

EINLADUNG

zum Gastvortrag

von

Professor Iwona Jasiuk

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am

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Technische Universität Wien, Karlsplatz 13, 1040 Wien
HS 15 (Stiege 3, 3. Stock)

Bone and Bone-Inspired Materials

Bone is a multi-functional biological material, optimized by nature, to perform its multiple functions. This seminar addresses several inter-related topics on bone. First, bone is studied as a structural material. Bone has a complex hierarchical structure which contributes to its excellent mechanical properties when healthy. Computational models can provide insights on the structure-property relations in bone and serve as predictive tools to assess bone health. Secondly, bone is studied as a biological material which adapts to loads. Finally, bone can serve as an inspiration from nature for designs of new materials for medical and engineering applications. Mechanics of such bioinspired materials is discussed.

Brief Vita:

Iwona Jasiuk received her Ph.D. in theoretical and applied mechanics at Northwestern University. Prior to joining the Department of Mechanical Science and Engineering at the University of Illinois at Urbana-Champaign, she held faculty positions at Michigan State University, Georgia Institute of Technology and Concordia University in Montreal. At Illinois, she also holds affiliate faculty positions in Bioengineering, Aerospace Engineering, Civil and Environmental Engineering Departments and part-time faculty of Institute for Genomic Biology and Beckman Institute. Her research is in mechanics of composite materials, nanomaterials, and biological materials with a focus on bone. She published over 130 journal papers and over 60 conference papers. She is a co-editor of Journal of Mechanics of Materials and Structures, a Fellow of the American Society of Mechanical Engineers since 2003, a Fellow of the Society of Engineering Science since 2012.