

# A BETTER WORLD THROUGH A SYSTEMS APPROACH: TRANSFORMING NEEDS TO SOLUTIONS

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## ABSTRACT

Systems engineers are at the heart of creating successful new systems. They are responsible for the system concept, architecture, and design. They analyze and manage complexity and risk. They decide how to measure whether the deployed system actually works as intended. They are responsible for a myriad of other facets of system creation. Systems engineering is the discipline that makes their success possible — the tools, techniques, methods, knowledge, standards, principles, and concepts. The launch of successful systems can invariably be traced to innovative and effective systems engineering (INCOSE.org). This talk identifies the skills and competencies that comprise the discipline and how the graduate systems engineering program delivers on these skills.



## SPEAKER BIO

Dr. Christina Mastrangelo is an Associate Professor of Industrial Engineering at the University of Washington. Her primary research field is systems engineering, quality and risk engineering and dynamic modeling and predictive analytics applied to manufacturing, healthcare and decision making. Dr. Mastrangelo's research, sponsored by NSF and ONR, seeks to understand the effects of lower-level processes on system-level outputs. This is applied to obsolescence management, additive manufacturing, healthcare delivery, system reliability and food security. She is a member of ASA, ASEE, ASQ, INCOSE, INFORMS, and a senior member of IIE.

## DATE/TIME

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