

IS2017 Schedule

Saturday at IS 2017

Start time	End time	Session	Track 1 (Riverbank 5)	Track 2 (Riverbank 4)	Track 3 (Riverbank 3)	Track 4 (Riverbank 2)
08:00	09:30	Session A		Tutorial: An practical introduction to Capability Systems Engineering - designing Hyperloop a new 800 mph ground transportation capability Duncan Kemp (Ministry of Defence); Rhianna Evans (University of Birmingham)	Tutorial: Best Practice Meets Invisible Force: Systems Engineering for Mostly-Software Systems of Systems Sarah Sheard (Software Engineering Institute)	Tutorial: Producing The Big Idea with Almost No Bodies Angela Robinson (INCOSE VSE Working Group)
09:30	10:00	Break (Foyer)				
10:00	12:00	Session B				
12:00	13:30	Lunch (Hall N)				
13:30	15:00	Session C				Tutorial: Bridging the Gap between Systems Engineering and Program Scheduling Elizabeth Clark (Software Metrics Inc); Angela Tuffley (RedBay Consulting Pty Ltd); Shari Soutberg (University of New South Wales - Capability Systems Centre)
15:00	15:30	Break (Foyer)				
15:30	17:00	Session D				
19:00	22:00		Corporate Advisory Board Dinner (By invitation only)			

Sunday at IS 2017

Start time	End time	Session	Track 1 (Riverbank 5)	Track 2 (Riverbank 4)	Track 3 (Riverbank 3)	Track 4 (Riverbank 2)	Track 5 (Riverbank 1)
08:00	09:30	Session E	Panel: Professional Training Initiative of INCOSE - Building Greater Systems Engineering Competencies Around the World Moderator: Muhammad Islam (MITRE) Panelists: Garry Roedler (Lockheed Martin); Judith Dahmann (MITRE); Arthur Pyster (GMU); Ian Gibson (Jacobs)	Systems Summit on Critical-Problem Definitions Rick Dove	Tutorial: ISO 42020 - Architecture Processes Anand Kumar (Tata Research Development and Design Centre); James Martin (Aerospace Corporation); Jean-Luc Garnier (Thales Corporation)	Tutorial: Best Practices of Systems of Systems Engineering: Applying Unified Architecture Framework Aurelijus Morkevicius (No Magic Europe); Barry Papke (No Magic Inc.)	Tutorial: What Forest? All I See are these SE Trees! Mark Powell (Attwater Consulting)
09:30	10:00	Break (Foyer)					
10:00	12:00	Session F	Panel: Filling the Systems Engineering Talent Pipeline - Taskforce Roundtable and Working session Moderator: Dale Brown (INCOSE)				
12:00	13:30	Lunch (Hall N)					
13:30	15:00	Session G	Panel: Perspectives on ABET Accreditation of Systems Engineering Programs Moderator: Heidi Hahn (LANL) Panelists: Regina Griego (Sandia National Laboratories); Tim Ferris (Cranfield University); Clifford Whitcomb (Naval Postgraduate School)				Tutorial: Systems Security Engineering: Overview and Concepts Mark Winstead, Michael McEvelley, Daryl Hild (The MITRE Corporation)
15:00	15:30	Break (Foyer)					
15:30	17:00	Session H	Panel: Building a Pathway to Systems Education for All Engineers Moderator: Richard Adcock (Cranfield University) Panelists: Don Gelosh (Worcester Polytechnic Institute); Larry Strawser (Retired); Klew Williams (Worcester Polytechnic Institute); Jon Wade, Nicole Hutchison (Stevens Institute of Technology)				

Monday at IS 2017

Start time	End time		Track 1 (Hall MN)	Track 2 (Riverbank 6)	Track 3 (Riverbank 5)	Track 4 (Riverbank 4)	Track 5 (Riverbank 3)	Track 6 (Riverbank 2)	Track 7 (Sponsors Theater)	Track 8 (Exhibitors Theater)	Track 9 (Riverbank 1)
08:00	09:30	Opening Plenary	Opening Keynote - AVM Mel Hupfeld (Head of Force Design - Australian Defence)								
09:30	10:00	Break	Break & Key Reserve Paper/Student Posters (Exhibit Hall)								
10:00	12:10	Session 1	<p>MBSE</p> <p>Panel: Be It Resolved: You are Wasting Time. You Need Better Systems for Model Management and Collaboration; also, Cultural Change would Help.</p> <p>Moderator: Lonnie Vanzandt (Sodius)</p>	<p>Systems of Systems</p> <p>Using the SoSE Principles Framework</p> <p>Jaci M Pratt (Defence Science and Technology Group); Stephen Cook (The University of Adelaide)</p>	<p>Teaching & Training</p> <p>Version 0.75 of the Proposed INCOSE Competency Framework</p> <p>Don Gelosh (Worcester Polytechnic Institute); Mimi Heisey (Lockheed Martin Corporation); John Snoderly (Defense Acquisition University); Kenneth Nidiffer (Software Engineering Institute)</p>	<p>Agile SE</p> <p>Defence requires Enterprise-Level Innovation: Using a Systems Approach to secure superior Value from Ideas</p> <p>Mike Wilkinson, Simon Jewell (Niteworks)</p>	<p>TechOps</p> <p>PM-SE Integration Working Group</p> <p>Tina P. Srivastava (MIT Aeronautics and Astronautics Engineering); Jean-Claude Roussel, Gary R. Smith (Airbus Group)</p>	SE 101	Sponsors Theater	Exhibitors Theater	Practitioners Challenge
			<p>A SoS Approach for Engineering Capability Programs</p> <p>Stephen Cook (Shoal Engineering & University of Adelaide); Mark Unewisse (Department of Defence)</p>	<p>Framework for Problem Definition - A Joint Method of Design Thinking and Systems Thinking</p> <p>Kyoko Watanabe, Yoshikazu Tomita, Kanenori Ishibashi, Makoto Ioki, Seiko Shirasaka (Keio University Graduate School of System Design and Management)</p>	<p>Viable Systems Analysis of the Wardley IT Evolution Framework</p> <p>Joseph Bradley (Leading Change, LLC); Eric Kristoff (UMUC)</p>	<p>Complexity Working Group</p> <p>Jimmie McEver (JHU Applied Physics Laboratory)</p>					
			<p>A Model-Based Systems of Systems Methodology to Support Joint Force Integration by Design</p> <p>Meredith Hue (DSTO)</p>	<p>Challenging Architects in Education: the Smart Environments Integration Project</p> <p>G.Maarten Bonnema (University of Twente)</p>	<p>Case Study: Agile SE Process for Centralized SoS Sustainment at Northrop Grumman</p> <p>Rick Dove (Paradigm Shift International); Bill Schindel (ICTT System Sciences); Mark Kenney (Northrop Grumman)</p>	<p>Standards Initiative</p> <p>Gina Guillaume-Joseph (The MITRE Corporation)</p>					
12:10	13:30	Lunch	Lunch (Exhibit Hall)								
12:15	13:15		Welcome Lunch for New Members and First-Time Delegates (RiversideBank 7-8)								
13:30	14:55	Session 2	<p>MBSE</p> <p>MBSE Grid: A Simplified SysML-Based Approach for Modeling Complex Systems</p> <p>Aurelijus Morkevicius, Aiste Aleksandraviciene, Donatas Mazeika (No Magic Europe); Lina Tutkute (Kaunas University of Technology); Zilvinas Strolia (No Magic Europe)</p>	<p>Systems of Systems</p> <p>Defining 'System': a Comprehensive Approach</p> <p>Hillary Sillitto (Sillitto Enterprises); Dov Dori (Technion - Israel Institute of Technology); Regina Griego (Sandia National Laboratories); Scott Jackson (Burnham Systems Consulting); Daniel Krob (President at CESAMES); Patrick Godfrey (Systems Thinking); Eileen Arnold (Retired);</p>	<p>Teaching & Training</p> <p>The Roles of Systems Engineers Revisited</p> <p>Nicole Hutchison, Jon Wade (Stevens Institute of Technology)</p>	<p>Energy</p> <p>A Context-Enabled Systems Development Method: The Case of Semi-Autonomous Remotely Operated Vehicles in an Arctic Environment</p> <p>Anders Roe Nykaas, Yang-Yang Zhao (University College of South-East Norway)</p>	<p>TechOps</p> <p>Decision Analysis Working Group</p> <p>Gregory S. Parnell (University of Arkansas); Frank Salvatore (Engility Corporation)</p>	SE 101	Sponsors Theater	Exhibitors Theater	Practitioners Challenge
			<p>Graph-Based Digital Blueprint for Model Based Engineering of Complex Systems</p> <p>Manas Bajaj (Intercax); Jonathan Backhaus, Timothy Walden (Lockheed Martin); Manoj Waikar, Dirk Zwemer (Intercax); Chris Schreiber, Ghassan Issa (Lockheed Martin)</p>	<p>Evaluating Australia's most complex system-of-systems, the future submarine: A case for using new Complex Systems Governance</p> <p>Joseph Bradley (Leading Change, LLC); Mahmoud Efatmaneshnik, Keith Joiner (UNSW Canberra at ADFA); Charles Keating (Old Dominion University)</p>	<p>The U.S. Department of Defense Systems Engineering Competency Model</p> <p>Clifford Whitcomb, Rabia Khan (Naval Postgraduate School); Corina White (NAVAIR); Dana Grambow (Office of Personnel Management); Jose Velez (DASN RDT&E); Jessica Delgado (Naval Surface Warfare Center Dahlgren Division)</p>	<p>Evolving tolerance management for increased robustness of subsea installation operations</p> <p>Lars Petter Bryn (HSN); Gerrit Muller (Buskerud and Vestfold University College)</p>	<p>Oil & Gas Working Group</p> <p>Mia Zager, Cindy Chen (Shell Technology Center); Paul Schreinemakers (How2SE)</p>			MathWorks (13:30-13:50)	Practitioners Challenge
14:55	15:30	Break	Break & Key Reserve Paper/Student Posters (Exhibit Hall)								
15:30	16:55	Session 3	<p>MBSE</p> <p>An Exploration of MBSE Through the Modelling of the S2TEP Space System</p> <p>Michael Kretzenbacher (Institut Sup); Caroline Lange (German Aerospace Center (DLR)); David Harvey (Shoal)</p>	<p>MBCD</p> <p>Panel: Implementing Model-Based Conceptual Design in transport - Practices, challenges and opportunities</p> <p>Moderator: David Harvey (Shoal Engineering)</p> <p>Panelists: Sin Hin Oh (Land Transport Authority, Singapore); Eric Burgers (Independent entrepreneur); Quoc Do (Frazer Nash Consultancy); Shaun Wilson (Shoal Engineering); Ronald Kratzke (Vitech Corporation)</p> <p>End 17:30</p>	<p>Teaching & Training</p> <p>Alternate Reality Games in the Systems Engineering Classroom</p> <p>Klew Williams, Alexandrina Agloro, Shamsnaz S. Virani (Worcester Polytechnic Institute)</p>	<p>Energy</p> <p>Cause and Impact Analysis of Cost and Schedule Overruns in Subsea Oil and Gas Projects - A Supplier's Perspective</p> <p>Simen Bergli, Kristin Falk (University College of Southeast Norway (NISE))</p>	<p>Smart Systems</p> <p>Using an Agent-Based Simulation to Evaluate the Performance of Control Algorithms for an Intelligent Traffic System</p> <p>John Panek (Northrop Grumman Corporation)</p>	SE 101	Sponsors Theater	Exhibitors Theater	STEM Initiative
			<p>Toward Systems Engineering Modeling Standards: Proposed System Architecture Core Model Elements and Composition</p> <p>Robert Malone, John Herrold, Brittany Friedland, Gregory Green (Boeing)</p>	<p>SE Simulation Experience Design: A Case Study</p> <p>Richard Turner (Stevens Institute); Doug Bodner (Goergia Institute of Technology); Duncan Kemp (UK Ministry of Defence); Yvette Rodriguez (Defense Acquisition University); Jon Wade, Peizhu Zhang (Stevens Institute)</p>	<p>Applying A3 reports for early validation and optimization of stakeholder communication in development projects</p> <p>Kristina Frovoold (KM); Gerrit Muller (Buskerud and Vestfold University College); Michael Pennotti (Stevens Institute of Technology)</p>	<p>Developing an Operational Concept Framework to support government policy and regulation on Connected and Automated Vehicles</p> <p>Richard Fullalove (Transport for NSW)</p>			Tom Sawyer Software (16:30-16:50)	STEM Initiative	
17:00	18:00		Working Group Sessions								
18:00	19:30		Ice Breaker Reception (Exhibit Hall)								

Tuesday at IS 2017

Start time	End time	Activity	Track 1 (Hall MN)	Track 2 (Riverbank 6)	Track 3 (Riverbank 5)	Track 4 (Riverbank 4)	Track 5 (Riverbank 3)	Track 6 (Riverbank 2)	Track 7 (Sponsors Theater)	Track 8 (Exhibitors Theater)	Track 9 (Riverbank 1)
08:00	09:30	Tuesday Plenary	Tuesday Keynote - Dr Tomohiko Taniguchi (Special adviser to the cabinet of Prime Minister Shinzo Abe)								
09:30	10:00	Break	Break & Key Reserve Paper/Student Posters (Exhibit Hall)								
10:00	12:10	Session 4	<p>MBSE</p> <p>Exploring the Cyber-Physical Design Space</p> <p>Carl Gamble, John Fitzgerald (Newcastle University); Richard Payne, Benjamin Lam (Newcastle University)</p>	<p>Requirements</p> <p>Modelling Legal Requirements</p> <p>Christian Weibel (Fraunhofer IESE); Rainer Steglich (N.A.)</p>	<p>Systems Science</p> <p>Panel: Exploring the Frontiers of Systems Science: Establishing a Foundation for SE Practice</p> <p>Moderator: James Martin (The Aerospace Corporation)</p> <p>Panelists: Stephen Cook (University of Adelaide); Yoshi Ohkami (Keio University); Tim Ferris (Cranfield University); Anand Kumar (Tata Consultancy Services); David Rousseau (Centre for Systems Philosophy)</p>	<p>System Safety</p> <p>System Theoretic Safety Analysis of the Sewol-Ho Ferry Accident in South Korea</p> <p>Yisug Kwon (UTC); Nancy Leveson (MIT)</p>	<p>Product-line Engineering</p> <p>Where the big bucks (will) come from - Implementing Product Line Engineering for Railway Rolling Stock</p> <p>Hugo Guillermo Chalé (ALSTOM Transport); Francois Greugny (Acuity Solutinos)</p>	<p>Key Reserve Papers: Architecture</p> <p>Modeling system modes, states, configurations with Arcadia and Capella: method and tool perspectives Stephane Bonnet, Jean-Luc Voirin, V Normand, Daniel Exertier (Thales)</p> <p>Crafting a Collaboration Space for the Conceptualization of a Collaborative Engineering Service for the Management of Modeled Engineering Artifacts throughout their Enterprise Lifecycle Lonnie Vanzandt (Predictable Response Consulting)</p>	<p>Sponsors Theater</p>	<p>Exhibitors Theater</p>	<p>Practitioners Challenge</p>
			<p>The Application of MBSE to Inform Workforce Decision Making</p> <p>Thomas Bransden, Quoc Do, Damien Farrell, Stuart Taylor (Frazer-Nash Consultancy Ltd)</p>			<p>A Complexity Measure for System Safety Assurance</p> <p>Sarah Sheard (Software Engineering Institute); Michael Konrad, Charles Weinstock, William Nichols (SEI)</p>	<p>Model Based Engineering and Product Line Engineering: Combining Two Powerful Approaches at Raytheon</p> <p>Bobbi Young (Raytheon Company); Paul Clements (BigLever Software, Inc.)</p>	<p>Systems Security Engineering: What Every System Engineer Needs to Know</p> <p>Perri Nejjib (Northrop Grumman); Dawn Beyer (Lockheed Martin); Ed Yakobovitz (Northrop Grumman); Ken Kepchar (Eagleview Associates); Michael Mcevilley (Mitre)</p> <p>Knowledge Based Decision Model for Architecting and Evolving Complex System-of-Systems Ramakrishnan Raman (Honeywell Technology Solutions Lab); Meenakshi D'Souza (International Institute Of Information Technology Bangalore)</p>	<p>Tom Sawyer Software (10:00-10:20)</p> <p>SHOAL (10:30-10:50)</p>	<p>Sparx Systems (10:00-10:20)</p> <p>No Magic (10:30-10:50)</p> <p>The REUSE Company (11:00-11:20)</p> <p>BigLever Software (11:30-11:50)</p>	<p>Practitioners Challenge</p>
			<p>An industrial example of using Enterprise Architecture to speed up systems development</p> <p>Peter Sjoberg (Volvo CE); Lars-Olof Kihlstr (Syntell AB); Matthew Hause (PTC)</p>	<p>Requirements engineering for radical innovation - Application to helicopter engine fuel system</p> <p>Adrien Monsimer (Safran Helicopter Engines); Jean-Charles Mar (Institut CI); Pierre Sicaire (Safran Helicopter Engines)</p>		<p>Semantically-enabled Model-based Systems Engineering of Safety-critical Network of Systems</p> <p>Leonard Petnga (Institute for Systems Research - University of Maryland); Mark Austin (University of Maryland); Mark Blackburn (Stevens Institute of Technology)</p>	<p>A Feature Ontology to Support Feature-Based Product Line Engineering</p> <p>Charles Krueger, Paul Clements (BigLever Software, Inc.)</p>	<p>Model-based design of an autonomous function for responsive satellite operations</p> <p>Toshihiro Obata, Shinichi Nakasuka (The University of Tokyo)</p> <p>A Comparison of Design Techniques for Achieving Resilience in Civil and Military Domains Scott Jackson (Burnham Systems)</p>			
12:10	13:30	Lunch	Lunch (Exhibit Hall) - New Member Lunch (Hall N)								
13:30	14:55	Session 5	<p>MBSE</p> <p>Using MBSE to Evaluate and Protect the Electrical Grid as a System of Systems</p> <p>Matthew Hause (PTC)</p>	<p>Requirements</p> <p>A Requirements' Eye View of Product Development</p> <p>Richard Beasley (Rolls-Royce plc); Andrew Pickard (Rolls-Royce Corporation); Andrew Nolan (Rolls-Royce plc)</p>	<p>Verification & Validation</p> <p>Warranting System Validity Through a Holistic Validation Framework: A Research Agenda</p> <p>Jennifer Stevens (NASA)</p>	<p>Acquisition & Supply</p> <p>A Model-Based Method for Design Option Evaluation of Off-the-Shelf Naval Platforms</p> <p>Brett Morris (Defence Science and Technology Group); Stephen Cook (The University of Adelaide)</p>	<p>Automotive</p> <p>Joint Automotive & Transportation Industry Roundtable: Connected and Automated Vehicles - Are we Kangaroos in the headlights?</p> <p>Lilanthi Balasingham (Parsons Brinckerhoff); William Bolander (IBM); Anne Oneil (Anne O'Neil Consulting)</p>	<p>Key Reserve Papers: Systems Thinking</p> <p>Systemic Design Engineering Jon Wade (SERC/Stevens Institute of Technology); Steven Hoffenson (Stevens Institute of Technology); Hortense Gerardo (Lasell College)</p> <p>Aidi: A Systems view of Knowledge Processes Kesav Vithal Nori (IIIT Hyderabad); Anand Kumar, Swaminathan Natarajan (TCS Research)</p>	<p>Sponsors Theater</p>	<p>Exhibitors Theater</p>	<p>Practitioners Challenge</p>
			<p>An MBSE Methodology for Capability Systems Definition</p> <p>Quoc Do (Frazer Nash Consult); Daniel Hartigan (Department of Defence)</p>	<p>System Scenario Selection Method for Faster Analysis</p> <p>Timothy L. Ferris, Stephen Barker (Cranfield University)</p>	<p>V&V - All the Way Through</p> <p>Dale Brown (INCOSE); Chamara Johnson (WSP-Parsons Brinckerhoff)</p>	<p>Towards a modular System Dynamics approach for modelling military workforce planning problems</p> <p>Victoria Jnitova, Sondoss Elsayah, Michael Ryan (unsw@adfa)</p>		<p>Keeping women in systems engineering: gender dynamics in the field Erika Palmer, Benedicte S Wilson (University of Bergen)</p> <p>Conducting a Model Based Systems Engineering Tool Trade Study Using a Systems Engineering Approach Brittany Friedland, John Herrold, Glendora Ferguson, Robert Malone (Boeing)</p>			
14:55	15:30	Break	Break & Key Reserve Paper/Student Posters (Exhibit Hall)								
15:30	16:55	Session 6	<p>Invited Panel</p> <p>The role of Design in Systems Engineering - Systems Thinking meets Design Thinking</p> <p>Ian Gibson (Jacobs); Jon Wade (Stevens Institute)</p>	<p>Architecture</p> <p>A hybrid approach for supply chain analysis: An application of network and cluster analysis</p> <p>Li Qiao, Michael Ryan (UNSW Canberra)</p>	<p>Verification & Validation</p> <p>Verification of Requirements: System of Systems Theory, Framework, Formalisms, Validity</p> <p>Gary Langford (Portland State University)</p>	<p>Acquisition & Supply</p> <p>Acquisition System Development: A Complex System Governance Perspective</p> <p>Charles Keating, Polinpapilino Katina (Old Dominion University); Ra'Ed Jaradat (Mississippi State University); Joseph Bradley (Old Dominion University)</p>	<p>Automotive</p> <p>Joint Automotive & Transportation Industry Roundtable: Connected and Automated Vehicles - Are we Kangaroos in the headlights?</p> <p>Lilanthi Balasingham (Parsons Brinckerhoff); William Bolander (IBM); Anne Oneil (Anne O'Neil Consulting)</p> <p>End 17:30</p>	<p>Key Reserve Papers: SE management</p> <p>Improving Joint Force Integration by Design in the new Defence Capability Life Cycle Andrew Flahive (DST Group); Jakobsson (Retired, DST Group); Donald Lowe, Mark Unewisse (DST Group)</p> <p>Applying Design Thinking in Systems Engineering Process as an Extended Version of DIKW Model Yoshikazu Tomita, Kyoko Watanabe, Seiko Shirasaka, Takashi Maeno (Keio University)</p> <p>Multicast Routing Protocol for Energy Efficiency in Wireless Sensor Networks Anitha Jayapalan (Dayananda Sagar Academy of Technology & Management)</p> <p>The role of Command-and-control management and Governance in Systems Engineering Alex Gorod, Leonie Hallo, Tiep Nguyen (The University of Adelaide)</p>	<p>Sponsors Theater</p>	<p>Exhibitors Theater</p>	<p>STEM Initiative</p>
			<p>An Combinatorial Approach to Tradespace Exploration of Complex Systems: A CubeSat Case Study</p> <p>Li Qiao, Mahmoud Efatmaneshnik, Michael Ryan (UNSW Canberra)</p>	<p>Test Strategy to detect Industrial Control Systems common Cyber Weaknesses and Vulnerabilities</p> <p>Obaid Ur Rehman (UNSW Canberra); Keith Joiner (UNSW, Capability Systems Centre)</p>	<p>Use of the Goal Structuring Notation to Argue Technical Integrity</p> <p>Scott Simmonds (UniSA); Stephen Cook (University of Adelaide)</p>						
17:00	18:00		The Exhibitors' Reception (Exhibit Hall)								
18:00	19:00		Certification Reception (ASEP, CSEP, ESEP only)								

Wednesday at IS 2017

Start time	End time	Activity	Track 1 (Hall MN)	Track 2 (Riverbank 6)	Track 3 (Riverbank 5)	Track 4 (Riverbank 4)	Track 5 (Riverbank 3)	Track 6 (Riverbank 2)	Track 7 (Sponsors Theater)	Track 8 (Exhibitors Theater)	Track 9 (Riverbank 1)
08:00	09:30	Wednesday Plenary	Systems Engineering and Autonomy: Opportunities and Challenges - Paul Nielsen (Director & CEO - Software Engineering Institute, Carnegie Mellon University)								
09:30	10:00	Break	Break & Key Reserve Paper/Student Posters (Exhibit Hall)								
10:00	12:10	Session 7	Process	SE process	System Integration	Human Factors	Transportation	Key Reserve Papers: Process	Sponsors Theater	Exhibitors Theater	Practitioners Challenge
			Storytelling as a Key Enabler for Systems Engineering Kevin Devaney, James Johnson (SRC, Inc.)	Conceptual Data Modeling for the Functional Decomposition of Mission Capabilities Andrew Battigaglia, Erika Brimhall, Terry Ogle (Georgia Tech Research Institute)	Improving Integration: Thinking Beyond the Physical Architecture James Armstrong (Stevens Institute of Technology)	I Don't Need Requirements - I Know What I'm Doing!, Usability as a Critical Human Factor in Requirements Management Oliver Hoehne (Sr. Engineering Manager)	Your Wish, My Command - Speeding up Projects in the Transportation Industry Using Ontologies Hugo Guillermo Chalié (ALSTOM Transport); Juan Llorens (Universidad Carlos III de Madrid); Elena Gallego (The REUSE Company)	NASA's Robotics Mining Competition Provides Undergraduates Full Life Cycle Systems Engineering Experience Jonette Stecklein (NASA) The myths and the reality of problem-solving Joseph Kasser (The Right Requirements); Yang Yang Zhao (University College of Southeast Norway)			Practitioners Challenge
			Systems Engineering Very Small Entity Use Case Joseph Marvin, Garth Bailey (Prime Solutions Group, Incorporated)	Value based Architecture of Digital Product-Service Systems Anand Kumar, Nikhil Zope, Doji Lokku, Jose Reddyoglu (TCS Research)	Architecture-Based SCMI Service Framework for systems' integration Frank Lui, Donald Lowe, Andrew Flahive, Hossein Seif Zadeh (DST Group)	Integrating the end user perspective in technical product development: Lessons from the packaging industry Emmy Hultgren, Lena Karlsson Johansson (Tetra Pak Packaging Solutions)	Applying Systems Engineering Concepts to Rail and Transit Design-Build Infrastructure Projects Timothy Stokes (Delcan Corp.)	VSE 101 - Who, What, When, Where, Why, How Ken Ptack (J&K Consulting) A Case Study of Electronic Blast Systems Implementation Success: A System Engineering Perspective Aldaine Whyte (University of Pretoria); Louwrence Erasmus (University of Johannesburg)		Method Park (10:00-10:20)	
			Future Proofing Process Obaid Ur Rehman, Michael Ryan, Mahmoud Efatmaneshnik (UNSW Canberra)	The Impact of Lean on the mining industry: A simulation evaluation approach Arnesh Telukdarie (University of Johannesburg); Shingai A. Maunzagona (university of johannesburg)	Foundations for improved integration - Using Systems Engineering in Programme and Project Management Andrew Gray (BMT Hi-Q Sigma Ltd.); Helen Nasser (WSP Parsons Brinkerhoff); Ken Richardson (Roke Manor Research Ltd.); Kate Rooke (PA Consulting Group)	Integrated Human Factors Views in the Unified Architecture Framework Matthew Hause (PTC)	Realizing the Value of Systems Engineering Richard Beasley (Rolls-Royce plc)	Designing inter-factory architecture for higher adaptability of manufacturing supply chain based on systems engineering Jun-Yeong Kim (GEM, POSTECH); Daegeun Hong (GEM,POSTECH); Suk-Hwan Suh (GEM, POSTECH) Innovation, Risk, Agility, and Learning, Viewed as Optimal Control & Estimation William Schindel (ICTT System Sciences)			
12:10	13:30	Lunch	Lunch (Exhibit Hall)								
13:30	14:55	Session 8	Invited Panel	Architecture	Risk & Opportunity Mangement	Leadership	Transportation	Key Reserve Papers: Methodology	Sponsors Theater	Exhibitors Theater	Practitioners Challenge
			Systems Engineering and Asset Management - two sides of the same coin? Duncan Kemp (UK Ministry Of Defence); Ian Gibson (Jacobs); Paul Gibbons (CH2M)	Overview of an Emerging Standard on Architecture Evaluation - ISO/IEC 42030 James Martin (Aerospace Corporation)	A Process to Analyze Strategic Design and Management Decisions Under Uncertainty in Complex Entrepreneurial Systems Mark P. De Lessio (New York University); Michel-Alexandre Cardin (National University of Singapore); Angel Astaman (Halliburton); Valerie Djie (StarHub)	Challenges and Opportunities for the New Generation of Systems Engineering Leaders Muhammad Islam, Gina Guillaume-Joseph, Al Wong, Subash Kafle, Deanthony Heart (MITRE)	The Organisation's Transportation Architecture Framework Gary Arabian, Edward Chan (Transport for NSW)	The Art of Influencing System Security Standards Kenneth Kepchar (EagleView Associates LLC) On the Use of the Terms Verification and Validation Michael Ryan (UNSW Canberra); Louis Wheatcraft (Requirements Experts)			Practitioners Challenge
				The ValXplore method: exploring desirability, feasibility and viability of business and system design under uncertainty Sonia Ben Hamida (Ecole Centrale Paris); Marija Jankovic (CentraleSupélec)	Environmental Asset Management: Risk Management Systems Brian Naude, Charl Petzer (Council for Scientific and Industrial Research)	An Innovative Program to Further the Careers of Women as Leaders in Engineering Heidi Hahn (hahn@lanl.gov); Barbara Lynn (LANL)	System Engineering Analysis of Construction Equipment Operation in the Latin America Kurt Azevedo, Daniel Olsen (Colorado State University)	A Proposal for Standardized Use of the Term _Module_ in Systems Engineering Mahmoud Efatmaneshnik (UNSW Canberra at ADFA); Shraga Shoval (Ariel University); Michael Ryan (UNSW-Canberra) Security Level Identification and Secure Software Design of Safety Critical Embedded Systems : Methodologies and Process Raka Mitra (Honeywell)			
14:55	15:30	Break	Break & Key Reserve Paper/Student Posters (Exhibit Hall)								
15:30	16:55	Session 9	Systems Thinking	Systems Thinking	Resilience	Leadership	Transportation	Key Reserve Papers: MBSE	Sponsors Theater	Exhibitors Theater	STEM Initiative
			Who's Line is it Anyway? Using MBSE in the Management and Acceptance of the Defence Lines of Development Matthew Dent (Frazer-Nash Consultancy)	Improving the Systems Thinking Skills of the Systems Architect via Aesthetic Interpretation of Art Tom McDermott (Georgia Tech Research Institute); Alejandro Salado (Virginia Tech)	Engineered Resilient Systems with Value Focused Thinking Colin Small, Gregory Parnell, Ed Pohl, Bobby Cottam, Eric Specking, Zephan Wade (University of Arkansas)	Panel: Systems Engineering Leadership: Navigational Instruments and Guides Moderator: Regina Griego (Sandia National Laboratories) Panelists: Alberto Sols (HSN-NISE); Heidi Hahn (Los Alamos National Laboratories); Lauren Stolzlar (BAE Systems, Inc.); Stephanie Chiesi (Raytheon Missile Systems); Alice Squires (Washington State University)	Transportation Industry Roundtable: Deploying SE-based Asset Management - organizational capability development case studies Anne Oneil (Anne O'Neil Consulting); Andy Nicol (Wier Nicol Pty Ltd)	Development of a Model to Gauge Second-order Effects of Train Component Upgrades William Scott (SMART, University of Wollongong); Vu Lam Cao (SMART INFRASTRUCTURE FACILITY); Ricardo Peculis (University of Wollongong); Peter Campbell (INCOSE)			STEM Initiative
				Improving the Systems Thinking Skills of the Systems Architect via Aesthetic Interpretation of Art Tom McDermott (Georgia Tech Research Institute); Alejandro Salado (Virginia Tech)	Risk Management Limbo: How Low Can You Go? Casey Medina (Terumo BCT)		End 17:30	Integrated Data as the Foundation of Systems Engineering Louis Wheatcraft (Requirements Experts); Michael Ryan (UNSW Canberra); Carl Svensson (Swedish Defense Materiel Administration)			
17:00	18:00		Working Group Sessions								
19:30	20:30		INCOSE Pre-Banquet Reception (Panorama Foyer)								
20:30	23:00		INCOSE Banquet (Panorama Ballroom)								

Thursday at IS 2017

Start time	End time	Activity	Track 1 (Hall MN)	Track 2 (Riverbank 6)	Track 3 (Riverbank 5)	Track 4 (Riverbank 4)	Track 5 (Riverbank 3)	Track 6 (Riverbank 2)
08:00	09:30	Session 10	Invited Panel Panel Session on the application of SE to Oil & Gas	Digitalization Panel: Deploying digital technology to legacy environments Moderator: Peter Campbell (INCOSE) Panelists: William Palazzi (Palazzirail); Warwick Talbot (Sydney Trains); Bradley Moorhouse (Austrian Rail Track Corporation); John Massey (Transport for NSW Sydney Metro); Len Neist (Public Transport Victoria)	Resilience Panel: Role of Systems Engineers in Engineering Resilience Moderator: Ed Pohl (University of Arkansas) Panelists: Greg Parnell (Department of Industrial Engineering); Stephen Cook (University of South Australia, Adelaide); Tim Ferris (Cranfield University); Simon Georger (Engineer Research and Development Center)	Systems Science Robotic Satellite Servicing Trade Space Down-Selection Jessica Knizhnik (NASA Goddard Space Flight Center); Mark Austin (University of Maryland); Craig Carignan (NASA Goddard Space Flight Center)	System Dynamics A prototype simulation model for army logistics training Kristy Hudson, Sondoss Elawah (University of New South Wales Canberra); Michael Ryan (UNSW Canberra)	Biomedical & Healthcare Trains, planes and endoscopes: A case study in applying Capability Systems Engineering to reduce Hospital Acquired Infections Duncan Kemp (Ministry of Defence); Meaghan Oneil (System Design and Strategy)
						A Service-based Approach to Force Design, Integration and Analysis Donald Lowe (Defence Science and Technology Group)	Reusable Modules to Support Rapid Model Building: A Case Study of Defence Force Design Joshua Bowers, Sondoss Elawah, Michael Ryan (University of New South Wales Canberra)	Reverse Engineering Risk: Converging Medical Standards for Improved Systems Engineering Pavel Fomin (INCOSE WMA); William Scheible, Gina Guillaume-Joseph (The MITRE Corporation)
09:30	10:00	Break	Break & Key Reserve Paper/Student Posters (Exhibit Hall)					
10:00	12:10	Session 11	Modeling & Simulation Modeling and Analyzing the Emergency Management Mission as an Executable Model David Flanigan (The Johns Hopkins University Applied Physics Laboratory)	Government, Defence & Security Using Bayesian Networks to Validate Technology Readiness Assessments of Systems Donald York (INCOSE); Marc Austin (Department of Defense); Cheyne Homberger, George Polacek, Virginia Ahalt, Erin Doolittle (US DoD)	Project Planning Get With The Programme - Achieving Coherence Through Capability Systems Engineering Ian Gibson (Jacobs); Thomas Riley (Thales)	Complexity Science Breaking Out: Systems Engineering To Go Zane Scott (Vitech Corporation)	Infrastructure 'Not in My Backyard' is Not Sustainable Ronald Carson (Seattle Pacific University)	Healthcare Roundtable - Applying Systems Engineering to the Healthcare Sector Mike Celentano (Roche); Rick Dove (Paradigm Shift International); Meaghan O'Neil (The Math Works); Christophe Waterplas (ResMed Ltd); Edmund Kienast (Australian Digital Health Agency)
			Model-Based Systems Engineering Pathfinder: Informing the Next Steps Karen Weiland (NASA Glenn Research Center); Jon Holladay (NASA Engineering and Safety Center)	Organizational Capabilities in a Government R&D Enterprise Regina Griego, Richard Craft (Sandia National Laboratories)	Fortune Telling, Estimating and Systems Engineering Andy Nolan, Olimpia Vlad (Rolls-Royce plc); Andrew Pickard (Rolls-Royce Corporation); Richard Beasley (Rolls-Royce plc)	Interface Definition between Systems Engineering, Enterprise Engineering and Whole of Society Domains Louwrence Erasmus (University of Johannesburg); Braam Greeff (Council for Scientific and Industrial Research)	Availability as a design criterion - Simulation of SKA1_MID Dish Power Infrastructure Steve Dennehy (SKA South Africa); Isabel Meyer (Impact Advantage)	
			Control Theoretic Modeling and Simulation of Supply Chain Management System Obaid Ur Rehman, Michael Ryan (UNSW Canberra)	Tailoring a ConOps for Anonymized Organization Integrated Operations Clark Owens III (NASA)	Enabling Repeatable SE Cost Estimation with COSYSMO and MBSE Barry Papke, Saulius Pavalkis (No Magic); Gan Wang (BAE Systems)	A Graph Theory Approach to Functional Failure Propagation in Early Complex Cyber-Physical Systems (CCPSs) Bryan O'Halloran (Naval Postgraduate School); Nikolaos Papakonstantinou (VTT Technical Research Centre of Finland); Kristin Giammarco (Naval Postgraduate School); Douglas Van Bossuyt (KTM Research)	Systematic Capacity-Based Risk Assessment: Application to Water Service Project in Kassala, Sudan Luna Magpili (Washington State University); Ariel Pinto (ODU); Gnana Bharathy (Office of Environment and Heritage (NSW)); Mohammed Babiker (Green Wayira)	
12:10	13:30	Lunch	Lunch (Exhibit Hall)					
13:30	15:30	Closing Plenary	Thursday Keynote - Bill Murtagh (NOAA)					
15:30	16:30		Farewell Drink (M Foyer)					