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Automatic
Control and
Systems
Engineering

The Department of Automatic Control & Systems Engineering
is pleased to announce the following seminar:

**“A Soft Future: the move from hard to soft robotics and its application in
healthcare”**

Dr Ali Alazmani

*University Academic Fellow in Soft Robotics, Faculty of Engineering
University of Leeds, UK*

Wednesday, 05 June 2019 at 14:00

LT2, Sir Henry Stephenson Building

Abstract

Soft robots use the non-linear properties of elastomers to perform sophisticated tasks that would otherwise be impossible or very complex and expensive to do with traditional hard robotic components. The use of these “smart” materials allows the fabrication of robotic systems inspired by nature with fewer auxiliary sensors and feedback loops. We leverage these properties to design soft sensors, actuators, and structures. These soft systems are of particular interest for biomedical applications because they are lightweight, distribute forces easily, inexpensive, easily fabricated, and can provide non-linear motion with simple inputs. We believe soft robotics offers rich opportunities for conformable, low modulus implantable devices, surgical tools, and rehabilitation therapy

Biography

Ali Alazmani is a University Academic Fellow at the University of Leeds. Dr Alazmani received his B.Sc. from Isfahan University of Technology followed by M.Sc. and Ph.D. degrees in the School of Mechanical Engineering at the University of Leeds. His Ph.D. thesis focused on developing a novel system for non-bloodstream contacting ventricular assist device. Dr Alazmani continued working on this concept during his postdoctoral training at Harvard University, Wyss Institute of Biologically Inspired Engineering, and Boston Children’s Hospital, where he developed a soft bio-mimetic cardiac assist device. His current research interests include active soft materials for sensing and actuation, and morphable soft-bodied robotics for medical technologies. He is the winner of multiple awards of his work including the National Instruments Application of the Year and Sue Westwood Memorial Prize, and nominated for the British Engineering Excellence Award