香港中文大學
The Chinese University of Hong Kong

香港中文大學醫學院
Faculty of Medicine
The Chinese University of Hong Kong

Chow Yuk Ho Technology Centre for Innovative Medicine
周毓浩創新醫學技術中心
The Chinese University of Hong Kong

Seminar on "Lifesaving Capsule Robots"

Date	19 February 2019 (Tuesday)
Time	4:30 pm – 5:30 pm
Venue	Room 301, 3/F, Li Ka Shing Medical Sciences Building, Prince of Wales Hospital, Shatin (Map)

Speaker | Prof. Pietro Valdastri

Chair in Robotics & Autonomous Systems, School of Electronic and Electrical Engineering
University of Leeds

Biography

Prof. Valdastri's academic career started with a Laurea degree cum Laude in Electronic Engineering from the University of Pisa in 2001 and a PhD degree cum Laude in Biomedical Engineering from Scuola Superiore Sant'Anna in 2006. After the PhD, he served as Assistant Professor of Biomedical Engineering at the BioRobotics Institute of Scuola Superiore Sant'Anna, focusing on implantable medical devices and surgical robotics. Prof. Valdastri started the Science and Technologies Of Robotics in Medicine (STORM) Lab focusing on medical capsule robots for gastrointestinal endoscopy and abdominal surgery when he moved to Vanderbilt University as Assistant Professor of Mechanical Engineering. In 2016, he joined Leeds as Full Professor and Chair in Robotics and Autonomous Systems with in the School of Electronic and Electrical Engineering and the School of Mechanical Engineering.

In Leeds, Prof. Valdastri is directing the STORM Lab, the Institute of Robotics, Autonomous System and Sensing (IRASS), and the Robotics at Leeds network. Prof. Valdastri is a Royal Society Wolfson Research Fellow, a Senior Member of the Institute of Electrical and Electronics Engineers (IEEE), the Editor for Medical and Rehabilitation Robotics of the IEEE Robotics and Automation Letters, a member of the Technology Committee of the European Association for Endoscopic Surgery (EAES), and a member of the steering committee of the International Society for Medical Innovation and Technology (iSMIT).

Talk Abstract

The talk will focus on Medical Capsule Robots. Capsule robots are cm-size devices that leverage extreme miniaturization to access and operate in environments that are out of reach for larger robots. In medicine, capsule robots can be designed to be swallowed like a pill and to diagnose and treat mortal diseases, such as cancer. The talk will move from capsule robots for the inspection of the digestive tract toward a new generation of surgical robots and devices, having a relevant reduction in size, invasiveness, and cost as the main drivers for innovation. During the talk, we will discuss the recent enabling technologies that are being developed at the University of Leeds to transform medical robotics. These technologies include magnetic manipulation of capsule robots, hydraulic and pneumatic actuation, real-time tracking of capsule position and orientation, ultra-low-cost design, frugal innovation, and autonomy in robotic endoscopy.

FREE ADMISSION. ALL ARE WELCOME!

Programme information is subject to changes.

Online Registration | http://bit.ly/2Hh0QHu

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