Abstract

Metals are ubiquitous in our daily lives due to their excellent mechanical properties and are widely used in high value applications such as jet engines. These properties can be tailored through careful understanding of the link between microstructure and the properties of each microstructural unit. In this talk, I will present some of our studies on nickel and titanium alloys using in-situ micromechanical testing, as well as high (angular) resolution electron backscatter diffraction and high (spatial) resolution digital image correlation. This combination of techniques provides us with a wealth of information about heterogeneous deformation that ultimately limits component life in aerospace applications.

Bio

Dr. Britton earned his PhD from the University of Oxford in 2010. His thesis concerned the deformation of behavior of titanium alloys for aerospace applications. Working in the Department of Materials at Oxford, he researched materials for fission and fusion power. Dr. Britton joined the Department of Materials as a Nuclear Metallurgy Fellow in 2012. He was recently awarded the IOM3 silver medal in “recognition of an outstanding contribution to the broad field of materials science, engineering and technology, including promotion of their subject on a national or international basis.” Dr. Britton’s research focuses on understanding materials for power plant applications including fission, fusion, and aerospace applications.