

Research Fellow (Mechanical Engineering/Material
Science & Engineering)
Nanyang Technological University

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Posted Mar. 11, 2024, set to expire Jul. 11, 2024

Job Title	Research Fellow (Mechanical Engineering/Material Science & Engineering)
Department	School of Mechanical and Aerospace Engineering
Institution	Nanyang Technological University Singapore, , Singapore
Date Posted	Mar. 11, 2024
Application Deadline	Open until filled
Position Start Date	Available Immediately
Job Categories	Professional Staff
Academic Field(s)	Mechanical Engineering
Job Website	https://ntu.wd3.myworkdayjobs.com/en-US/Careers/details/Research-Fellow--Mechanical-Engineering-Material-Science---Engineering-R00016441
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Apply By Email

Job Description

The School of Mechanical & Aerospace Engineering (MAE) invites applications for the position of Research Fellow. The Research Fellow will conduct both experimental and numerical research to develop superhydrophobic heat exchangers with enhanced condensation and dehumidification

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performances at lower air-side pressure drop.

Key Responsibilities:

- Development of new highly scalable superhydrophobic coating methods and fabrication facilities for heat exchangers to enhance the heat exchanger's thermal and hydraulic performances,
- Carry out superhydrophobic coating on laboratory and industrial scale heat exchangers,
- Perform modification of existing wind tunnel, refrigeration and chilled water systems,
- Carry out thermal, hydraulic, and anti-fouling/scaling characterization of superhydrophobic heat exchangers and comparison against as-fabricated heat exchangers,
- Implement newly developed superhydrophobic coating methods in commercial buildings and carry out performance validation of the new heat exchangers,
- Work closely with other graduate students and researchers of the research team on experimental and numerical investigations,
- Work closely with industrial collaborators, building owners and facility management team, relevant authorities, vendors and contractors,
- Assisting the preparation of the necessary research reports and technical papers,
- Work closely with researchers, graduate and undergraduate students performing research such as URECA or final year projects.
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Liaise with industrial collaborators, building owners, relevant authorities, vendors, contractors, etc on works related to the project

- Assist the Principal Investigator (PI) and his co-investigators in the supervision of graduate and undergraduate students in the research team, and perform all related assignments and studies as directed by the PI from time to time.

Job Requirements:

- Possess a recognized PhD degree in mechanical engineering, material science and engineering, or related field with experience and expertise in condensation, dehumidification, interfacial transport, surface micro/nanostructure and micro/nanofabrication.
- Expertise in analytical modeling, numerical simulation, development of numerical coding related to phase change processes in micro/nanostructured surfaces.
- Experience in development of superhydrophobic coating and surface micro/nanoengineering on metallic surfaces.
- Experience in heat exchanger design, development and thermohydraulic characterization,
- Relevant knowledge in experimental and numerical investigation on condensation, dehumidification, and frosting,
- Expertise in numerical simulation and analytical formulations of interfacial transport and phase change heat and mass transfer on micro/nanostructures,
- Proficiency in written and spoken English.

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We regret that only shortlisted candidates will be notified.

Contact Information

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

Contact

Singapore