The Chinese University of Hong Kong
Biomedical Engineering Seminars Series

Time: 4:30pm-5:30pm, 2 Jun 2016 (Thur)

Venue: Rm.222, Ho Sin Hang Engineering Building, CUHK

Development of computational models for investigating bone adaptations in preclinical studies

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Abstract

Computational models of bone adaptation have become powerful tools for predicting the effect of novel interventions for different musculoskeletal pathologies, because the micro-finite element (microFE) models generated from the in vivo micro computed tomography (microCT) images can accurately estimate the apparent and local bone mechanical properties. This presentation will show how microFE models can be developed from in vivo mouse tibia microCT images to investigate bone adaptations in preclinical studies.

Biography

Dr. Yongtao Lu received his B.Sc. and M.Sc. degreed from Huazhong University of Science and Technology, Wuhan, China, and his Ph.D from Cardiff University, UK. From 2010 to 2015, he worked as a Postdoctoral Research Associate at Hamburg University of Technology, Germany and Sheffield University, UK. Now, he is an Associate Professor at the Department of Engineering Mechanics, Dalian University of Technology, China. Dr. Yongtao Lu has published over 20 research papers in top Biomechanics journals, including Journal of Biomechanics, Computer Methods in Biomechanics and Biomedical Engineering, etc. He is also a reviewer for many top Biomechanics journals, including Journal of Biomechanics. His research interest includes bone mechanics, muscle mechanics, spine mechanics, constitutive relations of biomaterials, numerical modeling and simulation, etc.