

SERVICE DE METROLOGIE NUCLEAIRE NUCLEAR ENGINEERING

INTERNSHIP

Academic year **2021-2022**

*The topics listed below correspond more to **themes** in which master theses can be realized, than to a detailed description of topics. Depending on the interest of the students, more theoretical or instead industry-related topics will be developed. Some of the proposed themes are more convenient for an internship, to be made before the master thesis.*

*The themes proposed are preferably **accessible mainly to students in engineering physics and in electromechanical engineering.***

18. Exploring the options of probabilistic sampling schemes for efficient demonstration of the absence of radioactivity during decommissioning (in collaboration with Tractebel Engie)

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12-week internship !!!

[Nuclear Physics]

[Computer sciences]

[Electromechanical]

Business Line: Nuclear – Radiation Protection and characterization Team

Type: 3-months internship, with the option for prolongation or follow-up as a master thesis

Site: Brussels ENGIE Tower, home office possible as well in light of Covid-19

Who is Tractebel?

Tractebel, part of the ENGIE group, has more than 150 years of experience and is one of the world's largest engineering consultancy companies. Tractebel offers its clients multidisciplinary solutions in the fields of energy, nuclear, water and urban. Our teams are present in all the possible phases of a project, from the feasibility studies to the implementation.

What will you be working on?

Decommissioning of a licensed facility includes demonstrating the absence of residual radioactivity on building structures and terrain. In many cases, a 100% verification is not necessary or possible (e.g. concrete core drilling for activation assessment, soil sampling) and one has to resort to sampling. The challenge lies in reaching sufficient confidence in the activity distribution and subsequent clearance decision, with as little samples as possible.

During the internship, the student will explore different sampling schemes, with a focus on geostatistics that can integrate spatial structure of recorded contamination values. He will apply them to existing available data in order to assess potential efficiency gains.



Who are we looking for?

- ✓ You speak fluently Dutch, French or English
- ✓ You are an Engineering student, preferably of nuclear physics
- ✓ You wish to do an internship in an engineering company for at least 3 months
- ✓ Knowledge of programming is a must, preferably Python or Matlab
- ✓ You are driven by the search of innovative solutions
- ✓ You are curious and have an initiative mindset

What do we offer?

- ✓ An interesting and varied internship in a large nuclear engineering company
- ✓ An environment that allows you to strengthen your professional and technical skills
- ✓ The opportunity to receive professional guidance by experts in different fields of engineering

How to apply?

Do you think that Tractebel is the perfect fit for your internship?

Send an e-mail to steven.peetermans@tractebel.engie.com with your CV, a few lines about your motivation and indicate which project you want to apply for.

We hope to see you soon !