



ΙΤΕ/ΙΕΧΜΗ

ΠΡΟΣΚΕΚΛΗΜΕΝΗ ΟΜΙΛΙΑ ΠΡΟΣΚΕΚΛΗΜΕΝΗ ΟΜΙΛΙΑ

ΟΜΙΛΗΤΗΣ: **Dr. Γιώργος Νούνεσης**, Διευθυντής Ερευνών
Ινστιτούτο Ραδιοϊσοτόπων & Ραδιοδιαγνωστικών Προϊόντων
ΕΚΕΦΕ Δημόκριτος
Αθήνα

ΘΕΜΑ: **Υγροκρυσταλλική Νανοτεχνολογία: Περιπλοκότητα, Οργάνωση και Εφαρμογές.**

Liquid Crystalline Nanotechnology: Complexity, Organization, Applications.

ΤΟΠΟΣ: Αίθουσα Σεμιναρίων ΙΤΕ/ΙΕΧΜΗ

ΗΜΕΡΟΜΗΝΙΑ: **Τετάρτη, 13 Ιουνίου 2012**

ΩΡΑ: **12:00**

ΠΕΡΙΛΗΨΗ:

Liquid crystals (LCs) are organic, shape-anisotropic compounds that give rise to mesophases characterized by long-range orientational and/or translational order while maintaining fluid characteristics, such as high mobility at the molecular level and fast responses to external fields. The dispersion of surface-functionalized nanoparticles in LCs and indeed the coupling of anisotropic elasticities to nanoscale properties are expected to produce systems of unique molecular organization, likely to exhibit extraordinary physical properties and thus hindering exciting scientific developments.

A very special class of such nanocomposite materials will be presented. It consists of CdSe quantum dots, appropriately functionalized so as to extend the stability and



macroscopic properties of chiral LC phases to new extremes, ideal for advances in optoelectronics. In the anisotropic soft medium, the interactions of the nanoparticles with lines of topological lattice defects (disclinations and screw dislocations) can lead to successful functional targeting, transport and self-assembly in the microscale.

ΣΥΝΟΠΤΙΚΟ ΒΙΟΓΡΑΦΙΚΟ

George Nounesis is the Director of Research of the Biomolecular Physics Laboratory at the National Centre for Scientific Research “Demokritos”. He obtained his B.Sc. in Physics at the University of Athens in 1982 and his Ph.D. in Experimental Condensed Matter Physics at the University of Minnesota in 1987. He did his Postdoctoral Training (1987-1990) at the Chemistry Department of the Massachusetts Institute of Technology. In 2011, he attended an Executive Education Program in “Innovation for Economic Development” at the Harvard Kennedy School of Government.

Prior to returning to Greece (1990-1995) he was employed at the Francis Bitter National Magnet Lab, MIT as Research Staff Scientist and Director of the Complex Fluids Facility. He has received Research Awards from the Latsis Public Benefit Foundation (2011) and the Empirikion Foundation (2007) as well as the Alan Berman Publication Award from the US Department of the Navy (1995). In the Fall of 2010 he was appointed Invited Professor at the Chemistry Department, University Bordeaux I and in 2012 he received an Honorary Visiting Professorship from Cardiff University, School of Medicine.

His research interests include: Experimental studies of phases and critical phenomena in nanoparticle-doped liquid crystals and structure-based thermodynamics of biomolecules and biomolecular interactions.