

## PROJECT DETAILS

Project Title:

**Understanding the role of dopamine in non-invasive brain stimulation and neuroplasticity in older adults**

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

Non-invasive brain stimulation can improve function in treatment-resistant conditions such as stroke. Indeed, certain stimulation protocols are covered under the Australian Medicare Benefits Scheme for treatment-resistant depression. However, we do not understand *how* brain stimulation affects brain function, making dose-optimization difficult. We have shown that dopamine, a neurotransmitter essential for neuroplasticity, influences the optimal dose of brain stimulation. These findings are relevant for older adults, who show progressive degeneration of brain dopamine function. This project addresses how age-related degeneration of the dopamine system influences optimal stimulation dose, aiming to improving brain stimulation efficacy for older adults.

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

We are looking for a self-motivated PhD candidate with a strong willingness to learn, excellent organization, problem-solving, and project management skills.

Contact person for the project:

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