

# Research, Informatics and Graduate Studies

<https://sites.gtiit.edu.cn/research/positions/gs-2022004/>

## PhD/Master (MSc) Positions in Electrocatalysis (GS-2022004) – Group of Assoc. Prof. Weiran Zheng

### Description

The Chemistry Program (group of Asst. Prof. Weiran Zheng) is looking for 2-3 students to conduct research projects in electrocatalysis. Contract duration: 2-3 years for Master and 3+1 years for PhD degree. The degree will be granted by Technion – Israel Institute of Technology (Israel).

### Project Details

Our group mainly involves two aspects of electrocatalysis: mechanism understanding and rational catalyst design. The main focus is to apply in situ characterization techniques in electrochemistry (e.g., on-line differential mass spectrometry, combined electrochemical/atomic force microscopy system, in situ Raman spectroscopy, in situ UV-Vis spectroscopy, etc.) to directly observe the changes of electrodes/interfaces/electrolyte during electrochemical processes, to understand the actual physical meaning of electrochemical phenomena from a chemical/structural perspective. By studying the causes of catalyst deactivation, instability, and performance drop using in situ techniques, the group aims to use such information to guide the construction of efficient, highly stable, and practical electrocatalytic systems for a sustainable world. The group primarily targets three processes of particular environmental and energy impact: 1. electrochemical separation and conversion of carbon dioxide; 2. large current impure water electrolysis; 3. electrochemical biomass conversion.

We offer modern facilities, such as in situ AFM, Raman spectroscopy, on-line MS, multichannel potentiostat etc., for essential electrochemical research. We also have close collaborators in various regions, including Hong Kong, Japan, and the UK. The team values mutual respect, professionalism, and accountability for the working environment.

### Keywords

nanomaterials; electrocatalysis; in situ AFM; Raman; mass spectroscopy; water electrolysis; CO<sub>2</sub> reduction; biomass conversion; electrochemistry; electrochemical simulation/modeling; electrochemical sensing

### Selection Criteria

#### For PhD position:

- Bachelor or Master's degree in Chemistry, Chemical Engineering, Physics, or Material Science (essential)
- Strong academic background in electrochemistry (preferable)
- Strong interest in electrocatalysis/material characterization/electrochemical methods/in situ electrochemistry (essential)
- Experiences in electrochemical methods, such as CV, LSV, EIS, FTACV, and DPV; material characterization methods, such as TEM, AFM, Raman, XPS, and XRD (preferable)
- Ability to work temporarily at other research facilities in Asia and Europe (essential)
- Good communication skills, good command of English (essential)
- Ability to work independently as well as in a team environment (essential)
- Ability to author scientific reports and co-author scientific publications

### Position

PhD/Master

### Program

Chemistry

### Contact

Assoc. Prof. Weiran Zheng

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[Web Page Link](#)

### Application Deadline

Open till filled

### Date posted

February 18, 2022

### Location

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

### Fees & Finance

How to Apply

(essential)

#### For Master positions:

- Bachelor degree in Chemistry, Chemical Engineering, or Material Science (essential)
- Strong interest in electrocatalysis/material characterization/electrochemical methods/in situ electrochemistry (essential)
- Experiences in electrochemical methods, such as CV, LSV, EIS, FTACV, and DPV; material characterization methods, such as TEM, AFM, Raman, XPS, and XRD (preferable)
- Ability to work in a team environment (essential)
- Good communication skills, good command of English (essential)
- Ability to author scientific reports (essential)

Meanwhile, the PhD/Master candidate **must** fulfill the requirements for admission to the Technion Graduate School and needs to comply with its regulations leading to the PhD/Master degree: <https://graduate.technion.ac.il/en/prospective-students/>

#### Application

- Application deadline: Open till filled
- Send required documents electronically to Dr. Zheng at [weiran.zheng@gtiit.edu.cn](mailto:weiran.zheng@gtiit.edu.cn): 1) Curriculum vitae and personal statements (your background, experience, and motivation); 2) Degree certificates; 3) Transcript during undergraduate study.

#### Contact

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Web Page :

GTIIT faculty profile:

<https://www.gtiit.edu.cn/en/viewStaff.aspx?staffNo=196>

GTIIT faculty research profile:

<https://research.gtiit.edu.cn/en/persons/weiran-zheng>

Group website of Dr. Weiran Zheng:

<https://www.thezhenggroup.com>