

IS2025 Schedule at a glance virtual experience

Start time		End time		VIRTUAL PROGRAM at IS2025													
Ottawa, Canada				MONDAY		TUESDAY		WEDNESDAY		Start time		End time		THURSDAY			
										Ottawa, Canada							
						Systems Thinking, Critical Thinking, & Complexity Cecilia Haskins		Product Development Innovations Edem Tsei		Novel MBSE Approaches Yatin Jayawant		SE in Infrastructure and Healthcare Systems Cecilia Haskins					
						Paper#53: V1.1.1 / Applying Systems Thinking and Soft Systems Methodology to Explore the Complexity of Innovation in the Defense Industry Linn Merete Sandvold (Kongsberg Defence & Aerospace/ University of South-Eastern Norway); Mo Mansouri (Stevens Institute of Technology); Kristin Falk (University of South-Eastern Norway)		Paper#379: V1.2.1 / Outcome-Driven Product Development: An enabling system for complex system development projects Derek Wade (Kumido Adaptive Strategies); John Metcalf (Colorado State University)		Presentation#280: V2.1.1 / Accelerating agile MBSE deployment for next gen automotive architecture with gen AI based SysML V2 Yutika Patwardhan, Varun Sontakke, Paras Banjara (Tata Consultancy Services)		Paper#382: v2.2.1 / Lifecycle Switching Costs Henry Zhu (New York)					
05:30	05:55																
						Paper#92: V1.1.2 / Complexity in the Context of Systems Engineering Rudolph Oosthuizen (Department of Engineering and Technology Management, University of Pretoria); Andrew Pickard (APICKARD LLC); Dean Beale (Independent Researcher); Dorothy McKinney (Lockheed Martin (Retired)); Kenneth Cureton (University of Southern California); Eileen Arnold (UTC / BAE Systems / Rockwell Collins (retired))		Paper#352: V1.2.2 / Case Study: Application of STPA in the development of a Fuel-Cell Propulsion System Jean Fernando Bertao Machado, Edem Tsei, Shaarujan Prabakaran, Daniel Wilding (Cranfield Aerospace Solutions)		Presentation#359: V2.1.2 / Exploration of MBSE Methodologies for Modeling Pre-Existing Systems Kathryn Wesson (Dassault Systems); Kian Blackey (Embry-Riddle Aeronautical University Prescott, AZ)		Paper#242: v2.2.2 / The Need for Systems Thinking in Digital Health Transformation Inas Khayal (Geisel School of Medicine at Dartmouth)					
06:00	06:25																
						Paper#159: V1.1.3 / ChatGPT Dilemma: Effects of Generative AI on Higher Education in Systems Engineering Emin Simsek, Gerrit Muller, Kristin Falk (University of Southeastern Norway)		Presentation#234: V1.2.3 / Value Methodology as an Enabler for Architectural Definition: A Case Study in Product Development Fabien Cochet, Paola Mainardi, Gregorio Vettori (Baker Hughes)		Paper#264: V2.1.3 / Universal Systems Engineering Lifecycle Framework (USELIFE): An Integrated MBSE Approach For Managing System Lifecycle Complexity Yatin Jayawant, Prashant Chouhan, Nikunj Ganatra, Himanshu Upadhyay (Accenture Solutions Pvt Ltd.)		Paper#54: v2.2.3 / Emotional Intelligence as a Tool for Sustainable Development: Insights from Student Projects Aparajita Jaiswal, Tugba Karabiyik (Purdue University)					
06:30	06:55																
06:55	08:00	Break															
08:00	09:00	Keynote		Plenary featuring Keynote#2: P1 / AI and the Future of Systems Engineering		Plenary featuring Keynote#3: P2 / SE in practice		Plenary featuring Keynote#4: P3 / Preparation for Spaceflight									
09:00	09:25			Langdon Morris		Jon Reijnveld (The Exploration Company (TEC))		Dr. Robert Thirsk (Canadian Space Agency)									
09:30	10:00	Break															
		SysML v2 Case Studies and Applications		Digital Engineering Strategies for Information Exchange and Visualization		MBSE Lightning Round		Systems Engineering Roles and Competencies		Sociotechnical, Environmental, and Cultural Systems Analysis		Tech Ops Track		SysML v2 Methodologies and Extensions			
		Patrick Meharg, Gregory Pierce Presentation#65: 1.1.1 / Case Studies for Querying the Model - SysML V2 SysML V2:Model Queries;Model Analysis;Query;MBSE;CATIA Magic;Simulation Toolkit		Lori Zipes, William Scheible Paper#319: 1.2.1 / TurboArch: Towards Automating System Architecture Decisions with a CoPilot System architecture;CoPilot;cognitive assistant;Large Language Models;lilities		Mark Sampson, Troy Peterson Paper#238: 4.1.1 / OMG's Approach to Developing its SysMLv2 Certification Program Rick Steiner (University of Arizona); Terrance Milligan (Object Management Group); Matthew Johnson (Arcfield) Paper#168: 4.1.2 / Explaining Model-Based Systems Engineering – Towards a Semiotic Perspective Eduard Kamburjan (University of Copenhagen); Johan Cederbladh (Mälardalen university)		Suzette Johnson, Richard Beasley Paper#21: 4.2.1 / Why Systems Engineering Skills Are Critical for Successful Leadership of Large Complex Projects megaproject;leadership;skills;competencies;project complexity;enterprise leadership;skills development		Guillaume Belloncle, Adam Williams Paper#324: 7.3.1 / Analyzing Systems Engineering Vision 2035 Through a Cultural Lens SE Vision;FUSE;Culture;China;Japan		Tami Katz, Jimmie McEver INCOSE Content#1047: 7.6.1 / How INCOSE is Advancing the Practice of Systems Engineering		Jeremy Doerr, Jeffery Williams Presentation#36: 10.2.1 / Using SysML v2 to Define a Digital Engineering Methodology			
10:00	10:40					Paper#165: 4.1.3 / An Initial Exploration of MULTI Level Modeling for Model-Based Systems Engineering Arne Lange (Karlsruhe Institute of Technology); Johan Cederbladh (Mälardalen University); Kevin Feichtinger, Thomas Weber (Karlsruhe Institute of Technology)		Paper#40: 4.2.2 / Systems Engineering Roles for a New Era Systems engineering roles;digital engineering;artificial intelligence;value of roles;systems engineering challenges.		Paper#233: 7.3.2 / CONFIGURATION MANAGEMENT AS A DRIVER FOR SUSTAINABILITY Configuration Management pillars:Sustainability Development Goals;traceability;sustainable standards compliance;certificates;product end-of-life;circularity and recycling		INCOSE Content#1038: 7.6.2 / How are We Doing? FuSE Report Card on Realizing the Systems Engineering Vision 2035		Digital Engineering;Methodology;Model-Based System Engineering;Digital Threads			
10:45	11:25									Presentation#374: 7.3.3 / SE, S and T: A Sociotechnical Systems Analysis of United States Scientific and Technical Policymaking engineering policy and diplomacy;governmental systems analysis;decision making in government;science and technology policymaking;systems engineering integration		INCOSE Content#1041: 7.6.3 / AI for SE and SE for AI		Paper#118: 10.6.2 / Applying Systems Engineering to Systems Engineering Graduate Course Development			
		Paper#185: 1.1.3 / Exploring the Use of SysMLv2 for Solution Architecture Development with the MagicGrid Framework Model-Based Systems Engineering (MBSE);MagicGrid;SysMLv1;SysMLv2		Paper#320: 1.2.3 / Towards a Digital Engineering Ontology to Support Information Exchange Digital engineering;Model-based engineering;Ontology;Semantic web technologies		Paper#214: 4.1.4 / Methodology for Model-Based Certification Jay Silverman, Holly Handley (Old Dominion University) Paper#177: 4.1.5 / Integrating system dynamics with systems modelling language for resilient system design Ivan Taylor (Policy Dynamics Inc.); Ken Cureton (University of Southern California); Al Thibault (Amistra)		Presentation#392: 4.2.3 / Qualifications, certifications, what's the point? How and why to formalize competency in your organization formalizing competency;qualifications;certification;implementing competency		Presentation#374: 7.3.3 / SE, S and T: A Sociotechnical Systems Analysis of United States Scientific and Technical Policymaking engineering policy and diplomacy;governmental systems analysis;decision making in government;science and technology policymaking;systems engineering integration		INCOSE Content#1041: 7.6.3 / AI for SE and SE for AI		Paper#166: 10.6.3 / Teaching Systems Engineering for Students – Experiences from the Swedish Education System			
11:30	12:10											10:30		11:10			
														Paper#166: 10.6.3 / Teaching Systems Engineering for Students – Experiences from the Swedish Education System			
														Education;Systems Engineering;Experiences;Lessons Learned			
														Paper#344: 10.6.4 / Engineering Hope via a Rapid Systems Engineering Approach to International Disaster Relief			
														Hackathon;Systems Engineering;Disaster Relief;International Collaboration;Damage Assessment;Computer Vision			
12:10	13:30	Lunch										12:00		13:00			
				AI Practices and Enterprise Reliability Jay Silverman				Risk, Security, and Resiliency Modeling and Analysis Patrick Meharg, Joe Gregory		AI Ethics and Human-AI Interfaces Hannes Hick, Matthew Hause		Tech Ops Track Tami Katz, Jimmie McEver		Digital Transformation in Engineering Processes Phyllis Marbach, Gregory Parnell			
13:30	13:55	Panel#201: 2.1 / Navigating Organizational Change: Transforming for a Digital Engineering Future Culture Change;Organizational Change;Digital Engineering;Change Management		Presentation#34: 2.2.1 / Observations in Establishing AI Practices in Highly Regulated Environments Artificial Intelligence;DevSecOps;Agile;Machine Learning Paper#98: 2.2.2 / Enterprise Architecting to Advance Reliability and Maintainability Decision-Making Enterprise Architectures;maintenance strategy;decision support;reliability;maintainability		Panel#385: 5.1 / Think Like an Ecosystem: Re-envisioning the Future of Systems on Earth Ecological design;Sustainability;Nature-inspired Innovation;Interdisciplinary Collaboration		Paper#331: 5.2.1 / Digital Engineering Testbed for T&E: Operation Safe Passage Status and Lessons Learned Test & Evaluation;Systems Engineering;Digital Engineering;Digital Transformation Presentation#299: 5.2.2 / Model Based Test and Evaluation Master Plan: Applying Digital Transformation to T&E Strategy for Major Acquisition Programs Model Based Systems Engineering;MBSE;Model Based Test Engineering;MBTE;Test and Evaluation;T&E;Test and Evaluation Master Plan;TEMP;Digital Transformation;IDSK Paper#396: 5.2.3 / Hidden Beliefs in Verification Decisions: An Experimental Study with Practitioners Verification;belief;expert performance;cognitive science;Bayesian network		Presentation#90: 8.3.1 / Ensuring Safety in AI/LLM Systems for Open-Source Intelligence: An STPA-Guided Approach Large Language Models (LLMs);System Safety;Artificial Intelligence Paper#307: 8.3.2 / Ethical Human-AI Agent Interface Considerations Human-AI Teaming;Decision-Making;Human Systems Integration;HSI;Combat Identification Paper#314: 8.3.3 / AI outperforms 60 se graduates in creating causal loop diagram of janis groupthink phenomenon Artificial Intelligence;System Dynamics;Causal Loop Diagram;LLM;Groupthink		INCOSE Content#1039: 8.6.1 / Shaping the Future with Complex and Adaptive Systems INCOSE Content#1043: 8.6.2 / Conserving Energy as a Strategy for Dealing with Uncertainty and Dynamics in SE INCOSE Content#1042: 9.6.1 / Addressing Sustainability through a new INCOSE Working Group Reuse;MBSE;Models;Acquisition Paper#353: 9.3.2 / Modular Design Method Considering System Architecture in Maritime Radar System for Autonomous Ship Modular Design;Maritime Radar System;System Architecture;Performance Optimization;Au-nomous Ships		13:00		13:25	
14:00	14:25											13:30		13:55			
14:30	14:55																
15:00	15:30	Break															
				Systems Engineering Expertise Development Fabio Silva, Kirsten Helle		Digital Twin Applications and Verification Rick Steiner, Chris Hoffman		AI Systems for Safety-Critical Applications Enanga Fale, Duncan Kemp		Architecture, Verification, and Asset Management Alejandro Salado, Kirsten Helle		Tech Ops Track Tami Katz, Jimmie McEver					
15:30	15:55	Panel#204: 3.1 / No Organization Builds Just One: The Feature-Based Path to Product Line Success Product Line Engineering;System Family Engineering;Commonality and Variability;Systematic Reuse;Feature-based;Model-based		Paper#23: 3.2.1 / On The Importance of Being Able to Hold a Stake Stakeholders;needs;decomposition;roles;stakeholder integrator role;Belbin;Graves;Myers-Briggs		Paper#94: 6.1.1 / Bridging Realities: Bringing MBSE Models to Life with Digital Twins Model-Based Systems Engineering;Digital Twins;System Visualization;System Interactivity		Presentation#111: 6.2.1 / Engineering Trusted AI Systems for Mission-Critical Operations Trusted AI Systems;Human-AI Collaboration;Mission Engineering;Modular Open Systems Approach (MOSA);Digital Engineering;Cyber-Physical Systems Security;Mission-Critical Operations;Human Trust in AI Paper#87: 6.2.2 / A Digital Engineering Methodology for Design, Exploration and Validation of Safety-Critical Software for Integrating AI-based Algorithms Spaceflights;systems engineering;agile;digital twins;systems biology;space medicine;precision medicine;Bayesian inference;computational systems physiology		Presentation#384: 9.3.1 / Solving the Selfish Octopus Problem with the Reusable Asset Specification (RAS) 3.0 Reuse;MBSE;Models;Acquisition Paper#353: 9.3.2 / Modular Design Method Considering System Architecture in Maritime Radar System for Autonomous Ship Modular Design;Maritime Radar System;System Architecture;Performance Optimization;Au-nomous Ships		INCOSE Content#1042: 9.6.1 / Addressing Sustainability through a new INCOSE Working Group INCOSE Content#1045: 9.6.2 / Rally the Troops! The Secret Energy Driving All Innovation Ecosystems INCOSE Content#1044: 9.6.3 / Smarter Delivery of Infrastructure SysMLv2;MBSE;Architecture;Analysis;Modeling;Simulation;Verification					
16:00	16:25			Presentation#29: 3.2.2 / Shu Ha Ri for SE (For the Journey to Expertise in SE, Enhance the Path with Shu Ha Ri) mastery;generalists;specialists;wicked problems;shu ha ri		Presentation#329: 6.1.2 / Agile Systems Engineering of an Astronaut Digital Twin to Optimize Human Space Exploration spaceflights;systems engineering;agile;digital twins;systems biology;space medicine;precision medicine;Bayesian inference;computational systems physiology		Paper#41: 6.2.3 / AI Starter Kit and Caveats for the Systems Engineer SE & AI;Getting Started;AI caveats;AI Cautions;AI Examples;Artificial Intelligence		Presentation#218: 9.3.3 / Driving the Future of MBSE: SysMLv2 and Simulation-Driven Verification for the example of an Electric Vehicle ePowertrain Battery System SysMLv2;MBSE;Architecture;Analysis;Modeling;Simulation;Verification		14:30		15:30			
16:30	16:55					Digital twin;verification and validation (V&V);systems theory								Plenary featuring Keynote#5: P4 / Let's Talk about SYSTEMS engineering...and get others to Listen Dr. William Donaldson (Christopher Newport University)			