

## UQ Summer 2016 - 2017 Project Description

Due to [rhadmin.shrs@uq.edu.au](mailto:rhadmin.shrs@uq.edu.au) by Friday 17 June 2016 (if at all possible). The School needs to have this information returned to UQ Advancement by Thursday 23 June 2016.

Please use this template to create a description of each research project, eligibility requirements and expected deliverables. Project details can then be uploaded to each faculty, school, institute, and centre webpage prior to the launch of the program.

<b>Project title:</b>	<b>Novel shoe insoles to improve walking performance in healthy adults and people with Multiple Sclerosis</b>
<b>Project duration:</b>	10 weeks
<b>Description:</b>	Footwear interventions, such as shoe insoles and foot orthoses, are becoming increasingly popular in clinical and healthy populations. This is because they offer a simple, inexpensive, non-invasive intervention that may help to prevent lower limb overuse injuries, alleviate pain, maintain skin integrity at the feet, and enhance movement patterns. A wide variety of foot orthoses and insoles are emerging, which incorporate novel design features such as ridges of elastometric materials, vibrating components, and textured upper surfaces. The latter claim to optimise functional task performance by targeting sensorimotor mechanisms, such as stimulation of sensory receptors. The scholar will be involved in two research projects which aim to: i) explore whether prolonged wear of textured shoe insoles improves walking ability and foot sensory function (light touch-pressure, vibration, 2-point discrimination, joint proprioception) in people with Multiple Sclerosis and; ii) investigate the immediate effects of wearing glycerine-filled shoe insoles on gait patterns in healthy adults and determine whether any changes in gait are related to perceived comfort.
<b>Expected outcomes and deliverables:</b>	The scholar will gain deeper understanding of clinical and functional assessments in people with Multiple Sclerosis including foot sensation & lower limb proprioception, balance and walking ability, and the administration of surveys to measure disease-specific symptoms and perceived insole comfort. The scholar will develop skills in data collection, management, processing and analysis. They will be trained in the use of biomechanical equipment (activity monitors, force platforms, electronic walkway system, 3D Motion Capture). The scholar will also have the opportunity to contribute to journal publications and conference presentations.
<b>Suitable for:</b>	The project is open to applications from Year 2 and Year 3 Physiotherapy students, who have a keen interest in biomechanics/human movement and neurological rehabilitation.
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