

Research Fellow (Mechanical Engineering)
Nanyang Technological University

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Posted Feb. 21, 2024, set to expire Jun. 22, 2024

Job Title	Research Fellow (Mechanical Engineering)
Department	School of Mechanical and Aerospace Engineering
Institution	Nanyang Technological University Singapore, , Singapore
Date Posted	Feb. 21, 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-_R00016249
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Job Description	

The School of Mechanical & Aerospace Engineering (MAE) invites applications for the position of Research Fellow.

Key Responsibilities:

- Software Simulation.
 - Strong emphasis on using CFD and other tools to allow the team in selection and

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characterization of protein-based formulation for thermo-mechanical extrusion for 3D printing of food. To ensure compatibility between the 3D-printing process and the protein-based edible inks, the design of the extrusion system is accompanied by comprehensive computational fluid dynamics CFD methods.

- FEM simulation and numerical methods allow optimization of material-formulation with respect to material-process interaction to ensure high printing quality and material compatibility. Simulations reduce the number of experiments required during process optimization. CFD methods allow analyzing the fluid flow characteristics and printing profile in relation to the rheological properties of the printing formulations.
- Optimization of 3D-printer's software and employment of Artificial Intelligence (AI) towards 3D printing optimization and performance characterization
- Sensors study for Food Production.
 - Overall responsible for various sensors study in the food production system which includes in-line monitoring and treatment systems. In-line printing optimization is integrated within the developed 3D-printing system. Texture variation study using sensors for 3D-printing of food.
- Publication & other Lab roles.
 - To publish latest research findings in top journals and publications.
 - Work closely with Co-Investigator in providing timely report for consortium.
 - Managing equipment, supplies, and resources, including procurement and maintenance of lab equipment and replenish consumables required.

Job Requirements:

- Doctorate degree in Mechanical Engineering or equivalent
- Exceptional CFD and FEM, sensors related and problem solving skills.
- Capable of working independently and within a team, while supervising other undergraduate and masters students working on their projects on related areas.
- Can communicate and present technically complex issues to multidisciplinary/multinational teams.
- Have a good engineering sense and aptitude.
- Have outstanding team management and leadership skills
- Experience in simulation work for 3D printing of food and sensors related work on food industry
- Fluent in use of CFD, FEM for simulation
- Strong publication record and demonstrators on candidate's experience in the field
- Practical and hands-on, active self-learner and able to pay close attention to detail.
- Proficiency in English and verbal communication, have strong work ethic and can work

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independently and comfortably in a multidisciplinary environment.

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