Part-time ***Research Engineer*** position available within the project "*High sensitivity mixed superconducting – magnetoresistve magnetic field sensor for bio-medical applications"* PN-III-P1-1.1-TE-2016-2465/02.05.2018-SuperMagSense, under development at the **Technical University of Cluj-Napoca,** Cluj-Napoca, Romania. The aim of the project is to investigate efficient vortex pinning strategies in high temperature superconductor-based low magnetic field sensors. The mixed superconducting – magnetoresistive magnetic field sensors that will be developed within the present project have a very high sensitivity, which recommend them for bio-medical applications, in which very low magnetic fields need to be measured. The sensors operate using a superconducting loop having a constriction which acts as a flux to field transformer. The magnetic field generated by the supercurrent passing through the constriction is detected by the giant magneto-resistive (GMR) sensor. By incorporating effective vortex pinning strategies into the superconducting constriction, which reduces the noise generated by vortex motion, the increase of the overall sensor sensitivity is expected.

Job description: UV lithography mask design for the mixed superconducting – magnetoresistive magnetic field sensor fabrication, micro-structuring of the sensors by UV lithography and sensor performance evaluation.

Requirements: The candidate should have a bachelor's degree in electrical or materials engineering and must be enrolled in a post graduate study program (master).

Application interval: 17.09.2018 – 28.09.2018

Further information:
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