ENGINEERS AUSTRALIA

Systems Engineering Test & Evaluation Conference

SETE 2022 - PROGRAM

Effective as of 8 August 2022 | Subject to change

Monday 12 September

0800 - 1700	**Registration open**				
0900 - 1030	Systems 101 - An Introduction to Systems Thinking and Systems Engineering **Mr Jawahar Bhalla, Dr Andrew Madry** (Studio 1)	Engaging Non-Engineering Executives in Systems Engineering Using a Learning Framework **Dr Richard Hodge** (Studio 2)	The Beginner's Guide to Model-Based Systems Engineering (MBSE) **Mr. Dan Spencer** (Studio 3)	Cyberworthiness Evaluation and Management Toolkit (CEMT): A model-based approach to cyberworthiness assessments **Mr Stuart Fowler, Dr Keith Joiner, Dr Elena Sitnikova, Dr Siqi Ma** (Studio 4)	
1030 - 1100	**30 min break**				
1100 - 1230	**Sessions above continued**				
1230 - 1300	**30 min break**				
1300 - 14:30	Machine Learning and Systems Thinking **Dr Andrew Madry, Mr Jawahar Bhalla,** (Studio 1)	Design of Public Transport Systems Using Thread-based MBSE Techniques **Mr Mark Eggler, Dr Daniel Eggler** (Studio 2)	Lethal Autonomy and a human-centric view of complex military and safety critical systems - FLAWS vs Human CLAWS **Dr Malcolm Tutty** (Studio 3)	Designing a digitally enabled T&E program for a collaborative system of systems. **Mr Tim Grabert, Mr Bernie O'Neill, Ms Jamie Smith, Mr Rob Starbuck** (Studo 4)	**SITE VISIT:** NASA: Canberra Deep Space Communication Complex 1330 - 1715
1430 - 1500	**30 min break**				
1500 - 1630	**Sessions above continued**				
1630 - 1730	**SESA General Meeting**				
1730 - 1830	**SETE 2022 Welcome Recption**				**SITE VISIT:** ANU's Space Simulation Facility at Mt Stromlo 1815 - 2030

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Tuesday 13 September

0700 - 1745	**Registration open**			
0715 - 0815	**Transport Advisory Board Breakfast (closed session)**		**Systems Thinking Round Table Enabling Resilience through Disruption**	
0830 - 0900	**Welcome and Opening**			
0900 - 0940	**Keynote 1 - Andrew McNaughton Systems Thinking in the Infrastructure Sector**			
0940 - 1020	**Keynote 2 - Prof Emma Sparks Preparing for the Future**			
1020 - 1050	**30 minute break / exhibition**			
1050 - 1220	**Concurrent session 1**			
	Cyber Resillence (Ballroom 1)	**Future Capbility Defence** (Ballroom 2)	**Systems Modelling Transport Infrastructure** (Studio 1)	**Advances in Model Based Systems Engineering Methodology Advances** (Studio 2 & 3)
1050 - 1120	An Overview of the upcoming Communications Systems Primer: A Systems Engineer's Guide to Communications Networks: Modeling Networks as Systems **Mr Thomas Manley, Ms Susan Ronning, Mr Keith Rothschild, Mr William Scheible**	Assessing the impacts of 'Evergreening' in establishing and maintaining the resilience of Space Domain Awareness systems **Mr David Culpin, Mr Stuart Fowler**	Using System Dynamics to identify, understand and manage complex interdependencies in large infrastructure projects **Mr John Nasr**	Conducting STPA in an MBSE environment **Mr Benjamin Marsh**
1120 - 1150	**PANEL:** Cyber Resilience T&E Panel **Mrs Sarah Standard, Mr Robert Di Pietro and Marcus Thompson. MC: GPCAPT Dr Keith Joiner**	Building resilient and agile systems through AI- driven model-based validation **Mr Viruben Watson**	A causal factors analysis of flooding resilience for rail infrastructure systems **Ms Grace Kennedy, Mr Nathanael Hutchison**	An improved approach for information management in the AEC industry using Linked Data and Model Based Systems Engineering **Mr Wouter Lubbers, Mr Sander Stolk, Mr Niels Kooiman**
1150 - 1220		Base Zero: Modelling Resource Flow Through a Base **Mr Stuart Taylor, Miss Marceline Overduin**	Deriving Resilient Performance Requirements through Modelling and Simulation **Mr Garth De Visser, Mrs Stephanie Knight**	Conceptual Application of Agile Model Based Systems Engineering (MBSE) for Camouflage Field Experiment **Mr Ryan Messina**
1220 - 1320	**60 min break / exhibition**			
1320 - 1450	**Concurrent session 2**			
	Enhancing Test & Evaluation Defence (Ballroom 1)	**Project Management Transport & Infrastructure** (Ballroom 2)	**Systems Architecture Methodology Advances** (Studio 1)	**Future Capability** (Studio 2 & 3)
1320 - 1350	A tool to accelerate the accreditation process for military flight simulators **Mr Tim Grabert**	Systems architecture development for infrastructure projects **Mr Danny Van Loon**	Working with system architectures **Mr Steven Boldeman**	Excelling through evolutions and disruptions, tomorrow's Vision for Systems Engineering **Ms Kerry Lunney**
1350 - 1420	Establishing digital test and evaluation early in the capability life cycle **Miss Ellie Hamilton, Mr Andrew Fellows**	A vision for better engagment of systems engineering in infrastructure **Mr Rueben Welschen**	The art of decision management in complex infrastructure **Mr Jonathan Luey**	**WORKSHOP:** Preparing engineers to tackle increasing complexity and disruptions in our future **Ms Kerry Lunney, Kevin Robinson, Jane McMaster**
1420 - 1450	Challenges of testing maritime uncrewed robotics and autonomous systems (RAS) **Mrs Kelly Lance**	**TBA**	Connecting the Systems Lifecycle through Architecture-Driven Engineering **Mr. Dan Spencer**	
1450 - 1515	**30 min break / exhibition**			
1515 - 1645	**Concurrent session 3**			
	Autonomous Systems Defence (Ballroom 1)	**T&E Code of Practice Test & Evaluation** (Ballroom 2)	**Resilient Solutions Methodology Advances** (Studio 1)	**PM and SE Transport & Infrastructure** (Studio 2 & 3)
1515 - 15455	The Challenges of Marine Autonomous Systems Test and Evaluation in Tropical Australia **Miss Melanie Olsen**	Lethal Autonomy and a human-centric view of complex military and safety critical systems – FLAWS vs Human CLAWS **Dr Malcolm Tutty**	Tailoring system architecture approaches to benefit infrastructure design **Mr Simon Hutton**	**WORKSHOP:** Integration of Project Management and Systems Engineering on Transport Projects **Mr David Orr, Mr Siby Yohannan** **Workshop Participants: Ms Nicole Waterman (Laing O'Rourke), Anthony Butler (CPB), Mr Ron Thomas (CPB), Mr Cheng Ni (Thales), Rob Scarbro (MTS), Thomas Boxoen (TfNSW)**
1545 - 1615	Fundamental Inputs to Developing a RAS-AI Capability **Mr Jake Vanderlinde, Mr Kevin Robinson, Mr Ben Mashford**	**PANEL:** Experimentation and Test & Evaluation Code of Practice **Dr Malcolm Tutty, Mrs Sarah Standard, Panellists TBA**	Review of a Mature Training System of Systems Design to Ensure Its Desired Performance and Resilience Characteristics **Ms Victoria Jnitova, Dr Mahmoud Efatmaneshnik, Dr Keith Joiner, Dr Tim Ferris, Mr David Wenzel**	
1615 - 1645	A Systems Framework for the Assurance of Maritime Autonomous Systems **Mr Jawahar Bhalla**		Using Quality Function Deployment (QFD) to Evaluate High-Level System Solutions **Prof David Cropley**	
1645 - 1650	**5 min break**			
1650 - 1740	**PANEL: A Systems Perspective into Challenges and Opportunities of Autonomous Systems** **Mr Jawahar Bhalla, WGCDR Michael Gan, Rachel Horne, Melanie Olsen, Clare East, Capt Adam Allica**			
1740 - 1830	**50 min break**			
1830 - 2230	**SETE 2022 Gala Dinner**			

INCOSE ASEP & CSEP Certification
1300 - 1500

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Wednesday 14 September

0700 - 1600	**Registration open**			
0700 - 0800	**Systems Thinking Round Table: Enabling Resilience through Disruption**			
0800 - 0815	**Opening & SESA TD Corner** **SESA & SE in Australia**			
0815 - 0855	**Keynote 3 - Major-General Kath Toohey** **Force Integration**			
0855 - 0935	**Keynote 4 - Christopher Collins** **Developmental T&E in an Ever-Evolving Operational & Technological Context**			
0935 - 1005	**TBA**			
1005 - 1030	**25 min break / exhibition**			
1030 - 1230	**Concurrent session 4**			
	T&E Strategy **Defence** (Ballroom 1)	**Resilience & Integration** **Transport & Infrastructure** (Ballroom 2)	**Designing Intelligent Systems** **Methodology Advances** (Studio 1)	**Skills and Capability** **Transport & Infrastructure** (Studio 2 & 3)
1030 - 1100	The Defence Test and Evaluation Strategy **Mr Steve Young**	Resilience of rail metro systems **Mr Steven Boldeman**	Artificially Intelligent Sociotechnical Systems - Implications for Systems Engineering **Mr Kevin Robinson**	**WORKSHOP:** Transport Skills and Capability Development **Mr Ruben Welschen, Miss Carly Edwards, Mr Thomas Boxoen, Mr Andrew Severn, Ms Fiona Love, Grace Kennedy**
1100 - 1130	Defence program level test and evaluation **Mr Steven Arney, Mr Bill Welling**	One Size Does Not Fit All: Tailoring Standards to Match Risk Appetite in Rail Systems Assurance **Ms Jessica Tucker, Mr Nathan King**	Models and mind-sets: Delivering a model-driven and tool-agnostic systems engineering digital transformation **Mr Mark Papinczak, Mr Grant Parratt**	**TBA**
1130 - 1200	**PANEL:** Integration of Land and Air Capabilities – industry and academia engagement **Dr Malcolm Tutty, Panellists TBA**	Route to Acceptance, the Integration story of Melbourne's Metro Tunnel rail project **Mr Marcus Chadwick**	Application of Machine Natural Language Processing for improving requirements authoring **Mr Chiang Lu**	
1200 - 1230		Human-Systems Integration during early design phase- A use case from Melbourne Airport Rail **Ms Victoria Valentinova**	Towards the Validation of VR-HMDs for Medical Education – A Systematic Literature Review **Dr Shiva Pedram, Ms Grace Kennedy, Dr. Sal Sanzone**	
1230 - 1330	**60 min break / exhibition**			
1330 - 1530	**Concurrent session 5**			
	Strategy and Capability **T&E and Defence** (Ballroom 1)	**Imagining Resilient Systems** **Socio-technical Systems** (Ballroom 2)	**Reflections and Futures** **Defence** (Studio 1)	**Case Studies and Applications** (Studio 2 & 3)
1330 - 1400	System of System Test and Evaluation A Joint Force Perspective **Dr Obaid Rehman**	**TBA**	**TBA**	New Zealand's First Part 146 Aircraft Design Organisation: Lessons Observed on the Journey So Far **Ms Jessica Tucker, Mr Patrick Lalor, Mr Brian Fearnley**
1400 -1430	Concepts in assuring complex systems **Mr Ben Luther**	A Whole-Of-Life Systems Resilience Framework **Mr Jawahar Bhalla**	Applied System Engineering on Emerging Transport Technologies **Mr Henry Wu**	Harnessing systems engineering practises from automotive engineering to enhance the capability of sovereign defence industry **Dr Greg Horn**
1430 - 1500	PANEL: How is T&E being managed and leveraged as a strategic tool to enable resilience in today's complex (contested and congested) warfighting environment? **Mr Robert (Bill) Bunton, Panellists TBA**	PANEL: COVID 19 Observations & Lessons Learned from a Systems, Data and Human Perspectives **Mr Jawahar Bhalla, Ms Grace Kenney, Dr Andrew Madry**	Requirements schemas for large multidisciplinary projects **Dr John Welford**	Revisiting Future Proofing for Large Scale Acquisitions **Mr Peter De Haan**
1500 - 1530			Risk assessment for passive level crossings- a review of the techniques **Dr Tieling Zhang**	Towards Defining a Measurement Framework for Digital Engineering **Dr Joseph Bradley**
1530 - 1600	**30 min break / exhibition**			
1600 - 1640	**Keynote 5 - Enrico Palerno** **Importance of T&E in an evolutionary operational context**			
1640 - 1720	**PANEL: Space T&E Panel** **Dr Sarah Cannard, Panellists TBA**			
1720 - 1730	**Looking Back and Looking Forward**			

SITE VISIT: Canberra Light Rail Depot
1300 - 1535