

MSE SEMINAR

April 20, 2018
113 McBryde Hall
3:30 – 4:30 PM
Refreshments at 3:00 PM

Jonathan Angle

**Graduate Student
Materials Science and Engineering, Virginia Tech**

“Fabrication of Titanium Metal Matrix Composites (TiMMC’s) via Attrition Milling”

ABSTRACT

Titanium and its alloys are very useful materials which are used primarily because of the material’s high strength, low density, and high corrosion resistance. Due to these desirable mechanical and physical properties, titanium and its alloys are often used in the aerospace, automotive, and biomedical fields. To further enhance the auspicious properties of titanium alloys, TiMMC’s are often used. We have found that fabrication of TiMMC’s can be achieved by mechanically alloying Titanium and CNCs via attrition milling. These materials were further characterized and determined to have unique microstructures as well as good compressive properties, which were found to be higher than that of Ti6Al4V (typically referred to as the gold standard for titanium).

BIOSKETCH

Jonathan Angle is a PhD student co-advised by Dr. Aning and Dr. Foster. He graduated from Radford University with a Bachelor of Science in Chemistry in 2009. Whilst pursuing his chemistry degree Jonathan played on the varsity golf team.

After graduation Jonathan worked as the Lead Microscopist at Polymer Solution Incorporated where he characterized various polymeric and metal materials for high end clients. Additionally, he worked on various failure analysis of litigation cases specializing in fractography.

Currently he is a Graduate Research Assistant whose project is funded by the National Security Campus operated by Honeywell. His research focuses on the mechanically alloying of titanium and cellulose nanocrystals to create titanium metal matrix composites.