Vol. 13, Issue 2: April – May 2015

# NEWSLETTER

2002, 2004-12 2003

2008, 2012 President's Award for Most Outstanding Chapter

UPCOMING EVENTS!
THERE ARE TWO SPECIAL UPCOMING EVENTS
FOR THE LOS ANGELES CHAPTER!

## Speaker Meeting with David Long, President of INCOSE

### "Systems Engineering in Turbulent Times"

The Chapter is honored to have David Long speak to us at the Speaker Meeting on Wednesday, April 15, 2015. Plan on an evening of light refreshments, networking, and an insightful and informative presentation.

**ABSTRACT:** Emerging needs… rapidly changing requirements… dynamic environments…ever-increasing connectivity… evolutionary and revolutionary technologies… budget crises… shrinking schedules. The practice and profession of systems engineering emerged from the development of large, stand-alone, single purpose systems.

Today we face an ever-shifting landscape and operate across a wide range of size, cost, and product lifespan. As technologies continue to advance and dynamic complexity grows, what role does systems engineering place in solving problems today and tomorrow? How do we adjust and evolve our practice to deliver greater value in turbulent times?

*(See "Speaker Meeting," on page 4)*

## Regional Conference in Southern California

*By Stephen Guine*

For 2015, your INCOSE-LA chapter is hard at work developing a joint regional conference in collaboration with INCOSE chapters from San Diego, central and southern Arizona, and San Francisco. Although many of the details are still in the works, the general idea is to hold the conference sometime in late October to early November, in the north Orange County area. We have already secured the sponsorship and partnership of IBM, who, in addition to financial support will be providing presentations of their tool set as well as the participation of other tool and training providers. We are always looking for volunteers to support our planning and conference execution activities, so if you want to get involved, now is the time. Please contact Terry Rector (Terry.E.Rector@aero.org) for details and to find out how you can help make your chapter stronger and make this event a success.

**Los Angeles** **San Francisco**
**San Diego** **Arizona**
**IBM**
**with more to come!**

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## *Cal Poly Pomona Student Division Project Sponsors*

As a part of INCOSE's Student Division Program, David Mason, Assistant Director, has engaged with Cal Poly Pomona in a pathfinder effort to connect INCOSE, industry and Cal Poly senior projects. Since Cal Poly Pomona is in the Los Angeles Chapter's geographical area, our assistance has been solicited.

In general, this request is to find people who might be interested in providing project descriptions appropriate for senior projects for Cal Poly Pomona students and be willing to serve as a mentor to the team which selects your project, a time frame of approximately two quarters.

Even if you can't participate in the first event described below, your indication of interest is requested. This puts you on a list of Los Angeles Chapter members who are interested, that's it. As opportunities become available, you'll be invited to participate.

## BE A SPONSOR!
## BOLSTER THE SYSTEMS ENGINEERS OF TOMORROW!

**IN THE IMMEDIATE FUTURE:**

We are looking for people to provide projects appropriate to Industrial/Manufacturing Engineering students to be presented to the students on Saturday, April 11, 2015. This will be followed by a working session with a group of students to help them understand how to integrate what they learned at the systems engineering tutorial earlier in the day, how they might apply their classroom tools, and how these would apply to your project.

What you would provide:

1. a short briefing (two to three slides, nominally 10 minutes, format provided below); projects can be real, sanitized for relevant attributes, or your own creation
2. your presence on April 11, 2015 to present your slides
3. your presence on April 11, 2015 to lead a student working group
4. if your project is selected by a team, provide ongoing mentorship (see below) and financial resources if your project (or you) require deliverables that are beyond those intended by Cal Poly (nominally something more than reports, e.g. prototypes).

What INCOSE will provide:

1. a template for the briefing (below, comments welcome)
2. a framework for the student working group session
3. the content of the SE tutorial to supply a framework for the working group session
4. the senior project guidelines (when you indicate your interest)
5. a sample project briefing (upon request)

*(See "Cal Poly Pomona" on page 7)*

## Call for Volunteers! Opportunities to Grow Opportunities to Help the Chapter Grow

*By Stephen Guine*

Greetings!

As you know, all INCOSE Chapters are operated by their members and it is this "owner-operated" aspect that makes our chapter strong.

As we continue to pursue our goal to create increasing value for our members, there are numerous opportunities for you to get involved. We currently have several open positions and I invite you to volunteer, share your talents, enhance your professional skills, and broaden your network.

We are specifically looking for members to fill the following positions:

### Social Media Manager

This role is responsible for managing the chapter's Facebook, LinkedIn, and Twitter presence by leveraging the content that we already create via our newsletter and monthly calendar development processes. Additionally, we are looking for someone with ideas and vision for what we "should" be doing with our various social media tools and the motivation to convert those ideas into reality.

To volunteer, contact Bob Noel, Communications Director, robert.noel@boeing.com.

### Conference Risk Manager

Risk, Issue, and Opportunity Management is a fundamental skill for systems engineers and critical to ensuring that our chapter is fully prepared for all contingencies while bringing value to our membership. This is an excellent opportunity for someone who is looking to add this skill and experience to their professional portfolio. As we continue on the path to presenting a joint conference, this role will be critical for the chapter. To volunteer, please contact Terry Rector, Chapter Vice President, terryrector7045@gmail.com.

### Meeting Webcast Coordinator

Our chapter covers a very large geographic area which makes virtual participation crucial. This role ensures that the communications tools are configured and the correct instructions are distributed in a timely manner. Additionally, since we are starting to see an increase in virtual participation, we want to ensure that we are managing this capability appropriately. To volunteer please contact Stephen Guine, Chapter President, stephen.guine@incose-la.org.

### *Newsletter* Production Editor

*Newsletter* production requires both an eye for detail and an understanding of deadlines. This role works in coordination with our *Newsletter* Editor to ensure that our chapter delivers a quality product worthy of our members. Additionally, this role helps coordinate with the Social Media Manager to ensure that we are maximizing reuse of our newsletter content (it is acceptable for the same volunteer to fill both roles simultaneously).

To volunteer, please contact Jorg Largent, *Newsletter* Editor, largent_atpmd@msn.com).

*(See "Volunteer," on page 10)*

## Principles for Agile Development A Seminar

*By Curtis Iwata*

On February 24, 2015, Phyllis Marbach, from The Boeing Company, made a presentation to the INCOSE-LA Chapter. Her presentation was entitled, "Principles for Agile Development." Phyllis is an Agile Coach at The Boeing Company and has worked with many development teams to implement agile practices. The seminar was a summary of the work by INCOSE's Agile Systems and Systems Engineering Working Group, and they have presented a paper on the first part of their research on the Agile Systems Engineering Framework at INCOSE International Symposium 2014 (link below).

The Principles for Agile Development is derived from the "Agile Manifesto" by Beck et al. and its "12 Principles of Agile Software" (link below). The original manifesto and principles were written for software development, and this framework is human-centric, placing people in the middle and not the process. The Agile Working Group adapted this for the Systems Engineering context, and the modified twelve principles are the following:

1. Satisfy the stakeholder(s) through early and continuous delivery of valuable capabilities.
2. Plan for evolving requirements, and retain as much flexibility as is valuable throughout development especially when change leads to a competitive advantage.
3. Deliver working capabilities frequently, from a couple of weeks to a couple of months, with preference to the shorter timescale.
4. Work together daily — business personnel, customers or their advocates, and implementers must work together daily throughout the project.
5. Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.
6. The most efficient and effective method of conveying information is personal conversation.
7. Working capabilities are the primary measure of progress.
8. Agile processes promote sustainable delivery. The sponsors, developers, and users should be engaged and able to maintain a constant pace to the project completion.
9. Continuous attention to technical excellence and good design enhances agility.
10. Simplicity "the art of maximizing the amount of work not done" is essential, especially within the implementation team. A truly agile development project does not force artificial reporting and process requirements on the implementation team.
11. The best architectures, requirements, and designs emerge from self-organizing teams, based on a minimal set of guiding principles.
12. Reflect — at regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

The framework and principles are not necessarily for everyone and every project. It is most effective for cross-functional teams with systems and software engineers who are working on customer "pull" projects, and it can be for both hardware and software development. The original Agile Manifesto was meant for small teams, and the Agile SE Framework has extended it for medium-sized groups on the order of 100.

There is ongoing research to make it scalable to even larger projects.

Based on Phyllis' experience, people are happier following Agile Principles. This format allows people to do more meaningful work, which is more satisfying and leads to happy people, so, "help spread the happiness."

The cited links: http://www.sedcconference.org/wp-content/uploads/2014/04/A-3_Systems-Engineering-for-Software-Intensive-Projects-Using-Agile-Methods_update.pdf, and http://agilemanifesto.org/

π Did you miss "pi day of the century" at 9:26:53 on March 14, 2015?

## INCOSE-LA at Boeing Engineering Week Fair

INCOSE-LA Board Member Phyllis Marbach supported an Engineering Week Fair held at The Boeing Company, Huntington Beach, CA on February 26, 2015. Phyllis provided information about the INCOSE-LA chapter and the benefits of membership to visiting high school students and Boeing employees. Bob Noel and Beth O'Donnell, not pictured, also supported the event.

*(Speaker Meeting, continued from page 1)*

**BIOGRAPHY:** For over twenty years, David Long has focused on enabling, applying, and advancing model-based systems engineering to help transform the state of the systems engineering practice. David is the founder and president of Vitech Corporation where he developed CORE®, a leading systems engineering software environment. He co-authored the book, "A Primer for Model-Based Systems Engineering," and is a frequent presenter at industry events around the world. A committed member of the systems community, David is president of the International Council on Systems Engineering, a 10,000 member professional organization focused on sharing, promoting, and advancing the best of systems engineering.

**COST:** Cost: Free for members; $10.00 for non-members
**WHEN:** Wednesday, April 15, 2015
**AGENDA:**

- 5:30 p.m. to 6:20 p.m.: registration, networking, and refreshments
- 6:20 p.m. to 6:30 p.m.: welcome and announcements
- 6:30 p.m. to 7:45 p.m.: David's presentation and discussion.

**WHERE:**
**HOST SITE:**

Aerospace Corporation, Building D8, Room 100
200 North Aviation Boulevard, El Segundo, California

**REMOTE SITES:**

- Antelope Valley
- Azusa — Northrop Grumman
- Golita — Control Point Corporation, 110 Castilian, Suite 200,
- Pasadena — Jet Propulsion Laboratory, 4800 Oak Grove Drive
- San Fernando Valley — Capstone Turbine Corporation, 21211 Nordhoff Street, Chatsworth

**REGISTRATION IS REQUIRED**

REGISTRATION DATE TO ATTEND AT THE HOST SITE: Wednesday, April 8, 2015.

Register on line at the INCOSE-LA web page. Information needed to register: name, employer (if employed), title, telephone number, citizenship, e-mail address, site at which you will be attending, and, of members, membership number.

## First Quarter Strategic Planning Meeting Report

(or... What's happening in the head shed)

*By Jorg Largent*

The First Quarter Strategic Planning Meeting was held Saturday, February 7, 2015 in Northrop Grumman's "S" Café in Redondo Beach. Chapter President Stephen Guine opened the meeting. Vice-president Terry Rector, and Past-president Michael Wallace provided leadership and were supported by several members and the Board of Directors. Stephen noted that one purpose of the meeting was to, "make sure all of our shoes are pointed in the same direction."

One of the purposes of the meeting was to transition to the 2015 Board of Directors. Another objective was to provide strategic guidance and planning for the Chapter in 2015 and beyond. Additional objectives included reports from the business areas of the Chapter and, of particular note, to review the feedback from the January 17, 2015 town hall meeting.

One of the challenges taken up by the Board is to help the individual members become better systems engineers and to help the individual members develop a broad and strong foundation of the professional skills needed for career advancement. This is a continuation of, and potential expansion of, the speaker meetings, tutorial, seminars, and networking events the Chapter has offered in the past. Of particular note is to host the bi-monthly networking events in different locations throughout the geographically diverse area served by the Chapter. On new concept proposed by Padman Nagenthiram is to start a systems thinking working group in within the Chapter.

A second challenge is to take systems thinking and knowledge to other professional societies. As a complement to the goal, Loyola Marymount's Dr. Oppenhiem allowed as how some of the speakers who spoke to the Biomedical and Health Working Group during the International Workshop could speak about systems engineering in their discipline area and some of the issues regarding statistics and ethics.

One topic discussed at length was the role of the volunteer and how the Chapter can better attract volunteers (see article on page 2) and how the Chapter can better honor the interests of those who do volunteer by connecting them with the tasks the contributions they would like to make.

The student divisions were discussed, and the University of Southern California, Loyola Marymount and Cal Poly Pomona (see related article on page 2).

One area of planned improvements is the website. The website currently in use has served the chapter well, but needs to be updated to better interface with the members. Toward this end, the Chapter is working to leverage off of the new INCOSE website being developed.

*(See "Strategic Planning Meeting," on page 8)*

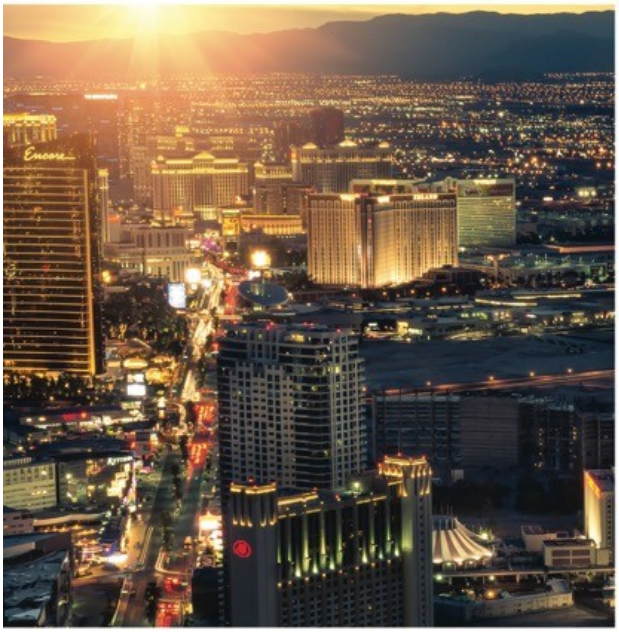
**Not a member? Join INCOSE!**

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

# Systems Engineering

for Technology-Based Projects and Product Developments

PROJECT PERFORMANCE INTERNATIONAL



## Las Vegas, NV

### April 27 - May 1, 2015

PPI's popular systems engineering course is intended for personnel who perform, manage, control or specify the development of technology-based systems. The course provides participants with the knowledge, insights and tools to understand and apply best practice in the engineering of systems.

Join over 8,500 professionals around the world who have already taken this course.

For the complete course description, or to register, please visit: www.ppi-int.com/se

# CSEP Exam Preparation Course

Next Delivery

**Denver, CO**

**May 11 - 14 ,2015**

## INCOSE LA Members receive a $200 Discount

Gain international recognition of your systems engineering capabilities and a competitive advantage in your career.

**Upcoming 4-Day Deliveries**

| | |
|---|---|
| Denver, CO | May 11 - 14, 2015 |
| Pittsburgh, PA | May 18 - 21, 2015 |
| Baltimore, MD | June 15 - 18, 2015 |
| Las Vegas, NV | November 2 - 5, 2015 |

Register today at: www.certificationtraining-int.com

# International Council on Systems Engineering (INCOSE)

## LOS ANGELES CHAPTER

*is proud to host the*

# 2015 Mini-Conference
# Now Planned for Fall 2015

## *Systems Engineering – One Discipline ...viding Global Value: Fundamentals, A... and Innovati...*

UNDER CONSTRUCTION
CONTENT WILL BE AVAILABLE SOON

**Systems engineering** is a vit... and complex systems. In respo... development has become closely i... eation, constrained costs, manag... disciplined approach to systems... premium on program execution ... fundamentals, applications and ... in systems engineering concepts.

...nsider that systems engineering is a global discipline, ...damentals can be adapted for many different applications to ...erns and create value.

...special one-day event for an opportunity to

- Explore systems engineering as a discipline with many... the world
- Discuss and learn about innovative applications of syste... domains and challenges
- Learn lessons from practical applications of systems en... provided
- Network with fellow professionals

## STAY TUNED FOR FURTHER DETAILS!!!

If you are interested in sponsoring or exhibiting, then please address inquiries to mini-conf@incose-la.org.

*(Cal Poly Pomona, continued from page 2)*

**THE STRATEGIC VIEW**

Cal Poly requires a senior project from most of the specializations within the College of Engineering. The intent is that it spans two consecutive quarters. Though this event is not optimally timed for the student calendar (at the start of the spring quarter), it is a pathfinder to see if the general structure can work. Since most students aren't generally picking projects at the beginning of the spring quarter, the projects you provide are used for the working group session. With permission, they will be made available to students in the future until the project is selected.

The general strategic intent for Cal Poly is to hold an event similar to the April 11 event at the beginning of the fall quarter and again for the winter quarter on a recurring basis. The upcoming event is targeted towards Industrial/Manufacturing Engineering students, but could be expanded to the other engineering domains.

There is also some discussion of extending this model to other student chapters and to other geographical areas, hence the inquiry about your general interest.

Template for briefing your project:

The project can be real, it can be a real project but sanitized and scoped for this effort, or a completely synthetic, but realistic project. The results of the project are generally documents of various kinds, analyses, topic briefings (e.g. a ConOps), but with the objective of integrating their school content with SE for their senior project.

Tentative Template:

- Project Title
- Project Sponsor (you/your affiliation)
- Describe the project
- Purpose/intent
- Proposed output(s)
- Points of Contact/Resources
- POC's (you, colleagues who've indicated willingness to participate, other companies and organizations)
- Resources you feel would help (articles, websites, books, etc.)
- Financial resources (if required by your project)

This program is in its formative stages and inputs are welcome. To provide inputs, a critique or to volunteer, please contact Susan Ruth at Susan.C.Ruth@aero.org.

***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 at *susan.c.ruth@aero.org*

# Agile Systems and System Engineering

*By Phyllis Marbach*

A fairly new INCOSE working group was formed in late 2012: the Agile Systems and Systems Engineering Working Group, identified as the AS&SE WG. The charter is to define agile systems-engineering and agile-systems engineering for the INCOSE community. A number of project teams were formed after the first brainstorming meeting at the International Workshop 2013.

Agile-systems engineering refers to a system that is architected in such a way that it can be evolved in an agile way. What is meant by evolving an architecture in an agile way is that an architecture framework is established that has standard interfaces and therefore the components developed for the framework might be developed in an iterative and incremental way. The architecture framework is an enabling capability to then develop the system using an agile systems-engineering process. Besides the standard interfaces for plug compatibility, other enabling architectural principles include encapsulated modules and facilitated reuse. Reconfigurable and scalable principles are included in the ability to start and evolve an architecture. These concepts are described in more detail in, "Fundamentals of Agile Systems Engineering – Part 1," Dove, Rick and Ralph LaBarge (http://www.parshift.com/s/140630IS14-AgileSystemsEngineering-Part1.pdf).

Agile systems engineering refers to the engineering process that is followed in developing the system of interest in an iterative and incremental way. In summary, a system that is developed iteratively and incrementally has an initial plan with a vision and roadmap that shows the high level capabilities to be developed over a defined period of time. Once the roadmap and architecture framework is defined the highest priority work is started that will accomplish a minimum viable product in a short amount of time. Usually, an iteration is two weeks and an increment is several iterations to get to that minimum viable product. Ideally, each team is made up of between five and nine people who meet every day to report on the work underway. Each person only works one item at a time. Impediments are reported in the daily meetings and removed as quickly as possible. Many of these working guidelines are consistent with Lean principles. These concepts are described in more detail in, "Fundamentals of Agile Systems Engineering – Part 2," Dove, Rick and Ralph LaBarge (http://www.parshift.com/s/140630IS14-AgileSystemsEngineering-Part2.pdf), for hardware-intensive systems, and in *Systems Engineering for Software Intensive Projects Using Agile Methods*, by Rosser, Larri; Marbach, Phyllis; Osvalds, Gundars; and Lempia, David.. If you are interesting in joining the working group please contact Phyllis Marbach at prmarbach@gmail.com.

*(Strategic Planning Meeting, continued from page 4)*

The Chapter-hosted conference (see related article on page 1) was discussed. As a result of the success of past conferences and the hugely successful Conference on Systems Engineering Research (CSER) in 2014, representatives of neighboring chapters and of the Americas Sector leadership entered into discussions of a team effort to conduct a larger conference. The Chapter is also formulating plans for the next CSER to be held in southern California.

The attendees discussed the inputs from the January 13, 2015 Town Hall Meeting, the subject of an article in the February – March edition of the Newsletter. The Chapter is not lacking in ideas or talent, and the Board of Directors is keenly aware of the challenge of finding the time to, "get 'er done."

The Chapter leadership is dedicated to working to serve the members of the Chapter and welcomes volunteers to help and inputs better define and implement the value to the membership that makes the Los Angeles Chapter one of the best, if not the best, Chapter in INCOSE.

Above, Phyllis Marbach, Director of Membership, speaks to the meeting. At left, Past-president Mike Wallace presents an award to Eric Belle, 2013 Chapter President. Below, DeAnna Regalbuto, a past Director of Communications, explains some things to President Stephen Guine. Bottom: some of the attendees listened to a presentation while others worked on their plans.

**The First Quarter Strategic Planning Meeting**

# INCOSE-LA AT THE 2014 INTERNATIONAL WORKSHOP

INCOSE-LA was well represented at the 2014 International Workshop in Torrance — networking, hosting a popular soiree, and participating in multiple work session.

***Going to the International Symposium?***

***Let us know and look forward to an invitation to the Chapter-hosted soiree!***

Some Thoughts on Improved Communications:
Don't be too cocksure of your own knowledge
Listen to what is being said rather than plotting a response
Not everything that can be said needs to be said
Don't jump into a conversation to show off your own knowledge
Don't speculate
Don't gossip
Don't embellish
Don't interrupt to correct an error — it might be superfluous

> Scientism, meanwhile, is the act of seeing in science what is not there. It is an act of faith that elevates, nay makes divine, the authority of science to bolster the aims of its acolytes.
>
> "The Tyranny of Clichés," Jonah Goldberg

When we face with a steady eye the difficulties which lie before us, we may derive new confidence from remembering those we have already overcome.

*Winston Churchill*

# DON'T FORGET!

**The Twenty-fifth Silver Anniversary International Symposium in Seattle, July 13 — 16, 2015!**

Go to the INCOSE website for details
http://events.incose.org/

*(Volunteer, continued from page 2)*

### Remote Site coordinator

Although members might choose to participate in meetings virtually, it is much more satisfying both professionally and personally if they attend an event at a remote site. This role is responsible for ensuring that the volunteer hosts of our remote sites are available to support the monthly events and that all of their pre-registration requirements have been conveyed as part of the event registration. To volunteer, please contact Stephen Guine, Chapter President (stephen.guine@incose-la.org).

## Interested in Volunteering?

**The value proposition for you:**

- If you are just starting out in your career as a Systems Engineer, these are good opportunities to have "high touch" communication with senior professionals and develop personal and professional relationships that will be useful in mapping out and proceeding along your career path.
- If you are a mid-career professional, these are opportunities to sharpen a specific skill that you might need for further advancement, or refresh skills that have atrophied from disuse.
- If you are a senior professional, these are opportunities to "give back" by mentoring our next generation of Systems Engineers and chapter leaders.

Of course, these are just a few of the many reasons to volunteer. If the roles listed above are not a good fit for you, do not fret! We still need your involvement so do not hesitate to contact our Volunteer Coordinator and me, and let's find a role

## 2014 Board of Directors

| **Elected Officers** | | | **Elected At-large Directors** | | |
|---|---|---|---|---|---|
| President | Stephen Guine | Stephen.Guine@ngc.com | Membership | Phyllis Marbach | phyllis.r.marbach@boeing.com |
| Vice President | Terry Rector | Terry.E.Rector@aero.org | Programs | Dr. Rick Hefner | rhefner@caltech.edu |
| Immediate Past President | Michael Wallace | m.wallace@ngc.com | Systems Engineering Education | Padman Nagenthiram | padman.nagenthiram @gmail.com |
| Secretary | Jeffrey Willis | Jeffrey.Willis@ngc.com | Ways and Means | Paul Cudney | paul.cudney@incose.org |
| Treasurer | Harvey Soldan | harvey.soldan@jpl.nasa.gov | Communications | Bob Noel | robert.noel@boeing.com |
| **Appointed Positions** | | | | | |
| Newsletter Editor | Jorg Largent | jorg.largent@incose.org | Student Division Ambassadors | Scott Birtalan | scott.birtalan@ngc.com |
| Technical Society Liaison | Shirley Tseng | shirleytseng@earthlink.net | Reflector Manager | Susan Ruth | susan.c.ruth@aero.org |
| Chapter Recognition Manager | Phyllis Marbach Michael Marr | phyllis.r.marbach@boeing.com | Industrial Relations Manager | Jose Garcia Jr. | jose.s.garcia-jr@boeing.com |
| Professional Networking Chair | Scott Birtalan | scott.birtalan@ngc.com | Website Technical Manager | OPEN | |
| Representative to the SF Valley Engineer's Council | Stephen Guine | Stephen.Guine@ngc.com | Lead Site Coordinator | OPEN | |

**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 | Title | Company or Organization |
|---|---|---|
| Christian Bravo | Principal Systems Engineer | Raytheon |
| Tamin Alajlan | Student | LMU |
| Latifa Alkuwaiz | Student | LMU |
| Stuart Canario | Manager, RF Prod Design | Boeing |
| Azuka Chikwendu | GNC Engineer | Boeing |
| Ratat Eed | Student | LMU |
| Ricardo Palmas | Systems Development and Test Engineer | Moog |
| Doris Gebelein | Systems Engineer, Sr. | Lockheed Martin Aeronautics Company |
| Jay Yonemoto | System Engineering Consultant | Sutton Creek |
| Leila Meshkat | Senior Engineer | California Institute of Technology |
| Michael Plantenga | Professor, Systems Engineering and Program Management | United States Air Force |
| James Spry | Planetary Protection Engineer | Jet Propulsion Laboratory |
| Michele West | | |
| Joseph Uken | | CPP |
| JohnValera | | |
| Amy Jager | Member of the Technical Staff | The Aerospace Corporation |
| Melanie Reis | Director | Rockwell Collins |
| Edward Alege | | LA Metro |
| Reinland Jones | | LAMTA |
| Eva Pan | | LAMTA |
| William Chang | Engineer | Booz Allen Hamilton |
| Elizabeth Croyle | Systems Engineer | Northrop Grumman |
| Samuel Esquenazi | | Caltrans - Los Angeles |
| Alyssa Phaneuf | | Kimley-Horn and Associates |
| Andreas Saar | | Siemens PLM |
| James Alstad | PhD Student | University of Southern California |
| Michael Venegas | Senior System Engineer | Moog, Inc. |
| James Latimer | Program Manager | AT&T |
| Lauryn Pitts | Systems Engineer | Northrop Grumman |
| Inez Fimbres | Senior Systems Engineer | Raytheon Company |
| Julie Reiz | | Jet Propulsion Laboratory |
| Alexandra Wheeler | | Jet Propulsion Laboratory |
| James Moore | Professor, Vice Dean for Academic Programs | University of Southern California Viterbi School of Engineering |
| Matthew Zents | Senior Project Manager | Southern California Edison |
| Patrick Corr | System Engineer | Defense Contract Management Agency (DCMA) |
| Parks Stephenson | Systems Engineering Manager | Moog, Inc. Aircraft Group |
| Michael Prendergast | Engineering Fellow | Raytheon |

INCOSE-LA Chapter NEWSLETTER
**Vol. 13, Issue 2: April – May 2015**

**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 details on Chapter-sponsored events and registration, go to http://www.incose-la.org**

**Speaker Meeting**
Speaker: INCOSE President David Long
Topic: Systems Engineering in Turbulent Times
**Date: Wednesday, April 15, 2015**
Time: 5:30 p.m. – 9:00 p.m.
Location: Aerospace Corporation, El Segundo
Cost: Free for members; $10.00 for non-members
Register on line at the INCOSE-LA website by Wednesday, April 15, 2015 in order to attend at the host site
*See article on page 1 for more details; look for a Reflector Notice in your email or check the Chapter website for more details*

**Networking Event in Pasadena area**
Date: Wednesday, April 22, 2015
Time: 5:30 p.m. – 7:00 p.m.
*Look for a Reflector Notice in your email or check the Chapter website for more details*

**Strategic Planning Meeting**
Date: Saturday, May 9, 2015
No Cost, just bring your ideas
Location: Northrop Grumman S Café, Redondo Beach
*Look for a Reflector Notice in your email or check the Chapter website for more details*

**Speaker Meeting**
Date: Tuesday, May 12, 2015
Time: 5:30 p.m. – 9:00 p.m.
Cost: Free for members; $10.00 for non-members
*Look for a Reflector Notice in your email or check the Chapter website for more details*

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**Networking Event**
Date: Wednesday, June 17, 2015
Time: 5:30 p.m. – 7:00 p.m.
*Look for a Reflector Notice in your email or check the Chapter website for more details*

**International Symposium — "Celebrating Leadership"**
Date: July 13—16, 2015
Location: Seattle, Washington
*Go to the INCOSE website for details*