

Tuesday, 2 March 2021

**MSWA and ECU research funding partnership:
New motion sensing technology set to make waves for people living with
neurological conditions**

In an Australian first, Edith Cowan University (ECU) will begin trialling a motion capture and digital gaming system, Mindpod, to deliver therapeutic treatments for Western Australians living with a neurological condition.

The research is the first in a series of projects funded by MSWA in partnership with ECU.

The Mindpod device, developed at Johns Hopkins University, is the first of its kind in Australia and has been brought to ECU by Professor Dylan Edwards who is also the Director of the Moss Rehabilitation Research Institute.

ECU Researcher Dr Onno van der Groen said Mindpod would lead to new opportunities for restoring and improving upper limb function and cognition for individuals living with neurological conditions.

“The Mindpod motion capture and gaming system enables fun exploration and practice using whole arm-hand movements to guide a dolphin in a gaming environment. This immersive and engaging technology is an innovative tool for intense training,” Dr van der Groen said.

“We use a spring-operated exoskeleton suit to provide different levels of anti-gravity support, making it easier for people to move their arms. Data suggests the arm can move up to one mile in every session, and repeated sessions are associated with coordinated movement improvement.

“We also predict the system can have positive effects on attention, balance and mood.”

ECU Executive Dean, Medical and Health Sciences Professor, Moira Sim is overseeing the partnership with MSWA. Professor Sim said she was grateful to MSWA for funding the trial and hoped the research would provide major support for people with upper limb impairment to carry out their day- to-day lives.

“The Mindpod allows for more movements than what is possible through a regular therapy session,” Professor Sim said.

“Because they [participants] are playing a game, the focus is more on swimming [the dolphin] around and getting away from the shark than thinking about it as a therapy. Through this continual movement they are strengthening their upper limbs and improving nerve function.”

MSWA CEO Marcus Stafford AM said he was delighted to see the powerful combination of technology and research coming together to create a system that would benefit not only people living with a neurological condition, but anyone experiencing an upper limb impairment.

“Translating research into practice to benefit individuals living with neurological impairment is a key aim of the work being undertaken by ECU,” Mr Stafford said.

“Through our contribution MSWA is able to make a real difference to the day-to-day lives of people with limited or decreased mobility in their upper limbs.”

“Through the generosity of the people who participate in our fundraising events, and to the people who donate to our organisation, over the past 10 years we are proud to have contributed more than \$20 million to neurological research. This has been allocated to a variety of prestigious local institutions and we believe each unique research project will be results-driven and benefit our community at large.”

This will be one of the first applications of Mindpod in a wide variety of neurological conditions including MS.

Recruitment is now open, and participants wanting to be involved should contact Project Coordinator Manja Laws (m.laws@ecu.edu.au) for more information.

-ENDS-

About MSWA

MSWA provides vital support and services to people living with neurological conditions in Western Australia, including multiple sclerosis, stroke, Parkinson’s Disease, Huntington’s Disease, Motor Neurone Disease, and acquired brain injury.

MSWA has a team of more than 800 staff who work passionately to provide the best possible care to people across the Perth metro area and broader regional centres of Western Australia.

MSWA plays a vital role in educating the broader community, liaising with government and other relevant bodies on related issues, and advocating for the rights of people with neurological conditions and disability in general.

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