AUGUST 2023

The Enchanted View

INCOSE Enchantment Chapter Newsletter

INCOSE INTERNATIONAL SYMPOSIUM 2023

The 2023 INCOSE International Symposium took place in the captivating city of Honolulu, Hawaii. This event brought together a diverse and dynamic global community comprising systems engineers, researchers, and industry leaders from more than 25 nations. The symposium commenced with an enlightening address by Matthew Kamakani Lynch, who delved into the concept of "Cultivating Emergence for Transformative Change."

A standout feature of the occasion was its focused exploration of how systems engineering assumes a critical role in tackling urgent worldwide issues, with a particular emphasis on mitigating climate change. Central to these conversations were adaptive and resilient approaches within model-based engineering, the applications of artificial intelligence, and the adoption of sustainable practices. As the significance of systems engineering in shaping the future remains undeniable, this symposium stood as a driving force for advancement and a wellspring of inspiration for those dedicated to navigating complexity and instigating positive transformations.

Notably, the Enchantment Chapter made a strong presence at the symposium, affording its members and Board of Directors valuable opportunities for networking and social interaction. For those who couldn't participate in this year's symposium, fret not. We have extended invitations to numerous speakers to address our monthly chapter meetings. **Stay tuned for more information on these exciting sessions!**

Newsletter Highlights

International Symposium Recap

Best Systems Engineering Paper Award

Western States Regional Conference

Systems Engineering Handbook Update

Event Calendar

ENCHANTMENT MEMBERS WIN BEST SYSTEMS ENGINEERING PAPER AWARD

Owen Dominguez and Greg Chavez both from Los Alamos National Laboratory won the best paper award in systems engineering for their paper, "Agile Processes Applied to Los Alamos National Laboratory SE approach: The Agile Processes and Technology (APT) Team." Keep reading for a summary of the paper.

A myriad of industries is investigating and applying new technologies, approaches, and software to improve the systems engineering life cycle status quo, by reducing the time duration and lowering the cost incurred in the systems engineering process.

One effort undertaken, and described herein, is pairing an Agile-Lean framework with models-based systems engineering (MBSE) to achieve time saving and cost efficiencies quickly within systems engineering concepts to production systems phases.

This is being done by the Agile Processes and technologies (APT) team who are tasked to deliver a weapon prototype in three years. For this purpose, APT has adopted practices currently used in industry to speed up the conventional processes and practices within Los Alamos National Laboratory and partners, particularly by implementing Agile-Lean within MBSE. APT has demonstrated agility by implementing changes at the organizational scale; given that most of the work done at the facilities is heavily based on design and hardware performance.

In addition, MBSE is used to support verification and validation activities to drive acquisition of necessary evidence to establish traceability and compliance needed for qualification and certification, as per stakeholders' requirements. This paper describes the current efforts towards implementing MBSE in an Agile-lean framework to represent a complex system —weapon prototype —, in a rapidly moving and changing environment to enable informed decisions through the identification and capture of useful decision criteria.

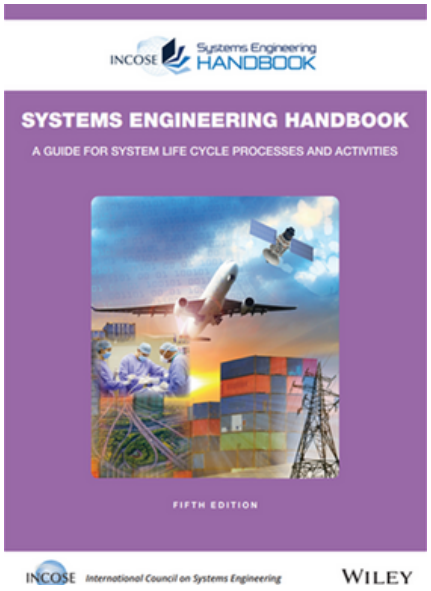
Western States Regional Conference

Mark your calendars for the forthcoming conference, set to unfold from September 13th to 15th. The event promises a comprehensive experience, featuring insightful tours of prominent landmarks, engaging tutorials, and a plethora of technical sessions. With an impressive lineup, the conference boasts a keynote speech by Puesh Kumar from the U.S. Department of Energy, who will delve into the National Cyber-Informed Engineering Strategy. This will be complemented by an address from Ian Milgate of Bechtel, spotlighting their ambitious radioactive waste treatment plant project.

The conference's diverse agenda offers attendees a rich platform for learning, networking, and professional growth. Amidst tours, tutorials, and technical sessions, participants can explore cutting-edge insights, industry advancements, and invaluable certification opportunities. With the backing of prominent sponsors, the conference is a prime occasion for systems engineers to elevate their expertise and connect with peers. **Secure your spot by registering now for this premier event.**

AUGUST 2023

SYSTEMS ENGINEERING HANDBOOK GETS FRESH NEW LOOK!



The International Council on Systems Engineering (INCOSE) Systems Engineering Handbook describes the state-of-the-good-practice of systems engineering. The result is a comprehensive guide to systems engineering activities across any number of possible projects. From automotive to defense to healthcare to infrastructure, systems engineering practitioners are at the heart of any project built on complex systems.

INCOSE Systems Engineering Handbook readers will find:

- Elaboration on the key systems life cycle processes described in ISO/IEC/IEEE 15288:2023;
- Chapters covering key systems engineering concepts, system life cycle processes and methods, tailoring and application considerations, systems engineering in practice, and more; and
- Appendices, including an N2 diagram of the systems engineering processes and a detailed topical index.

The INCOSE Systems Engineering Handbook is a vital reference for systems engineering practitioners and engineers in other disciplines looking to perform or understand the discipline of systems engineering.

As a member benefit, the SE Handbook Fifth Edition digital copy is available for download from the INCOSE Store to members, employees of CAB organizations, and students of the Academic Council members.

Upcoming Chapter Events

September

September 13 - 4:45 PM MST
Presenter: Dr. Greg Chavez and Dr. Owen Dominguez
Title: Agile Processes Applied to the LANL Systems Engineering Approach: The Agile Processes and Technology Team

October

October 11 - 4:45 PM MST
Presenter: Jawahar Bhalla
Title: A Conceptual Framework for the SE of AI-Intensive Systems (SE4AI) – Considering Data Through the Life Cycle

November

November 8 - 4:45 PM MST
Presenter: Daniel Hettema
Title: Digital Engineering: The Next Chapter

Enchantment Chapter Fall Social
Date: TBD
Location: TBD

New Chapter Website is Published, Click Here to Learn More!