Πρόσκληση σε Δημόσια Παρουσίαση της Διδακτορικής Διατριβής του

κ. Αθανάσιου Αθανασίου

Επιβλέπων Καθηγητής: Γεώργιος Πετεκίδης

(Σύμφωνα με το άρθρο 95, παρ. 3 του Ν. 4957/2022, ΦΕΚ 141 τ. Α΄/21.7.2022)

Την **Τετάρτη 26 Απριλίου 2023** και ώρα **15:00** στην **αίθουσα Τηλεεκπαίδευσης Ε130 του Τμήματος Μαθηματικών και Εφαρμοσμένων Μαθηματικών του Πανεπιστημίου Κρήτης**, θα γίνει η δημόσια παρουσίαση και υποστήριξη της Διδακτορικής Διατριβής του υποψήφιου διδάκτορος του Τμήματος Επιστήμης και Τεχνολογίας Υλικών κ. Αθανάσιου Αθανασίου, με θέμα:

«Rheometric Tools and Protocols for Materials with Multi-Scale Response and Fading Mechanical Memory»

Abstract

We discuss the development of rheometric tools and protocols that aim to address specific challenges in Rheology of Soft Matter. Specifically, we: a) perform LVE measurements by conventional rotational rheometers and our home made HF piezo-rheometer, to probe local interactions in a supercooled and glassy colloidal suspension; b) study the rheology of an amphiphilic pentablock hydrogel which was designed and synthesized to serve as drug carrier for anticancer treatment, targeting pancreatic malignant cells; c) show that memories of nonlinear deformations reduce the modulus of resilience, i.e., the ability of the hydrogel to store energy elastically; d) combine HF oscillatory rheometry and frequency-modulated strain waveforms to perform Dynamic Frequency Sweeps with a total duration of a few seconds; f) utilize the acquired experience with piezoelectric sensors (PZR) to develop a measurement technique for normal stresses in shear start-up experiments. Merits and limitations of each protocol are discussed as well as the information gained from the data analysis and comparison with literature.