



NEWSLETTER



2002, 2004-10



2003



2008 President's
Award for Most
Outstanding
Chapter



UPCOMING EVENTS

INCOSE-LA Mini-Conference

Increasing the Value of Systems Engineering's Portfolio to Our Stakeholders

When: Saturday, October 16, 2010, 7:30 a.m.—5:00 p.m.

Where: Loyola Marymount University

See insert on page 3

Want to volunteer? Contact Dick Emerson at remerson9@gmail.com

INCOSE-San Diego Chapter Tutorial Series

Enabling Information Dominance Through Unmanned Autonomous Vehicles

When: Friday, October 29, 2010

Where: UCSD Extension Center—Sorrento Mesa

See page 7 for details

INCOSE Region II Fall Mini-Conference

Enabling Information Dominance Through Unmanned Autonomous Vehicles

When: Saturday, October 30, 2010

Where: National University—La Jolla Campus

See page 7 for details

SAVE THE DATE

Watch for more details on these upcoming events in future newsletters!

November Speaker Meeting

Presenter: Scott Jackson

When: Tuesday, November 9, 2010

Where: Boeing, Huntington Beach

November Tutorial

Enterprise Engineering Bootcamp

Presenter: Walter Wilson

When: Friday, November 12, 2010

December Speaker Meeting

Systems Engineering Return on Investment

Presenter: Eric Honour

When: Tuesday, December 7, 2010 (tentative)

INCOSE-LA Tutorial

Model-Based Systems Engineering/SysML

Presenter: Sandy Friedenthal

When: February 4-5, 2011

CSER 2011: Conference on Systems Engineering Research

When: April 14-16, 2011

Where: Crowne Plaza Hotel, Redondo Beach, CA

Call for papers. See insert on page 5

Volunteers wanted! See page 7 for details

The Mini-Conference! Ready, Aim...

By Jorg Largent with inputs from Dick Emerson

The leadership of the mini-conference team, Dick Emerson, the General Chair, and Rick Cline, the Technical Chair, working with the team of volunteers, is putting the finishing touches on the Chapter's Mini-Conference. The Mini-Conference this year is an all-day event being held Saturday, October 16, 2010 at Loyola Marymount University.

The theme of the conference, *Increasing the Value of Systems Engineering's Portfolio to our Stakeholders*, is to address a "self-examination" of systems engineering through presentations and discussions addressing:

1. the "goodness" of the systems engineering portfolio (the collection of tools, processes and techniques for effectively implementing systems engineering on a program or project)
2. methods to increase the effectiveness of our portfolio, and thoughts on how we can increase our customers' demand for our portfolio.

The intent underlying the theme is to capture the essence of the INCOSE mission and goals, and the presentations and panel discussions will cover an array of relevant systems engineering domains and issues. Another perspective is to ask (and answer)

(Continued on page 2)

Interested in the opportunity? Registration is still open at:

<http://www.incose-la.org/forms/2010-mini-conference-register.html>

Early registration discount ends October 8

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Mini-Conference (Continued from page 1)

questions addressing what is our portfolio, what is it we do, how effective are we, and how do we convince our customers they need our services.

This year the Mini-Conference will feature a morning and an afternoon keynote speaker, plus three great sessions consisting of nine presentations by some of the best systems engineers in Southern California. The Mini-Conference will conclude with an interactive panel discussion of “The Value Proposition: Perspectives on What Provides Value to Our Stakeholders.”

There are many benefits to be had attending this Mini-Conference. One benefit is the opportunity to meet with other systems engineering professionals and to build networks during the meals, breaks and other free time. A special note for this conference is the continued increase in participation by systems engineers from a broadening spectrum of industries and areas of interest. Other benefits include the opportunity to speak with our exhibitors about their products, services, or job opportunities, and the ability to ask questions of leaders in the profession.

In line with our theme, this Mini-Conference provides good value to our INCOSE-LA stakeholders. The 2010 Mini-Conference will bring forth valuable and interesting information and perspectives on a variety of Systems Engineering topics, along with opportunities to network with industry leaders and systems engineering professionals. Exhibitors will be sharing information on their products or services, as well as potential job opportunities. All this, along with hot breakfast and lunch buffets, make this event worth the price. Come join us!

A Reminder from Security:

The Mini-Conference is unclassified. Program or contractor information should be protected accordingly.

For up-to-the-minute event details:

- ◆ Check future editions of the Newsletter
- ◆ Watch your email for the Reflector
- ◆ Visit the INCOSE-LA website at <http://www.incose-la.org>



**International Symposium 2011
Call for Papers: Deadline Nov. 3**

Denver, Colorado is the site for the 21st annual INCOSE International Symposium scheduled for June 20-23, 2011. In more ways than one, the city of Denver itself will bring our symposium to new heights.

The organizing project team, composed of people from Colorado and the region stretching to California, are already hard at work to present an excellent symposium for you.

However, the symposium depends on YOU! Please submit your papers, panels, and tutorials by November 3, 2010. Deadline will not be extended.

Plan now to attend the premier Systems Engineering gathering of 2011!

Stay Connected

**Get the latest on
INCOSE-LA happenings
in the Reflector e-mails**

**If you wish to be placed on our e-mail distribution,
contact Susan Ruth**

susan.c.ruth@aero.org

The Board of Directors wishes to welcome the following new members in 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	Title	Company
Kristin Russ	Software/Systems Engineer	Control Point Corporation
Benoy Bhagattjee		
Brandon Wilson	Sr. Systems Engineer	Raytheon
Belle Koven	Student	University of Southern California
Deanna (Taki) Turner	Systems Engineering Manager	Boeing
Collette Kurtz	Sr. Systems Engineer	Raytheon
Mary Livio	Manager	ARINC
Kris Holtzclaw	Principal Software Engineer	Medical Electronics

INCOSE-LA Chapter NEWSLETTER

Vol. 8: Issue No. 9 October 2010



**International Council on
Systems Engineering (INCOSE)**
Los Angeles Chapter
is proud to host the



2010 Mini-Conference

Saturday, October 16, 2010 – 7:30 am to 5:00 pm

Loyola Marymount University
1 LMU Drive, Los Angeles, CA 90045



“Increasing the Value of Systems Engineering’s Portfolio to Our Stakeholders”

Presentations on the value of systems engineering

- *Model-Based Systems Engineering Panel (Jim Van Gaasbeek)*
- *Risk Based Technical Baseline Review (Sylvia Kohn-Rich)*
- *Using Model Based System Engineering (MBSE) Methods in Flight Test (Frank Alvidrez)*
- *System Engineering Radio: Podcast (Kent Palmer)*
- *A Safety Application Certification Framework (J R Richardson)*
- *Creating Value in Public Safety with Systems Engineering (A) Lee)*
- *Experiences with Lean SE (Bohdan Oppenheim)*
- *Enterprise Architecture for Systems Engineering (Beryl Bellman)*
- *Would A Rigorous Knowledge Base In “Systems Pathology” Add Significantly To The S.E. Portfolio? (Len Troncale)*

Keynote Speaker: **Dr. Jack Murphy**

VP of Systems Engineering and System of Systems Engineering and
VP of Mission Assurance for Boeing Defense Systems

Afternoon Keynote Speaker: **Dr. Azad Madni**

Prof of Systems Architecture and Engineering, USC, and
CEO, Intelligent Systems

plus Panel discussion by prominent leaders in our profession

**Plan on attending this special one-day event – an opportunity
to listen, learn, discuss, and share with fellow professionals.**

**** Breakfast and lunch buffets included ** Exhibitors ****

Registration Fees	Sept 16 through Oct 8, 2010	On-site
INCOSE Member	\$120	\$140
Non-member	\$135	\$150
Student or Senior Member	\$70	\$80

Our Sponsors



See our *Newsletter* and check our website www.incose-la.org for more details.

CSEEA 2011
**CONFERENCE ON SYSTEMS
ENGINEERING RESEARCH**
An International Conference

Call for Papers

Ninth Annual Conference on Systems Engineering Research

April 14-16, 2011
Crowne Plaza Redondo Beach & Marina Hotel
Redondo Beach, California
<http://www.incose-la.org/cser2011/>

Topics

We invite original research papers addressing the conception, design and architecting, development, modeling and simulating, production, operation and support of systems; definition of metrics of performance, and improvement methods; assessment and mitigation of risks; definition of critical success factors, and best practices. The research papers at the conference will be complemented with invited talks. Papers are invited in the following broad areas:

- Model-based Systems Engineering
- Value-based, Lean, Agile Systems Engineering
- System Security Engineering
- Integration of Physics-based and Information-based Models
- Social Networks and Graph Theory
- Early Stage Design Concepts and Economic Value ofilities
- Uncertainty and Complexity Management
- Systems Architecting and Architecture Tradeoff Analysis
- Cognitive Engineering and Human-Systems Integration

Abstracts

Abstracts must include:

1. A Title
2. Full Author Name and Affiliations
3. Complete Address for the Corresponding Author

Doctoral candidates pursuing systems engineering related research are specially encouraged to submit abstracts. One technical track at the CSER'11 will be devoted to abstracts by doctoral candidates. Please submit your abstracts electronically in Microsoft Word (not to exceed 10-pages) to: <http://venus.usc.edu/cser2011>

Conference Honorary Chair:

George Friedman, USC

Conference General Co-Chairs:

Azad Madni (USC) and Elliot Axelband (RAND)

Technical Program Co-Chairs:

Roger Ghanem (USC) and Marilee Wheaton (Aerospace Corporation)

Conference Management Chair:

Terry Rector (COM DEV – USA)

The University of Southern California in collaboration with Stevens Institute of Technology presents the 9th annual Conference on Systems Engineering Research.

The primary conference objective is to provide practitioners and researchers in academia, industry, and government a common platform to present, discuss and influence Systems Engineering research with the intent to enhance Systems Engineering practice and education. Papers are solicited pertaining to research in all these areas.

Organized by the University of Southern California (USC) in collaboration with Stevens Institute of Technology, managed by the Los Angeles Chapter of the International Council on Systems Engineering (INCOSE) and additionally, co-sponsored by others.

Milestones

Abstract submission: Oct. 15, 2010

Acceptance notification: Jan. 4, 2011

Camera ready copy due: Feb. 4, 2011



INCOSE Events in San Diego

Note: For more information about the following events, please contact INCOSE–San Diego President Joyce Williams at joycedwilliams@sbcglobal.net.

INCOSE-San Diego Tutorial Series

“Enabling Information Dominance Through Unmanned Autonomous Vehicles: (In the Air, on the Ground, and at Sea - All Collaborating Using Assured Communications)”

When: Friday, October 29, 2010, 8:00 a.m.—4:00 p.m.

Where: UCSD Extension Center—Sorrento Mesa
6925 Lusk Blvd., Room 107, San Diego, CA 92121



15th Annual INCOSE Region II Fall Mini-Conference

“Enabling Information Dominance Through Unmanned Autonomous Vehicles: (In the Air, on the Ground, and at Sea - All Collaborating Using Assured Communications)”

When: Saturday, October 30, 2010, 8:00 a.m.—4:00 p.m.

Where: National University—La Jolla Campus
11355 N Torrey Pines Rd, San Diego, CA 92037

Abstract: Unmanned autonomous vehicles, of various types, are a critical national capability. As the potential for reduced manpower and lower risk is high, linking information dominance and cyber security are key elements. This cutting-edge conference brings together military, federal, and local governments, acquisition executives, program managers, academia, and industry to discuss their plans to expand their vehicles use and to address the challenges facing potential expanded use of unmanned vehicles. This mini-conference will showcase the latest advances that industry and government have made in technology, interoperability standards, data security, and integrating unmanned autonomous vehicles into various environments.

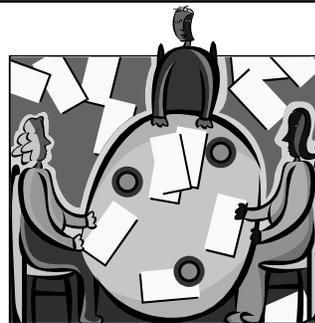
Volunteer Opportunities: CSER Wants YOU!

Thinking about getting more involved with INCOSE-LA? Here's your chance!

We are currently staffing volunteer positions to help with the upcoming Conference for Systems Engineering Research (CSER) to be held April 14-16, 2011, in Redondo Beach. Planning is now underway.

As our Chapter has commenced event planning activities, we are seeking volunteers to fill the following positions : Registrar, Publicity Chair, Finance Chair, Inter-organizational Liaison, Publications, Exhibits, Audio-Visual, Website-execution, and Website-content.

If any of these jobs sound interesting and if you want to become a more active member, please contact Conference Chair Terry Rector at terry.rector@comdev-usa.com or INCOSE-LA President Rosalind Lewis at rosalind.lewis@aero.org.



Quarterly Strategic Planning Meeting—Open to All Members Get Involved!

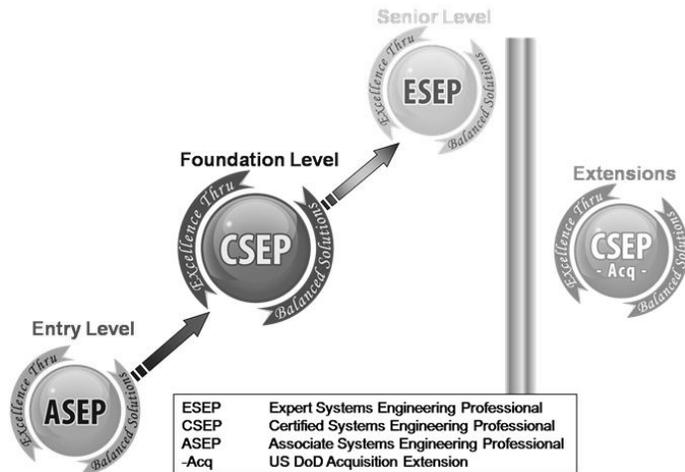
Later this month, the INCOSE-LA Board of Directors (BoD) will host their quarterly strategic planning meeting to work on Chapter goals and plan upcoming events. Each quarter, the BoD uses this venue to meet face-to-face and have a half day or all day working meeting outside of their weekly planning teleconferences. All members are welcome to attend the strategic meeting as a way to get to know the board and to contribute toward the goals and objectives of the Chapter.

Details for the meeting are in development as of press time. The meeting is tentatively set for Sunday, October 24. Please look for updates in the Reflector emails. If you have not yet subscribed to the Reflector, please contact Susan Ruth at susan.c.ruth@aero.org.

INCOSE is operated solely by volunteers, and the BoD appreciates the inputs provided by the members. To read about the INCOSE goals and objectives, go to: <http://incose-la.org/chapter/our-mission.html>. If you have additional questions, please contact INCOSE-LA President Rosalind Lewis at rosalind.lewis@aero.org.

Systems Engineering Professional Certification

The International Council on Systems Engineering has established a multi-level Professional Certification Program to provide a formal method for recognizing the knowledge and experience of systems engineers, regardless of where they may be in their career.



What is certification?

Certification is a formal process whereby a community of knowledgeable, experienced, and skilled representatives of an organization, such as INCOSE, provides formal recognition that a person has achieved competency in specific areas (demonstrated by education, experience, and knowledge). Certification differs from licensing in that licenses are permissions granted by a government entity for a person to practice within its regulatory boundaries. Certification also differs from a "certificate" that documents the successful completion of a training or education program.

Certification Value to YOU as a Systems Engineer

- Formally recognizes your Systems Engineering capabilities
- It is a discriminator that can aid in obtaining your next job
- Can provide a competitive advantage in your career
- Provides a portable Systems Engineering designation that is recognized across industry
- Furthers your professional development as a systems engineer
- Participation in continuing education indicates your commitment to personal development

Certification Value to YOUR ORGANIZATION

- Formally recognizes the Systems Engineering capabilities of your people
- Certified systems engineers can be a selling point and a discriminator for your proposals
- Can be used as part of the hiring and promotion process
- It encourages employee participation in continuing education
- Provides an independent internal and external assessment
- It is a tool for promoting professional competence



**Make sure your systems engineering
career is on the right track**

Become certified!

**INCOSE
Certified Systems Engineering Preparation
(CSEP)**

**ASE Consulting is offering CSEP training
INCOSE SE Handbook version 3.2**

Michael E. Krueger, CSEP
michael.krueger@ase-consult.com
714-674-0406

Systems Engineering Certification Tutorial Webinar

The INCOSE Hampton Roads Area Chapter and Northrop Grumman Corporation (NGC) are hosting a tutorial webinar to help you prepare for the INCOSE Systems Engineering certification exam.

Beginning Thursday, October 7, 2010, and running through April 2011, the tutorial consists of 16 weekly sessions, held from noon to 1:30 p.m., Eastern Time, for up to 300 INCOSE and 250 NGC participants.

There is no need to pre-register, and there is no cost. Just join in! The LiveMeeting sessions will be open 30 minutes before the start time. Prior to each session, participants are encouraged to read the sections and appendices of the SE Handbook to be presented. Course materials include the course schedule, tutorial slides (including PowerPoint Notes), sample questions, and prior-session audio and video recordings for downloading if you miss a class.

For more information go to: <http://www.incose.org/newsevents/news/details.aspx?id=215>

So Just What, Exactly, is the “First Step” of the Systems Engineering Process?

Ruminations by Jorg Largent

There are two, if not more, schools of thought regard the “first step” of the systems engineering process. One school of thought is that gathering requirements and managing the requirements decomposition is the first. Another school of thought is that architecting is the first step because architecting captures the essence of the project without defining too many requirements, and facilitates communicating the purpose of a project to the team members. Architecting also facilitates the management of expectations. The importance of managing expectations can be seen in two comments from automotive repair: “While *you* are under the hood” or “While *I* am under the hood.” The former might be said by a customer envisioning a no-cost enhancement (better is the enemy of good enough), and the latter might be said by an individual advocating a “pet-rock” technology. Both are the seeds of requirements creep.

However, while early architecting and early engagement of the requirements capture and management activities are important, nay critical, mightn’t there be a prerequisite step to those activities?

Starting the Systems Engineering Process: Starting the systems engineering process, and starting it well, is an easy-to-agree-to first step. Our agrarian forefathers appreciated the importance of starting plowing – a project – correctly by ensuring that the first furrow was straight. Plowing the first furrow was vulnerable to minor deviations – deviations to avoid an inconvenient difficulty or to save time. Old Dobbin might do a bit of wandering himself. Regardless, subsequent furrows were no better than the first and minor imperfections in the first were often amplified in those other furrows.

This leads to the question, “how then to ‘start’ the systems engineering process?” The proposed answer to that question has two elements: finding the right audience and making a convincing presentation.

Find the Right Audience: A proposed step one: the “right audience” is the individual who has the authority to control budget and control activities, and has the wherewithal to ensure that activities are in keeping with the systems engineering process. Once having found said individual, the challenge is to make a convincing presentation (see below) that helps the audience appreciate the value of systems engineering to the project. Of course, on many projects, no such single person exists. Instead, the “right audience” might consist of three or four individuals.

Observations:

1. If it takes more than four people to wield the needed authority, the “right audience” is another level up in the organization.
2. If there is no such node within an organization, the probability of successfully implementing the systems engineering process is diminished.
3. If the person (or people) who has the needed authority cannot make a decision without an entourage of horseholders, then the likelihood of successfully implementing and following the systems engineering process is, again, diminished.

4. In some cases the leadership of an organization might be averse to the systems engineering process because the consequential reductions in cost combined with improved efficiencies might have undesired consequences to the bottom line for that organization. The history of software development, rife with multiple versions, would not have been as lucrative as it has been if the systems engineering process had been applied.

The Convincing Presentation: Empirically, the most attractive approach is to cite two identical projects, one of which followed the systems engineering process 100% and the other project which did not follow the systems engineering process at all. A side-by-side comparison of the cost, schedule, and performance of the two projects would provide an absolute and unarguable illustration of the value of the systems engineering process. Alas, no two such projects exist. All projects use at least a part of the systems engineering process to a greater or lesser degree, sooner or later. There are some advocacies that cite real data and deftly demonstrate the value of systems engineering. Often times, however, these advocacies are sufficiently voluminous and sophisticated so as to limit the understanding and appreciation they afford to only those who are already steeped in understanding of the systems engineering process.

Another approach is to cite the improvements from one project to a subsequent and more successful project. This approach leads the presentation down the slippery slope of “yeah, but....” Doubts can arise as dissimilarities between the projects are noted: different technologies, different requirements, different people, or the same people with more experience. The common denominator – the industry performing the projects – can also be a basis of shyness because of the dissimilarities between that industry cited as an illustration and the industry of the audience.

If not These, Then What? The presentation must be short, succinct, and pithy. The presentation should speak the language of the audience. The language of the systems engineer will not communicate the value of the systems engineering process to someone who has, at best, a notional appreciation of the systems engineering process. Given that a deductive presentation might not work, inductive reasoning should be considered. A presentation using inductive reasoning could be based on the common problems that cause projects to fall short in terms of expectations or performance – that caused earlier projects in the realm of the audience to overrun or that resulted in failure and cancellation of a project – the problems and issues which are solved by the systems engineering process. If the audience does not agree that the cited common problems are sufficiently costly as to warrant a solution, then stop. The leadership represented by the audience is not ready to make a commitment to the systems engineering process. If the audience does agree, then the next presentation is to begin explaining the systems engineering process and how it would benefit a project.

On solutions: “You cannot cure cancer by a majority. What is wanted is a remedy.”

On problems: “In critical and baffling situations, it is always best to return to first principle and then simple action.”

Sir Winston Churchill

Per James C. Humes, *The wit & Wisdom of Winston Churchill*, 1994

INCOSE-LA Chapter NEWSLETTER

Vol. 8: Issue No. 9 October 2010

Return Address:

800 S. Pacific Coast Hwy. #8-205
Redondo Beach, CA 90277

Forwarding Address Requested

The International Council on Systems Engineering (INCOSE) is an organization formed for the purpose of advancing the art and science of systems engineering in various areas of the public and private sectors. . Our mission is to advance the state of the art and practice of systems engineering in industry, academia, and government by promoting interdisciplinary, scalable approaches to produce technologically appropriate solutions that meet societal needs.

The Los Angeles Chapter meets several times per year for dinner meetings, and additionally sponsors tutorials and other activities of interest to those in the systems engineering field or related fields. L. A. Chapter officers are as follows:

2010 Board of Directors and Appointed Positions

Elected Officers

President:	Rosalind Lewis	rosalind.lewis@aero.org	or	president@incose-la.org
Vice-President:	Beth O'Donnell	elizabeth.l.o'donnell@boeing.com	or	vicepresident@incose-la.org
Past President:	Eric Belle	eric_c_belle@raytheon.com	or	pastpresident@incose-la.org
Secretary:	Josh Sparber	joshua.sparber@dcma.mil	or	secretary@incose-la.org
Treasurer:	Marsha Weiskopf	marsha.weiskopf@aero.org	or	treasurer@incose-la.org

Elected At-Large Directors

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Systems Engineering Education:	Shirley Tseng	shirleytseng@earthlink.net	or	setraining@incose-la.org
Ways and Means:	Shah Selbe	shah.selbe@boeing.com	or	waysandmeans@incose-la.org
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Appointed Positions

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2010 Mini-Conference Chair:	Richard (Dick) Emerson	remerson9@gmail.com		
2010 Mini-Conference Technical Program Chair:	Rick Cline	richard.g.cline@boeing.com		
2011 CSER Chair:	Terry Rector	Terry.Rector@comdev-usa.com		
Representative to San Fernando Valley Engineers' Council:	Stephen Guine	Stephen.Guine@ngc.com		

Those interested in INCOSE membership please contact Paul Cudney - paul.cudney@incose.org. If you wish to be placed on our E-mail distribution, please contact Susan Ruth - susan.c.ruth@aero.org.