## Research Fellow in Multiphase Flow CFD Simulation (RF-2021003) – Group of Assoc. Prof. Xi Gao

The Chemical Engineering Program (group of Xi Gao,) is looking for one research scientist to lead the computational research projects in CFD simulation of multiphase flow in chemical reactors and its industrial applications. Contract duration: 2-3 years.

(https://www.researchgate.net/profile/Xi-Gao)

### Project Details

Multiphase reactors are widely used in the chemical industry, energy, metallurgy, and other industrial applications. To overcome limitations related to the design, optimization, and scale-up of multiphase reactors, it is very important to accurately simulate the complex multiphase flows, which involve multiscale multiphase hydrodynamics, simultaneous heat/mass transfer, and chemical reactions.

The main objective of the project is to (1) understand the multi-scale physical and chemical phenomena such as multiphase flow, heat and mass transfer, chemical reaction, external fields (light, magnetism, etc.) in the multiphase chemical reactors, and their coupling mechanism, (2) construct multi-scale mathematical models or machine-learning (ML) assisted models to simulate the complex multiphase chemical reactor and develop accurate and efficient multiphase computational fluid dynamics (CFD) solver to simulate large-scale industrial reactors.

### Keywords

Multiphase Flow; Computational Fluid Dynamics; Chemical Reactor Simulation; Fluidization; Biomass/Coal Thermochemical Conversion; Energy Technologies; Multiscale Simulation; Machine Learning

### Selection Criteria

- PhD degree in Chemical Engineering, Mechanical Engineering, Aerospace Engineering, Physics, Applied mathematics or in a relevant engineering discipline (essential)
- Strong background in multiphase flow CFD (preferable)
- Strong publication record (preferable)
- Good communication skills, good command of English (essential)
- Ability to work independently as well as in a team environment (essential)
- Ability to author/co-author high-quality scientific publications (essential)

### Benifits

- Salary range: up to $49,020 / year (depending on qualifications of the candidate)
- Subsidized housing at GTIIT, China
- Health insurance: regular cover for Chinese citizens or private health insurance for foreigners
- Professional conference travel allowance

**Program**
Chemical Engineering

**Contact**

Assoc. Prof. Xi Gao

Email: xi.gao@gtiit.edu.cn


Web Page Link

**Application Deadline**
Open till filled

**Location**
Guangdong Technion – Israel Institute of Technology (GTIIT), China & Technion-Israel Institute of Technology, Israel.

## Application

- Application deadline: Open till filled
- Send below-required documents electronically to: xi.gao@gtiit.edu.cn

Curriculum vitae and personal statement; A publication list; Names of three references; PhD degree certificates

## Other Positions

- The group welcomes self-funded students, CSC Scholarships supported students; visiting students/scholars, salary and benefits will be provided depending on the qualifications of the candidates.
- The group also is hiring postdocs, PhD/MS students, and research assistants. Please contact Asst. Prof. Gao for more information.