

הנדך מוזמן/ת להרצאה סמינריונית של הפקולטה להנדסת מכונות שתתקיים ביום ד' 26.12.2018  
(יח' בטבת, תשע"ט), בניין דן קאהן, אודיטוריום 1, 13:30.

**מרצה:** סער ניטצקי

**מנחה:** פרופ' ח ספי גבלי

**על הנושא:**

## The mechanical behavior of a 2-D lattice of bistable elements

The seminar will be given in Hebrew

**תקציר ההרצאה:**

Lattice-based material models have been widely used to study a range of physical phenomena, from atomic models of materials to truss-like structures and polymeric networks. In recent years, focus has been placed on the design of lattices that possess tailored properties or behavior. Vast majority of these studies involve “springs” with convex energy. In this talk, a different class of discrete lattices will be discussed, namely 2-D arrays of bistable springs. A bistable spring is a nonlinear mechanical element that has a non-convex energy landscape with two disjoint intervals of positive stiffness separated by a “spinodal” region with negative stiffness. The talk will cover the mathematical modelling of such lattices, the richness of possible equilibrium configurations, and stability analysis of equilibrium configurations. In addition, insights related to the evolution of patterns associated with phase transition will be presented, based on extensive numerical simulations.

בברכה,

ד"ר איתי סאס  
מרכז הסמינרים