



YCCSA Seminar Series Summer 2019

An interdisciplinary seminar series hosted by the York Cross-disciplinary Centre for Systems Analysis aimed at researchers from all disciplines

Moving the gait lab into patients homes

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**Friday, 30 August 2019
Ron Cooke Hub, RCH/204 at 13:30**

Abstract:

Gait and movement disorders often require life-long care and the maintenance of healthy gait and movement is essential for quality of life. Typically, gait disorders are analysed on a 6 monthly basis and treatment prescribed for that period. With the push towards community based medicine and the lowering costs within the NHS, alternative diagnosis and treatment methods must be found to ensure suitable diagnosis and treatments can be prescribed. This work focuses on using user-friendly, lightweight, wireless insole sensing devices to move the gait lab into a patient's home and to allow for more real-time understanding to the progression of gait and movement disorders. The overall aim being to provide more regular treatment interventions which can be autonomously deduced. To achieve this, we use deep neural networks to understand the how the insole data relates to specific gait disorders and then use this for classification of new gait patterns. We are now working with the multi-disciplinary team at Leeds General Infirmary to develop this model to produce clinically relevant classifications outside of a clinical environment.

The seminar includes a refreshment break to fuel interdisciplinary discussion

**Ron Cooke Hub is on Heslington East Campus – accessible by free bus services
Nos. 66 and UB1 running at frequent intervals from Heslington West.
The YCCSA Seminar room is on the second floor**