

10:00 a.m. PDT Wednesday, May 24 Virtual Seminar



MAaD Science Materials Aging and Detection Science

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Material State Assessment of Fiber-Reinforced Polymer Composites



Polymer composite materials, which are inherently heterogeneous, have widespread applications, i.e., aerospace, microelectronics, defense, energy storage, etc., because of their particular properties and performance. Changes in the material state of these complex material systems that occur during the service life caused by aging, deformation, and damage accumulation under combined mechanical, thermal, electrical fields, and environmental loading, require fundamental understanding to support the design of those systems. This talk will discuss the degradation of fiber-reinforced polymer composite materials and data-driven nondestructive assessment of the material state of these advanced materials systems.

Rassel Raihan is an assistant professor in the Mechanical and Aerospace Engineering (MAE) Department at the University of Texas at Arlington Research Institute (UTARI). Prior to joining the MAE department, he was a research engineer III for the Institute of Predictive Performance Methodologies at UTARI. His research focuses on the damage and life prediction of heterogeneous materials, adhesively bonded joints, and multifunctional composites. Dr. Raihan was a Postdoctoral Research Fellow at the University of South Carolina's HeteroFoam Center.

He obtained his PhD in August 2014 and his Master of Engineering in December 2012 from the University of South Carolina in Mechanical Engineering. He received a Bachelor of Science in Mechanical Engineering from the Bangladesh University of Engineering and Technology in 2007.

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