4th Workshop on Medical Cyber Physical Systems
April 8th, 2013
Cyber-Physical Systems Week, Philadelphia, PA

Workshop Program

8:50 - 9:00 am: Welcome and Kick-off

9:00 - 10:00 am: Keynote - Robotic Surgery: Quo vadis?
Dr. Pankaj Singhal,
Chief, Division of Minimally Invasive & Robotic Surgery, University at Buffalo
Abstract and Bio

10-10.30 am: Coffee break

10:30 - 12:00 pm: Session I

Invited Talk: Update on MD PnP program collaboration resources,
Dr. Julian M. Goldman, MD.
Dr. Goldman practices clinical anesthesia in the Massachusetts General Hospital Operating Room of the Future, serves as Medical Director of Partners HealthCare Biomedical Engineering, and leads the Medical Device Plug-and-Play Interoperability Program at the Center for Integration of Medicine & Innovative Technology (CIMIT/MGH).

Biogeography-Based Optimization for Hydraulic Prosthetic Knee Control
Tim Wilmot, George Thomas, Berney Montavon, Rick Rarick, Antonie van den Bogert, Steve Szatmary, and Dan Simon, Cleveland State University; William Smith and Sergey Samorezov, Cleveland Clinic

Towards Formal Verification Methods for Robotic Lower-Limb Prostheses and Orthoses
Robert D. Gregg, UT Dallas; Ufuk Topcu, University of Pennsylvania

Run-time Safety Framework for Component-based Medical Robots,
Min Yan Jung, Peter Kazanzides, Johns Hopkins University

12:00 - 1:00 pm: Lunch

1:00 - 3:00 pm: Session II

Invited Talk: Cardiac resynchronization therapy: success and challenges
Dr. Larisa Tereshchenko, MD, Johns Hopkins Hospital, Cardiac Electrophysiology.
Abstract and Bio

Invited Talk: Thoughts on Assurance Cases
Paul L. Jones, US FDA.
Paul Jones is a Senior Systems/Software Engineer in the Office of Science and Engineering Laboratories at the US Food and Drug Administration.
A Control Flow Prototype for a Dose Recommending Device for Chronic Myeloid Leukemia Patients
Alena Simalatsar, Wenqi You, Dechao Sun, Giovanni De Micheli EPFL; Verena Gotta, University of Laussane and Geneva; Nicolas Widmer, University of Lausanne

Using Models to Address Challenges in Specifying Requirements for Medical Cyber-Physical Systems
Anitha Murugesan, Sanjai Rayadurgam, Mats Heimdahl, University of Minnesota

Literature Review of Testing Techniques for Medical Device Software
John J. Majikes, Rahul Pandita, Tao Xie, North Carolina State University

3:30 - 3:30 pm: Coffee break

3:30 - 4:45 pm: Medical CPS Panel
R&D and Regulatory Challenges for Medical Devices in the Future
- John Komp, Medtronic
- Michael Kremliovsky, Hospira
- Sandy Weininger, FDA
- Dr. Larisa Tereshchenko, Johns Hopkins Medical Institutes
- Dr. Pankaj Singhal, School of Medicine and Biomedical Sciences, University at Buffalo

4:45 - 5:30 pm: Poster Session
2 minute poster overviews

5:30 - 6:00 pm: Final Comments

6:00 pm: Workshop Ends