

The interface between clinical and performance related biomechanics - An emerging researcher's journey



Dr. Gerda Strutzenberger

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Abstract

Gerda's talk will describe the journey her research career has taken, up to her current position as Senior Scientist at the University of Salzburg. Her story will highlight three main themes, including: Clinical Biomechanics – ACL injury, Adapted Performance – Amputee Sprinting, and Interdisciplinary research – Artificial Turf.

The initial theme, emerging from her work at the University of Salzburg will explore her research in ACL-injury focusing on a conservative treatment (RegentK), where she will explain the acute effects of ACL-injury on gait and lower limb impacts. This will be followed by her topical research based at the University of Cologne and Cardiff Met: Adapted Performance – Amputee Sprinting, Gerda will explain her research on amputee sprinting with a specific focus on the underpinning biomechanics of the sprint start. Finally, Interdisciplinary research – Artificial Turf, Gerda will discuss her work as a Research Officer on the FIFA Cardiff Met football project. She will explain her experiences with an 'out of the box' research on perception and performance on artificial turf. This interdisciplinary study combined psychology and biomechanics to address this research question.

A clear take home message on the need for rich ecologically valid data is an interdisciplinary team is necessary to fully understand the complex requirements of sports performance and injury.

Dr. Gerda Strutzenberger's bio

Dr. Gerda Strutzenberger gained her PhD 2011 (KIT, Germany). Currently she is a Senior Scientist at the University of Salzburg, Austria, having returned after a sabbatical (2013-2014) to undertake a FIFA research project based at the Cardiff

Metropolitan University, UK. Her research interests cover two main foci, firstly clinical biomechanics (ACL-injury, obesity and amputee gait) and secondly sports performance biomechanics (cycling, sprinting, running, rugby and football). Her research philosophy aims to contribute knowledge and understanding of the biomechanics of human movement to enhance health and sport performance. This research approach has included working with patients, elite athletes and international governing bodies (e.g. FIFA and IRB).

Dr. Strutzenberger teaches students of sport science, physiotherapy and medical doctors. She disseminated her research through peer-reviewed journals as well as conferences and has been invited to present as a speaker at an applied session at ISBS (2013). Her research has been recognised nationally (2013 DGfB, Germany; 2011 New Investigator Award VSOU, Germany; 2010 New Investigator Award, ÖSG, Austria) and internationally (2012, Hans-Gros New Investigator Award).

She reviews for journals across biomechanics, and is a member of scientific committees for ISBS and ISB. Dr. Strutzenberger has been an active member of ISBS since 2006 and served in various roles such as organizing committee member (2006), board member (2011-2014) and currently Vice President of Project and Research. Gerda has successfully established and managed the ISBS student mentor programme, which has made a positive impact on the conference programme for the development of emerging scientists.

For more information, check her [personal webpage](#)