הטכניון – מכון טכנולוגי לישראל
הפקולטה להנדסת מכונות

TECHNION – Israel Institute of Technology
Faculty of Mechanical Engineering

SEMINAR - סמינר

הנך מוזמן/ת להרצאה סמינריונית של הפקולטה להנדסת מכונות, שתתקיים ביום ב' 18.04.2016 (י' בניסן, תשע"ו), בבניין דן-קאהן, קומה 0, אודיטוריום 1, 14:30.

יצרה:

Dr. Pablo Seleson

Oak Ridge National Laboratory, TN, USA

על הנושא:

Toward Multiscale Material Modeling with Peridynamics

The seminar will be given in English

להלן תקציר ההרצאה:

Peridynamics is a nonlocal reformulation of the classical theory of continuum mechanics, based on integral equations, suitable for material failure and damage simulation. Unlike the classical (local) theory based on partial differential equations, constitutive models in peridynamics do not require a spatial differentiability assumption on displacement fields. As a nonlocal model, peridynamics possesses a length scale which can be controlled for multiscale modeling. For instance, classical elasticity has been presented as a limiting case of a peridynamic model. In addition, certain discretizations of peridynamic models possess the same computational structure as molecular dynamics equations, motivating the study of peridynamics as a coarse-graining of molecular dynamics. In this talk, I will present analytical and numerical connections of peridynamics to molecular dynamics and classical continuum mechanics, and I will discuss various capabilities of peridynamics toward multiscale material modeling.

מארח: פרופ"מ דן מרדכי

בברכה,

פרופ'/א אמיר שת
מרכז הסמינרים