

Hala Hassan's Research Interests

Work is being partially supported by a Fulbright Grant to investigate the mechanical behavior of nano-crystalline materials as well as bulk metallic glasses. Nano-crystalline materials have been prepared by collaborators via extrusion of amorphous aluminum alloys. Testing is being conducted under both fatigue crack growth and fracture toughness conditions in order to determine the effects of such fine scale structure on the balance of properties in such materials. Testing is being conducted at temperatures ranging from room temperature to 500F. Other related work is investigating the effects of changes in test temperature on the fracture toughness and fatigue of a variety of bulk metallic glasses and composites. Similar studies are being conducted on conventional aluminum alloys as well as those that have seen significant service applications, in collaboration with Dr. El-Shabasy.

Conference Posters:

[Toughness of Nano- Crystalline Aluminium Alloy Composites](#)

[Effect of composition on mechanical properties of Fe based amorphous ribbon](#)

[Fracture and Fatigue of Fe based metallic glass ribbon](#)

Journal Papers:

[Effects of Notch radius and Test Temperature on the Toughness of Nano-Crystalline Aluminium Alloy Composites](#)