



ΠΡΟΣ

- 1) Όλα τα μέλη ΔΕΠ του Τμήματος Επιστήμης και Τεχνολογίας Υλικών
- 2) Την Επταμελή Εξεταστική Επιτροπή
- 3) Όλα τα μέλη της Πανεπιστημιακής Κοινότητας

Πρόσκληση σε Δημόσια Παρουσίαση της Διδακτορικής Διατριβής του

κ. Μύρωνα Κρασσά

με θέμα:

«Device Engineering of Organic and Organic-Inorganic Solar Cells»

(Σύμφωνα με το άρθρο 41 του Ν. 4485/2017)

Παρασκευή 12 Ιουνίου 2020 και ώρα 13:00

<https://teleconf.materials.uoc.gr/b/sta-pfu-jmt>

Η παρουσίαση θα διεξαχθεί με τηλεδιάσκεψη στον παραπάνω σύνδεσμο, σύμφωνα με α) την παρ. 1 του άρθρ.12 της από 11.3.2020 Πράξης Νομοθετικού Περιεχομένου (Α'55), και τις οδηγίες εφαρμογής Α Δ1α/Γπ οικ.28237/5.5.2020 Κ.Υ.Α (Β'1699), ΑΔΑ: ΨΠ7046ΜΤΛΗ-43Φ.

Due to the highly increased global demand for low-cost energy generation during the last three decades, significant research efforts took place towards the development and progress of organic solar cells (OSCs), in order to boost their competitiveness over silicon technology. Owing to several attractive properties such as light weight, flexibility, low manufacturing costs, and compatibility with large-area processes, OSCs are considered as one of the most prominent photovoltaic technologies for sustainable energy production. Despite their potential among the third-generation solar cells, a great drawback is the small exciton diffusion length and the high exciton binding energy that limits the efficiency of the organic solar cells. In this thesis, we try to circumvent that problem by incorporating a third component into the photoactive layer. In the first part, a conjugated, ladder-type multi-fused ring 4,7-dithienbenzothiadiazole:thiophene derivative, named as compound 'T', was for the first time incorporated, within the PTB7:PC71BM photoactive layer for inverted ternary organic solar cells realization. In the second part, a novel solution-processed graphene-based material, GO-TNF, a GO-TNF based ink was prepared and directly incorporated within the binary photoactive layer, in different volume ratios (1-3% ratio to the blend).