Research Fellow / Engineer (Reforest) - TZY4
Singapore Institute of Technology

Job Title	Research Fellow / Engineer (Reforest) - TZY4
Department	Engineering
Institution	Singapore Institute of Technology Singapore, , Singapore
Date Posted	Dec. 20, 2024
Application Deadline	Open until filled
Position Start Date	Available immediately
Job Categories	Research Scientist/Associate
Academic Field(s)	Ocean Engineering Naval Architecture & Marine Engineering Ecological and Environmental Civil Engineering
Job Website	https://careers.singaporetech.edu.sg/cw/en/job/498820/research-fellow-engineer-reforest-tzy4
Apply By Email	
Job Description	

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Job no: 498820
Department: Engineering
Contract type: Contract
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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 researcher will be part of the team of the MCCS Project (https://www.nparks.gov.sg/Cuge/Programmes-Schemes/Research%20Programmes/MCCS%201st%20Grant%20Call). The Research Engineer will focus on hydrodynamic analysis, finite element modeling, and stability assessment for modular floating structures. Responsibilities include designing and evaluating system performance through simulations, conducting site test-bedding to validate designs, and collecting and analyzing in-situ data. The role also involves preparing technical reports, collaborating with multidisciplinary teams, and staying updated with advancements in the field. This position requires expertise in hydrodynamics, FEM, stability modeling, and a hands-on approach to field testing and reporting.

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:

1. Hydrodynamic Analysis:
• Perform advanced hydrodynamic simulations to evaluate the behavior of modular floating structures under varying environmental conditions, such as waves, currents, and wind.
• Develop models to assess the dynamic response and interactions between floating modules.

2. Finite Element Modeling (FEM):
• Utilize FEM software to analyze structural integrity and stress distribution of modular floating units under operational and extreme conditions.
• Optimize design configurations to enhance performance and durability.

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3. Stability and Mooring System Design:
• Conduct stability analysis to ensure compliance with safety and regulatory standards.
• Design and evaluate mooring systems for maintaining structural stability in varying site conditions.

4. Site Test-Bedding:
• Oversee test-bedding activities at project sites to validate simulation results and design parameters.
• Collaborate with site teams to set up experiments, deploy instruments, and monitor operations.

5. Data Collection and Analysis:
• Develop methodologies for in-situ data collection on environmental forces, structural responses, and system performance.
• Analyze collected data to validate models, identify trends, and propose improvements.

6. Research Documentation and Dissemination:
• Prepare technical reports, research papers, and presentations to disseminate findings to academic and industry stakeholders.
• Contribute to project proposals and progress updates for funding agencies.
• Carry out Risk Assessment, and ensure compliance with Work, Safety and Health Regulations.

7. Project Management Support:
• Ensure timely execution of project milestones
• Coordinate with external collaborators and manage data-sharing protocols.
• Work independently, as well as within a team, to ensure proper operation and maintenance of equipment.

Job Requirements

- Masters in Naval Architecture, Ocean Engineering, Civil Engineering, or related field.
- Proficiency in hydrodynamic modeling tools (e.g., ANSYS AQWA, OrcaFlex) and finite element analysis software (e.g., Abaqus, ANSYS).
- Experience with stability and mooring system design.
- Strong analytical skills and familiarity with data collection instruments and techniques.
- Excellent communication and report-writing abilities.
- Ability to work independently and in teams in both lab and field environments.
- Excellent communication (verbal and written) and teamwork abilities

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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

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Advertised: 20 Dec 2024 Singapore Standard Time
Applications close: 30 Jun 2025 Singapore Standard Time

Contact Information

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

Contact

Singapore