

国际教育学院
COLLEGE OF INTERNATIONAL EDUCATION

Advanced Innovative Talents Frontier Technology Workshop

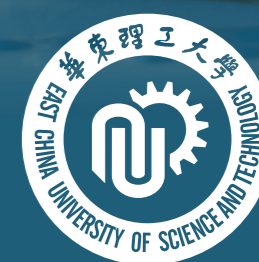
East China University of Science and Technology
Summer School
2024



Contact Us

📍 Admissions and Alumni Office
College of International Education
East China University of Science and Technology
108 Lizhi Building, 130 Meilong Rd., Shanghai,
200237, P.R. China

✉ E-mail: cie@ecust.edu.cn
🌐 Website: <http://ies.ecust.edu.cn/>
☎ Tel: 0086-21-64253279 0086-21-64253277
📮 Postal code: 200237
📠 Fax: 0086-21-64252280





Brief Introduction

The workshop is themed around "New Energy, New Materials, New Life" and to promote students' future growth in the United Nations Sustainable Development Goals such as "building disaster-resistant infrastructure, promoting inclusive and sustainable industrialization, promoting innovation", forming "sustainable consumption and production patterns", promoting future human beings to better cope with international energy shortage, environmental pollution, disease and health and other issues, and ensuring a healthy lifestyle, promote the well-being of people of all ages, and explore more possibilities of "new life" for the community of human destiny.

The workshop is supported by the Feringa Nobel Scientist Joint Research Center, national-level research centers, and key laboratories. Led by academicians and top-level talents, each participating student is assigned one mentor and one senior doctoral student for personalized guidance and experimental research in a 2:1 ratio. The workshop encourages innovative research guided by students' interests. It is based on immersive laboratory research and supplemented by two cutting-edge academic lectures in the field of new energy and new materials per week. Additionally, students will have weekly field visits to ECUST collaborative institutions for hands-on learning. Basic Chinese language learning and cultural experience activities will be arranged to provide students with a more concrete understanding of China's frontier technologies.

Content

Frontier Academic Lectures

This workshop will invite academician-level scholars of ECUST, including Qian Feng, Tian He, Tu Shandong, Zhu Weihong, Andrew I. Cooper and Zhang Jinlong, to deliver lectures center on the topic of "New Energy, New Materials, and New Life." They will focus on topics such as optimizing control techniques for maximizing the efficiency of ethylene plants, new varieties of functional dyes and novel concepts in dye molecule design, applications of advanced energy materials and equipment, strengthening the stability and application of photosensitive chemical products, development of novel functional polymers, and the design, synthesis, and application of highly efficient photocatalytic materials in environmental pollution control and energy fields. There will be two academic lectures conducted per week, totaling to 24 hours of learning.

National-level Platform and Key Laboratory Research

ECUST has six national key laboratories: the National Key Laboratory of Bioreactor Engineering and the Joint National Key Laboratory of Chemical Engineering, National Key Laboratory of Industrial Control Technology, National Key Laboratory of Coal Liquefied Gas and High-efficiency and Low-carbon Utilization, National Key Laboratory of Green Chemical Industry and Industrial Catalysis, National Key Laboratory of Chemical Safety. Additionally, ECUST has six national engineering (technology) research centers: the National Engineering Research Center for Industrial Wastewater Resource Utilization and Harmlessness, etc. ECUST also have 27 provincial and ministerial key scientific research bases, including the Key Laboratory of Power Battery Systems and Safety in the Petroleum and Chemical Industry, the Frontiers Science Center for Materials Biology and Dynamic Chemistry, the International Joint Research Center for Green Energy Chemical Engineering, and the International Cooperation Joint Laboratory for Intelligent Optimization and Manufacturing in the Petroleum and Chemical Industry. In this workshop, participants will be assigned to corresponding research platforms or laboratories based on their majors and research directions, where they will engage in immersive research. Distinguished recipients of the National Outstanding Youth Fund Professor Zhang Lixin, and Du Wenli, along with other experts and scholars, will lead the workshop. Each participant will be paired with one supervisor and one senior doctoral student for precise guidance, with a total research duration of no less than 50 class hours.





Field Visits and Learning

ECUST has collaborated with companies such as Solvay and BASF to conduct joint research and technical breakthroughs in the fields of chemical new materials, aerospace materials, and integrated circuit materials. In this high-level innovation talent workshop, students will have one weekly field visit to ECUST collaborative institutions, aiming to provide students not only with industry knowledge from academic lectures and laboratory research but also with industry-leading knowledge and application scenarios through practical experiences.

Chinese Cultural Experience

This workshop plans to arrange basic Chinese language learning and cultural experience activities. Weekend visits to Shanghai and its surroundings will be added to provide students with a more comprehensive understanding of China, especially Shanghai.



	Time	Morning	Afternoon
Week 1	Sunday, 14th July	Check in and Register	
	Monday, 15th July	Opening Ceremony and Orientation	Frontier Academic Lecture
	Tuesday, 16th July	Laboratory Research	Chinese Cultural Experience
	Wednesday, 17th July		Frontier Academic Lecture
	Thursday, 18th July		Field Visits
	Friday, 19th July		Chinese Cultural Experience
	Saturday, 20th July		Chinese Cultural Experience
Week 2	Sunday, 21st July	Chinese Cultural Experience	
	Monday, 22nd July	Laboratory Research	Frontier Academic Lecture
	Tuesday, 23rd July		Chinese Cultural Experience
	Wednesday, 24th July		Frontier Academic Lecture
	Thursday, 25th July		Field Visits
	Friday, 26th July		Chinese Cultural Experience
	Saturday, 27th July	Chinese Cultural Experience	
Week 3	Sunday, 28th July	Chinese Cultural Experience	
	Monday, 29th July	Laboratory Research	Frontier Academic Lecture
	Tuesday, 30th July		Chinese Cultural Experience
	Wednesday, 31st July		Frontier Academic Lecture
	Thursday, 1st August		Field Visits
	Friday, 2nd August		Graduation Ceremony
	Saturday, 3rd August	Pack Luggage and Check out	

Eligibility

International Postdocs, Ph.D. and Master students holding foreign passports.

*All costs of the program including tuition fee, accommodation are covered by scholarship (travel costs to Shanghai excluded).

How to Apply

Log on <http://apply.ecust.edu.cn/> to register online.

After registration ,input Project Code "AITFTW-2024" and submit your application.

Duration

July 14th - August 3rd , 2024
(3 weeks)

Application Deadline

May 31st, 2024

Supervisors

Fellows & Top Scientists



Feng QIAN (钱锋)

Academician of Chinese
Academy of Engineering

Process manufacturing intelligent control
System integration optimization methods
Key technologies for efficient utilization
of chemical process resources and
energy

For more information please refer to
<https://cise.ecust.edu.cn/7763/list.htm>



He TIAN (田禾)

Academician of Chinese
Academy of Sciences

Syntheses of novel functional organic dyes
and polymers
Development of interdisciplinary materials
science that determines the electronic and
optical properties of materials

For more information please refer to
<https://chem.ecust.edu.cn/2022/0114/c6655a140296/page.htm>



Shandong TU (涂善东)

Academician of Chinese
Academy of Engineering

Chemical equipment safety
High temperature strength science
Advanced energy materials and equipment
Advocating comprehensive engineering edu-
cation

For more information please refer to
<https://mech.ecust.edu.cn/2019/0516/c11210a90124/page.htm>



Weihong ZHU (朱为宏)

Academician of Chinese
Academy of Sciences

Chemical product engineering research
Involving the functionalization and
productization of photosensitive chemi-
cals

For more information please refer to
<https://whzhu.ecust.edu.cn/>



Andrew I. Cooper

Foreign Academician of the Chinese
Academy of Science

The development and research of porous
organic cages, organic covalent microporous
polymers, and novel functionalized polymers
Material catalysis
Polymer catalysis for photocatalytic water
decomposition

For more information please refer to
<https://mech.ecust.edu.cn/whl/list.htm>



Jinlong ZHANG (张金龙)

Fellow of the European Academy of Sciences

Design, preparation and application of
high-efficiency photocatalytic materials
in the field of environment and energy
Design and synthesis of organic func-
tional dyes

For more information please refer to
<https://mech.ecust.edu.cn/2019/0516/c11188a90146/page.htm>

China National Funds for Distinguished Young Scientists



Jiaping LIN (林嘉平)

Theoretical simulation of polymers
Genome of polymer materials
Self-assembly of polymers
Biomedical polymers

For more information please refer to
https://jlinlab.ecust.edu.cn/_t494/JiapingLin/list.htm



Yi YANG (杨弋)

The cutting-edge technology of con-
trolling and monitoring intracellular
molecular processes using synthetic
biotechnology and optogenetics
Pharmacological and drug screening
techniques for cancer and metabolic diseases

For more information please refer to
<https://pharmacy.ecust.edu.cn/2019/1128/c11141a101449/page.htm>



Lixin ZHANG (张立新)

Microbial chemical biology
Microbial gene analysis

For more information please refer to
<https://biotech.ecust.edu.cn/2016/1019/c7935a56621/page.htm>



Wenli DU (杜文莉)

Industrial process modeling, control and
optimization
Machine learning and artificial intelligence
Intelligent factory systems and applications

For more information please refer to
<https://cise.ecust.edu.cn/7767/list.htm>



Huagui YANG (杨化桂)

Studies on the growth mechanism of
metal and semiconductor oxide crystals
Theoretical design, synthesis and applica-
tion of new energy and environmental
materials

For more information please refer to
<https://ckxy.ecust.edu.cn/2012/0224/c4894a54883/page.htm>



Xiancheng ZHANG (张显程)

Life design method of mechanical equip-
ment based on damage mechanics
Life evaluation theory of mechanical
equipment based on fracture mechanics
Life-enhancing technology of mechanical
equipment based on surface control

For more information please refer to
<https://mech.ecust.edu.cn/2019/0516/c11188a90146/page.htm>



Dahui QU (曲大辉)

Controllable organic molecular
machines and molecular switches
Preparation of organic functional
materials and organic intermediates

For more information please refer to
<https://chem.ecust.edu.cn/2014/1113/c6655a50277/page.htm>



Qiang YANG (杨强)

Smart carbon reduction technology
and equipment
High-end Marine equipment
Electrolytic water hydrogen produc-
tion equipment

For more information please refer to
<https://mech.ecust.edu.cn/2019/0516/c11191a90143/page.htm>



Xiang MA (马骧)

Design, synthesis and performance of
organic photoelectric functional assembly
materials
Controllable supramolecular self-assembly,
molecular machines, functional supramo-
lecular polymers and other soft materials

For more information please refer to
https://chem.ecust.edu.cn/_t225/2017/1029/c6655a70167/page.htm



Ruihui LIU (刘润辉)

Polymer synthesis
Polymer biomaterials
Tissue repair
Antimicrobial materials
Drug delivery
Anti-tumor

For more information please refer to
<https://ckxy.ecust.edu.cn/2019/1209/c4944a102096/page.htm>