

סמינר - SEMINAR

הנדך מוזמנת להרצאה סמינריונית של הפקולטה להנדסת מכונות, שתקיים ביום ב' 25.12.17 (ז' בטבת, תשע"ח), בבניין דן קאהן, אודיטוריום 1, 14:30.

מרצה:

Amit Gefen, PhD

Professor in Biomedical Engineering
Department of Biomedical Engineering, Faculty of Engineering
Tel Aviv University

על הנושא:

Revealing the mechanobiological and biomechanical nature of obesity

להלן תקציר ההרצאה:

The foundations for this line of research, which has now been awarded two consecutive grants by the Israel Science Foundation, is our discovery that fat cells (adipocytes) are mechanosensitive and responsive to sustained mechanical loads. This discovery is fundamentally important for understanding the long-term effects of a sedentary life style.

Our research spans across dimensional scales, from individual cell studies, through analyses of tissue engineered model systems and multiscale computational (finite element) modeling. Experimentally, we integrate acquisition and image processing of digital phase-contrast, fluorescent, atomic force and confocal microscopy data of cell and tissue, which is combined with MRI data at whole body scales.

This integrated multiscale experimental and modeling approach has revealed accelerated adipogenesis (fat production) in cells subjected to sustained large deformations that are associated with static bodyweight loads. Our published work is now able to explain how maturing adipocytes deform each other in weight-bearing fat tissues, in a mechanobiological spiral that promotes adipogenesis and eventually gain of macroscopic fat mass, thereby contributing to obesity.

המארח: פרופ'ח אלון וולף

בברכה,

ד"ר איתן אסא

מרכז הסמינרים