

Physics Colloquium

Michigan Technological University

Thursday, April 22th, 2010

4:00 pm

Room 139 Fisher Hall

Energy Nanomaterials Under Extreme Environment



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Abstracts: Nanomaterials including nanotubes and nanowires are promising candidates for future small-scale energy harvesting and conversion technologies. In order to achieve this goal, we need to understand the intrinsic physical and mechanical properties of these low-dimensional structures under one or multiple external domains (or extreme environments). At Michigan Tech, through a recent NSF-MRI grant we are able to conduct simultaneous electrical, mechanical, and thermal fields while monitoring the structural transitions in nanoscale energy materials. This talk gives an overview on some of the current research of the PI on inorganic nanowires and nanotubes used for solar cells, nanogenerators, and nanoelectronics.

Bio: Dr. Reza Shahbazian-Yassar received his PhD from Washington State University (WSU) in Dec 2005, and joined Michigan Tech in fall 2007. He is currently an assistant professor and adjunct assistant professor at the departments of Mechanical Engineering and Materials Science and Engineering at Michigan Tech. Prior to his position at Tech, he was a post-doctorate research associate at the Multiscale Modeling group of Prof. Mark Horstemeyer at Mississippi State University. As a graduate student at WSU, he received the PhD Excellence Research Award and Teaching Fellowship Award. He is a member of the Editorial Board of *Metallurgical and Materials Transactions A*, and is the current chair of Microstructure and Texture Committee of ASM International/TMS. Dr. Yassar's research is being supported through grants from NSF, DOE, NASA-Michigan Space Grant Consortium, Michigan Tech Research Excellence Fund, and Multiscale Technologies Institute (MuSTI).