

# College of Energy Engineering Zhejiang University

An Overview 2023

**Ruilin ZHU**

International Coordinator

李達三能源科學樓



# CONTENTS

1

ABOUT CEE

RESEARCH PROFILE

2

3

GLOBAL CEE



1 PART  
ONE ▶

## ABOUT CEE

# CEE at A Glance

 **2000 Students**

1077 Master & PhD

896 Undergraduates



 **159 Faculty members and staff**

3 **Members of the Chinese Academy of Engineering**

73 Professors and Researchers

44 Associate Professors/Researchers

95% with Doctoral Degree

---

 **40+ Visiting or adjunct professors**



# Research Institutes

-  Institute of Thermal Power Engineering
-  Institute of Process Equipment
-  Institute of Refrigeration and Cryogenics
-  Institute of Power Machinery and Vehicular Engineering
-  Institute of Thermal Science and Power System







2 PART  
TWO ▶

**RESEARCH PROFILE**





# By the Numbers (2022)

Fund: 403 million CNY

(≈55.4 million USD)

357 million yuan in 2021

CEE adheres to the major needs of the country and the frontier of the discipline.

In the past 5 years, CEE has been undertaking more than **90 major research projects**, including national key research and development plans, major/key projects of the National Natural Science Foundation.

# SCIENTIFIC RESEARCH

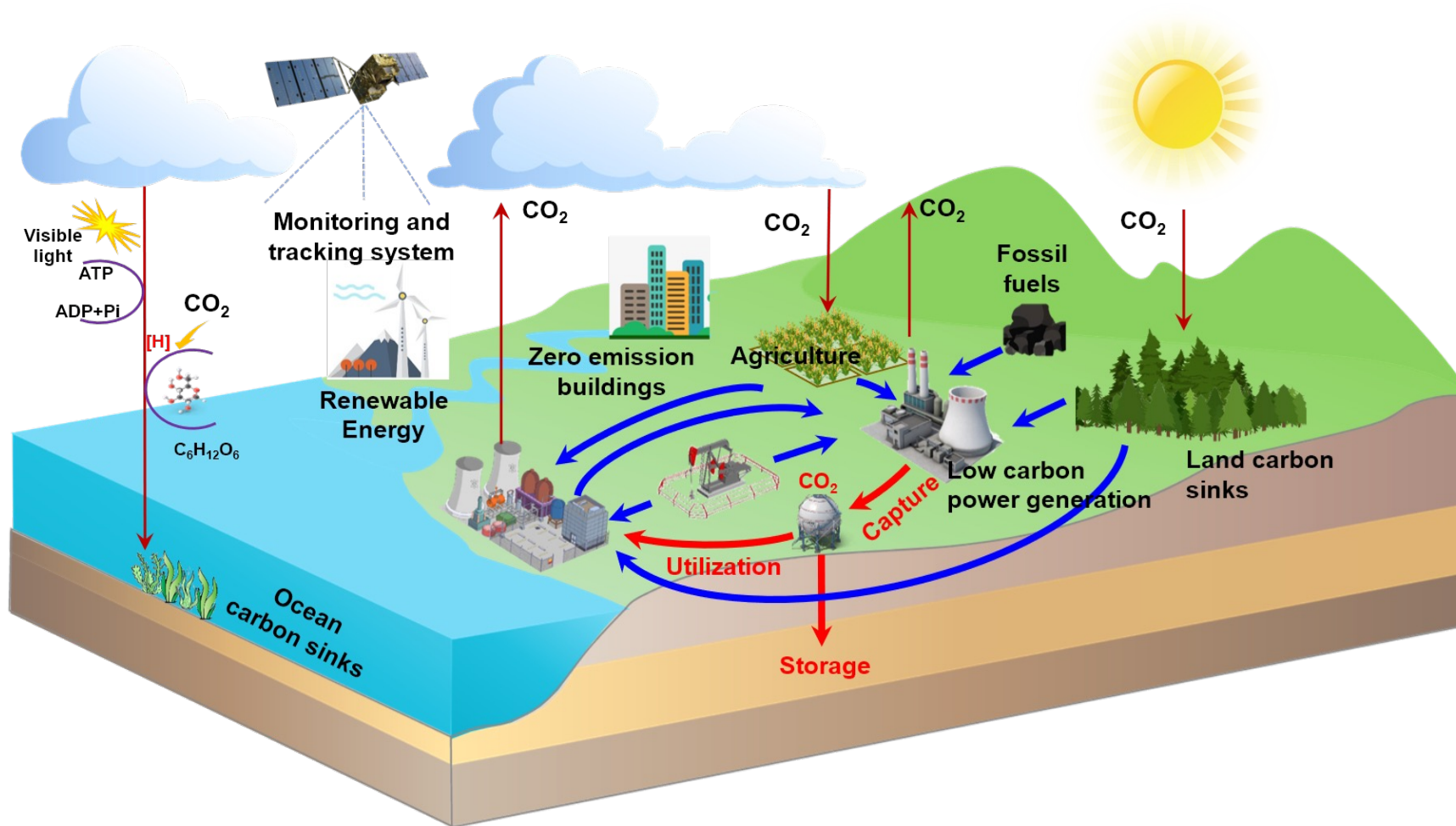
**19 National Tech Awards**

**24+ Awards by  
the Ministry of Education**

(2009-2022)



# Energy Tech Innovation Research at ZJU



Renewable energy

Clean and efficient utilization of fuel

Energy storage & hydrogen

CCUS

Monitoring & assessment

# High-level Innovation Discipline Platforms at CEE



Ministry of Science and Technology of the People's Republic of China

- State Key Lab of **Clean Energy Utilization**
- National Center for International Research on **Clean Energy Utilization**



Ministry of Education of the People's Republic of China

- State Collaborative Innovation Center for **Coal Grading Conversion of Clean Power Generation Technology**
- National Experimental Teaching Demonstrating Center for **Energy and power**
- Engineering Research Center of **High Pressure Process Equipment and Safety**, Ministry of Education



State Administration of Foreign Experts Affairs of the People's Republic of China

- Overseas Expertise Introduction Center for Discipline Innovation of **Clean Energy Utilization**



National Development and Reform Commission of the People's Republic of China

- National Engineering Research Center of **Solid Waste Energy Clean Utilization Technology and Equipment**
- National Engineering Research Center of **Coal Water Slurry**
- National Energy Research and Development Center of **Clean Coal Conversion and Utilization Technology**
- State Key Lab of **Coal Grading and Clean Conversion for Energy**



Ministry of Ecology and Environment of the People's Republic of China

- State Environmental Protection Engineering Center for **Coal-fired Air Pollution Control**

**15+ National, Ministerial and Provincial-level Research Platforms**

## Pictures for Labs



**State Key Laboratory of Clean Energy Utilization**

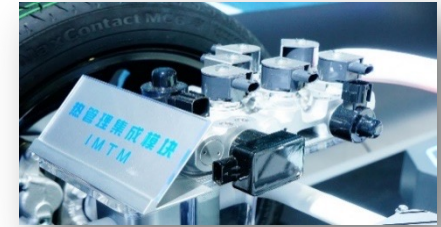


**National Center for International Research on Clean Energy Utilization**



# High-level Innovation Discipline Platforms at CEE

- ❑ Create high-level innovation platforms
- ❑ Promote multidisciplinary intersectionality
- ❑ Integrate resources and accelerate scientific research construction



**Zhejiang Key Laboratory of Automotive Intelligent Thermal Management Science and Technology**



**Hydrogen Energy Research Institute of ZJU**



**Baima Lake Laboratory  
Clean Energy and Carbon Neutrality**



**Institute of Carbon Neutrality, ZJU**

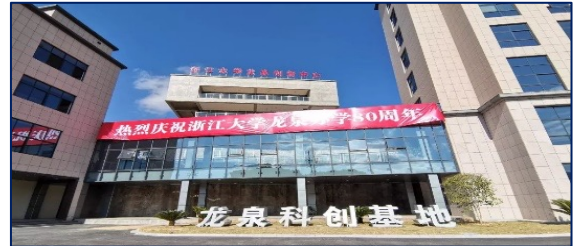
# University-enterprise/school-local cooperative institutions

- 15 \* University-enterprise joint research and development center
- A University-local joint research and development center
- 2 \* Local research institute
- A University-local cooperation base

University-local-government cooperation platform



**Qingshan Lake Energy Research and development base**



**Longquan Innovation Center of ZJU**



**Jiaxing research institute of ZJU**





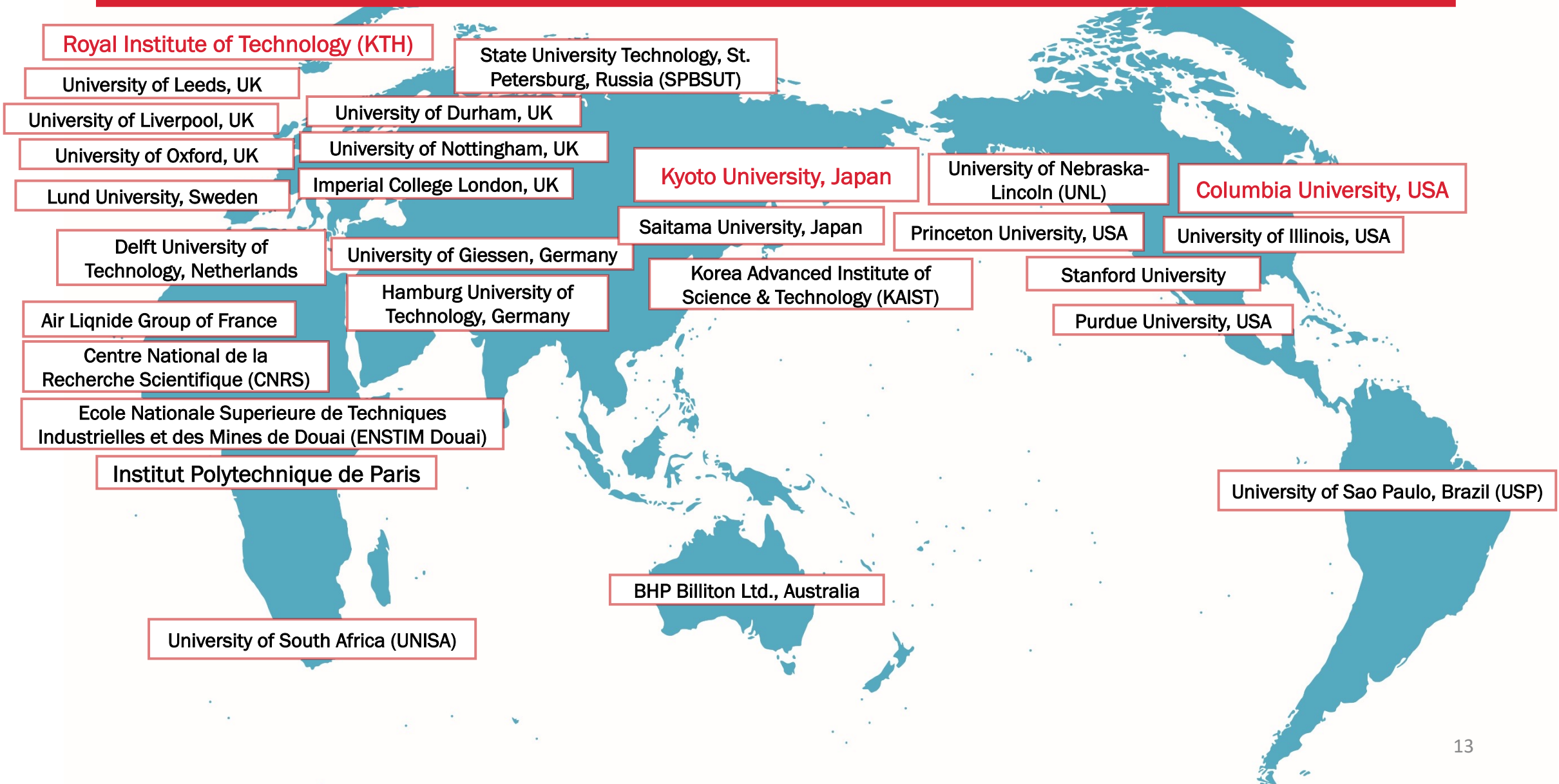


3 PART  
THREE ▶

**GLOBAL CEE**



# Our Global Partners





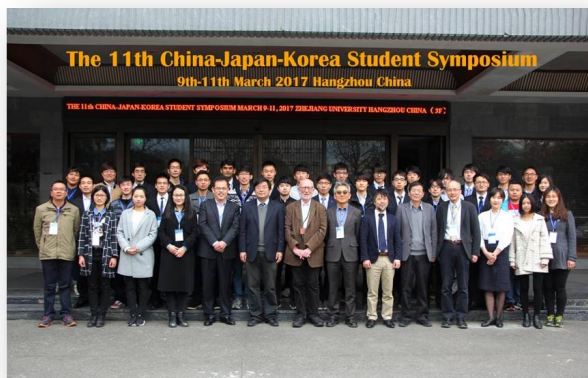
# International academic exchanges and conferences

In the past 5 years, CEE has hosted **19** international academic conferences.

❑ **2022 China Green and Low-carbon Innovation Conference**  
**Forum on Challenges and Opportunities for Technology Development and Industrial Transformation in the Context of "Dual Carbon"**



❑ **2021-2022 Sino-Japanese high-level scientists' seminar and exchange activities**  
**Focus on the "zero-carbon growth" area**



**International Student Symposium**



**International Conference on Power Engineering**



**SusTEM**



# International Education System of CEE



## Funding students for international exchanges

- Independently organizing international forums
- Attending international competitions
- Short-term exchanges, etc.



## Building an international contingent of teaching faculty

- Introducing international talents
- Inviting foreign academicians and well-known experts to give lectures
- Funding teachers for overseas studies

## Establishing international joint fund in school-level

Setting up exchange fund for postgraduates and undergraduates of College of Energy Engineering



## Promoting international double-degree programs

Funding and attracting outstanding students  
Cultivating high-level overseas students from Europe and America





# International Education System of CEE

## Master Program

**Zhejiang University**  
**Master Program of Energy and Power Engineering**

**Courses**

- Courses in a wide range of research scopes.
- Credit requirements:  $\geq 32$ . (Courses  $\geq 24$ )

**Mandatory courses ( $\geq 7$  credits)**

- Chinese language
- General introduction of China for master
- Engineering ethics

**Elective courses (selected) ( $\geq 10$  credits)**

- Quality engineering and technology development
- Deep Tech ventures
- Modern thermal physics measurement theory and technology
- Human responses to vibration
- Dynamics engineering numerical calculation
- Advanced engineering thermodynamics
- Advanced heat transfer
- Alternative refrigerant technology
- Indoor air quality and control
- Selected topics on advanced vehicle technology
- Convective heat transfer
- Advanced biomass energy utilization
- Low pollution combustion theory and technology
- Technical communication
- Power generation project cases

**Professional Practice (compulsory) (8 credits)**

- Duration: 6 – 12 months
- Including company internship, research project, training or other practice in China or abroad
- The credits will be given after the students pass an evaluation on the practice report.

**CONTACT**

Ms. Ruslin ZHU  
Office of International Relations,  
College of Energy Engineering,  
Tel.: +86 571 87952382  
Email: rzhu@zju.edu.cn

Dr. Ziyuan WANG  
Office of Graduate Affairs,  
College of Energy Engineering,  
Tel.: +86 571 87951000  
Email: wangzyuan@zju.edu.cn

## International Training Workshop

► Share the advanced technology and practical experience concerning Waste to Energy of China

► Help the participants to improve their academic and engineering skills

► Six training workshops have been successfully conducted since 2016, involving 151 participants from 27 countries.



Learn more about us at

<https://www.zju.edu.cn/english/>

<http://www.doe.zju.edu.cn/doeen/>







# THANKS

CEE, ZJU Overview 2023