, structure and interfaces to predict system performance.

Dr. Hefner began the tutorial by defining a system as described in the INCOSE Systems Engineering Handbook and enumerating the Systems Principles taken from the INCOSE Systems Engineering Body of Knowledge. He then presented some key concepts of systems thinking:

Hierarchy – systems are composed of smaller subsystems,

Complexity – creates unknown (and sometimes undesirable) emergent behavior, and

Emergent Behavior – properties of the system result from both the components and their interactions.

Dr. Hefner also described the Systems Thinking Iceberg consisting of mental models, underlying systematic structure and patterns of behavior all below the surface of events. Delving below this surface of events helps us see the bigger picture of how the system actually works and thereby effect changes such as modifying the mental models. He then presented an example of a system, a tractor and its ancillary equipment used for transporting harvested grain from the field. He got the participants to take part by asking questions such as what is the system of interest, what is the hierarchy of systems and what make the system-of-interest complex? He said the designer of any part of a system should always be thinking two levels higher than the part he is designing. Dr. Hefner concluded by describing Systems Thinking Skills, Benefits of Systems Thinking, and Systems Thinking Principles Applied to Systems Engineering.

(See "Systems Thinking," on page 4)

Conference on Systems Engineering Research — CSER
Disciplinary Convergence:
Implications for Systems Engineering Research
One of the successes in 2017

SYSTEMS ENGINEERING PROFESSIONAL DEVELOPMENT DAY

By President Phyllis Marbach

The Systems Engineering Professional Development Day (SE-PDD) was held on October 13, 2017 at Caltech in the Powell-Booth Building. It was broadcast from the Great Lakes Regional Conference being held in Minneapolis, Minnesota. Caltech served as one of nine remote sites across the country. Because of the two-hour time difference, the first two speakers' sessions were recorded and shown at the end of the Pacific time zone day rather than asking the participants to show up at 6 a.m.

The conference theme "Superior System Solutions for Today's Complex Environments" yielded many topics of interest to our membership.

Jack Stein presented "What Every SE and PM Needs to Know About the Update to International Risk Management Standard INCOSE/IEC/IEEE 16085".

"Cyber-Physical Systems Engineering Mission Risk Analysis" was presented by David Flanigan.

David Long presented the Keynote address about "Reimagining Systems Engineering".

"Learning from Nature's Methods of Systems Architecting and Engineering" was presented by John Gill.

The day continued with "Risk Analysis of Medical Device System of Systems presented by Rand Whillock.

Matthew Sease then presented "Testing Mettle: Demonstrating the Capability and Benefit of Model Based Systems Engineering".

"Feature-Based Product Line Engineering: ISO Standards Initiative and Recent Industry Experience" was presented by Charles Krueger.

Transcontinental career enhancement opportunities by INCOSE.
Standby for Reflector Notices for future events.

The day wrapped up with what was the first two presentations of the day for those participating from the Central time zone, "The Alphabet Soup of Systems Engineering Development Models," by David Walden and "INCOSE's Transformation Strategic Objective," by Troy Peterson.

The "Alphabet Soup of Systems Engineering Development Models: covered Waterfall, V, Z, Wave, Agile, Spiral and Incremental Commitment Spiral Models and included pros and cons of each. The model used depends upon the Life Cycle Approach and whether the project is a predictable, stable, repeatable system under development or if it has unclear requirements, new technology to be inserted, the need for rapid development and the need to be adaptable.

In "INCOSE's Transformation Strategic Objective," Troy Peterson suggested that the world is entering the Fourth Industrial Revolution and provided references stating that new technologies such as the Internet of Things, artificial intelligence, 3-D printing, energy storage, and quantum computing are developed and used in the world. These complex systems require systems engineering to apply well-founded architecting and deeper system understanding to manage and minimize the complexity.

November Speaker Meeting Best Practices and Lessons Learned from MBSE Pilot Programs

By Phyllis Marbach

Ryan Noguchi, the Director of the Space Architecture Department in the Systems Engineering Division at The Aerospace Corporation spoke to the assembled INCOSE members and guests on November 14, 2017. His presentation described how Model Based Systems Engineering (MBSE) can offer significant benefits to organizations responsible for managing their increasingly complex enterprises. Noguchi pointed out that implementing MBSE is not a straightforward task, and that there

are many pitfalls along the way.

Analytical models that help answer performance questions have been in use for some time. Noguchi pointed out that there is a need for descriptive models as well; models that describe what the system is or does. Noguchi noted that everyone has a mental model, but these models are different, incompatible, incomplete, and not entirely correct. Therefore, we need to use model-based systems engineering to more completely describe the system under development and clear away the ambiguity. Lessons learned in applying MBSE to pilot programs include:

- 1 Understanding the problem space
- 2 Systems modeling practices
- 3 Tools, infrastructure, and training, and
- 4 Organizational and human engineering challenges.

The lesson regarding “understanding the problem space” emphasizes the need to define the purpose of the model early. If skeptics resist applying MBSE, identify what motivates the person and try to use that to turn them into an advocate.

The “systems modeling practices” lesson emphasizes the need to implement a robust architecture and to keep in mind that the details are what are important, not just the diagrams. Best practices such as reducing unnecessary coupling and designing for reuse are also encouraged.

The lessons learned specific to “tools, infrastructure, and training” remind the team that the tool parameters should be reviewed and a robust trade study done before selecting the modeling application. Don’t just use what team members know. Also, make sure that the configuration of the model is controlled.

Perform incremental training on the model to encourage use of the model, being careful to not overwhelm team members who don’t want to be tool experts.

The “organizational and human engineering challenges” lesson reminds us that change is more effectively done incrementally. Resistance to change can thwart a well-planned transformation. When applying MBSE to an existing system that has documentation rather than data within a model expect to find latent problems in the documents. Measure progress not by the model, but by what can be done with the model.

Five years of experience in working MBSE efforts at multiple levels have produced many lessons learned and recommended best practices. The lessons learned mentioned above and more are written in a white paper, “ATR-2016-02309, Lesson’s Learned and Recommended Best Practices from MBSE Pilot Projects” by The Aerospace Corporation, available upon request from ryan.a.noguchi@aero.org.

2018 International Workshop

INCOSE kicks off each year with its annual gathering of the membership to discuss and advance the state of the art of systems engineering. Spend several days of intense activities centered around technical content with volunteers who meet electronically during most of the year. This is the time to collaborate and celebrate in person. The prestigious Working Group Award winners are named at IW, as is the recipient of the Johns Hopkins INCOSE scholarship; and, newly elected officers and directors are installed. The gathering is capped off with an annual INCOSE Foundation Wine Tasting to raise money for Foundation activities.

An unofficial event is the Los Angeles Chapter soiree. Hosted by the Chapter, the soiree has been popular with the Chapter members who attend, plus an occasional “honorary” Chapter member. Distinguished members of the profession, and officers of INCOSE and of the Americas Sector have been known to join in this combination of the festive and the profound.

Top-level information:

Date: January 20, 2018 through January 23, 2018

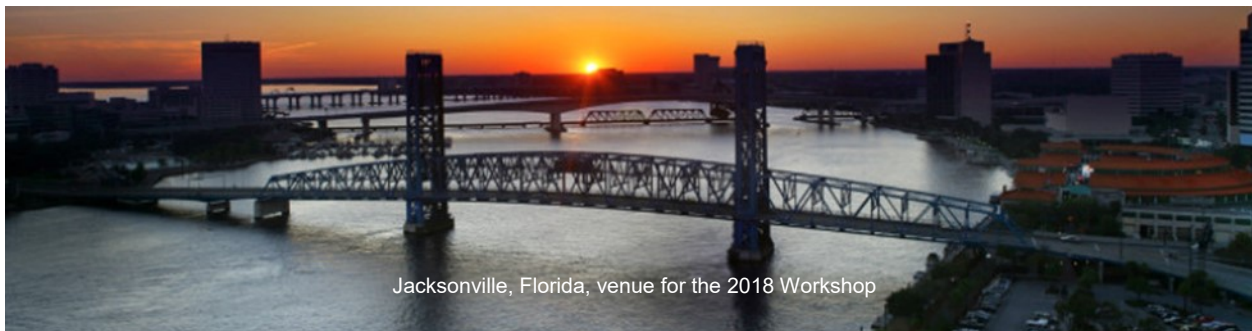
Location: Jacksonville, Florida

Venue: Hyatt Regency Jacksonville Riverfront

Mark your Calendar for IW 2018 - January 20 - 23, 2018!

Visit the IW 2018 Website for more details.

<http://www.incose.org/IW2018>



Jacksonville, Florida, venue for the 2018 Workshop

INCOSE-LA Chapter NEWSLETTER

Vol. 15: Issue 6, December 2017 — January 2018

October INCOSE-LA Tutorial Systems Thinking

By Karen Grothe

On October 14 at Caltech, Rick Hefner, PhD, who is currently working at the Caltech Center for Technology and Management Education (<http://ctme.caltech.edu>), presented an overview of Systems Thinking. After the presentation, Sue Gabriele, PhD, of Gabriele Educational Materials and Systems (<http://gemslearning.net/>), led attendees in a Systems Thinking Roundtable during which every person got up to two minutes to voice their thoughts on systems thinking.

Rick started his presentation laying out the definitions of systems and systems thinking according to several sources, including the INCOSE Systems Engineering Handbook and the INCOSE Systems Engineering Body of Knowledge (SEBoK), so that we had a solid starting point semantically. He then discussed the Systems Thinking Iceberg where the events we react to are the part of the iceberg above the water, and we are encouraged to delve below the surface of events to anticipate patterns of behavior, design underlying systematic structure, and transform our mental models. Ultimately, he defined systems thinking as “a holistic approach to analysis that focuses on the way that a system’s constituent parts interrelate and how systems work over time and within the context of larger systems.” From this definition, he discussed the key concepts of hierarchy, complexity, and emergent behavior.

In a small group discussion exercise, we looked at an example system from a picture of a harvesting system which included a combine (reaper) and a hauling system (tractor pulling grain carts). The discussion then became a question of boundaries. Do we include the field or type of crop in the system? Or do we just want to focus on the tractor in our system? Are people in the system? It was brought up that the systems may be autonomous. The answers to all of these questions help determine complexity and possible emergent behaviors. Rick said that when designing a system, it is good to think about the systems one or two levels up in the hierarchy.

Systems thinking provides a rigorous way of integrating people, purpose, process, and performance; relating systems to their environment; understanding complex problem situations; avoiding or minimizing the impact of unintended consequences; aligning teams, disciplines, specialisms, and interest groups; and managing uncertainty, risk, and opportunity. It can be applied to systems engineering by applying SE processes to systems of interest in a wider systems context, where consideration is given to the consequences on the wider system when making decisions about the system elements (holism). Problems can be progressively solved over time, and systems can be made to continue to work through maintenance, sustainment, and upgrade activities.

I found Rick’s presentation interesting and noticed that the mind map of systems thinking skills was brought up by many attendees after his presentation as being particularly helpful. More information about systems thinking can be found in the INCOSE UK Chapter’s zGuide 7: “What is Systems Thinking?” which Dr. Hefner offered as a handout at the tutorial.

...it is difficult for us to believe that intellectual curiosity is a desire like any other, and to recognize that correct knowledge and truth are not identical. W. H. Audin

(Systems Thinking, continued from page 2)

Dr. Gabriele created the “Round Table” as a seed for social system renewal, while researching for her Ph.D. in “Human Science: Social and Institutional Change”. She and her colleagues have been introducing this “Co-operated Round table” for the last twenty years as a proven new way to increase communication and an engaging way to deliver and develop the users’ agenda. In 2016 the Round Table was renamed the Systems Thinking Round Table and held daily by the Systems Science Working Group at the INCOSE International Workshop (IW). In 2017 it was again convened at the INCOSE International Workshop and the INCOSE Symposium.

At this event Dr. Gabriele briefly introduced the subject of systems thinking and the rest of the time was divided equally between the participants who spent a few minutes describing their interest in systems thinking.

The breakout sessions topics were:

Everybody as a Systems Thinker,

Applying Systems Thinking to Mental Health and Homelessness,

Using Systems Thinking to Strengthen Creativity, and Managing Complexity.

Each group was led by a facilitator who proposed the topic and lively discussions were held. The following topics were also proposed but there was not sufficient interest to have a breakout session:

Applying Systems Thinking to Systems Engineering,

Applying Systems Thinking and Systems Engineering to California High Speed Rail,

Introducing Systems Thinking Round Tables to Communities, and

Applying Systems Thinking to Community Emergencies.

Further information, including the Systems Thinking Tutorial charts is available for INCOSE members at https://connect.incose.org/Chapters/LosAngeles/Shared%20Documents%20Test/2017-CHAPTER-Folder/2017_SE-Education-Tutorials/SystemsThinking14Oct.

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INCOSE-LA Chapter NEWSLETTER

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Chapter Bylaws Update

By Stephen Guine

In 2017, the Ways and Means Committee set about to update the Bylaws for the Los Angeles Chapter of INCOSE. The goal was to modernize our guiding documents to ensure that we remain in compliance with the overall INCOSE direction as well as to incorporate the lessons learned from other INCOSE chapters.

We merged our existing constitution and bylaws, and reviewed the constitution and bylaws of other large chapters as well as the bylaws boiler plate language from INCOSE. The end result is a new, consolidated set of bylaws with the constitution eliminated.

Consequently, we clarified and updated the electoral process to make sure that all language is consistent with the use of technology to allow for shorter review periods and to identify which tools are acceptable for elections.

A revised document was reviewed at the Fourth Quarter Strategic Planning Meeting. The Board of Directors had some modifications based on discussion, and those modifications were subsequently incorporated into the final document which will be presented to the Board for final acceptance prior to being submitted to the membership as a whole for voting.

The end goal is that when needed, our guidance will be clear, and at other times, it will be invisible to the user and allow the Chapter to run as effectively and efficiently as possible.

Resume Review and Interview Readiness Workshop

By Stephen Guine

On December 9, 2017, INCOSE-LA will be hosting a “beta-test” of a Resume Review and Interview Readiness Workshop that we would like to begin offering as a recurring event through the year. The purpose of this event is to allow members (and potential members) of our Student Divisions to have experienced systems engineers and hiring managers review their resumes with the goal of improving presentation quality and content appropriateness. Additionally, the Interview Readiness component will involve running a series of simulated interviews that allow the participants to practice answering common questions so they will enter real interviews better prepared.

For this beta-test, several front-line managers from Northrop Grumman have agreed to participate in the workshop, which will be hosted at Northrop’s Space Park Facility in Redondo Beach. The participants in the beta test were recruited from our recent multi-society Young Professionals event that was held at Cal State Long Beach. However, future events will be advertised via standard INCOSE-LA invitations and all members (regular and Student Division) are welcome to attend.

Joint Los Angeles and Orange County Engineering Societies Event Young Professionals Fall Kick-off

By Scott Birtalan

On October 21, several local engineering professional organizations with “young professional” branches gathered at California State University Long Beach (CSULB) for a focused meet up and networking event. The Fall 2017 kick-off meeting was the brain child of the STEM outreach expert Fred Lawler and hosted by the CSULB chapter of IEEE. The event was jointly sponsored by INCOSE-LA plus eight groups spanning the range of disciplines:

1. IEEE (Institute of Electrical and Electronics Engineers)
2. AFCEA (Armed Forces Communications and Electronics Association)
3. SWE (Society of Women Engineers)
4. SHPE (Society of Hispanic Professional Engineers)
5. IISE (Institute of Industrial and Systems Engineers)
6. ASME (American Society of Mechanical Engineers)
7. AIAA (American Institute of Aeronautics and Astronautics)
8. IET (Institute of Engineering and Technology)

Our interests align in our determination to support and encourage the successful transition of new university graduates into the workforce as young professionals and colleagues alike.

Kicking off the discussion was an energetic talk on presentation and speaking skills by “Coach Rob” Swineford, of The R.D. Swineford Group. Coach Rob’s interview techniques interactive tutorial (of which the author was a subject) provided some light-hearted live interviewing and instruction for the students in attendance. This queued up nicely Fred Lawler’s resume tips and tricks tutorial. One key takeaway from the discussion was that all professionals (not just job seekers) should keep their resumes up to date (and don’t forget to keep a ‘fat’ resume on hand with all of your accomplishments to draw from when writing a tailored version for specific job postings).

The morning gathering ended with networking and the promise of future collaborative events. Keep an eye out for announcements! The next event is planned for spring 2018, to be hosted by another active university chapter.

CSEP/ASEP Testing at LMU

Testing to become certified as a Certified Systems Engineering Professional or as an Associate Systems Engineering Professional is being offered at Loyola Marymount University in Culver City.

The testing will be conducted on Saturday, December 9, 2017.

For more information, go to:

<http://events.constantcontact.com/register/event?llr=l4ihvgeab&oeidk=a07eeuto2lxad82a845>

A Systems Engineering Approach to Reducing Plastics in the World's Oceans

The October Speaker Meeting featured a discussion of a global challenge and possible solutions. The presentation was an extension of the 2017 INCOSE International Symposium Practitioners' Challenge, which focused on a relevant and complex socio-technical problem that plagues the world – build-up of plastics in our ocean waters. The Practitioners' Challenge objective was to apply systems thinking to a complicated problem and collaborate on a recommended path forward.

The Problem:

About 14B tons of plastic are released to ocean waters each year. In 1968, the National Academy of Science reported that more than 80 percent of ocean plastic pollution, such as drinking bottles and plastic packaging, came from land-based sources. The remainder came from plastics released at sea, such as lost and discarded fishing gear.

Plastics accumulate in areas such as Hawaii, and Henderson Island. They are driven by the currents, and shift and move with the weather in ocean waters. The area from Japan to San Francisco is known as the Pacific Garbage patch. This floating marine pollution poses serious risks to wildlife living around it. At least three different patches of garbage exist now in oceans around the world.

Microplastics, such as microbeads, fibers and pellets, are non-biodegradable small pieces of plastic broken up by currents and are gobbled up by plankton and baby fish like junk food, and work their way up the food chain. Microplastics have been found in ice cores, across the seafloor, vertically throughout the ocean and on every beach worldwide.

Long-term effects include climate change and a marked decrease in photosynthesis, which takes place in the sunlit upper layers of ocean waters. Approximately 70% of the oxygen in the atmosphere is produced by marine plants.

Given the requirements provided in the Challenge statement, the systems engineers organized into three teams. The teams:

- listed all stakeholders of ocean quality
- brainstormed to craft plastics lifecycle flowchart and to build it up over time, and
- developed fishbone diagrams of pollution causes, with headings and branches of critical thinking about the causes and issues behind this problem.

Issues include:

- collection challenges – illegal dumping, lack of ability to degrade, logistics and resources needed to remove
- inadequate containment of disposed plastics
- lack of biodegradable alternatives
- difficult to re-purpose in an economical way
- human dependence of plastics, and
- fake information – “there is no problem.”

Initial containment actions include plastic removal from beaches and open ocean, disposal of filtered plastic, increased public awareness of harm to all stakeholders, and prevent the release of plastics into the environment.

Disposal methods are inadequate; brainstorming ideas included megawatt incinerators to safely burn plastic, changing the chemical composition to allow “scrubbers” to “clean” plastic refuse; and launch of plastic trash to the sun.

Recommended Solutions:

Enduring and ongoing research and analysis needs to be applied to this pervasive problem to raise public awareness and gain Government support. Recommended next actions included:

- Support the Environmental Working Group to educate and empower consumers to make safer and more informed decisions about the products they buy and the companies they support. In response to consumer pressure, companies are giving up potentially dangerous chemical ingredients in their products and improving their practices.
- Write our congressional representatives to support reduced plastic waste.
- Increase public awareness of the negative consequences of plastic packaging and urge use of alternatives.
- Reduce our own usage of plastic products and packaging.
- Incentivize the creation of and use of substitutes that are biodegradable.

Concerned citizens have successfully eliminated plastics from their beaches. In Mumbai, India, clean-up efforts focused on Versova beach, a one-and-a-half-mile strip of coastline facing the Arabian Sea. A hardworking team removed 5M tons of plastic in 85 weeks, making it the largest beach clean-up effort in the world.



INCOSE-LA members Marilee Wheaton, Edwin Ordoukhanian, Richard Emerson and Phyllis Marbach pause between technical sessions at the 2017 International Workshop.

Bulverism is a term coined by C. S. Lewis: it means simply assuming that people who disagree with you are wrong, and then speculating about why they are wrong (usually because they're evil). Social media are the most fertile ground ever created for Bulverism.

Alan Jacobs

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2018 COURSE SCHEDULE

Systems Engineering

Las Vegas, NV	22 Jan - 26 Jan
Washington, DC	20 Aug - 24 Aug
Las Vegas, NV	24 Sep - 28 Sep
New York, NY	15 Oct - 19 Oct



Requirements Analysis and Specification Writing

Las Vegas, NV	29 Jan - 02 Feb
Portland, OR	29 Oct - 02 Nov

Software Engineering

Las Vegas, NV	22 Jan - 26 Jan
Chantilly, VA	01 Oct - 05 Nov



Systems Engineering Management

Las Vegas, NV	27 Aug - 31 Aug
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For more information and to view our full course schedule please contact us or visit our website:



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ASEP CSEP PREPARATION TRAINING



2018 Course Schedule

26 Feb - 02 Mar
02 Apr - 06 Apr
23 Apr - 27 Apr
21 May - 25 May
18 Jun - 22 Jun
10 Sep - 14 Sep
15 Oct - 19 Oct
05 Nov - 09 Nov
03 Dec - 07 Dec

Las Vegas, NV
Denver, CO
New York, NY
Austin, TX
Orlando, FL
San Diego, CA
Albuquerque, NM
Chantilly, VA
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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
Carrie Deline	Loyola Marymount University
Melissa Dougherty	Loyola Marymount University
Christopher Wills	Loyola Marymount University
Femi Osidipe	Northrop Grumman Corporation
omar aldawalibi	Loyola Marymount University
Cassandra Jacobsen	Loyola Marymount University
Omar Basulaiman	Loyola Marymount University
Michael Christensen	Loyola Marymount University
Clayton Wikoff	Loyola Marymount University
Ali Dashti	Loyola Marymount University
Sara Kim	Loyola Marymount University
Christopher LeMieux	Loyola Marymount University
lee mccrory	Loyola Marymount University
Cindy Passanante	Loyola Marymount University
Aseel Rajab	Loyola Marymount University
Michael Young	Loyola Marymount University
alex bourgeois	Loyola Marymount University
Emily Carlson	Loyola Marymount University
adnan mobarak	Loyola Marymount University
Zachary Stiegler	Loyola Marymount University
Geoffrey Cox	Parker Aerospace
Barboros Turkay	Loyola Marymount University
Nicholas Chung	Northrop Grumman Corporation
Daniel Naftalovich	California Institute of Technology

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Name	Organization
Andrew Schleitwiler	Northrop Grumman Corporation
Mary Hendricks	CSULB
Talon Larkin	Northrop Grumman
Erick Watanabe	Air Force Space Command
Nicholas Collins	Embry Riddle Aeronautical University
Dorothy Benveniste	Loyola Marymount University
Justin Masotti	Loyola Marymount University
Logan Turco	Boeing
Behnaz Naghavi Sisan	Embry Riddle Aeronautical University
Kimberly Gottula	Embry Riddle Aeronautical University
Clement Aladi	Embry Riddle Aeronautical University
Faraaz Tamjidi	California State Polytechnic University, Pomona
Dianne DeTurris	
Clair Leon	Loyola Marymount University
Niloufar Esfandi	Northrop Grumman Corporation
Katrina Lopez	California State Polytechnic University, Pomona
JesseFowler	Aerospace Corporation, The
Alexander Hendricks	Loyola Marymount University
Konstantinos Kaplanis	Loyola Marymount University
Alex Wallach	Northrop Grumman Corporation
Kaylee Asai	Loyola Marymount University
Leonard Figueroa	Northrop Grumman Corporation
Matthew Donoghue	CSULB

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 Learn more at: www.incose.org

INCOSE-LA Chapter NEWSLETTER

Vol. 15: Issue 6, December 2017 — January 2018

(Strategic Planning, continued from page 1)

The Strategic Planning Meeting was held November 11, 2017, in the Fireside Room of the Manhattan Beach Community Church. The meeting included a review of our successes (or not) in terms of the course that had been marked out for us at the beginning of the year.

The Chapter teamed with the University of Southern California (USC) to host the Conference on Systems Engineering Research, the premier event in systems research. The conference was the result of teamwork that was started in 2015, and the Chapter was honored to support Dr. Azad Madni and his team of academics from around the world.

Support for our future systems engineering professions took the form of continuing to support the Student Divisions on local college campuses plus participating in the Mars Expo and STEM outreach event at Northrop Grumman.

The Chapter continued its programs of networking events and professional training. These activities covered a spectrum of topics, including a speaker meeting on Model-Based Systems Engineering, a speaker meeting on a future system of autonomous automobiles and highways, and a discussion of the theories of systems thinking.

The goals for 2017 included “Impactful Forums,” such as CSER 2017. The vision of planning for a one-day mini-conference in 2018 segued to participating in the Western States Regional Conference to be held in Seattle. A third goal for 2017 was “diverse alliance,” an increase in collaboration with other professional organizations in the Los Angeles area. One example was GameSIG, an intercollegiate games showcase and competition, (see August – September, 2017 edition of the Newsletter). A fourth goal was to facilitate training and testing for members desiring to become apprentice or certified systems engineers. A part of the outreach and education goal was not accomplished and that was a “Good Neighbor” program to reach out to the systems engineers in Mexico.

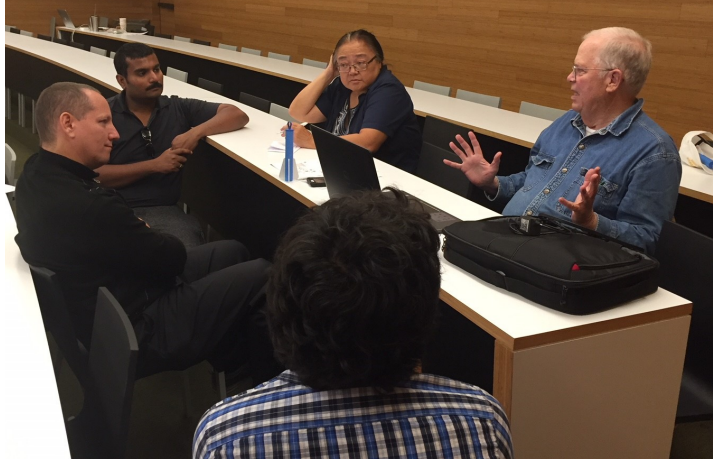
The year-end holiday party will put a delightful cap on the year 2017, but the momentum and sense of purpose will continue into 2018, starting with the townhall meeting to kickoff the Chapter’s activities in 2018. The holiday party and the townhall meeting can be thought of as a segue from let down your hair to roll up your sleeves, and all members of the Chapter are enthusiastically invited to both.

Projects in work for 2018 include an update to the Chapter Bylaws and the aforementioned conference in Seattle. One potential change is discontinuing the “snail mail” production of the Newsletter. Is the Newsletter an artifact that has outlived its usefulness to the members? Other considerations are changes in the architecture of the Chapter’s webpage. Members of the Chapter can count on more speaker meetings and training events to learn more about the activities in the world of systems engineering and to hone their skills.

2018 and the Chapter have one other avenue of opportunity for the members, and that is in participating.

As Past President Terry Rector noted in his article, “Volunteerism — a win-win Relationship,” (see the October-November edition of the *Newsletter*), working as a part of the INCOSE-LA team: “one of the largest benefits is an opportunity to expand your professional and personal networks by teaching, learning and sharing experiences with like-minded people.” This is just one of the pithy points in Terry’s article.

So come to the party, come to the townhall meeting, and watch for Reflector Notices on how to take full advantage of the services and opportunities in the Los Angeles Chapter.



(Corner, continued from page 1)

Our chapter has engaged with other Western Regional chapters to start planning an annual Western States Regional Conference. The plan is to conduct the 2018 conference in Seattle, the 2019 conference in Los Angeles, and the 2020 conference in Salt Lake City.

The Chapter is actively seeking volunteers for the committees to help organize the details for the 2018 conference. Paul White is the conference chair, the conference co-chair is your Chapter President. The Integrated Operations Chair is Ray Willaford, the Finance chair is the Seattle Metropolitan Chapter treasurer. Please contact Phyllis at prmarbach@gmail.com if you are interested in serving as Chair of the Technical Program, the Outreach Committee or the Sponsorship and Exhibits Committee or if you are interested in becoming a member of one of the five committees.

The date of the First Annual WSRC is Sept 20-22, 2018. Please join us to get this off to a good start.



Photos at right: Systems Thinking at Caltech (upper) and a Speaker Meeting on surface transportation and systems engineering (lower)

INCOSE-LA Chapter NEWSLETTER

Vol. 15: Issue 6, December 2017 — January 2018

You are invited to the INCOSE-LA Chapter Holiday Party!



Saturday evening, December 9, 2017

5:30 p.m. — 8:30 p.m.

Location: same as last year, at the elegant

Del Rey Yacht Club,

13900 Palawan Way

Marina Del Rey

\$10 members, \$40 for guests and non-members

Great people * Boat parade * Fine food * Lots of Fun

An INCOSE-LA Tradition!

Registration Required — Attendance is limited!

Check your email for a Reflector Notice or go to

<http://www.incose.org/ChaptersGroups/Chapters/ChapterSites/los-angeles/chapter-home>

And scroll down to the link



2017 Board of Directors

Elected Officers			Elected At-large Directors		
President	Phyllis Marbach	prmarbach@gmail.com	Membership	Mark TenEyck	Mark.teneyck@3ds.com
Vice-president	Rick Hefner	rhefner@caltech.edu	Programs	Michael Do	michael.do@comcast.net
Immediate Past President	Terry Rector	terry.rector@engineer.com	Systems Engineering Education	Tony Magomo	tmagorno@gmail.com
Secretary	Jeffrey Willis	raptor0089@aol.com	Ways and Means	Stephen Guine	Stephen.Guine@ngc.com
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	Social Media Manager	Doris Gebelein	doris.gebelein@lmco.com
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			

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Return Address:

PO Box 10969
Westminster, CA 92685-0969

Forwarding Service Requested

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 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. Like us on Facebook

CSEP/ASEP Testing

Date: Saturday, December 9 2017
Venue: Loyola Marymount University, Culver City
Go to the following web page for details:
<http://events.constantcontact.com/register/event?llr=14ihvgeab&oeidk=a07eeuto2lxad82a845>

Chapter Holiday Party!

Date: Saturday, December 9, 2017
5:30 p.m. - 9:00 p.m.
Venue: Marina del Rey Yacht Club
Location: 13900 Palawan Way
Marina Del Rey

See page 11; a Reflector Notice has been sent or go to
<http://www.incose.org/ChaptersGroups/Chapters/ChapterSites/los-angeles/chapter-home>
And scroll down to the link

Check your email for a Reflector Notice

2018 Chapter Townhall Meeting

January 9, 2018
5:30 p.m. - 8:30 p.m.
Venue: in work

Check your email for a Reflector Notice

2018 International Workshop

Saturday, January 20 – Tuesday, January 23, 2018
Jacksonville, Florida
Check the INCOSE website (INCOSE.org, News and Events) for details

February Speaker Meeting

Feb 13, 2018: Nissan NSX Human Interaction and IOT
by Shawn Westbrook
Tuesday, February 13, 2018
5:30 p.m.—8:30 p.m.
The Aerospace Corporation
El Segundo, California

Check your email for a Reflector Notice

2018 International Symposium

Saturday, July 7 – Thursday, July 12, 2018
Washington D. C.

Check the INCOSE website (INCOSE.org, News and Events) for details

Western States Regional Conference

September, 2018
Seattle, Washington
Details in work; watch for future articles and check the website for opportunities and important dates