



**Fall 2011 Colloquium**  
**Temple University**  
**Computer and Information Sciences**

*Medical Cyber Physical Systems*

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**Wednesday, 10/26, 11am, Wachman 447**

**Abstract:**

We discuss current trends in the development and use of high-confidence medical cyber-physical systems (MCPS). These trends, including increased reliance on software to deliver new functionality, wider use of network connectivity in MCPS, and demand for continuous patient monitoring, bring new challenges into the process of MCPS development and at the same time create new opportunities for research and development. These challenges and opportunities are illustrated using a series of recent and on-going case studies. The case studies explore the development of individual devices using model-based technologies, medical device certification, interconnectivity and interoperability of medical devices, and new capabilities enabled by interoperability, such as smart alarm systems and physiological closed-loop control.

**Bio:**

Oleg Sokolsky is a Research Associate Professor of Computer and Information Science at the University of Pennsylvania. He received M.Sc. and Ph.D. in Computer Science from St. Petersburg Technical University and Stony Brook University, respectively. His research interests lie in the application of formal reasoning to the development of high-confidence embedded software and systems.