



Midwest Gateway Newsletter

International Council on Systems Engineering

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President's Corner

*William J. (Bill) Bezdek
President MGC INCOSE*

The FIRST national competition on April 27-30 was held at the Edward Jones Dome and was a lot of fun and showed the hard work by the students and their mentors / coaches. The students were very enthusiastic. When we had a booth at the regional competition, the mini-bots deployment were not always successful. In the finals, not only did all the mini-bots light the light, it was a competition to see who would get there the fastest. Several engineers from our chapter are starting FIRST Lego League teams in middle schools and others continue to work with team around the city.

We have had two excellent programs at the end of May and the beginning of June. The May 25th meeting was a panel discussion on System Engineering by Bill Jennings, Bob Scheurer and Shawn Simmons titled: How to Start a Successful Program "How to Put

(see *President's Corner...* on page 3)

How relevant is systems engineering in today's world?

By Bob Scheurer

In today's complex world, the pressure to do more with less often raises questions such as "Do we really have to do systems engineering?" or "Can't we reduce the amount of systems engineering for this effort?" Ultimately, we find ourselves back to asking, "What is Systems Engineering, anyway?"

These questions imply that there is cost, not value in systems engineering. Systems Engineering, when performed correctly, is designed to orchestrate a host of benefits to the user. If these aren't happening, it's time to check as to whether the flavor of "Systems Engineering" being performed is really systems engineering after all.

Real value from systems engineering is derived from the ability to smoothly evolve a solution from the point when a need is identified to the point where the need is satisfied. That solution typically is found in the makeup of a new service or system, usually consisting of or including hardware and/or software. These products embody innovation and technical progress designed to make our lives better. Of course, in our capitalistic society, the ability to sell goods and services that are or will be in demand by customers --- and sell them at a good profit --- is what benefits the companies that we work for and/or own as shareholders.

Critical value from systems engineering is also attained from knowing how well we're doing at any

point along the defined course of our system development, so that course corrections may be performed and performed by the right parties. This equates to the systems engineer and systems engineering process working in the role of an orchestra conductor. It takes a good conductor to develop and direct a body of musicians to play together in collective harmony. Likewise, it takes good systems engineers, following a well-crafted plan, to adequately execute the technical activities on a program in creation of a balanced solution that meets customers' needs and expectations.

As today's economy continues to struggle to regain sure footing, it's important to remember that real value to society appears in the form of solutions to society's problems. Solving problems is what engineering is all about but solving problems in a balanced and optimal way, which best addresses the concerns of a diversity of stakeholders, is what systems engineering is all about. Hence, when challenged as to whether we really need systems engineering today, the answer is that not only is systems engineering still quite relevant, but we need it now more than ever!

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Missouri Department of Transportation’s (MODOT’s) Transportation Mgt Center (TMC)

Last November, we had a joint meeting attended by over 50 engineers with fairly equal numbers from the International Council on Systems Engineering (INCOSE) Midwest Gateway Chapter, IEEE and the St. Louis Chapter of the Missouri Society of Professional Engineers (MSPE) to the Missouri Department of Transportation’s (MODOT’s) Transportation Management Center (TMC).

TMC is the operational hub for Gateway Guide - St. Louis’ Intelligent Transportation System (ITS) program. The system encompasses a broad range of information, control and electronics technologies for managing surface transportation such as roads and bridges.. When integrated into the roads and vehicles, these technologies help monitor and manage traffic flow, reduce congestion, provide alternate routes to travelers, enhance productivity and save lives, time and money. The day we were there they were supporting an accident along I-70 in the St. Charles area. Those cameras you see all

feed into the TMC to help keep the roadways cleared. Mr. Tyson King (pictured with INCOSE President and MSPE Vice President Bill Bezdek) gave an excellent overview of the TMC activities. We also got to talk to John Hodge, who is one of 19 vehicle operators on the road to

assist motorists. Remember, dial 511 if you need assistance.

The presentation from the meeting is available on the INCOSE website.

For more details and traffic information please visit the MoDOT website at www.gatewayguide.com.



Systems Engineering Research – Taking Systems Engineering to the Next Level

Our June meeting Presenter was Dr. Cihan Dagli from MS&T. He gave a presentation on what is happening in Systems Engineering Research, and how to take Systems Engineering to the next level.

Dr. Dagli’s presentation is available on the INCOSE website.





Presidents Corner (cont'd)

A Program On A Path Towards Success By Applying An Integrated Technical Planning Approach". We had several comments as to how relevant the information was.

Dr. Dagli's presentation was on 3 June titled: Systems Engineering Research "Taking Systems Engineering to the Next Level". Not only did we have our normal attendees, we had a group from Italy who are here on an offset program.

Dr. Dagli's presentation and many others are available on our website. And we will soon post an announcement for our July meeting on the 14th by Dick Mayer.

We finally had an opportunity to thank the Missouri Department of Transportation for a joint meeting we held there back in November and presented plaques to the MoDOT speakers on June 2nd.

We plan to repeat the Value Front / Cost tools tutorial again this fall, in conjunction with Washington University. We have a list of engineering students that joined the Missouri Society of Professional Engineers (MSPE) Student chapter to hopefully draw from (89).

The INCOSE survey is out and we would appreciate your inputs on what direction the chapter should take and what would provide the most value to you. Don't forget to look into writing a paper or attending the Conference on Systems Engineering Research (CSER) next March. The call for papers is open. If you haven't signed up, we will need all hands to help with the conference, so please consider doing so.

We're Proud of Our Banner!



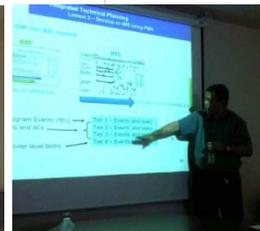
Here are a couple of pictures of the new Midwest Gateway Chapter's banner. Our chapter wanted to create an eye-catching display that would capture the interest of the general public and draw them into discussions at the booths and events our MGC representatives attend.

As you can see throughout this newsletter, we are displaying it every chance we get.

We are pretty proud of the final product, which culminated months of research, design iterations, approvals, and production.

Thanks to all who made it happen!

How to Put A Program On A Path Towards Success By Applying An Integrated Technical Planning Approach



At the INCOSE Meeting on May 25th, The Midwest Gateway Chapter of INCOSE presented "How to Put A Program On A Path Towards Success By Applying An Integrated Technical Planning Approach". Speakers were Mr. William Jennings, Mr. Shawn Simmons, and Mr. Robert Scheurer Here are some pictures that we got from Bill Jennings phone. The presentation is available on our website.

Were you there? – Montage of pics from March events

March has been an interesting time for our outreach program. Starting with our monthly meeting on March 15, where Marcos Chu expanded on the robotics presentation from our joint meeting with the Missouri Society of Professional Engineers (MSPE) on 3 February at the Engineer's Club with Paul Freiling, the FIRST coordinator. Marcos presented his spiral approach and the opportunity for our members to work with students on robotics.

Marcos took the show on the road to support the Mastodon Science / Art fair at Jefferson College in Hillsboro on February 18th. This was a much larger fair than many of us first timers expected. All the science and art exhibits were still up and some good work was evident. We had the robots there to discuss system engineering concepts and to let students know that there are two different organizations, FIRST and BEST, that they might want to look into. Jill Malcom, the Mastodon Executive Director, was our guest speaker at the January meeting. Not only did we support the fair

(see *Were you there?...* on page 6)





In Memory of Richard Schwadron

We sadly report the passing of Richard Schwadron in January from a heart attack at the age of 63.

Rich was the driving force behind the organizing committee for the 1995 National Council on Systems Engineering annual symposium in St. Louis. Among other things Rich convinced McDonnell Douglas management to underwrite the organizing effort by its employees as well as contribute to the symposium directly. He is responsible for the substantial funds that have allowed us to offset the costs of lunches at monthly meetings. He was very proud of getting Scott Adams of Dilbert fame to speak at the symposium. In the following years he represented McDonnell Douglas and then Boeing on the INCOSE Corporate Advisory Board and served as its chair.

Rich worked at Boeing for 32 years and participated in most of the company's major programs and proposals in St. Louis. He was involved in the Boy Scouts and president of his temple's brotherhood.

Rich is survived by his wife, Gloria, and three children, Stacey, Rachel and Adam.



Registration Now Open! - Join us for the 21st Annual INCOSE International Symposium between 20 June through 23 June 2011, in Denver. This highly anticipated symposium is the world's premier event for systems engineers.

INCOSE is planning a spectacular Technical Program, Speakers, Exhibitors, Technical Tours and, as in years past, we're excited to offer participants a great experience!

Keynote Speakers

Keynote speakers include Tsuyoshi Fujita, Ph.D., Professor, National Institute for Environmental Studies; Adm. Conrad C. Lautenbacher, Ph.D., Vice Admiral (USN Ret.), Vice President, CSC Corporation; Chris Barkey, Chief Operating Officer, Engineering and Technology, Rolls-Royce plc; and Kedrick Brown, Vice President, Global Telecom Center of Competence, IBM.

Technical Program

The program represents a diverse range of systems engineering experience and methods including 96 paper presentations, 6 panels, 2 roundtables, over 12 tutorials, academic forum and Youth engineering education outreach sessions.

<http://www.incose.org/symp2011/>

Were you there? ... (cont'd)

with our robotics booth, the chapter made a \$200 donation, which was acknowledged on a sign by the entrance.

The next day, we were set up at the FIRST robotics regional competition at St. Louis University. Each of about 25 schools competed to have their robots hang the red, white and blue beach balls on the hooks and a final challenge to have their minibot climb the pole and light the green light. There weren't many that succeeded, but a few did. One of the great things about this competition is that all the students help each other, even from team to team.

Lastly, the chapter supported the MSPE state wide competition, called MATHCOUNTS, held in Columbia MO on March 12th. The questions were much like the Mensa questions that many of the Jr. High students could work in their heads during the

challenge round. Many of the engineer's are still trying to work some of the problems we heard. As a matter of fact, several of the St. Louis students were among the top individuals and teams.

Bill Bezdek P.E.



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