<u>ΑΝΑΚΟΙΝΩΣΗ</u>

ΠΑΡΟΥΣΙΑΣΗ ΔΙΠΛΩΜΑΤΙΚΗΣ ΕΡΓΑΣΙΑΣ

Της Φοιτήτριας **Μαρίας Καρούζου,** θα γίνει την

<u>**Δευτέρα 30/09/2019**</u> και ώρα **13:00**

στην αίθουσα B2 του Κτιρίου Χημείας.

Θέμα Διπλωματικής:

«Linear viscoelasticity of Dendronized Polymers of different generations»

Abstract

Dendronized Polymers (DPs) represent an interesting class of polymers comprising a linear backbone with grafted tree-like structures (dendrons). The latter give rise to a molecular thickness of these macromolecules which is a function of the generation of the dendrons. The larger the generation the higher the branching, hence the size of the sidegroups. These DPs were synthesized by Ring Opening Metathesis Polymerization (ROMP). In the past, they have been characterized using a combination of scattering techniques (Photon Correlation Spectroscopy and Small Angle Neutron Scattering). In this work we investigate their linear viscoelasticity in the melt using shear rheometry.

Our findings suggest that the molecular weight needed to form entanglements depends on dendron generation. Furthermore, regardless of the molecular weight, all DPs of generation 4 and 5 seem not to entangle at all, at least in the range of molecular weights studied here. The stress relaxation is characterized for different modes and bears analogies to that of bottlebrushes. Their fast (segmental) dynamics is very similar. These findings provide ingredients for extending the current state of the art of polymer dynamics to hyperbranched thick polymers.