



NEWSLETTER



2002, 2004-10



2003



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



UPCOMING EVENTS

June Speaker Meeting

There will be no speaker meeting in June

INCOSE International Symposium

June 20 — 23, 2011

Hyatt Regency Denver

Denver, Colorado

See article on page 2

July Speaker Meeting

The UCLA Smart Grid Energy Research Center

Speaker: Dr. Rajit Gadh, Professor, School of Engineering and Applied Science, Founding Director of SMERC

When: Wednesday, July 13, 2011

Where: The University of California, Los Angeles

***** Attendance is limited! *****

See page 3 for more details

July Tutorial

Enterprise Engineering and Architecture Analysis

When: July 29, 2011

Where: Boeing Huntington Beach

See page 6 for more details

August Speaker Meeting

Speaker: Steve Welby, Office of the Secretary of Defense

When: Tuesday, August 9, 2011

See future editions of the Newsletter and watch for Reflector notices for more details

Strategic Planning Meeting Wrap-up

By Alan Kirshbaum

Ten Chapter officers and six members conducted a strategic planning meeting: a day-long, mid-year appraisal of the status of and the prospects for the Chapter. The meeting was held on April 30, 2011. Booz-Allen-Hamilton, El Segundo, hosted the meeting, and Chapter Vice-President John Silvas coordinated the meeting. The conference accomplished its tasks of assessing our progress with respect to Chapter's goals and objectives for the year and of refining those goals and objectives as needed.

Chapter President Beth O'Donnell opened by highlighting INCOSE-LA Chapter's mission to "perform an essential role in the achievement of INCOSE's goals and objectives and to bring value to the stakeholders of INCOSE-LA."

President O'Donnell selected the Chapter Circle Award criteria as the framework for measuring progress toward each goal. Each Chapter officer described his or her progress toward meeting the goals in his or her respective area of responsibility, and a number of key progress elements were identified during the meeting.

Terry Rector, CSER 2011 (Conference on Systems Engineering Research) Management Chair, described the success of the CSER 2011 conference. He also talked about the lessons learned regarding the planning of and execution of CSER – knowledge that will be used to advantage in conferences hosted or co-hosted by the Chapter.

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**Remember to renew your
INCOSE membership!
See article, *Let Us Help
You*, on page 3**

THE 21ST ANNUAL INTERNATIONAL SYMPOSIUM

By Jorg Largent

The INCOSE International Symposium will be held later this month (June 20 – 23, 2011, in Denver, Colorado) and is shaping up to be the premier systems engineering event of the year. This is an opportunity for a systems engineer to continue his or her professional development by being on the cutting edge of systems engineering technology and learning from practicing systems engineers in other industries. Those who are not systems engineers per se are particularly welcome and will have an opportunity to learn about the systems engineering process and its value. For those who do not have the time for all four days or might be interested in only a few of the topics, INCOSE has options to attend only one or two days.

Regardless, the symposium is architected so that attendees can experience the following:

- Interacting one-on-one with leading practitioners, researchers and educators
- Attending paper presentations
- Participating in panels
- Building competency by attending tutorials
- Becoming involved with Working Groups
- Staying current on “Best Practices”
- Learning about Certification
- Networking with colleagues and making new connections

Can't be there all four days?
Checkout the option to attend only one or two days.

Technical Program and Professional Development activities include:

- 4 industry-acclaimed keynote speakers
- 35 sessions for 96 technical paper presentations (including invited papers from systems-of-systems experts and IEEE colleagues)
- 12 poster presentations
- 6 panels debating various unresolved issues
- 16 tutorials
- Up to 38 INCOSE working group meetings
- 2 offsite technical tours
- An academic forum

Several networking, social and cultural activities are planned:

- INCOSE Symposium Banquet
- Exhibition Hall Open Daily
- Over a dozen catered breakfast, lunch and social hour receptions

A special attraction for members of the Los Angeles Chapter has been a social gathering. As in the past, our Chapter will get together for networking (with munchies and a no-host bar). Past events have been popular; we have often been joined by members of other chapters for convivial and interesting discussions about the presentations at the symposium. Look for the INCOSE-LA banner.

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May speaker meeting

By Jorg Largent

Mr. Howard “Mitch” Mitchell was the speaker at the May speaker meeting on May 10, 2011. Mitch spoke to Chapter about systems engineering from the perspective of a wide range of satellite and missile programs, set against the transition in acquisition, from the days of Acquisition Reform in the mid-1990s to today. SMC has been in the "Development" era delivering new launch and satellite capabilities. While some programs are still in development, others are transitioning into the production phase. Although the systems engineering discipline and processes throughout the lifecycle of a program — from requirements analysis and validation to requirements certification — remain functionally the same, how Mission Assurance will be accomplished will change. The "Development" phase featured cost-plus contracts but the expectations for the "Production" phase is that fixed-price contracts will dominate. This change in contracting philosophy will require better systems engineering on the front end of the programs to ensure requirements, risks, materials, and processes (such as configuration management and interface control), are well understood. The purpose of Mitchell's presentation was to engage in a dialogue about how systems engineering will support key national security space programs, thereby enabling them to meet the expectations that, in the "Production" phase, programs will meet cost, schedule, and performance targets while ensuring mission success.

Mitchell, a retired Major General and now an executive with the Aerospace Corporation, brought a rich background to the discussion, having served as a leader of military and intelligence community space programs, and having served in several leadership positions within the Air Force Systems Command, Aeronautical Systems Center, Ballistic Missile Office Space and Missile Systems Center, the National Reconnaissance Office, and the Office of the Secretary of Defense. The backdrop for Mitchell's presentation was the era in which the Berlin Wall came down and the acquisition reform that occurred soon thereafter. The reform included an attempt to make do with commercial systems. There was a shift in funding distribution by cutting front-end systems engineering and loading the backend of a project. Of particular note was the often-occurring gap between the development phase and the production era (a.k.a. production phase) of a project. This gap can result in a loss of knowledgeable personnel and production capabilities and is a particular challenge to the execution of the systems engineering process. The transition can result in the production era facing lingering technical issues and new fiscal challenges. Mitchell commented that the systems engineer is the conscience of a project and that systems engineering is about accountability.

Mitchell emphasized the importance of adhering to a disciplined gated process, noting that the systems engineer should be responsible for ensuring that a project does not enter a test without be certain that the test will be done as planned and that the project does not exit a test without the test being properly completed. Mitchell also noted the importance of post-

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July Speaker Meeting

The UCLA Smart Grid Energy Research Center

Presenter: Dr. Rajit Gadh, Professor at the Henry Samueli School of Engineering and Applied Science at UCLA, and the Founding Director of the UCLA Smart Grid Energy Research Center (SMERC)

PARTICULARS

When: Wednesday, July 13, 2011, 4:00 – 7:00 pm

Where: UCLA Smart Grid Energy Research Center (SMERC) Henry Samueli Hall at UCLA

Cost: Free (unless refreshments are provided)

NOTE: UCLA charges for parking

ABSTRACT: The UCLA Smart Grid Energy Research Center, or SMERC, performs research, creates innovations, and, demonstrates advanced wireless communications, internet and sense-and-control technologies. The activities facilitate the development of the next generation of the electric utility grid — the “Smart Grid.” SMERC also provides thought-leadership via partnership among utilities, renewable energy companies, technology providers, electric vehicle and electric appliance manufacturers, the Department of Energy research labs and universities; so as to collectively work on vision, planning and creation of for a grid of the future. The grid of the future will allow integration of renewable energy sources, reduce losses, improve efficiencies, increase grid flexibility, reduce power outages, allow for competitive electricity pricing, and allow for integration of electric vehicles. The smart electric grid of the future will be responsive to market, consumer and societal needs.

SMERC is currently working on the topics of Automated Demand Response, Electric Vehicle Integration, Microgrids, distributed renewable integration, storage integration into microgrids, cybersecurity, and consumer behavior.

BIOGRAPHY: In addition to being a professor at UCLA, and the founding director of SMERC, Dr. Gadh is also the founder and director of the Wireless Internet for Mobile Enterprise Consortium. Among the participating organizations who have been sponsors and members are Boeing, Hewlett Packard, Hughes Network Systems, Intel, InterDigital, ITC Infotech, Lucent Technologies, Microsoft, Motorola, Northrop Grumman, Qualcomm, Raytheon, Sprint, Siemens, and Verizon.

Dr. Gadh's research interests include smart grid architectures, smart wireless communications, sense and control for demand response, microgrids and electric vehicle integration into the grid. He has a strong background in creating technology partnerships with industry.

Dr. Gadh has a Ph.D. from Carnegie Mellon University, a masters from Cornell University and a bachelor's degree from the Indian Institute of Technology Kanpur. He has taught as a visiting researcher at U.C. Berkeley, has been an Assistant-, Associate- and full Professor at the University of Wisconsin — Madison, and did his sabbatical as a visiting researcher at Stanford University for a year. He has won several awards from the National Science Foundation, the Society of Automotive Engineers, the American Society of Mechanical Engineers, and the Engineering Education Foundation.

R.S.V.P.:

R.S.V.P. by registering online at <http://www.incose-la.org>. Please register by July 6, 2011 and provide your full name, title, company, phone number, and email address. Also, state whether you are a US Citizen, resident alien, or foreign national. Members must include your INCOSE member number.

DIRECTIONS AND PARKING:

A reservation for this event is essential and reservations will be made on a first-come, first-serve basis!

The presentation and tour will be at UCLA, in the Henry Samueli Engineering School of Engineering Building, right next to Boelter Hall.

UCLA is north of the Los Angeles International Airport. UCLA's main campus is bounded by Sunset Boulevard. on the north and Le Conte Avenue on the south; the east border is Hilgard Avenue and the west border is Gayley Avenue.

From the 405 Freeway take the Wilshire Boulevard East exit. Continue east on Wilshire for several blocks, moving into the left lane. Make a left turn on Westwood Boulevard and follow it into campus.

Parking:

Lot 9 is closest to the SMERC facility but there are also two other options: lot 8 which is located directly across from lot 9 on Westwood Boulevard and lot 6 which is at the end of the cul-de-sac on Westwood Boulevard.

Can you contribute to a Speaker Meeting?

If you have a systems engineering experience or issue you would like to share with your colleagues, please contact the Director of Programs, Michael Kim (kim_michael_1@bah.com) regarding a potential Speaker Meeting presentation.

Help Us Help You!

By Terry Rector

Membership is the very reason why we are all here and we need your help to maintain and grow our membership.

Our Chapter is one of the most active INCOSE chapters in the country and the Board of Directors and our many volunteers enjoy providing a good value for the members. In order to ensure that the Chapter is of value to our members and potential members alike, individual members can make an invaluable contribution.

Please take a few minutes and share the value of our Chapter with those that you work or interact with everyday.

Renewing you membership is another contribution. We currently have over 400 members in the Los Angeles Chapter, many of whom will be renewing their memberships in the next couple of months. Selecting the Los Angeles Chapter as your chapter affiliation benefits the local systems engineering community because the Chapter receives a small portion of the dues, and that portion help pay for speaker meetings, networking events and other Chapter activities. Your renewal increases the benefits that the Chapter can offer to the Los Angeles systems engineering community.

Report from the San Fernando Valley Engineers' Council

By Stephen Guine, INCOSE-LA Representative



INCOSE-LA Representative Stephen Guine presenting Engineering Council scholarship to Celena Dayoub of Palmdale

The San Fernando Valley Engineers' Council (EC) is an organization that has as its mission the advancement of the art and science of engineering. The EC recognizes accomplishments at the annual banquet which is held every year in conjunction with Engineers' Week. Numerous well deserving teams were recognized, including the Engineering Project of the Year: the X-51A WaveRider Scramjet Engine Demonstrator.

On Thursday, May 12, 2011 Guine had the honor of presenting the Engineers' Council scholarship to this year's recipient, Celena Dayoub. The EC scholarship is awarded to a high school senior planning a career in engineering, mathematics, or science and who expects to enroll in college for the Fall 2010 academic term. The awards committee considers the student's goals in their chosen discipline, their academic background and accomplishments, extracurricular activities, and their service to their community during their high school years. Celena, who plans to attend The Masters College in Santa Clarita, hopes to pursue a career in either mechanical or aerospace engineering and also obtain an advanced degree to further her professional capabilities.

"There can be no question but that modern research heaps observation upon observation, pours new facts into an ocean already brimful of details that no one can remember and seemingly no one can hope to digest. The purpose of science is to find **simplicity** and coherence in the billowing mass of material." (emphasis added)
Dr. Edward Teller, *The Pursuit of Simplicity*

(May Speaker Meeting, continued from page 2)

test analysis as a source of feedback. Projects should heed past lessons and use reliable and repeatable processes – an area in which systems engineering is important.

The evening concluded with questions and answers from both the audience at the host site and from attendees at the remote sites. Those are interested in learning more about the systems engineering process and the experiences of others are encouraged to attend future speaker meetings. Speaker meetings are announced in the Newsletter, on the Chapter website (<http://www.incose-la.org>) and by email Reflector notices.

AIAA Orange County meeting with Rocket Science Tutors

By Shirley Tseng

AIAA Orange County discussed "Rocket Science Tutors" (RST) at their May meeting. The RST program is now at 4 schools - 24 weeks of hands-on sessions and labs after school. RST provides volunteer engineers at a 5:1 ratio to work with the students as they build kits and perform experiments. The program ends with each student building a rocket to launch for graduation.

The Late Edition of the May Newsletter

By Jorg Largent

I apologize to the membership for the tardiness of the May edition of the *Newsletter*. There was a lapse in communication in which I dropped the ball. This is not in keeping with the tradition of excellence that the Board of Directors and I feel is important as a part of a professional organization. We feel that the timely delivery of our Newsletter is important and something the dues-paying members of a professional organization should expect and receive. Again, my apologies.

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
Denton Tarbet	Sr. Consultant	Galorath Incorporated
David M. Murray	Flight Control Systems Engineer	The Boeing Company
Leo Y. Cheng	Mission Systems Engineer	
Amanda K. Ragan	System Engineering Manager	Northrop Grumman
Roger (Kent) K. Thomson	Project Manager, Smart Grid Development	Energy
Mitchell (Mitch) T. Wenger		
Ernest Y. Stambouly	Owner	Cephas Consulting Corp.
Per Elmfors	Systems Engineer	FLIR Systems

(Strategic Planning Meeting, Continued from page 1)

President O'Donnell reviewed the development of a chapter volunteer databank to match people with particular needed tasks. She identified a number of volunteer opportunities, and two of the new members in attendance stepped up to pitch in.

David Boyd, a former Chapter President, offered ways to best take advantage of the Constant Contact registration and communications service.

Programs Director Michael Kim and Systems Engineering Education Director Shirley Tseng recapped speaker meetings and tutorials conducted thus far this year and reviewed those planned for the rest of the year.

The group initiated planning for a 2012 mini-conference.

Vice-president Silvas summarized support for the upcoming International Symposium.

Treasurer Harvey Soldan reviewed the current state of chapter budget and expenditure status.

Professional Networking Chair Nehal Patel gave a presentation discussing opportunities for professional growth on the part of the members of the Chapter. She emphasized the power of networking, mentoring, and community events. She is working in coordination with the Director of Systems Engineering Education and the Director of Communications.

Membership Director Paul Cudney discussed activities intended to increase the value of Chapter membership to non-members and current members alike. Of particular note are activities to facilitate personal job and career enrichment. The group also highlighted the vital importance of cultivating Corporate Advisory Board members, of establishing Student Division sponsorship, and of recognizing and appreciating the contributions of members to the Chapter and the profession.

O'Donnell also summarized the Chapter's strategic goals in four focus areas:

1. Serving our members by promoting systems engineering knowledge
2. Providing outreach and networking opportunities
3. Increasing value to the membership, and
4. Maintaining operational stability and growth.

In the area of systems engineering knowledge, she described these goals as including:

- Serving as a focal point for dissemination of SE knowledge and experience in SoCal,
- Facilitating communication and information exchange,
- Promoting collaboration in SE practice, education, research, promoting active participation in Working Groups, and
- Marketing the organization.

In the area of providing outreach and networking opportunities, the Chapter developed goals to provide events and systems engineering products and services that are of value to our members, to organize professional and social programs, and to encourage participation in local, national, and international SE events and activities.

The activities to provide outreach and networking opportunities flows into the area of increasing value to the membership. In this area the Chapter's goals include recruiting new members and retaining current members by offering

incentives and benefits, improving communications, promoting the chapter and chapter events, hosting meetings at a variety of area sites and for a variety of technical domains, utilizing stakeholder "ambassadors," developing new membership sources, and soliciting support and members from local companies.

Finally, in the operational area, the Chapter established plans to review, maintain, and develop chapter organizational and operational documents; develop long-range planning and guidance; and maintain and improve financial stability for the long-term growth of the chapter.

President O'Donnell closed the meeting by thanking all attendees for their contributions to the chapter. She stated that continued successful accomplishment of objectives will bring value to the members, maintain alignment with the INCOSE strategic direction, and help the chapter grow.

Meeting minutes and all the presentation material from meeting are available for review by Chapter members on the Los Angeles Chapter INCOSE CONNECT website (login with password required) at: https://connect.incose.org/mb/r2/la/Shared%20Documents%20Test/2011-CHAPTER-Folder/2011_Strategic-Planning/2011-04-30_SPM

For up-to-the-minute event details:

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

**Coming to Denver?
Look for the INCOSE-LA banner.**

(International Symposium, Continued from page 2)

The symposium will be followed by (on June 24) an opportunity to tour the Laboratory for Atmospheric and Space Physics and to tour the National Renewable Energy Lab.

To learn more about the accommodations available at the host hotel, the Hyatt House Denver, go to the INCOSE website: <https://www.incose.org/symp2011>

To learn more about the symposium go to the INCOSE website: <https://www.incose.org/symp2011>.

Stay Connected

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

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

susan.c.ruth@aero.org

July Tutorial Enterprise Engineering Analysis One-day Boot Camp

Date courtesy of:

LOCKHEED MARTIN CENTER FOR ENTERPRISE ENGINEERING
EXCELLENCE

*Bringing engineering practice to the integration of business, organization,
and technology.*

Friday, July 29; 2011

Participants will learn how to establish an Enterprise Architecture Modeling and Simulation Environment and use Enterprise Architecture Analysis Patterns based on the Department of Defense Architecture Framework (DoDAF)

Key Topic Areas

- Enterprise Architecture Analytical Framework
- Enterprise Performance Prism
- Enterprise Architecture Modeling and Simulation Environments
- Employing Enterprise Architecture Analysis Patterns

1-Day Enterprise Engineering and Architecture Analysis (EEAA) Benefits

Enterprises and the organizations that comprise them are constantly seeking ways to lower total cost of ownership and balance quality with affordability in response to high-level mandates or the need to be more cost-effective, efficient, or responsive. An understanding of Enterprise Engineering, Enterprise Architecture, and the application of Enterprise Architecture Analysis will assure the success of any initiative designed to deliver increased quality, agility, interoperability, scalability, responsiveness, and affordability. The principles of Enterprise Engineering are required to maximize enterprise productivity, performance, and efficiency in a holistic manner.

In this workshop, participants will gain the skills and knowledge necessary to understand what principles and techniques are required to successfully perform enterprise analysis, from Enterprise Planning to Enterprise Conceptualization to complete Enterprise Lifecycle Analysis that will support decision making.

This seminar does not include any hands-on exercises. The EEAA Seminar follows the Enterprise Engineering 1-Day Executive Overview Boot Camp provided in Nov 2010. It provides exposure and introduction to the principles of Enterprise Architecture Modeling, Simulation, and Analysis for those intending to take the 3-Day extensive Enterprise Engineering Analysis Boot Camp.

1-Day Enterprise Engineering and Architecture Analysis—Seminar Outline

- Introduction to Enterprise Architecture Analytical Framework
- Employing the Enterprise Performance Prism
 - Understanding the Performance Prism Framework
 - Implementation and use of the Performance Prism Framework
- Enterprise Architecture Modeling and Simulation

Environments (EA M&S)

- Understanding the EA M&S Environment
- Implementation and use of the EA M&S Environment
- Employing Enterprise Architecture Analysis Patterns
 - *A sampling of Enterprise Architecture Analysis Patterns to be discussed*
 - Enterprise Affordability Analysis Pattern (EAAP)
 - Enterprise Interoperability Analysis Pattern (EIAP)
 - Enterprise Concept Analysis Pattern (ECAP)
 - Enterprise Nodal Analysis Pattern (ENAP)
 - Enterprise Open System Analysis Pattern (EOSAP)
 - Enterprise Culture Analysis Pattern (ECAP)
 - Enterprise State Analysis Pattern (ESAP)
 - Enterprise Goal Analysis Pattern (EGAP)
 - Enterprise Composition Analysis Pattern (ECAP)
 - Enterprise Stakeholder Analysis Pattern (ESAP)
 - Enterprise Capability Analysis Pattern (ECAP)
 - Enterprise Governance Analysis Pattern (EGAP)
 - Enterprise Lifecycle Cost Analysis Pattern (ELCAP)
- *Time permitting — Discussion of other Enterprise Architecture Analysis Patterns*

Presenters:

Walter L. Wilson

Walter L. Wilson's credentials include:

- Enterprise Architect with Lockheed Martin with 14 years of practical experience
- Federal Enterprise Architecture Certification Institute faculty member
- President of the Association of Enterprise Architects California chapter
- Senior Thought Leader in Enterprise Engineering and its application to full Enterprise Lifecycle Management.

Brae Irwin

Brae Irwin is an enterprise architect for Lockheed Martin with four years of practical experience in defense and commercial domains. He is a officer of a leading chapter of the Association of Enterprise Architects and has educated several defense industry organizations on enterprise architecture and engineering. Recently he has contributed to the development of the Multi-mission Satellite Operations Center architecture and a published approach for Open Systems Management for Air Force Space Command.

Sunil Malik

Sunil Malik works at Lockheed Martin as an Enterprise Architect. In the past, he has also worked as a software architect designing and executing next-generation ground systems for the Department of Defense. In his current role, Malik's main duties include designing, executing, and training on enterprise engineering processes and procedures to support cost effective acquisition, operations, and development activities.

Location: The tutorial will be held in the Building 28 theater at the Boeing Huntington Beach facility. The Boeing facility is located at 5301 Bolsa Avenue in Huntington Beach.

(Continued on page 7)

Intel-ISEF 2011 Honors High School Science Fair Winners

By Mark Gallo

The Intel International Science and Engineering Fair (ISEF), the world's largest high school science competition, and a program of Society for Science & the Public, announced its top winners at the Los Angeles Convention Center on May 11th.

Over 1500 students from grades 9-12 earned the right to compete at the Intel ISEF 2011 by winning top prize at a local, regional, state or national science fairs. They were selected from 443 affiliate fairs in 65 countries, regions and territories.

In the General Awards competition, a team from Lafayette, CA received the Gordon E. Moore Award, a \$75,000 prize in honor of the Intel co-founder and retired chairman and CEO. In addition, a team from Thailand, and one individual from Reno, NV were named Intel Foundation Young Scientist Award winners and each received prizes of \$50,000. In all, over 400 finalists received awards and prizes for their groundbreaking work. Awards included 17 "Best of Category" winners who each received a \$5,000 prize. The Intel Foundation also awarded a \$1,000 grant to each winner's school and the Intel ISEF-affiliated fair they represented.

Besides the General Awards, the Intel-ISEF Special Awards were presented by nearly 70 scientific, professional and educational organizations, and included scholarships, summer internships, equipment grants, and trips.

Several INCOSE members from around the country served as volunteer judges in a show of support for STEM education in Los Angeles. Mark Gallo and Dr. Karen Miller represented INCOSE-LA as volunteer Special Awards judges at Intel-ISEF 2011. Other INCOSE volunteers from around the country included Fred Brown; Bill Mackey; Dorothy McKinney; Stan Settles; John Walker; Judy Walker; Julie Walker.



Julie Walker holding the INCOSE plaque.

The INCOSE Special Awards were given to engineering projects in the following categories: Electrical; Mechanical; Bioengineering; Environmental Management; and Energy and Transportation. The emphasis was on projects that involved characterizing, designing, building, modifying or testing a clearly identifiable complex

system in which the system's utility to society was clearly apparent. Special consideration was given to systems that could be built, modified, and/or redesigned to solve a societal (stakeholder) need, and that were based on established Systems Engineering processes, practices and tools.

The INCOSE First Award of \$1,500 was awarded to Ms. Kelles Diane Gorge, 16, of Great Mills High School in Maryland, for "Critical Point of View: A System for in vivo Monitoring of Lung Sounds in Critical Care Patients."

Kelles' project was clearly modeled after the system engineering process. Her methodology was prominently featured on her display, and she was able to address the system

engineering principles and answer the questions directed to her without hesitation. She validated signal processing algorithms which distinguish different types of lung-produced sounds. She displayed remarkable grasp of the biomedical principles involved, and successfully applied sophisticated frequency/time domain techniques in developing her diagnostic algorithms. Her next steps involve producing an in vivo (body mounted) prototype that can acquire and evaluate data from test subjects in real time. INCOSE looks forward to evaluating her progress at the 2012 ISEF.

INCOSE also awarded several Certificates of Honorable Mention.

Marian Joan Bechtel, 16, Hempfield High School, Landisville PA, won for "A Stand-Off Seismo-Acoustic Method for Humanitarian De-mining."

Marian is clearly very passionate about the de-mining issue, and seemed genuinely eager to find new approaches for detecting plastic mines and non-traditional threats. She considered the real needs of the mine searchers, and devised an operational approach that was pragmatic and effective. Marian's extensive trades and iterative testing and refinements made a big impression. She spoke enthusiastically about this opportunity to showcase her project. The data was well organized and her systems process was easy to follow. Her project was clearly a complex system, and she applied system thinking, tools and techniques throughout her work.

Marian plans to continue validating and refining the techniques, and perhaps extending them to other applications. Marian got the idea for her land-mine detector while playing the piano. She noticed that when she hit certain chords, a banjo hanging on the wall would resonate — and realized she could use the same principle to search for underground mines. She also was a \$1000 third-place prize in the electrical and mechanical engineering category of the General Awards competition.

David Alexandre Joseph Campeau, 16, Mayo High School, Rochester MN, won an INCOSE award for "Brain Computer Interface."

David's project was a fine example of systems engineering methodology. While other projects also explored brain wave signal acquisition and evaluation, David's project was by far the best organized and presented. David made extensive use of computer simulations prior to prototyping that helped guide his trades and selections. His needs analysis, concept development, and system evaluation approaches were well explained, and his extensive trades are ongoing. He seemed to be refining his next steps as he was being interviewed. His verbal, written and presentation skills were excellent. The judges were very impressed by his extensive use of trades and iterative testing and evaluation.

(EEAA Tutorial, Continued from page 6)

COST, REGISTRATION and CONTACT INFORMATION:

The final details are in work and will be available on the Chapter's website. In addition, a post card and a reflector notice will be sent to all members on the mailing list.

INCOSE-LA Chapter NEWSLETTER

Vol. 9: Issue No. 6 June 2011

Return Address:

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

Forwarding Address Requested

The International Council on Systems Engineering (INCOSE) is an organization formed for the purpose of advancing the art and science of systems engineering in various areas of the public and private sectors. Our mission is to advance the state of the art and practice of systems engineering in industry, academia, and government by promoting interdisciplinary, scalable approaches to produce technologically appropriate solutions that meet societal needs. The Los Angeles Chapter meets several times per year for dinner meetings, and additionally sponsors tutorials and other activities of interest to those in the systems engineering field or related fields. L.A. Chapter officers are as follows:

2011 Board of Directors and Appointed Positions

Elected Officers

President:	Beth O'Donnell	elizabeth.l.o'donnell@boeing.com	or	president@incose-la.org
Vice-President:	John Silvas	silvas_john@bah.com	or	vicepresident@incose-la.org
Past President:	Rosalind Lewis	rosalind.lewis@aero.org	or	pastpresident@incose-la.org
Secretary:	Alan Kirschbaum	aik@roadrunner.com	or	secretary@incose-la.org
Treasurer:	Harvey Soldan	harvey.soldan@jpl.nasa.gov	or	treasurer@incose-la.org

Elected At-Large Directors

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Appointed Positions

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Webcast Event Manager:				
Website Technical Manager:	Michael Kim	michael.kim@jhuapl.edu		
Professional Networking Chair:	Nehal Patel	nehal_p1_patel@raytheon.com		
CSER 2011 Management Chair:	Terry Rector	Terry.Rector@scientist.com		
Representative to San Fernando Valley Engineers' Council:	Stephen Guine	Stephen.Guine@ngc.com		

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