



ITE/ΕΙΧΗΜΥΘ

ΣΕΜΙΝΑΡΙΟ ΣΕΜΙΝΑΡΙΟ

ΟΜΙΛΗΤΗΣ: **Dr. Γεώργιος Καλόσακας**
Λέκτορας, Τμήμα Επιστήμης των Υλικών
Πανεπιστήμιο Πατρών

ΘΕΜΑ: **Μοντελοποίηση δομικών και ηλεκτρονικών ιδιοτήτων του DNA.**
Modeling Structural and Electronic Properties of DNA.

ΤΟΠΟΣ: Αίθουσα Σεμιναρίων ITE/ΕΙΧΗΜΥΘ

ΗΜΕΡΟΜΗΝΙΑ: **Τετάρτη, 23 Φεβρουαρίου 2011**

ΩΡΑ: **12:00**

ΠΕΡΙΛΗΨΗ:

The first part of the talk presents a nonlinear model describing base-pair openings in double stranded DNA. Theoretical predictions for large thermal openings are compared with experiments in gene promoter DNA sequences and are connected to biologically relevant sites. Then statistical properties for bubble length distributions are presented and temperature dependent signatures of large openings are identified. In the second part of the talk, a calculation of the complete set of parameters for a tight-binding description of electron or hole transfer along DNA is discussed. These parameters can be used in a mesoscopic description of charge transport in DNA, providing the evolution of a charge carrier in experimentally relevant time and length scales.