



Postdoc or Research Engineer post in Mecatronics/Photonics

Context and description

The IMT Atlantique is a graduate engineering school in information technology and related fields located near Brest in Brittany on France's Atlantic coast.

The Optics Department of the IMT currently has a position vacant for a Postdoc or research engineer with experience, to work on French National (ANR) and European (H2020) projects. The successful candidate will contribute to the study, design, assembly, optimisation and application of a prototype "3D nanoprinter". The extremely high plot-rate demonstrator system is based on the combination of multi-photon and spatial light modulator (SLM) enabled massively parallel direct-write techniques. The prototype system will be used to fabricate nano-structured components for application in photonics, automotive and bio-medicine.

Objectives

The selected candidate's roles will include:

- define the architecture of the prototype 3D nanoprinter
- select and negotiate the purchase of the key components and sub-systems, assemble the prototype, develop the drive software, optimise the prototype's performance (resolution ~100nm, plot rate > 10Mvoxels/s ...)
- fabricate nanostructure test devices for industrial partners using the prototype 3D nanoprinter
- disseminate the scientific results (patents, conferences, publications ...).

The candidate should have a strong theoretical background and practical experience in photonics-mecatronics-computing and will be expected to contribute his/her own innovative ideas to develop new concepts and devices for ultra-fast nano-fabrications. The work will be performed in a team with optics department researchers (Profs, PhD students ...) and with external partners, both academic and industrial.

Candidate profile

- Doctor or engineer with initial experience and a solid grounding in photonics, mecatronics and/or electronics
- Experience of computer programming (Linux, C/C++ and python preferred) and particularly of the computer control of peripherals (cameras, nano-translation stages, micro-displays ...),
- Cleanroom and photolithography experience would be an advantage
- Taste and aptitude for laboratory experimentation (fabrication) and practical applications.
- Ability to work and write scientific reports and articles in English
- Knowledge of French is not required initially but an advantage.

Practical details

Start date : 4th quarter 2021

Duration : 18 months initially with extension possible.

Salary range : 2700-3000€ gross/month + annual bonus.

Applications close : 15th September 2021

Please send candidatures to: Prof. Kevin Heggarty kevin.heggarty@imt-atlantique.fr