SEMINAR - סמינר

הנך מוזמן/ת להרצאה סמינריונית של הפקולטה להנדסת מכונות, שתתקיים ביום ב' 22.01.2018 (ו' בשבט, תשע"ח), בבניין דן קאהן, אודיטוריום 1, 14:30.

מרצה:

פרופ"מ שלי צליל
הפקולטה להנדסת מכונות
הטכניון

על הנושא:

Elastic-mediated mechanical communication between cells

The seminar will be given in English

להלן תקציר ההרצאה:

Cell-cell communication enables cells to coordinate their activity and is essential for growth, development and function. Intercellular communication is discussed almost exclusively as having a chemical or an electrical origin, however; recent experiments performed by us and others, demonstrate that cells can communicate mechanically by responding to mechanical deformations generated by their neighbors. The characteristics of mechanical communication, its role and its ability to regulate biochemical processes within the cell are still largely unknown.

In my talk, I will describe substantial progress made in my lab on different aspects of mechanical communication between cells. I will first focus on the role of mechanical communication in synchronized cardiac cell beating. In this work, we demonstrated that a 'mechanical cell' can train a cell to beat in a given frequency and that beating 'noise' decays exponentially with mechanical coupling. Then, I will move to discussing the role of the viscoelastic properties of the sensory organ of the fly in proper sensing. Finally, I will describe preliminary kinetic monte-carlo simulations that provide insight into the underlying mechanism of mechanical communication between cells.

בברכה,

פרופ"א מתי סאס
מרכז הסמינרים