

Project Title

Development of optimization tools for RF components (PhD offer in H2020-MSCA-Innovative Training Network - TESLA)

Project Description

Space is key asset for Europe. Europe's citizens enjoy the benefits, from jobs and economic growth, to public services, efficient communications and security. To respond to global challenges, Europe must continue to have a prominent role in space at a time when other world powers are rapidly developing their space capabilities. Since satellite payload RF components and systems are essential for delivering mission objectives and supporting ground equipment and telecommunication systems, new technologies and techniques are required to respond to emerging satellite applications and technology challenges.

This position is part of a large Marie Skłodowska-Curie Innovative Training Network - TESLA (https://cordis.europa.eu/project/rcn/217924_en.html) consisting of 8 academic and 11 industrial nodes in 8 European countries (UK, France, Germany, Italy, Spain, Austria, Sweden & Finland). It will create a vibrant, multidisciplinary training-through-research environment uniquely equipped to develop the Advanced Technologies for future European Satellite Applications. The TESLA ITN will hire 15 Early Stage Researchers, who will pursue PhD in collaborating with senior staff in academic and industrial sectors to conduct top-notch research into new and enabling technologies for satellite flexible payloads, big constellation systems and Internet of Space, satellite high-speed communications and remote sensing, as well as large satellite platforms.

The main objective of this PhD project is to design optimized microwave filters for improving their power handling (contact the supervisor for details). The project will specifically aims at developing microwave waveguide filters based on dielectric resonators. The required profile is therefore in direct relation with the design of microwave components and more specifically waveguide filters.

The appointment is full time (100% FTE) for 36 months with an expected start day of 1st November, 2019 or as mutually agreed upon by both parties.

This PhD project will take place in the Xlim research institute that is part of the University of Limoges, France.

Essential Criteria:

- Applicants should have a good undergraduate degree or a postgraduate Master's degree (or equivalent) in electronic or electrical engineering and more specifically in microwave design with an excellent academic level as well as highly proficient English language skills.

The knowledge of propagation of EM waves in waveguide based devices, EM field theory and microwave devices design is a prerequisite. Skills in CAD tools (HFSS, CST, ADS, Momentum) are necessary as well. Good level of French (spoken, written) will be appreciated but is not mandatory.

- The ability to think logically, create solutions and make informed decisions is essential as are excellent organizational skills and the ability to travel and work across Europe.

- There are no restrictions on the nationality, but researchers must be early-stage researchers (ESR), i.e. at the time of recruitment, be in the first four years (full-time equivalent research experience) of their research careers and have not been awarded a doctoral degree.

- Researchers must comply with the mobility rule - Researchers may not have resided or carried out their main activity (work, studies, etc.) in the country of their host organisation for more than 12 months in the 3 years immediately before the reference date: the recruitment. Compulsory national service and/or short stays such as holidays are not taken into account.

Desirable criteria (contact the supervisor for details)

- Flexible approach to work and responsibilities
- Energy and enthusiasm for the project
- Experience in RF/microwave engineering (mandatory)
- Experience in RF/microwave filter design
- Experience with multiphysics computer-aided design software

The candidates must provide for their application a detailed CV (the use of the europass CV is recommended: <https://europass.cedefop.europa.eu/fr/documents/curriculum-vitae>), a cover letter in English and their Master and Bachelor degree transcripts. Copies of already published scientific papers or of the Master thesis may be joined as well.

Note:

The students who have already applied during the previous call for this position are encouraged not to apply again since their profile would, this time again, not be selected.

Salary

The successful candidates will receive an attractive salary in accordance with the MSCA regulations for Early Stage Researchers <http://ec.europa.eu/research/mariecurieactions>. The PhD funding is for 36 months.

How to apply:

Apply through this online portal:

<https://www.findaphd.com/phds/project/development-of-optimization-tools-for-rf-components-phd-offer-in-h2020-msca-innovative-training-network-tesla/?p104480>

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