IS2022 Schedule

Saturday at IS 2022

Start time	End time	**Start time**	**End time**	Start time	End time	Start time	End time	Start time	End time	Start time	End time	Start time	End time	Start time	End time		**Track 1**	**Track 2**	**Track 3**	**Track 4**	**Track 5**	**Track 6**
US West Coast		**US East Coast**		UK		Europe		India		China Hongkong		Korea and Japan		Australia Sydney								
05:00	09:00	**08:00**	**12:00**	13:00	17:00	14:00	18:00	17:30	21:30	20:00	00:00	21:00	01:00	22:00	02:00	**Session A**	Tutorial#23: A.1 / Back to Basics: Fundamentals for Systems Engineering Success David Long	Tutorial#13: A.2 / Systems Security Engineering: A Loss-Driven Focus Mark Winstead, Michael Mcevilley, Daryl Hild (The MITRE Corporation)	Tutorial#6: A.3 / Systems Engineering an Off-Grid Utility System – A MBSE Tutorial Steve Cash	Tutorial#21: A.4 / Behavior control: methodology and framework for integrating socio-technical systems Avi Harel (Ergolight)	Tutorial#26: A.5 / Artificial Intelligence for Systems Engineers: Going Deep With Machine Learning and Deep Neural Networks Barclay Brown (Raytheon Technologies); Ramakrishnan Raman (Honeywell Technology Solutions); Ali Raz (George Mason University)	Tutorial#22: A.6 / Modelling Systems of Systems Without Drowning: Using ISO 24641-Compliant ARCADIA Methodology Anthony Komar (Siemens Digital Industries Software)
09:00	10:30	**12:00**	**13:30**	17:00	18:30	18:00	19:30	21:30	23:00	0:00	1:30	1:00	2:30	2:00	3:30	**Lunch**						
10:30	14:00	**13:30**	**17:00**	18:30	22:00	19:30	23:00	23:00	2:30	1:30	5:00	2:30	6:00	3:30	7:00	**Session C**	Invited Content#SEFun#0: C.1 / Back to Basics: Thinking Like a Systems Engineering Practitioner Dave Walden (Sysnovation)	Tutorial#13: A.2 / Systems Security Engineering: A Loss-Driven Focus Mark Winstead, Michael Mcevilley, Daryl Hild (The MITRE Corporation)	Tutorial#6: A.3 / Systems Engineering an Off-Grid Utility System – A MBSE Tutorial Steve Cash	Tutorial#21: A.4 / Behavior control: methodology and framework for integrating socio-technical systems Avi Harel (Ergolight)	Tutorial#26: A.5 / Artificial Intelligence for Systems Engineers: Going Deep With Machine Learning and Deep Neural Networks Barclay Brown (Raytheon Technologies); Ramakrishnan Raman (Honeywell Technology Solutions); Ali Raz (George Mason University)	Tutorial#22: A.6 / Modelling Systems of Systems Without Drowning: Using ISO 24641-Compliant ARCADIA Methodology Anthony Komar (Siemens Digital Industries Software)

Sunday at IS 2022

Start time	End time	**Start time**	**End time**	Start time	End time	Start time	End time	Start time	End time	Start time	End time	Start time	End time	Start time	End time		**Track 1**	**Track 2**	**Track 3**	**Track 4**	**Track 5**	**Track 6**
US West Coast		**US East Coast**		UK		Europe		India		China Hongkong		Korea and Japan		Australia Sydney								
05:00	09:00	**08:00**	**12:00**	13:00	17:00	14:00	18:00	17:30	21:30	20:00	00:00	21:00	01:00	22:00	02:00	**Session E**	Tutorial#28: E.1 / Systems 101 - An Introductory Tutorial on Systems Thinking and Systems Engineering Andrew Madry, Jawahar Bhalla (JB Engineering Systems)	Tutorial#3: E.2 / Systems Engineering by the Book Paul Martin (SE Scholar, LLC)	Tutorial#14: E.3 / Negotiation, Persuasion and Conflict Management for the Systems Engineer Zane Scott (Vitech Corporation)	Tutorial#5: E.4 / Complex System Governance: Practical Implications for Improving Complex System Performance Joseph Bradley (Old Dominion University); Richard Hodge (DrRichardHodge.com)	Tutorial#24: E.5 / Building Really Big Systems with Lean-Agile Practices Harry Koehnemann (Scaled Agile); Robin Yeman, Jeff Shupack (Project & Team)	
09:00	10:30	**12:00**	**13:30**	17:00	18:30	18:00	19:30	21:30	23:00	0:00	1:30	1:00	2:30	2:00	3:30	**Lunch**						
10:30	14:00	**13:30**	**17:00**	18:30	22:00	19:30	23:00	23:00	2:30	1:30	5:00	2:30	6:00	3:30	7:00	**Session G**	Tutorial#28: E.1 / Systems 101 - An Introductory Tutorial on Systems Thinking and Systems Engineering Andrew Madry, Jawahar Bhalla (JB Engineering Systems)	Tutorial#3: E.2 / Systems Engineering by the Book Paul Martin (SE Scholar, LLC)	Tutorial#14: E.3 / Negotiation, Persuasion and Conflict Management for the Systems Engineer Zane Scott (Vitech Corporation)	Tutorial#5: E.4 / Complex System Governance: Practical Implications for Improving Complex System Performance Joseph Bradley (Old Dominion University); Richard Hodge (DrRichardHodge.com)	Tutorial#24: E.5 / Building Really Big Systems with Lean-Agile Practices Harry Koehnemann (Scaled Agile); Robin Yeman, Jeff Shupack (Project & Team)	

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Monday at IS 2022

Start time	End time	**Start time**	**End time**	Start time	End time	Start time	End time	Start time	End time	Start time	End time	Start time	End time	Start time	End time		**Track 1**	**Track 2**	**Track 3**	**Track 4**	**Track 5**	**Track 6**
US West Coast		**US East Coast**		UK		Europe		India		China Hongkong		Korea and Japan		Australia Sydney								
05:00	06:30	**08:00**	**09:30**	13:00	14:30	14:00	15:30	17:30	19:00	20:00	21:30	21:00	22:30	22:00	23:30	**Keynote**	**Keynote - Plenary#K1: P1 / Architecting the Future: The Role of SE and DE at the NRO Dr. Christopher J. Scolese (Director, NRO)**					
06:30	7:00	**09:30**	**10:00**	14:30	15:00	15:30	16:00	19:00	19:30	21:30	22:00	22:30	23:00	23:30	0:00	**Break**						
US West Coast		**US East Coast**		UK		Europe		India		China Hongkong		Korea and Japan		Australia Sydney								
																	President Invited Content	MBSE, System Architecture/Design Definition	Agile	Artificial Intelligence, Machine Learning	System Safety	SE Fundamentals
																		Daniel Siegl	Antony Williams	Barclay Brown	Ken Ptack	David Long, Nicole Hutchinson
7:00	7:40	**10:00**	**10:40**	15:00	15:40	16:00	16:40	19:30	20:10	22:00	22:40	23:00	23:40	0:00	0:40		Invited Content#PIC#1: 1.1 / Safer Complex Systems – How to Move from State of the Practice to State of the Art, SAFELY!! Moderator:Kerry Lunney (Thales Australia); Duncan Kemp (UK Ministry of Defence); Panelists: Michael Watson ; Erika Palmer ; Meaghan O'Neil ;	Paper#128: 1.2.1 / From Model-based to Model and Simulation-based Systems Architectures – achieving quality engineering through descriptive and analytical models Pierre Nowodzienski, Juan Navas (Thales Corporate Engineering)	Presentation#76: 1.3.1 / Industrial DevOps: From Value Streams to Lean-Agile Teams for sustainable delivery Suzette Johnson (Northrop Grumman); Robin Yeman (Catalyst Campus)	Paper#123: 1.4.1 / Artificial Intelligence Capabilities for Effective Model-Based Systems Engineering: A Vision Paper Mohammad Chami, Nabil Abdoun (SysDICE GmbH); Jean-Michel Bruel (IRIT)	Paper#149: 1.5.1 / A SysML Profile for MIL-STD-882E (System Safety) Myron Hecht, Ross Raymond (Aerospace Corp)	Invited Content#SEFun#2: 1.6.1 / Engineering the Value Chain System Dr. Jon Wade (University of California, San Diego)
7:45	8:25	**10:45**	**11:25**	15:45	16:25	16:45	17:25	20:15	20:55	22:45	23:25	23:45	0:25	0:45	1:25	**Session 1**		Paper#40: 1.2.2 / From System Architecting to System Design and Optimization: A Link Between MBSE and MDAO Jasper Bussemaker, Luca Boggero, Pier Davide Ciampa (German Aerospace Center (DLR))	Presentation#35: 1.3.2 / Augmenting Agile Software Development to Improve Systems Thinking Emily Barrett, Neil Dwivedi, Kelly Neville, Kris Rosfjord (The MITRE Corporation)	Presentation#19: 1.4.2 / Exploring Explainable Artificial Intelligence to aid Systems Engineers in Design and Evaluation of Complex Systems Shou Matsumoto, Ali Raz, Paulo Costa (George Mason University)	Paper#50: 1.5.2 / Concept verification and validation using psychological scales through an 'Eating-Together' System Enhancing Connectivity for Busy-Generation Urbanites with Neighborhood Community in Japan Urara Satake (Graduate School of System Design and Management, Keio University)	Invited Content#SEFun#1: 1.6.2 / Look in All the Corners: Gathering, Tracking, and Verifying Requirements Courtney Wright (V1 Decisions)
8:25	9:10	**11:25**	**12:10**	16:25	17:10	17:25	18:10	20:55	21:40	23:25	0:10	0:25	1:10	1:25	2:10			Paper#145: 1.2.3 / Natural Language Understanding of Systems Engineering Artifacts Géza Kulcsár, Ákos Horváth (IncQuery Labs Ltd.)	Paper#143: 1.3.3 / Agile Insight - Gating Alternatives for Agile Programs Larri Rosser (Raytheon Intelligence and Space)	Paper#141: 1.4.3 / Automatic text classification approach for aerospace pdf documents using NLP techniques Nabil Abdoun, Mohammad Chami (SysDICE GmbH)	Paper#93: 1.5.3 / Process Flow Modeling for an In-Time Aviation Safety Management System Seydou Mbaye, Garfield Jones (Morgan State University); Misty Davies (NASA - Ames Research Center)	Invited Content#SEFun#3: 1.6.3 / Systems Architecting – A Recipe for Success Tom Strandberg (Syntell)
12:10	12:30	**12:10**	**13:30**	17:10	18:30	18:10	19:30	21:40	23:00	0:10	1:30	1:10	2:30	2:10	3:30	**Lunch**						
US West Coast		**US East Coast**		UK		Europe		India		China Hongkong		Korea and Japan		Australia Sydney				MBSE, Aerospace, Defense	Teaching and Training	Aerospace	Digital Engineering	SE Fundamentals
																		Duncan Kemp, Antony Williams	Ali Raz	Tami Katz	Eric Belle	David Long, Nicole Hutchinson
10:30	11:10	**13:30**	**14:10**	18:30	19:10	19:30	20:10	23:00	23:40	1:30	2:10	2:30	3:10	3:30	4:10		Panel#5: 2.1 / Transdisciplinary Systems Engineering: What is it, why do we need it, and how do we get there from here? Moderator:Peter Brook (Dashwood Systems Engineering); Panelists:	Paper#132: 2.2.1 / Applying Model-Based Systems Engineering Methods to a Novel Shared Systems Simulation Methodology Jeremy Ross, Chris Craft, Chris Caron, Stephen Pien, Ashishkumar Prajapati (Ford Motor Company); Michael Vinarcik	Paper#27: 2.3.1 / Introducing Systems Thinking Techniques into an Undergraduate Engineering Education Eric Dano (BAE SYSTEMS)	Presentation#25: 2.4.1 / Systems Engineering Challenge of a Solar Powered High Altitude Aircraft Andreas Bierig, Florian Nikodem, Daniel Rothe (German Aerospace Center)	Presentation#68: 2.5.1 / Realizing viewpoints in digital engineering Eran Gery (IBM)	Invited Content#SEFun#4: 2.6.1 / MBSE – The Natural Evolution of Systems Engineering Jon Holt (Scarecrow Consultants)
11:15	11:55	**14:15**	**14:55**	19:15	19:55	20:15	20:55	23:45	0:25	2:15	2:55	3:15	3:55	4:15	4:55	**Session 2**		Paper#9: 2.2.2 / Extending UAF for Model-Based Capability Planning and Enterprise Portfolio Management James Martin (Aerospace Corporation)	Paper#18: 2.3.2 / Academic application of trade-off studies to support a CubeSat project Evelyn Honoré-Livermore (Norwegian University of Science and Technology); Runar G. Rovik (Norwegian University of Science and Technology (graduated)); Cecilia Haskins (Norwegian University of Science and Technology)	Presentation#7: 2.4.2 / Perceptions of Emerging Urban Air Mobility Systems: Differences Between Early to Laggard Adopters of Passenger Air Vehicles Ricole Johnson, Erika Miller (Colorado State University)	Presentation#74: 2.5.2 / The Power of Connections in a Digital Asset Exchange Mark Petrotta, Troy Peterson (SSI)	Invited Content#SEFun#5: 2.6.2 / If you thought Systems Engineering was fun, wait until you try System of Systems Engineering Duncan Kemp (UK Ministry of Defence)
14:40	15:00	**15:00**	**15:30**	20:00	20:30	21:00	21:30	0:30	1:00	3:00	3:30	4:00	4:30	5:00	5:30	**Break**						
US West Coast		**US East Coast**		UK		Europe		India		China Hongkong		Korea and Japan		Australia Sydney								
																	System Thinking	MBSE, Configuration Management	Teaching and Training		Digital Engineering	SE Fundamentals
																	Susan Ronning, Amy Thompson	Mark Sampson	Rick Hefner		Daniel Siegl	David Long, Nicole Hutchinson
12:30	13:10	**15:30**	**16:10**	20:30	21:10	21:30	22:10	1:00	1:40	3:30	4:10	4:30	5:10	5:30	6:10		Paper#112: 3.1.1 / What Systems Engineers Should Know About Emergence Jakob Axelsson (Mälardalen University)	Presentation#77: 3.2.1 / An integrative approach proposal for System Engineering, Design Science and Configuration Management Michel Paillet, Jean-Pierre Dandrieux, Omar Abderrazik (Cognitive Companions)	Paper#121: 3.3.1 / Extracurricular projects - Teaching Systems architecting in a limited time-span Håkon Kindem (NTNU)	Panel#8: 3.4 / How to apply a criticality framework to your communications' networks Susan Ronning (ADCOMM Engineering LLC); Anne O'Neil (Anne O'Neil Consultants LLC); William Schieble (MITRE); Thomas Manley (Decision Analysis Service); Keith Rotschild (Cox Communications)	Paper#125: 3.5.1 / Controlling the Digital Engineering Ecosystem: An Elastic Model Governance Guide for the Digital Thread Heidi Davidz, Douglas Orellana (ManTech International Corporation)	Invited Content#SEFun#6: 3.6.1 / You're a Systems Engineer: Own It! Dr. Nicole Hutchinson (Stevens Institute of Technology)
13:15	13:55	**16:15**	**16:55**	21:15	21:55	22:15	22:55	1:45	2:25	4:15	4:55	5:15	5:55	6:15	6:55	**Session 3**	Presentation#69: 3.1.2 / Death Rays, databases, and double diamonds Duncan Kemp (Ministry of Defence); Meaghan Oneil (INCOSE)	Paper#70: 3.2.2 / Configuration Management for Model Based Systems Engineering - An example from the Aerospace Industry Adriana D'Souza, Phanikrishna Thota (Airbus)	Paper#142: 3.3.2 / Enabling the Systems Engineering Education Ecosystem (SEEE) Jon Wade (University of California, San Deigo); Arianne Collopy (University of Colorado, Denver); Cihan Dagli (Missouri S&T); Hortense Gerardo (University of California, San Diego); Kristin Wood (University of Colorado, Denver)		Presentation#73: 3.5.2 / Defining a Measurement Framework for Digital Engineering Joseph Bradley (Main Sail, LLC); Thomas McDermott (SERC)	Invited Content#SEFun#7: 3.6.2 / What Force is More Powerful Than Profit? – An Exploration of Why Leaders Still Fail to Recognize the Value of SE Randall Iliff (PPI)

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US West Coast Start time	US West Coast End time	**US East Coast Start time**	**US East Coast End time**	UK Start time	UK End time	Europe Start time	Europe End time	India Start time	India End time	China Hongkong Start time	China Hongkong End time	Korea and Japan Start time	Korea and Japan End time	Australia Sydney Start time	Australia Sydney End time		**Track 1**	**Track 2**	**Track 3**	**Track 4**	**Track 5**	**Track 6**
05:00	06:30	**08:00**	**09:30**	13:00	14:30	14:00	15:30	17:30	19:00	20:00	21:30	21:00	22:30	22:00	23:30	**Keynote**	**Keynote - Plenary#K2: P2 / Mobility and System Engineering Integration Carla Bailo (Center for Automotive Research (CAR))**					
06:30	7:00	**09:30**	**10:00**	14:30	15:00	15:30	16:00	19:00	19:30	21:30	22:00	22:30	23:00	23:30	0:00	**Break**						
																	President Invited Content	Risk and Opportunity Management	MBSE	Competency	Biomed/Healthcare	Tech Ops Invited Content
																		Angela Robinson	Mark Sampson	Mike Celentano	Stephanie Chiesi	Christopher Hoffman, Olivier Dessoude
7:00	7:40	**10:00**	**10:40**	15:00	15:40	16:00	16:40	19:30	20:10	22:00	22:40	23:00	23:40	0:00	0:40	**Session 4**	Invited Content#PIC#2: 4.1 / President Invited Content #2	Paper#60: 4.2.1 / Tilting at Windmills: Drivers, Risk, Opportunity, Resilience and the 2021 Texas Electricity Grid Failure Matthew Hause (SSI); Lars-Olof Kihlström (Syntell AB)	Paper#113: 4.3.1 / Git-based Model Management for Quality Monitoring of Systems Engineering Models Daniel Lehner, Simon Vamberszky (Johannes Kepler University Linz/Austria - Institute of Business Informatics - Software Engineering); Konrad Wieland (LieberLieber Software); Daniel Siegl (LieberLieber Software GmbH)	Paper#104: 4.4.1 / Developing Competence in the Systems Engineering Professional Competencies Heidi Hahn (New Mexico Tech)	Presentation#20: 4.5.1 / Using Systems Engineering to Design and Evaluate a Transparent and Accessible Vaccine Appointment and Delivery System Stephen Sutton (INCOSE Critical Infrastructure Protection and Recovery Working Group); Douglas Bodner (Georgia Institute of Technology); David Alldredge (INCOSE Critical Infrastructure Protection and Recovery Working Group)	Invited Content#TOIC#1: 4.6 / Transforming Mobility: Automotive Executive Roundtable Moderator:Carla Bailo (Center for Automotive Research (CAR)); Anne O'Neil (Systems Catalyst & Strategist for Mobility and Infrastructure, AOC Systems Consortium); Panelists:
7:45	8:25	**10:45**	**11:25**	15:45	16:25	16:45	17:25	20:15	20:55	22:45	23:25	23:45	0:25	0:45	1:25			Presentation#27: 4.2.2 / The Unified Risk Assessment and Measurement System (URAMS) William Bryant (MTSI)	Paper#127: 4.3.2 / Model-Based Analysis of Standard Operating Procedures' Role in Abnormal and Emergency Events Jomana Bashatah, Lance Sherry (George Mason University)	Paper#144: 4.4.2 / Systems Engineering Competency Expectations, Gaps, and Program Analysis Jon Wade, Hortense Gerardo, Harold Sorenson (University of California, San Diego)	Presentation#63: 4.5.2 / Rapid Application of Systems Engineering: Quantifying Airborne Dispersion & Solutions in Response to the COVID-19 Pandemic Nathan Edwards, Richard Potember (The MITRE Corporation)	
8:30	9:10	**11:30**	**12:10**	16:30	17:10	17:30	18:10	21:00	21:40	23:30	0:10	0:30	1:10	1:30	2:10			Presentation#71: 4.2.3 / Risky Business – Developing an Approach to Managing Technical Systemic Risks Ian Gibson (Atkins)	Paper#47: 4.3.3 / You Can't Touch This!: Logical Architectures in MBSE and the UAF Matthew Hause (SSI); Lars-Olof Kihlström (Syntell AB)	Paper#105: 4.4.3 / Gender-based Differences in the INCOSE Professional Competencies Heidi Hahn (New Mexico Tech)	Paper#53: 4.5.3 / System Engineering as an effective approach for the fast development of space downstream applications in the health sector Paolo Petrinca (OMICA s.r.l.); Elena Razzano (European Space Agency – ECSAT); Arnaud Runge (European Space	
9:10	10:30	**12:10**	**13:30**	17:10	18:30	18:10	19:30	21:40	23:00	0:10	1:30	1:10	2:30	2:10	3:30	**Lunch**						
																	Human Systems Integration	Industry 4.0, LDSE	MBSE		Soft Skills	Tech Ops Invited Content
																	Ben Mogridge	Michael Watson, Mike Celentano	Ali Raz		Rick Hefner	Christopher Hoffman, Olivier Dessoude
10:30	11:10	**13:30**	**14:10**	18:30	19:10	19:30	20:10	23:00	23:40	1:30	2:10	2:30	3:10	3:30	4:10	**Session 5**		Paper#67: 5.1.1 / Developing a Human Performance Model Based Systems Engineering System Architecture (MBSE-SA) for Defense Application Tara Sarathi, Jillian Cyr, Heather Morris, Michael Shatz, Rich DeLaura, Paula Collins, James Balcius (MIT Lincoln Laboratory)	Presentation#28: 5.2.1 / Manufacturing industry in industry 4.0: As experienced by engineering managers. Bongekile Matsenjwa (University of Cape Town)	Presentation#45: 5.3.1 / Think Globally, Act Locally: Adapting MBSE for the Enterprise Context Ryan Noguchi, James Martin (Aerospace Corporation)	Panel#6: 5.4 / SE Leadership Through Influence and Persuasion - An Art We Should All Master! Moderator:Kerry Lunney (Thales Australia); Panelists: Brian Collins (University College London); Anne O'Neil (Anne O'Neil Consultants); Melissa Jovic (Engineers Australia);	Paper#68: 5.5.1 / The Soft Skills Challenge: The left brain's search for its other half Zane Scott (Zuken Vitech)	Invited Content#TOIC#2: 5.6 / Transdisciplinary Perspectives on Systems Engineering in and for Contested Cyber Environments Moderator:Jimmie McEver (INCOSE - Technical Operations); Panelists: Rick Dove ; Tom McDermott ; Stephen Sutton ; Erika Palmer ; Alan Hardling ;
11:15	11:55	**14:15**	**14:55**	19:15	19:55	20:15	20:55	23:45	0:25	2:15	2:55	3:15	3:55	4:15	4:55			Paper#45: 5.1.2 / Oversimplification of Systems Engineering Goals, Processes, and Criteria in NASA Space Life Support Harry Jones (NASA Ames Research Center)	Presentation#75: 5.2.2 / The Value of Loss-Driven Systems Engineering (LDSE) John Brtis, Kenneth Cureton (INCOSE Resilient Systems Working Group (RSWG))	Presentation#39: 5.3.2 / Using Model Based Systems Engineering Technical Reviews for Complex System of Systems Travis Goodwyn, Kasey Hill (Deloitte)		Presentation#9: 5.5.2 / Negotiation: Playing the Infinite Game Zane Scott (Vitech)	
12:00	12:30	**15:00**	**15:30**	20:00	20:30	21:00	21:30	0:30	1:00	3:00	3:30	4:00	4:30	5:00	5:30	**Break**						
																		Construction	MBSE, System Architecture/Design Definition	Value of System Engineering	Soft Skills	Tech Ops Invited Content
																		Paul Schreinemakers, Gregory Parnell	Amy Thompson	Stephanie Chiesi	Heather Feli	Christopher Hoffman, Olivier Dessoude
12:30	13:10	**15:30**	**16:10**	20:30	21:10	21:30	22:10	1:00	1:40	3:30	4:10	4:30	5:10	5:30	6:10	**Session 6**	Panel#1: 6.1 / 'Stop beating up on complexity' Jawahar Bhalla (JB Engineering Systems / Shoal Group); Gary Smith (ISSS VP System Practice); Charlotte Dunford (Rolls Royce); Suja Joseph-Malherbe (Letter27); Patrick Godfrey (Emeritus Professor: University of Bristol)	Paper#15: 6.2.1 / Visual Lean planning tools in the construction industry: A case study Caroline Saatvedt Witte, Satyanarayana Kokkula, Gerrit Muller (University of South-Eastern Norway)	Paper#72: 6.3.1 / An MBSE Architectural Framework for Inter-Satellite Communication in a Multiorbit Disaggregated System Awele Anyanhun (Georgia Tech Research Institute); Peter Adejokun (Lockheed Martin Aeronautics); Matthew Hause (System Strategy Inc.)	Presentation#79: 6.4.1 / An Overview of the upcoming Communications Systems Primer: A Systems Engineer's Guide to Communications Networks: Modeling Networks as Systems Susan Ronning (ADCOMM Engineering LLC); Keith Rothschild (Cox Communications); Thomas Manley (Decision Analysis Services Ltd); William Scheible (MITRE Corporation)	Presentation#85: 6.5.1 / Culture of Inquiry: Forming the Systems Engineering Mind Enanga Fale (University of Charleston / Northrop Grumman Corporation)	Invited Content#TOIC#3: 6.6 / MBSE Lightning Round: MBSE Implementation progress reports from the field Moderator:Mark Sampson (INCOSE); Panelists: Robert Halligan (PPI); Elise Higgins (Medtronic); Emilee Bovre (NASA);
13:15	13:55	**16:15**	**16:55**	21:15	21:55	22:15	22:55	1:45	2:25	4:15	4:55	5:15	5:55	6:15	6:55			Paper#46: 6.2.2 / Construction System Failures: Frame Notation of Project Pathogens and their Propagation Across Time and System Hierarchy Takaharu Igarashi, Karen Marais (Purdue University)	Paper#91: 6.3.2 / A Data-Centric System Architecture Model Development Process Emphasizing Rapid Tempo and Quality Chris Swickline, Heidi Jugovic (SAIC)	Presentation#40: 6.4.2 / Delivering Systems Engineering in practice Duncan Kemp (Ministry of Defence)	Presentation#62: 6.5.2 / Cultural Influences on Systems Engineering Ahmad Alsudairi, Azmin Shakrine Mohd Rafie (Universiti Putra Malaysia); Abdullah Algarni (NES); Syaril Azrad, Ezanee Gires (Universiti Putra Malaysia)	

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Wednesday at IS 2022

Start time (US West Coast)	End time (US West Coast)	**Start time (US East Coast)**	**End time (US East Coast)**	Start time (UK)	End time (UK)	Start time (Europe)	End time (Europe)	Start time (India)	End time (India)	Start time (China Hongkong)	End time (China Hongkong)	Start time (Korea and Japan)	End time (Korea and Japan)	Start time (Australia Sydney)	End time (Australia Sydney)		**Track 1**	**Track 2**	**Track 3**	**Track 4**	**Track 5**	**Track 6**
05:00	06:30	**08:00**	**09:30**	13:00	14:30	14:00	15:30	17:30	19:00	20:00	21:30	21:00	22:30	22:00	23:30	**Keynote**	**Keynote - Plenary#K3: P3 / The Power of connection: The power of influencing and how to do it** **Laura Doughty (Director Peakfield Consultancy Ltd and currently Head of Culture and Engagement, Project Delivery Directorate, Sellafield Ltd)**					
06:30	7:00	**09:30**	**10:00**	14:30	15:00	15:30	16:00	19:00	19:30	21:30	22:00	22:30	23:00	23:30	0:00	**Break**						
																	President Invited Content	Digital Engineering	MBSE Standards	Product Line Engineering	Complexity, Processes, Entreprise SE	Academia, Teaching and Training
																		Mark Sampson	Satyanarayana Kokkula	Jimmie McEver, Susan Ronning	Eric Belle	Gregory Parnell
7:00	7:40	**10:00**	**10:40**	15:00	15:40	16:00	16:40	19:30	20:10	22:00	22:40	23:00	23:40	0:00	0:40	**Session 7**	Invited Content#PIC#3: 7.1 / How to be an Effective DEI Ally and Advocate Moderator:Marilee J Wheaton (Systems Engineering Fellow, The Aerospace Corporation and INCOSE President); Panelists:	Paper#108: 7.2.1 / Digital Engineering Environments: A Digital Engineering Perspective Sami Rodriguez, Brandi Gerstner, Jimmy La, Calvin Montgomery, Jonathan Obenland, Jorge Pena (Deloitte Consulting LLC)	Presentation#70: 7.3.1 / How to faithfully model systems composed of millions of parts? Samuel Boutin (Knowledge Inside)	Paper#64: 7.4.1 / Practical Experience Applying Feature-based Product Line Engineering in a DevOps Environment: Achieving the Best of Both Worlds Chris Pedone (VT Group (VTG)); David Hartley, Rowland Darbin (General Dynamics Mission Systems); Paul Clements (BigLever Software, Inc.)	Paper#129: 7.5.1 / Managing Complexity through Collaborative Intelligence Mary El Maa, Alexander Derkatsch, Dianne Deturris (California Polytechnic State University)	Paper#41: 7.6.1 / Crafting an Experience-Based Master's Program in Systems Engineering Marshall Bronston, Joe Angel, Brian Berenbach, Jeremy Doerr (Georgia Institute of Technology)
7:45	8:25	**10:45**	**11:25**	15:45	16:25	16:45	17:25	20:15	20:55	22:45	23:25	23:45	0:25	0:45	1:25			Paper#42: 7.2.2 / Automation through Digital Engineering and Digital Twins Jeren Browning, Kaleb Houck, Katie Wilsdon, Adam Pluth, Joshua Hansel (Idaho National Laboratory)	Presentation#47: 7.3.2 / ISO/IEC/IEEE 24641 MBSSE standard Lalitha Abhaya (Airbus Defense and Space); Robert Malone (Boeing); Eric Gauthier (Thales Group)	Paper#114: 7.4.2 / Two Variant Modeling Methods for MBPLE at Airbus Marco Forlingieri (Airbus); Tim Weilkiens (Oose)	Paper#34: 7.5.2 / System Engineering Heuristics for Complex Systems Dean Beale (University of Bristol); Dorothy McKinney (Lockheed Martin (Retired)); Rudolph Oosthuizen (University of Pretoria); Gary Smith (International Society for System Sciences); Michael Watson (NASA Marshall Space Flight Center)	Paper#58: 7.6.2 / Red-Teaming as a Research Method for Systems Engineering Thesis Students Tim Ferris, Fanny Camelia (Cranfield University); Rogerio Machado (Brazilian Navy); Tuomas Mattsson (The Finish Defence Forces)
8:30	9:10	**11:30**	**12:10**	16:30	17:10	17:30	18:10	21:00	21:40	23:30	0:10	0:30	1:10	1:30	2:10			Paper#66: 7.2.3 / Empowering Engineers in a Digital Engineering Transition: Applying organizational psychology and systems thinking approaches to define the problem and to develop recommended actions Sandra Dawson, Ann Batchelor (Colorado State University)	Paper#69: 7.3.3 / The ISO-15288 technical processes, system maturity and conceptual gaps Keith Collyer (Retired); Liz Wright, Alexander Hill (Costain Group plc)	Presentation#84: 7.4.3 / From Systems Engineering to System Family Engineering Charles Krueger (BigLever Software)	Paper#131: 7.5.3 / A Surrogate Model Approach for Studying Performance and Cycle Time in Complex System Development Stephanie Chiesi (SAIC and Stevens Institute of Technology and SAIC); Paul Grogan (Stevens Institute of Technology)	Paper#92: 7.6.3 / Plug-and-Play Adaptive Approach to Integrating Model-Based Systems Engineering Concepts into Academic Curriculum Leonardo Marcos, Tiantian Li, Wanju Huang, Kerrie Douglas, Audeen Fentiman, Daniel DeLaurentis, C. Robert Kenley (Purdue University)
9:10	10:30	**12:10**	**13:30**	17:10	18:30	18:10	19:30	21:40	23:00	0:10	1:30	1:10	2:30	2:10	3:30	**Lunch**						
																	Brown field / Legacy Systems		Architecture Design	Requirements	Systems of Systems	Verification/Validation
																	Ali Raz, Ken Ptack		Angela Robinson	Tami Katz	Amy Thompson	Duncan Kemp, Eric Belle
10:30	11:10	**13:30**	**14:10**	18:30	19:10	19:30	20:10	23:00	23:40	1:30	2:10	2:30	3:10	3:30	4:10	**Session 8**	Paper#95: 8.1.1 / Leveraging the Systems Engineering Life Cycle Process for Reverse Engineering Amy Eddy, Jeremy Daily (Colorado State University)	Panel#3: 8.2 / Institutional Change and the Evolution of Systems Engineering Moderator:Joseph Bradley (Leading Change, LLC); Panelists:	Presentation#65: 8.3.1 / Connecting the Systems Lifecycle through Architecture-Driven Engineering David Long (Blue Holon)	Presentation#38: 8.4.1 / Requirements Management framework for program RFQ phase Max Franklin, Enoch Lee (INVENSITY Inc.)	Paper#126: 8.5.1 / Multi-Disciplinary Insights into Measurement and Assessment for SoS Jaci Pratt (DST Group); Stephen Cook (Shoal Group Pty Ltd)	Paper#124: 8.6.1 / Formalizing the Representativeness of Verification Models using Morphisms Paul Wach, Peter Beling (Virginia Tech); Alejandro Salado (University of Arizona)
11:15	11:55	**14:15**	**14:55**	19:15	19:55	20:15	20:55	23:45	0:25	2:15	2:55	3:15	3:55	4:15	4:55		Paper#89: 8.1.2 / Don't mix the tenses: Managing the present and the future in an MBSE context Erik Herzog (SAAB AB); Johanna Axehill (Saab AB)		Presentation#82: 8.3.2 / Functional Architectures using SysML James Hummell (MBSE Solutions)	Presentation#23: 8.4.2 / SMART Traceability Davy Masson (SAFRAN Aircraft Engines); José Fuentes (The REUSE Company)	Paper#87: 8.5.2 / Framework for Complex SoS Emergent Behavior Evolution Using Deep Reinforcement Learning Ramakrishnan Raman (Honeywell Technology Solutions); Anitha Murugesan (Honeywell Aerospace)	Paper#33: 8.6.2 / Mindful Maturation Matters Richard Beasley (Rolls Royce plc); Paul Eastwood, Hazel Woodcock (Costain Group plc)
12:00	12:30	**15:00**	**15:30**	20:00	20:30	21:00	21:30	0:30	1:00	3:00	3:30	4:00	4:30	5:00	5:30	**Break**						
																	Infrastructure	Digital Engineering	Architecture Design	Space Value		Regional Survey
																	Michael Watson	Satyanarayana Kokkula, Mark Sampson	Heather Feli, Paul Schreinemakers	Daniel Siegl		Rick Hefner
12:30	13:10	**15:30**	**16:10**	20:30	21:10	21:30	22:10	1:00	1:40	3:30	4:10	4:30	5:10	5:30	6:10	**Session 9**	Presentation#10: 9.1.1 / Use of Systems Engineering in Repurposing Coal-Fired Power Plants with Malta Pumped Thermal Energy Storage System Bao Truong (Malta Inc.)	Paper#24: 9.2.1 / Digital Transformation in Acquisition: Using Modeling and Simulation to Advance the State of Practice Nicole Hutchison, Tom McDermott, Megan Clifford, Camryn Burley (Stevens Institute of Technology); Craig Arndt (Georgia Tech Research Institute (GTRI)); Tim Sherburne, Paul Wach, Peter Beling (Virginia Tech); Dinesh Verma, Mark Blackburn, Hoong Yan See Tao (Stevens Institute of Technology); David Long (Blue Holon)	Paper#28: 9.3.1 / Using Design Structure Matrices (DSMs) to Derive System Architectures Eric Dano (BAE SYSTEMS)	Presentation#46: 9.4.1 / Space Policy Insights: A System Dynamics Model-based Assessment of the growing NewSpace Ecosystem Dan Erkel, Alexander Hillman (Massachusetts Institute of Technology)	Panel#2: 9.5 / Systems of Systems and Complexity Roundtable Judith Dahmann (The MITRE Corporation); Ali Raz (George Mason University); Dan DeLaurentis (Purdue University); Stephen Cook (The University of Adelaide and The Shoal Group); Jakob Axelsson (Mälardalen University and RISE Research Institutes of Sweden)	Presentation#72: 9.6.1 / 10 years of Creation and Evolution of INCOSE BRASIL, the first INCOSE Chapter in Latin America. George Sousa (Engeflux); Joao Antonio Prado (Embraer); Fabio Silva (Oceaneering International)
13:15	13:55	**16:15**	**16:55**	21:15	21:55	22:15	22:55	1:45	2:25	4:15	4:55	5:15	5:55	6:15	6:55		Paper#83: 9.1.2 / Investigating Systems Engineering Approaches in the Construction Industry: A Multi-Case Study Tobias Fredrik Lynghaug, Satyanarayana Kokkula, Gerrit Muller (University of South-Eastern Norway)	Paper#119: 9.2.2 / Realizing the Promise of Digital Engineering: Planning, Implementing, and Evolving the Ecosystem William Schindel (ICTT System Sciences)	Paper#82: 9.3.2 / Genesis – an Architectural Pattern for Federated PLM Erik Herzog, Johan Tingström, Åsa Nordling Larsson (Saab Aeronautics)	Paper#51: 9.4.2 / Advanced Statistical Methods in Spacecraft Flight Software Cost Estimation: Bayesian Regression and Nonlinear Principal Components Analysis to Support System Engineering in the Early Project Lifecycle Samuel Fleischer, Jairus Hihn (NASA / Jet Propulsion Laboratory); James Johnson (NASA)		Presentation#59: 9.6.2 / Insights from the First 'State of Systems Engineering in India' Survey Devanandham Henry, Stueti Gupta (BlueKei Solutions Pvt. Ltd.); Yogananda V Jeppu, Mudit Mittal (INCOSE-India)

IS2022 Schedule

Thursday at IS 2022

Start time	End time	Start time	End time	Start time	End time	Start time	End time	Start time	End time	Start time	End time	Start time	End time	Start time	End time		Track 1	Track 2	Track 3	Track 4	Track 5	Track 6
US West Coast		**US East Coast**		UK		Europe		India		China Hongkong		Korea and Japan		Australia Sydney								
																	Organisation Change		Processes	MBSE, Verification/Validation	Automotive	System Security
																	Mike Celentano		Nicole Hutchinson	Eric Belle	Jimmie McEver, Paul Schreinemakers	Gregory Parnell, Ben Mogridge
04:30	05:15	**08:00**	**08:40**	12:30	13:15	13:30	14:15	17:00	17:45	19:30	20:15	20:30	21:15	21:30	22:15		Paper#21: 10.1.1 / By Any Other Name: Enabling Systems Engineering in an Unsupportive Environment Eileen Arnold (UTC/BAE Systems/Rockwell Collins (retired)); Dorothy Mckinney (Lockheed Martin (retired))	Panel#1: 10.2 / 'Stop beating up on complexity' Panelists: Jawahar Bhalla (JB Engineering Systems / Shoal Group); Gary Smith (ISSS VP System Practice); Charlotte Dunford (Rolls Royce); Suja Joseph-Malherbe (Letter27); Patrick Godfrey (University of Bristol);	Paper#11: 10.3.1 / Applying A3AO to facilitate future working processes in the Oil and Gas Industry Simen Wiulsrød (University of South-Eastern Norway); Yangyang Zhao (University of Oslo); Gerrit Muller (University of South-	Paper#81: 10.4.1 / System Verification and Validation Approach Using the MagicGrid Framework Aurelijus Morkevicius, Aiste Aleksandraviciene, Zilvinas Strolia (Dassault Systemes)	Paper#101: 10.5.1 / Examination of Altshuller's Trends of Technical System Evolution in Automotive Passenger Vehicles Lucas Demott, Hassan Hussein, Jacob Niebauer, Hector Arzaga Nunez, Shweta	Paper#54: 10.6.1 / An Introduction to Semantic Threat Analysis for Systems Security Engineering Richard Potember, Carlos Balhana, Leo Obrst (MITRE Corporation)
05:15	06:00	**08:45**	**09:25**	13:15	14:00	14:15	15:00	17:45	18:30	20:15	21:00	21:15	22:00	22:15	23:00	**Session 10**	Paper#26: 10.1.2 / Illustrating Business Relevance of Systems Engineering via Storytelling Jeannine Siviy (PointClickCare); Lauren Stolzar, Dorothy McKinney (Lockheed Martin (Retired)); Sarah Sheard (Carnegie Mellon University (Retired))		Paper#30: 10.3.2 / A 4-Box Development Model for Complex Systems Engineering Erik Herzog (SAAB Aeronautics); Åsa Nordling Larsson, Olof Sundin, Anna Forsgren Goman (Saab Aeronautics)	Presentation#61: 10.4.2 / A Platform for MBSE-Enabled, Digitally Threaded, Electronics Design and Verification Mark Malinoski, Ahmed Hamza (Siemens EDA)	Paper#36: 10.5.2 / A Pragmatic MBSE Approach of Nissan Powertrain Team to Minimizing Document-Based SE Habibi Husain Arifin (Dassault Systèmes); Takeshi Morita (Nissan Motor Corporation); Ken Kawamura (Dassault Systèmes); Yutaka Ayame (Nissan Motor Corporation); Ho Kit Robert Ong (Dassault Systèmes); Yukimi Mizuno (Nissan Motor Corporation)	Paper#61: 10.6.2 / Multilayer Network Models for Coordinating Orchestration of Systems Security Engineering Adam Williams, Gabriel Birch, Susan Caskey (Sandia National Laboratories); Elizabeth Fleming (Sandia National Labs)
06:00	6:35	**09:30**	**10:00**	14:00	14:35	15:00	15:35	18:30	19:05	21:00	21:35	22:00	22:35	23:00	23:35	**Break**						
US West Coast		**US East Coast**		UK		Europe		India		China Hongkong		Korea and Japan		Australia Sydney								
																		Human Systems Integration	Miscellaneous	MBSE	Infrastructure, Needs and Requirements Definition	Digital Engineering
																		Susan Ronning	Paul Schreinemakers	Ben Mogridge	Heather Feli, Nicole Hutchinson	Barclay Brown
6:30	7:15	**10:00**	**10:40**	14:30	15:15	15:30	16:15	19:00	19:45	21:30	22:15	22:30	23:15	23:30	0:15		Invited Content#PIC#4: 11.1 / Research enabling the discipline of System Engineering Moderator:Dinesh Verma (Stevens Institute of Technology); Panelists: Dr. Martin Törngren (KTH); Dr. Jacco Wesselius (ESI (TNO)); Tom McDermott (SERC);	Paper#8: 11.2.1 / Implementing Cognitive Work Analysis to Support Early Phases of Sociotechnical System Development Henk van den Heever, Rudolph Oosthuizen (University of Pretoria)	Presentation#53: 11.3.1 / NRO Application of a SOW Model Daniel Hettema, David Burns, Cecil Tiblin (National Reconnaissance Office (NRO))	Presentation#5: 11.4.1 / Past, Present, and Future of the Unified Architecture Framework (UAF) Aurelijus Morkevicius (Dassault Systemes)	Paper#12: 11.5.1 / Systems Engineering applied in the construction industry to achieve a BREEAM certification Cecilia Haskins (USN); Hanne Helseth	Presentation#44: 11.6.1 / The Need for Cyber-Physical Digital Twins for Resiliency Studies Steven Huang (ManTech International); Douglas Orellana (ManTech)
7:15	8:00	**10:45**	**11:25**	15:15	16:00	16:15	17:00	19:45	20:30	22:15	23:00	23:15	0:00	0:15	1:00	**Session 11**		Paper#44: 11.2.2 / Space Habitats Should Be 1 g Shielded Space Platforms, Not on Low Gravity, Radiation Exposed Moon or Mars Harry Jones (NASA Ames Research Center)	Paper#25: 11.3.2 / Establishing Quality Metrics for Systems Engineering Process Tyler Jandreau, Rusty Powell (Axient)	Paper#75: 11.4.2 / Semantic Model-based Systems Engineering based on KARMA: A Research and Practice Roadmap 2025 Jinzhi Lu (EPFL); Dimitris Kiritsis (EPFL, Switzerland); Yves Keraron (ISADEUS); Junda Ma (Beijing Institute of Technology); Martin Torngren (KTH Royal Institute of Technology); Michel Reniers (Eindhoven University of Technology); Huisheng Zhang (Shanghai Jiaotong University); Jian Tang (COMAC BATRI); Junjie Tang (Beijing Institute of Aerospace Systems Engineering); Jian Wang (University of Science and Technology of China); Xijin Tang (CAS Academy of Mathematics and Systems Science); Yangyang Zhang (China Electronics Standardization Institute); Feng Lei (KTH Royal Institute of Technology); David Cameron (UIO); Yan Yan, Guoxin Wang,	Paper#57: 11.5.2 / Benefits of Systems Engineering in Large Infrastructure Projects: the much-anticipated empirical proof. Jaume Sanso, David Martin (SENER Engineering)	Presentation#50: 11.6.2 / Case Study: Using Digital Threads in a large System of Systems (SoS) for System Certification Oliver Hoehne (WSP USA)
8:00	8:45	**11:30**	**12:10**	16:00	16:45	17:00	17:45	20:30	21:15	23:00	23:45	0:00	0:45	1:00	1:45			Paper#99: 11.2.3 / Integration: More Than Interface Management James Armstrong (Stevens Institute of Technology)	Paper#32: 11.3.3 / Conceptual Design for Resilience David Flanigan (The Johns Hopkins University Applied Physics Laboratory); Kevin Robinson (Shoal Group)	Paper#120: 11.4.3 / Logics of irrational design of rational systems – systems modelling and human decision making Robert Nilsson (Volvo Cars Corporation); Gary Smith (ISSS, VP system practice)	Paper#23: 11.5.3 / Storytime, Audience to Authors: Enhancing Stakeholder Engagement Chamara Johnson (WSP); Dale Brown (Hatch); Allison Ruggiero (Metropolitan Transit Authority); Devon McDonnell (WSP); William Gleckler (Metropolitan Transit Authority); Denis Simpson (WSP)	Presentation#67: 11.6.3 / Digital Twins for Space Exploration Stephanie Chiesi, Brandon Jennings (SAIC)
8:40	10:05	**12:10**	**13:30**	16:40	18:05	17:40	19:05	21:10	22:35	23:40	1:05	0:40	2:05	1:40	3:05	**Lunch**						
US West Coast		**US East Coast**		UK		Europe		India		China Hongkong		Korea and Japan		Australia Sydney								
10:00	11:35	**13:30**	**15:00**	18:00	19:35	19:00	20:35	22:30	0:05	1:00	2:35	2:00	3:35	3:00	4:35	**Plenary**	**Keynote - Plenary#K4: Closing / Ford's Connected-Agile, Model Based Systems Engineering and Simulation Journey....so far. Christopher Davey (Ford Motor Company)**					