

International Workshop on Bone Mechanics and Tissue Engineering

Zaragoza (Spain), 6-7 February 2020

SPEAKERS



Scott Hollister

Dr. Hollister is the Patsy and Alan Dorris Chair in Pediatric Technology and Professor of Biomedical Engineering at the Georgia Institute of Technology. He directs the Center for 3D Medical Fabrication as well as the Tissue Engineering and Mechanics Laboratory at Georgia Tech. Dr. Hollister's research focuses on the computational design, 3D printing fabrication and characterization of biomaterial devices and scaffolds for tissue reconstruction. He was co-inventor of an airway splint in both resorbable and permanent versions that to date has been implanted and saved the lives of 20 children with Tracheobronchomalacia. This work has been featured in a number of mainstream media outlets including The Today Show, NPR, CNN, the New Yorker, the Doctors Show, CBS Morning News and USA Today. He was awarded the 2013 Popular Mechanics Breakthrough Innovation award for the airway splint together with Dr. Glenn.



Gwendolen Reilly

Professor Gwendolen Reilly, DPhil, obtained her PhD in bone biomechanics from the University of York UK in 1998. Since then she conducted research in the fields of bone mechanobiology and then biomaterials and tissue engineering in institutions in Switzerland (ETH) and the US (Penn State, U. Penn and UIChicago). In 2004 she obtained her faculty position at the University of Sheffield UK where she is now a Professor in Musculoskeletal Bioengineering working at the Department of Materials Science and the INSIGNEO institute for in silico medicine. Her research centres around two key themes; the effects of mechanical stimulation on differentiation and matrix formation by bone cells and the interactions between precursor bone cells and their biomaterial substrates. Recently her group has been focused on improving 3D tissue engineered models of bone to create humanised in vitro bone matrices that replicate important feature of bone matrix. We believe that accurate 3D models including bone's complex, multiscale, hierarchical structure are needed to facilitate more relevant bone disease research than allowed by 2D culture or animal models. Gwen has published 74 papers and 6 book chapters in these areas with an h-index of 30. Gwen is the director of Training for INSIGNEO and Faculty of Engineering director for Equality Diversity and Inclusion. She is past president of the European Society for Biomechanics.



Bert van Rietbergen

Bert van Rietbergen is an associate professor in the Orthopaedic Biomechanics Section of the department of Biomedical Engineering at the Eindhoven University of Technology. He received his PhD (cum laude) at the Nijmegen University after which he moved to the ETH in Zürich before moving to Eindhoven. Most of his research is aimed at the evaluation of bone structural and mechanical properties for the study of bone diseases (osteoporosis) and implant failure. Over the last decades his work has focused on using high-resolution in-vivo imaging and computational techniques to evaluate bone adaptation and strength in-vivo in pre-clinical and clinical studies.



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Michael Skipper Andersen

Dr. Michael Skipper Andersen received his Master of Science in Electrical Engineering with specialisation in Intelligent Autonomous Systems from Aalborg University in 2004. In 2009, he obtained the PhD degree from the Department of Mechanical Engineering with the thesis title: "Kinematically Over-determinate Musculoskeletal Systems – Modeling, Kinematic analysis and Parameter Identification" within the AnyBody Research Group. Following a short period as Software Engineer in AnyBody Technology, Aalborg, Denmark, he was employed as an Assistant Professor (2009-2012) and later in his current position as Associate Professor at Department Materials and Production, Aalborg University, Denmark, with both positions being associated with the AnyBody Research Group and is now Head of Orthopaedic Biomechanics.

The research area of Dr. Andersen is within orthopaedic biomechanics. He focuses particularly on musculoskeletal modelling and currently applies patient-specific models to study knee osteoarthritis and the associated treatments. In 2014, he headed the group of international researchers that won the "fifth grand challenge competition to predict in vivo knee loads" and the following year, he was awarded a prestigious Sapere Aude starting grant from the Danish Council for Independent Research for a project that is still ongoing. He has been (and is) involved in several national and international research projects including the ITN projects KNEEMO and CURABONE both funded by the European Union. He has published more than 200 papers in peer-reviewed international journals and national and international conferences.



Jose Manuel García Aznar

José Manuel García-Aznar received his PhD in Mechanical Engineering in 1999 from University of Zaragoza, where he serves since 2008 as Full Professor in the Mechanical Engineering Department. In these years, he has been visiting researcher at Keele University (2001), KU Leuven (2012), Cambridge University (2015), NUI Galway (2017) and University of Oxford (2019). In 2004, he was elected as Council Member of the European Society of Biomechanics (ESB) (2004-2012), and finally as Vice-President (2008-2012). In 2012 he was awarded by the ERC with a Starting Grant project that allows him extending his computational expertise to 3D cell cultures. He has published over 145 peer-reviewed papers and 20 book chapters. His research interests focus on computational modelling of hard tissues mechanics, mechanobiology of skeletal tissue regeneration and tissue engineering, tissue growth and development and cell mechanics. Most recently his research work has also focused on the combination of computational models and microfluidics-based experiments in order to investigate the mechanisms that regulate 3D cell migration.

