NEWSLETTER

INCOSE LOS ANGELES CHAPTER

GOLD CIRCLE AWARD
2002, 2004-14

SILVER CIRCLE AWARD
2003

2008, 2012 President's Award for Most Outstanding Chapter

INCOSE
International Council on Systems Engineering

2016: Quo Vadis?
By Terry Rector, President, INCOSE-LA

The President's Corner

Happy New Year and welcome to INCOSE-LA. We have an exciting year ahead of us and I am very glad to have you as a part of the team.

I want to congratulate and thank INCOSE-LA's 2015 President, Stephen Guine. Under his leadership, our Chapter had a very successful 2015. In addition, a hearty thank-you goes out to the new board of directors for volunteering or continuing in your leadership roles supporting INCOSE-LA. With all your help, we will make 2016 just as successful as our years past.

Our 2016 Chapter theme is "Adding Value". We are here to make sure you receive ample value for the time and money you invest in the INCOSE-LA Chapter. To do so, we ask the following questions:

- How can we help you?
- Why did you join INCOSE and INCOSE-LA?
- Are you happy with your membership?
- What can we do better?

Email or call me (Terry.E.Rector@aero.org) with your responses — we are interested in hearing from you.

INCOSE-LA started 2016 with a big event (see article on page 2). With over 40 people attending, we held our annual officer induction and our first-for-this-year Town Hall Meeting January 12 at The Aerospace Corporation. We had six new INCOSE members attending: welcome and thank-you for

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2016 Regional Mini-Conference
Loyola Marymount University
April 9 and 10, 2016

Speakers: ✓
Panels: ✓
Papers: ✓
Venue: ✓
Menu: ✓
Lodging: ✓

All we need now is you!

Go to the conference website for all the details and to register:

www.rmc16.net

See article on page 3 and announcement on page 7 for more details.
Note: Early Bird registrants will be entered into a drawing for a $100.00 gift card from Amazon

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Inside This Edition

Chapter Happenings!
The January Town Hall Meeting

Using the traditional Town Hall Meeting format, the Chapter started the year with networking, awards, the installation of officers, some pithy insights into the changing challenges facing systems engineers, and concluded the meeting with discussions of what the Chapter can do for the members. The meeting was held January 12 at the Aerospace facility in El Segundo. After networking and light refreshments, Susan Ruth of Aerospace briefly welcomed everyone to the facility. 2015 Chapter President Stephen Guine followed as the Master of Ceremonies, with a presidential welcome.

One of the first orders of business was to recognize Mike Wallace for his service as Past -President for 2014. Also recognized were the members of the 2015 Board of Directors, including Terry Rector, Vice-president, Jeffrey Willis, Secretary, Harvey Soldan, Treasurer, Phyllis Marbach, Membership Director, Rick Hefner, Programs Director, Bob Noel, Communications Director, Padman Nagenthiram, Systems Engineering Education Director, and Paul Cudney, Ways and Means Director.

Stephen updated the Chapter on the "awards package" which was submitted to INCOSE on January 10. In keeping with past performance, the Chapter received the maximum number of points allowed for many of the fifty-two categories. The Chapter exceeded all required minimums and is competing for the highly competitive "Platinum Level" chapter award. While awards provide a certain "feel good" feedback, their true value is in the insight they provide in the value the Chapter provides to the Chapter membership at large, and its value to the members — value that the Chapter leadership has strived to provide and continues to strive to provide.

Toward this end, the 2016 Chapter Awards Manager is the Chapter's Vice President, Phyllis Marbach. Everything our Chapter does to promote systems engineering or engineering in general (such as Science, Technology, Engineering and Math programs, also known as "STEM"), counts. Many members of the Chapter do work to promote systems engineering, and, for those who do, the Board of Directors asks that you keep the chapter informed of your activities. When in doubt, ask Phyllis or one of the other officers.

The meeting included a welcome to new members to the Chapter (see "New Members," listed separately). The list of new members reflects the efforts of the Chapter to reach out to the growing number of students in the colleges and universities in the Los Angeles area.

A summary of upcoming events was presented, with a repetition of the goal of the Chapter to provide speaker meetings, tutorials, workshops and conferences that are of high value at low cost.

There is a broad spectrum of opportunities for the members to learn more and to hone their skills – opportunities presented not only by the Chapter but also by INCOSE itself and by collaborating organizations in other professions.

Stephen discussed volunteers and noted several opportunities for volunteers to contribute to the Chapter, including:

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

The upcoming Regional Mini-Conference is fraught with opportunities for volunteers, including help with registration, financial management, reviewers, session chairs, venue coordination, operations, exhibit coordination, communications, event preparation, and general assistance. For those interested, please contact Dick Emerson or Terry Rector.

The "create your own" category is an open invitation to members who see an opportunity to strengthen the discipline. The Chapter leaders would like to do whatever they can to

Stand up, be recognized for the work you do!

support and encourage members in this regard.

The awards portion of the meeting featured the Susan C. Ruth award, given to Jorg Largent, and the President's Award for Outstanding Service to the INCOSE Los Angeles Chapter, given to Karen Grothe. Karen repeatedly went out of her way to help the Board of Directors gain a better understanding of the needs of our Student Divisions while simultaneously helping the members of her division at LMU better understand how they can leverage the resources of our Chapter. I personally was very grateful for this insight, as our Student Divisions are one of the pillars of our future success as a technical society and profession.

Dr. Azad Madni, an INCOSE Fellow and a Professor in the Daniel J. Epstein Department of Industrial and Systems Engineering in the Viterbi School of Engineering of the University of Southern California (USC) presided over the induction of the officers for 2016. Professor Madni is the Director of the Systems Architecting and Engineering Program that is supported by engineering faculty school-wide. He is also the founder and Chief Scientist of Intelligent Systems Technology, Inc.

Dr. Madni opened his portion of the ceremony with a few comments on the state of the profession and the challenges we face. He noted that systems getting too complex and that definition of systems is changing and expanding; systems are changing from "closed" to "open." "Open systems" represent the challenge of where future might be.

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*

2016 Regional Mini-Conference
What You Can Look Forward To

The Program:

The program for the 2016 Regional Mini-conference is coming together as the teams of volunteers from the four chapters (Central Arizona, Southern Arizona, San Francisco, San Diego, and Los Angeles) are putting the finishing touches on the program. Volunteers from the INCOSE Student Divisions, one of the sponsors, have been heavily involved in the preparatory work that started last year.

The conference is delighted and honored to have as the keynote speaker Dr. Azad Madni, an INCOSE Fellow and a Professor in the Daniel J. Epstein Department of Industrial and Systems Engineering in the Viterbi School of Engineering of the University of Southern California (USC).

Keynote Speaker: Dr. Azad Madni

The Technical Committee is reviewing and selecting presentations from the abstracts that were submitted from throughout the region from systems engineering industry professionals, and professors and students in the academic community.

Technical workshops are planned for the areas of:
System Requirements and Specifications
Resilient Systems,
Model Based Systems Engineering (MBSE),
Human Systems Engineering,
Value/Lean Engineering,
Agile Systems Engineering,
Systems Architecture,
Ground Segment Acquisition,
and Big Data Analytics.

In addition, there will be papers in the domains of Systems Engineering for Legal Systems, Healthcare and Medical Devices, Transportation, Defense, Critical Infrastructure, and "CubeSats" (small "nano-satellites" built to the "CubeSat" standard;" popular with research projects).

Adding to the breadth of the technical program, there will be plenary panel sessions on the topics of Career Guidance and Mentoring for System Engineering Opportunities, Model Integration of Systems Engineering Tools, Model Based Systems Engineering (MBSE) Lessons Learned, and Systems Engineering Program Management Interaction — Senior Executive Panel.

The Venue:

The venue for the conference is the new Life Sciences Building on the beautiful campus of Loyola Marymount University (LMU). The university, located just north of the Los Angeles airport (LAX), is situated on a bluff overlooking Marina Del Rey and Santa Monica Bay. More than an attractive

LMU Life Science Building

and modern facility, LMU is an academic center of excellence offering a broad spectrum of majors in engineering and computer sciences. Of special note, LMU hosts an active INCOSE Student Divisions.

The new Life Sciences Building features a 300 seat theater seating auditorium for our keynote and plenary sessions and multiple rooms for our technical workshop tracks.

There will be ample opportunities for networking with your colleagues at the conference provided breakfasts and lunches in the LMU Cafeteria, including an evening reception and technical poster session. To learn more about LMU, go to: http://www.lmu.edu/

The Cost:

Registration Tiers	Early Bird	Regular	Walk-in
Time Frame	1/1/2016	2/16/2016	4/1/2016
	2/15/2016	3/31/2016	4/9/2016
Non-INCOSE member	$145.00	$165.00	$165.00
INCOSE member	$130.00	$140.00	$150.00
Students, presenters, active military, senior members	$70.00	$80.00	$90.00
Sponsors and Exhibitors*	$70.00	$70.00	$70.00

$100 Amazon Gift Card!
A gift card will be given to one of the "early bird" registrants.
For details, go to the mini-conference webpage at www.rmc16.net and click on the link "more details."

Special GSAW INCOSE-LA Evening Event
COSYSMO, Cost and Ground Systems

GSAW: Ground System
Architectures Workshop
Sponsored by INCOSE-LA, the Institute of
Electrical and Electronics Engineers
Computer Society (IEEE CS) and the Software
Process Improvement Network (SPIN)

Session Abstract:

In today's cyber-physical-human world, we need to model and estimate single system development, existing system and software upgrades, and development of new system of systems capabilities, while at the same time exploring alternatives in the solution space for affordability and expedited delivery of solutions. Often initial system development is not the total cost driver for total ownership costs. Manufacturing, maintenance, sustainment, and retirement and disposal costs can often overshadow development costs. Further, a lack of investment in flexibility and affordability can mean a shorter life for the system and a corresponding reduction in the return on investment for the initial development costs. The objective of this University of Southern California (USC) Center for Systems and Software Engineering (CSSE) research initiative is to build on current capabilities in existing cost models and to fill gaps in the capabilities of our current estimating tools. Some of the planned objectives of the next generation models are to be able to perform:

* Cost model analysis to evaluate tradeoffs between affordability, quality, security, flexibility, performance and other goals;
* Cost modeling and estimation to support analysis of alternatives
* Return on investment of early feasibility assessments

An interactive session on cost estimation for next-generation ground systems

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Maximum weight and Dimensions of Packages Accepted for Dispatch.—Over the Broad and Metre Gauge lines no package exceeding five maunds in weight or 8 feet by 5 feet by 4 feet in outside measurement and over the Narrow Gauge lines no package exceeding three maunds in weight or 4½ feet by 3½ feet by 3 feet in outside measurement will be accepted for carriage except by previous arrangement.

Western Railway of India Time Table July 1956

Particulars:
Date: Wednesday, March 2, 2016
Time: 5:30 p.m. – 8:30 p.m.
Location: Renaissance Los Angeles Airport Hotel
9620 Airport Blvd.
Los Angeles, CA 90045

Agenda:
5:30 p.m. – 6:00 p.m. Presentation on recent research at USC CSSE

6:00 p.m. – 6:30 p.m. Presentation on Constructive Systems Engineering Model (COSYSMO) 3.0 and new updates

6:30 p.m. Break

6:45 p.m. – 7:15 p.m. COSYSMO 3.0 presentation (continued)

7:15 p.m. – 7:45 p.m. Presentation on how to gather systems engineering cost data

7:45 p.m. – 8:30 p.m. An interactive segment on initial COSYSMO 3.0 cost data collection form.

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

This special evening session will be both informative and interactive, with a theme of how to gather data to support estimating systems engineering costs for ground systems using COSYSMO 3.0. The session will include these segments:

* Dr. Barry Boehm's presentation on recent research at the Center.

* Mr. Jim Alstad's presentation on COSYSMO 3.0, a systems engineering cost model applicable to ground station cost estimation. This presentation will focus on updates since the GSAW 2015 Working Group, including addressing the reuse of existing artifacts, adding new effort multipliers to include CONOPS understanding and interoperability, and adding scale factors to include requirements volatility, process capability, and risk and opportunity resolution.

* Ms. Marilee Wheaton's presentation on advising participants on how to gather their systems engineering cost data.

* An interactive segment critiquing an initial COSYSMO 3.0 cost data collection form and generally discussing issues in gathering systems engineering cost data.

Session Leaders:

Jim Alstad, PhD student at the University of Southern California, jalstad@usc.edu

Dr. Barry Boehm, Director of the Center for Systems and Software Engineering at USC, boehm@usc.edu

Marilee Wheaton, Systems Engineering Fellow, The Aerospace Corporation and PhD student at the University of Southern California, marilee.wheaton@aero.org

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Not a member? Join INCOSE!

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

Thank you for a great 2015 for INCOSE-LA

By Stephen Guine, Past-President

[Written in December 2015 to his Northrop Grumman colleagues, the following article reflects not only Stephen's dedication to the profession, but also the dedication and goals of the INCOSE-LA Chapter leadership and volunteers. Ed.]

First I want to thank you for being a member of INCOSE-LA in 2015. This was my eleventh year as a member of this chapter and I was honored to serve as our Chapter President.

Next year will usher in a new Chapter President, which will give me additional freedom to embrace the role as the INCOSE-LA Ambassador to Northrop Grumman (and also Chapter Past-President). Think of me as your "Systems Engineering Concierge." My focus is to ensure that every Chapter member that works for Northrop Grumman is getting "full value" from their membership.

So what is full value? Well, you know as well as I that only the customer (you) can do validation, and in this case my role is to link you to the many products, services, and knowledge sources available within INCOSE, so that when it comes time to renew your membership, you can state without reservation that joining was a solid decision for you.

So consider some of the following value opportunities:

- monthly Speaker Meetings that include talks from practicing systems engineers and academic researchers discussing SE application, emerging thought and practices, lessons learned, and cross-domain insight
- access to the full scope of INCOSE technical products, including the webinar library, INCOSE Handbook version 4, and other key pieces of fundamental SE knowledge
- networking opportunities with some of the founders of systems engineering, leading thinkers guiding our discipline into tomorrow, and other chapter members from different business domains and organizations
- information, guidance, and preparation support for becoming a Certified Systems Engineering Professional
- understanding of and guidance to mastering the skills needed to make the transition into the nascent MBSE world
- the opportunity to support and/or attend the 2016 Regional Mini-Conference (led by INCOSE-LA in cooperation with four other chapters);
- and of course all of the intangible benefits of membership in a group of like-minded technical peers.

My hope is that you will feel free to engage me with any systems engineering question that has you flummoxed and allow me to point you to the correct INCOSE domain guidance in order that you can continue on your road to becoming an ever stronger systems engineer.

I am located in Redondo Beach, but I am always only a few electrons and radio waves away, so do not hesitate to reach out to me.

ACTION: Start off 2016 right by attending our Town Hall meeting on January 12 where we will install our new Board of Directors and have a roundtable discussion on the strategy for the year.

Discussing how systems engineers might face the challenge with models, he cautioned against a growing penchant for extolling virtues of new technology before it is mature: and cited simulation.

Dr. Madni quoted Dr. George Box: Essentially, all models are wrong, but some are useful. With the quote came the challenge of reduced order modeling: how far can a model be wrong and still be useful? In this vein, story telling might be the tool of the future in defining system requirements. Opined Dr. Madni, "...the time has come to go from process recipes to explainable decisions."

- The officers installed for the 2016 Board of Directors are:
- President: Terry Rector
- Vice-president: Phyllis Marbach (also the Chapter Awards Manager)
- Secretary: Jeffrey Willis
- Treasurer: Harvey Soldan
- Past president: Stephen Guine
- Membership: Mark TenEyck
- Programs: Rick Hefner
- Communications: Lin Yi
- Systems Engineering Education: Tony Magorno
- Paul Cudney: Ways and Means.

  Other volunteers serving in leadership roles include:
- Reflector Manager: Susan Ruth
- Aerospace site Coordinator: Susan Ruth
- Control Point Corporation site Coordinators: Don Adams, Paul Stowell
- Jet Propulsion Laboratory Site Coordinator Michela Munoz-Fernandez
- Antelope Valley Site Coordinator: Michael Wallace
- Azuza Site Coordinators: Mark Wroth, Louise Fluegeman
- Capstone Turbine Site Coordinator: Susim Gedam
- Loyola Marymount Univerisity Site Coordinator: Rosalind Lewis
- Technical Society Liaison: Shirley Tseng
- Networking Chair: Scott Birtalan
- Student Division (SD) Ambassador: Scott Birtalan
- USC SD Liaison: John Silvas, Jessica Mubaraki
- Loyola Marymound SD Liaison: Scott Birtalan
- New Member Ambassador: Collette Kurtz

The evening concluded with a lively "town hall" discussion, the purpose of which was to provide members with an overview of Chapter roles and to provide an opportunity for members to comment on key Chapter functions and objectives. One of the challenges in the Chapter's goal to provide value to the members is how to let the members know what the Chapter is providing. The crux of the challenge is in dramatic changes in communications to things such as Facebook, e-mail, Twitter, LinkedIn, wiki, et al. A consensus was that the website for the Chapter is an area in which a volunteer could boldly practice web design and gain experience for free.

Volunteer!
You will learn something you never knew you needed to know

Regional Mini-Conference 2016
April 9 – 10, 2016
Los Angeles, California

San Francisco Bay Area Chapter

Los Angeles Chapter

San Diego Chapter

Central Arizona Chapter

Southern Arizona Chapter

Research and Advancements in Systems Engineering Methods for the 21st Century

Theme:

SYSTEMS ENGINEERING PROFESSIONALS AND STUDENTS EXCHANGING CONCEPTS AND EXPERIENCES IN A FORUM TO DISCUSS KEY TOPICS RELATED TO THE FUTURE OF SYSTEMS ENGINEERING.

Registration is now open! www.rmc16.net

Keynote Speaker:

Dr. Azad Madni of The University of Southern California Viterbi School of Engineering

Presentations by:
Practitioners, Academics, Researchers, Students

Presentations on:
Spacecraft, planes, unmanned air vehicles, trains, automobiles, Infrastructures, infrastructures medical systems, and more

Panel discussions:
Systems Engineering Career Path (Early to Mid-Career), Integration of MBSE Tools, MBSE Lessons Learned, Systems Engineering and Program Management featuring Senior Executives

Networking:
Sponsors, Vendors, Employers, Other Opportunities

Presentations on:
Spacecraft, planes, unmanned air vehicles, trains, automobiles, Infrastructures, infrastructures medical systems, and more

Conversations with:
Compatriots, colleagues, collaborators

Cost:
Cost ranges from **$70.00 to $150.00**, depending upon your membership status and when you register. A continental breakfast and lunch are included both days. Parking at LMU is free on Saturday and Sunday.

General Information
Additional information regarding the conference, the venue and registration is available on the conference website: http://www.rmc16.net. Arrangements are being developed with nearby hotels; information will be posted on the website as it becomes available.

Regional Mini-Conference 2016 is a collaboration of the Los Angeles, San Francisco, San Diego, and Central and Southern Arizona INCOSE chapters. For questions about general conference issues contact Terry Rector, terry.e.rector@aero.org or Dick Emerson, remerson9@gmail.com.

attending.

The Chapter has been very busy planning and we have several major events occurring for 2016. In addition to our monthly, quarterly and annual chapter events, the Chapter is planning our first Regional Mini-Conference, RMC-16, to be held at Loyola Marymount University in Culver City. The dates for the conference are April 9-10 2016.

The conference is "regional" because INCOSE-LA has partnered with four other INCOSE chapters: the San Diego chapter, the San Francisco Bay Area chapter, the Central Arizona chapter and the Southern Arizona Chapter. The chapters are planning and organizing this conference with the able assistance of one of the sponsors: the INCOSE Student Division.

As of the printing of this *Newsletter*, we have sponsorship from IBM, The Aerospace Corporation, and Project Performance International (PPI). The exhibitors on-board so far include Vitec Corporation, and others who are finalizing their plans.

The chapters are expecting over 200 people to attend the conference, with papers, posters, key note speakers, networking opportunities, and speaker panels; there will be plenty for everyone to learn, if you are interested in attending, registration is open (more information elsewhere in this *Newsletter*).

One key event to occur in 2016 is the International Workshop 2016 (IW) to be held at Torrance California, California (January 30, 2016 through February 2, 2016). The Chapter will be hosting a soirée Monday evening, February 1, 2016, at the IW, and all members are welcome, regardless of attendance at the IW itself.

While the Conference on System Engineering Research (CSER) will be held in Huntsville Alabama this year (March 22-24, 2016), CSER 2017 will be held in Los Angeles, and our Chapter will be again engaged in the support and production of this international event.

Lastly, for those lucky few, the International Symposium 2016 will be held from July 18, 2016 through July 21, 2016 in Edinburg Scotland. Please let us know if you plan to attend.

It is a wonderful opportunity to serve as your chapter president, now help us help you; we need your ideas concerning what we can do to increase your INCOSE satisfaction. Collectively, there are many years of experience shared between the greater than 400 INCOSE-LA members, and much more within the INCOSE worldwide family. I look forward to engaging with each of you.

There is now more awareness that the systems engineering process needs to be applied prior to a concept's "birth." Often at birth, the major constraints have already been decided and there may be little room to synthesize better solutions. The analysis of requirements and technology options needs to occur before the birth, as far back as the first desire for a solution to a problem (i.e. the point in time when there is a "lust" for a solution to a problem at hand).

James N. Martin, *Systems Engineering guidebook*

Password Cryptology 101

Roses are Red, Violets are Blue, My Favorite Password is Dreaming of You

The following is an excerpt from an article by Ana Swanson in the October 22, 2015 edition of the *Washington Post*. The full article can be found at:

https://www.washingtonpost.com/news/wonk/wp/2015/10/22/these-researchers-have-discovered-the-perfect-password-thats-also-easy-to-remember/

The first thing you learn when you try to create a good password is that your memory is pretty terrible. The second thing you might learn is that you're really bad at being random.

True randomness is hard to predict; humans aren't. Even if you're not one of the millions of people who use passwords like "12345678" or "password," you might still be making some amateur mistakes. For example, using a common phrase as your password, but then replacing the "i" with a "1," or the "a" with an "@," and so on. Or using common words and phrases, and putting the characters and numerals at the end of the password, instead of spaced randomly throughout. Or re-using passwords across sites, or not changing them often enough.

In short, basically any technique that would allow a human being to actually remember a password.

Okay, you say, but how do you possibly get around this? Any password that is going to be reasonably secure is also going to be impossible to remember. And any password you can possibly remember is probably going to be terrible. That's just the law of passwords, right?

But two researchers at the University of Southern California [USC] may have finally come up with the perfect solution. Marjan Ghazvininejad and Kevin Knight have published a paper with a novel solution for creating with passwords that are both extremely hard to crack and relatively easy to remember: randomly-generated poems.

The inspiration for Ghazvininejad and Knight's study was actually a cartoon, created by Randall Munroe of Xkcd, which showed how a password made up of four random words is far more secure and a lot easier for people to remember than the typical jumble of random letters, numbers and symbols that most people think of as a secure password.

Munroe's point is that, even if you pick a fairly uncommon word, like "Troubadour," and replace some of the letters with other symbols, this combination might only take a computer seconds, minutes or hours to guess. But a combination of four totally random words is both hard for a hacker to crack and easy for a person to remember.

The secret here is that those four random words are actually generated based on one very large random number. That random number is then broken up into segments, each of which corresponds with a word in the dictionary. It's basically a form

Name	Title	Company or Organization
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.		
Suzanne Shihadeh		Cal Poly Pomona
Sanjiv Gupta		NGC
Bruce Lipe		NASA
Sharmilee Vinod		USC
Keith Brown		Cal Poly Pomona
Bradley Hillis		Cal Poly Pomona
Nicholas Oviedo		Cal Poly Pomona
Roland Pajarito		Cal Poly Pomona
Damien Lewke		Northrop Grumman Corp
Kevin Lu		Crane Aero
Kristopher Atkins		Boeing
Issis Long		US Navy
Jay Stuart		Johnson and Johnson
Abdulaziz Alothman		Loyola Marymount Univ
Ted Valencia		CognoSeer Tech
Monica Jan		LightSpeed Innovations
Kristopher Scher		Scitor Corp

The annual INCOSE-LA holiday party was again held at the Del Rey Yacht Club, through the gracious offices of Dr. "Bo" Oppenheim, a member of both the club and the Chapter. The Saturday, December 12, 2015, evening festivities featured fellow systems engineering professionals celebrating another year and enjoying an evening of fine dinning and entertainment. This year our festivities were on the same evening as a traditional celebration at the Marina: a pyrotechnic extravaganza and a boat parade of festively decorated and lit vessels. This year's attendees included longtime members as well as several members of the growing number of student divisions associated with the Chapter.

This traditional event is open to all members of the Chapter and their guests, and the members of the Board of Directors look forward to seeing even more of the members at the December 2016 gathering.

Also, look at our chapter homepage http://www.incose.org/ChaptersGroups/Chapters/ChapterSites/los-angeles/chapter-home to identify additional events of interest.

ACTION: If you have an SE colleague who is not a member, introduce me to them and allow me to show them the value proposition of joining INCOSE.

> "The cost of painting a single yellow line would be of the order of £10,000. Clearly the majority of this is not the actual cost of the man with a pot of paint; but it is the cost of the process that has to be gone through to legitimize what he is doing."
> A local British government official

of cryptography. To guess the full random number, a computer might have to test billions of billions of billions of possibilities before it hits on the right one, says Knight.

But while Munroe suggested using this large number to pick four random words, Ghazvininejad and Knight hit on the idea of using it to create a little poem, which they found to be, by far, the most secure and the most memorable method is creating a short rhyming poem of random words.

As the researchers point out, humans have been using poetry as a way to remember information for thousands of years. It's no accident that long epics, like the 12,000-line Odyssey, or the 17,000-line Canterbury Tales, were written using meter or rhyme. Most people today can't recite the Canterbury Tales, but they've still had certain sing-songy rhymes permanently burned into their memory, such as "Thirty days hath September."

Rhyming but nonsensical passwords might seem a odd, but they're actually very secure. At current speeds, Knight estimates that cracking these passwords would take around 5 million years. By which point, we probably won't be using Facebook anymore.

If you read too many of these, they will make you feel a little crazy. But some of them are really fun to say:

And British fiction engineer
Travolta captured bombardier

Obviously, remembering a little poem for every password you have might be difficult, but the researchers suggest you could use one or two of these poem passwords for your most important accounts, or use one for your password manager, which will keep all your other information secure.

The biggest drawback is that many sites these days limit the number of characters that you can use in your passwords, so these poems are probably too long for many of your accounts. But perhaps that will change someday soon. More and more sites are considering dropping the character limit, since shorter passwords are a lot less secure.

> **Authorised Charge for Portage**
> **3 Anna**
> PER HEAD LOAD UP TO ONE MAUND PER TRIP
> Please do not pay more than the authorised charge even if demanded by the licensed porters.
> Pleas do no deal with porters without buckles or badges.
> *Western Railway of India Time Table July 1956*

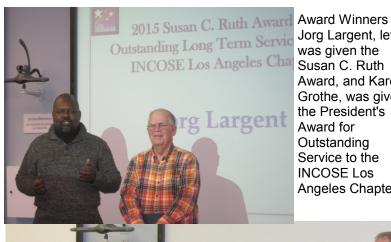Above: 2016 Chapter President Terry Rector speaking to the Town Hall meeting.
Below: Dick Emerson and Stephen Guine at the Strategic Planning Meeting
Bottom: Harvey Soldan and Phyllis Marbach at the Strategic Planning Meeting

Award Winners Jorg Largent, left, was given the Susan C. Ruth Award, and Karen Grothe, was given the President's Award for Outstanding Service to the INCOSE Los Angeles Chapter

The 2016 Board of Directors, left to right: Azad Madni, INCOSE Fellow officiating, Mark TenEyck, Membership, Phyllis Marbach, Vice-president, Stephen Guine, Past President, Jeffrey Willis, Secretary, Terry Rector, President, Rick Hefner, Programs, and Paul Cudney, Ways and Means

2016 Board of Directors

Elected Officers			Elected At-large Directors		
President	Terry Rector	Terry.E.Rector@aero.org	Membership	Mark TenEyck	MarkTENEYCK@3ds.com
Vice President	Phyllis Marbach	phyllis.r.marbach@boeing.com	Programs	Dr. Rick Hefner	rhefner@caltech.edu
Immediate Past President	Stephen Guine	Stephen.Guine@ngc.com	Systems Engineering Education	Tony Magorno	amagorno@mitre.org
Secretary	Jeffrey Willis	Jeffrey.Willis@ngc.com	Ways and Means	Paul Cudney	paulcudney@dslextreme.com
Treasurer	Harvey Soldan	harvey.soldan@jpl.nasa.gov	Communications	Lin Yi	Lin.yi.dr@ieee.org
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 Awards Manager	Phyllis Marbach	phyllis.r.marbach@boeing.com	Industrial Relations Manager	Open	
Professional Networking Chair	Scott Birtalan	scott.birtalan@ngc.com	New Member Ambassador	Collette Kurtz	kurtz905@aol.com
Representative to the SF Valley Engineer's Council	Stephen Guine	Stephen.Guine@ngc.com	Volunteer Coordinator	Karen Miller	karmill888@aol.com

Return Address:

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Forwarding Service Requested

UPCOMING EVENTS

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

Chapter Soirée at IW16
Date and time: February 1, 2016, 6:00 p.m.
Location: Torrance Marriott Redondo Beach,
3635 Fashion Way, Torrance, California 90503
All Chapter members welcome
Watch for a Reflector Notice or go to the Chapter Website

Strategic Planning Meeting
Date: Saturday, February 20, 2016 5:30 p.m. – 8:30 p.m.
Details in work; watch for a Reflector Notice

Special GSAW / INCOSE-LA Evening Event
Date and time: Wednesday, March 2, 2016 5:30 p.m. – 8:30 p.m.
Location: Renaissance Los Angeles Airport Hotel
9620 Airport Boulevard
Los Angeles, California 90045
See article on page 4. Details are available on the INCOSE

March Speaker Meeting
Date and time: February 1, 2016, 6:00 p.m.

Location: Torrance Marriott Redondo Beach,
3635 Fashion Way, Torrance, California 90503
All Chapter members welcome

Regional Conference
Date: Saturday and Sunday, April 9 and 10, 2016
Location: Loyola Marymount University,
Culver City, California
See article on page 1 and advertisement on page 7 for details.
Look for "snail mail flyers" in your mailbox, a Reflector Notice in your email, and check the Chapter website for more details

International Symposium 2016
Date: Monday through Thursday
July 18 through 21, 2016
Edinburgh, Scotland
Details will be available on the INCOSE website:
http://www.incose.org/symp2016/home