March 2019 Meeting!

Thursday the 14th
Georgia Tech Aerospace Systems Design Lab (ASDL)
Atlanta, Georgia

"Research and Applications of Model Based System Engineering"

Martin Ballard, Kevin Reilley, Selcuk Cimtalay
Georgia Tech

Abstract

Model Based System Engineering (MBSE) is being adopted by industry at a rapid pace. Also, R&D supporting the development of MBSE is continuing in academia, industry and government in various forms.

This presentation will cover three parts:

- A brief introduction to MBSE and its enabling language The Systems Modeling Language (SysML).
- A brief overview of representative projects which enable responsive, end-to-end decision-making via a system model, model-based requirements engineering techniques, and additional extensions to MBSE-related analytical capabilities and tutelage
- An overview of a project incorporating MBSE-related tools and methods into a defense acquisition context.

Speaker Bios

Marlin Ballard is a PhD Student at the Georgia Institute of Technology's Aerospace Systems Design Laboratory. His current research interests include analysis of graph representations of systems models. At Georgia Tech, Marlin has three years of research experience in SysML-related MBSE. He has additionally held three Systems Engineering internships at the NASA Jet Propulsion Laboratory for the development of a collaborative MBSE framework. Marlin is an OSCMP Certified Systems Modelling Professional - Model User.

Kevin Reilley is a PhD Student and Senior Graduate Researcher at the Aerospace Systems Design Laboratory (ASDL) at Georgia Tech. Kevin has a variety of experience with MBSE including an internship at JPL, sponsored work involved in a 2017 NASA Group Achievement Award (NESC MBSE Pathfinder Year 2), and additional applications to spacecraft, launch vehicles, and commercial air transports. Kevin's publications include four conference papers to date. Currently, he is working on a dissertation aiming to extend the benefits of empirical studies of systems engineering to the design and tailoring of systems engineering methodology.

Selçuk Cimtalay, PhD is a Senior Researcher at the Georgia Institute of Technology in the Aerospace Systems Design Lab (www.asdl.gatech.edu). He received his doctoral degree in 2000 in Mechanical Engineering from Georgia Tech. He has several years of teaching, research, and industry experience. Dr. Cimtalay has conducted research on various projects on model-based systems engineering (MBSE) including DARPA, Lockheed Martin, NASA, Airbus and Boeing. Before joining the research faculty at Georgia Tech, he worked for seven years for the software start-up company ClickFox LLC as a technical analyst/quality engineer, and three years for a consulting company, Hybrid Solutions Inc., as a lead technical analyst. He served on the instruction team for the SysML-related course (ASE 6005) in the Professional Masters in Applied Systems Engineering (PMASE).

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Agenda

5:30-6:00 pm   Social (Pizza, beverages), Remarks from Chapter President
6:00-7:00 pm   Program

ASDL Map

GPS: 275 Ferst Drive, Atlanta, GA 30313. If street parking is full, park in the student center lot

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