

# MSE SEMINAR

April 13, 2018  
113 McBryde Hall  
3:30 – 5:00 PM  
Refreshments at 3:00 PM

***Son-Nam Nguyen***

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

## **“Zirconia-Ceria Superelastic Ceramics for Energy Dissipation”**

### **ABSTRACT**

Ceria doped zirconia is a superelastic ceramic that is still in its early stage of research. It exhibits a large amount of strain in response to mechanical stress due to its phase change that allows the material to exhibit a volume change. In order to further understand this material, sol-gel processing is being used in an attempt to make uniformly sized and shaped particles to explore the relationship between the physical characteristics of the particle and its resulting mechanical behavior. This research is being done to establish the first steps in synthesizing different shaped ceria doped zirconia.

### **BIOSKETCH**

Son-Nam Nguyen is a Masters Student Dr. Hang Yu's research group. He graduated from Virginia Tech with a bachelors of science in Materials Science and Engineering with a Green Engineering and Chemistry minor in 2017. His undergraduate research included polymer research in Dr. Moore's research group and being on Dr. Hang Yu's senior design team researching twinning induced plasticity steel. He is graduating in May 2018.