TEL AVIV UNIVERSITY

THE IBY AND ALADAR FLEISHMAN FACULTY OF ENGINEERING

SCHOOL OF ELECTRICAL ENGINEERING

אוניברסיטת תל-אביב

הפקולטה להנדסה ע"ש איבי ואלדר פליישמן

בית הספר להנדסת חשמל

You are invited to attend **tutorial lecture**s by

Prof. Punima Ratilal Makris

Northeastern University, Boston

On the subject:

The Passive Ocean Acoustic Waveguide Remote Sensing

The Passive Ocean Acoustic Waveguide Remote Sensing (POAWRS) technology provides detection, localization, classification and geographic positioning of a wide range of underwater sound sources. These sound sources include ocean biology, geophysical processes, as well as man-made vehicles and activities. Here we will discuss the approach and methodology behind POAWRS, including ambient noise estimation, source signal representation, signal detection, feature extraction, feature clustering and signal classification, signal bearing-time estimation and association, signal localization and tracking approaches, as well as geographic positioning. We will discuss signal source level estimation and POAWRS detection region modelling for random range-dependent ocean waveguides, incorporating calibrated statistical and acoustic propagation models for the saturated and partially saturated broadband time-averaged ocean acoustic transmission scintillation. We will consider applications to marine mammal and fish ecology, monitoring ships and other ocean vehicles, offshore seismic explorations and piling activities. We will also discuss multi-sensor instrumentation for implementing and calibrating POAWRS.

Tuesday, June 13 2017, at 10:00-12:30 and 14:00-17:00

Room 011, Kitot Building

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