



International Council on Systems Engineering
Delaware Valley Chapter Meeting (Non-members welcome to attend)

Speaker: Laura Hart: “Model Based Systems Engineering – A presentation on the concept of MBSE and attributes associated including SysML Overview

Date: Thursday Evening, April 26, 2018

Agenda: 6:00-6:30: Arrival and check in
6:30-6:45: Welcome to Drexel & Introductions
6:45 -7:00: Introduction of Drexel & Penn Student Divisions of Delaware INCOSE Chapter
7:00 -7:45: Laura Hart Presentation and Discussion
7:45 - 8:00: Break
8:00 -8:45: Discussion from INCOSE members to students on SE Careers and activities associated
8:45-9:00: Networking with the Students & Chapter Business

Location:

Drexel University
Pearlstein Building Learning Center, Room 307
33rd & Market Streets, Philadelphia, PA

RESERVATIONS

INCOSE Members and Nonmembers: James Finney jameswfinney@yahoo.com

Drexel & Other Students Contact: Rick Grandrino rag28@drexel.edu

University of Penn Students Contact: Dr. Pete Scott
peter.crosby.scott@comcast.net

Meal Choices: Boxed sandwiches available, Served with Potato Chips, Whole Fruit and a Cookie. Indicate your selection when making Reservation

- 1) Smoked Turkey and Swiss Cheese
- 2) Ham and Swiss Cheese
- 3) Roasted Vegetables and Cheese

Cost: \$10 for INCOSE Members and Nonmembers; Students are Free (Just present your student ID)

Deadline for Reservations and meal choices is Friday, April 20th



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Abstracts and Bios

Laura Hart Laura Hart is a Systems Engineer at The MITRE Company in Mclean VA where her focus is on the advancement and application of model-based systems engineering. Laura is also the new president of the Delaware Valley INCOSE chapter as of March 1, 2018. Prior to that, Ms. Hart worked for Lockheed Martin as a Sr. member of the Corporate Engineering and Technology Advanced Practices group responsible for codifying, teaching and applying MBSE best practices across the LM Corporation. She has over twenty years of industry experience covering a wide spectrum of responsibilities from requirements, design, implementation, integration and test within the DoD industry. Laura is an active member of the OMG and supports both the SysML and UPDM/UAF specification working groups.

Abstract:

Model-Based Systems Engineering (MBSE) MBSE is defined as the formalized application of modeling to support system requirements, design, analysis, verification, and validation activities beginning in the conceptual design phase and continuing throughout development and later life cycle phases. A traditional systems engineering approach focuses on the development of textual specifications and design documentation. This is characterized as being a “document-based” approach. In contrast, MBSE focuses on the development of a coherent system model that consists of requirements, design, analysis, and verification information and is characterized as a “model-centric” approach. In MBSE, the model serves as a single-source-of-truth for the development team and is the primary artifact produced by systems engineering activities. Documentation becomes secondary and is generated from the system model. In comparison to the traditional approach, MBSE provides a more rigorous method for capturing, integrating, and maintaining outputs of systems engineering activities. The benefits of using this model-centric approach include: enhanced communications, reduced development risk, improved quality, and enhanced knowledge transfer.

MBSE method is a method that implements all or part of the systems engineering process and produces a system model as one of its primary artifacts. The approach here focuses on the requirements analysis and functional analysis parts of the systems engineering process. The Systems Modeling Language (SysML) is commonly used in MBSE. It is a graphical modeling language developed by the Object Management Group (OMG) to be used for modeling a wide range of systems engineering problems. It is not dependent on any single systems engineering method and is intended to support multiple methods. It is well-suited for specifying requirements, structure, behavior, allocations, and constraints on system properties to support engineering analyses. This presentation will elaborate on the details of MBSE as well as the use of SysML.



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For further information about the International Council on Systems Engineering please visit the INCOSE website at <http://www.incose.org/> and the Delaware Valley Chapter website at <http://www.incose.org/ChaptersGroups/Chapters/ChapterSites/delaware-valley/chapter-home>

Meeting Location Directions and Parking:

There is a train station at 30th and Market Streets, a subway station at 34th and Market, and a trolley station at 33rd and Market. The Pearlstein Building Learning Center building is at the corner of 33rd and Market Streets on the South side. For those driving, you can park at the Drexel Parking Garage; entrance located on Ludlow Street between 33rd and 34th Street – Cost \$10 (Directly around the corner from Market Street and Pearlstein Learning Center)

