



**Judith Bek, *Digital training with motor-cognitive strategies to improve movement in Parkinson's disease***

Parkinson's is the fastest growing neurological condition worldwide, and this is set to continue with the ageing population. Healthcare systems in Ireland as well as many other countries do not have sufficient resources to meet the needs of increasing numbers of people living with Parkinson's. Non-medical approaches to improve symptoms and

quality of life for people with Parkinson's can offer widely available and sustainable options to supplement medical treatments, while also enabling patients to take a more active role in managing their condition.

This DOROTHY project aims to investigate an innovative non-medical approach to neurorehabilitation for people with Parkinson's that combines evidence-based strategies and techniques. One strategy that will be investigated in this project is motor imagery, which is the imagination of movement. Motor imagery activates movement centres in the brain and helps with practicing and learning movements, particularly when combined with a visual demonstration of the movement. This technique is widely used in sports and rehabilitation and the fellow's previous research found that it may also be effective for people with Parkinson's. In particular, she will investigate using motor imagery within dance, as an enjoyable and motivating approach to improve movement for people with Parkinson's. Dance is a multidimensional activity that has been associated with a range of positive outcomes for people with Parkinson's, including both physical and non-physical benefits, and can be widely accessed through in-person or online classes.

At the start of her fellowship in 2023, Jude attended the World Parkinson Congress (WPC) in Barcelona as a Science Ambassador. The WPC is a collaborative forum where researchers, clinicians, and patients come together, which provided an opportunity to present preliminary research on motor imagery and dance in Parkinson's to a wide audience, as well as connecting with people living with Parkinson's from around the world. Jude has since set up an international panel of people living with Parkinson's to advise on the project, and hosted a laboratory "open day" event for people with Parkinson's at UCD. As part of a non-academic secondment, she is also working with Parkinson Canada to develop strategies and resources for patient engagement in research.