Physics Based Simulation Opportunities in Biomedical Industry

SF STATE

Metin Ozen, PhD

Ozen Engineering Inc.

Oct 17, 2011 Monday

1.10-2pm

SCI 256

Refreshments will be served – come join us!

Synopsis:

Physics based simulations have advanced significantly in the past few years due to implementation of coupled physics in software and high speed low-cost computers. This talk will cover applications in Finite Element Analysis (FEA), Computational Fluid Dynamics (CFD), and Musculoskeletal modeling (MSM). Examples will be shown about how FEA and CFD can be coupled to model stents as well as how FEA and MSM can be coupled to predict the performance of implants. Using current software technology, implants can be optimized based on patient specific skeletal data as well as patient specific activities of daily living. Other unexplored opportunities on how software can be used in the biomedical field applications will also be discussed.

Speaker Bio:

Dr. Metin Ozen is currently operating a high technology consulting firm, Ozen Engineering performing advanced multi-physics Finite Element Analysis (FEA), Computational Fluid Dynamics (CFD) simulations, and musculoskeletal modeling for his clients and is an ANSYS Channel Partner. Dr. Ozen received a BS Mechanical Engineering and MS Applied Mechanics degrees from Lehigh University and a PhD from University of Connecticut in Applied Mechanics. He is an ASME Fellow, honored for his contributions to Mechanical Engineering. Dr. Ozen brings with him over 25 years of experience in Applied Mechanics. He has provided key technical support, training, and consulting work for ANSYS and CFDRC software in the Bay area. He has taught classes throughout the country on topics such as MEMS, Fracture Mechanics and Fatigue, Ball Grid Arrays (BGA's), Heat Transfer, Dynamics, CFD, Electromagnetics, and Finite Element Methods. In 2001-2002, Dr. Ozen served as the Chair of the Silicon Valley chapter of ASME.

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