



University of Pavia

Ph.D. School of Electrical and Electronics Engineering and Computer Science

SEMINAR

Unpowered and Underactuated Hopping for Legged-Robot Locomotion

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**12th July 2016, h 10.00, Seminar room, floor E
Department of Electrical, Computer and Biomedical Engineering**

Abstract: In the past few decades, the focus of research in legged robots was on innovative and conceptual design and intelligence for multisensor fusion and decisioning. On the other hand, dexterity and quick response are an essential part of dynamical interactions associated with realistic applications and for emulation of biological manipulation and mobility. The talk will focus on the unpowered and underactuated motion of single-legged robot. A methodology for searching for trajectories for passive motion (unpowered motion) and underactuated motion (requiring fewer actuators) at least for a part of the motion cycle is discussed. The complexity in analyzing such a motion with an additional link in the leg configuration and a heuristic method that results in a periodic motion is highlighted.

Bio: Dr Vivek has been with VIT University for the past 13 years and he is currently Professor of Mechanical Engineering. He was mainly associated with the Master's Programmes in Mechatronics and Automotive Engineering and has been Coordinator of PG Programmes and Division Leader (Mechatronics). Dr Vivek has been instrumental in getting VIT University into international academic partnerships under Erasmus Mundus, Erasmus+ and STINT programmes. Dr Vivek has consulted for a project related to modelling of a dual-arm manipulator on army tank and for design improvement of packaging machinery. He also received a DST funding for the studies on using biosignals for robotic prosthetic device. Main research interests are: Robotics and Multi-Body Systems, Vision, Haptics, and Tribology of Silicon Surfaces used in MEMS

Organizer

Prof. F. Benzi

Ph.D. Coordinator

Prof. P. Di Barba

Seminar in English

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