

Future plans

What next for human movement research?

The recent staff and infrastructure expansion makes the group uniquely equipped to study the neural processes underlying the healthy control of movement and posture and how these processes change in response to ageing, age-related metabolic and neurodegenerative diseases, brain injury (concussion) and damage (stroke), diabetes and diabetic peripheral neuropathy.

The group will use measurement techniques such as fMRI and EEG to directly measure patterns of brain activation during functional motor tasks and relate them to detailed kinematic information obtained from the motion analysis facilities. To elucidate CNS function TMS will be used to experimentally alter brain activity and observe the effects on characteristics of movement and posture.

More emphasis in future research programs will be on the effects of physical training/skill acquisition on functional activities such as reaching, standing and walking. This research will not only add to our understanding of the relationships between exercise and changes in neural and motor function but will also inform the development of interventions that can be implemented in the home-setting. The main research questions and priorities will be probed in collaboration with national and international research institutes.