

62025 Nuclear Global Internship Job Description

1. Basic Information

- Expected Internship duration: *4-6 months*
- Internship Area/Topic: *mechanical properties and microstructure of RPV materials*
- Division/Department Placement: *SCK CEN/NET/SMA*
- Supervisor's contact information: *Erich Stergar (erich.stergar@sckcen.be), Inge Uytendhouwen (inge.uytendhouwen@sckcen.be)*

2. Responsibilities

1) Main Purpose

Support of the materials program for Gen-II/III (LTO) nuclear reactors

2) Tasks/ Key Results Expected

Title of project

Mechanical and microstructural characterization of steels for nuclear power plants

Introduction

Bainitic (for the reactor pressure vessel) and austenitic stainless steels (for core internals, piping etc.) belong to the main structural materials in nuclear power plants. In order to evaluate the applicability of different grades of these steels for their use in nuclear power plants it is of high importance to thoroughly characterize and understand their microstructure and its influence on the mechanical properties. In this internship a specific batches of material will be investigated and tested in the SCK CEN laboratories.

Objectives

This internship is designed as a small project where the candidate follows the material from documentation of the received samples till the final reporting of the gained results. Among the activities are:

- *Conducting mechanical testing including (tensile and fracture toughness)*
- *Fractography using state of the art optical and electron microscopes*
- *Microstructural analysis of the investigated materials*
- *Reporting of the gained results in progress meetings as well as in written form at the end of the project.*

3) Knowledge, Skills and Abilities

The candidate needs to have a background in Physics and/or Materials Science, Nuclear Engineering. Background/knowledge in steel related materials science is an asset.

3. Qualifications (Education)

- ☒ (1) Bachelor degree (3rd year ☒, 4th year ☒)
- ☒ (2) Master degree (or candidate)
- ☐ (3) Ph. D. degree (or candidate)
- ☐ (4) Does NOT matter

4. Required documents

- ☒ Resume / Curriculum Vitae
- ☒ Cover letter
- ☒ Academic transcript
- ☒ Recommendation letter written by academic supervisor
- ☒ English Test score (TOEFL, TOEIC, IELTS, etc.)
- ☒ Others (*emergency contact information and KONICOF contact information (supervising mentor)*)

5. Is the host organization providing any additional financial support in addition to the funding from KONICOF?

- ☒ Yes
 - The amount of stipend: /EUR Dormitory costs 500 per month
 - Purpose of the stipend: *assist housing*
- ☐ No

