

Training Opportunity for Belgian Trainees

Reference	Title	Duty Station
BE-2018-TEC-EDC	Electronic fuse based on COTS components	ESTEC
<p>Overview of the unit's mission:</p> <p>The ESA Components Section primarily covers Electrical, Electronic and Electromechanical (EEE) components Technology and in particular components development, reliability assessment, industrialisation. The section is also responsible for the technical management of components space evaluation qualification.</p> <p>Examples of specific EEE components and technologies covered by the technology domain are :</p> <p>MEMS: RF, AOCS, MOEMS, micropropulsion, pressure sensors, etc but also MEMS packaging & stacking; Advanced manufacturing: 3D printing, EFAB, etc applied to EEE components Nanotechnologies: CNTs and their potential application in space: thermal, mechanical, electrical and radiation; Optoelectronics: laser diodes, optocouplers, CCDs, APS, etc ; Deep Sub Micron Technologies (65 nm and below); VLSI technologies: FPGA, ASIC, Memory devices, etc ; Analogue electronics: op-amps, comparators, etc ; Passive components including Oscillators and Piezo actuator elements; Microwave Components/ Technologies discrete and MMIC devices : GaAs, GaN ,SiC, SiGe, etc Hybrid circuit and technologies: thick and thin films</p>		
<p>Overview of the field of activity proposed:</p> <p>The objective of this topic is to design and build an electronic fuse to replace the conventional fuse. In terms of performance, the idea is to improve the reaction time, make it more stable and allow a power system design with fewer uncertainties.</p> <p>Explore the use of COTS components or the combination of COTS and flight components for this application in order to reduce cost as much as possible. To be able to compete with fuses, the solution has to be comparably expensive.</p> <p>The trainee's activity will consist on designing the electronic fuse circuit, selecting the components and building a prototype to compare the performance of the fuse and the equivalent electronic fuse.</p>		
<p>Required education:</p> <p>Applicants should have just completed, or be in their final year of a University course at Masters level in a technical or scientific discipline.</p> <p>Applicants for this post should have an education in electronics, computer science, telecommunications or equivalent.</p> <p>Applicants need to be fluent in English or French, the official languages of the Agency.</p> <p>Applicants should have good interpersonal and communication skills and should be able to work in a multi-cultural environment, both independently and as part of a team.</p>		