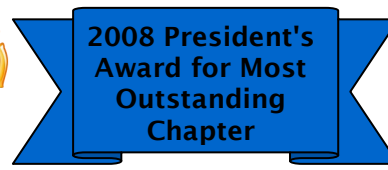


NEWSLETTER



UPCOMING EVENTS

May Speaker Meeting

**The Story of the “Curiosity” Rover:
The Mars Science Laboratory Project**

Speaker: Pete Theisinger,

Mars Science Laboratory (MSL), Project Manager.

When: Tuesday, May 8, 2012, 5:30—7:45 p.m.

Where: Booz Allen Hamilton, LAX Office, plus remote sites

Details on page 2

June Speaker Meeting

Details in work

When: Tuesday, June 12, 2012, 5:30—7:45 p.m.

More details will be in the June edition of the Newsletter, in a Reflector notice and on the INCOSE-LA website

INCOSE International Symposium

When: July 9 - 12, 2012

Where: Rome, Italy

SAVE THE DATE

Institute for Software Research Forum University of California, Irvine

Friday, May 18, 2012, 9:00 a.m. to 4:30 p.m.

Featuring **“Model-based Development of High-Assurance Dynamically Adaptive Systems,”**

Presented by Professor Betty H.C. Cheng,

Computer Science and Engineering, Michigan State University

Sponsored by Northrop Grumman, Aerospace,

and the San Francisco Symphony

For more information go to the [2012 ISR Research Forum website](http://www.isrforum.org)

Jet Propulsion Laboratory Open House

Saturday, June 9th & Sunday, June 10th

9:00 a.m. - 4:00 p.m.

See for more information see

<http://www.jpl.nasa.gov/events/open-house.cfm>

A “letter” noticed on facebook:

Dear Optimist, Pessimist, and Realist,

While you guys were busy arguing about the glass of water, I drank it!

Sincerely,

The Opportunist

California High Speed Rail: an Outsider Looking In or Let's Not

By Jorg Largent

The proposed high-speed rail system for California has generated a lot of press and, if nothing else, has kept at least two “shock jocks” on local radio gleefully employed. The issue is that there is no present need for the system, circumstances preclude there being a future need, and, as currently being pursued, the up-front elements of the process – concept development and an initial concept of operations – are not as clear as they might be.

The Need: From a systems engineering perspective, however, a discussion of high-speed rail should start with an assessment of need.

The need for a transportation system is to facilitate commerce. Transportation systems provide other functions, but, without commerce, there is no wealth generation, and without wealth generation there is no wherewithal to travel.

Our current system of highways, rails, and airways meets our current transportation needs. How well the current needs are being met can be argued, and those stuck in traffic approaching the Bay Bridge or in traffic in Sepulveda Pass might use some strong expletives in their descriptions of how well the current system is meeting those needs, but “better,” in terms of current needs, can be accomplished with incremental improvements in the current infrastructure.

(Continued on page 7)

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May Speaker Meeting

The Story of the “Curiosity” Rover, The Mars Science Laboratory (MSL)

Presenter: Peter C. Theisinger
Manager, Mars Science Laboratory Project
NASA, Jet Propulsion Laboratory

PARTICULARS

Where: Booz Allen Hamilton, LAX Office
Building 5220 — 2nd. Floor, Suite 200
5220 Pacific Concourse Drive

Remote sites will be available at the Control Point Corporation in Santa Barbara, JPL in Pasadena, the Boeing Company in Huntington Beach, and in the Antelope Valley

When: Tuesday, May 8, 2012, 5:30 — 7:45 p.m.

Cost: Members-FREE; Non-members-\$10.00

Meeting Agenda:

5:30 - 6:20 p.m. Registration, networking, refreshments

6:20 - 6:30 p.m. Welcome and announcements

6:30 - 7:45 p.m. Presentation followed by questions and answers

Refreshments will be provided at the host site. Contact remote site contacts for more information regarding parking, refreshments, and other administrivia at their site locations.

Abstract: Pete Theisinger, the Mars Science Laboratory Project manager will describe the MSL project, including its science objectives, the challenges faced during development, the selection of its landing site (Gale Crater), its current status in operations, and the challenges ahead, including Entry Descent and Landing on August 5, 2012 and the surface mission.



Biography: Peter C. Theisinger is the Manager of the Mars Science Laboratory Project at NASA’s Jet Propulsion Laboratory. His prior positions have included Director for the Engineering and Science Directorate, Deputy Director of the Mars Exploration Directorate, Manager of the Mars Exploration Rover Project, Deputy Manager of the Mars Sample Return Project, Deputy Manager of the

Systems Division, Mission Support and Development Manager of the Mars Surveyor Operations Project, Project Engineer for the Mars Global Surveyor spacecraft development project, and Manager of the Spacecraft Systems Engineering section.

Mr. Theisinger has been involved in the systems design and development of interplanetary spacecraft systems since he originally joined JPL in 1967 as an engineer in the Payload Integration Section. He has worked on a variety of missions, including the 1967 Mariner mission to Venus, the 1971 Mariner orbiter mission to Mars, the 1977 Voyager mission to the outer planets of the solar system, and the 1989 Galileo mission to Jupiter. He has been awarded the NASA Exceptional Achievement Medal for his work on the Mars Global Surveyor mission, and the NASA Outstanding Leadership Medal for his management of the Mars Exploration Rover Project.

A past member of INCOSE, Mr. Theisinger has also been involved in system engineering training, and has participated in course and training development for a variety of commercial organizations. Born in Fresno, California, Pete earned his Bachelor of Science degree in physics in 1967 from the California Institute of Technology. He is married with four children, and lives in La Crescenta, California.

R.S.V.P.:

ALL PARTICIPANTS: We request that all reservations are made online. This helps to facilitate event registration and planning for our host site and our remote sites. Visitors at JPL and Boeing must register by the R.S.V.P. deadline to provide visitor clearance from site security.

Please register online at <http://www.incose-la.org> by Friday, May 4, 2012. You will be asked to provide your full name, title, company, phone number, and email address. State whether you are a US Citizen, resident alien, or foreign national. Please indicate the site at which you will be attending. Site-unique requirements are listed below.

Booz Allen Hamilton (the host site): Attendees must R.S.V.P. by Friday, May 4, 2012. Please bring your picture identification (driver's license, passport or green card) to the meeting.

Planned Remote Webcast Sites:

Antelope Valley (Edwards Air Force Base, Palmdale): Held on the campus of the Antelope Valley College in the “BE” (Business Education) building, room 207. Open to all; no R.S.V.P. deadline. POC: Mike Wallace, phone: 661-540-0290, email: m.wallace@ngc.com.

Huntington Beach: The Boeing Company, 14900 Bolsa Chica Road, Building 17, Conference Room 109. Please register by Friday, May 4, 2012. Open to U.S. citizens and non-resident aliens. We regret that foreign nationals will not be able to attend at the Boeing Company site. Visitors will need to bring identification and check in with Security in the lobby of Building 17 not later than 6:00 p.m. Please bring your picture identification (driver's license, passport and/or green card) to the meeting. Point of contact: Beth O’Donnell, phone: 714-372-2543, email: elizabeth.l.o’donnell@boeing.com. Refreshments will be provided at this site.

Goleta: Control Point Corporation, 110 Castilian, Suite 200, Goleta. Please register by Friday, May 4, 2012. POC: Scott Grant, scott.grant@control-pt.com. 805-882-1884, x108 for directions or more information.

(Continued on page 3)

(May Speaker Meeting, continued from page 2)

Pasadena, JPL – Please register online by Thursday, May 3, 2012. Contact Michela Muñoz Fernández at Michela.Munoz.Fernandez@jpl.nasa.gov for specific location and directions. JPL, 4800 Oak Grove Dr, Pasadena CA. Open to all. Visitors must register by RSVP deadline. Site coordinator: Chelsea Dutenhoffer, chelsea.dutenhoffer@jpl.nasa.gov.

DIRECTIONS to Host Site – Booz Allen Hamilton:

From the San Diego (405) Freeway traveling south:

1. Take exit 46 toward Century Blvd. West/LAX.
2. Turn left (south) on south La Cienega Boulevard.
3. Turn right onto Pacific Concourse Drive.
4. Follow the road until you reach the second stop sign (immediately past court house parking garage on the right) and turn right. At gate on the far right, press the green button to receive a parking ticket (admin staff will validate parking).

5. After passing the gate, turn left and park in the visitor parking lot. Walk past the water fountain, across the rotunda to building 5220. Meeting will be on the second floor, Suite 200.

From the San Diego (405) Freeway traveling north:

1. Take the El Segundo Boulevard exit, exit 44, toward Hawthorne Blvd.

2. Turn left onto west El Segundo Boulevard.

3. Turn right (north) on south La Cienega Boulevard.

4. Proceed on La Cienega until the third stoplight.

5. Turn left onto Pacific Concourse Drive.

6. Follow the road until you reach the second stop sign (immediately past court house parking garage on the right) and turn right. At gate on the far right, press the green button to receive a parking ticket (admin staff will validate parking).

7. After passing the gate, turn left and park in the visitor parking lot. Walk past the water fountain, across the rotunda to Building 5220. Meeting will be on the second floor, Suite 200.

The April Speaker Meeting Report A Paradigm Shift for Better Cost Modeling

By Jorg Largent

The meeting opened, after the some networking and shop talk, with a welcome and an acknowledgement of new members who had joined recently: Bill Lo of DirectTV, Linda Taylor of Salient Federal Solutions, Sean McCormick of the Department of Defense, Jonathan Fish of the Science Applications International Corporation, and Ty Leavitt of Moog, Inc. Special recognition was given Mike Wallace, Bruce Riggins and the entire team that made the 2012 Mini-conference a success.

The evening's speaker, David Zarnow was introduced by Past-president Beth O'Donnell. Mr. Zarnow is the Director, Process Solutions, at Intelligent Systems Technology in Los Angeles. His presentation, "A New Paradigm for Unprecedented Enterprise Performance: The Cost Modeling Framework – A Paradigm Shift for Real Value Delivery," was a thoughtful and challenging perspective on the difficulties and obstacles that occur so often in the beginnings of a project.

Dave opened by discussing a little about himself and noted that he is happy to be a practitioner. He followed with a discussion of computer-aided-design (CAD) modeling

techniques and then of an analogy of a life cycle model application of CAD concepts to the generation of valuable derivative works.

Mr. Zarnow presented a new paradigm in which the cost modeling framework integrates and delivers two key, practical needs effectively and efficiently. The needs: bidding and execution planning. The goal of this paradigm was a complete model-based enterprise (MBE), a derived, resource-loaded, networked Integrated Master Schedule (IMS). An essential element of this is the characterization of enterprise behavior.

To set the stage for demonstrating the value of his concept, Dave cited an example: a hovercraft. The system was not new; the plan was to buy more of a product currently in the fleet, with improvements. Noted Mr. Zarnow, "There is an incomprehensible chart of the Pentagon's outline of all the steps any new program must go through before it begins production. It practically guarantees a new weapon will take longer and cost more than it should." As veteran systems engineers know and commented, this phenomenon is not unique to the Department of Defense. David struck a sympathetic note of resonance with the audience as he discussed a "prose-based" enterprise management system with two anecdotes: "A process tax levied on the weary!" and "A plethora of directives so vast and comprehensive they're incomprehensible..."

Mr. Zarnow discussed a process in which bidding consisted of work packages and their cost, which were modeled mathematically. Dave developed a mathematic model in which each process step has one or more standard work packages and each work package has "productivity" for its parent process step, determined by major product type. One objective of the model was a negative; namely to not become a "weapon of math destruction." The end product is a MBE in which the model is the infrastructure in that it drives consistent, high-confidence, cost estimation and earned value planning and execution.

The meeting concluded with a period of questions and answers. The Chapter thanks Mr. Zarnow for his comprehensive and in-depth presentation.

A System Engineering homily?

*From the Autobiography of Benjamin Franklin (Chapter 14)
noted by Josh Sparber*

"Even in the simple operation of sailing when at sea I have often observ'd different judgments in the officers who commanded the successive watches, the wind being the same. One would have the sails trimm'd sharper or flatter than another, so that they seem'd to have certain rule to govern by. Yet I think a set of experiments might be instituted, first to determine he most proper forms of the hull for swift sailing; next the best dimensions and properest place for the masts, then the form and quantity of sails, and their position, as the wind may be; and lastly the disposition of the lading.

This is an age of experiments and I think a set accurately made and combin'd would be of great use. I am persuaded, therefore, that ere long some ingenious philosopher will undertake it, to whom I wish success."

2012 INCOSE Mini-Conference

By Mike Wallace, 2012 Mini-Conference Chair

The 2012 INCOSE-LA Mini-conference culminated in a full day of energizing topics; Ms. Gwynne Shotwell, this year's keynote speaker, eight presenters, and a panel discussion hosted by Marilee Wheaton, which consisted of Dr. Azad Madni, Dr. Cesar Palerm, Ms. Taki Turner and Dr. Edmond Conrow.

With economic challenges plaguing our society, particularly in the defense industry, the 2012 INCOSE-LA Mini-conference theme proved relevant, focusing on "Systems Engineering for Agility and Affordability". Conference attendees expressed satisfaction with this year's innovative speakers and thought-provoking discussions. The mini-conference was a single track program held at the beautiful campus of Loyola Marymount University (LMU). The conference had four sponsors and two exhibitors: LMU (Gold Exhibitor), Microcosm Astronautics (Silver Sponsor & Exhibitor), Project Performance International (Silver Sponsor), the University of California, Irvine (Bronze Sponsor) and Merrill Lynch (Exhibitor).

The conference kicked-off with a buffet style breakfast so all of the attendees could meet, greet and network. After breakfast, John Silvas, INCOSE-LA Chapter President, opened the conference with an introduction, followed by an award presented to Dr. Azad Madni, who was also one of the panelist members. John turned the conference over to the Master of Ceremony, Bruce Riggins, who also served as the Technical Chair for the conference.

The keynote speaker, Gwynne Shotwell, President of SpaceX, energized attendees with a relevant and dynamic speech centered on how systems engineering has played a pivotal role in SpaceX's success by implementing affordability and agility strategies. Most of SpaceX's affordability success is driven by their ability to conduct their design, test and fabrication in house and by applying traditional systems engineering techniques to a non-traditional organization.

The rest of the morning featured five presentations.

Winsor Brown spoke on "*COINCOMO and Software Intensive Systems Engineering*". Winsor addressed how complex software systems can be successfully developed using

Incremental Commitment Spiral Models.

Phyllis Marbach, Senior Software Manager at Boeing, talked on "*Agile System Engineering Requirements Analysis*." Her presentation deepened participants understanding on how utilizing lean agile processes helps to enable the design and development of affordable system of systems.

The latter part of the morning continued with Dr. Bo Oppenheim, Professor at LMU. Dr. Oppenheim spoke on "*Fixing the Acquisition System: Lean Enablers for Pre-Milestone B Program management*". His presentation was the result of a joint research effort conducted in 2011 by the Project Management Institute, INCOSE and MIT LAI.

Rick Cline's presentation on "*Agile and Affordable Conceptual Systems Analysis*" was tailored to the use of Multi-disciplinary Analysis and Optimization (MDAO) as a means toward agility and affordability.

Yvette Rodriguez concluded the morning session with "*Engineering Resilient Systems*", focusing on the use of adaptability factors and how the measures of adaptability can contribute to systems being affordable.

Prior to lunch, there were two winners from a drawing; Paul Viazcan won a free consultation on wealth management, valued at \$1,500 from Merrill Lynch and Robert C. Green won a \$50 Barnes and Noble gift certificate from Microcosm. The final winner came toward the end of the day, where Marilee Wheaton won a \$50 gift certificate at Barnes and Noble from Microcosm in the afternoon drawing.

The afternoon session kick-off was re-ignited by Nehal Patel presentation on "*Cost Effective Common Special Test Equipment*". Nehal's presentation proved to be a relevant and topical discussion centered on simplifying testing in order to provide competitive technical solutions for integration, verification and validation toward affordability. Dr. Christopher Rush followed Nehal explaining the critical impact of, "*Estimating Cost of System Engineering*". Dr. Barry Boehm capped off the afternoon presentations with his thought provoking discussion on "*Valuing System Flexibility via Total Ownership Cost Analysis*".

(Continued on page 7)

INCOSE-LA 2012 MINI-CONFERENCE COMMITTEE

| | | |
|-------------------------|---|---|
| General Chair | Michael E. Wallace | Northrop Grumman Corporation |
| Technical Program Chair | Bruce Riggins | The Boeing Company |
| Publicity Chair | Shirley Tseng | INCOSE-LA |
| Financial Chair | Elizabeth L. O'Donnell Dr. Karen Miller | The Boeing Company INCOSE-LA |
| Venue Chair | Elizabeth L. O'Donnell Harvey Soldan | The Boeing Company Jet Propulsion Laboratories (JPL) |
| Operations Chair | Terry Rector | Physical Optics Corporation |
| Registration Chair | Paul Cudney | INCOSE-LA |
| Volunteers | Padman Nagenthiran (INCOSE), Susan Ruth (The Aerospace Corporation), Mark Gallo (ARES Corporation), Malcolm Currie, Tanawat Mathurasai, Warren Scheinin, John Sequi (JPL), Nehal Patel (Booz Allen Hamilton), Marilee Wheaton (The Aerospace Corporation), Eric Belle | |

INCOSE-LA Chapter NEWSLETTER

Vol. 10: Issue No. 5 May 2012

Mini-Conference Snaps



Ms. Gwynne Shotwell, President of Space-X and the keynote speaker, Marilee Wheaton Executive Director, Aerospace Institute, The Aerospace Corporation, Paul Cundney, Membership Director for the Los Angeles Chapter, and John Silvas, President of the Los Angeles Chapter, discuss the conference.



Gina Kostelecky-Shankle of the Northrop Grumman Corporation and 2006 INCOSE-LA President, and Dr. Ed Conrow are ready for the beginning of the conference.



The panel, lead by Marilee Wheaton; the panel members, left to right, are Dr. Azad Madni of USC, Ms. Taki Turner of the Boeing Company, Dr. Cesar Palerm, Principal Scientist at Medtronics Diabetes, and Dr. Ed Conrow the Enterprise Risk Management Adviser for MIT Lincoln Laboratory.



Shirley Tseng, the Technical Society Liaison for the Board of Directors, and Dr. "Bo" Oppenheim of Loyola Marymount University are also ready for the conference.

More Mini-Conference Snaps



Top Left: INCOSE-LA President John Silvas and Mini-Conference Chair Michael Wallace present a certificate of appreciation to Gwynne Shotwell, President Space-X and Mini-Conference Keynote Speaker.

Top Right: INCOSE-LA President John Silvas presents Dr. Azad Madhi of USC a special 2012 INCOSE-LA Exceptional Achievement Award.

Lower left: Bruce Riggins, Technical Chairman of the Conference, and Mini-Conference Chair Michael Wallace present a certificate of appreciation to presenter A. Winsor Brown from USC.

Lower right: Professor Barry Boehm of USC speaking to the conference.



(Mini-conference Report, Continued from page 4)

Thanks to the keynote speaker, all of the presenters, sponsors, exhibitors, panel members, and especially the attendees, for making this event a success. Your participation and support motivated the positive feedback as evidenced from our evaluation forms, which showed a 92% satisfactory rate. And, a special thank you to the conference committee team of dedicated professionals. Your volunteerism and the number of countless hours of preparation for this event were appreciated. A job well done!

Snapshots from the Mini-Conference may be found on pages 5 and 6 of this *Newsletter*. The presentation for the 2012 Mini-Conference is located at the following link from INCOSE-LA's website: <http://www.INCOSE-LA.org/events/conferences/mini-conference-2012/technical-program.html>



(High Speed Rail, continued from page 1)

Therefore, the need for high-speed rail lies not in an existing need but in some future need that is greater than the existing need.

The Future Need Cannot Exist: Current advocacies within the State of California, and their successes in legislating their advocacies, have resulted a political environment that stifles the potential for a greater need.

As an example, consider Assembly Bill 32. According to the California Environmental Protection Agency Air Resources Board website, Assembly Bill 32 is intended to reduce greenhouse gas emissions to 1990 levels by 2020 – a reduction of approximately 30%, – and then further reduce greenhouse gas emissions 80% below 1990 levels by 2050. Getting a straight answer on when, in the past, greenhouse gas emissions were 20% of what they were in 1990 is difficult; one answer is before 1950. Given that the population of California has nearly quadrupled since 1950 (10M to 38M), something has to give. Perhaps that would necessitate that the per capita energy consumption be cut to one fourth of what it is now and then further reduce the per capita energy consumption to 20% of 70%. The math is as fuzzy as the logic, apparently leaving per capita energy consumption at less than 10% of what it is today.

A second example is Cal OSHA imposes restrictive regulations of its own, having gone the Federal regulations one better, as illustrated by the phrase, “Exception: in California...,” in the safety rules of a railroad that operates throughout the western United States.

Small business owners are being restricted by regulations that make doing business, particularly expansion and job creation, increasingly difficult. Only the largest of organizations are readily able to deal with the intricacies of the regulations, and many of them are leaving or allowing operations in California to atrophy. There is a list of larger businesses that have reduced their presence in California, such as Ford Motor Company (Pico Rivera), Douglas Aircraft (Long Beach), and Lockheed Aircraft (Burbank). They are gone. State regulations are not the only factor, certainly, but they are certainly a consideration as business owners make hard choices.

The engine of commerce generates wealth and a need for

transportation by virtue of the industry of the workers on the factory floor and in the fields. To paraphrase the economist Karl Marx, if there aren't any workers working, it ain't working, and there is no need for a transportation network in the future that is greater than the current need.

The up-front elements of the process:

Airport-to-airport, flying from Burbank to Oakland is the fastest and cheapest way to go. However, “airport-to-airport” is only a part of the journey; the real case is door-to-door. There is a precedent for rail travel for business. Over 30 years ago it was Boeing Company policy for employees to travel by rail when traveling between New York City and Washington. It was faster and cheaper, in terms of net worth to the company, than using the shuttle air service or having the employees drive. While this point illustrates the value of rail travel as a part of a transportation system, it does not justify, in and of itself, high-speed rail in California.

Acela high-speed rail service between New York and Washington offers an illustration. Between New York and Washinton Acela saves the traveler about 30 minutes. Normalized per hour, the cost is about \$200 above the regular fare. First class on Acela is an additional \$200 per hour. Is there really a market, in either California or the Northeast, of people who make enough money per hour, or whose worth to their customers, in dollars per hour, to pay \$180 to \$200 per hour for high-speed rail? This math is perplexing to the desert rats and farm workers, leaving them to wonder why they should pay taxes to subsidize that high-end traveler. The country bumpkins out in the hinterlands are smart enough to do that much of the math, regardless of whether or not the fare covers the costs of operation and ownership.

The capacity of the aforementioned advocates and the collaboration of the state government can be illustrated with a bush. Reportedly the government spent over \$200,000 of taxpayer money to “translocate” a manzanita bush because it was in the footprint of a roadway improvement project in San Francisco. The type of bush in question is available from the Las Pilitas Nursery in Santa Margarita for under \$16.00. In all fairness it should be noted that the cost of the “hard removal” was only \$100,000. The rest of the costs went to bureaucratic overhead, including \$25,605 to cover the reporting requirements. A challenge facing the execution of the systems engineering process is two fold. One is to manage costs such as these. More than one project manager has responded to a proposed cost such as this as failing, “the giggle test.” While the terminology is not very sophisticated, the concept is foundational to the systems engineering process.

Second is demonstrating the value to a seemingly overlooked stakeholder: the taxpayer. The current public rancor is symptomatic of poor concept development and an inadequate initial concept of operations. As it stands the proposed high-speed rail system does not pass the giggle test in spite of the superb engineering that has gone into it.

Differing opinions are welcome, as are all discussions of systems engineering topics. Please send your input to la-newletter@incose.org or consider posting your opinions to the Los Angeles Chapter Linked-In Group page http://www.linkedin.com/groups?gid=1456737&trk=hb_side_g.

The 2012 International Symposium Features INCOSE-LA Member

By Jorg Largent

The annual International Symposium, July 9 – 12, 2012, is in Rome, Italy, and INCOSE has arranged for four days of panels, forums, and presentations on all aspects of systems engineering. This year has a special “one of our own” aspect. Douglas Orellana, President of the student division at the University of Southern California will be presenting a paper entitled, “Analyzing Human Machine Interaction and Interfaces through Model Based System Engineering Practices.” Douglas’s paper is based on the observation that as systems continue to grow in scale and complexity, human machine interactions, and the human machine interface, become a crucial consideration in overall system design. Douglas writes that in complex systems, humans are often part of the complex system as opposed to just being users of the system. The human mental model, work instructions, and procedures are key attributes that a system architect needs to analyze to ensure the success of the overall human-machine system.

In addition to Douglas’s paper, the upcoming event in Rome will offer nearly 1,000 of the world’s leading systems engineers opportunities to interact at the same time they learn of the latest developments in tools, methodologies and approaches. INCOSE President John Thomas wrote that he is particularly excited about the disciplines represented, including transportation – notably high-speed rail – along with national security issues (including a keynote on cyber security), and issues around efficient energy design. This year’s program also features a track on how systems engineers and program managers can improve performance by working together as a team.

Congratulations to Douglas for his dedication and hard work. The recognition is well deserved. To honor Douglas’ efforts, the Chapter provided a \$500.00 grant to help defer his expenses.

For more information on the International Symposium, go to <http://www.INCOSE.org/symp2012/>. If you are going to the International Symposium, please let Chapter President John Silvas know, so you can be invited to the Chapter’s networking events.

A Playful Puzzle by Raphael Robinson

Complete the following sentence:

In this sentence the of number of occurrences of 0 is ____, of 1 is ____, of 2 is ____, of 3 is ____, of 4 is ____, of 5 is ____, of 6 is ____, of 7 is ____, of 8 is ____, and of 9 is ____.

Each blank is to be filled with a numeral of one or more digits, written to decimal notation [i.e. not hexadecimal, Editor].

From “Understanding UNDERSTANDING,” by Douglas R. Hofstadter

A Speaker Meeting Insight

By Susan Ruth

The following is in response to the Speaker Meeting of September 2011. The speaker was Dr. Cihan Dagli, Missouri University of Science and Technology. His topic was Systems Engineering Research- Taking Systems Engineering to the Next Level.—Editor

Periodically I have the discussion with my customers (other Aerospace people) and their customers (the Air Force and the National Reconnaissance Office) on the maturity of systems architecting where maturity implies stability of the domain over time. My contention is that Systems Architecting is not yet very mature and that we need to be looking for better methods to achieve the benefits of Systems Architecting. When challenged, I point out the instabilities I have observed; in this case a university is talking about Smart System Architecting. In prior speaker meetings and tutorials, I’ve learned about the DoD Architecture Framework (DoDAF) and the Zachmann Framework and others. In addition to winning this philosophical discussion, I usually also get the funding to try out a new method. Though the methods I try out don’t typically become standard industry practice, they do grow my own personal tool set that is available to analyze other architectures. One extension is the application of this notion of immaturity to an in-house tool that every program is supposed to use. What I’ve learned helped me compile briefing charts that indicate why this internal tool was not appropriate for all of the planned purposes.

Enjoy Your Membership by Getting Involved

When you “take on a role”, small or large, you will have an opportunity to get to know your fellow INCOSE members better and to contribute to the success of the chapter. Karen Miller has been appointed to help you connect with the people and events that matter to you. Send your name and contact information to Karen, (Karen.Miller3030@gmail.com), and she will forward it to the person in charge. Here are some of the many possibilities:

- Conferences and events – presenter, planner, helper
- Monthly meetings - planning, greeting, food, site coordinator
- Education – tutorials, engineering week, certification, local and school opportunities
- Membership – company recruitment, publicity
- Communication – newsletter, articles, social networking

In addition to the “volunteers” database, a “speakers” database matches members who wish to speak to other organizations and schools with requested topics. For example, two of our members, Karen Miller and Nehal Patel, will be speaking to the students at Westchester High School, a new Aerospace Magnet for LA Schools. These talks are designed to inspire students to study engineering.

Remember, send your area of interest and expertise to Karen so requests for speakers may also be forwarded to the right people.

High School and College Students Most Welcome!!!

SPECIAL PRESENTATION ON LATEST MARS ROVER MISSION AND LANDING

The IEEE-OC Computer Society (OCCS) wish to invite high school and college students to a Los Angeles and Orange County area-wide Science, Technology, Engineering & Math (STEM) outreach event.

MISSION: “Curiosity” is latest and largest Mars rover (a “Mini-Cooper” on six wheels!) carrying Advanced Science Experiments (including a Mars Rock Laser Pulverizer!) that will attempt a first-ever “Sky-Crane” soft landing into a young Martian crater on August 5, 2012.

FEATURING: Two Lead JPL Mission Engineers, Charles Baker and Nagin Cox, amazing JPL Mars Rover Landing Simulation Videos, and, possibly, actual Curiosity hardware and/or mock-ups. There will be exhibit tables from several Los Angeles and Orange County professional societies.

KEY TALK TOPICS:

- What Have We Learned About Mars To-Date?
- What Do We Hope to Learn about Mars from Curiosity Mission?
- What Were Engineering Challenges in Designing Curiosity?

WHEN: Saturday, June 2, 2012 (two months before the planned historic landing!)

TIME: 2:00 p.m. to 5:00 p.m. (doors open at 1:30p.m.)

WHERE: Room 111 at Brandman University, 16355 Laguna Canyon Road, Irvine, California

COST: FREE (parking, admission, bottled water and healthy snacks)

R.S.V.P. ASAP to: <http://occs-060212.eventbrite.com>

Event Questions to: Fred Lawler, (657) 464-9314, fredlawler@hotmail.com

The Los Angeles Chapter of INCOSE is a co-sponsor of this event.

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 |
|----------------|-------------------------------|--|
| Bill Lo | Principal Engineer | DIRECTV |
| Linda Taylor | Principal Systems Engineering | Salient Federal Solutions, LLC |
| Sean McCormick | Systems Architect | DoD |
| Jonathan Fish | Systems Engineer | Science Applications International Corporation |
| Ty Leavitt | Senior Staff Engineer | Moog Inc. |

INCOSE-LA Chapter NEWSLETTER

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**PO Box 10969
Westminster, CA 92685-0969**

Forwarding Address 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 the systems engineering field or related fields.

2012 Board of Directors

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| Treasurer | Harvey Soldan | harvey.soldan@jpl.nasa.gov | Communications | Edie Ung | edie1121@mac.com |
| Appointed Positions | | | | | |
| Newsletter Co-editor | Jorg Largent | jorg.largent@incose.org | Newsletter Co-editor | DeAnna Regalbutto | deanna.regalbutto@verizon.net |
| Technical Society Liaison | Shirley Tseng | shirleytseng@earthlink.net | Reflector Manager | Susan Ruth | susan.c.ruth@aero.org |
| Chapter Recognition Manager | Joshua Sparber | jparber@netzero.net | Industrial Relations Manager | Jose Garcia Jr. | jose.s.garcia-jr@boeing.com |
| Professional Networking Chair | Nehal Patel | Patel_Nehal@bah.com | Website Technical Manager | Mark Gallo | mark.gallo@incose.org |
| 2012 Mini-Conference Chair | Michael Wallace | m.wallace@ngc.com | Lead Site Coordinator | OPEN | |
| 2012 Mini-Conference Technical Chair | Bruce Riggins | Bruce.riggins@incose.org | Rep to the SF Valley Engineer's Council | Stephen Guine | Stephen.Guine@ngc.com |
| Student Division Ambassador | Michael Kim | michael.kim@jhuapl.edu | | | |