

## סמינר - SEMINAR

הנדך מוזמן/ת להרצאה סמינריונית של הפקולטה להנדסת מכונות, שתתקיים ביום ב' 12.03.2018 (כ"ה באדר, תשע"ח), בבניין דן קאהן, אודיטוריום 1, 14:30.

מרצה:

**Alon Wolf, PhD**

Associate Professor of Mechanical Engineering  
Technion I.I.T

על הנושא:

## **Kinematics with Applications in Robotics and Biomechanics-Gait Analysis**

The seminar will be given Hebrew

להלן תקציר ההרצאה:

Modern medicine has developed rapidly with the scientific advances of the past century. From pioneering treatments in the battlefield to the field of research-based surgical techniques, modern advances have ushered in a new age for medical technologies; ones that have moved past being regarded as just accessories to medicine, but are so far advanced that they stand in a league of their own.

This talk reviews several medical technologies, including medical robotic systems that were developed by the speaker. Some are already being used on a daily basis in operating rooms worldwide. Furthermore, fundamental research in biomechanics and gait analysis, that leads to the development of novel medical treatments, will also be presented. Specifically, the presentation will exhibit some of the findings obtained during ten years of research regarding the effect of the ground reaction forces, generated between our foot and the ground during walking, on the kinematics, kinetics and muscle activity (EMG) of the lower limbs. Furthermore, it will be demonstrated how controlled manipulation of those forces can be utilized to change a person's gait pattern, and therefore deal with common pathologies of the large joints, such as knee and hip osteoarthritis .

To support these research activities, advanced kinematic tools were implemented in order to allow analysis, develop novel innovations, and provide better understanding of the topics investigated .

בברכה,

פרופ' א"ר אתייל סאס

מרכז הסמינרים