2018 Annual INCOSE
Great Lakes Regional Conference
SYSTEMS AT THE CROSSROADS
17 - 20 October 2018 | Indianapolis, Indiana

Integrative Healthcare Track

Call for Proposals – Deadline Extended to June 10, 2018

Key Words: *Integration of clinical pathways, managing care flow processes, medical devices, clinical instruments, medications, clinical personnel, clinical data, payment structure, patient outcomes.*

Objective: Engage the healthcare sector and the Great Lakes SE community to focus on the opportunities and applications of SE in healthcare.

Details: Delivery of healthcare in the US is a large and complex System of Systems (SoS) constrained by finite resources with growing demand and increasing costs. Engineering better healthcare along with continuous improvement requires intelligent design (*c.f. Building a Better Delivery System: A New Engineering/Health Care Partnership, IOM 2005*). The 2018 GLRC Integrative Healthcare track is inviting presentations focused on care delivery, medical devices, informatics/analytics, and medicine that will highlight the applications of SE in the healthcare field.

Care delivery: Care is moving from a service-based to performance-based or patient-outcome based delivery approach and reimbursement model. The Integrative Healthcare Track invites abstracts to illustrate SE approaches to reengineering the care delivery process. Topics in this area may include:

- Using quality metrics to foster and drive changes to care processes
- Current approaches for analyzing and developing integrative medicine solutions
- Integrative care processes lifecycle analysis, including design, testing, implementation and monitoring for performance, risk, safety and patient outcome
- Best practices for care controls processes to align with evidence-based care

Medical Devices: Medical devices are used by professional care providers and by patients/care givers to track, coordinate, and improve care. The Integrative healthcare track invites abstracts to illustrate SE and MBSE approaches to challenges and opportunities in delivering medical devices. Topics in this area may include:

- Medical device interoperability, monitoring, quality and control
- Improve patient care and tracking treatment outcomes, including patient safety
- Data storage, monitoring, and analysis exchanging critical data with data repositories

Health Informatics/Analytics: The US has invested billions of dollars to build a health information infrastructure to support and improve patient health. Data analytics can potentially serve as closing the loop for improving the integrative healthcare solutions. The Integrative Healthcare Track invites abstracts to elaborate systems approach used in designing and deploying such largescale information management solutions. Topics in this area may include:

- Informatics as an integral part of daily clinical care processes
- System approaches to manage lifecycle informatics and analytics systems
- Using Informatics/Analytics to improve point of care, performance, patient data access, and surveillance

Medicine: Medicine, and specifically personalized medicine, is another level of integrated care in the healthcare. The Integrative Healthcare Track invites abstracts to elaborate SE principles used in medicine. Topics in this area may include:

- How systems are evolving to speed the next generation of drug research
- Treating complex diseases in an integrative environment
- Personalized medicine development
- Improved surveillance of post-market data to identify adverse effects and new applications