

ICTAS
NEW HORIZONS
SEMINAR SERIES

Designing metallic glasses with tailored radiation response using reduced order mesoscale models

Computational materials science brings a physics-based materials design capability within reach. However, materials design for radiation response is challenging because it deals with inherently collective mechanisms operating at multiple time and length scales. I will present a design strategy built on reduced order mesoscale models, which afford simplified descriptions of the essential physics of complex, collective materials phenomena. As an illustration, I will explain how metallic glasses may be altered to achieve tailored radiation response.



ABOUT THE SPEAKER

Michael J. Demkowicz did his undergraduate studies at the University of Texas at Austin, receiving three Bachelor's degrees in 2000: BS Physics, BS Aerospace Engineering, and BA Plan II Honors (a core-curriculum liberal arts program). He did his graduate work with A. S. Argon at MIT, receiving his MS and PhD in mechanical engineering in 2004 and 2005, respectively. Afterwards, he spent three years at Los Alamos National Laboratory, first as a postdoc, then as a Director's Fellow, and finally as a technical staff member. In 2008, Demkowicz joined the faculty at MIT's Department of Materials Science and Engineering, and was named the John C. Chipman career development assistant professor of materials science and engineering. In 2012, he received an NSF CAREER award and the TMS Early Career Faculty Fellow award. Demkowicz works at the intersection of fundamental materials physics and computational design of structural materials.

THURSDAY, OCTOBER 17, 2013

2:00 - 3:30 pm, Kelly Hall 310



www.ictas.vt.edu



VirginiaTech®

Institute for Critical Technology
and Applied Science