ENGINEERS
AUSTRALIA

Technical Presentation

Computational modeling in orthopaedic biomechanics

Computational modelling of primary and revision joint replacement: Challenges and Opportunities

Engineers Australia, Level 11, 108 King William Street, Adelaide

Hip and knee replacements are one the most successful elective surgeries, with failures rates of 5% or lower after 10 years. Although successful, there is still room for improvement, for example to meet the demands of younger, more active patients. Given the success of total joint replacement, this present challenges in trying to evaluate new designs, to ensure that they are at least as good as, or better than existing devices.

Computational modelling has been used for over 40 years to assess the performance of primary joint replacement and the current state of the art will be describe. Unfortunately, joint replacements do fail and need to be removed and replaced. These failures are often associated with significant bone loss and revision joint replacements consist of an array of components to fill the defect and provide adequate fixation. In comparison with primary joint replacement, there have only been a few attempts to assess the performance of these complex devices. The challenges and approaches for modelling revision joint replacement will be discussed.

Speaker: Professor Mark Taylor

Professor Taylor's main area of expertise is the application of computational modelling to assess the performance of total joint replacements. His work has focussed on developing tools to help assess the performance of existing and new designs of hip and knee replacement. In particular, he has focused on developing methods for assessing the influence of patient and surgical variability.

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TICKETS

EA, IEEE, IET & TelSoc	
Member	$0
EA Student Member	$0
Society Member	$30
Non-member	$30

DATE & TIME

Tuesday 17 April, 2018

5:30pm registration for a

6:00pm start, 8:00pm finish

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