Training Opportunity for Luxembourgish Trainees

Reference	Title	Duty Station
LU-2019-TEC-EFP	Analysis, modelling and performance assessment of Future Radio Frequency Payloads and Remote Sensing Instruments	ESTEC

Overview of the unit's mission:

The Radio Frequency Payloads & Technology Division (TEC-EF) is responsible for RF payloads, instruments and technologies for space and ground applications, including all equipment having a Radio Frequency space/ground interface and its associated Laboratories. The division supports the definition, specification and development/ procurement of laboratories either for ESA projects and technology programmes or external customers.

Within the TEC-EF Division, the Payload Engineering Section responsibilities encompasses payloads with Radio Frequency interface for telecommunication and navigation exploiting different technologies (e.g. analogue, digital, optical) including design and performance analysis tools and testing. In addition, the Section is also responsible for Earth observation and scientific Radio Frequency active and passive instruments, including design and performance analysis, engineering and testing.

Overview of the field of activity proposed:

Within the Payload Engineering Section, the trainee will have the opportunity to work in one of the following disciplines, depending on his/her background and interest:

- Flexible Telecommunication Payloads: Design, modeling, analysis and performance assessment of future flexible telecommunication payloads. Future telecommunication payloads will need to generate hundreds to thousands of beams in the field of view with capability to reconfigure in a flexible manner, the power, bandwidth and coverage in order to cope with the traffic needs. The trainee will need to assess the performance of novel payload architectures and perform trade-offs among the most suitable architectures.
- Earth Observation Remote Sensing Instruments: Design, modeling, analysis and performance assessment of future earth observation remote sensing instruments. These instruments include wide-swath Synthetic Aperture Radars, wide-swath Radar Altimeters and/or Scatterometers. The trainee will assess novel instrument architectures and establish performance trade-offs.

Required education:

Applicants should have an MSc degree on Telecommunications/Electronic/RF/Microwave Engineering.
Knowledge and/or experience in computer programming (e.g., Matlab) is requested.
Applicants should have good analytical and communication skills and should be able to work in a multi-cultural environment in an autonomous manner.