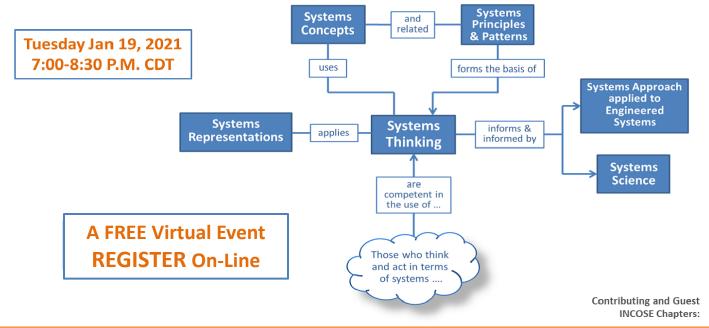
## Systems Thinking: A Foundation for Product Development



Caltech



**Dr. Rick Hefner**Program Director, Caltech
Center for Technology and
Management Education







**Rick Hefner** is the Program Director for Caltech's Center for Technology and Management Education, which designs and delivers customized professional training to technology-driven organizations. He has over 40 years of experience in systems development, research, and management, and has served in industrial, academic, and government positions. Dr. Hefner has worked with numerous companies including AeroVironment, Applied Physics Laboratory, Applied Materials, Ares Management, Boeing, DRS Technologies, Halliburton, Herbalife, Honeywell, Jet Propulsion Laboratory, John Deere, L-3 WESCAM, Maytag, Motorola, Northrop Grumman, Pacific Bell, Raytheon, Schlumberger, Southern California Edison, St. Jude Medical, Toshiba, TRW, U.S. Navy, and Xerox. Dr. Hefner is credited with over 200 publications and presentations and is a certified Lean Six Sigma Black Belt. He earned his PhD from UCLA and his MS and BS from Purdue University. He is Past-President, INCOSE Los Angeles Chapter.

**Systems thinking** is an approach to understanding a system by examining the interactions among its components and between the system and the external environment. Systems thinking is essential to proper systems engineering, because it provides a framework for understanding and influencing the system's behavior. The ability to design systems relies on applying systems thinking rules to the definition of the system boundary, structure and interfaces to predict system performance.

This presentation will discuss the fundamental concepts, tools, and methods of systems thinking, and describe how their application distinguishes systems engineering from more traditional product development. Special emphasis will be paid to the connections between systems thinking and model-based systems engineering (MBSE).

## Welcome and Announcements ...... 7:00pm CST

- Sean Mahrt, Program Director, Heartland Chapter
- Obi Odenigbo, President, Heartland Chapter
- Shadrak Rajkumar, Vice-President, Heartland Chapter
- David Long, President, Wright Brothers Chapter
- Dean Norfleet, Incoming President, Michigan Chapter
- Mike Meakin, President, Canada Chapter
- Dan Menoher and Ron Heller, Three Rivers Chapter
- Jack Stein, Asst. Director, INCOSE Americas Sector

**Q&A** 8:00pm CST

 **Adjourn** 8:20pm CST

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