



# Systems Engineering Concepts Applied to a Hospital Emergency Department

The healthcare technical track at the 2016 INCOSE International Workshop

***Emergency Departments (EDs) provide 11% of all outpatient visits and are the entry portal for roughly 1/2 of all hospital admissions (Am. College of Emergency Physicians, 2012). Therefore ED efficiency and effectiveness is critical to the overall healthcare system. This makes EDs an ideal candidate for evaluating the “system approach” that systems engineering can provide to healthcare.***

## Agenda Synopsis

### Sat, Jan 30, 2016

- Morning: INCOSE Healthcare Working Group introduction & kick off
- Afternoon: ED stakeholder and clinician perspectives and needs

### Sun, Jan 31, 2016

- Morning: Systems engineering approach to analyzing ED operations and device use conditions
- Afternoon: Applying systems engineering models to integrate physical and computer simulations

The healthcare track at the INCOSE International Workshop will bring together clinicians, healthcare simulation experts, medical device manufacturers, and systems engineers to evaluate and refine an emerging systems engineering modeling approach to healthcare operations. The workshop will provide ...

- Clinicians and hospital administrators with a new perspective on representing the many interactions and dependencies within a hospital department
- Medical device manufacturers with a new tool for analyzing the use conditions within an ED that impact device design and safety
- Healthcare simulation experts with an approach to a common framework for developing simulations and comparing results across multiple simulation types
- Clinical engineers and systems engineers with a deeper understanding of how to tailor for healthcare the systems engineering tools developed by other industries

The Healthcare Systems Engineering technical track is a component within the INCOSE International Workshop being held in Torrance, CA, January 30 to February 2, 2016. Additional information can be found on the INCOSE website <http://www.incose.org/newsevents/EventIW>. Additional information about the INCOSE Healthcare Working Group can be found at <http://www.incose.org/ChaptersGroups/WorkingGroups/industry/healthcare>.



Bringing Systems  
Thinking to Healthcare

# Healthcare Working Group

## Complete healthcare agenda for the 2016 INCOSE International Workshop

The INCOSE Healthcare Working Group's purpose is to bring together systems engineers and systems thinkers from within the healthcare industries to identify, develop, and tailor systems engineering best practices for application in the improvement of healthcare. The International Workshop is our primary venue for face to face engagement among our members, our partners, and others interested in the systems approach to healthcare and related industries. Our agenda for IW2016 blends technical sessions, product working sessions, and working group planning sessions to set the stage for the coming year.

***Please join us at IW2016!***

<b>Saturday, Jan 30, 2016, morning</b>	<b>Opening plenary session - INCOSE MBSE Chair</b>
	Healthcare Workshop Kickoff & Introduction Steve Badelt (sbadelt@suttonscreek.com)
<b>Saturday, Jan 30, 2016, afternoon</b>	MBSE for Emergency Dept. – Identifying Stakeholders Bob Malins (rjmalins@eaglesummittech.com)
<b>Sunday, Jan 31, 2016, morning</b>	MBSE for Emergency Dept. – Model-Based SE Reference Architecture Bob Malins (rjmalins@eaglesummittech.com)
<b>Sunday, Jan 31, 2016, afternoon</b>	MBSE for Emergency Dept. – Model-Based SE & Healthcare Simulation Bob Malins (rjmalins@eaglesummittech.com)
<b>Monday, Feb 01, 2016, morning</b>	SE for Healthcare in VSE/ small medical device manufacturers Angela Robinson (angela.robinson.incose@gmail.com)
<b>Monday, Feb 01, 2016, afternoon</b>	SE for Healthcare in VSE/ small medical device manufacturers Angela Robinson (angela.robinson.incose@gmail.com)
<b>Tuesday, Feb 02, 2016, morning</b>	Working group 5 year plan and partnering strategy Chris Unger (Christopher.Unger@med.ge.com)
<b>Tuesday, Feb 02, 2016, afternoon</b>	Closed HWG Leadership working session Chris Unger (Christopher.Unger@med.ge.com)

### **INCOSE Healthcare Working Group Modeling Strategic Objective**

Be the clearinghouse for systems engineering models and techniques for healthcare systems and healthcare product offerings.

- Sponsor conferences for sharing state of the art in model based systems engineering
- Define the standard approach for hospital department systems engineering models
- Define the reference architecture method for integrated modeling of hospital departments
- Facilitate a repository of example healthcare reference architectures for community

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