Robotics Engineering Presents

Dr. Simon DiMaio

Medical Robots: from bench to bedside

Tuesday, April 30, 2019
10:00 a.m. - 11:00 a.m.
60 Gateway, Rm 1002

Abstract: Intuitive designs and manufactures state-of-the-art robot-assisted systems that have been used in more than 6 million minimally-invasive surgical procedures in over 60 countries worldwide. The da Vinci® Surgical System enables surgeons to operate with high precision and dexterity through a few small incisions, by using cutting edge telerobotics, vision, and human-computer interface technologies. And the innovation continues with a new generation of integrated systems, smart instruments, single port and endoluminal platforms, as well as advanced analytics, guidance, intelligent systems, and much more to come. These systems are revolutionizing the way in which surgery is being done, and offer unique platforms for exploring the potential of intelligent interventions to reduce variability in clinical outcomes and to help deliver better care.

In this presentation, Simon will provide some background on Intuitive Surgical, the da Vinci Surgical System, and its purpose. He will discuss the research and development process, and introduce some active areas of development and opportunities for future advancement of the field.

Bio: Simon DiMaio leads Applied Research projects at Intuitive Surgical, Inc. (Sunnyvale, California), makers of the da Vinci Surgical System – a telerobotic system for minimally-invasive surgery. Simon holds a Ph.D. in robotics and control systems from the University of British Columbia, Canada, where he explored haptics and teleoperation technologies, and then went on to develop some of the very first needle insertion models and novel robotic needle steering methods for medical applications.Prior to moving to Intuitive Surgical, he completed a postdoctoral fellowship and later held an appointment as Instructor of Radiology at the Harvard Medical School, as a member of the Surgical Planning Laboratory (SPL) at the Brigham and Women's Hospital in Boston. At the SPL, he developed systems for MRI-compatible medical robots, as well as methods for navigated endoscopy and interventional guidance. In addition to R&D projects at Intuitive, Simon is involved in the development of academic relationships and programs, as well as the exploration of future platforms and applications of robotics and technology in medicine.