JOB OFFER:

1 (one) PhD position in Marie Skłodowska-Curie Innovative Training Network (MSCA-ITN) “EMERALD - ElectroMagnetic imaging for a novel generation of medical Devices”

Offer Description:

This PhD position is part of the Marie Skłodowska-Curie Innovative Training Network “EMERALD - ElectroMagnetic imaging for a novel generation of medical Devices”, funded by the European Union’s Horizon 2020 Research and Innovation Programme.

EMERALD is the coherent action of leading European engineering groups involved in electromagnetic (EM) technology for medical imaging to form a cohort of highly-skilled researchers capable of accelerating the translation of this technology “from research bench to patient bedside”. EM imaging technology involves the illumination of the portion of the body under investigation with low-power non-ionizing EM waves in the microwave spectrum and the use of the resultant backscattered signals to generate images of the internal structure of the body.

The objective pursued by EMERALD is to accelerate translation of research in EM medical imaging into clinical prototypes. To this end, EMERALD will establish a group of 13 outstanding early stage researchers (ESRs) who will be the European leaders in this field, through a unique scientific and training programme. The EMERALD consortium involves academic institutions, industrial partners, hospitals and university medical centers.

The EMERALD trained researchers will drive the future developments of EM imaging technology, thanks to the targeted skills they will attain, and their established connections with clinicians and stakeholders.

The main research topic of the offered PhD position will be enabling the full wave simulation of medical EM imaging scenarios and support the efficient realization of medical EM imaging prototypes.

The main objectives of the planned research activities will be:

- Development of homogenization techniques (in collaboration with University of Belgrade) to reduce resources for simulation with negligible impact on accuracy
- Development of various re-meshing techniques, to enable accurate and efficient 3D EM simulation of different types of phantom/antenna models
• Creation of a library of electrical properties of tissues (frequency dependent) to be used in the software for specifying the material properties
• Creation a library of phantoms and a library of typical medical EM devices, from which one can easily create various EM imaging scenarios
• Validation of accuracy of 3D EM simulation for typical medical EM imaging scenarios

Moreover, several secondments are planned during the PhD studies: in Ireland at NUIG - National University of Ireland, Galway, in Portugal at FC.ID FCIENCIAS.ID Associacao para a Investigacao e Desenvolvimento de Ciencias and in UK at MEDIWISE Medical Wireless Sensing Ltd.

Researcher Profiles: First Stage Researcher (R1)

Research field: (please select accordingly)

Engineering > Biomedical Eng.

Engineering > Communication Eng.

Engineering > Computer Eng.

Engineering > Electrical Eng.

Engineering > Electronics Eng.

Type of Contract: Temporary

Job Status: Full-time

Hours Per Week: 40

Application Deadline: 15-June-2018 23:00

Timezone: Europe/Brussels

Envisaged Job Starting Date: 1-Oct-2018

Is the job funded through a EU Research Framework Programme?:

H2020 / Marie Skłodowska-Curie Actions

Marie Skłodowska-Curie Grant Agreement Number: 764479
How to Apply: e-mail

Application Email: office@wipl-d.com

Organisation/Company: WIPL-D d.o.o / University of Belgrade, School of Electrical Engineering

Organisation Type: SME / Higher Education Institution

Department: R&D / RF and MW Group

Main Research Field: Engineering

Level: Master Degree or equivalent

Skills/Qualifications:
- Basic knowledge of EM fields and antennas
- Preferable experience with main programming languages (Matlab / C / C++)

Specific Requirements:
- Experience with EM modelling

Required Languages: English – Professional working proficiency

Required Research Experience: 1-4 – Engineering

Website for additional job details:


Benefits:

The successful candidates will receive an attractive salary in accordance with the MSCA regulations for Early Stage Researchers. The exact salary will be confirmed upon appointment, but may vary between €25.000,00 gross/year and €35.000,00 gross/year.

The salary includes a living allowance, a mobility allowance and a family allowance (if married). The guaranteed PhD funding is for 36 months. In addition to their individual scientific projects, all fellows will benefit from further continuing education, which includes internships and secondments, a variety of training modules as well as transferable skills courses and active participation in workshops and conferences.
Eligibility criteria:


In particular candidates:
- must be within the first four years (full-time equivalent) of their research career;
- must not yet have been awarded a doctoral degree;
- must carry out trans-national mobility and not have resided or carried out their main activity (work, studies, etc.) within the host country for more than 12 months in the three years immediately prior to recruitment (short stays such as holidays are not taken into account).

To be eligible for a PhD at University of Belgrade, students are bound to have the following requirements by September 15, 2018:

1) A Master of Science degree (i.e. 2nd level title, as defined by the Bologna Process), issued by an officially recognized academic institution, which grants admission in PhD programmes in the country of issuance. (300 ECTS credits)
   If the Master of Science degree has been obtained in Serbia, the minimum average grade must be 8/10

2) English language knowledge - Professional working proficiency. The language certificate is preferable, but the level of proficiency will be assessed during the interview with candidates.

Selection process:

Candidates will be assessed by a committee specifically appointed by WIPL-D d.o.o. and University of Belgrade. They will be evaluated based on their resumes and on an interview, either in person or by telematic way.

In order to apply, candidates are required to provide the following documents to the email address office@wipl-d.com:

1. full CV, demonstrating their personal study career and proving that they match the eligibility criteria already described above;
2. motivation letter;
3. certificate of Master of Science degree with final mark, if already obtained;
4. certificate of transcript of records for the Master of Science career, with marks;
5. certificate of Bachelor of Science degree with final mark, obtained;

6. certificate of transcript of records for the Bachelor of Science career, with marks;

7. any other official documents which can be useful for the purpose of declaring the conformity of the title (i.e., diploma supplement, declaration of value).

All the certificates and official documents shall be issued by the relevant university in one of the following languages: Serbian or English.

Candidates need to prove that they are eligible according to with the Marie Sklodowska-Curie Actions eligibility requirements http://ec.europa.eu/research/participants/data/ref/h2020/wp/2016_2017/main/h2020-wp1617-msca_en.pdf.

Additional comments:

WIPL-D d.o.o. and University of Belgrade guarantee equal gender opportunities for the provision of grants.