

Exceptional service in the national interest



Military Operations Research Society (MORS) - 86th Symposium

An MBE Manifesto

Engineering programs for complicated systems (Products, technology, processes, and people organization) are often based on the processes, organization, technology and product plans of previous programs, whether (or not) those past programs were successful. If Systems Engineering is a true engineering discipline, then shouldn't we use our Systems Engineering methods to design our engineering programs?

In April, 2018, a small group of systems engineers, scientists, and researchers assembled at the 19th IFSR Conversation in Linz, Austria, to use systems analysis methods to systematically model a Systems Engineering approach that would optimize modern model-based engineering methods and tools.

A result of that Conversation was a manifesto on model-based engineering. The purpose of the manifesto is to summarize and make explicit key values and principles motivating the transformation to model-based engineering (MBE). We will present a poster of the manifesto at the 2018 86th MORS Symposium, with the specific intent to seek feedback and input from across the MORS community. We are aware that the MORS community are not traditionally involved in creating engineering models. However, we are interested to know if our manifesto resonates with groups, such as the Operational Research community, that are tangential to the engineering disciplines.

BIOGRAPHY and QUALIFICATIONS:

Edward R. Carroll is a Principal R&D Systems Research Analyst at Sandia National Laboratories with a primary research interest in engineering methodologies and effective transformation. In the past 3 years, he has focused on understanding the optimal application of model-based systems engineering (MBSE), modular architecture, and agile hardware approaches toward meeting Sandia’s strategic nuclear weapons engineering objectives. He has over 30 years of experience leading the development of data-intensive solutions to automate engineering programs and business decisions through analytic models. Ed directed his own consultancy for 14 years, and provided leadership in executive roles in business development and technology, including roles as vice president of engineering for Egghead.com, director of technology at Nike, and director of software engineering at Boeing, and was a retired Naval Aviator. Ed received a BA in Liberal Art from Arizona State University, a MS in Systems Management from the University of Southern California, and a Graduate Certificate in BioMedical Informatics from Oregon Health Sciences University.



SAND2018-xxxxx