# System of Systems Engineering Collaborators Information Exchange (SoSECIE)

## ****March 26th, 2019 11:00 a.m. to Noon Eastern Time****

#### Digital Engineering Support to Mission Engineering

***Presenters: Dr. Judith Dahmann, The MITRE Corporation***

***Ms. Philomena Zimmerman, OUSD(R&E)***

#### Abstract

In the U.S. Department of Defense (DoD) there is increased interested in mission engineering – the deliberate planning, analyzing, organizing, and integrating of current and emerging operational and system capabilities to achieve desired warfighting mission effects. The Components have implemented mission engineering in areas where there is a critical interest in achieving mission capability, such as ballistic missile defense or naval mission areas, and there is growing interest in addressing a broad set of mission areas through the implementation of mission integration management – the coordination all the programmatic elements – matching funding, schedules, technical improvements, resources (technical staff, development and test infrastructure, M&S etc.) across the relevant mission systems and supporting systems to develop, test, and field a phased set of mission capabilities.

While interest in mission engineering is growing, so is the development and use of Digital Engineering (DE). The DoD has developed a DE Strategy, and the Components are working to adopt DE to support their acquisition programs. This presentation outlines key mission engineering activities and describes opportunities for application of digital engineering to support mission engineering.

#### Biography

Dr. Judith Dahmann is a principal senior scientist in the MITRE Corporation Center for the MITRE Systems Engineering Technical Center and the Capability Action Team leader for SoS. Dr. Dahmann is currently the MITRE project leader for the DoD Office of the Deputy Assistant Secretary of Defense for Systems Engineering, and she is the MITRE task lead for a set of SoS technology development projects at the Defense Advanced Research Projects Agency (DARPA). Dr. Dahmann holds a Bachelor’s Degree from Chatham College in Pittsburgh, PA with a year as a special student at Dartmouth College, a Master’s Degree from The University of Chicago and a Doctorate from Johns Hopkins University.

Ms. Philomena Zimmerman has a BS in Mathematics from St. John Fisher College, with an emphasis in Computer Science from Rochester Institute in Technology. She is DAWIA Level 3 certified in T&E, and SPRDE. She is also currently the Deputy Director for Engineering Tools and Environments, within OUSD(R&E). She leads the effort to advance the use of model-based techniques to advance SE concepts in acquisition. As a member of the SE staff, she is responsible for establishing the effective use of modeling and simulation, as a systems engineering tool to support acquisition programs, as well as the related efforts in modular open systems architectures, intellectual property, and data rights. Previously, Ms. Zimmerman served in various leadership positions within the Army’s Future Combat System Program, and PEO Integration. She has been active in standards development, and is a strong proponent of Model Based Engineering. She participates in various professional activities, including INCOSE, NDIA, and SISO.