

Arterial mechanics for healthcare applications and fundamental studies

Dr. Perumal Nithiarasu, Professor and Associate Dean of Research, Innovation and Impact, Faculty of Science and Engineering, Swansea University, UK

ABSTRACT

This talk will outline pressing challenges in cardiovascular healthcare and the complexities of fully understanding the human arterial system. With a primary focus on modelling, it will address blood flow-related healthcare needs, identify current limitations, and examine flow-driven arterial mechanobiology to provide insights into fundamental cardiovascular issues, including endothelial dysfunction and vasomotion.

ABOUT THE SPEAKER

Perumal Nithiarasu (PN) is a Computational Engineering Professor and the Associate Dean for Research, Impact, and Innovation at the Faculty of Science and Engineering, Swansea University. With a career spanning nearly three decades, PN has made significant contributions to computational fluid dynamics, biomedical engineering, and heat transfer. PN's expertise in computational heat transfer is currently focused on the interface between physics-based models and machine learning. PN has a prolific publication record, with over 300 articles and two books to his credit. PN's contributions have been recognised with prestigious awards, including the Zienkiewicz Silver Medal from ICE London in 2002, the ECCOMAS Young Investigator Award in 2004, and the esteemed EPSRC Advanced Fellowship in 2006. He holds the position of Founding Editor-in-Chief of the International Journal for Numerical Methods in Biomedical Engineering, published by Wiley-Blackwell. PN was elected a Fellow of the Learned Society of Wales in 2018.

