



THE UNIVERSITY OF
**WESTERN
AUSTRALIA**

School of Human Sciences

The Head of School, Professor Shane Maloney,
invites you to attend the

2017 SECOND SEMESTER, SHS SEMINAR SERIES

“Rites of Passage Seminar”

Vidya Krishnan

School of Human Sciences
The University of Western Australia

Role of nervous system in sarcopenia: Age related molecular and morphological changes in murine peripheral nerves and spinal cords, and analysis of the effects of resistance exercise on old sciatic nerves

Tuesday 15 August, 2017 at 1.00pm

Room 1.81, Anatomy, Physiology & Human Biology Building North
The University of Western Australia (off Hackett Entrance No. 2)



The Seminar: Vidya's PhD research investigated the “Role of the nervous system in sarcopenia: age related molecular and morphological changes in murine peripheral nerves and spinal cords, and analysis of the effects of resistance exercise on old sciatic nerves”. Sarcopenia, the age-related loss of skeletal muscle mass and function, is of increasing importance as our population rapidly ages and it is essential to understand the molecular and cellular mechanisms leading to sarcopenia in order to develop targeted interventions to maintain healthy ageing. Degeneration of the nervous system is considered a major factor underlying the onset and progression of sarcopenia and substantial reorganization in the neuromuscular system contributes to the loss of motor performance.

A time course study using ageing C57BL/6J mice, revealed striking age-related morphological, molecular and cellular changes in the peripheral nerve axons innervating the lower limb muscles and lumbar spinal cords, associated with the progression of sarcopenia. Another major experiment showed that while the mid-life onset on increasing resistance wheel exercise prevented sarcopenia, this exercise had little effect on the old peripheral nerves. This research published as 2 papers in 2016, 2017, provides new insight into the ageing neuromuscular system. This study also provided initial evidence of an age related changes in the spinal cord of the same mice. Collectively, these novel studies suggest that age-related morphological and molecular alterations of the peripheral and central nervous system play a significant role in the onset and progression of sarcopenia.

The Speaker: Vidya completed her Master's degree in Biotechnology at Bharathiar University, India in 2005, and in 2012 started her PhD studies at the University of Western Australia in the School of Anatomy, Physiology and Human Biology, supervised by Professor Miranda D. Grounds, Professor Alan R. Harvey, Assoc/Prof Stuart I. Hodgetts and Assoc/Prof Tea Shavlakazde. Her PhD was awarded in August 2017 and Vidya is now working as a postdoctoral research associate funded by the Neurotrauma Research Program (NRP), UWA on a project to investigate the “Benefits of exercise on age-related changes in old spinal cords.

PARKING:

Coin operated visitor parking is available between Hackett Entrances 1 and 2. City of Subiaco controlled riverside parking is also available.

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