

# DEPARTMENT OF MECHANICAL ENGINEERING

## WILLIAM MAXWELL REED SEMINAR SERIES

### “Effect of defects on the sustainability of composite aero-structures”

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**Abstract:** A major theme in the field of advanced composites correlates the material microstructure with its performance. Fundamental understanding of this correlation is critical for tailored development of optimal microstructures for targeted performance in lightweight and high strength structural applications. Material hierarchy, inhomogeneity and anisotropy – inherent to advanced composites – make this development of accurate structure-property relations quite challenging. ‘Defects’ – often associated with processing or secondary manufacturing methods – make the effective preservation of optimal microstructures challenging wherein even minor variations result in varied structure-property relations across the acreage of a structural component. In this talk, Dr. Suhasini shall be focusing on issues at the intersection of composite microstructure, composite manufacturing, and structural integrity in the broad context of sustainability of composite aero-structures.

**Bio:** Dr. Suhasini Gururaja is currently serving as an Associate Professor in the Department of Aerospace Engineering, Indian Institute of Science (IISc), Bangalore, India. Before joining IISc, Dr. Suhasini has worked at GE Global Research (Bangalore, India) and Boeing Commercial Airlines (Everett, WA, USA) as a Research Engineer and Structural Analyst for over 3 years. At Boeing, she has worked on the 787 Airplane in Airframe test groups and has been involved in development of test and analysis methods for durability and damage tolerance of composite structures. At GE Global Research, Dr. Suhasini looked at developing novel concepts for composite processing for design optimization of GE wind blades. Dr. Suhasini completed her Ph.D. in Mechanical Engineering from the University of Washington, Seattle (2008), her M.S. in Structural Engineering from the University of Iowa (2003) and her B.Tech. in Civil Engineering from Indian Institute of Technology, Kharagpur (2001). Dr. Suhasini has published close to 30 international journal articles and over 50 conference proceedings.

**Date: Thursday, July 18<sup>th</sup>**

**Place: FPAT 259**

**Time: 12:30PM**

**Contact: Dr. Alexandre Martin 257-4462**

Meet the speaker and have refreshments  
Attendance open to all interested persons