

**Profiles of Prof Nachiappan Chockalingam and Prof Toni Arndt prepared for the 10<sup>th</sup> Podiatric Sports Medicine Annual Conference, 8 – 9 December 2022**

**Prof Nachiappan Chockalingam** is well known to the Podiatry profession having played a pivotal role in bringing various AHPs to the wider biomechanics and medical engineering community. He is the Director of the Centre for Biomechanics and Rehabilitation Technologies at Staffordshire University.

He is presenting at the 10<sup>th</sup> Podiatric Sports Medicine Annual Conference on the 9<sup>th</sup> December at the Royal College of Physicians & Surgeons of Glasgow. His topic should be of interest to all podiatrists practicing and offering biomechanical & gait assessment, prescribing orthoses and footwear to their patients. The topic is entitled 'Translating lab-based research to frontline clinical practice in sports medicine'. Prof Nachiappan Chockalingam firmly believes that converting research evidence to clinical practice has become an integral part of efficient and effective service provision. Although advances in technology and techniques are driven by lab-based research, translating these into clinical practice can be challenging. Whilst providing an overview of foot and footwear biomechanics research, this lecture will draw examples from previous research to focus on why and how translation should be considered in research design, including patient and user involvement. Successful implementation of evidence-driven health care is dependent on behaviour change or acceptance of these novel clinical assessment methods and assistive or rehabilitation devices by both clinicians and service users.



**Prof Toni Arndt** is a professor in Biomechanics, specialising in lower extremity muscle-tendon function, athletic footwear and sports biomechanics at The Swedish School of Sport and Health Sciences (GIH) in Stockholm, Sweden. Toni is the International Independent expert for World Athletics (WA), working as a consultant to formulate the rules concerning athletic shoes with performance enhancing advanced footwear technology. As such he is responsible for ensuring shoes worn by elite athletes are approved by WA and physically examines all shoes in which athletics world records are broken to validate the record. He is leading several biomechanical studies examining performance enhancing effects in athletic shoes.

He is presenting at 10th Podiatric Sports Medicine Annual Conference on the 9th December at the Royal College of Physicians & Surgeons of Glasgow; on 'Advanced footwear technology and its performance enhancing effects: what is happening and is it cheating?' Performance driven innovation has in the last six years revolutionised running footwear with most large shoe companies developing running shoes with performance enhancing characteristics, so-called advanced footwear technology (AFT), which has been shown to improve running economy by on average 4%. Since the Olympic Games in Rio 2016, distance events from 10 000m to marathon have been dominated by runners wearing such shoes. Data will be presented from a recent study investigating correlations between performance enhancement and individual athlete characteristics. This study clearly demonstrated biomechanical energy return benefits from AFT shoes. This raises issues of whether it is fair for athletes running in some shoes having advantages over those wearing other shoes.



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