NDIA SE Division
System of Systems Committee

June SE Division Meeting Update

17 June 2015

Judith Dahmann, Rick Poel, Jeff Wolske

1) SoSCIE Webinars: System of Systems Collaborators Information Exchange (1 of 2)

- ✓ **April 28:** Synthesizing and Specifying Architectures for System of Systems; Dr. C. Robert Kenley, Purdue University
- ✓ **May 5:** SoS Considerations in the Engineering of Systems; Dr. Judith Dahmann, The MITRE Corporation
- ✓ **May 19:** Lifecycle Modeling Language and SoS; Dr. Steven Dam, SPEC Innovations
- ✓ **June 9:** Lifecycle Verification of a System of Systems; Mr. Brian Hatchell, Mr. Fredrick Mauss, and Mr. Kurt Silvers, Pacific Northwest National Laboratory
- **June 23:** Incremental Commitment Spiral Model as Applied to SoS; Dr. Jo Ann Lane, University of Southern California and Dr. Rich Turner, Stevens Institute of Technology
- **July 28:** Maintaining Emergence in Systems of Systems Integration: A Contractual Approach using SysML; Dr. Jeremy Bryans, Dr. John Fitzgerald, and Dr. Richard Payne, Newcastle University, UK and Mr. Klaus Kristensen, Bang & Olufsen
- **Aug 11:** Systems Integration: He Who Hesitates Is Lost; Mr. James R. Armstrong, Stevens Institute of Technology
- **Aug 25**: A Practitioner's Approach Using Model Based Systems Engineering (MBSE) in Systems of Systems; Mr. Richard Deakins and Mr. Doug Parsons, U.S. Army Aviation and Missile Research, Development and Engineering Center
- **Sept 1:** Approach to Capability-Based System-of-Systems Framework in Support of Naval Ship Design; Dr. Santiago Balestrini-Robinson and Dr. Simon Briceño, Georgia Institute of Technology; Cdr Jacques P. Olivier, Department of National Defence, Canada

1) SoSCIE Webinars: System of Systems Collaborators Information Exchange (2 of 2)

- **Sept 15:** Traceable Engineering of Fault-Tolerant System of Systems; Dr. Zoe Andrews, Dr. Claire Ingram, Dr. Richard Payne, and Prof. Alexander Romanovsky, Newcastle University, UK; Prof. Jon Holt and Mr. Simon Perry, Scarecrow Consultants Limited, UK
- **Sept 29:** Set-Based Design in Requirements Development; Dr. Norbert Doerry, Naval Sea Systems Command
- **Oct 6:** The Human Systems Integration Framework (HSIF): Defining a New Role to Enhance Cross-Domain Collaboration; Dr. Matthew R. Risser and Mr. Frank C. Lacson, Pacific Science & Engineering Group
- **Oct 20:** Model-based Product Line Engineering - Variations on a Theme; Mr. Matthew C. Hause, Atego
- **Nov 11:** Towards a New Paradigm for Management of Complex Engineering Projects: A System-of-Systems Framework; Ms. Jin Zhu and Dr. Ali Mostafavi, Florida International University
- **Nov 24:** Preferential System Connectivity and Its Impact on Performance; Dr. David Flanigan and Mr. Jeffery Dixon, The Johns Hopkins University Applied Physics Laboratory
- **Dec 1:** Modelling Patterns for Systems of Systems Architectures; Dr. Claire Ingram and Dr. Richard Payne, Newcastle University, UK
- **Dec 15:** Towards Technical Reference Frameworks to Support Open System Architecture Initiatives; Dr. Douglas C Schmidt, Software Engineering Institute

2) System of Systems Committee Meetings

- ✓ **April 10:** Mission Based Analysis and Joint Mission Threads supporting the Digitally Aided Close Air Support (DACAS) SoS Initiative; Marsha Mullins, JS J6 Joint Fires Division
- ✓ **June 4:** The Evolution of SE Standards and Practices: ISO/IEC/IEEE 15288 Based Harmonization; Garry Roedler, Lockheed Martin

3) Abstract: October NDIA Sys Eng Conference: Mission Analysis in System of Systems

The focus of the NDIA SE Committee for 2015 has been on the role of mission analysis in SoSE. In 2015 the mission analysis joined The SoS SE committee and with this brought the opportunity to look more closely at the role mission analysis can play in the application of systems engineering to engineering of SoS to support mission capabilities. This presentation will review foundational materials on the definition of mission analysis in the SE body or knowledge and mission analysis as a new SE process in the May 2015 update of the ISO IEC IEEE 15288 SE and SW Life Cycle standard, the treatment of mission analysis in current DOD SOS guidance, and examples of how mission analysis in being addresses in ongoing applications of SoSE.