

# Research, Informatics and Graduate Studies

<https://sites.gtiit.edu.cn/research/positions/rf-2023002/>

## Research Fellow Position in Computational Solid Mechanics and Computer Graphics (RF-2023002) – Group of Assoc. Prof. Zhujiang Wang

The Mechanical Engineering (Robotics) Program (group of Assoc. Prof. Zhujiang Wang) is looking for one research fellow or postdoctoral researcher to lead the interdisciplinary projects in computational solid mechanics and computer graphics to develop high-efficient hyperelastic models for quickly evaluating designs of wearable medical devices.

Additive manufacturing technologies allow the complicated design of personalized wearable devices, such as prosthetics, orthotics, tissue scaffolds, etc. The simulation-driven design has been reported to be an effective method to ensure patient outcomes of 3D-printed medical devices. However, current finite element analysis-based simulation driven design requires extremely heavy computation cost, which is one of the main challenges to promoting the applications of 3D printed medical devices. Therefore, we propose to develop models with reasonable efficiency and accuracy based on conventional accurate (but slow) models in computational solid mechanics and superfast (but inaccurate) models, such as position-based dynamics, that are widely adopted in computer graphics.

**Contract duration:** Initially for one year, renewable up to three years

### About the University

The Guangdong Technion-Israel Institute of Technology (GTIIT) is the satellite campus of the Technion-Israel Institute of Technology (Technion). Technion is a world-renowned institution located in Haifa (Israel) that is consistently ranked as a top-100 university and is known for its exceptional research and education. The GTIIT is based in Shantou (Guangdong Province, China) and will become a leading science and technology research university in the coming years.

### Keywords

Hyperelasticity, discrete differential geometry, position-based dynamics, finite element analysis, parallel computing, GPU programming

### Selection Criteria

- PhD degree in solid mechanics mechanical engineering, aerospace engineering, civil engineering, or computer sciences
- Strong background in solid mechanics or computer sciences
- Proficiency in Python, C/C++, or C# etc. programming
- Strong interest in parallel computing
- Good communication skills, good command of English
- Ability to work independently as well as in a team environment
- Ability to author scientific reports and scientific publications

### Benefits

Total annual salary: RMB 330,000 or more / year (depending on qualifications of the candidate, including government subsidy)

Extra benefits:

### Program

Mechanical Engineering (Robotics)

### Contact

Assoc. Prof. Zhujiang Wang

Email: [zhujiang.wang@gtiit.edu.cn](mailto:zhujiang.wang@gtiit.edu.cn)

[GTIIT faculty profile](#)

### Application Deadline

Open till filled

### Date posted

January 17, 2023

### Location

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

- housing at GTIIT, China (Rental paid by candidate)
- Annual health check
- Professional conference travel allowance
- Professional assistance offered to apply for Talent fund and Research fund
- Qualified candidate may receive additional subsidies (subject to approval of the provincial government)
- Work life balance
- World class Faculty team mentoring
- Advanced lab equipment and devices

## **Application**

Application deadline: **Open till filled**

Send below required documents electronically to: [zhujiang.wang@gtiit.edu.cn](mailto:zhujiang.wang@gtiit.edu.cn)

1. Curriculum vitae and one-page personal statements
2. Three letters of recommendation (one from the mentor for PhD)
3. Transcript and Degree certificates with certified English translation

Should you need more details, please contact Assoc. Prof. Zhujiang Wang:  
[zhujiang.wang@gtiit.edu.cn](mailto:zhujiang.wang@gtiit.edu.cn)