

Research Fellow/Engineer (Green Urban Infrastructure) -  
ZMS2  
Singapore Institute of Technology

Direct Link: <https://www.AcademicKeys.com/r?job=236380>

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Posted May 21, 2024, set to expire Sep. 20, 2024

**Job Title** Research Fellow/Engineer (Green Urban Infrastructure) -  
ZMS2

**Department** Engineering

**Institution** Singapore Institute of Technology  
Singapore, , Singapore

**Date Posted** May 21, 2024

**Application Deadline** Open until filled

**Position Start Date** Available immediately

**Job Categories** Research Scientist/Associate

**Academic Field(s)** Civil Engineering

**Job Website** <https://careers.singaporetech.edu.sg/cw/en/job/498681/research-fellowengineer-green-urban-infrastructure-zms2>

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**Job Description**

## Research Fellow/Engineer (Green Urban Infrastructure) - ZMS2

**Job no:** 498681

**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

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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 develop a carbon negative concrete product with environmental and ecological functions - carbon-activated steel slag permeable concrete (SSPC) for green urban infrastructure. In this system, coarse and fine electric arc furnace steel slags are to be used as aggregates, while ultra-fine steel slags (UFSS) will be incorporated into a blended binder.

### 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. Formulation of the UFSS based blended binder and the SSPC.
  - ii. To study and codify the functions of SSPC including drainage management, contaminant removal, and ecological benefits.
  - iii. To work with industry partners on the scaling up and test bedding at precast yard and project sites.
- 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.

### Job Requirements

- Have relevant competence in the areas of carbonation and hydration of cementitious materials, and concrete materials characterisation.
- Have a degree in Civil Engineering or Material Science and Engineering.
- Have a master's degree in civil engineering or material science and engineering
- Confident in using analytical chemistry and material characterisation equipment, such as TGA, Isothermal calorimetry, SEM-EDS and XRD and conducting mechanical testing for concrete materials
- Knowledge of hydration and carbonation of cementitious materials and steel slags will be advantageous

### Key Competencies

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- 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:** 21 May 2024 Singapore Standard Time

**Applications close:** 31 Dec 2024 Singapore Standard Time

### Contact Information

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

### Contact

Singapore