Radiation Exposure Simulation Specialist

THE COMPANY

EmTDLab is a company incepted in 2018 with the vision to advance the future of space exploration.

Effective shielding against space radiation remains one of the most challenging concerns of space missions, from satellite on-board systems to deep space human flight. Our goal is to participate in the discovery of entirely new materials for space radiation shielding.

THE POSITION

EmTDLab is growing and actively recruiting a Radiation Exposure Simulation Specialist who will report to the Radiation Simulation and Effects Engineer. This position aims to support our fundamental goal of discovering a generation of entirely new materials for space radiation shielding.

We are looking to hire a creative, self-starting scientist or engineer with a profound desire to learn and innovate.

As a key member of the R&D team, you will be responsible for assessing the efficiency of materials shielding and analyzing the radiation effects on space systems across various mission scenarios and space radiation environment.

As a team member, you will develop your own internal and external networks and cultivate collaboration across multi-disciplinary team members that include systems engineers, computational chemist, computational mechanics scientists, materials scientist and software developers.

SCOPE AND DESCRIPTION OF RESPONSIBILITIES
- The scope of numeric simulation of material radiation exposure to be performed will be specified by the company during the selection process.
- Numeric simulation by means of existing radiation simulation packages of the key physical processes occurring in the radiation – matter interaction.
- Prepare and conduct radiation simulation campaigns, which involves:
    - developing simulation setups;
    - analysing subsequent data;
    - simulating structures and materials radiation effects;
    - radiation exposure effects of EEE parts.
- Opportunity to run or rewrite existing codes, as well as develop new one.

REQUIREMENTS

Degree
- Master's Degree studies in Physics, Engineering, and similar disciplines.
- Fluent in English.

Personal, interpersonal skills and experience
- Excellent written and verbal communication skills.
- Proven ability to communicate, collaborate, and deliver results in a fast paced, multitasking

environment.

- Ability to work unsupervised and autonomously.
- Experience of collaboration with programmers.
- Work experience can be minimal, but a proven track record of fast learning is then required.

The ideal candidate would have the following technical knowledge and skills:

- Strong knowledge of physics processes driving particle beam interaction.
- Computational experience in programming languages including C++ / Python / Matlab.
- Knowledge of radiation simulation software and tools (e.g., Lise++, SRIM, etc.).
- Proficiency in MS office Tools, Word, PowerPoint, Excel.
- Excellent analytical skills and formal report writing skills.
- Familiarity with shielding analysis tools (Geant4, Fluka, CRÈME, etc.), device physics simulation tools, modern programming techniques, modelling and simulation of radiation effects on EEE components for radiation hardening and software engineering practices.
- Real knowledge or proven interest in aerospace systems, aerospace materials, space industry.

WHAT WE OFFER

EmTDLab is a freshly incorporated company in Luxembourg. EmTDLab promotes a work culture driven by technical excellence, transparency, integrity, respect and humour. We encourage diversity in backgrounds. Your appetite for creativity, innovation, intellectual curiosity will be deeply appreciated.

We work according to flexible organisational principles with respect to work location, working hours and contractual agreements (e.g. part-time work and full-time work). We expect that each team member fulfils her/ his objectives as a part of the company's objective with little constraint added to your research work.

We although expect that we all work as professionals and all respect common sense business logic, commonly agreed research practices, quality assurance and quality control. We are an open door policy company where team communication is considered as critical for success.

We offer a remuneration package in line with the market, including yearly bonuses and training opportunities.

The main place of work (headquarters) is the Grand Duchy of Luxembourg.

The present job offering also covers provisional recruitment for the Kingdom of Belgium.

Candidates from any third-country national (a person who is not an EEA national – i.e. from an EU Member State, Iceland, Norway and Liechtenstein – or a Swiss Confederation national) space are encouraged to apply under a residency permit application.

APPLICATION PROCESS

Please send the following information to jointheteam@emtdlab.com :

- An up-to-date resume.

- A short introduction letter.

- The name of at least two references (MSc supervisors/current employers).

- A copy of your obtained diploma and educational certificates.

- Papers, publications, non-confidential papers and previous technical use cases, if any.

Two rounds of interview will take place in total either through videoconferencing or face-to-face.

It is the policy of EmTDLab to provide equal employment opportunity without regard to race, colour, religion, age, national origin, sex, gender, sexual orientation, gender identity/expression, disability, health status, genetic information, or any other basis, protected by data privacy, institutional policy or by state or local laws unless such distinction is required by law.