



INSTITUTE OF ENVIRONMENT AND ECOLOGY  
TSINGHUA SHENZHEN INTERNATIONAL GRADUATE SCHOOL  
TSINGHUA UNIVERSITY

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清华大学深圳国际研究生院  
Tsinghua Shenzhen International Graduate School

环境与生态研究院  
Institute of Environment and Ecology

# PROGRAM OVERVIEW

The full-time Master's program of Green Environmental Infrastructure is designed for international students. It aims for cultivating high-level international professionals in the field of Environmental Engineering to support local and global green development. This program is a two-year degree course delivered in English. The program attaches importance to the development of theoretical foundation and practical skills of the students with emphases on global applied environmental knowledge learning and professional practical training. Upon completion of the program and meeting the degree requirements of Tsinghua, graduates of the program will be awarded a full-time Master of Engineering Degree in Earth Resources and Environment by Tsinghua University.



The program is equipped with well conditions for teaching and research, including classrooms, laboratories, practice bases as well as sufficient funding for research; the excellent international faculties from Institute of Environment and Ecology of Tsinghua SIGS can meet the needs for teaching and supervision in English. In terms of the curriculum, there are multi-disciplinary modules tailored for students from different countries. For professional practice, students will get approach and study in Chinese environment-related enterprises and management departments to understand the concepts of applied technologies and entities management in operations. The degree thesis will mainly be focused on local and global environmental solutions for management and applied technology.

## Focused on Cultural Exchange and Professional Skills Development

This program is focused on cultural exchange enabling students to experience and understand Chinese history, culture and society. Through the learning of modules and interdisciplinary knowledge, the students will be able to establish a thorough knowledge system with sound professional quality for solving cross-regional and global environmental issues and supplying global demands for environmental talents.

## Emphasized on the Development of Practical Skills

Professional practice is rooted in enterprises. To meet the urgent needs for internationalized application-oriented professionals, this program is focused on developing students' practical skills by providing them with the conditions to undertake professional practice in renowned environmental-related enterprises in China, especially in the Guangdong-Hong Kong-Macao Greater Bay Area, for understanding business culture and technical characteristics of Chinese environmental protection enterprises, and equipping students with the ability to apply theoretical knowledge to practice.

# PROGRAM FEATURES



## Research on Internationalized Environmental Issues

Students will conduct research and exploration with the aim of solving scientific and technical problems in engineering and management based on the stage of environmental development and needs of their home countries. Combined with the content of professional practice in the enterprises, the students are expected to produce applicable technical results or management solutions, which cultivates the students to grow into high-level environmental talents with practical abilities of Environmental Engineering.

# Curriculum

- Length of Study: 2 years
- Study Schedule: Course Learning, Professional Practice, Research Thesis

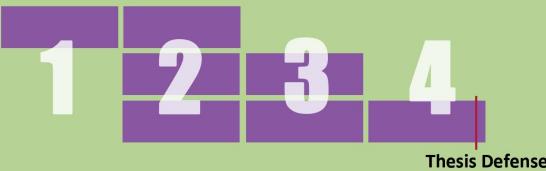
## Students' study schedule by semester

### Study Schedule

Course Learning

Professional Practice

Research Thesis



Degree awarded: Master of Engineering in Earth Resources and Environment

### Course Learning

#### General Compulsory

- Chinese Language
- Chinese Orientation Course

### Professional Practice

#### Discipline-related Modules

- Discipline-related Fundamental Modules
- Discipline-related Optional Modules

### Research Thesis

#### Professional Quality Modules

- Professional Ethics
- Hot Topics at Frontiers in Interdisciplinary Research

#### Academic Practice

- Literature Review and Thesis Proposal
- Academic Discussion
- Professional Practice

#### Water Treatment Orientation

- Drinking Water Safety and Security Technology
- Membrane Science and Technology
- Wastewater Treatment and Reuse Technology

#### Fundamental Courses

- Principles of Environmental Behavior
- Advanced Environmental Chemistry
- Principles and Applications of Environmental Biology
- Environmental Monitoring and Analysis

#### Solid Waste Management and Ecological Orientation

- Solid Waste Management and Disposal
- Eco-environmental and Climate Dynamics
- Complex Ecosystem Modeling and Management

#### Air Pollution Control Orientation

- Atmospheric Pollution Control Technology
- Air Pollution Chemistry
- Frontiers of Climate Change Science

#### Environmental Management Orientation

- Global Environmental Frontiers
- Chinese Environmental Management System
- Environmental Infrastructure Operations

\*The curriculum will be adjusted according to actual situation.

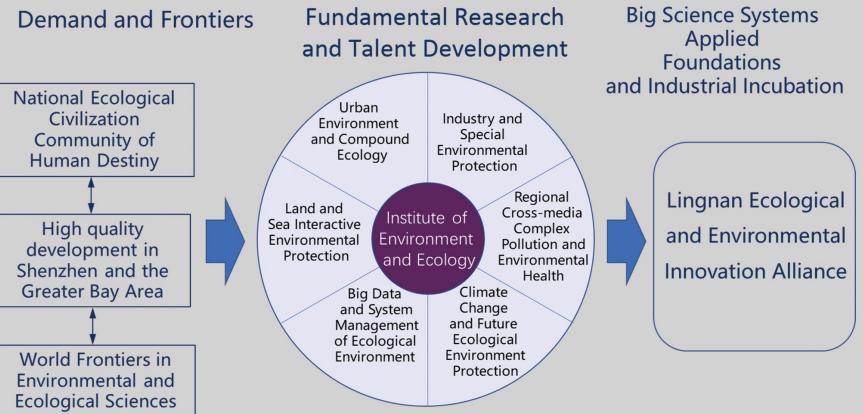


## Institute of Environment and Ecology Tsinghua Shenzhen International Graduate School

Institute of Environment and Ecology(iEE)

The Institute of Environment and Ecology belongs to Tsinghua Shenzhen International Graduate School, which is a vital part of Tsinghua's environmental science discipline. Oriented to the core needs of high-quality development and based on the forefront of international disciplines, the institute is committed to studying the theory of ecological and environmental protection, investigating key technologies, cultivating high-level personals with global competence, and contributing Tsinghua's thought and Shenzhen's paradigm for ecological civilization and community building with a shared future for mankind.

**IEE**



# Research Fields of iEE

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| <p><b>01 URBAN ENVIRONMENT AND COMPOUND ECOLOGY</b><br/>Urban ecosystem evolution and protection, urban atmospheric environment protection, resilience city and multi-water sources security, zero-waste city and resource recovery, smart city</p>  | <p><b>04 REGIONAL CROSS-MEDIA COMPLEX POLLUTION AND ENVIRONMENTAL HEALTH</b><br/>Cross-medium transport and health risk of chemical pollutants, pathogenic microorganism transmission and risk assessment, multi-pollutant's cross-medium prevention and control</p> |
| <p><b>02 INDUSTRY AND SPECIAL ENVIRONMENTAL PROTECTION</b><br/>Prevention and control of industrial air pollution, industrial ecology and coordinated control of water and solid pollution, emerging ultra-pure water production of electronic industry, safety management of deep tunnel and comprehensive pipe gallery</p> | <p><b>05 CLIMATE CHANGE AND FUTURE ECOLOGY&amp;ENVIRONMENT PROTECTION</b><br/>Climate-resilient cities, carbon-neutral cities and carbon-neutral environments, integrated energy-environment-climate regulation, space environment simulation and protection</p>     |
| <p><b>03 LAND AND SEA INTERACTIVE ENVIRONMENTAL PROTECTION</b><br/>Land-ocean-atmosphere nexus, marine pollution control and ecological protection, island resource self-sufficiency and ecological maintenance, deep-sea resource development and ecological environment protection</p>                                     | <p><b>06 BIG DATA AND SYSTEM MANAGEMENT OF ECOLOGICAL ENVIRONMENT</b><br/>Ecological service value evaluation and green policy, regional ecological environment accurate management</p>  |

For further information, please refer to  
[https://www.sigs.tsinghua.edu.cn/en/environment\\_ecology/list.htm](https://www.sigs.tsinghua.edu.cn/en/environment_ecology/list.htm)

# Dean's message

Dean of the Institute of Environment and Ecology  
at Tsinghua Shenzhen International Graduate School

**HE Kebin**

HE Kebin is a member of the Chinese Academy of Engineering, a professor in the School of Environment at Tsinghua University, Dean of the Institute of Environment and Ecology at Tsinghua Shenzhen International Graduate School, and Dean of the Tsinghua University Institute for Carbon Neutrality. He received his Bachelor's, Master's, and Doctoral Degrees in Environmental Engineering from Tsinghua University, and won the National Science Fund for Distinguished Young Scholars from the National Natural Science Foundation of China as well as the honor of Distinguished Professor of the Changjiang Scholars Program. He leads the "Multi-medium Combined Pollution and Control Chemistry" and the "Regional Combined Air Pollution and Control" innovation team and holds additional positions such as Deputy Director of the National Expert Committee on Ecological and Environmental Protection and Vice President of the Chinese Society for Environmental Sciences. Prof. HE serves as Chairman for the Global Emissions Initiative (GEIA) Chinese working committee, leader of the Global Energy Assessment (GEA) environmental group, and a member of the International Council on Clean Transportation (ICCT).



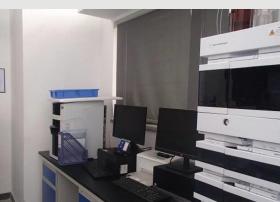
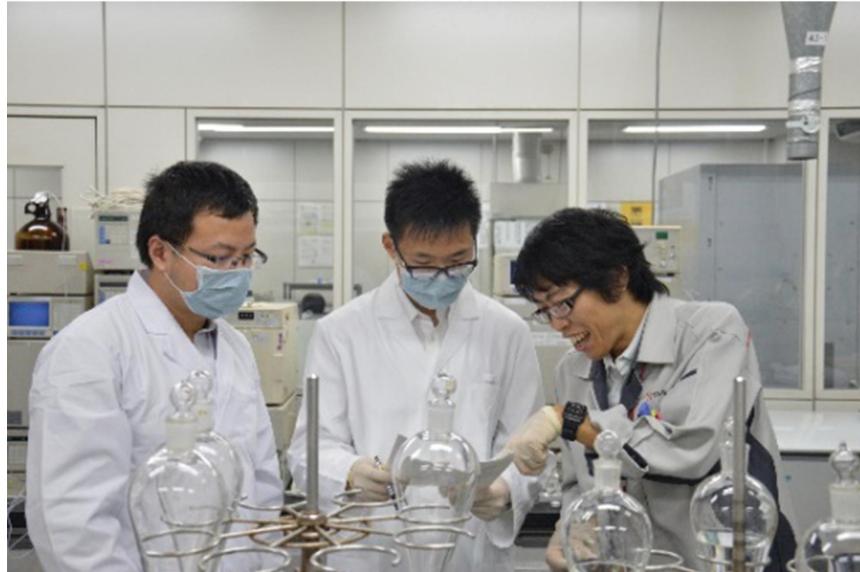
The Institute of Environment and Ecology of Tsinghua Shenzhen International Graduate School conducts worldwide cutting-edge scientific research and education on environment and ecology, which not only inherit and carry forward the excellent discipline tradition of Tsinghua University, but also combine vitality and innovation characteristics of Shenzhen. As a pioneering city in China's reform and opening up, Shenzhen matures on its high-tech industry and complete industrial chain and becomes a better place for scientific research, innovation, and talent cultivation. Strengthen by excellent global talents in Tsinghua, we should size comprehensive advantages to achieve more technological breakthroughs and nurture more outstanding talents.

The Institute of Environment and Ecology attaches great importance to international cooperation and joint programs. It is also committed to the practice and exploration of new mechanisms of global co-cultivation, offering a Dual Master's Degree Programmes in collaboration with the Leibniz University Hannover in Germany and Kanazawa University in Japan, as well as a Master's Programme in Green Environmental Infrastructure delivered in English. These programmes have excellent supervisors and rich learning resources creating distinctive cultivation sessions. We welcome students to join the Institute of Environment and Ecology, to discover opportunities, to make arduous efforts and to achieve the best of themselves.

Students engaged in environmental and ecological studies and research should have an innate sense of mission and responsibility for environmental issues. A comprehensive solution to an environmental problem requires not only scientific knowledge and technological breakthroughs, but also effective management systems and market mechanisms, which requires students to undertake extensive and in-depth study in relevant fields. Therefore, whether or not students are successful is not measured by the amount of knowledge they have accumulated, but more by the methods they have used to tackle problems and even the means they have used to create knowledge for society. A good environmentalist must see the connection between today's education, tomorrow's work, and the day after tomorrow's career, and use today's learning as a solid foundation for the future.

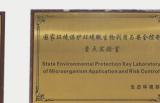
We wish every Tsinghua student to grow up to be outstanding international environmental talents!





With the support from the ministry of ecological environment, Guangdong province and Shenzhen Municipal government, iEE established a multiple high levels of open research centers. In addition, iEE collaborates with Kyoto university and other institutions to establish international joint laboratory. iEE equipped with first-class scientific research space (about 6000 square meters innovation lab space) and analytical instruments (more than 50 million yuan in fixed assets).

# Research Platform



1. Guangdong Provincial Engineering Research Center for Urban Water Cycle and Environment Safety
2. State Environmental Protection Key Laboratory of Sources and Control of Air Pollution Complex (SCAPC)
3. State Environmental Protection Key Laboratory of Microorganism Application and Risk Control
4. 1st National Mirror Committee of ISO Subcommittee in Risk and Performance Evaluation of Water Reuse Systems (ISO/TC282/SC3)
5. Cooperative Research and Education Center for Environmental Technology
6. Shenzhen Engineering Research Laboratory for Sludge and Food Waste Treatment and Resource Recovery
7. Shenzhen Laboratory of Microorganism Application and Risk Control
8. Eco-industrial & Environmental Test Center

# Academic activities

## Academic Conferences and Forums

Environment Safety Symposium

Frontier Environmental Technology Conference

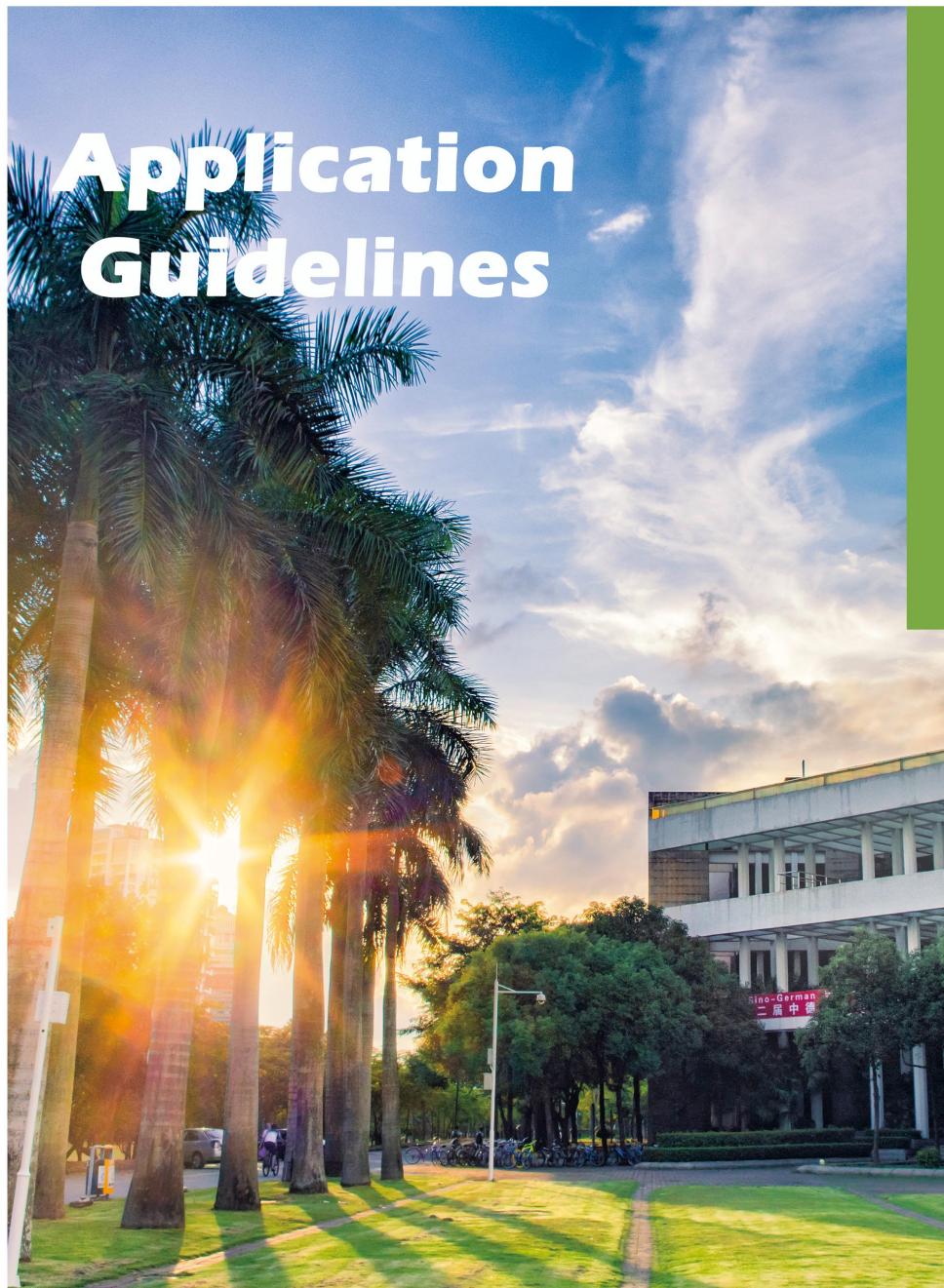
Academic Salon on Environment and Ecology

Students Salon on Environment and EcoProtection



Professional Practice  
International Exchange





# Application Guidelines



## Scholarships and Assistantship



Government and University Scholarships  
Faculty Scholarships  
Other special scholarships  
For more information on other scholarships and assistantships, please refer to  
[https://yz.tsinghua.edu.cn/en/Financial\\_Aid/Financial\\_Aid\\_System.htm](https://yz.tsinghua.edu.cn/en/Financial_Aid/Financial_Aid_System.htm)

## Enrolment size

Approximately **30** students



## Application requirements

Admissions are open to outstanding undergraduate students in relevant disciplines from around the world. Admissions are based on evaluation of application documents together with a comprehensive assessment. For further information, please refer to the 'Tsinghua University Shenzhen International Graduate School Master's Programs Catalog for International Students'.



## How to Apply



Tsinghua University Graduate Application System (<http://gradadmission.tsinghua.edu.cn>) **for enquiry and application**.

For further information, please refer to the Admission to Graduate Programs of Tsinghua University (For International Students)

**Admission to Tsinghua SIGS Institute of Environment and Ecology 2023 (For International Students)**  
<https://www.sigs.tsinghua.edu.cn/en/2022/1111/c1402a58653/page.htm>