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 ד' 30.11.16 (כט' בחשון, תשע"ז), בבניין דן-קאהן, קומה 0, אודיטוריום 1 , 13:30.

<u>יוצא</u>:

Dr. Dan Raviv
Media Lab, MIT

<u>על הנושא</u>:

Controllable soft structures: from design to fabrication

<u>להלן תקציר ההרצאה:</u>

Soft robotics has become extremely popular in recent years, trying to mimic nature by creating soft and stiff hybrid structures, activated by environmental stimuli, either on-demand or pre-determined. Traditional robotic systems are replaced by models made of complex materials which can bend and stretch, deforming their structure and changing their functionality post production. In this lecture, I will focus on the geometric challenges in the design of soft structures. I will present a new approach for performing statistical analysis on bendable and stretchable domains, allowing us to build a model from multiple observations. In order to achieve that, a pre-processing step of alignment is necessary, however, since stretching and bending are coupled in our case, this task becomes extremely hard. I will show how we can address this challenge using differential invariants, and further provide details for new algorithms based on those primitives. Finally, I will present an experimental demonstration of a multi-material 3D-printed structure, based on these novel design principles.

<u>המארח</u>: פרופ' יורם הלוי

בברכה,

פרופ'/א אמיר שפת
מרכז הסמינרים