

הנדך מוזמן/ת להרצאה סמינריונית של הפקולטה להנדסת מכונות במסגרת הדוקטורט שתתקיים  
ביום ה' 18.04.2019 (י"ג בניסן, תשע"ט), בניין דן קאהן, אודיטוריום 1, 15:14-45:13.

מרצה: צ'ן ג'ואו

מנחה: פרופ' יצחק עציון

על הנושא:

## Elastic-plastic contact of coated rough surfaces

The seminar will be given in English

תקציר ההרצאה:

To enhance the durability of contacting surfaces in tribo-pairs, coating technology is one of the most effective surface engineering solutions. Unfortunately, trial and error is still the only way to find the optimum coating design. To develop a scientific guideline for this, it is important to model the elastic-plastic contact of coated rough surfaces.

Since a coated rough surface can be envisaged as myriad coated asperities, at the heart of analyzing the contact of coated rough surfaces is to understand the single coated asperity contact, which is modeled by the contact between a deformable coated sphere and a rigid flat (coated spherical contact). Using Finite Element Method, the elastic-plastic coated spherical contact under normal loading is investigated in various aspects including the yield resistance of a coated sphere, the plasticity evolution in a coated sphere and quantitative relations between contact parameters (contact load and contact area) that describe the deformation behavior of a coated sphere. Finally, all these results are incorporated in a stochastic multi-coated-asperity rough surface model to analyze the elastic-plastic contact behavior of coated surfaces.

בברכה,

פרופ' איתי סאס

מרכז הסמינרים