Prof Maria Stokes OBE PhD FCSP

- **Deputy Director Centre for Sport, Exercise and Osteoarthritis Research Versus Research**
- **Professor of Musculoskeletal Rehabilitation**
- **Active Living for Health Research**

Centre Partner Institution - University of Southampton

Maria's research career began two years after qualifying as a physiotherapist at the London Hospital, when she studied for her PhD in Neuromuscular Physiology in the Nuffield Department of Orthopaedic Surgery and Department of Zoology, University of Oxford. After a postdoctoral Research Fellowship in the Muscle Research Centre, Department of Medicine at the University of Liverpool, she spent four years as a Senior Lecturer in the Department of Physiotherapy, University of Queensland, Australia. She returned to the UK as Director of Research and Development at the Royal Hospital for Neuro-disability, Putney, London.

Maria joined the University of Southampton in 2004 where her research focuses on enabling physical activity for lifelong healthy ageing through finding safe and effective ways of being physically active and maintaining activity in the long-term. Studies aim to prevent injuries and illness in healthy people and help those living with long-term conditions to have an active lifestyle. Maria is an advocate of equality and diversity, particularly in supporting career development of health researchers.

Her research spans the age spectrum from adolescents to older people and the activity spectrum from elite sports to frail older people. More recently, her activities have extended to human space research, specifically optimising musculoskeletal health in astronauts during long periods of inactivity in space (monitoring muscle health and movement quality).

Her applied research is underpinned by studying neuromuscular physiological mechanisms of muscle weakness and fatigue, and biomechanical mechanisms of movement to inform development of exercise programmes for good movement quality. Understanding movement is vital for finding effective ways to protect joints during movement. A key part of the work involves developing assessment tools, and conducting reliability and validity studies, e.g. rehabilitative ultrasound imaging to measure muscle size; measurement of mechanical properties of muscle, using mechanomyography to assess muscle activity, Myoton technology to measure muscle stiffness and tone; assessment of movement quality. Developing adherence strategies for sustaining physical activity in later life is an important aspect of this research programme.

The interdisciplinary nature of Maria's work is enhanced by involvement in local infrastructure initiatives, including: Southampton NIHR Biomedical Research Centre; NIHR Wessex Applied Research Collaboration (where she co-leads the MOTH programme); the Institute for Life Sciences and a regional network, FortisNet, encompassing academic, clinical and industrial partnerships.

Maria is an advocate of equality, diversity and inclusion, particularly in supporting development of health researchers at early and mid-career levels.

http://www.soton.ac.uk/healthsciences/about/staff/mjs2.page
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