

# 2025 Nuclear Global Internship Job Description

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## 1. Basic Information

- Expected Internship duration: September 2025 – February 2026
- Internship Area/Topic: Microreactors and SMRs; Simulations and modeling;
- Division/Department Placement: Department of Mechanical, Aerospace, and Nuclear Engineering, Rensselaer Polytechnic Institute (RPI)
- Supervisor's contact information: Hyun Gook Kang, [kangh6@rpi.edu](mailto:kangh6@rpi.edu), <https://faculty.rpi.edu/hyun-kang>

## 2. Responsibilities

### 1) Main Purpose

The Nuclear Plant Reliability and Information (NPRI) lab, led by Professor Kang at RPI, is seeking intern students to assist with computational analysis with the water-based small modular reactor (SMR) plant simulation. The lab is developing the simulation model by using Modelica simulation language for both interactive operational event response analysis and accident mitigation process of SMR plants. The focus of internship could be any of multiple areas including reactor models, reactivity control, thermal hydraulics, electricity generation, electricity grid demand following, and hybrid operation with other energy destinations. Computational model for radiation atmospheric transportation and dispersion in a complex geometry is additional possible area of work.

### 2) Tasks/ Key Results Expected

- Collaborate with Dr. Kang and his team to work on research projects in nuclear reactor simulation.
- Conduct literature reviews on relevant research topics.
- Perform computational analysis for variety of design options.
- Explore advanced numerical methods.
- Present research findings at local, national, and international conferences.

### 3) Knowledge, Skills and Abilities

- Undergraduate (senior level preferred) or graduate students currently enrolled in nuclear, mechanical, or chemical engineering major.
- Excellent analytical, problem-solving, and critical-thinking skills.
- Familiarity with experimental techniques, instrumentation, and data acquisition systems.
- Familiarity with computational simulation tools and methods is a plus.

### 3. Qualifications (Education)

- ☒ (1) Bachelor degree (3<sup>rd</sup> year ☐, 4<sup>th</sup> 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 ( )

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

- ☐ Yes
- The amount of stipend: USD/EUR/CHF \_\_\_\_\_ per month /week
  - Purpose of the stipend: *ex) assist housing, required minimum wage, etc.*
- ☒ No



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