SEMINAR
COMPUTATIONAL MODELLING OF MUSCULOSKELETAL FUNCTION IN HUMAN LOCOMOTION

28 September 2018
Venue: Room “A203”@DII, Via Sommarive, 5
Time: 11:00am-12:30am

Gait-analysis techniques have been used for more than a century to provide information on the kinematics and kinetics of human gait, yet the ability of this approach to evaluate functional performance is limited because it cannot be used to discern the actions of individual muscles. Rapid increases in computing power combined with recent advances in medical imaging, more accurate methods for measuring dynamic joint motion, and more efficient algorithms for modelling the human neuro-musculoskeletal system have enabled detailed analyses of musculoskeletal function. The aim of this presentation is to illustrate how computational modelling may be combined with novel imaging methods such as mobile X-ray fluoroscopy to provide a more comprehensive understanding of muscle and joint function in healthy and pathological gait.

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Marcus Pandy is appointed as Chair of Mechanical and Biomedical Engineering at the University of Melbourne and formerly served on the faculty of the Department of Biomedical Engineering at the University of Texas at Austin.
A focus of Dr Pandy’s research career has been the development, validation and implementation of experimental and computational tools for accurate assessment of muscle, ligament and joint function in vivo. Dr Pandy is a Fellow of the American Institute of Medical and Biological Engineering, the American Society of Mechanical Engineers and Engineers Australia.