



# INCOSE Chesapeake Chapter

## International Council on Systems Engineering

INCOSE Chesapeake Chapter  
P.O. Box 535  
Laurel, MD 20725-0535

# E-Newsletter

December 2017

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### President's Point of View



**Mike Pafford**  
President

I'm starting this, my last President's POV comments, by doing what I've done so many times this year, and that is follow the lead of our outgoing Past President Ellie Gianni, by asking everyone to join me in welcoming the 2018 INCOSE Chesapeake Chapter Board of Directors. Thanks very much to all the Chapter members who voted using the new INCOSE eBallot system. Congratulations to our newly-elected Secretary, Programs Director, and Membership Director. Your 2018 INCOSE Chesapeake Chapter Board of Directors are:

Dr. Grace Crowder, ASEP – President  
Mr. Michael Pafford – Past President  
Ms. Tammy Kolarik, ASEP – Secretary  
Mr. Anthony Gigioli, CSEP – Treasurer  
Ms. Myra Parsons Gross, ESEP – Communications Director  
Mr. Mark Kaczmarek, ASEP – Membership Director  
Dr. Chandru Mirchandani, ESEP – Programs Director

The Board will be sworn in at the end of our January 17, 2018 Meeting and Lecture at the Johns Hopkins University Applied Physics Lab (JHU/APL). The Chapter is still looking for an eligible INCOSE Chapter Member to step forward and volunteer to be the Chapter's next President-Elect. Anyone interested should immediately contact any 2017 or 2018 Board Member.

It's been an honor and a privilege to serve as President of the INCOSE Chesapeake Chapter in 2017, and I very much look forward to offering my services to the Chapter and Board of Directors in 2018 as Past President. I also look forward to working directly with as many INCOSE members as possible at the 2018 International Workshop in Jacksonville, Florida in January, and the 2018 International Symposium in Washington, DC in July, as well as other INCOSE events across the country.

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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.



## Communications Corner



**Myra Parsons Gross, ESEP  
Communications Director**

### 2017 INCOSE Chesapeake Chapter Holiday Party Awards Ceremony

If you were there, you know what a festive time we had at the INCOSE Chesapeake Chapter Holiday Party Awards Ceremony. During this holiday celebration we thanked our supporters for their generosity with a formal Awards Ceremony.

We welcomed our guests and recognized the INCOSE Chesapeake Chapter Past Presidents in attendance. It was very impressive to see such support in attendance and we are proud to have the continued support of our Past Presidents.



In 2017, the Chapter re-established a Student Division at the University of Maryland College Park. Many of the students were able to join us for this event. The Chapter is grateful for the support of all its members and sponsors.

We had a successful year supporting our membership and their interests through monthly lectures, training, and workshops. We awarded scholarships to deserving local university STEM students, and supported local public-school science fairs.

We also recognized the untiring efforts of four Chapter Officers who have completed their terms in office. As you know INCOSE is a volunteer organization and the Chesapeake Chapter is fortunate to have a number of members who stand up to serve in leadership roles. The Chapter has benefited from the support of these individuals and I want to highlight some of their achievements over the last few years as officers.

Ms. Ellie Gianni, ESEP, is retiring from the office of President. As you know, the President serves a three-year term (President-Elect, President, and the final year as Past President). Ellie was a pioneer for the Chapter for a number of firsts, and one of her major achievements was the Systems Engineering Professional (SEP) Certification Exam being sponsored by the Chapter at no cost to members and non-members. We wish Ellie well in her new endeavors.

Join  
**INCOSE**  
Today

[www.incose.org/  
about/Membership/Join](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](mailto:programs@incose-cc.org) if you would like the opportunity to speak or can recommend someone.





Mr. Craig Tyler, ESEP, served a two-year term as Secretary. Craig was consistent and maintained impeccable records to document Chapter operations and business. Craig ensured that the Chapter records were managed under strict configuration management control. Separate from his assigned duties as Secretary, Craig was also a volunteer for a local Science Fair, and was readily available to assist a number of committees

including the Communications Committee. Craig was instrumental in making sure the word got out about upcoming Chapter events. Craig will be missed; however we are grateful that he has offered to assist the Chapter in the future.

Mr. Gundars Osvalds, ESEP, served a two-year term as Programs Director. Most people have no idea the effort required to be successful in planning events, dinner meetings, lectures, workshops, and training sessions. This is a position that could benefit from a committee; however, Gundars successfully performed these tasks, many as the sole organizer.



Each event and activity could be viewed as a project, with major efforts being required to manage the Systems Engineering Professional (SEP) Gala, and the Holiday Party and Awards Ceremony. Gundars was successful in identifying relevant speakers, scheduling their presentations, and in the coordination of the monthly Chapter dinner meetings. Gundars has developed a set of checklists for his role which will assist his successor. We are grateful for Gundars' efforts and his dedication to the success of the Chapter.



Mr. Mark Kaczmarek, ASEP, served a two-year term as Membership Director. However, he felt his job was not yet done, and will be serving an additional two-year term. During his tenure, member SEP certifications have increased. In 2017 Chapter SEP Certifications improved from 41 percent to over 50 percent; one of the highest percentages of SEPS for any INCOSE Chapter world-wide.

Mark also spearheaded the efforts to ensure our members had visibility for employment opportunities, through networking activities and Job Fairs such as Tech Expo in 2016 and reStart in 2017. Mark is an excellent source if you are looking to change jobs or to advance your career. Please feel free to reach out to him!

**Thank you to our Volunteers and Supporters!**



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.



## Announcements and Events

### Networking, Dinner, and Lectures

Chapter Meetings are held at the Johns Hopkins University Applied Physics Lab, Building 1, on the third Wednesday of each month unless otherwise noted. The meeting starts at 6pm (Dinner \$20 for Members, \$25 Non-Members, \$5 extra at the door, no charge for students) and the no-fee Lecture starts at 7pm.

### Board of Directors Meetings

Monthly Board of Directors (BOD) Meetings are held at the Johns Hopkins University Applied Physics Lab in Building 1, Barton Conference Room on the second Wednesday of every month beginning at 6pm and ending at 8pm.

### Upcoming Events

Please register for the below events at <http://www.incose-cc.org/registration> unless otherwise noted.

- **17 January, Where is Amelia Earhart? Evaluating multiple search scenarios**, George Anderson, ESEP and Gundars Osvalds, ESEP. The application of systems engineering processes to the problem of locating Earhart's end of flight. They evaluated many of the search scenarios developed to locate Earhart's airplane. They researched and developed opinions on the plausibility of each.
- **29 January-2 February, CSEP Certification Training Course**, JHU/APL, Building 200, Room 100, 8am to 5pm. Chesapeake Chapter Members receive a 10% discount. Certification Training International (CTI) offers a CSEP (Certified Systems Engineering Professional) and ASEP (Applied Systems Engineering Professional) 5-Day Course focused on preparing you to successfully take the CSEP/ASEP Certification Examination conducted by INCOSE. The INCOSE Systems Engineering Handbook and course materials are included.
- **5-9 February 2018, No Magic Training, "Applying UPDM 2 with MagicDraw"**, taught at JHU/APL Building 200, Laurel MD. Applying UPDM 2/DODAF/MODAF with MagicDraw is a 5-day course for Unified Profile for DoDAF and MODAF (UPDM 2). The course focuses on implementation of UPDM 2 using core MagicDraw functionality and the MagicDraw UPDM 2 plug-in.

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## Special Interest

### Lean Startup Methods (LSM) Tutorial at GMU Sponsored by INCOSE WMA Chapter

On Saturday, November 11, 2017, the INCOSE Chesapeake Chapter President, Mike Pafford, was invited by the INCOSE Washington Metropolitan Area (WMA) Chapter, to give a half-day tutorial at George Mason University (GMU) on, "Lean Startup Methods (LSM) for Initial Project Planning". The purpose of the tutorial was to introduce and practice LSM techniques that can be used by all system solution project stakeholders for collaborative initial project planning to help, "Get It Right, Right From the Start". Mike gave concept briefings, followed immediately by examples and short exercises.

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 end up in a future issue of our Newsletter.





The examples were taken from a Model-Based Systems Engineering (MBSE) project that the INCOSE Object-Oriented Systems Engineering Method (OOSEM) Working Group is starting with Infragard to develop a “Micro-Grid Reference Model” that can be used by Infragard and Cuyahoga County, Ohio Emergency Management Agencies to enhance and improve Critical Infrastructure Protection and Recovery (CIPR) engineering and analysis. The briefings, real-life examples, and exercises were designed to give attendees an actionable understanding of sharable, scalable, and repeatable LSM tools and techniques.

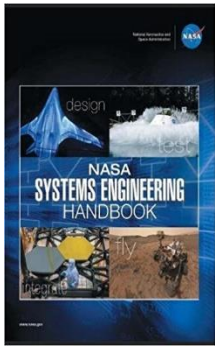
All system solution stakeholders (e.g., analysts, engineers, managers, customers, sponsors, users, etc.) can use these LSM tools and techniques to collaboratively develop initial work items that will enhance and improve the start of any system solution project.

The Lean Startup Method concepts, tools, and techniques that Mike introduced are being used by a growing number of government organizations such as the National Science Foundation (Innovation Corps or I-Corps), the National Geospatial Intelligence Agency (NGA), the National Security Agency (NSA), the Office of Naval Research (ONR), and the U.S. State Department, as well as industry organizations such as Dropbox, Wealthfront, Grockit, imvu, Votizen, and Aardvark.

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## Book Report

*NASA Systems Engineering Handbook: NASA/Sp-2016-610 Rev2 – Full Color Version*  
By NASA (Author); February 2017; 385 pages



Although this book is primarily meant as a top-level implementation approach on the practice of systems engineering unique to NASA, it is a solid desktop reference for any systems engineering project. The Handbook is a result of a nearly three-year effort by the NASA Office of Chief Engineer (OCE) to make systems engineering technical, process, and guidance updates across NASA. The initial publication of the NASA Systems Engineering Handbook was in 1995. It was revised (Rev 1) in 2007. This late 2016 revision (Rev 2) updates the NASA systems engineering body of knowledge and provides guidance into current best practices, such as Model-Based Systems Engineering (MBSE).

A PDF version can be downloaded at no cost from the NASA Technical Report Server (NTRS):

<https://ntrs.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/20170001761.pdf>

A Full Color Hardback or Paperback version can be purchased from Amazon:

<https://tinyurl.com/ybuohogd>

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What people are saying  
about Chesapeake  
Chapter:

*“... What a wonderful,  
innovative, and impactful  
year for the Chesapeake  
Chapter. I hope you, your  
board, and the entire  
Chapter is proud of what  
you have accomplished...”*

Past President,  
INCOSE

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## reStart Job Fair Report

The Chesapeake Chapter had a presence at the reStart job fair on the 4th of December, and those staffing the booth spoke with many of the participants. This event was held in Columbia Maryland, and the next event is scheduled for the end of January, 2018. If you are interested in a change in your current job situation, please contact Mark Kaczmarek, ASEP, Chapter Membership Director, or other Board member. Two places for great networking are the monthly dinner meetings and job fair events like this one.



L-R: George Anderson, ESEP, 2017 INCOSE Founder's Award Recipient, James Hubbell, ESEP, Mark Kaczmarek, ASEP, Membership director. Not Pictured: Charles Lapinski. Photo courtesy of Mike Pafford, President Chesapeake Chapter.



One of the rooms filled with company representatives at the December 4, 2017 reStart job event in Columbia, MD.

**INCOSE**  
Chesapeake Chapter  
International Council on Systems Engineering

**Mark Kaczmarek**  
Membership Director, 2016

(301) 947-4072  
www.incose-cc.org

**INCOSE**  
mkaczmarekengr@comcast.net

## Chapter Business Cards

Please contact

Mark Kaczmarek at  
[membership@incose-cc.org](mailto:membership@incose-cc.org)  
to obtain your own  
Chesapeake Chapter  
business cards.

Free to Chesapeake  
Chapter members.



## Systems Engineering Hands-On Projects Capstone Class Undergraduate Design Conference

On December 7, 2017, members of the INCOSE Chesapeake Chapter participated in the 9<sup>th</sup> semi-annual Systems Engineering Hands-On Projects Capstone Class Undergraduate Design Conference (ENES 489P System Engineering Design Conference), conducted by the Institute for Systems Research (ISR) at the University of Maryland College Park. Chapter member Dr. John MacCarthy, Director for the ISR Systems Engineering Program, taught the Capstone Class, and facilitated the Design Conference. Other Chapter members invited to observe the conference project out-briefs were Dr. Donald York, CSEP, ISR Strategic Advisory Council member and ISR Student Mentor; Loren Mark Walker, ESEP, ISR Student Mentor; and Michael Pafford, President of the INCOSE Chesapeake Chapter.

The conference highlighted the following seven hands-on projects that demonstrated each team's knowledge and application of Model-Based Systems Engineering (MBSE) approaches:

- Metro Purple Line Schedule Monitoring System (SMS)
- Near Earth Object Alert System (NEOAS)
- Automatic Turret Defense System (ATDS)
- Inventory Drone System (IDS)
- Automated Material Handling System (AMHS)
- Power Grid System (PGS)
- Ingestible Capsule System (ICS)

The seven MBSE team projects were judged by:

- Mr. Robert Link, VP, M.C. Dean
- Dr. Daniel Rubel, Dir. Engineering Services, Textron Systems
- Dr. Aastha Verma, Chief Scientist, BAH

The conference was sponsored by M.C. Dean and Textron Systems, and Team Monetary Prizes for the top three projects were awarded (First Place - \$1500; Second Place - \$1000, and Third Place - \$500). Results of the conference judging included:

- Honorable Mention (4th Place) - Team 2, NEOAS
- Third Place – Team 1, Purple Line SMS
- Second Place – Team 5, AMHS
- First Place – Team 4, IDS.



### Interested in Jobs & Networking

Contact Mark Kaczmarek

[membership@incose-cc.org](mailto:membership@incose-cc.org)



## Membership Arena



**Mark Kaczmarek**  
Membership  
Director

INCOSE membership is over 13,000 world-wide. Over 100 corporate members, 70+ Global Chapters in over 30 countries. The Chesapeake Chapter of INCOSE serves the systems engineering community in Baltimore and its surrounding areas. Our Chapter is very active and prides itself in the many endeavors it has undertaken. An organization such as ours relies on the willingness of its membership to put as much effort into it as they receive in return.

Chesapeake Chapter's membership Includes:

- Current membership = 314
- Certification = 161
  - ASEPs = 45
  - CSEPs = 84
  - ESEPs = 32

Learn more about the [benefits of joining INCOSE](#) and consider being part of this thriving organization and fill out an [INCOSE Membership Application](#) today!

**The Chesapeake Chapter proudly welcomes our new members:**

### November 2017

- *Good, Michael*, Vencore
- *Greco, Christopher*, Edwards Performance Solutions
- *MacLean, John*, Legato LLC

### October 2017

- *Barclay, Melanie*, WGS Systems
- *Beach, Ryan*, WGS Systems
- *Dillon, Martin*, WGS Systems
- *Dodson, Carl*, WGS Systems
- *Forster, Daniel*, NAVAIR
- *Kane, Ronald*
- *Oliver, Everett*, JHU/APL
- *Thomas, Jeremy*, WGS Systems
- *Underwood, Kelli*, Space Telescope Science Institute

### September 2017

- *Ellis, John*, Leidos
- *Ha, Bao*, Northrop Grumman
- *Gentry, Bradley*, Odyssey Consulting, Inc.

### August 2017

- *Abernathy, Mark*, Space Telescope Science Institute
- *Dorsman, Theo*, Northrop Grumman
- *Luke, Robert*, WGS Systems
- *Parsons, Christopher*, Northrop Grumman
- *Phan, Nam*, Booz Allen Hamilton
- *Rowe, Roger*, Northrop Grumman





## July 2017

- *Alston, Felix, Dynane*
- *Hiteshew, Brian, Northrop Grumman*

## June 2017

- *Adams, Mark, SAIC*
- *James, Corrie, JHU/APL*
- *Martin, Robin*
- *Stephenson, Tenee, ASEP, JHU/APL*

## May 2017

- *Hanni, Robert, University of Maryland*
- *Kight, Steven*
- *Land, Peter, DOD, Systems Security Concepts*

## April 2017

- *Abbott, Steve, DOD*
- *Dougan, Thomas, Northrop Grumman*
- *Evans, Paul, Student*
- *Glennan, Andrew, Northrop Grumman*
- *Marshall, James, Northrop Grumman*
- *Paulov, Michael, AASKI Technology, Inc*
- *Pierce, Cliff, Johns Hopkins University*
- *Shields, Rebecca, Student at University of Maryland, Baltimore County*

## Congratulations to Newly Certified SEPs since August 2017:

- *Barclay, Melanie, ASEP – WGS Systems LLC*
- *Beach, Ryan, ASEP - WGS Systems LLC*
- *Cheresnowsky, Harry, CSEP – Cyber Pack Ventures*
- *Davilia-Andino, Arturo, ASEP – University of Maryland*
- *Dillon, Martin, ASEP - WGS Systems LLC*
- *Dodson, Carl, ASEP - WGS Systems LLC*
- *Fox, Joel, ASEP – DE ISO*
- *Glennan, Andrew, ASEP - Northrop Grumman*
- *Ha, Bao, ASEP - Northrop Grumman*
- *Handy, Kristen, CSEP - Booz Allen Hamilton*
- *Hanni, Robert, ASEP - University of Maryland*
- *Marshall, James, ASEP - Northrop Grumman*
- *Miller, Kim, ASEP - Northrop Grumman*
- *Partenheimer, Janice, ESEP – Engility*
- *Randall, Rick, CSEP – The Mitre Corp*
- *Scott, Zane, ASEP – Vitech Corporation*
- *Thomas, Jeremy, ASEP - WGS Systems LLC*
- *Williams, Michael, ASEP - University of Maryland*
- *Stephenson, Tenee, ASEP - JHU/APL*





## Career Opportunities - Systems Engineer Positions

Enterprise Systems Engineering and Architecture is looking for candidates with a Bachelor's degree in an engineering or IT field and 10 years of systems engineering (SE) experience, or 14 years of SE experience without a degree, to analyze requirements and provide systems engineering and architecture support. Location: Fort Meade. *Need Date: ASAP. Requires: Top Secret/SCI with Poly.*

US Cyber Command is looking for candidates with a Bachelor's degree in an engineering or IT field and 10 years of systems engineering (SE) experience, or 14 years of SE experience without a degree. Background in one or more of the following areas is preferred: developing or assessing specifications, interface requirements, system design, analysis and tradeoff, thread engineering test planning, malware, and cyberspace analysis. An INCOSE SEP Certification, CISSP, or CASP is required for some of these positions. Location: Fort Meade. *Need Date: ASAP. Requires: Top Secret/SCI with Poly.*

Enterprise Systems Engineer with experience integrating NOAA existing and new control, data management, and data distribution systems. Satellite control systems is a plus. At least five years of experience is necessary along with a technical degree. DODAF and or TOGAF is a plus. Locations: Silver Spring (NOAA Headquarters), NASA Greenbelt, or the NOAA Satellite Operations Facility in Suitland, MD. *Need Date: ASAP. Requires: Public Trust Tier-1, which is similar to a DoD Secret clearance.*

Contact Allan Bowers, Vencore Staffing Manager - [allan.b.bowers@vencore.com](mailto:allan.b.bowers@vencore.com) or 301.543.5397.



Learn Skills. Get Prepared. Gain Confidence. Become Recognised.



# CSEP EXAM PREPARATION

**FIVE DAY COURSE**

**JANUARY 29-FEB 2, 2018 @ Johns Hopkins University**

CTI's CSEP Exam Preparation Course provides the perfect grounding to take the INCOSE Knowledge Examination with confidence.

On-Site Training also available.



To find out more and register today, visit:

[INCOSE-CC.ORG/REGISTRATION](http://INCOSE-CC.ORG/REGISTRATION)



# Training



**INCOSE** Chesapeake Chapter  
International Council on Systems Engineering

## Applying UPDM 2 with MagicDraw

Taught by No Magic

February 5-9, 2018

8:00am - 5:00pm



**Description:** Applying UPDM 2/DODAF/MODAF with MagicDraw is a 5 day course for Unified Profile for DoDAF and MODAF (UPDM 2). The course focuses on implementation of UPDM 2 using core MagicDraw functionality and the MagicDraw UPDM 2 plug-in.

**Course:** This comprehensive course will help students to quickly improve planning and implementation of complex systems using UPDM 2 standards and the MagicDraw UPDM 2 plug-in. The training approach used assumes that many students have a basic understanding of DoDAF or MODAF and an understanding of how to describe an architecture. This course covers UPDM 2 in terms of the following architectural frameworks: DoDAF 1.0, DoDAF 1.5, DoDAF 2.0 (DM2) and MODAF 1.2 (M3).

- Contains lectures and hands-on practice on using UPDM2 for architecture development
- Includes information on how to build complete and integrated architectures; Presents UPDM 2 and related standards
- UML 2, SoaML, and SysML where they apply to UPDM 2
- Shows how to implement and customize the DoD Architecture Framework; Covers complete UPDM 2 Models and Views.
- Presents a concise case study.



**Course Materials:** Students will receive printed course materials and a Magic Draw 30 day license key. Students must bring a laptop computer to use during the course.

**Continental Breakfast, lunch, and snacks are included.**

**Cost: \$1800.** Register by January 22. Maximum number of participants is 15, so be sure to register early! To pay by credit card or PayPal, visit our registration webpage for details: [incose-cc.org/registration/](http://incose-cc.org/registration/).

### Location:

Johns Hopkins University  
Applied Physics Laboratory  
Building 200  
11101 John Hopkins Road  
Laurel, MD 20723



This Newsletter serves 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 end up in a future issue of our Newsletter.

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 Chapter Website

[www.incose-cc.org](http://www.incose-cc.org)

For any comments or suggestions about this newsletter please e-mail our communications team [communications@incose-cc.org](mailto:communications@incose-cc.org). We value your feedback.

### 2017 Board of Director Officers

- |  |  |
|--|--|
| - President: Michael Pafford                       | - Secretary: Craig Tyler, ESEP             |
| - Past President: EleanoraAnn "Ellie" Gianni, ESEP | - Programs: Gundars Osvalds, ESEP          |
| - President-Elect: Dr. Grace Crowder, ASEP         | - Communications: Myra Parsons Gross, ESEP |
| - Treasurer: Tony Giglioli, CSEP                   | - Membership: Mark Kaczmarek, ASEP         |

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