

Cybersecurity Modeling and Simulation



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A **FREE** Virtual Meeting
Registration Required

Mon Nov 28, 2022

8:00 – 9:00 PM EST

5:00 – 6:00 PM PST

INCOSE

Ivan Taylor is President of Policy Dynamics Inc. located in Kitchener, Canada. He has been a Scientist Emeritus at the Centre for Operational Research in Defense R&D Canada where he was employed as a Defense Scientist for over 33 years. Ivan has a Ph.D. in Public Policy, an M.Sc. in Information and Systems Science, and a B.Sc. in Mathematics (Honours). He has been a member of INCOSE since 2020 and is active in the Resilient Systems Working Group and the Social Systems Working Group. He has presented at the INCOSE International Workshop (IW) in 2021 and 2022.

Abstract. Modeling and simulation (M&S) represent the structure and behavior of a system with a focus on what the system is and does to provide value-delivery. Security M&S represents a risk to the system that may negatively impact value-delivery and what to do to address those risks. The chronology is to first model the system, then risks to the system, and then model security to mitigate the risks to assure value-delivery. Modeling security separate from that which it safeguards has no meaning. This presentation introduces M&S concepts, including purpose, approaches, and that which one models; plus, an introduction to modeling risk, threats, and security. There are examples of modeling cybersecurity operations for optimization and applying conditional probabilities to help manage uncertainty for finding threats in the operating environment.

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