WELCOME!

INCOSE Enchantment Chapter Monthly Meeting

We’re glad you’re here.

We respectfully request:

- Mute your audio when you are not speaking
- *6 toggle or in GlobalMeet left-side, your name

Discussion and questions are encouraged!

Put questions in the chat box or unmute yourself to speak up.

Meeting Materials

Slide presentations can be downloaded prior to start of the meeting from the Meeting Materials page of our website:

https://www.incose.org/incose-member-resources/chapters-groups/ChapterSites/enchantment/resources/meeting-materials

If recording is authorized by speaker, the video will be posted at the link above within 24 hours.

SEP Training

CSEP Courses by *Certification Training International:*

CTI currently is offering online course offerings, see https://certificationtraining-int.com/incose-sep-exam-prep-course/

Our chapter has two SEP mentors:

Ann Hodges alhodge@sandia.gov

Heidi Hahn drsquirt@outlook.com

Upcoming meetings

- February 10, 2021: Gan Wang – Implementing a Model-Based Digital Engineering Enterprise for a Defense System Integrator
- March 10, 2021: Dr. Ron Carson – Perspectives on the Boeing 737MAX Maneuvering Characteristics Augmentation System (MCAS)
- April 14, 2021: Raymond Wolfgang – INCOSE's Guide to Verification and Validation: Context, Progress, and Content

Introductions

- Please type your name, position, and organization in the Chat window

Photo by Adam Solomon on Unsplash

Survey

The link for the online survey for this meeting is

- www.surveymonkey.com/r/2021_01_MeetingEval

Your feedback is important!

Enchantment Chapter Monthly Meeting

Schema and Metamodels and Ontologies – Oh My!

Abstract: Over the last five years, there has been a growing fascination with conceptual data models, metamodels, and ontologies in systems engineering. What began as a murmur – something living largely at the fringes of systems engineering and MBSE – has grown as many projects and practitioners delve into these topics.

So what are these concepts? What differentiates them, and more importantly, why should I care? How do I properly leverage these ideas to advance my projects and my enterprise?

As organizations apply model-based systems engineering, managing information in a computer model requires a defined data structure. Combined with the ease of modern ontology editors such as OWL or capabilities embedded in many tools, practitioners have begun to develop their own conceptual data models and ontologies. As systems engineers experiment and leverage these capabilities, they cross into the area of language design, often developing custom languages for their projects without the greater depth or consideration necessary to connect enterprise practices.

There is a fundamental information model that underpins systems engineering. This information model characterizes the knowledge we must elicit, develop, analyze, and manage in order to successfully engineer systems. It lives implicitly in the process standards that guide our practice, the data item descriptions that define our artifacts, and the representations we use.

The challenge is to move from implicit and explicit, not to advance MBSE but to advance the greater practice of systems engineering. To do so means that we must do more than develop independent data models for projects (the trap of "define and use"). We can leverage decades of practical experience to develop a shared systems metamodel that enables us to effectively communicate, analyze, and reason as we address today's systems challenges. Rather than each project or each organization isolated on an island of their own language, we can and must achieve consistency of data and commonality of practice across the enterprise, across the supply chain, and across the profession.

Download recording from the Library at www.incose.org/enchantment

NOTE: This meeting will be recorded

Speaker Bio

For over 25 years, **David Long** has focused on helping organizations increase their systems engineering proficiency while simultaneously working to advance the state of the art. David is the founder and president of Vitech where he leads the team in delivering innovative, industry-leading methods and software (CORE™ and GENESYS™) to help organizations engineer next-generation systems. He co-authored *A Primer for Model-Based Systems Engineering* and frequently delivers keynotes and tutorials at industry events around the world. An INCOSE Fellow and Expert Systems Engineering Professional (ESEP), David was the 2014/2015 president of INCOSE.