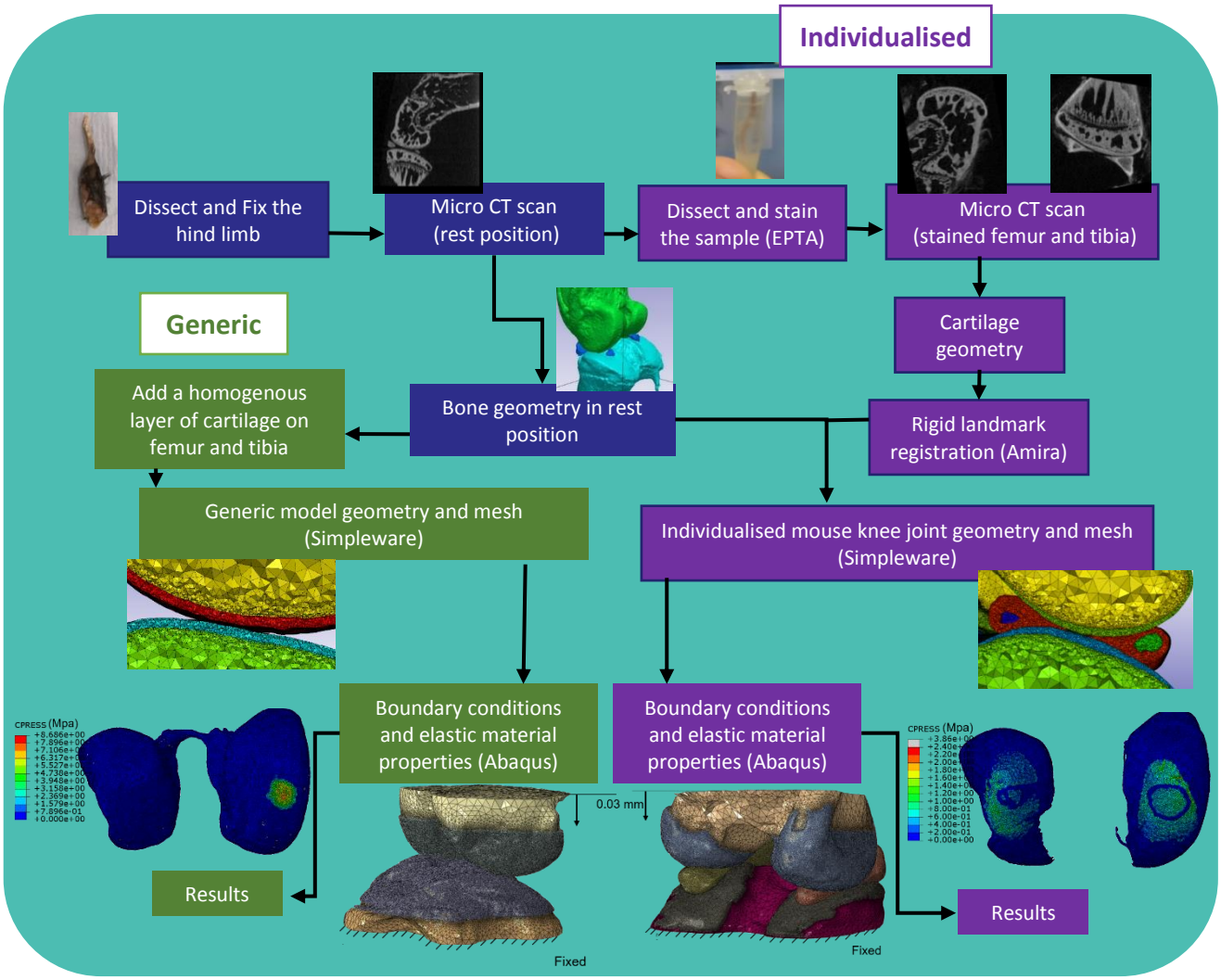
Sahand Zanjani Pour

Sahand Zanjani Pour received his PhD degree in physics from the University of Exeter in July 2017. The aim of Sahand's PhD was to incorporate finite element (FE) modelling and magnetic resonance images to investigate the pressure distribution in the lumbar spine in different sitting and standing with respect to supine postures. Sahand continued his work as a research associate in the University of Exeter to model the spine in flexion and extension postures based on quantitative fluoroscopy data, whilst writing his PhD thesis. Sahand was also the entrepreneur lead of a short-term ICURe Innovation to Commercialisation project funded by HEFCE and InnovateUK.

Sahand joined the MultiSim project as a Postdoctoral Research Assistance to work on a high-risk, high-gain proof of concept project. Sahand has managed to develop a method to create an FE model of the mouse knee joint in the rest position with realistic geometry of the bone cartilage based on phosphotungstic acid stained micro computed tomography scans. The proposed realistic FE model can be used for better understanding of the knee joint dynamics and associated diseases such as Osteoarthritis.



INSIGNEO Institute for *in silico* Medicine

The University Of Sheffield.

Sheffield Teaching Hospitals NHS NHS Foundation Trust

EPSRC Engineering and Physical Sciences Research Council

Sahand Zanjani Pour

Publications

S Zanjani-Pour, C P Winlove, C W Smith, & J R Meakin (2016). Image driven subject-specific finite element models of spinal biomechanics. Journal of Biomechanics, pp. 919–925.

S Zanjani-Pour, J R Meakin, A Breen & A Breen (2018). Estimation of in vivo inter-vertebral loading during motion using fluoroscopic and magnetic resonance image informed finite element models. Journal of Biomechanics, 70, 134–139.

In preparation: S Zanjani-Pour, M Giorgi, E Dall'Ara, The importance of subject specific cartilage in the mouse knee joint finite element model

In preparation: B C Roberts, H M Carrera, S Zanjani-Pour, M Boudiffa, A Gartland, N Wang, E Dall'Ara, Longitudinal effects of PTH(1-34) and mechanical loading on trabecular and cortical bone morphometry in the ovariectomized mouse

Other Achievements

Awards:

Best poster award, "Discs Conference", Henry V Crock Lecture, London, September 2015

Best poster award, "Early Career Research Network", University of Exeter, June 2016

Grants:

ICURe Innovation to Commercialisation (funded by HEFCE and InnovateUK), **£35k** grant, November 2016

ICURe Innovation to Commercialisation (funded by HEFCE and InnovateUK), Extended contract, **£15k** grant, March 2016

Conference presentations:

S Zanjani-Pour, C P Winlove, C W Smith and J R Meakin; Intervertebral Disc Stress in Standing and Sitting; Magnetic Resonance Imaging Based Finite Element Study, Presented at: International Society of Biomechanics (ISB) 12-16 July 2015, Glasgow, UK

Other Poster presentations:

S Zanjani-Pour, C P Winlove, C W Smith and J R Meakin; Intervertebral Disc Stress in Standing and Sitting; Magnetic Resonance Imaging Based Finite Element Study; Poster presented at: Henry V Crock Lecture 30 September 2015, London, UK