Functional imaging of bone – is multiscale needed to understand bone damage and fracture?

Speaker: Dr Hanna Ikasson
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Where: Trinity Biomedical Sciences Institute, B2.72

Dr Hanna Ikasson joined Lund University as a faculty member in 2011. Since 2014, she and her group is located at the newly formed Department of Biomedical Engineering, at Lund University. Her research area is primarily bone biomechanics and mechanobiology, focusing on functional imaging and statistical shape modeling of bone, characterization of bone damage and fracture mechanisms as well as on improvement of bone quality during fracture repair. She also has ongoing research in cartilage and tendon biomechanics. Her presentation will give an overview of all the areas of research ongoing in the group at the moment. For more details, please visit the research pages.

Prior to joining Lund University, Dr Isaksson spend three years as a post-doctoral researcher at the Biophysics of Bone and Cartilage research group, University of Eastern Finland, to develop methods to determine bone quality in metabolic bone diseases, primarily osteoporosis. She obtained her PhD in Biomedical Engineering from Eindhoven University of Technology, the Netherlands, in a collaborative project between TU/Eindhoven and the AO Research institute in Davos, Switzerland. The project focused on mechanobiological modeling of bone regeneration. She has authored over 65 peer-reviewed scientific papers, and her full publication lists can be found on google scholar.

http://bme.lth.se/research-pages/biomechanics/research/
Dr. John P. Fisher is Fischell Family Distinguished Professor and Associate Chair for Graduate Studies in the Fischell Department of Bioengineering at the University of Maryland. Dr. Fisher is the Director of the Tissue Engineering and Biomaterials Laboratory and investigates biomaterials, 3D printing, stem cells, and bioreactors for the regeneration of lost tissues, particularly bone, cartilage, vasculature, and skeletal muscle. The lab examines questions related to how biomaterials affect endogenous signaling among embedded cells as well as the interactions between stem cells and host vascularization. Key recent developments include the creation of a modular and scalable bioreactor for cell and tissue culture as well as the fabrication of 3D printed substrates for tissue regeneration. The lab is supported by research grants from NIH, FDA, NSF, DoD, and other institutions, and has authored over 95 publications, 230 scientific presentations, and 12 patents / patent applications. Dr. Fisher has advised 13 Ph.D. students, 3 M.S. students, and over 50 undergraduate researchers. In 2012 Dr. Fisher was elected Fellow of the American Institute for Medical and Biological Engineering. Dr. Fisher is currently the Editor-in-Chief of the journal *Tissue Engineering, Part B: Reviews*, and Continental Chair Elect of the Tissue Engineering and Regenerative Medicine Society International - Americas Chapter.