



סמינר - SEMINAR

הנך מוזמן/ת להרצאה סמינריונית של הפקולטה להנדסת מכונות, שתתקיים ביום ד' 24.06.15 (ז' בתמוז, תשע"ה), בבניין דן-קאהן, קומה 0, אודיטוריום 1, שעה 13:30.

ירצה:

Assistant Professor David Fernandez
MESA+ Research Institute, University of Twente, The Netherlands

על הנושא:

Cleaning without "touching": Artificial modification of surfaces for cavitation research and other applications

להלן תקציר ההרצאה:

The formation of bubbles can be controlled in space and time for different applications. Besides ultrasonic cavitation for the creation of radicals needed for water treatment, it is possible to use the bubbles for cleaning diverse types of objects. We have performed more advanced and detailed studies of the phenomena associated with cavitation with the creation of artificial nucleation sites in the surface of a substrate with microfabrication techniques.

We want to control even further the creation of bubbles (pinch-off events), as well as the interaction of clusters of bubbles with other clusters and materials with different properties. More recently we have started investigating the possibility of using bubbles stabilised in the artificial crevices as sort of non-invasive sensors, and in other applications including health, energy, food, etc.

I will share insights into the above-mentioned phenomena, obtained using ultra-high speed imaging and sensitive detection equipment. The combination of microfluidics and ultrasound still offers many unexplored possibilities in the scientific activities and practical uses of bubbles. I will also present our knowledge-valorisation experiences that led to the spin-off BuBclean, which develops innovations in the use of ultrasonic cleaning. BuBclean is active also in the research and development of efficient and sustainable technical solutions for cleaning surfaces in medical and high-tech applications.

בברכה,

שמואל אריאל
מרכז הסמינרים

המארח: פרופ"מ מורן ברקוביץ'