The NorthCoast Interfacer

INCOSE   2008   2009 – 2013, 2015   2014

President's Corner

Greetings, Chapter! I am honored to serve as your President this year, and grateful for the support of our dedicated Board of Directors and Committee Chairs. Over my past three years serving the chapter as Secretary and Vice-President, I have seen the chapter consistently offer quality programming and pull off some bigger events, such as the MBSE Workshop and Great Lakes Regional Conference 9. I am excited to continue the tradition of excellence this year, which happens to be the 10th anniversary of our Chapter's founding!

Your Board of Directors is busy planning an exciting array of chapter meetings and events for the year, including an outreach luncheon and presentation by our Vice-President, Joe Stevens of SAIC in April. We have pre-selected Chapter Meeting days this year, in an effort to better communicate with you, so please "save the dates." As we solidify our speaker schedule, we'll update the list to include meeting topics and presenters. If you are interested in recruiting, coordinating, presenting or planning a Chapter Meeting, please don't hesitate to reach out to your board.

-Katie Trase

C-NO President 2017

2016 Chapter Survey Results

In June of 2016, the Board of Directors issued a chapter survey to our current members and colleagues on our email distribution. We received responses from 20 individuals and have considered their input in planning this coming year. In general, responses were positive with respect to the topics and quality of the speakers who presented at Chapter Meetings. When asked which factors most influenced the likelihood of attending a Chapter Meeting, respondents indicated meeting location and quality of presentation infrastructure trumps the availability of food. The Board of Directors took that to mean that our occasional meetings at

area libraries is acceptable. Survey participants indicated they were open to rotating Chapter Meetings among a few venues and geographic areas, and most replied that they would be willing to pay a small fee for use of an exceptional meeting facility. Overall, practical systems engineering topics appeared to be of primary interest to respondents, and more than 70% were interested in learning about systems engineering applications outside traditional aerospace or military domains.

The Board congratulates Edie Parrott of NASA Glenn Research Center, who won the $25 Home Depot gift card, for participating in the survey.

New Chapter Members

Over the past several months we have had some new members join the chapter.

We welcome one new member to the Chapter: Derek Schmid, who is working on his Master's in Systems Engineering through Johns Hopkins University. He is pursuing this part time and is currently working as a software engineer for Prentke Romich Company in Wooster, OH. He desires to reach out into the community in order to further his education and meet practicing systems engineers.

Kirk Wolf attained his Bachelor of Science degree in Civil Engineering from Michigan State University and his Master of Science degree in Engineering Management from Old Dominion University. He comes to S-E-A in Columbus, Ohio from Jacobs Technology in Hampton, Virginia where he was the Senior Structural Engineer at NASA Langley Research Center. Kirk uses system engineering principles to perform examinations and evaluations of existing structures to determine the presence, extent, and/or cause of damage to building components as a result of partial or full collapse, storm damage, water intrusion, fire, vibration, blasting, or other phenomena.

Stuart Yeo graduated from Queen Mary College, University of London in 1996 with a Bachelor's degree in Mechanical Engineering. Upon graduation, he worked for Rolls-Royce Military Aerospace Division in Bristol, UK, completing lifing and vibration analyses of turbine blades, discs and vanes. This work included finite element analysis model verification and validation. In 2002 he moved to Rolls-Royce Civil Aerospace division (Derby, UK) working in the Mechanical Methods team developing and industrializing passive vibration damping technologies. In 2005, Stuart took the Chief of Capability Acquisition role within Experimental Vibration, leading a team developing measured vibration data analysis methodologies, and supporting the integration of predicted and measured vibration data to further de-risk design decisions. In 2007 Stuart moved to USA, working in the Oil & Gas sector of Rolls-Royce, leading a Power Turbine team in Mount Vernon, Ohio. Stuart is currently a Systems Engineer at Siemens AGT, his main duties involve requirements management and analysis.

Joseph Groszek has a Chemical engineering degree from The Ohio State University. After college he managed a lab where he focused on the bioartificial kidney project. He recently changed career paths and works for STERIS as a systems engineer. He looks forward to using INCOSE as a resource in his professional development.

The Board of Directors looks forward to meeting all of you at future Chapter meetings or events.

Dennis Rohn
Cleveland-Northern Ohio Chapter Membership Chair

February 2017 Meeting Summary

Our February 6, 2017 Chapter Meeting was held at ReliabilityFirst in Independence, and included the official transition of Chapter Officers, as well as a brainstorming session for 2017 Chapter planning. Following the officer transition, Katie kicked off the brainstorming portion of the meeting with an overview of the 2016 survey results, which are summarized earlier in this newsletter. Katie also reviewed the Chapter's 2016 Circle Awards submission with attendees so they could benchmark our efforts in 2016 and be reminded of the types of activities INCOSE recognizes and rewards. John Juhasz and Ray Beach provided a report on EnergyTech 2016 and emphasized the opportunity the Chapter has to engage in planning, execution, and participation in the 2017 event. Ray and John noted there are many opportunities for INCOSE Chapter Members to participate, even if they do not support work in the power domain.

With recent membership feedback, Circle Award categories, and EnergyTech in mind, Katie led the attendees in a brainstorming session covering: potential Chapter Meeting topics and speakers, general interest areas, volunteer opportunities, and systems-related projects for a community or civic organization. Ideas included a "tutorial" or extended meeting covering systems engineering and technical planning, presentations from area universities, facility tours, and vendor tutorials or demonstrations. The full highlights of the brainstorming session can be found in the Chapter Meeting Minutes posted to the Chapter website.

New Chapter Officers

The newly-elected C-NO Chapter Officers for 2017 are:

> ➢ President: Katie Trase
> ➢ Vice President / President-Elect: Joe Stevens
> ➢ Secretary: Open Position
> ➢ Treasurer: Marian Cronin

Katie Trase transitioned to President, in January 2016. Marian Cronin will serve as Immediate Past President.

Katie Trase is a systems engineer in the Power Architecture and Analysis Branch at the NASA Glenn Research Center. She came to work for Glenn as a summer intern, and later co-op, and has worked full-time at Glenn for four years. She has an undergraduate degree in Industrial and Systems Engineering, and a minor in Nuclear Engineering. Katie is a member of the systems engineering teams for the Radioisotope Power Systems Program and Asteroid Redirect Robotic Mission. Katie chairs Glenn's MBSE Working Group and actively contributes to the

center's advancement in MBSE capability. Recently, Katie was honored to receive the NASA Early Career Achievement Medal. Katie has been a member of INCOSE for three years.

Joe Stevens is a Senior Principal Systems Engineer and Service Line Team Manager with SAIC, with over 30 year's experience as a systems engineer, program manager and internal consultant on various system development efforts, spanning the life cycle from concept development to sustainment. Successfully managed key development programs such as NASA Gulf of Mexico's Helicopter In-flight Tacking System, FAA Airport Surface Detection and Equipment – X-Band Radar, FAA Safe Flight 21 - 3D Airport Map Models Database and DoD/MoD Sales for Flat-Panel Cockpit Display Upgrades. As a Senior Systems Engineer, successfully lead technical teams on USAF B-2 Radar development, USAF F-15E Radar Upgrade, JPO MILSTAR – Military Strategic and Tactical Relay, US Navy UHF Follow On and US Army PTDS - Persistent Threat Detection System. In addition, as a SE/PM consultant to the US Army Program Executive Office for Ground Combat Systems, led a Baldrige-based organizational assessment, developed a number of organizational process models for systems engineering and managed software development contract for US Army TARDEC - Tank Automotive Research, Development and Engineering Center's Integrated Systems Engineering Framework tool. While at General Motor's Hughes Electronics Company, charter member graduate of an in-house Radar Systems Engineering Certification Program. Co-author/contributor to Boeing's Advanced Design for Quality Avionics Systems (ADQAS). Experienced in process and product improvement and leading process development and deployment projects, compliant with both Baldrige and CMMI. Member of Project Management Institute and International Council on Systems Engineering.

Marian Cronin is a Systems Engineer with Vantage Partners, LLC and has worked at the NASA Glenn Research Center in various capacities for almost 25 years. She has an undergraduate degree in Chemical Engineering, with a concentration in Bio-medical Engineering, from Arizona State University, and has worked in the areas of process engineering, aeronautics and space testing, business development, and systems engineering throughout her career. Marian currently holds her ASEP through INCOSE.

Coming up on Ten Years

A little less than a year from now, the Cleveland-Northern Ohio Chapter will be celebrating the Tenth Anniversary of our Chartering by INCOSE. A group of individuals began serious discussions in March 2007 around establishing a new Chapter in the Cleveland area. Those involved early on included: John Juhasz, Dennis Rohn, Marton Forkosh, Dan Gauntner, John Shaker, Deb Niemira, Ray Beach, Ann Delleur, Sean Beckman, Chuck Alexander, and Ted Caridi. The first informational meeting was held in June 2007 at Cleveland State University. A second general meeting was held in late November 2007, and by that time, enough members had been identified in order to apply for a Charter. The Charter Application was submitted in December 2007, listing the Interim Officers and Committee Chairs as:

President: John Juhasz

V. P.:   Dan Gauntner

Secretary: Dennis Rohn

Treasurer:	Ann Delleur
Programs:	Dan Gauntner (acting)
Communications:	Sean Beckman
Membership:	Deborah Niemira

Charter papers were finalized and signed in late January 2008, and the Chapter was officially welcomed to INCOSE during the closing plenary of the 2008 International Workshop, on January 29, 2008. Watch for future articles in this Newsletter about the Chapter's first ten years. And feel free to contribute one of your own.

I would encourage all of you to think about the following two things and make chapter leadership aware of your thoughts. How should we celebrate our first ten years? And maybe more importantly, what should the vision be for the next ten?

Dennis Rohn

Recap of the 2017 INCOSE International Workshop

The 2017 INCOSE International Workshop (IW) was held in Torrance, CA from January 28-31. This year's IW had ~530 attendees, the most ever, and more than 120 were first time attendees. It was reported that regular membership in the Americas Sector (primarily U.S.) was constant, there was some growth in the Asia/Oceana Sector, and Europe, Middle East and Africa Sector grew a fair amount. Corporate Advisory Board (CAB) Limited Accounts (available to employees of CAB companies) saw significant growth in 2016.

Workshop Hotel

President Alan Harding

At the Opening Plenary, the Critical Infrastructure Protection and Recovery Working Group's Leadership, including our own John Juhasz, received the INCOSE Working Group Award for Outreach.

Numerous business and Working Group meetings were held over the four days, in addition to Town Halls. There were also a series of Model Based Systems Engineering presentations the first two days. These presentations can be found on the INCOSE MBSE Wiki at:

http://www.omgwiki.org/MBSE/doku.php?id=mbse:incose_mbse_iw_2017. Our own Karen Weiland, was one of the presenters in this series; she spoke about the NASA MBSE Pathfinder program. Many of the presentations/discussions seemed to focus more around integrating systems engineering models with those from other disciplines, rather than just how to do model based systems engineering.

Some other items of note:

- Nominations for the next INCOSE Institute for Technical Leadership cohort will be sought soon (and may be open by the time this newsletter is published)
- Locations for upcoming IS/IW were publicized (see event listing elsewhere in this newsletter
- If you are having issues with the INOCSE IT infrastructure, it was suggested to submit help tickets via Connect (allows better tracking), rather than just calling/emailing
- The Membership Suite software being used by INCOSE currently has an issue resulting in some functionality being broken; a solution is being sought
- Keynotes/Town Halls/Plenaries from the past few IS/IW are on YouTube: https://www.youtube.com/channel/UCAuI_kWUFKkYs9H5zhY9abQ
- The INCOSE Foundation raised over $7k at this year's wine soiree. They are looking to sponsor a competition for five $1k awards to chapters this year for special projects and are considering sponsoring a specific research effort as well.

Dennis Rohn

Release of Atlas 1.0: The Theory of Effective Systems Engineers

In early December, the Chapter held a meeting where the topic was a discussion of Understanding what Makes Systems Engineers Effective. The discussion was based on an INCOSE webinar (a presentation by the Helix Project) and version 0.5 of the Atlas report (produced by the Helix Project). The Helix Project is part of the Systems Engineering Research Center efforts, and produced the Atlas report to document their findings related to effective systems engineers. Shortly thereafter, version 1.0 was released. Version 1.0, along with supporting information, and a self-assessment tool is available on the SERC website: http://www.sercuarc.org/helix-project-releases-the-development-of-atlas-the-theory-of-effective-systems-engineers/.

Dennis Rohn

MIT Systems Engineering on-Line Program Offering

The Massachusetts Institute of Technology (MIT) developed an Architecture and System Engineering program last year and offered it for the first time in the Fall. It is offered on-line

in an asynchronous mode through their edX platform and results in earning a Professional Certificate from MIT. This first offering is just completing.

The program is good for people that are new to system engineering and as a refresher course. It is broken down into four classes: Architecture of complex system, Models in Engineering, Model-Based Systems Engineering: Documentation and Analysis and Quantitative Methods in Systems Engineering. These classes expand upon, functions, emergence behaviors, system architect, design structure matrix, model aspect such as fidelity and credibility, verification and validation of models, using Model-based system engineering, to trade studies exploration. The classes take about 4-6 hours/week to complete which includes doing the required projects and each lasts 4-5 weeks. Your experience in system engineering and your willingness to learn new concepts will dictate what you will get out from taking these courses.

A second offering is now being advertised and is scheduled to start March 20, 2017. More information can be found at: https://sysengonline.mit.edu/. There is a cost to register and complete the program, if you desire the Professional Certificate from MIT. The courses are free to take if you do not wish to receive the certificate. The Chapter is not endorsing this program, but felt it was good to make members aware of it.

Edith Parrott

Future Events

The list below provides a sampling of upcoming events that may be of interest to INCOSE members.

Spring Simulation Multi-Conference

April 23-26, 2017, Virginia Beach, VA Abstracts due Oct. 15, 2016

MODSIMWORLD: Modeling and Simulation in the Age of Data

April 25-27, 2017, Virginia Beach, VA

International Conference on Naturalistic Decision Making

June 20-23, 2017, University of Bath, UK

INCOSE International Symposium 2017 - Unlocking Innovation through Systems Engineering

July 17-20, 2017 in Adelaide, Australia

2018 SciTech, http://www.aiaa-scitech.org/register/

January 8 – 22, 2018 in Kissimmee, FL

Extended Abstracts due June 12, 2017

Conference on Systems Engineering Research: March 23-25, 2017 (Los Angeles, CA) Theme: *Disciplinary Convergence: Implications for Systems Engineering Research.* http://www.cser2017.com/

Paper submittal deadline has passed

IEEE SysCON (INCOSE Track): April 24-27, 2017 (Montréal, Québec, Canada) http://ieeesyscon.org

Paper submittal deadline has passed

INCOSE Texas Gulf Coast SE Conference: May 5, 2017 (Houston, TX) http://www.incose.org/ChaptersGroups/Chapters/ChapterSites/texas-gulf-coast/chapter-events/conferences/tgcc-2017-conference

Presentation abstracts due February 15, 2017

INCOSE International Symposium 2017: July 17-20, 2017 (Adelaide, Australia) http://www.incose.org/symp2017

Paper submittal deadline has passed

11th Great Lakes Regional Conference: October 2017 (Minneapolis/St. Paul, MN)

Presentation abstracts due TBD

EnergyTech 2017: October 17-19, 2017 (Cleveland, OH)

Paper submittal deadline TBD

INCOSE International Workshop 2018: January 20-23, 2018 (Jacksonville, FL) http://www.incose.org/IW2018

No papers/presentations

INCOSE International Symposium 2018: 7-10, 2018 (Washington DC) http://www.incose.org/symp2018

Paper submittal deadline TBD

Upcoming Chapter Meetings

- ➢ **March 21**: Advanced Model Based Systems Engineering, by Horst Salzwedel and Robert Sarkissian of MLD Design Technologies, Inc.
- ➢ **April TBD**: A Perspective on Systems Engineering Management and Planning, by Joe Stevens of SAIC
- ➢ **May 16**
- ➢ **June 20**: Book Club - The Revolt of the Engineers: Social Responsibility and the American Engineering Profession by Edwin T. Layton Jr. (1986)

> Please join us this summer at the June 20th Chapter Meeting for a book review of this classic work by Edwin Layton. Have you considered what your personal responsibility is as a systems engineer in the workplace? Many engineers simply turn over their social responsibility to their employers or government, shirking their duties as world citizens. For example, has your systems engineering team ever specified requirements that would call for materials hazardous to the environment, when other, perhaps slightly higher cost alternatives exist? Has your team ever specified components that required mining or assembly as part of the supply chain, where workers were not treated responsibly? Why do systems engineers rarely focus on the Disposal part of the lifecycle in the INCOSE Handbook? Is it wise to leave all this up to Boards of Directors and Governments when just a small incremental change, early in the process can make a big difference? Join us for an evening of interesting conversation and sharing of our stories as world citizens in the workplace.
>
> If you are interested in this book discussion, please email carldister@ieee.org so we can order books in advance. More on location will be sent as we draw nearer to the event.

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If you are on Facebook, search for Cleveland-Northern Ohio INCOSE Chapter and "like" us.

2017 Chapter Officers:

President:
Katie Trase

Vice-President:
Joe Stevens

Secretary:
Open

Treasurer:
Marian Cronin