Department of Mechanical and Biomedical Engineering
&
Department of Systems Engineering and Engineering Management

Sustainable robotic devices for personalized medical assistance

Dr. Dana Damian

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Date: March 26, 2015 (Thursday)
Time: 11:15am - 12:15pm
Venue: Room B6619 (MBE Conference Room), 6/F, Lift 4, AC1

Abstract

One of the next technological frontiers in medicine is the realization of personalized robots that integrate seamlessly with the human to perform repair or augmentation of various biological functions over extended period of time. In this talk I will introduce two types of robotic devices that act as prostheses outside and inside the human body, emphasizing on their specific biology-imposed challenges and on technological approaches for personalized medical assistance. First, I will introduce an autonomous robotic implant that aims to grow tissue in vivo for the treatment of a gastrointestinal disease. Second, I will present a prosthetic skin for restoring an enhanced tactile sense to prosthesis wearers, and for assisting the integration of the prosthetic hand as part of their body.

About the Speaker

Dana D. Damian is a postdoctoral research fellow at the Department of Cardiovascular Surgery at Boston Children's Hospital, Harvard University, working on robot implants for esophageal atresia. She obtained her Ph.D. at the Artificial Intelligence Laboratory at University of Zurich in 2012 where she conducted research on prosthetic artificial skins and haptic wearables. During her Ph.D. she was a visiting scholar at Johns Hopkins University and Stanford University in 2011, and Carnegie Mellon University in 2012. Her research interests reside in the area of medical robots and assistive technology, aspiring to create sustainable robots for personalized medicine.

All are welcome!

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