NATIONAL TECHNICAL UNIVERSITY OF ATHENS

PHYSICS DEPARTMENT

PhD position

In the framework of new ICT project two new PhD positions are offered at the National Technical University of Athens/Physics Department.

Laser Materials and MicroProcessing group at the NTUA is an active group on laser materials processing, Laser Digital Micro-Nano fabrication for Electronics and Sensor applications. The laser micro-printing process, which is also known as laser induced forward transfer (LIFT), has demonstrated its great ability to print with high resolution a wide range of organic, inorganic and biological materials. In the frame of these positions, LIFT will be used to print nanoparticle metallic inks for interconnection purpose and biological material for biosensor realisation. The process will be optimized to improve the resolution of the printed patterns and to determine any limitations in an industrial context. Also of interest is the detailed study of laser sintering of LIFT printed metallic lines.
The main activities of these positions will be focused:

- 1st position on laser micro-printing and laser micro-curing. Modelling of the process using COMSOL software. In addition system automation and device integration skills will be required. Morphological and electrical characterization of the printed electronics will be realized.
  Physics, Material Science or Engineering diploma is required. Technical expertise on Optics, Laser materials processing, characterization (SEM, AFM, electrical properties) is required.

- 2nd position on laser development of biosensors. Electrochemistry and surface chemistry functionalization will be realised. Biochemistry, chemistry or chemical engineering diploma is required.

Other Required skills:

- Excellent oral and written communication in English
- Team work and flexibility in learning new skills
- Eagerness to carry out independent work
- Eagerness to assist with MSc student supervision
- Eagerness to get involved in new collaborative-funded research projects

Start Date: January 2017

Location: National Technical University of Athens (NTUA)/Physics Department, Hroon Polytehneiou 9, 15780 Zographou, Athens

Contact person: Ioanna Zergioti, Associate Professor, NTUA/Physics Department, zergioti@central.ntua.gr
Iroon Polytehneiou 9, 15780 Zographou, Athens http://zergioti.physics.ntua.gr/

The applicants should submit their CV including list of publications and two reference letters at the zergioti@central.ntua.gr