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### PRESIDENT'S ADDRESS



Dear CIESC members and all friends

As spring draws near, the world is full of vitality and hope. After waving goodbye to 2019 when we marched ahead, we will stride briskly and confidently into 2020. On behalf of the Council of the Chemical Industry and Engineering Society of China, I'd like to extend my sincere greetings to all colleagues in the petroleum and chemical industry and my heartfelt thanks to leaders and friends from all walks of life who have always been supporting the development of CIESC.

2019 marked the 70th anniversary of the founding of the People's Republic China, a crucial year to build a moderately prosperous society in all respects, and a year where CIESC forged ahead and made fruitful achievements. Under the leadership of the China Association for Science and Technology (CAST), with the support from all members and all sectors, CIESC adhered to the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era and the guiding principles of the 19th Party Congress and the spirits of the second, third and fourth plenary sessions of the 19th CPC Central Committee, and focused on the requirements of building China into

a science and technology giant in the new era and organizational reform. We stressed on "five major capabilities" and "eight key directions", integrated and advanced Party building, academic exchanges, innovation, science popularization, talent nurturing and recommendation, and public services in S&T, thus significantly improving capabilities in academia, strategic support, cultural communication and international influence, and made due contributions to the development of the chemical industry and the building of a world-class council with Chinese characteristics

Over the past year, CIESC strengthened its academic leadership position, organized more than 80 academic activities including "CIESC Annual Meeting" and "International Olefin and Polyolefin Conference", and presented the first "CIESC Science and Technology Award", the "International Award for Outstanding Young Chemical Engineer", and "CIESC Fellow" and "Hou Debang Chemical Science and Technology Award" became more influential. CIESC reaffirmed its strategic support and further advanced the Innovation-

Driven Project, the "serving regional development through national associations and tens of thousands of scientists" project, and the association standards research and formulation work. In addition, CIESC launched over 20 project industrial activities such as "2019 China (Tai'an) Chemical Industrial Transformation & Upgrading Forum", and provided strong support for academic exchanges, decision consultancy, and technology integration via the establishment of Science & Technology Think Tank and Information Platform and China Chemical Technology Innovation & Service Platform. CIESC improved cultural communication by launching the first "SCIP+" Green Chemistry and Chemical Engineering Innovation and Entrepreneurship Contest, exercising more influence through National Chemical Engineering Design Competition for Chinese undergraduate students and China Chem-E-Car Competition®, developing 15 science popularization bases, and establishing "Chemical Scientists S&T Volunteer Service Team", hence effectively integrating science popularization resources. CIESC also extended its global influence with the "International Green Technology Alliance" (IGTA) rolled out, and the first "China-ASEAN High-end Forum on Agrochemicals" successfully launched. CIESC maintained closer contacts with World Chemical Engineering Council (WCEC) and French Society of Process Engineering (SFGP), and encouraged innovation and collaboration of the chemical industry around the world.

Our work in the past year has won wide recognition. CIESC passed the mid-term evaluation for first-class societies of the Excellent Society Construction Project of CAST. CIESC was selected into the first group of "One Hundred China S&T Volunteering Services Societies", and also awarded several honors including "Top Ten Innovative Societies" in serving companies. The number of individual members of CIESC reached 20,000 and the number of organization members increased by 23. CIESC remarkably enhanced its attractiveness and cohesion.

History sheds light on the future, and our journey ahead will be a long one. 2020 is the final year for China to achieve the first centenary goal and build a moderately prosperous society in all respects. Scientific societies and fellow scientists undertake glorious historic mission. CIESC will unite more closely around the CPC Central Committee with Comrade Xi Jinping at its core, adhere to the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, remain true to our original aspiration and keep our mission firmly in mind, prioritize Party building, constantly improve member service, strive to improve academic exchanges, create first-rate S&T think tank, reinforce the science popularization work, intensify international collaboration, comprehensively sharpen the five capabilities, promote leapfrog development, set sail for a world-class society with global influence that boasts fine social reputation, strong development capability, advanced academic standing, and make greater contributions to building China into a S&T powerful country and to realizing the Chinese dream of achieving the great rejuvenation of the Chinese nation.

May our great motherland be prosperous. May China's chemical industry win greater glory. Wish all members and friends from all walks of life good health and all the best.



#### **Dai Houliang**

President of the Council of the Chemical Industry and Engineering Society of China

Member of the Chinese Academy of Engineering





# 2019 CIESC ANNUAL WORK REPORT

The year of 2019 is the 70th anniversary of the founding of new China and the key year for building a moderately prosperous society in an all-round way. Under the leadership of the China Association for Science and Technology (CAST), the Chemical Industry and Engineering Society of China (CIESC) implemented Xi Jinping's new socialist ideology with Chinese characteristics and the spirits of the 19th National Congress of the Communist Party of China. CIESC focused on the tasks of the party's construction, academic exchange, scientific popularization, talent training and recommendation, science and technology public service and other aspects of work. In this year, CIESC significantly improved the abilities of event organization, academic research and consulting, strategic support for the nation and cultural and international communication in the world, aiming at making contribution to the development of chemical industry and chemical technology.

#### **Self-Building**

#### 1. Organizational Construction

CIESC solidly promoted party construction and adhered to the party's political construction as the leader, striving to promote the society to a higher level on science and technology contribution.

In 2019, CIESC pushed forward the reform of governance structure and mode. CIESC Board Council Meeting and Board Supervisor Meeting have been successfully held, playing more significant role in society functional governance. Its management of professional branches and sections has been enhanced. The rule and regulation of Assessment Measures for

Branches has been revised to standardize branch activities and to enhance branch ability for serving members and industries better. The annual work report system has been formed that CIESC Annual Report 2018 has been publically released in 2019.

#### 2. Membership Management

CIESC paid more attention to membership development and service innovation. First, CIESC improved the mechanism of collaborative development with provincial and municipal chemical industry associations' members. The system of "CIESC Student Chapters" was established and 10 university chapters were newly enrolled. The number of individual members increased from 15,000 in 2018 to 20,000 in 2019, and the number of organization members increased by 23. Second, CIESC upgraded membership information system. The content of monthly "CIESC Member Newsletter" has been enriched that the electronic editions of CIESC journals and related publications have been added. Third, the awards of member honors satisfied members' need. "2019 CIESC Fellow" election had been organized that 12 outstanding members have been awarded CIESC Fellows. Meanwhile, 34 members of CAS and CAE joined CIESC Fellows.

#### **Academic Exchange and Reward System**

#### **1.Academic Exchanges**

CIESC Annual Meeting has been successfully held in 2019 with around 3,000 attendees. The plenary forum invited several members of CAS and CAE reporting on the frontier fields of chemical industry and engineering, such as major innovation, low-carbon development, green chemical industry, new energy, new materials, intelligent manufacturing, etc. 29 parallel subforums were organized, promoting the academic prosperity and stimulation of chemical industry.

In cooperation with DECHEMA, CIESC co-organized the international exhibition AchemAsia 2019 which is held every 3 year in China. The exhibition attracted 328 exhibitors from 16 countries and regions to exhibit the latest achievements in process technology, pharmaceutical technology, industrial water treatment, device and process safety, digital technology and other fields.













The "2019 International Conference on Olefins and Polyolefins" was continually held to further explore the sustainable development of olefins and polyolefin industry.

In 2019, there were more than 80 academic activities with more than 15,000 participators held throughout the year.

#### 2.Reward System

"CIESC Science and Technology Award" was initiated in 2019. 14 Technology Invention projects, 6 Science and Technology Progress projects and 9 Fundamental Research Achievement projects were awarded. Second, the popularity and influence of the "Hou Debang Chemical Science and Technology Award" has been continuously expanded. The award's 49 winners accounted for 39% of the number of applicants. Third, the recommendation for CAS and CAE member application, the nomination of candidates for the 13th Guanghua Engineering Science and technology Award, the Youth Science Award of Ministry of Education, and Outstanding Asian Researcher and Engineer of Society of Chemical Engineering, Japan (SCEJ) have been smoothly carried out which significantly improved the impact of talent recommendation in China and abroad.

#### **Think Tank Service System**

#### 1.Innovation-Driven Project

CIESC gave full play to the advantages of professional intellectual resources in 2019 to improve the ability of precise service.

More than 20 events were organized to serve local technology and industry in the past year. 3 cooperation agreements between local government and enterprises achieved, 3 CIESC academic workstations have been established, and more than 150 academicians and experts have participated in the docking activities.

A series of conferences such as "2019 New Coal Chemical Technology Innovation and Downstream Development Conference", "2019 China (Tai'an) Chemical Industry Transformation & Upgrading Forum", "2019 China Waterbased Paint Innovation and Development Forum", "2019



China Changxing New Energy Technology and Industry Forum" have been held. CIESC also led the establishing of New Energy Industry (Changxing) Innovation Driven Institute.

#### 2.Public Service

CIESC provided high-quality public service products in 2019. First, the projects on Group Standards establishment and development have been carried out that 16 projects have been authorized, 19 projects were under research while 10 of which was drafted and in the process of calling for comments. Second, the evaluation level of scientific and technological achievements was improved. 15 qualified achievements have been evaluated and recognized, providing guidance for industrial application. Third, as the Deputy Secretary-General of the Chemical Engineering and Pharmacy Sub-committee of the Undergraduate Engineering Education Certification (Washington Agreement), CIESC conducted 10 certifications of Chemical Engineering and Materials Specialty in national Colleges and Universities throughout the year, which promoted the university to improve the quality of engineering ability training on students in accordance with international standards and met the international competition of enterprises.

#### 3.Network Platform

A science and technology innovation network named "Science and Technology Expert Informatization Platform" has been built to support academic exchanges, talent recommendation, decision-making consultation and scientific popularization. The public service mode of "Internet + Innovation & Entrepreneurship" has been explored. "China Chemical Technology Innovation Service Platform" has been established for online and offline technology promotion, technology docking, technology consulting, technology achievement transformation and other diversified services.

#### **4.Strategic Project**

CIESC undertook strategic research projects for the nation. In 2019, CIESC organized experts to Heilongjiang Province for the research on "Oil to









Chemical Chain" project and proposed high-quality research report to the government to support its decision making. The three-year research project of "Direction Prediction and Roadmap of Energy Storage Technology" was completed and passed the acceptance. A sub-project named "Advanced Petrochemical and Chemical Foundational Materials", which is one part of CAE's strategic research, was completed. The subsidiary research of "Roadmap Research Project on Green Manufacturing and Intelligent Manufacturing Technology of Basic Materials in 2035" made good progress in 2019.

#### **Science Popularization and Cultural Communication**

#### **1.Science Popularization**

As a co-organizer with other organizations, CIESC jointly held a series of activities during "The International Year of the Periodic Table of Chemical Elements" in 2019, such as editing popular science books, doing popular science experiments of chemical magicians and visiting science and technology museums. CIESC promoted the Song of Chemical Engineering written by Professor Zhu Shiping, member of Canadian Royal Academy of Sciences and Canadian Academy of Engineering, which has attracted wide attention and improved the public's scientific cognition of chemical engineering.

#### 2.Youth Project

CIESC held a series of student competitions as the organizer or co-organizer in 2019. The 13th National Chemical Engineering Design Competition for Chinese undergraduate students embraced 2,138 teams from 349 colleges and universities and more than 10,000 audience. This competition was rated as A-class competition of undergraduate competition of the Ministry of Education in 2019. In the 3rd China Chem-E-Car Competition®, 291 competitors of 30 teams from outstanding colleges and universities participated. The 3 team winners from Northwest University, China University of Petroleum (Beijing) and Nanjing University of technology represented China to participate in the final International Chem-E-Car Competition held in the United States at the end of 2019. The 4th National Science Popularization Contest of Mathematics, Physics and Chemistry for middle school students attracted more than 9,000 participators and finally 530 students won the prize. The first "SCIP+" Green Chemistry and Chemical Engineering Innovation and Entrepreneurship Contest was successfully held, focusing on the development of green chemical industry.

#### **3.National Cultural Project**

CIESC continued to undertake national cultural engineering projects such





#### **4.Cultural Communication**

CIESC focused on team building of science popularization experts. In 2019 "Chemical Industry and Engineering Volunteer Team" was set up to serve science and technology insiders. A large number of science popularization integration articles and works have been collected. 15 Science Popularization Education Bases were authorized and set up in 2019.

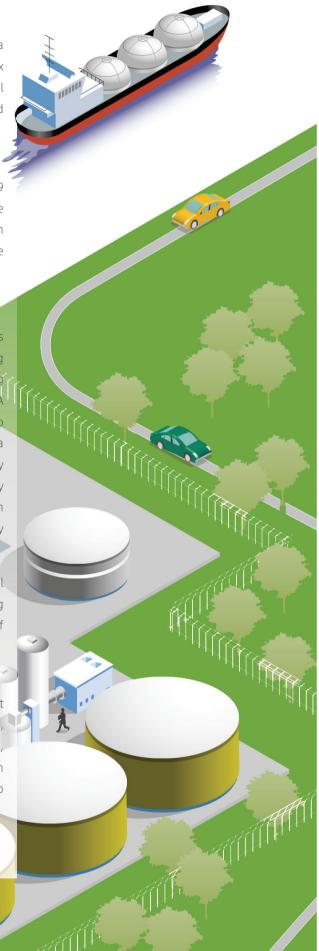
#### **International Communication**

CIESC kept information sharing and improved communication mechanisms with international organizations, such as the World Chemical Engineering Council (WCEC), Asian Pacific Confederation of Chemical Engineering (APCChE) and the European Federation of Chemical Engineering (EFCE). A series of professional international academic conferences have been held to strengthen interaction between scientific and technological workers in China and abroad. The International Green Technology Alliance (IGTA) initiated by CIESC Ionic Liquids Committee deepened its impact on green technology exchange and application. The first "China-ASEAN High-end Forum on Agrochemicals" was held to promote two lateral sides for technology integration and development.

In 2019, CIESC cooperated with the Global Academy of Chinese Chemical Engineers (GACCE) and initiated the "International Award for Outstanding Young Chemical Engineer", which promoted the growth and exchange of young talents in international chemical industry.

#### **Summary**

In the year of 2019, CIESC has been focusing on the key work of aiming at building itself as a world excellent society. With its Chinese characteristics, CIESC is confident of improving the "five abilities" of event organization, academic building, intelligence building for strategy, cultural communication and international influence. CIESC will keep its forwarding steps in 2020 so as to provide a better support for China and the world.











2019 International Olefin and Polyolefin Conference (IOPC)



2019 China Intelligent Refining Summit





AchemAsia 2019





Consulting Research on "Oil to Chemical Chain" project in Heilongjiang Province



China-ASEAN High-end Forum on Agrochemicals

2019 CIESC Fellow Award Ceremony

2019 Hou Debang Chemical Science and Technology Award Ceremony

2019 CIESC Science and Technology Award Ceremony











2019 New Coal Chemical Technology Innovation and Downstream Development Conference



2019 China (Deyang) Green Development of Resource Chemical Industry Conference



2019 China (Tai'an) Chemical Industrial Transformation & Upgrading Forum









Pingyang Plastic Weaving Plastic Bag Docking & China Plastic Bag Textile Industry Forum



The 2nd National Member Congress of the 40th CIESC Board Council





2019 China Chem-E-Car Competition®



Anhui Province Cable Industry Collaborative Innovation Consortium Establishment & China (Wuwei) Cable Industry Science and Technology Innovation Collaborative Development Forum



2019 CIESC Professional Branch Committees Workshop



Founding Meeting of CIESC Engineering Ethics Education Committee



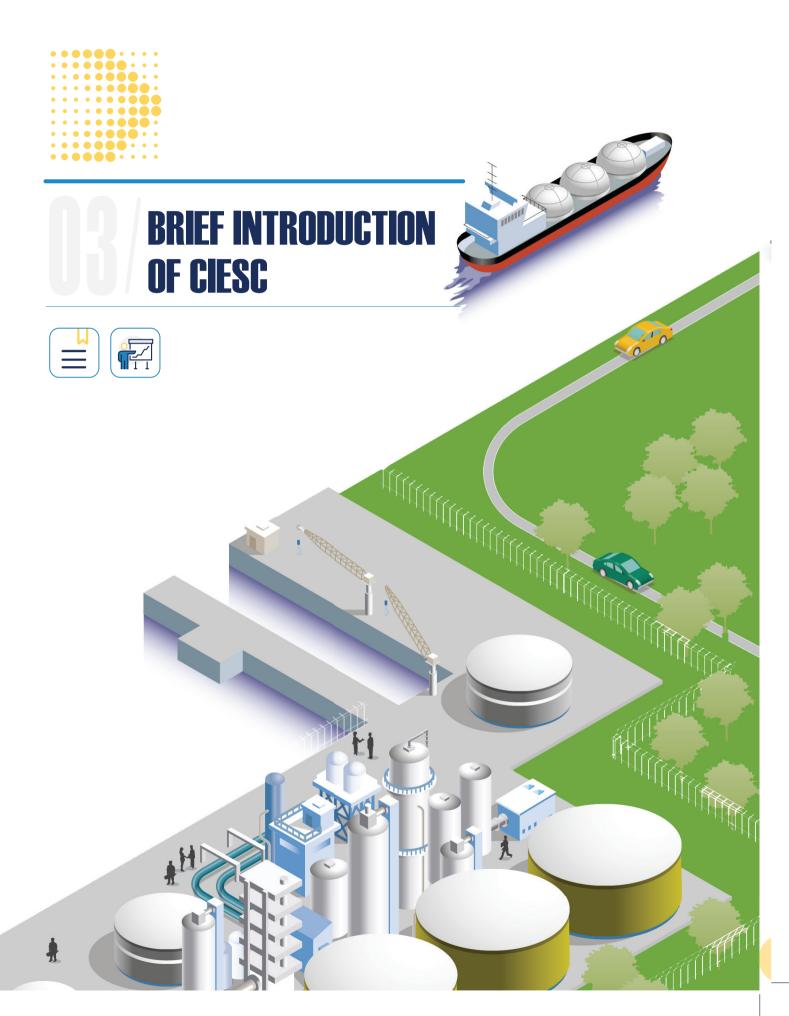
2019 CIESC Journal Editorial Board Meeting and Frontier Chemical Forum





2019 Provincial Chemical Engineering and Industry Societies Workshop









#### **General Introduction**

The Chemical Industry and Engineering Society of China (CIESC), founded on April 23, 1922, is a national academic non-profit social organization, affiliated to the Chinese Association for Science and Technology (CAST).

CIESC has been working on progress and development of chemical science and technology in China. By the end of 2019, more than 160 companies or entities and more than 20,000 individual registered as CIESC's members. CIESC has 6 working committees and 35 professional committees. CIESC is the supervisor of 27 provincial chemical industry societies. CIESC 40th Council Board includes 183 councilors in which there are 61 executive councilors.

CIESC sponsors 4 academic journals: CIESC Journal, Chemical Industry and Engineering Progress, Chinese Journal of Chemical Engineering (English) and Energy Storage Science and Technology.

CIESC has extensive contacts with international academic organizations, and has established bilateral and multilateral exchanges and cooperation with more than 10 international organizations, such as the American Institute of Chemical Engineers (AIChE), The Society of Chemical Engineers, Japan (SCEJ), German Society for Chemical Engineering and Biotechnology (DECHEMA), The Institution of Chemical Engineers (IChemE) and Korean Institute of Chemical Engineers (KIChE).

CIESC is one of the 9 members of the Executive Committee of World Chemical Engineering Council (WCEC) and one of the 13 full members of the Pacific Asian Confederation of Chemical Engineering (APCChE). CIESC won the right to host 12th World Congress of Chemical Engineering and Asian Pacific Confederation of Chemical Engineering 2025.

In order to promote domestic and international academic exchanges and development on chemical science and technology, and to support the growth of chemical science and technology talents, CIESC will continue to do grea<mark>t effort o</mark>n academic exchanges, socialized public service, scientific popularization, think tank consultation, discipline construction, talent recommendation and international cooperation.

#### **6 CIESC Working Committees**

Editorial Working Committee

Academic Working Committee

International Cooperation Working Committee

Continuing Education on Science Popularization Working Committee

Organizational Working Committee

Engineering Ethics Education Committee

#### **35 CIESC Professional Committees**

CIESC professional committees are established in accordance with the development needs of academic, research, application and production in chemical industry and related fields. The professional committees are under the leadership and management of CIESC without legal qualification. There are 35 professional committees by the end of 2019.

Agricultural Chemicals Committee

Biochemical Engineering Committee

Chemical Engineering Committee

Chemical Fertilizer Committee

Chemical Machinery Committee

Chemical New Materials Committee

Chemical Process Automation and Instrumentation Committee

Chemical Process Intensification Committee

Chemical Process Safety Committee

Coal Chemical Engineering Committee

Coatings & Finishing Committee

Daily Chemical Products Committee

Dyestuffs Committee

Energy Storage Engineering Committee

Environmental Protection Committee

Filtration and Separation Committee

Fine Chemical Engineering Committee

Industrial Water Treatment Committee

Information Technology Application Committee

Inorganic Acids, Bases and Salts Committee

Ionic Liquids Committee

Microwave Power Application in Chemical Industry and Engineering Committee

Mining Engineering Committee

Mixing and Agitation Committee

Petrochemical Engineering Committee

Petrochemical Ecological Engineering Committee

Petrochemical Refinery Maintenance Committee

Rubber and Plastics Green Manufacturing Committee

Rubber Institute Committee

Simulation & Virtual Process Engineering Committee

Specialty Chemicals Engineering Committee

Sulfur, Phosphorus and Titanium Resource Chemicals Committee

Supercritical Fluids Committee

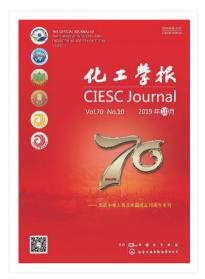
Thermochemistry and Engineering Committee

Waterborne Technology Application Committee

#### **CIESC Journals**

### **CIESC JOURNAL**

http://www.hgxb.com.cn



Founded in 1923, CIESC Journal is a monthly magazine. It mainly publishes original academic papers in chemical industry and related interdisciplinary fields, representing the basic and applied research level of China.

ISSN 0438-1157

CN 11-1946/TQ

## CHEMICAL INDUSTRY AND ENGINEERING PROGRESS http://www.hgjz.com.cn

Founded in 1981, Chemical Industry and Engineering Progress is a monthly magazine. It focuses on scientific research, technology and industry, reflects the latest achievements and trends of chemical industry in China and abroad, introduces new technologies, disseminates chemical knowledge to

promotes the progress of chemical science and technology.



ISSN 1000-6613

CN 11-1954/TQ

## CHINESE JOURNAL OF CHEMICAL ENGINEERING (ENGLISH EDITION)

http://www.cjche.com.cn



Founded in 1982, The Chinese Journal of Chemical Engineering is a monthly journal. The aim of the journal is to develop the international exchange of scientific and technical information in the field of chemical engineering. It publishes original research papers that cover the major advancements and achievements in chemical engineering in China as well as some articles from overseas contributors.

ISSN 1004-9541

CN 11-3270/T0

### **ENERGY STORAGE SCIENCE AND TECHNOLOGY**

http://www.energystorage-journal.com



Founded in 2012, Energy Storage Science and Technology is a bimonthly journal. It focuses on energy storage industry in academic research, technology application, industry trend and etc.

ISSN 2095-4239

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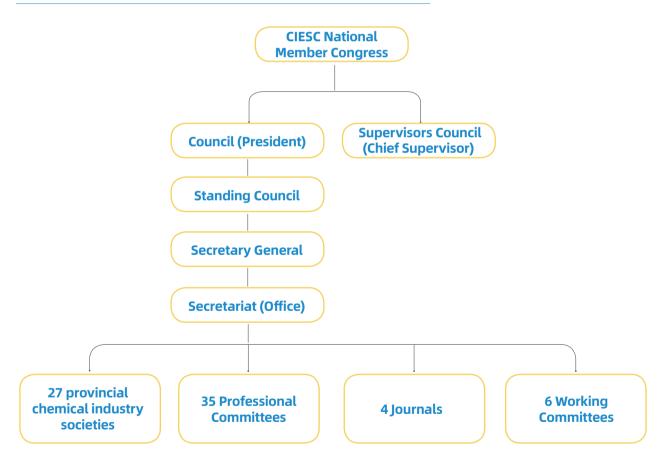






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## CIESC ORGANIZATION CHART



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24	Mixing and Agitation	LIU Zuohua	86-23-65678932	liuzuohua@cqu.edu.cn
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28	Rubber and Plastics Green Manufacturing	LI Shuqin	86-18610609519	xsgy2025@163.com
29	Rubber Institute	HUANG Liping	86-10-51338216	huanglp86@qq.com
30	Simulation & Virtual Process Engineering	WANG Limin	86-10-82544942	lmwang@ipe.ac.cn
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