

Research Placement KIT - SNU

Project Description – 2026/27

Current partners:

Seoul National University (South Korea)

Project Title	Applications on power-hydrogen multi energy system in power system stability enhancement
Abstract of the Project	The student will study, design, and understand power-hydrogen coupled multi energy systems (including fuel cell, electrolyzer, etc.) for enhancing power system stability. Approaches will be tested in realistic transmission systems modeled in real-time simulator.
Tasks	<p>The student will:</p> <ul style="list-style-type: none">• Study the current state of the art in multi energy systems incorporating power and hydrogen systems.• Choose, design and implement, together with the Power Systems Laboratory students, the approach in simulation environment (e.g., Simulink).• Develop control or operation methodologies of multi energy systems to enhance the stability.• Summarize and present the results. <p>The student will be supported during the stay by the faculty member and students in Seoul National University.</p>
Learning Outcomes	<ul style="list-style-type: none">• Active learning of multi energy systems incorporating both power and hydrogen facilities• Hands-on experience on simulation of multi energy systems• Increasing capability in summarizing and presenting scientific results

Requirements	Electrical or computer engineering student with background in power electronics and power systems
Language Skills	Strong English Knowledge (B2-C1 English)
Software Skills	experience with power electronics and power systems analysis software. Electromagnetic transient (EMT) simulation tools recommended. Laboratory experience is a plus.
Other Skills	
Minimum Duration of the Project	Up to six months
Type of Research Project	Research project
Expected Candidate Level	<input type="checkbox"/> Undergraduate <input type="checkbox"/> Graduate
Cooperation Preference	<input type="checkbox"/> Seoul National University
Responsible Professor	Gyu-Sub Lee (SNU)
Supervisor / Mentor	Phone number: Email: lgs1106@snu.ac.kr
Faculty / Institute / Company Name	Seoul National University
Address	

Timeline Information

	Placement at SNU	Placement at KIT
Duration	6 months	6 months
Start / end	September 2026-February 2027	October 2026 – March 2027
Application Deadline	15 May 2026	15 May 2026

Application procedure for SNU and KIT students:

Please send motivation letter, CV and current transcript (if applicable degree certificates) to:

- For students coming to KIT: Prof. Dr.-Ing. Giovanni De Carne
giovanni.carne@kit.edu
- For students coming to SNU: Prof. Dr.-Ing. Shenghui Cui
cuish@snu.ac.kr

Information for KIT students:

Students selected for the research placement at SNU should apply immediately for Erasmus+ Traineeship (Travel compensation and monthly scholarship) funding:

<https://www.h-ka.de/koor/erasmus-praktikum>

Please note: funds are limited, apply as soon as possible!

Information for SNU students:

Students selected for the research placement at KIT need to complete their application for KIT as soon as possible: <https://www.intl.kit.edu/istudies/3175.php>

Please apply for a study visa before departure and complete your enrolment at KIT before arrival in Germany.