

JOINT BIOMEDICAL ENGINEERING SEMINAR SERIES



Friday, February 24, 2017 (Noon-1pm)

UWM, EMS 295



Arash Razmjoo, Ph.D.

APPLICATIONS OF FINITE ELEMENT ANALYSIS IN BIOMECHANICS

This presentation will highlight some applications of the Finite Element Analysis (FEA) in biomechanics by using Computed Tomography (CT) imaging data. Our approach uses techniques from medical image processing and FEA. In order to evaluate treatment or prediction of failure initiation in human vertebrae, samples were CT scanned and the images were processed to convert into finite element models, and material properties for samples calculated and directly entered into the model data base. Equivalent boundary conditions were applied to the model. After analyses the distribution of stress and strain were calculated in order to predict the behavior under treatment.

Bio:

Dr. Arash Razmjoo is a post-doctoral fellow in the Bioengineering, Imaging and Testing Laboratory (BITL) at the College of Engineering and Applied Science, University of Wisconsin-Milwaukee. His first PhD was received in Mechanical engineering from Tarbiat Modares University, Iran in 2010 and the second degree in Civil Engineering from Clemson University, SC, USA in 2013. He has years of experience in Orthopaedic Biomechanics, Finite Element Analysis, medical image processing and mechanical designing.