

הנך מוזמן/ת להרצאה סמינריונית של הפקולטה להנדסת מכונות, שתתקיים ביום ה' 19.10.2017 (כ"ט בתשרי, תשע"ח), בניין דן-קאהן, אודיטוריום 1, 13:30.

**מרצה:** הילה יעקב

**מנחה:** פרופ"מ אמיר גת

### על הנושא:

## Gaseous viscous peeling of linearly elastic substrates

The seminar will be given in Hebrew

### להלן תקציר ההרצאה:

We study pressure-driven propagation of gas into a micron-scale gap between two linearly elastic substrates. Applying the lubrication approximation, the flow-field is governed by the interaction between elasticity and viscosity, as well as weak rarefaction and low-Mach-compressibility, characteristic to gaseous microflows. Several physical limits allow simplification of the governing evolution equation and enable solution by self-similarity. These limits correspond to different time-scales and physical regimes which include compressibility-elasticity-viscosity, compressibility-viscosity and elasticity-viscosity dominant balances. For a prewetting layer thickness which is similar to the elastic deformation generated by the background pressure, a symmetry between compressibility and elasticity allows to obtain a self-similar solution which includes weak rarefaction effects. The results are validated by numerical solutions of the evolution equation.

בברכה,

פרופ"מ שאול אולוסקי  
מרכז הסמינרים