PhD position for studying interface-dislocation interactions at the Mechanical and Aerospace Engineering Department at the University of Florida

There is a PhD opening at the Department of Mechanical and Aerospace Engineering for studying dislocation – grain boundary interactions. Focus will be given on fcc metals, such Al and Cu, but also bcc metals, such as Fe may be considered. The project consists of (i) a theoretical part that will employ gradient plasticity/dislocation mechanics and or dislocation dynamics to capture the effect of grain boundaries in sub-micron materials, (ii) and experimental part that will require use of in situ transmission electron microscopy to capture dislocation-grain boundary interactions. Part of the study will therefore take place in CEMES-CNRS, Toulouse to carry out the *in situ* TEM experiments.

Requirements: Applicants must have a Master's Degree and a strong background on solid mechanics and plasticity. Preference will be given to those with experience on either or both of the following backgrounds:

- finite element implementation/atomistic simulations/discrete dislocation dynamics.
- transmission electron microscopy (TEM), crystallography and crystalline defects analysis

Furthermore, the applicant must be proficient in English, have strong writing skills, and must be highly motivated and dedicated.

Position details: The position will require graduate assistant teaching at UF, and is to begin in August 15, 2017. Applications are to be sent asap.

Interested applicants can email: Prof Katerina Aifantis (kaifanti@mtu.edu) who will be joining UF in August and will act as the main advisor, and Prof Marc Legros (marc.legros@cemes.fr) who will be the co-advisor at CEMES-CNRS.