



THE UNIVERSITY OF
MELBOURNE

Mechanical Engineering

SEMINAR SERIES 2010

Dr Etienne Burdet
Reader in Human Robotics
Imperial College, London

Thursday 14th October, 3pm
Lecture Theatre 3
Level 1, Alan Gilbert Building
161 Barry St, Carlton

Rules of Mechanical Virtual Reality and Therapeutic Games for Neurorehabilitation.

MORE INFORMATION

For more Mechanical Engineering
seminar information contact:

Professor Ivan Marusic
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This talk will first present the results of experiments to understand how humans control their arm. By investigating the adaptation of arm movements to computer-controlled force fields produced by a robotic interface, we have been able to decipher the main properties of motor adaptation. We use this knowledge to develop intuitive robotic systems for neurorehabilitation after stroke. While it is not yet known whether and how much such systems help recovery after stroke, our experience has shown that patients are motivated using them in a game-like environment. An important task consists of developing such therapeutic video games to provide optimal recovery of motor functions.

Dr. Etienne Burdet (e.burdet@imperial.ac.uk) is Reader in Human Robotics at Imperial College London. He obtained a M.S. in Mathematics in 1990, a M.S. in Physics in 1991, and a Ph.D. in Robotics in 1996, all from ETH-Zurich. He was a postdoctoral fellow with Ted Milner (McGill, Canada), Ed Colgate (Northwestern, USA) and Mitsuo Kawato (ATR, Japan), between 1996 and 1999, where he did research in Neurophysiology and Human-robot Interaction, and Assistant Professor in Robotics at the National University of Singapore (NUS) from 1999 to 2004. He was invited Professor at NUS from 2005 to 2009, and at Paris VI from 2009 to 2011.

Dr. Burdet does research around his interest in human-machine interaction. He is using an approach integrating neuroscience and robotics to: i) investigate human motor control and ii) design efficient assistive devices and virtual reality based training for rehabilitation and surgery.