Research Fellow / Engineer (Coastal and Hydrodynamic Modelling) - EA6
Singapore Institute of Technology

Job Title Research Fellow / Engineer (Coastal and Hydrodynamic Modelling) - EA6

Department Engineering

Institution Singapore Institute of Technology
Singapore, , Singapore

Date Posted May 28, 2025

Application Deadline Open until filled

Position Start Date Available immediately

Job Categories Research Scientist/Associate
Graduate Student

Academic Field(s) Water Resources Engineering
Ocean Engineering
Civil Engineering

Job Website https://careers.singaporetech.edu.sg/cw/en/job/498943/research-fellow-engineer-coastal-and-hydrodynamic-modelling-ea6

Apply By Email

Job Description

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Job no: 498943
Department: Engineering
Contract type: Contract
Apply now

As a University of Applied Learning, SIT works closely with industry in our research pursuits. Our research staff will have the opportunity to be equipped with applied research skill sets that are relevant to industry demands while working on research projects in SIT.

The primary responsibility of this role is to deliver on an industry innovation research project where you will be part of the research team to lead the storm surge modelling in the Singapore Sea. As a specialist in wave modelling software, the successful candidate will work on cutting-edge projects related to coastal and ocean wave modelling using Delt3D software. The role of the researcher is to perform physics-based modeling to build a numerical model that can predict storm surges in Singapore coastlines based on different weather conditions. The researcher will also work with team members within the consortium in generating necessary data required for developing a machine learning model for storm surge prediction.

Key Responsibilities

- Participate in and manage the research project with Principal Investigator (PI), Co-PI and the research team members to ensure all project deliverables are met.

- Undertake these responsibilities in the project:

i. Delft3D and SWAN Modelling: Utilize Delft3D and SWAN software to develop and validate numerical models for wave propagation, storm surge modelling, and coastal dynamics.
ii. Building up of a database of sea level anomaly with extreme weather conditions: Utilize the developed numerical model to build a database of sea level anomaly with different weather conditions, which can be used to develop a data-driven model for storm surge prediction.
iii. Data Analysis: Process and analyze climate, ocean wave and coastal data to improve model accuracy.
iv. Research: Conduct research to enhance wave modelling techniques and contribute to the advancement of coastal engineering and oceanography.
v. Impact Assessment: Evaluating the potential impacts of storm surges on coastal regions, including flood risk assessments and vulnerability analyses.

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vi. Collaboration: Collaborate with interdisciplinary teams, including hydrodynamic researchers, coastal engineers, and oceanographers.

- Reporting: Prepare research findings for publication in scientific journals and present results at conferences. Carry out Risk Assessment, and ensure compliance with Work, Safety and Health Regulations.
- Coordinate procurement and liaison with vendors/suppliers.
- Work independently, as well as within a team, to ensure proper operation and maintenance of equipment.
- Assists in co-supervision of Final Year Projects (FYP) or capstone projects students together with the project PI

Requirements

- PhD or Master degree in a related field with a focus on coastal engineering, oceanography, or hydrodynamics.
- Proficiency in wave modeling software, particularly Delft3D and SWAN.
- Strong analytical and problem-solving skills.
- Research experience in coastal and ocean waves is preferred.
- Excellent communication (verbal and written) and teamwork abilities
- Proficiency in machine learning will be an advantage

Key Competencies

- Able to build and maintain strong working relationships with people within and external to the university.
- Self-directed learner who believes in continuous learning and development
- Proficient in technical writing and presentation
- Possess strong analytical and critical thinking skills
- Show strong initiative and take ownership of work

Apply now
Advertised: 28 May 2025 Singapore Standard Time
Applications close: 31 Dec 2025 Singapore Standard Time

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Contact Information

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

Contact

Singapore