

Science and Technology in Medicine



Research Project Proforma (School of Medicine)

Research Title:	Physiological measurement of normal and abnormal movement patterns using biomedical technology.
Keywords (up to 5)	Biomechanics, motor control, physiological measurement, neuromuscular disease, upper limb.
Supervisor:	Dr Ed Chadwick
Job Title:	Lecturer in Biomedical Engineering
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Type of projects offered (delete as appropriate)	Intercalation (1 year)/ Studentship (4-8 weeks) /Both

(1) Outline the broad aims of your research and its medical relevance (150 words):

The aims of my research are to restore functional movement in the upper limb to individuals with neuromuscular disorders such as stroke or spinal cord injury, and in limb loss following trauma and amputation. In order to achieve this we need to understand normal movement, be able to quantify and understand the causes of functional loss, and develop means to facilitate or produce movement where power or control has been lost. We do this through biomechanical modelling of musculoskeletal function, the use of physiological measurement of muscle function and movement, and the use of assistive technology or prosthetic devices. This is relevant to the fields of prosthetics and orthotics, rehabilitation, orthopaedics and neurology.

(2) Indicate the skills/techniques the student will learn (100 words)

Students will have the opportunity to acquire knowledge in the areas of functional anatomy, biomechanics and motor control, develop skills in physiological and functional measurement such as electromyography or motion analysis, and be able to apply skills in statistical analysis to physiological measurement datasets relevant to neuromuscular disorders.

Please submit this form electronically to Prof Divya Maitreyi Chari on d.chari@keele.ac.uk by 31 July 2015