

NEURAL ENGINEERING SEMINAR SERIES

Concussion Biomechanics: The role of the meninges in concussion

<https://psu.zoom.us/j/96656674077>

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3:30 – 4:30 p.m. (ET)
W306 Millennium Science
Complex



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ABSTRACT:

The meninges are membranous tissues which are pivotal in maintaining homeostasis of the central nervous system. Despite the importance of the meninges in CNS physiology and in head injury mechanopathology, our knowledge of the tissues' mechanical behaviour and structural composition is limited. We showed the meninges is a mechanically, structurally and dimensionally heterogeneous tissue that has significantly different properties to the surrounding skull and brain tissue. Further, we show that meninges contains cells that are mechanosensitive and immunologically imperative in how our CNS responds to a concussive impact.

BIOGRAPHY:

Dr Mulvihill's research focuses primarily on cellular mechanobiology and the role mechanics plays in cellular function. In particular, he aims to investigate the role of the meningeal tissues and their resident cells in traumatic brain injury. He was Marie Curie fellow at Georgia Institute of Technology, USA, and Trinity College Dublin, Ireland, in the area of cell mechanobiology. He has received over €3.5 million in funding from the Irish Research Council, MSCA fellowship, Enterprise Ireland, and Science Foundation Ireland. . Since 2012, he has over 42 peer-reviewed publications and book chapters. He has a h-index of 22 and an i10 of 33.