

## PROJECT DETAILS

Project Title:

**Brain and motoneuron changes with ageing and their associations with neuromuscular function**

Project Summary: aims, significance, expected outcomes and potential research impact.

**Aims:** This project will investigate how known changes in ‘persistent inward current’ (PIC) activity of motoneurons (nerves controlling muscles) coincide with brain activity, and their relationships to neuromuscular function in older adults.

**Significance:** Age-related muscle strength loss causes significant health issues and increases mortality risk. Our team revealed poor PIC activity in older adults, however how this impacts, or is impacted by, brain activity and neuromuscular function it is not understood.

**Expected outcomes:** The project will combine multiple non-invasive, cutting-edge techniques to achieve the project aim, leading to high quality publications. The student will visit an international laboratory during the project.

**Impact:** Globally, there will be >2 billion older adults by 2050, with >20% expected to have significant muscle weakness and poor physical function. Understanding the mechanisms underlying motor dysfunction in ageing is key to developing interventions to combat this growing problem.

Preferred applicant skill set, describe the capabilities of the HDR applicant:

The successful PhD candidate will have an excellent work ethic and display strong problem-solving and scientific writing skills. The candidate should have a basic background in neuromuscular physiology. Some experience with neurophysiological testing procedures, equipment, and data analysis approaches are desirable but not essential.

Contact person for the project:

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