

SoSE 2019 14th International Conference on System of Systems Engineering  
Anchorage, Alaska

(Sunday 19 May)	<b>Day 1</b> (Monday 20 May)	<b>Day 2</b> (Tuesday 21 May)	<b>Day 3</b> (Wednesday 22 May)
	<b>Registration</b> (0800 - 0900)		
	<b>Welcome</b> (0830-0900)		
	<b>Keynote 1</b> (0900-1000)	<b>Keynote 4</b> (0900-1000)	<b>Keynote 6</b> (0900-1000)
	<b>Keynote 2</b> (1000-1100)	<b>Keynote 5</b> (1000-1100)	<b>Session 5B</b> (1000-1100)
	Break (1100-1130)		
	<b>Keynote 3</b> (1130-1230)	Panel (1130-1230)	<b>Session 6</b> (1130-1230)
	Lunch (1230-1330)		
	<b>Session 1</b> (1330-1510)	<b>Session 3</b> (1330-1510)	<b>Session 7</b> (1330-1510)
	Break (1510-1540)		
	<b>Session 2</b> (1540-1740)	<b>Session 4</b> (1540-1740)	<b>Session 8</b> (1540-1720)
	<b>Registration</b> (1600-1800)		
<b>Reception</b> (1800-1930) The Summit - 15th FL		<b>Banquet</b> (1900-2100) The Summit - 15th FL	

Day 1 (Mon 6/20)		
0730-0820	Registration	
0830-0900	Welcome <b>Howard Rock BC</b>	
0900-1000	Keynote 1: <b>Edward Tunstel</b> - Achieving Next-Level Robotic Intelligence with SoS Implications, Unitted Technologies Research Center, US <b>Howard Rock BC</b>	
1000 - 1100	Keynote 2: <b>Garry Roedler</b> - Understanding and Shaping the Future of System of Systems Engineering, INCOSE PRESIDENT, US <b>Howard Rock BC</b>	
1100-1130	Break <b>Howard Rock Foyer A</b>	
1130 - 1230	Keynote 3: <b>Paul C. Hershey</b> - Modeling and Simulation for Internet of Things as System of Systems, RAYTHEON, US <b>Howard Rock BC</b>	
1230 - 1330	Lunch	
1330 - 1510	<b>Session 1A:</b> SoSE Simulation, Modeling and Analysis Methods(1) <b>Howard Rock A</b>	<b>Session 1B:</b> Cyber Security (I) <b>Kuskokwim ~ 2nd FL</b>
	1570527334 A Refined Terminology on System-of-Systems Substructure and Constituent System States:Axelsson, Jakob (Mälardalen University &amp; RISE Research Institutes of Sweden, Sweden)	1570525126 Privacy Preserved Authentication: A Neural Network Approach:Hashemi, Ray R (Georgia Southern University-Armstrong Campus, USA)
	1570528184 Investigating Emergent Behavior caused by Electric Vehicles in the Smart Grid using Co-Simulation:Binder, Christoph (Salzburg University of Applied Sciences, Austria)	1570529228 Cybersecurity as a Centralized Directed System of Systems Using SoS Explorer as a Tool:Ashiku, Lirim (Missouri University of Science and Technology, USA)
	1570528453 A Digital Twin Method for Automated Behavior Analysis of Large-Scale Distributed IoT Systems:Sleuters, Jack (ESI (TNO), The Netherlands)	1570529250 Development of Secure Systems of Systems Needing a Rapid Development:Chiprianov, Vanea (University of Southern Brittany, France)
	1570528572 Analysis of Robotic Fish Using Swarming Rules with Limited Sensory Input:Connor, Jack (Deakin University, Australia)	1570531100 On the Application of MIMO Space-Time Coding to Physical Layer Security in sub-6 GHz 5G:Ormond, Patrick (University of Texas at San Antonio, USA)
	1570531089 Model-Based Approach to System of Systems Engineering: Reevaluating the Role of Simulation:Hällo, Leonie (The University of Adelaide, Australia)	1570531102 Error Rate Analysis of Physical Layer Security for Sub-6 GHz 5G Network Planning:Ormond, Patrick (University of Texas at San Antonio, USA)
1510 - 1540	Break <b>Howard Rock Foyer A</b>	
1540 - 1720	<b>Session 2A:</b> Health Care <b>Rock A</b>	<b>Session 2B:</b> Cyber Security (II) <b>Kuskokwim ~ 2nd FL</b>
	1570527428 Engineering One's Quality of Life as an SoS:White, Brian E. (CAU-SES, USA)	1570531115 Autonomous Distributed Electronic Warfare System of Systems:Burton, Isaac (North Dakota State University, USA)
	1570531079 Hector VR®: A Mixed Reality Driving Simulator for Older Drivers:Mortimer, Michael (Deakin University, Australia)	1570532333 Automated Student Assessment for Cybersecurity Courses:Ajjimapom, Pann (North Dakota State University, USA)
	1570531081 Hybrid Neuro-Fractal Analysis of ECG Signal to Predict Ischemia:Sadeghian, Alireza (Ryerson University, Canada)	<b>Session 2C:</b> Emergence <b>Kuskokwim ~ 2nd FL</b>
	1570530734 Application of Lean-Agile Approach for Medical Wearable Device Development, Glazkova, Natalia (Skolkovo Institute of Science and Technology, Russia)	1570532333 Capability-driven Formulation of System of Systems Core Competencies:Gasque, Thomas (University of Alabama in Huntsville & Intuitive Research and Technology Corporation, USA)
	1570531087 Toward 'SMART' System of Systems Engineering (SoSE) Management: An Evolving Toolbox Approach:Gorod, Alex (The University of Adelaide, Australia)	
	<b>Session 2D:</b> Decision-making <b>Howard Rock A</b>	<b>Session 2E:</b> Systems Governance and Policy <b>Kuskokwim ~ 2nd FL</b>
1570531132 Development of soft computing tools and IoT for improving the performance assessment of analysers in a clinical laboratory:Packianather, Michael (Cardiff University, United Kingdom (Great Britain))	1570528227 Multi-Dimensional Classification of System-of-Systems:Tekinerdogan, Bedir (Wageningen University, The Netherlands)	

Day 2 (Tue 6/21)		
0730-0820	Registration	
0900-1000	Keynote 4: <b>Imre J. Rudas</b> - Cyber-Physical System of Systems: changing the game, Óbuda University, Budapest <b>Howard Rock BC</b>	
1000 - 1100	Keynote 5: <b>Reggie Cole</b> - System-of-Systems as an Overarching Paradigm, Lockheed Martin, US <b>Howard Rock BC</b>	
1100 - 1130	Break <b>Howard Rock Foyer A</b>	
1130 - 1230	Panel: Is it really possible to engineer a system-of-systems? Panelists: Judith Dahmann, Reggie Cole, Eddie Tunstel, Paul Hershey Moderator: Garry Roedler <b>Howard Rock BC</b>	
1230 - 1330	Lunch	
1330 - 1510	<b>Session 3A:</b> Robotic Systems, UAVs, ROVs, Drones (I) <b>Howard Rock A</b>	<b>Session 3B:</b> SoSE Architecture, Design and V & V Methods (I) <b>Kuskokwim ~ 2nd FL</b>
	1570528752 A systems engineering approach applied to U-Space drones: concepts and challenges:Bueno, Jorge (ISDEFE, Spain)	1570527505 Digital Twin Strategies for SoS:Borth, Michael (ESI, The Netherlands)
	1570530257 Smart Walker V: Implementation of RTAB-Map Algorithm:Ramachandran, Srinath (Rochester Institute of Technology, USA)	1570527716 Architectural reasoning in the conceptual phase - a case study in the oil and gas industry:Engen, Siv (University of SouthEast Norway, Norway)
	1570530990 A Low-Cost Search-and-Rescue Drone for Near Real-Time Detection of Missing Persons:McClure, Jonathan M (Rochester Institute of Technology, USA)	1570528779 Systems of Systems Architecting and Integration; Visualizing Dynamic Behavior and Qualities:Muller, Gerrit (USN-NISE, Norway & TNO-ESI, The Netherlands)
	1570531061 Cognitive Cyber-Physical System (C-CPS) for Human-Robot Collaborative Manufacturing:Rahman, S M Mizanoor (University of West Florida, USA)	1570529360 Structured problem exploration approach for the pre-concept stage of system development:Vasenev, Alexandr (ESI (TNO), The Netherlands)
	1570531070 Predicting Fault Behaviors of Networked Control Systems Using Deep Learning for Mobile Robots:Wallace, Conor (University of Texas at San Antonio, USA)	<b>Session 3C:</b> Software-intensive system-of-systems Engineering <b>Kuskokwim ~ 2nd FL</b>
		1570528645 A Taxonomy of Modeling Approaches for Systems-of-Systems Dynamic Architectures: Overview and Prospects:Mohsin, Ahmad (Edith Cowan University Australia, Australia)
1510-1540	Break <b>Howard Rock Foyer A</b>	
1540-1720	<b>Session 4A:</b> Transportation (including civil air traffic control) <b>Howard Rock A</b>	<b>Session 4B:</b> big Data Analytics, Cloud Computing, Service Oriented Architectures <b>Kuskokwim ~ 2nd FL</b>
	1570530423 Requirements Analysis for the System Level Design of Smart Work Zones:Ozan, Erol (East Carolina University, USA)	1570530675 A Pipeline Approach in Identifying Important Input Features from Neural Networks:Lai, Chih (University of St. Thomas, USA)
	<b>Session 4C:</b> SoSE Availability, Maintainability, Reliability, Resilience, Safety <b>Howard Rock A</b>	1570530894 Driver Intelligent Support System in Internet of Transportation Things: Smartphone-Based Approach:Kashevnik, Alexey (SPIIRAS & ITMO University, Russia)
	1570527839 Spatial Functions for Modeling and Analysis of Safety-Critical Systems:Lanier, Benjamin G. (University of Alabama in Huntsville, USA)	<b>Session 4D:</b> SoSE Simulation, Modeling and Analysis Methods (II) <b>Kuskokwim ~ 2nd FL</b>
	1570528084 Stored System Inherent Availability Optimization from a System of Systems Physics of Failure Perspective:Van Bossuyt, Douglas L (Naval Postgraduate School, USA)	1570530907 Experiences in Evolving System-of-Systems Engineering Methodology to Address Pain Points:Guariniello, Cesare (Purdue University, USA)
	1570530367 Safe Integration for System of Systems: The Safety Cube Theory:Rajabalinejad, Mohammad (University of Twente, The Netherlands)	1570529380 ANN based Command and Control Seat Allocation Optimization with ExtendSim:Xia, Boyuan (National University of Defense Technology, P.R. China)
	1570514828 Data Center Investment vs. System Reliability in Power Distribution Systems:Wiboonrat, Montri (King Mongkut's Institute of Technology Ladkrabang & Faculty of Engineering, Thailand)	<b>Session 4E:</b> Enterprise and Business Architecture <b>Kuskokwim ~ 2nd FL</b>
	1570530911 A New SoS Engineering Philosophy - Vitality Theory:Zhang, HongJun (CSSC Systems Engineering Research Institute, P.R. China)	1570529271 Requirements Concept for Requirements Management and Engineering in R&D business networks in Germany:Schlueter, Nadine (University of Wuppertal & University of Wuppertal, Germany)
1900-2100	Banquet - Private Luau (1900-2100) <b>The Summit ~ 15th FL</b>	

Day 3 (Wed 6/22)		
0730-0820	Registration	
0900-1000	Keynote 6: <b>Judith Dahmann</b> - "Mission Engineering": Systems of Systems Engineering in Context, Mitre Corporation, US <b>Howard Rock BC</b>	
	<b>Session 5A:</b> Defense, Space, National Security <b>Howard Rock A</b>	<b>Session 5B:</b> Automotive SoS <b>Kuskokwim ~ 2nd FL</b>
1000 -1100	1570527586 Metamodeling NATO Operation Orders: a proof-of-concept to deal with digitalization of the battlefield: Belloir, Nicolas (IRISA / CREC St-Cyr, France)	1570528653 Business Models and Roles for Mediating Services in a Truck Platooning System-of-Systems: Axelsson, Jakob (Hälsödalens University & RISE Research Institutes of Sweden, Sweden)
	1570530718 Cyber Mutual Assured Destruction as a System of Systems and the Implications for System Design: Straub, Jeremy (North Dakota State University, USA)	1570531040 Autonomous Driving as System of Systems: roadmap for accelerating development: Assad, Mohamad Ali (Université de Technologie de Compiègne, France)
	1570531117 SoS Characterization and Optimization Approaches for an In-Space Hotel: Grande, Melanie L (Purdue University & NASA Langley Research Center, USA)	1570530359 Generated Voltage Control of EV PMSM for Maximizing Energy Recovery Rate using Switched Resonant L-C: Park, Keon Ho (Dankook University, Korea)
1100 - 1130	Break <b>Howard Rock Foyer A</b>	
	<b>Session 6A:</b> Robotic Systems, UAVs, ROVs, Drones (II) <b>Howard Rock A</b>	<b>Session 6B:</b> Cyber Physical Systems and IoT: Engineering Issues <b>Kuskokwim ~ 2nd FL</b>
1130 - 1230	1570531322 A System of Systems Integrating Robots and Virtual Human through an IoT Framework for High Performance and Cybersecurity: Rahman, S M Mizanoor (University of West Florida, USA)	1570522989 Agent Modeling to Support Allocation Decisions in Mobile Cyber-Physical Systems: Giachetti, Ronald (Naval Postgraduate School, USA)
	1570532329 Low-Cost Heterogeneous Unmanned Ground Vehicle (UGV) Testbed for Systems of Autonomous Vehicles Research: Jaimes, Aldo (UTSA, USA)	1570529458 Smart AVR Control using K-means Clustering: Abegaz, Brook (Loyola University of Chicago, USA)
	1570532708 Implementation of Reinforcement Learning Simulated Model on Physical UGV Using Robot Operating System for Continual Learning: Perez, Edgar (UTSA, USA)	1570532321 HRC-SoS: Human Robot Collaboration Experimentation Platform as System of Systems: Savur, Celal (Rochester Institute of Technology, USA)
1230 - 1330	Lunch	
	<b>Session 7A:</b> Energy, Smart Grid Technologies <b>Howard Rock A</b>	<b>Session 7B:</b> Case Studies <b>Kuskokwim ~ 2nd FL</b>
1330 - 1510	1570526737 Roadmapping for Sustainability; How to Navigate a Social, Political, and Many Systems-of-Systems Playing Field? A Local Initiative: Muller, Gerrit (USN-NISE, Norway & TNO-ESI, The Netherlands)	1570509125 Shared Mobility Services Governance: A Case Study for San Diego: Ma, Brian (Stevens Institute of Technology, USA)
	1570528534 2017 ISO New England System Operational Analysis and Renewable Energy Integration Study - Highlights*: Muhanji, Steffi O (Dartmouth College, USA)	1570519096 Medicaid IT as a System of Systems: Randall, Rick (MITRE, USA)
	1570531003 Smart Control of Buck Converters using a Switching-based Clustering Algorithm: Abegaz, Brook (Loyola University of Chicago, USA)	1570531099 A Smart City Transportation System of Systems Governance Framework: A Case Study of Singapore: Ling, Lee Oon (Nanyang Polytechnic, Singapore)
	1570532320 Optimized Approach to Cogeneration of Water Desalination and Solar Energy Power Production: Shahmaleki, Pौर्या (University of Utah, USA)	<b>Session 7C:</b> Ocean Space, Maritime, Offshore, Subsea <b>Kuskokwim ~ 2nd FL</b>
	1570527114 Design and Implementation of Fractional-Order Sliding Mode Control for Parallel Distributed Generations Units in Islanded Microgrid: Ali, Muhammad (Bahria University, Islamabad, Pakistan)	1570527723 Application of system thinking to frame the problem in a subsea development projects with high-level business requirements: Engen, Siv (University of SouthEast Norway, Norway)
1510-1540	Break <b>Howard Rock Foyer A</b>	
	<b>Session 8A:</b> SoSE Architecture, Design and V & V Methods (II) <b>Howard Rock A</b>	<b>Session 8B:</b> Internet of Things <b>Kuskokwim ~ 2nd FL</b>
1540-1720	1570531018 Modelling Integral Risk Assessment (MOIRA): Experiments on the Dutch Railway Departure Process: Schuiltemaker2, Katja (University of Twente, The Netherlands)	1570527470 IoT based Smart Vehicle Presence Sensor SPIN-V for Smart Parking System: Luque-Vega, Luis F (Universidad del Valle de México, Mexico)
	1570532175 Coping with Uncertainty in Systems-of-Systems Architecture Modeling on the IoT with SoADL: Oquendo, Flavio (IRISA (UMR CNRS) - University of South Brittany, France)	1570529143 An Open Source Lifecycle Collaboration Approach Supporting Internet of Things System Development: Jinwei, Chen (Shanghai Jiaotong University, P.R. China)
	1570522089 MBSE-Compliant Product Lifecycle Model Management: Wang, Chengen (Shanghai Jiaotong University, P.R. China)	<b>Session 8C:</b> Maritime Systems Engineering <b>Kuskokwim ~ 2nd FL</b>
	1570528325 Spectrum-Based Fault Localization on a Collaboration Graph of a System-of-Systems: Shin, Yong-Jun (Korea Advanced Institute of Science and Technology (KAIST), Korea)	1570528449 Influence of System Delay of Remote Control Ships on Mariners: Okazaki, Tadatsugi (Tokyo University of Marine Science and Technology, Japan)
	1570528634 Basic Study on Monitoring System of Coastal Radio Operator for Safe Harbor Traffic: Murai, Koji (Tokyo University of Marine Science and Technology, Japan)	<b>Session 8D:</b> Navigation Technologies, Autonomous Vehicles <b>Kuskokwim ~ 2nd FL</b>
1570530754 Quality aware Software Architecture for Internet of things based System of Systems: Aziz, Muhammad W (CECOS University of IT and Emerging Sciences, Pakistan)	1570531074 ORBDeeP: Odometry - A Feature-Based Deep Learning Approach to Monocular Visual Odometry: Sivarama krishnan, Karthik (Rochester Institute of Technology, USA & Panimalar Engineering College, India)	