

The Department of Mechanical Engineering  
Presents

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## Materials: An Aerospace Perspective

### *Abstract:*

Innovation is often enabled by advances in materials technology. Aerospace is no different in that regard. The roles of material scientists/engineers in aerospace are to: discover, develop, engineer, and support. This talk explores the roles of material scientists/engineers from the perspective of high temperature materials for extreme environments, with particular emphasis on thermal protection systems and ceramic matrix composites. Integrated computational materials engineering (ICME) is also discussed as an opportunity to shorten the development and maturation of new material technologies as well as hasten their incorporation into aerospace products.

### *About the Speaker:*

Todd leads a team of materials engineers focused on developing, evaluating, and transitioning high temperature materials to vehicle programs. He also serves as the deputy skill team leader for the ceramics, thermal protection, and low observable materials and process engineering function for Boeing. He is the 2012-2014 Vice Chair of the United States Advanced Ceramics Association (USACA). Education: Ph.D. in Materials Science and Engineering, Northwestern University; BS in Metallurgical Engineering and Materials Science & Engineering and Public Policy, Carnegie Mellon.