SEMINAR - סמינר

הנך מוזמן/ת להרצאה סמינריונית של הפקולטה להנדסת מכונות, שתתקיים ביום ד' 15.01.2020 (י"ח בטבת תש"פ), בניין דן קאהן, אודיטוריום 1, 13:00.

מרצה:

Assist. Prof. Ornella Mattei

Department of Mathematics at San Francisco State University

על הנושא:

Wave propagation in space-time microstructures: the theory of field patterns

The seminar will be given in English

להלן תקציר ההרצאה:

Field patterns are a new type of wave propagating in one-dimensional linear media with moduli that vary both in space and time. Specifically, the geometry of these space-time materials is commensurate with the slope of the characteristic lines so that a disturbance does not generate a complicate cascade of subsequent disturbances, but rather concentrates on a periodic space-time pattern, that we call field pattern. Field patterns present spectacularly novel features. One of the most interesting ones is the appearance of a wave generated from an instantaneous source, whose amplitude, unlike a conventional wake, does not tend to zero away from the wave front. Furthermore, very interestingly, the band structure associated with these special space-time geometries is infinitely degenerate: associated with each point on the dispersion diagram is an infinite space of Bloch functions, a basis for which are generalized functions each concentrated on a field pattern. This is a joint work with Graeme W. Milton (University of Utah).

Bio:

Ornella Mattei has recently joined the Department of Mathematics at San Francisco State University as an Assistant Professor. She received her PhD in Methods and Mathematical Models for Engineering from the University of Brescia, Italy, in 2016, under the guidance of Angelo Carini (University of Brescia) and Graeme W. Milton (University of Utah). Before moving to San Francisco, she was a Postdoctoral Researcher in the Department of Mathematics of the University of Utah, where her postdoctoral mentor was Graeme W. Milton. She has broad interests in the Mathematics of Materials Science, with special emphasis on electromagnetics and composites.

מארח : פרופ"מ גל שמואל

בברכה,

פרופ"א מתי סאס

מרכז הסמינרים