

# Research, Informatics and Graduate Studies

<https://sites.gtiit.edu.cn/research/positions/research-fellow-postdoctoral-position-in-fundamental-combustion-studies-of-alternative-jet-fuels-using-laser-diagnostic-tools/>

## Research Fellow (Postdoctoral) position in “Fundamental combustion studies of alternative (jet) fuels using laser diagnostic tools”

### Description

Dr. Kumaran Kannaiyan, Associate Professor in the Mechanical Engineering Robotics Program, is looking for one research fellow candidate to conduct research (experimental) on fundamental combustion characteristics of alternative jet fuels using laser diagnostic tools such as PLIF, LII, Raman, etc.

**Contract duration:** Initially for one year, renewed based on performance.

### About GTIIT:

Guangdong Technion-Israel Institute of Technology (GTIIT) is a public technological institute and non-profit research university in Shantou, Guangdong province, China. GTIIT is the first Sino-foreign cooperative university with an independent legal personality to introduce high-quality higher education resources from the Technion-Israel Institute of Technology. Technion is a prestigious public research university based in Haifa, Israel, well known for its research innovations. Since 2004, Technion has celebrated three Nobel Prize laureates and has consistently ranked among the top 100 universities. The vision of GTIIT is to become a world-class international university that conducts cutting-edge research in science and technology.

### Project Details

With rising global emissions, there has been a significant shift in energy policies across nations, including China, toward achieving carbon neutrality. In this context, the aviation industry is also exploring sustainable, alternative fuel options to reduce its carbon footprint. Alternative fuels derived from different feedstocks exhibit differences in their thermophysical and chemical characteristics compared to conventional fuels. Therefore, there has been a constant effort to understand the influence of those properties on their ignition, combustion, and emission characteristics. To this end, in this position, the research fellow will experimentally investigate the fundamental combustion characteristics using non-intrusive laser diagnostic tools in a flat-flame burner.

Research responsibilities will include, but are not limited to, design and development of an experimental facility, experimental measurements using advanced research tools, data curation, publication of research findings in reputable peer-reviewed journals, and preparation of research proposals. In addition, the researcher will participate in minimal teaching activities. Researchers will be encouraged to participate and present their work at international conferences/meetings.

**Keywords:** Alternative jet fuels, combustion characteristics, combustion diagnostics, Flat-flame burner.

### Remuneration/Benefits

- Competitive salary depending on the qualifications of the candidate. A few

### Position

Research Fellow (Postdoctoral)

### Program

Mechanical Engineering Robotics

### Contact

Prof. Kumaran Kannaiyan

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Webpage: [Personal Webpage](#)

### Application Deadline

Open till filled

### Date posted

December 8, 2025

### Location

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

nationals may be eligible for tax exemption under the tax treaty with China.

- Furnished housing facility provided by GTIIT at a nominal rent/utilities fee.
- Annual conference travel allowance.
- Annual home leave allowance.
- Opportunities to apply for Talent and Research funds.
- Qualified candidates can receive a living subsidy (as per government norms).
- Work-life balance

### **Selection Criteria**

- Good track record of publications in relevant research areas.
- Good communication skills in English (essential). Knowledge of the Chinese language will be an advantage.
- Knowledge of computational tools will be an advantage.
- Ability to work independently and as a team.
- Ability to mentor PhD and Master students.
- Willing to visit/work temporarily at research institutes in China, Israel, and other global locations, as needed.

### **Application Details**

- Application deadline: Open until filled.
- Application materials:
  - Curriculum vitae
  - Referee Details (including PhD thesis advisor)
  - Brief research plan (up to 2 pages in length)
- Should you need further details, contact Kumaran Kannaiyan via email: [kumaran.kannaiyan@gtiit.edu.cn](mailto:kumaran.kannaiyan@gtiit.edu.cn)
- Webpage: <https://www.gtiit.edu.cn/en/viewStaff.aspx?staffNo=130>