SEMINAR - סמינר

הנך מוזמן/ת להרצאה סמינריונית של הפקולטה להנדסת מכונות, שתתקיים ביום ב' 28.05.2018 (י"ד בסיון, תשע"ח), בבניין דן קאהן, אודיטוריום 1, 14:30.

מרצה:

Dr. Benny Bar-On

Department of Mechanical Engineering, Ben-Gurion University of the Negev, Israel

על הנושא:

Measuring the viscoelastic characteristics of a single interface in bio-composite materials via micro-cantilever deformations

The seminar will be given in English

להלן תקציר ההרצאה:

Biological tissues are naturally complex structural materials which possess various architectural motifs across the nano-to-micro meter length scales. On the basic level, these biological tissues can be viewed as bio-composites, comprising various reinforcing elements (e.g. platelets, rods, bricks and prisms) that provide anisotropic mechanical stiffness, along with a binding bio-polymeric matrix phase that provides complementary mechanical capabilities such as high toughness and energy adsorption by visco-elasticity. In various tissues the bio-polymeric phase is structured as ultra-thin interfaces (a few microns, to a few then nanometer thick); measuring the native mechanical properties of these interfaces is one of the standing challenges in bio-material science.

In this talk I will introduce a novel experimental-analytical framework to probe the elastic and viscoelastic behavior of an individual interface - by analyzing the mechanical response of a "single-interface" micro-cantilever, carved from the bio-composite material. The method, that provides pioneering indirect measurement capabilities for thin bio-composite interfaces, was successfully employed to characterize the micro-sale organic interfaces of the prismatic layer of the mollusk shell (*Pinna nobilis*).

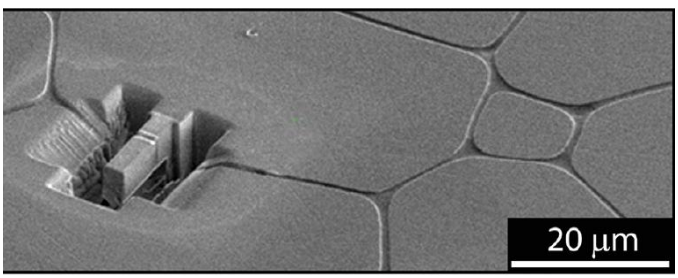

Figure: Single-interface micro-cantilever from the prismatic layer of the *Pinna nobilis*.

מארח: פרופ"מ מתיו סאס

בברכה,

פרופ"א מתיו סאס

מרכז הסמינרים