INCOSE Chesapeake Chapter
International Council on Systems Engineering
E-Newsletter

April 2016

Back Issues

President's POV - April 2016

Ellie Gianni
President, ESEP

March was another very active month for the INCOSE Chesapeake Chapter. We supported two Science Fairs in Anne Arundel County and Baltimore City. A number of individuals representing our Women in Systems Engineering (WISE) Special Interest Group, and our chapter in general, judged at these fairs. Charlie Welch led the judging at the Baltimore City Fair and Don Gantzer led the group of Anne Arundel County judges. The chapter donated more than $750 in cash, medals and certificates to the winners.

In addition to our monthly dinner meeting and lecture our chapter also hosted a day of tutorials at the APL campus on Saturday March 19, 2016 provided by PTC and No Magic. The event was well attended and everyone learned about the tools and technologies used for enabling Model-Based Systems Engineering (MBSE) throughout the systems lifecycle.

The Systems Engineering (SE) District of Columbia (DC) 2016 Regional Conference/SEDC 2016 hosted by the Washington Metropolitan Area Chapter (WMA) took take place in Chantilly, Virginia from March 31, 2016 through April 2, 2016. I participated in supporting the planning of this event as a Steering Committee Member and thoroughly enjoyed meeting and working with the WMA chapter leadership. The topic of the conference was Critical Infrastructure Protection and Recovery (CIPR). The Key Note Speaker for the first day of the conference was R. James Woolsey, Chancellor of The Institute of World Politics and Former Director of CIA, who chairs the Board of the Foundation for Defense of Democracies, and specializes in a range of alternative energy and security issues. Bill Murtaugh was the second day Key Note Speaker. He is the Assistant Director of the Space Weather, Energy and Environment Division for the White House Office of Science and Technology Policy (OSTP). He is responsible for the development of a national strategy on space weather and Program Coordinator for the National Oceanic and Atmospheric Administration (NOAA).

In Vol. 7 Issue 4

This is the monthly newsletter for INCOSE Chesapeake, a local chapter of INCOSE International. We are a not-for-profit organization dedicated to providing a forum for professionals practicing the art and science of Systems Engineering in the Northern & Central Maryland & Southern Pennsylvania area.

Join INCOSE Today

http://www.incose.org/about/Membership/Join

The Chesapeake Chapter is always looking for volunteers to speak at our upcoming meetings! Please contact our Programs Director at programs@incose-cc.org if you would like the

Chesapeake Chapter Attendees at the SEDC 2016 Conference

Mr. Robert Green Accepts the Chapter's Winning Door Prize from Gundars Osvalds

The conference was sponsored by our Chapter with five members presenting papers. Special thanks to Gundars Osvalds for setting up the booth, manning the table and transporting everything to the site and Butch Rappe for manning our table at the conference. Mr. Robert Green was the winner of the book "A Nation Forsaken" by Michael Maloof, which we raffled off at the SEDC 2016 conference. He is a Principal Systems Engineer with Embedded Software Solutions. For copies of the proceedings from this conference see: http://www.sedcconference.org/category/papers/

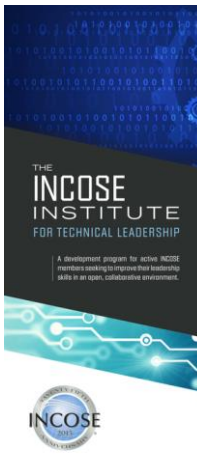
INCOSE Chesapeake Chapter Programs Update

Gundars Osvalds
Programs Director, ESEP

In March, Mr Matthew House, PTC and Aurelijus Morkevicius, No Magic; both key visionaries and developers of the latest Unified Profile for DoDAF and MODAF (UPDM), presented separate tutorial sessions on "Learning How Tools Compliant with UPDM Specification Can be Used to Support SE". The speakers provided their company solutions to developing systems and enterprise architecture designs that are compliant with DoDAF 2 and use the Object management Group (OMG) UPDM specification.

Matthew Hause from PTC on Making Smart Cities Smarter which provided us with a view of the future in how application of new technology provides us with new opportunities to integrate various elements into our lives. View the video of the presentation by clicking on: Making Smart Cities Smarter.

opportunity to speak or can recommend someone.



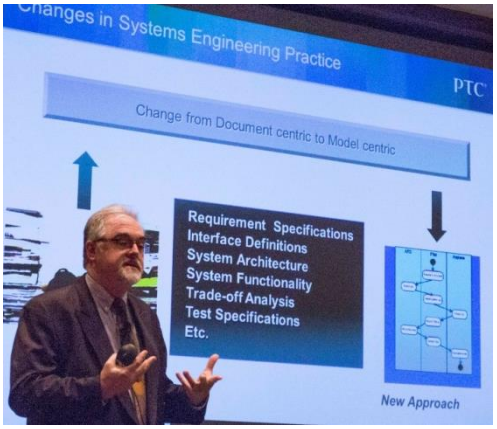
The Chesapeake Chapter of INCOSE is proud to recognize the following organizations for sponsoring our endeavors to expanding the understanding and appreciation of Systems Engineering in the local area:

JOHNS HOPKINS
WHITING SCHOOL of ENGINEERING

Booz | Allen | Hamilton

Dr. Aurelijus Morkevicius, No Magic explains a finer point in his tutorial on his companies tool suite that is compliant with OMG UPDM as used in developing DoDAF 2 architectures that meet the DOD directives.

Dr. Aurelijus Morkevicius



Matthew Hause of PTC explaining the use of Internet of Things in our future lives

Student Outreach

Science & Engineering Fair Judging Results for Anne Arundel County (AAC)
By Don Gantzer, Associate Director of Student Outreach

The INCOSE Chesapeake Chapter participated as judges in the AAC Regional Science & Engineering Fair on March 5, 2016 at North County High School. We had 4 first time volunteer judges: Myra Gross [WISE President], Christie Best [WISE President - elect], Tricia Bennett, and Kathryn Layman. I led the judging for this event for the fourth year in a row.

Over 200 projects from Grade 8-12 participated. Due to time limitations, we selected about 15 that appeared promising for us. Categories we considered were Electrical and Mechanical Engineering, Computer Science, Energy and Transportation, Physics and Astronomy, and Environmental Sciences.

Our team was the largest so far and we had to break into two groups to visit the selected projects. We then met and compared our ratings of the projects to come to a scoring consensus. The criteria that we used evaluated how the student researched the problem, the design and methodology they applied, their execution, and then their creativity and presentation [this included their verbal presentation along with their poster]. After lively discussion, we selected our winners!

1st Place: [$150] "**Engineering & Environmentally Friendly Solar Cell**", David Kravets

2nd Place: [$125] "**Free Continuous Energy**", Xavier Smith

3rd Place: [$100] "**Effect of Parallel Computing on Peer Review**", Allison Raines & Grant Spencer

Honorable Mention: "**Did Copper Steel Your Fire**", Samantha Lund

We, once again, were impressed with the enthusiasm, professionalism, and smarts of the students we met.

Myra Gross and I attended the award ceremony to present our certificates, medals, and checks. I noticed that at least two of our choices also gathered many other awards. Some of the other groups presenting awards included: America Systems, Armed Forces Communications & Electronics Association (AFCEA), Defense Spectrum Organization, Harris Corporation, Lockheed Martin Cyber Solutions, AIAA, National Organization of Gay & Lesbian Scientists & Technical Professionals, Rockwell Collins, US Air Force STEM, US Public Health Service, American Meteorological Society, Office of Naval Research, ASM, and Association for Women Geoscientists.

We look forward to continuing to support this event along with similar student outreach and Science, Technology, Engineering and Math (STEM) activities in the future. We welcome participation from other chapter members as we continue to support these types of activities within our communities.

Baltimore Regional Science Fair

By Charlie Welch, Associate Director of Student Outreach

Congratulations to the Baltimore Science Fair 2016 INCOSE Winners! Thanks to the judges from our chapter who volunteered for this event. They include: George Anderson, Nazanin Sharifi, Clinton Hilliard and Chuck Struchen.

Prize	Exhibit	Student	Project Title	School
3rd Place $100	24	Grant Johnson	The Benefits of Mineral Oil Cooling a Computer	Calvert Hall
2nd Place $125	1	Sabahat Fatima	Sensitization of Solar Cell Using Dyes from Food	Al-Rahmah School
1st Place $150	32	Alexander Hilger	Drone Equipped with LiDAR for 3D Mapping	Ingenuity Project

Congratulations to the Baltimore Science Fair 2016 INCOSE Honorable Mentions Division I

Exhibit	Student	Project Title	School
33	William Powell	Application of Machine Learning to Online Question and Answer Forum Data	Ingenuity Project
26	Daniel Kelly	Optimization of Ray Tracing through Perspective Projection	Centennial High School
29	Felicia Wang	Microfluidics in a Safe Direct Current Stimulator	Centennial High School

Charlie Welch Preparing to Present Awards to the Baltimore Regional Science Fair Recipients

Some of the lessons learned from this experience included:

1) Performing interviews for all of the top candidates.
2) Having a short score sheet or list of questions available in advance.
3) Asking the question: What is the problem you are trying to solve or the need for your research?
4) How were issues encountered resolved?
5) What is the applicability of your research or development project?
6) In addition to the cash prizes, give each winner an INCOSE Handbook.
7) Rotate the lead position annually.

We are looking forward to next year's science fairs. Please consider volunteering for these worthwhile events.

IBM System Architecture Divesture, The Good, Bad and Ugly

An Editorial By Gundars Osvalds, ESEP (The content of this article does not necessarily reflect the views of Chesapeake Chapter Members, Officers, or Directors)

This Newsletter is to serve our members and is open to all for contributions. Do you have an interesting idea for an article? A review of a new book related to engineering? Let us know. We'd love to hear about it. It may wind up in a future issue of our Newsletter.

Bad. "IBM® Rational® System Architect System Architect Divesture" UNICOM Systems, Inc., a Division of UNICOM Global, acquired the IBM Rational System Architect application on December 31, 2015. All future information regarding the IBM Rational System Architect application will be available from www.unicomsi.com/systemarchitect. – Statement by IBM.

Bad. There is nothing Good about IBM dumping SA and transferring its software and developers team to an organization that has no history with architecture tools. "IBM exits ESA Tool Market Though Sale of Rational System Architect to Unicom" - Gartner

Bad. The headline in the UNICOM Global announcement is: "Acquisition of the 7th Transaction between IBM and UNICOM in 24 months". So, it appears that Unicom is a dumping ground for tools that IBM no longer sees as part of its future.

"This acquisition, the 7th in 24 months between UNICOM and IBM, builds on several of our previous acquisitions with IBM, including our UNICOM Intelligence and Focal Point solutions," said Mr. Corry Hong, founder, president and CEO. "With the addition of System Architect, these products collectively provide a framework matrix to master structured and unstructured data collection, business process analysis, business intelligence and portfolio management platform solutions. This proficient architectural component is a critical modular-link to formulate IBM's Watson "Real-Time" predictive analytics, and is a key focus for UNICOM. IBM and UNICOM have established a strong record of successful transitions with our previous transactions and will continue to build on this foundation as we welcome the IBM Rational System Architect customers."

Good. But could be **Bad** if IBM is still supporting current customers, since they state that all support has moved to UNICOM. Well at least IBM has also provided UNICOM with the people resources: "IBM has told Gartner that, as part of the acquisition, all staff associated with SA development, product management and support has moved to Unicom."

Bad. Gartner states what we already know, alternatives for Department of Defense Architecture Framework (DoDAF), Treasury Enterprise Architect Framework (TEAF), and (Federal Enterprise Architectural Framework (FEAF) are few; and moving already developed architectural descriptions to a new tool is not easy and maybe not a good approach.

"One of the largest single customer segments this deal will affect is the U.S. federal market, in which SA has long been the dominant player. These customers will have fewer alternatives to consider because they require an equivalent framework of support in any alternative tool (for example, the Department of Defense Architecture Framework, the Treasury Enterprise Architecture Framework and the Federal Enterprise Architecture Framework)." – Gartner.

"What does this mean for System Architect customers?

Good? From a technical perspective, we would expect that Unicom will initially invest in re-branding System Architect and putting in some minimal enhancements.

Bad. From a commercial viewpoint, we expect Unicom to establish its own pricing model and agreements with System Architect customers.

Ugly. Some customers will be transferred directly to UNICOM, some will be maintained by IBM until the end of their existing contracts." CORSCO

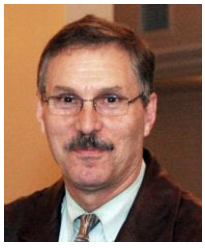
Question now is: Did IBM keep their key support staff in order to be able to support their customer contracts? Which members of the original support staff will support your SA? IBM or UNICOM?

Gartner recommends that you: "Review current contracts to understand the implications of this deal for terms and conditions, particularly to ensure that you are protected if maintenance fees increase."

Bad: What options are there for transferring SA tool data to another compatible Architecture Tool? One can export using CSV Excel format but not sure new tools will be able to use that data. May need to re-enter data, investigating.

Standards Corner – INCOSE Chesapeake Chapter Monthly Standards and Specifications News!

Two-Year Anniversary of the NIST "Cybersecurity Framework"



Mike Pafford, President-Elect

In keeping with the Systems Engineering DC 2016 (SEDC 2016) Conference focus on, "Critical Infrastructure Protection and Recovery (CIPR)", this month's Standards Corner presents background information on the release by the National Institute of Standards and Technology (NIST) of a "Framework for Improving Critical Infrastructure Cybersecurity", known as the NIST Cybersecurity Framework. In February 2014 NIST released the framework document, designed to help enhance cybersecurity at organizations that manage Critical National Infrastructure. Examples of organizations implementing the framework include banking, energy supply, retail chains, and state governments. In a 2015 study, the Gartner Group reported that the Framework was being used by 30 percent of U.S. Organizations, and that number was projected to reach 50 percent by 2020.

The NIST Cybersecurity Framework, created in response to Presidential Executive Order (EO) 13636, "Improving Critical Infrastructure Cybersecurity", in February 2013, was a collaboration between industry and government, and consists of Standards, Guidelines, and Practices to promote the protection of critical infrastructure.

The Framework presents a risk-based approach to managing cybersecurity. It is made up of three main parts: a Framework Core listing of Functions, Categories, Subcategories, and

VENCORE

This Newsletter is to serve our members and is open to all for contributions. Do you have an interesting idea for an article? A review of a new book related to engineering? Let us know. We'd love to hear about it. It may wind up in a future issue of our Newsletter.

INCOSE Chesapeake Chapter WISE Women in Systems Engineering

The Chesapeake Chapter of INCOSE is proud to recognize the following partner organizations and upcoming conferences that may be of interest to our membership.

IEEE-USA

IEEE Advancing Technology for Humanity

Informative References; four Framework Implementation Tiers; and enabling information on developing Framework 'Current' and 'Target' cybersecurity self-assessment Profiles.

Since its 2014 publication, organizations have used the NIST Cybersecurity Framework for identifying, assessing, and managing cybersecurity risk. It allows the overlay of current processes onto the Framework to determine any gaps in current cybersecurity risk approaches. Using the Framework as a cybersecurity risk management tool, organizations can determine activities that are most important to critical service delivery.

Critical infrastructure leaders and other cyber-related organizations have continued to provide NIST with feedback on the voluntary Cybersecurity Framework. In March, NIST published an analysis of these comments. In early April, NIST hosted the "Cybersecurity Framework Workshop 2016". The purpose of the open workshop was to highlight Framework use, and to gather more input to help NIST better understand stakeholder awareness, current use, needed updates, best practices, and future governance.

More information about the NIST Cybersecurity Framework and EO13636 can be found at these links:

- http://www.nist.gov/cyberframework/
- http://www.nist.gov/cyberframework/upload/cybersecurity-framework-021214.pdf
- https://www.dhs.gov/publication/fact-sheet-eo-13636-improving-critical-infrastructure-cybersecurity-and-ppd-21-critical

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The Systems Engineering (SE) Body of Knowledge (BoK) SEBoK 1.6 Now Available

The BKCASE Editorial Board has released the Guide to the Systems Engineering Body of Knowledge (SEBoK) version 1.6, the 16th iteration of the SEBoK. The SEBoK Version 1.6. includes a reorganization of Part 1 SEBoK Introduction, a new article on the Transition towards Model Based Systems Engineering and a new article giving an overview of Healthcare Systems Engineering, a restructure of the Systems Engineering and Specialty Engineering knowledge area, as well as a number of corrections of typos and formatting across the SEBoK. For an in-depth look at the specific edits throughout the SEBoK, please visit the Acknowledgements and Release History page.

Visit www.sebokwiki.org for more details.

Events and Announcements

April 2016 Upcoming Dinner and Lecture (2 PDUs)

Scheduled Chapter meetings and Monthly Dinner Lectures take place at the Johns Hopkins University Applied Physics Lab (JHU/APL) in the Building 1 Cafeteria and Parsons Auditorium. Monthly membership meetings are held the third Wednesday of each month excluding December. Start time @ 6:00 PM for Dinner Meeting & 7:00 PM for Lecture.

- Wednesday April 20 – 6:00 PM Dinner Meeting & 7:00 PM Lecture **INCOSE Critical Infrastructure Protection and Recovery (CIPR) Working Group (WG) and InfraGard/Electro Magnetic Pulse (EMP) Special Interest Group (SIG),** by Loren Mark Walker, ESEP and Chuck Manto. Register NOW incose-cc.org/registration/

The April 20, 2016 Chesapeake Chapter Dinner Lecture Topic will be a two part combined lecture. The first half of the lecture will introduce attendees to the INCOSE Critical Infrastructure Protection & Recovery (CIPR) Working Group and will be presented by Mr. L. Mark Walker, Co-Chairman of the INCOSE CIPR WG. The second half of the lecture will be presented by Mr. Chuck Manto, who is the Chairman of the FBI InfraGard Electromagnetic Pulse (EMP) Special Interest Group (SIG).

The INCOSE CIPR WG provides a forum for the exchange of technical and engineering information relating to Critical Infrastructure Protection and Recovery (CIPR) against manmade and natural events that could cause disruption of important systems for long periods of time, over a month. The three catastrophic events (Triple Threats) that can cause the 1-month to years of energy failure to the US and other countries are: Solar Eruptions (Geomagnetic Disturbances-GMD), High Altitude Electro Magnetic Pulse (EMP) and Cyber-attacks. Critical Infrastructure domains that the CIPR WG addresses for both protection and recovery include (but aren't limited to): Power and Energy, Communications, Transportation, Water, Agriculture/Food, Financial, Medical, etc. (total of 16 domain areas per Presidential Directive 21).

Mr. Manto chairs InfraGard's EMP SIG. The EMP SIG also addresses all three Triple Threat events. For example the GMD and High Altitude EMP (HEMP) are both of significant concern. HEMP and GMD are similar in many respects since they are RF types of transmissions and have wide area impacts to power infrastructure (up to thousands of miles). Although Cyber-attacks are transmitted differently; they are also of very high concern due to their potential wide ranging and devastating impacts. As we all know, we are now experiencing a continued increase in these highly sophisticated attacks against infrastructures and their systems, equipment, etc. world-wide.

Why is EMP so important? According to Dr. Carafano, Vice President for the Kathryn and Shelby Cullom Davis Institute for National Security and Foreign Policy, and the E. W. Richardson Fellow, an EMP occurs when a nuclear device is detonated high in the atmosphere—a phenomenon of which America's enemies are well aware. The electromagnetic discharge can permanently disable the electrical systems that run nearly all civilian and military infrastructures. A massive EMP attack on the United States would produce almost unimaginable devastation. Communications would collapse, transportation would halt, and electrical power would simply be non-existent. Mr. Manto will describe the EMP threat and will introduce attendees to InfraGard which is a non-profit organization serving as a public-private partnership between U.S. businesses and the Federal Bureau of Investigation (FBI). The organization supports the sharing of information, analysis and intelligence between businesses, academic institutions, state and local law enforcement agencies, and

other participants dedicated to prevent hostile acts against the United States.

Special Chapter Events (Engineers Club, Garrett Jacobs Mansion Baltimore, MD)

- August 24th – 7th Annual Systems Engineering Professionals (SEP) Gala.
- December 7th – Chesapeake Chapter Holiday Party and Awards Ceremony.

Other Upcoming Events

- Wednesday, April 13, 2016: INCOSE Chesapeake Chapter Board of Directors Meeting [1]
- Wednesday through Friday, May 11-13, 2016 – QB138G DoDAF 2.0 Modeling with IBM Rational System Architect V.11.4 by AVNET Academy. JHU/APL/Kossiakoff Conference and Education Center Rooms 7 & 8 (8AM-3:30PM). Cost $1800 per student (24 PDUs)
- Saturday, May 14, 2016 – The Systems Engineering Puzzle Workshop by Karl Geist of the INCOSE Southern Maryland Chapter, JHU APL, 9 AM-12PM at the Kossiakoff Center Classroom 4. $25. The presenter likens the Systems Engineering (SE) Process to a puzzle. When SE Process steps are followed in the correct manner, they reveal the plan for development of a system. The challenge is assembling the pieces in the correct order. All tasking whether successful or unsuccessful has value if documented. There is no replacement for the SE experience of actual decision making and performance of tasking. This tutorial deals with experiences and lessons learned throughout the lifecycle from 40 years of developing systems and software for the Navy. The speaker will encourage audience participation to share additional insights related to their lessons learned. (3 PDUs)
- Saturday, May 14, 2016 OOSEM Working Group Meeting live in JHU/APL Kossiakoff Center, Classroom K-8 at 9:30am-12:30pm EST. Also online via INCOSE WebEx Meeting at https://incose.webex.com/join/webex18; Meeting Number: 252 846 155. Join by Phone: 1-866-398-2885 Toll-free; Audio Passcode: 412 867 1535. FREE (3 PDUs)
- Wednesday, May 18, 2016 – 6:00 PM Dinner Meeting & 7:00 PM Lecture by Mr. Rick Dye, Administrator for the State of Maryland Coordinated Highways Action Response Team (CHART) (2 PDUs)
- Monday, June 13, 2016 – Friday June 17 CSEP Test Preparation Training at JHU APL, Montpelier Office Park, Building MP6 Room N111, Cost is $2868 per student. Register at: http://www.certificationtraining-int.com/event-registration/?ee=155
- Wednesday, June 15, 2016 – 6:00 PM Dinner Meeting & 7:00 PM Lecture on Agile Robotics for Industrial Automation, Mr. William Harrison and Dr. Craig Schlenoff, National Institute of Standards and Technology (NIST). In this presentation, we will provide an overview of the robotics program at the National Institute of Standards and Technology (NIST), which is developing and deploying advances in measurement science to improve robotic system performance, collaboration,

and agility in assembly-centric manufacturing applications. Of specific emphasis will be the Agility Performance of Robotic Systems project, which is developing robot agility performance metrics and test methods that will enable manufacturers to easily and rapidly reconfigure and re-task robotic systems. To realize this vision, NIST is planning the Agile Robotics for Industrial Automation Competition, which will also be described. (2 PDUs)

- INCOSE International Symposium. July 18-21, 2016. Register today! www.incose.org. (32 PDUs).
- Wednesday, July 27, 2016 – 6:00 PM Dinner Meeting and 7:00 PM Lecture; moved to 4th Wednesday due to IS 2016 conflict. Business Value of Agile Organizations; Strategies, Models, & Principles for Enterprise-level Agility. New Location this month ONLY! JHU/APL Building 200, Cafeteria & E100 Auditorium. Dr David F. Rico, PMI, CSEP. Dr. Rico will define the emerging models for successfully managing 21st century human-capital, knowledge, and Internet technology-intensive global businesses. Dr. Rico will establish the context, provide a definition, and describe the value-system for lean and agile organizational strategies. He'll provide an overview and comparative analysis of major lean and agile frameworks, models, principles, and practices. He'll then introduce a meta-model for achieving business-level agility based upon best-of-breed values, principles, and practices discussed herein. He'll also provide a brief survey of the costs, benefits, and performance results achieved by lean and agile organizations. Finally, he'll close with a summary of tips, tricks, technique, and common pitfalls of the lean and agile business paradigm. (2 PDUs)
- Wednesday, August 17, 2016 – 6:00 PM Dinner Meeting & 7:00 PM Lecture is "Design Thinking 101: What is Design Thinking and How it can help Your Organization -- Create a Culture of Innovation" Thomas Heffner, Design Strategist and Dennis Smith, Innovation Projects Specialist. (2 PDUs)
- Saturday, August 20, 2016 – 8 AM Continental Breakfast, Tutorial 9 AM -12 PM, Lunch 12-1 PM, Tutorial 1-3 PM. Designing Thinking – Learn the tools and methods of Design Thinking that will turn your organization into an Innovation powerhouse: Tom Heffner & Dennis Smith. The workshop will consist of experiential exercises focused on teaching the participants concrete design skills and tools they can apply in their daily work or personal lives. These experiential exercises would help explicate Design topics like Ethnography, Analysis, Rapid Prototyping, and Decision Making. (5 PDUs)
- Wednesday, September 21, 2016 – 6:00 PM Dinner Meeting & 7:00 PM Lecture TBD. (2 PDUs)
- Tuesday and Wednesday, October 18 and 19, 2016, Dr. James Martin, JHU/APL at MP6, 7651 Montpelier Road, Room N111, Laurel, MD 20723. 9 AM – 6 PM. Systems Thinking Workshop: Learning to Think About Systems in a Holistic Manner. System thinking has been touted as the "Fifth Discipline" in Peter Senge's famous book by that name. However, this is usually limited to the use of systems coupling diagrams and system archetypes to help understand the nature of feedback and complex system behavior. You will need more than these tools

to fully appreciate how to think clearly about systems in a truly holistic manner. This workshop will teach you some essential principles and concepts of systems and how to use these in a "systemic" fashion to improve your ability to think about systems in a holistic manner. You will learn about the PICARD Theory and the Seven Samurai Framework. You will see how the Knowledge Pyramid helps you understand how systems convert data into information that is used for the discovery of knowledge to be used in making better decisions. The workshop will let you spend about half of our time together working exercises in your team to fully understand and appreciate these ideas. $500 per student. (24 PDUs)

- Saturday, October TBD – 9:00 AM – 12:00 PM, "Beyond Thinking Outside the Box, For Entrepreneurs and Systems Engineers", Dr. Howard Eisner, JHU APL, Cost TBD. (3 PDUs)
- Wednesday, October 19, 2016 – 6:00 PM Dinner Meeting & 7:00 PM Lecture TBD. (2 PDUs)
- Wednesday, November 16, 2016 – 6:00 PM Dinner Meeting & 7:00 PM Lecture TBD. (2 PDUs)

Special Announcement for Students: FREE FOOD

2HB Incorporated has provided a donation for college students attending our Chesapeake Chapter monthly meetings to receive a dinner free of charge. The meetings are open to all free of charge. Please register ***before*** the meeting so we are sure to order enough meals for all attendees.

1 = Johns Hopkins University (JHU) Applied Physics Lab (APL) Building 1 Barton Conference Room 5:30 – 8:30 PM (Free)
2 = Dinner at JHU APL Building 1 Cafeteria (Last Room on the Left) 6:00 – 7:00 PM ($25)
3 = Lecture at JHU APL Building 1 Parsons Auditorium 7:00 – 8:00 PM (Free)
4 = JHU APL Building 1 Barton Conference Room 08:00 – 11:00 AM (Free – ESEPs Only)

INCOSE Academic Forum on Systems Engineering Knowledge and Skills in the Education of all Engineers

George Mason University, Arlington Campus
May 2-3, 2016
Deadline for Registration: April 18, 2016
Registration Fee: Free
http://www.eventbrite.com/e/incose-academic-forum-2016-registration-22748568581.

The Academic Forum is sponsored jointly by the International Council on Systems Engineering (INCOSE), the Systems Engineering Research Center (SERC), and the American Society of Engineering Education (ASEE), and being hosted by George Mason University. The forum is focused on Systems Engineering Knowledge & Skills (SE-K&S) in the Education of All Engineers. This topic is part of a larger initiative by INCOSE and the SERC, with ASEE involvement, to weave an "appropriate" amount of systems engineering knowledge and skills into the education of all engineers. This

long-term effort responds to the recognition that every engineer would benefit greatly from being a systems thinker, understanding product life cycles appreciating how product designs emerge and evolve, how every product and service exists in a larger context, and so many more facets of engineering in the real world.

Successful forums last year at the ASEE Conference and at Worcester Polytechnic University set the stage for the upcoming event. In the May 2015 Forum Report you will see that we made good progress on

- Defining the value of SE-K&S in engineering education and identifying who we need to share this with
- Identifying the scope of the SE-K&S needed in all levels of engineering education
- Discussing the practical issues faced by engineering faculty in bringing SE-K&S into their courses

The theme of this event is Delivering the Vision. We will continue to mature the ideas above, with a focus on some of the best examples of SE-K&S in current engineering education, and use them to create practical material which faculty members and institutions can start using now.

Although registration is free, we are almost at capacity, so we ask that you register by Monday April 18 to ensure your registration. The link to registration is http://www.eventbrite.com/e/incose-academic-forum-2016-registration-22748568581. The deadline for the special hotel rates for the workshop hotel is April 15. See the website for further information.

We look forward to seeing you at the Workshop!
Ariela Sofer, Member, Organizing Team

Interested in Jobs & Networking?

Contact Mark Kaczmarek at mkaczmarekengr@comcast.net

Keep up with the latest news and events. Find out about our new Board of Directors. Explore our extensive library of previous lectures from our Monthly Dinner Meetings. Learn of the Benefits of Joining INCOSE. Check out Systems Engineering education in the local area. All this and more awaits you at our INCOSE Chesapeake Chapter Website.
For any comments or suggestions about this newsletter please e-mail our President, Ellie Gianni or our Communications Director, Pat Williams. We value your feedback.