



# INCOSE Chesapeake Chapter

## International Council on Systems Engineering

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

# E-Newsletter

April 2018

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### President's Point of View

Grace Crowder, PhD, ASEP, President

I am pleased to announce the appointment of Taras Mykytyn, as President-Elect. This follows the confirmation by the Board of Directors of my appointment nomination at the BOD meeting on Wednesday, April 11. For reference, see Bylaw V concerning Vacancies. A profile of Taras will be in an upcoming Newsletter.

Additionally, Mike Pafford has stepped down from the Past President position, citing the need to spend more time with his family. The Chesapeake Chapter and I thank Mike for serving as the 2017 President and we wish him well. The Chapter is fortunate to have the support of numerous experienced prior year presidents who have remained active and involved in the chapter and continuously provide their wise counsel.

As you know, our March dinner meeting and lecture, at which Michael Mangieri, CSEP was to speak on the Engineering of High Power Amateur Rockets, was canceled due to snow. We expect to see Michael Mangieri on the schedule later this year and look forward to seeing you there! For those that registered, and have not yet been reimbursed, please contact [president@incose-cc.org](mailto:president@incose-cc.org).

In spite of the March weather, Chesapeake Chapter sponsored several Science Fairs as a key component of our Outreach to K-12 students, teachers, and parents. On several occasions, Chapter members participated as judges spending high-quality time hearing and seeing what young scientists and researchers are doing. At the end of reviewing many submissions, the judges had the honor of awarding Chapter supported awards. Special acknowledgements to Clinton Hilliard, CSEP and Don Gantzer for organizing the Chesapeake Chapter involvement in these crucial Outreach activities. Look for Clinton's article with more details in this publication.

April is the month during which the initial planning documents are scheduled for submission to INCOSE as evidence to support the Chapter Circle Awards Program. I am pleased to say the Officers and Directors have completed the training on the Keys to Effective Chapter wiki, the long range Strategic Plan 2017-2021, and the Annual Operating Plan with the 2018 budget. Evidence of completion for these documents was successfully submitted to INCOSE on schedule to meet the requirements of the Chapter Circle Awards Program. INCOSE Chesapeake Chapter Members may request a copy of any of these documents upon request.

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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.



The next activities on the BOD agenda are:

- Conducting the Chapter audit for 2017 and delivering a report to the membership at the May meeting,
- Conducting a survey of the Chapter membership, analyzing the results, and delivering a report to the membership at an upcoming meeting.

Hope to see you at the next networking meeting or lecture!

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## 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 (Early Registration 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 [www.incose-cc.org/registration](http://www.incose-cc.org/registration) unless otherwise noted.

- **19-20 April, 2018 INCOSE Systems Engineering in Healthcare Conference**, Minneapolis/St Paul, MN
- **03 May, SE in Aerospace and Oil & Gas Conference**, INCOSE Texas Gulf Coast Chapter, Houston, TX
- **08-09 May, Annual Conference on Systems Engineering (CSER 2018)**, University of Virginia, Charlottesville, VA
- **16 May, Monthly Dinner Meeting, Model-based Systems Engineering**, Eric Van Brunt.
- **20 June, Monthly Dinner Meeting, Mechanical Response of Material from Human and Animal Bones**, Dr. Tusit Weerasooriya.
- **7-12 July, INCOSE Symposium INCOSE International Symposium 2018 (IS18)**, Washington, DC
- **19 July, Monthly Dinner Meeting, The Engineering of High Power Amateur Rockets**, Michael Mangieri
- **17 August, INCOSE Chesapeake Chapter 8th Annual SEP Gala**, Celebrating INCOSE Baltimore Washington Regional Systems Engineering Certification Recipients, The Engineers Club
- **18 September, Monthly Dinner Meeting, Business, Professional Skills & Etiquette**, Teresa PJ Armstrong (Professional Certified Coach)

Join  
INCOSE  
Today

[www.incose.org/  
about/Membership/Join](http://www.incose.org/about/Membership/Join)

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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.

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- **22 September, Leadership Workshop Business, Professional Skills & Etiquette**, Teresa PJ Armstrong (Professional Certified Coach)
- **1-5 October, No Magic Training, “Applying UPDM 2 with Magic Draw**
- **17 October, Monthly Dinner Meeting**, Scott Landriau, Principal System Architect
- **21 November, Monthly Dinner Meeting**, Shahdeed Eleazer
- **7 December, INCOSE Chesapeake Chapter Holiday Party and Awards Ceremony.** *More Details to follow.*

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## Special Interest

### Maryland Area STEM Events

**Clinton Hilliard, CSEP, STEM Committee Co-Chair**  
*(Edited by Myra Parsons Gross)*

February turned out to be just a warm up for the Chesapeake chapter’s student outreach efforts for our STEM Committee. Don Gantzler and Clinton Hilliard, CSEP led a team of volunteers as co-chairs for this year’s local Science, Technology, Engineering and Math (STEM) Events.

Two chapter members; George Anderson, ESEP and Bob Berkovits, participated with Clinton Hilliard, CSEP as mentors at the February 15<sup>th</sup> mid-year competition review for the Maryland Society of High School Engineering Program’s (MSHSEP) “Shark Tank”. MSHSEP is a student STEM mentoring program as well as a series of competition events held throughout the year at the Engineer’s Club in downtown Baltimore. This Event is sponsored through the Engineering Society of Baltimore and Baltimore County Public Schools.

Chapter volunteers again participated as independent sponsor judges at two of Maryland’s top student STEM events: The (March 3rd) Anne Arundel County Science Expo and the (March 24th) Baltimore County Science Fair. INCOSE’s participating volunteers for these events were comprised of: ESEPs, George Anderson and Thom Platt, CSEP, Chuck Struchen, Past President, Mike Pafford Christy Best, Daniel Yue in addition to Co-chairs, Don Gantzler and Clinton Hilliard, CSEP.

Between these two events, members observed over 500 projects being presented spanning the academic grade levels from 7th through 12th. As it was physically impossible for our judges to cover the entire field of contestants, efforts were focused on the senior level projects deemed most appropriate for selected criteria. In all, the chapter handed out a total of twelve project awards going to students that our judges deemed most excellent.

All our awardees were presented with INCOSE certificates of recognition along with an official INCOSE Chesapeake Chapter coin. Additionally, the top three winners at each fair received monetary awards totaling \$1,200. The Chesapeake Chapter also provided another \$1,000 of direct sponsorship support to the county event program offices. Both event directors graciously recognized INCOSE Chesapeake Chapter at their events as being a vital partner in allowing for the offering of these STEM events to students across Maryland.

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.

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Our judges specifically noted this year's winning theme was machine learning technology. Eight out of twelve selected winners incorporated machine learning technology in their projects. Additionally, many project solutions were found to be extremely relevant to solving some very important real-world issues. The 1st place award for the Anne Arundel County Science Expo built an impressive, working prototype that employed neural networks that detected firearms hidden on a person's body. Likewise, the Baltimore 1st place winner combined machine learning and remote sensor data to improve modeling of Chesapeake Bay water clarity.

The entire judging team came away from both events extremely impressed with the sophistication and effort displayed by all these talented students.

Anne Arundel County Expo Awardees were:

- **1st Place** Certificate: **Marvin Li**, Machine Learning Algorithms and Generalized Linear Model for Satellite Remote Sensing of Ocean Color Chlorophyll
- **2nd Place** Certificate: **Desmond Lalli**, Developing a Shield to Protect Astronauts from Cosmic Radiation Over Long Duration Space Missions
- **3rd Place** Certificate: **Kirstin Walz & Nathan Duciuk**, Spill Resistant Lid for Disposable Coffee Cups
- **Honorary Place** Certificate: **Nicole Meister**, Improving Robustness of X-ray Synchrotron Image Analysis Using Deep Learning and Data Augmentation.
- **Honorary Place** Certificate: **Elizabeth Jelezniakov**, Computer Simulations of DNA Nanotubes
- **Honorary Place** Certificate: **Evains Francois**, Altering Different Components in a Cockroach Inspired Robot.

Baltimore County Fair Awardees were:

- **1st Place** Certificate: **Andrew Karam**, Neural Networks Applied to a Concealed Weapon Detection System
- **2nd Place** Certificate: **Ana Fahey**, Divisive Devices; identifying how social media divides us.
- **3rd Place** Certificate: **Maya Albayrak**, Neural Network Model to Analyze Tweet Content Predicting the Geographic Spread of the Flu.
- **Honorary Place** Certificate: **Helen Dover**, Survival of the Fittest; using biological concepts to find the ideal variables and conditions that will produce the best end result to a problem.
- **Honorary Place** Certificate: **Miranda Cleary** Machine learning to End Software Vulnerability; A defensive software solution.
- **Honorary Place** Certificate: **Eric Chu**, Engineering to Assist People with Disabilities.

We appreciate the efforts by both Don Gantzler and Clinton Hilliard, CSEP and the committee of volunteers for their dedication to our youth community and interest in STEM.

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.





*Baltimore Science Fair Judge Team Left to Right Clinton Hilliard, George Anderson, Chuck Struchen, Mike Pafford, Don Gantzer, and Daniel Yue*

## NASA Goddard Space Flight Center (GSFC)—Systems Engineering Seminar Series

### Mike Pafford

On Tuesday, March 27, 2018 Chapter member Mike Pafford was invited to speak at NASA GSFC as part of the Systems Engineering Seminar Series. He spoke of the subject of, “Lean Startup Method (LSM) for Collaborative Initial Project Planning”. Mike spoke to a group of NASA GSFC staff members for over an hour and a half, then fielded questions for the remainder of the two-hour session.

Mike discussed best practices from four project planning and systems analysis techniques and toolsets (Design Thinking, Systems Thinking, Lean Startup Method, and Agile Scrum), to facilitate offsite-style workshops for engineers, analysts, managers, and other decision makers, to help them collaboratively develop a consensus set of initial work items, to help projects, “Get It Right, Right From the Start”.

The talk at GSFC was a slightly longer version of the one Mike gave at our February lecture, which can be viewed <https://tinyurl.com/y8k7jb7f>. This presentation was streamed live on NASA USTREAM <https://tinyurl.com/ydxs4ne5>.

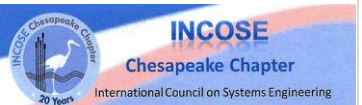
## Northern Virginia School STEM Event

### Mike Pafford

*(Edited by Myra Parsons Gross)*

Chesapeake Chapter is a proud sponsor of the 2018 SUCCESS! STEAM (Science, Technology, Engineering, Arts, and Math). In its 28th year, the SUCCESS Conference is an annual event held each Spring where students in grades 5-12 are treated to a day of workshops with professionals working in Technology, Engineering, the Arts, and Math related career fields. This is the second year the Chesapeake Chapter has supported and sponsored this Science, Technology, Engineering and Math (STEM) Event.

## Chapter Business Cards



**Mark Kaczmarek**  
Membership Director, 2016  
(301) 947-4072  
www.incose-cc.org



mkaczmarekengr@comcast.net

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



What people are saying  
about Chesapeake

Chapter member Mike Pafford represented the Chapter at the 2018 SUCCESS! STEAM Conference and facilitated four 45-minute Systems Thinking Round Table sessions. The purpose of the sessions was to interactively introduce the Systems Engineering tool and techniques of Systems Thinking. Mike used an updated version of the Systems Thinking Round Table Guide, developed by Dr. Susan Gabriele of the INCOSE Systems Science Working Group.

During the four Systems Thinking Round Table sessions, the attendees were asked to give their thoughts on the question, “What do you think are some of the things we can do to help our children and students take advantage of STEM/STEAM opportunities?” Although the sessions were not recorded, Mike was able to note some of the thoughts of the teachers and parents including:

- We need more than just flyers in their bookbags about upcoming STEM events.
- Maybe it needs to be broader than just STEM?
- Parents and Teachers all need to make a firm commitment to STEM.
- Glad I did something like this!
- We need to take our daughters and sons to work more; to see STEM in action.
- Needs to be more real-world context introduced into STEM teaching.
- Students need to be given more open-ended tasks; to practice STEM.
- Need to introduce STEM as early as possible; early Middle School is not too soon.
- Students need more hands-on during STEM subjects.
- Organizations like yours [INCOSE] need to volunteer more STEM talks and events.
- Students learn best by doing.
- We need to educate parents—and teachers—more in what STEM is like in the real world.

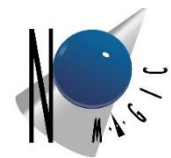
Learn more about this Conference <http://www.successconference.net/>.



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



## Membership Arena

Mark Kaczmarek, ASEP, Membership Director

INCOSE membership is over 16,000 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 = 326
- Certification = 167 ~53%
  - ASEPs = 55
  - CSEPs = 87
  - ESEPs = 31

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:**

March 2018

- *Bligh, Jonathon*, Helm Point Solutions, Inc.
- *Diazdelcastillo, Daniel*, University of Maryland
- *Epson, Kevin*
- *Hanley, Christopher*, AURA - Space Telescope Science Institute
- *Jadav, Vijay*, Booz Allen Hamilton
- *Mehta, Kunal*, ASEP - UMD Institute of Systems Research
- *Rasmussen, Eric*, Embry Riddle Aeronautical University
- *Russo, Carla*, Booz Allen Hamilton

February 2018

- *Anderson, Tara*, JHU/APL
- *Patel, Shiv*, University of Maryland

January 2018

- *Bendig, Shawn*
- *LeBoeuf, Richard*
- *McGowan, Ray*, Johns Hopkins University
- *Mohtashamian, Aydin*, L3 Technologies
- *Rivera, Rodel*, SPAWAR
- *Zavala, Yashira*

November 2017

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



**Interested in Jobs & Networking**

Contact Mark Kaczmarek

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



## 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

**NORTHROP GRUMMAN**

**THE ENGINEERS CLUB**  
BALTIMORE'S CLUB FOR PROFESSIONALS





## Congratulations to Newly Certified SEPs since August 2017:

- *Barclay, Melanie, ASEP* – WGS Systems LLC
- *Beach, Ryan, ASEP* - WGS Systems LLC
- *Biemer, Steven, CSEP* – JHU/APL
- *Cawasji, Kersasp, ASEP* - University of Maryland
- *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
- *Dorsman, Theo, ASEP* - Northrop Grumman
- *Fox, Joel, ASEP* – DE ISO
- *Glennan, Andrew, ASEP* - Northrop Grumman
- *Greco, Christopher, ASEP* – Edwards Performance Solutions
- *Ha, Bao, ASEP* - Northrop Grumman
- *Handy, Kristen, CSEP* - Booz Allen Hamilton
- *Hanni, Robert, ASEP* - University of Maryland
- *Kanagat, Pranay, ASEP* - University of Maryland
- *Luke, Robert, ASEP* - WGS Systems LLC
- *Marshall, James, ASEP* - Northrop Grumman
- *Mehta, Kunal, ASEP* - UMD Institute of Systems Research
- *Mendon, Priyanka, ASEP* - University of Maryland
- *Miller, Kim, ASEP* - Northrop Grumman
- *Mohtashamian, Aydin, ASEP* – L3 Technologies
- *Parsons, Christopher, ASEP* - Northrop Grumman
- *Partenheimer, Janice, ESEP* – Engility
- *Pena, Tomas, CSEP* – General Dynamics
- *Randall, Rick, CSEP* – The Mitre Corp
- *Scott, Zane, ASEP* – Vitech Corporation
- *Srinivas, Samvrit, ASEP* - University of Maryland
- *Thomas, Jeremy, ASEP* - WGS Systems LLC
- *Williams, Michael, ASEP* - University of Maryland
- *Stephenson, Tenee, ASEP* - JHU/APL



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.

### 2018 Board of Director Officers

- President: Dr. Grace Crowder, ASEP
- Past President by Executive Council
- President-Elect: Taras Mykytyn
- Treasurer: Tony Gigioli, CSEP

- Secretary: Tammy Kolarik, ASEP
- Communications: Myra Parsons Gross, ESEP
- Programs: Dr. Chandru Mirchandani, ESEP
- Membership: Mark Kaczmarek, ASEP

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