

## סמינריון

הנדך מוזמנ/ת להרצאה סמינריונית של הפקולטה להנדסת מכונות, שתתקיים ביום ב' 5.11.15 (כג' בכסלו, תשע"ו), בבניין דן-קאהן, קומה 0, באודיטוריום 1 בשעה 14:30.

ירצה: פיטר ברייטמן

מנחה: ד"ר יורי קליגרמן

על הנושא:

## **פיתוח התקן אחיזה ביו-חקייני יבש מבוסס אדהזיה**

### **Development of Clean Biomimetic Dry Adhesive**

להלן תקציר ההרצאה:

The problem of quick and easy reversible attachment is studied extensively for applications in different fields of technology. Known solutions to the problem of reversible attachment, such as suction devices, probabilistic fasteners, magnetic holding, pressure sensitive adhesives, etc., are associated with considerable technical expenditure, special geometry, chemical compatibility or physical properties of mating surfaces and formation of residues. On the other hand, in the process of evolution, nature has developed effective attachment systems that make it possible for many animals to attach and climb on surfaces almost irrespective of the orientation, geometry and chemical composition of the said surfaces. Inspired by these systems, here we develop and study a non-polluting shear-activated dry adhesive. To account for both adhesive and frictional interactions at the interface between flexible microstructure and stiff smooth counter surface, we have implemented cohesive elements in our model. This approach allowed us to describe adequately the surface behavior. Comparison with experimental data is performed for validation of the model, and parameter Identification.

בברכה,

פרופ' אורי איתן

מרכז הסמינרים