



ΑΡΙΣΤΟΤΕΛΕΙΟ  
ΠΑΝΕΠΙΣΤΗΜΙΟ  
ΘΕΣΣΑΛΟΝΙΚΗΣ

# ΣΕΜΙΝΑΡΙΟ ΤΜΗΜΑ ΦΥΣΙΚΗΣ

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## Κύκλος σεμιναρίων

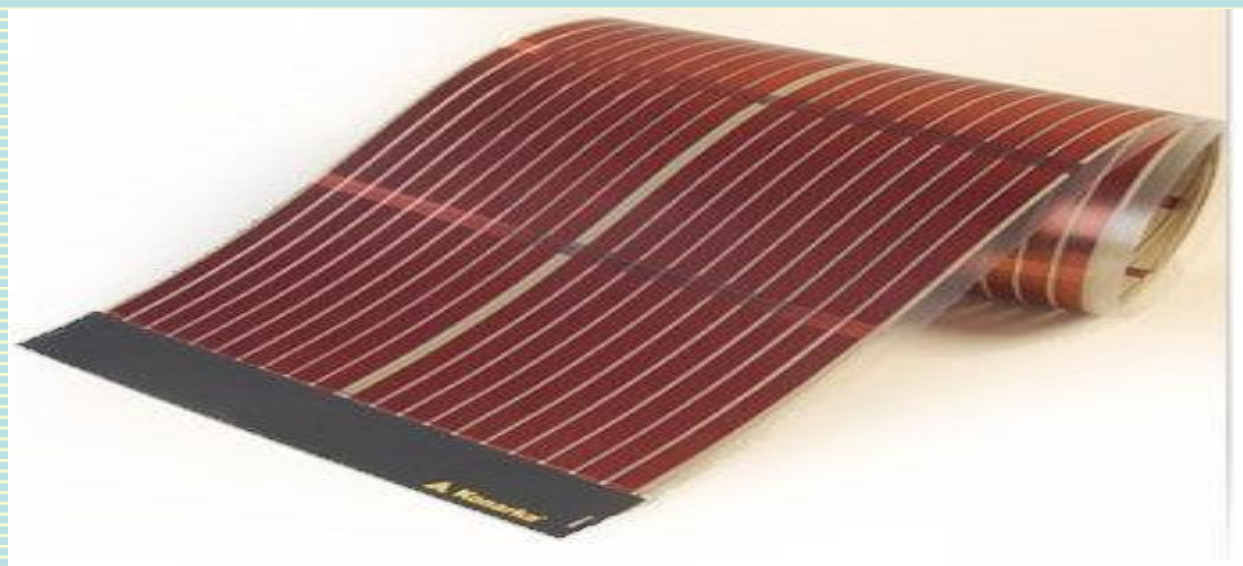


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## Organic Photovoltaics: Hybrid interfaces and organic structures



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We present an overview on the fundamental problems of organic photovoltaic (OPV) systems with molecular organic absorber layers prepared by evaporation techniques. Limitations of the transport properties at hybrid interfaces between transparent conductive oxide electrodes and organic absorber layers are discussed. Preparation methods for oriented growth of molecular absorber layers in bilayer heterojunction OPV architectures as well as optimized internal morphology of phase separated organic donor-acceptor blends in bulk heterojunction OPV architectures. For the analysis of the electronic properties and molecular orientation at the hybrid interface x-ray spectroscopic methods (XPS, NEXAFS) are applied, whereas the bulk structure and nano-morphology of ultra-thin organic layers was analyzed by scattering (XRD, TEM) methods. Phase separation processes on nanometer scale in organic blends are displayed through energy filtered transmission electron microscopy spectral imaging (EFTEM SI).

*Το προφίλ του ομιλητή*



**Dr. Konstantinos Fostiropoulos**, Physist (1988), PhD (1992) "C<sub>60</sub> - a new form of Carbon". He joined the Institute of Heterogeneous Materials Systems at HZB in 2001 and since then he has been participating in and coordinating 9 German national and European projects in the field of Organic Photovoltaic. Since 2003 he is head of the "Organic Solar Cells Group" at HZB and from 2006 to 2009 he represented 20 German national OPV research groups and industry partners in the European Coordination Action "OrgaPVNet". He is participate in the EC Project Smartonics and the GR-German Project "GR-Elect". In 2007-2008 he was lecturer at the University of Potsdam. Since 2011 he is lecturer and consultant to the Aristotelian University of Thessaloniki in the frame of the European Project ROleMAK<sup>53</sup>. Since 2008 he joined the scientific and organizing committees of ISFOE, NN, ISSON and NAPEN. He is the author of about 50 peer review journals and several patents concerning OPVs.