

# NE INCOSE Member Meeting

## September 20<sup>th</sup>, 2022

Virtual Only  
[incosenewengland@gmail.com](mailto:incosenewengland@gmail.com)



- **6:00 – 6:45 Chapter Business**
  - Introductions
  - 2022 INCOSE NE Chapter Organization and Committees
  - INCOSE / INCOSE NE Updates
  - New Member Introductions
  
- **6:45 – 7:30: Guest Speaker**
  - *“A Data-Centric System Architecture Model Development Process Emphasizing Rapid Tempo and Quality”*  
**by Chris Swickline (SAIC) and Heidi Jugovic (SAIC).**
  
- **7:30 – 8:00: Q & A / Wrap Up**

# 2022 Chapter Leadership Team



**President**

Madhu Rao, Ph.D.  
Belcan Engineering, LLC



**Vice President**

Haifeng Zhu, Ph.D.  
Smart Machinery Lab



**Treasurer**

Rachel McGrath  
Raytheon (P&W)



**Secretary**

Michael Tymms  
Vicarious Surgical Inc.



**Past President**

Eric Dano, Ph.D.  
BAE Systems



**Director**

Amy Thompson, Ph.D.  
UConn, UTC IASE



**Director**

Randy Skelding  
Raytheon (P&W)



**Director**

Jim Garman  
Sikorsky Aircraft



**Director**

Daniel Burbank  
Collins Aerospace



**Director**

Dave Finigan  
BAE Systems



**Director**

Bao Truong, Ph.D.  
Malta Inc.



**Director**

Peter Huie  
WPI



**Director**

Stephen Nichols  
Schindler Elevator Corp.



**Director**

Diane Alsing  
Strategic Global



**Director**

Brian Sheehan  
Draper Labs

## Operations Committee

**Madhu Rao, Chair**

**Eric Dano, Past President & BoD Chair**

**Haifeng Zhu, VP/President Elect**

**Amy Thompson, Advisor**

**Rachel McGrath, Treasurer**

**Mike Tymm, Secretary**

**Bao Truong, Director**

**Vision:** Plan and organize chapter operations. Create strategic and operations plans. Communicate and coordinate with Directors through BOD. Coordinate execution with committees. Report back to INCOSE national. Manage chapter finances.

**Regular Meeting Times:** 1st Tuesday of each month at 6:00pm, open to all members

## Membership Committee

**TBD, Chair**

**Peter Huie**

**Jim Garman**

**Daniel Burbank**

**Vision:** Serve current membership. Recruit new members. Serve all industry sectors and states. Perform direct and indirect outreach to members. Collect information about how we can better serve. Member categories: existing members, new members, CAB members, university members.

**Regular Meeting Times:** 3rd Thursday of each month at Noon, open to all

## Programming Committee

**Madhu Rao, Chair**  
**Eric Dano, Past President & BoD Chair**  
**Ed Medri**  
**Randy Skelding**  
**Brian Sheehan**

**Vision:** Plan high quality events throughout the year that engage all chapter members based upon regular input and feedback from the membership.

**Regular Meeting Times:** 3rd Thursday of each month at 6:00pm, open to all

## Certification, Training & Workforce Development

**Randy Skelding, Chair**  
**Rich Powers**  
**Dave Finigan**  
**Chris Massa**  
**Bao Truong**

**Vision:** Plan high quality training events throughout the year for members that help them achieve their professional development goals. Offer ASEP-CSEP

## Communications

**Mike Tymm, Chair**  
**Peter Huie**  
**Amy Thompson**  
**Stephen Nichols**

**Vision:** Communicate effectively with members of the chapter and INCOSE international. Communication methods should support all other committee goals and members should coordinate with other committees to send and receive their messages. Maintain chapter records.

## INCOSE New England Fall Workshop

- Registration site (Thu 9/22)
- Preliminary Program Schedule
  - Two tracks of presentations (12)
  - One or two track workshop events (4)



**Mark Your Calendars!!**



September 2022  
**MEMBERS NEWSLETTER**  
*A Better World Through a Systems Approach*

*The International Council on Systems Engineering*

***In this issue:***

- IS2022 Highlights
- Smart Cities
- DEI and Gender Bias
- Chapter updates: Israel, Japan, UK, Brazil & Spain

***And more:***

- HSI and Social Systems
- Requirements Working Group
- Tribute to Jerry Lake



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# 2022 New Members (+37)



**Welcome to INCOSE New England!!**

- Ertan Ergezen
- Lewis Malaver
- Hanning Wong
- Jon Hodge
- Preston Wilkey
- Rodervin Urena
- Steven Thorwarth
- Geoffrey Lichtenheim
- Danielle Conneely
- Alexander Moon
- Brianne Hirschfeld
- Natasha Berner
- Mostafa Elshibiny
- Brian Baillie
- Lou Palecki
- Randy Mocadlo
- Andrew Hanshaw
- Maxwell Brown
- Samuel Felton

- Lew Cote
- Scott Morris
- Todd Jackson
- Greer Koerner
- David Fontaine
- Rahmeh Fares
- Michael Shatz
- Sasha Smiljanic
- Matteo Pietrobelli

- Amir Eftekhar
- Jennifer Pandolf
- Scott Law
- Patterson Sisson
- Khrystyna Shvedova
- Rebecca Petteys
- Heather Morris
- Candice Bell
- Marin Casanovas

- [George Ziboulis](#)



# 2022 Guest Speakers

Month	Guest Speaker	Organization	Title / Topic
Jan	Dr. Don Gelosh	WPI	INCOSE Professional Development Portal Initiative
Feb	Paul White	BAE Systems	Building the Digital Engineering Workforce of the Future
Mar	Cameron Hendricks	Raytheon (P&W)	Taming Unreliable Variables in Systems Engineering
Apr	Dan Burbank	Raytheon (Collins)	Reliability and Survivability in Crewed Spacecraft
May	Dr. Phillip Palmer	Sunrise Labs	The Benefits of a Systems Engineering Approach: How to reduce risks and improve performance in medical device development
Jun	Guru Madhavan	National Academy of Engineering	Engineering Our Care Systems
Jul	Bao Truong, CSEP	Malta Inc.	Use of Systems Engineering in Repurposing Coal-Fired Power Plants with the Malta Pumped Thermal Energy Storage System
Aug	Matthew Hause	SSI	The Future of Unified Architecture Framework (UAF)
Sep	Chris Swickline & Heidi Jugovic	SAIC	A Data-Centric System Architecture Model Development Process Emphasizing Rapid Tempo and Quality
Oct	<i>No meeting</i>		<i>New England Fall Workshop</i>
Nov			
Dec	<i>No meeting</i>		<i>Elections</i>

# Guest Speaker

## A Data-Centric System Architecture Model Development Process Emphasizing Rapid Tempo and Quality

### **Bio: Heidi Jugovic**

Heidi has 14 years of defense engineering expertise with an emphasis on results-driven Model Based Systems Engineering and enabling the digital transformation. She is an INCOSE Certified Systems Engineering Professional (CSEP). She was Chair of the MBE Community of Practice for Northrop Grumman 2016-2018 and is currently co-chair of the Digital Engineering Community of Practice for SAIC. Heidi is an Army Veteran who served as a Missile Defense Early Warning Engineer/Operator/Technician (JTAGS) for two years and finds motivation as an engineer by making a difference in the mission and day-to-day effectiveness and safety of the Warfighter.



### **Bio: Chris Swickline**

Chris serves as a Senior Principle Digital Engineer within the Digital Systems Engineering group of Science Applications International Corporation's (SAIC's) Engineering Innovation Factory (EIF). The EIF works to develop and employ modern, efficient approaches that reduce risk and friction in applying emerging technologies to satisfy customer needs and ensure mission success. Within the EIF, he develops and applies Digital Engineering (DE) strategies and capabilities, with an emphasis on Model Based Systems Engineering (MBSE); across land, sea, air, space, and cyberspace domain missions. Mr. Swickline has spent the majority of his career developing multifunction systems in support Integrated Air and Missile Defense (IAMD) and Non-Kinetics (Electronic Warfare, Signals Intelligence etc.). He received his Masters of Science degree from Johns Hopkins University in Systems Engineering and a Bachelors of Science degree from Penn State University in Computer Science.

## A Data-Centric System Architecture Model Development Process Emphasizing Rapid Tempo and Quality

### Abstract:

For years the Model Based Systems Engineering (MBSE) community has been armed with the Systems Modeling Language (SysML) and a host of vendor provided tools to facilitate requirements, architecture, and design development. Nonetheless, teams repeatedly struggle to apply these tools in practice because they do not have a powerful style to enable teamwork in a model and set of flexible methods to guide work which is consistent with that style. This paper seeks to offer an easy-to-use process for building a System Architecture Model (SAM), allowing for tailoring to meet program-specific needs. The paper identifies and encourages the use of a variety of SAM development methods which are focused on the themes of data centrality, consistency, commonality in style, and efficiently creating content that will answer most engineering questions related to architecture.

This process is implemented in SysML as a “One Page Process” and made openly available for download. Furthermore, automated validation via a rules-based engine is leveraged to catch and correct defects nearly as quickly as they are generated as well as scale SAM development across a large diverse team of contributors. By leveraging and tailoring this process to meet program needs, one may improve the quality, development tempo, and rigor of their SAM.



# Questions

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