

# Research, Informatics and Graduate Studies

<https://sites.gtiit.edu.cn/research/positions/gs-2022011/>

## PhD/Master (MSc) Positions in Internal Combustion Engines Fed with Renewable fuels (GS-2022011) – Group of Assoc. Prof. Madan Kumar

### About GTIIT

- Guangdong Technion-Israel Institute of Technology (GTIIT) is a public, state-of-the-art research university in Shantou (Guangdong province), China.
- GTIIT is the first Sino-foreign cooperative university to introduce higher education based on the Technion-Israel Institute of Technology (Technion) model.
- Technion is a prestigious public research university based in Haifa-Israel, well-known for its research innovations.
- Since 2004, three Nobel Prize laureates are from Technion, and it has consistently ranked among the top 50 global research-based universities.
- GTIIT follows similar standards and policies as Technion and aspires to become a reputed cutting-edge research institute in Science and Technology.

### Description

The Mechanical Engineering Program (group of Madan Kumar) is looking for 1-2 PhD/Master students to conduct experimental/simulation research projects in internal combustion engines fed with alternative fuels as hydrogen/ammonia along with control application.

- Contract duration: 2 years for Master and 3.5-4 years for PhD. This generally involves one semester in Haifa for a master's degree and two semesters for a PhD degree.
- M.Sc./Ph.D. candidates will be enrolled in Technion-Israel Institute of Technology.
- Degrees will be offered by Technion-Israel Institute of Technology, Israel.
- Fellowships available for Master/PhD candidates. For more details check: <https://sites.gtiit.edu.cn/research/graduate-studies/>

### Project Details

Fossil fuels limited sources and emissions out reduction without power delivery compromising of engines has become key topics for the automotive industries and researchers in current scenario. In this line, our research focused are to improving the combustion stability by better mixing, heat energy loss management, modeling and control implementation and introducing the renewable fuels (such as hydrogen, ammonia and biofuel etc.) in Internal Combustion (IC) Engines to overcome from emissions along with power delivery limitations. The research activities include alternative fuels such as hydrogen, ammonia, biofuels and synthetic fuels combustion and transient modeling and control to power compression and spark-ignited internal combustion engines. The work will consist of experimental testing and diagnostics on a well instrumented engine test-bed and 1D/3D simulation analysis. Moreover, drafting scientific papers, project reports and funding proposals etc. will be also handled.

### Keywords

Internal Combustion engines, Power generations, Alternative fuels (hydrogen/ammonia), modeling and transient control

### Position

PhD/Master

### Program

Mechanical Engineering (Robotics)

### Contact

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[Web Page Link](#)

### Application Deadline

Open till filled

### Date posted

December 23, 2022

### Location

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

### Fees & Finance

How to Apply

## Selection Criteria

- Ph.D.:
  - Master's degree in Mechanical or any relevant discipline is essential.
  - Background in IC engines is essential. Modeling/Control application knowledge is an advantage.
  - Relevant prior experience with experimental and/or simulation skills is essential.
- M.Sc.:
  - Bachelor's degree in Mechanical Engineering or relevant discipline is essential.
  - Relevant prior experience with experimental and/or computational skills is preferred.
- Good communication skills, good command of English (essential) and knowledge of the Chinese language will be an advantage.
- Ability to work independently as well as in a team environment
- Ability to author scientific reports and co-author scientific publications (essential)
- The candidate must fulfill the requirements for admission to the Technion Graduate School and needs to comply with its regulations leading to the Ph.D./M.Sc. degree: <https://graduate.technion.ac.il/en/prospective-students/>

## Application

- Application deadline: Open until filled
- Send required documents electronically to: [madan.kumar@gtiit.edu.cn](mailto:madan.kumar@gtiit.edu.cn)

## Contact

Madan Kumar

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