

סמינר - SEMINAR

הנדך מוזמנות להרצאה סמינריונית של הפקולטה להנדסת מכונות, שתתקיים ביום ב' 24.04.2017 (כח' בניסן, תשע"ז), בבניין דן קאהן, אודיטוריום 1, 14:30.

ירצה:

Assoc. Prof. Doron Shilo

Faculty of Mechanical Engineering
Technion

על הנושא:

Multi-scale Dynamics of Twinning in Ferroic Materials

The seminar will be given in Hebrew

להלן תקציר ההרצאה:

Twinning is a material deformation process which plays a significant role in metal plasticity, geological processes, and actuation of shape memory alloys (SMA) and ferroelectric materials. This collective process takes place through nucleation and motion of material interfaces called twin boundaries. The talk will present a combination of theoretical and experimental studies, performed at different spatial and temporal scales. In particular, the following topics will be covered.

- Atomistic properties of twin boundaries and twinning dislocations.
- Barriers, mechanisms of motion, and kinetic laws for the motion of twin boundaries.
- Crackling noise induced by the motion of twin boundaries.
- A new modelling approach based on discrete twin boundary dynamics and its application in simulations of ferromagnetic SMA actuators.

The talk will demonstrate how information, obtained from studies at different scales, can be combined into one picture. In addition, various connections to other research fields, such as the geophysical problem of earthquake prediction, will be discussed.

בברכה,

פרופ' דורן שילו
מרכז הסמינרים