

## סמינריון

הנדך מוזמנות להרצאה סמינריונית של הפקולטה להנדסת מכונות שתתקיים ביום ה' 05.08.2021  
(כ"ז באלול, תשפ"א), בשעה 13:00 , אודיטוריום 1, קומה 0, בניין דן קהאן.

**מרצה:** גלינה רחמן

**מנחה:** פרופ' מ שמואל אוסבסקי

**על הנושא:**

### **Effect of meso-structure on plastic localization and failure in heterogeneous metallic materials**

The seminar will be given in Hebrew

**תקציר ההרצאה:**

Material heterogeneities can take many forms and shapes. While some types of heterogeneities arise naturally (e.g. grain boundaries crystal orientation, inclusions, precipitates, etc.), others are the direct result of a carefully designed man-made effort (e.g. composites). The length scales and strength differentials arising due to the presence of material's heterogeneities are key in determining the mechanical response and failure modes.

The work presented here aims at analyzing the mechanical behavior, in terms of plastic localization and crack growth, of two classes of heterogeneous materials where the length scales dictated by the heterogeneity are at the mesoscale. Tungsten heavy alloys and additively manufactured Aluminum alloys were selected for this study. I will present my insights from finite elements simulations, in which the mesoscale heterogeneities are explicitly introduced, and the sensitivity of the failure modes in these materials to the underlying mesostructured was studied.

בברכה,

פרופ' מ' אתי סאס  
מרכז הסמינרים