**Ηράκλειο 21 Ιουλίου 2022**

# ΠΑΡΟΥΣΙΑΣΗ ΔΙΠΛΩΜΑΤΙΚΗΣ ΕΡΓΑΣΙΑΣ

Της φοιτήτριας Έρτα Πέτσι, θα γίνει τη

**<u>Πέμπτη 28/07/2022</u>** και ώρα **11:00**

στην αίθουσα Α210 του Κτιρίου Μαθηματικού

Επιβλέπων: Δημήτρης Βλασσόπουλος

## Θέμα Διπλωματικής:

## «Rheological Signatures of Polymeric and Colloidal Responses in Architecturally Complex Macromolecules»

**Abstract:**

In this thesis, we investigated the linear and nonlinear rheological properties of polymer solutions at different concentrations and temperatures. The selected polymer was polystyrene (PS) and the solvent dioctyl pthalate (DOP). Particularly we investigated the effect of PS architecture (linear and star). We examined linear PS of Mw=130 kg/mol, and star PS with 4 and 32 arms of Mw=55kg/mol per arm and 64 functionality of Mw=52kg/mol per arm. The linear measurements provide the linear viscoelastic spectra at different temperatures, while the nonlinear measurements from the shear thinning and transient response of these materials. Our results reveal the differences and similarities between linear and star polymers at different flow conditions.