

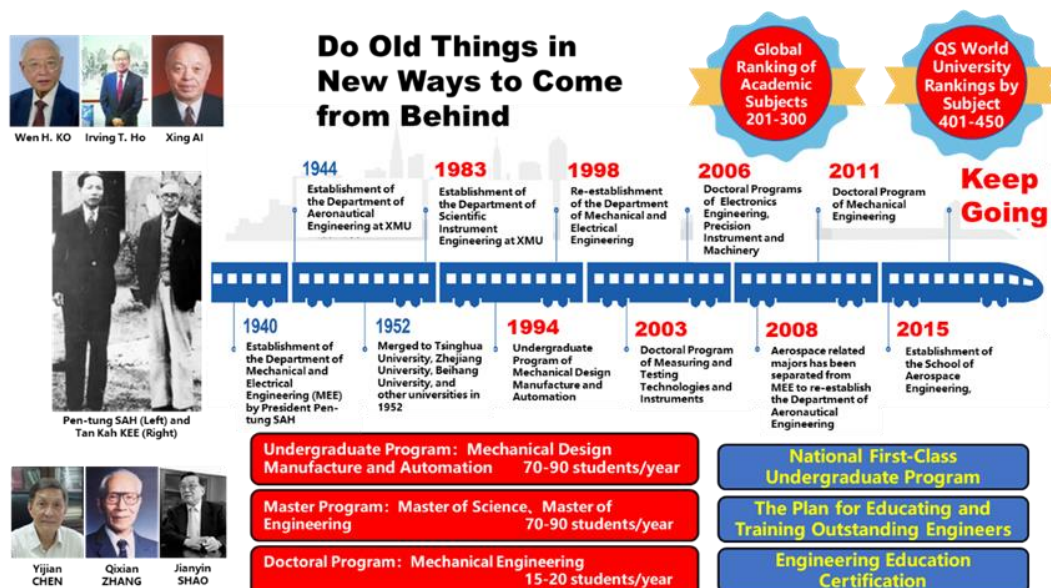
## Department of Mechanical and Electrical Engineering at Xiamen University: Steadily Improving Ability of Research and Innovation to Serve National and Local Needs

### Basic Information

The Mechanical Engineering discipline of Xiamen University (XMU) was established in 1940 by President Pen-tung SAH, an outstanding scientist in mechanical and electrical engineering, as one of the earliest engineering disciplines of XMU. It was merged to Tsinghua University, Zhejiang University, Beihang University, Southeast University, and other universities in 1952 when national colleges and universities adjusted their departments. In the early years, it made remarkable academic achievements. Graduates of the first 10 years were all over the world, and many of them have become world-renowned outstanding talents, such as academicians of the Chinese Academy of Engineering Xing AI, Qixian ZHANG, and Yijian CHEN, academicians of the Chinese Academy of Sciences Guirong MIN and Duanlin QUE, Life Fellow of the International Society of Electrical and Electronics Wen H. Ko, and founder of Taiwan Hsinchu Industrial Park of Science Irving T. Ho and so on. Since the re-establishment of the Department of Mechanical and Electrical Engineering in 1998, the discipline has gone through rapid development. At present, the department has one Doctoral Program in Mechanical Engineering, four Master of Science programs, one Master of Engineering program and one National First-Class Undergraduate Program of Mechanical Design Manufacture and Automation.

### High-Quality Faculty and Outstanding Teaching & Research Platforms

The Department of Mechanical and Electrical Engineering at XMU has a professional, vigorous, and young teaching & research team with an average age around 41 years old. Under the leadership of twenty high-level talents, such as one Cheung Kong Scholar and two awardees of National Science Fund for Distinguished Young Scholars, the team is growing steadily and getting stronger. In the past five years, the entire department has undertaken more than 50 research projects, such as National Key Research & Development Program of China, and National Natural Science Foundation of China, with a total funding of nearly 100 million yuan. Additionally, the department has 249 invention patents authorized, 410 research papers published on SCI/EI/ISTP indexed journals, and 12 successful transformation of scientific and technological achievements.



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Relying on the discipline of Mechanical Engineering, the Department of Mechanical and Electrical Engineering at XMU has established 13 research platforms, including the National and Local Joint Engineering Laboratory of Power Supply Technology for New Energy Vehicles, Research Center for Micro/Nano Manufacturing Engineering and Technology of Fujian Province, Intelligent Sensing and Control Engineering Research Center for High-end Equipment of Fujian Province, Service-Oriented Manufacturing Innovation Center of Fujian Mechatronic Equipment Industry, etc. It has become a world-renowned research institution in the field of micro-nano manufacturing. Additionally, it has excellent teaching platforms including Mechanical & Electrical Virtual Simulation Experiment Center of Xiamen University, which is a national-level teaching platform. Supported by the teaching and research platforms mentioned above, the Undergraduate Program of Mechanical Design Manufacture and Automation passed the Engineering Education Certification, and was awarded to be a National First-Class Undergraduate Program.

### Focused Discipline Directions for National and Local Industrial Development

The Department of Mechanical and Electrical Engineering at XMU has established three advantageous discipline directions including micro-nano manufacturing technology and equipment, ultra-precision manufacturing and intelligent equipment, and equipment technology for developing new energy. These three directions not only represent the frontier of the discipline but also cater to various strategic and economical needs in the fields of aerospace and optical engineering, etc. The department has taken full advantage of the social-service chain, which includes fundamental research, key technology, and technology transformation. In this way, a coordinated development model of government-university-research institution-user was established, and has successfully incubated several high-tech enterprises including TRANF Technology, Xiamen Vision Technology, and Xiamen ZHENWEI Technology, etc. Based on its reputation in the field of micro-nano manufacturing and intelligent manufacturing, the department has established some research platforms with the support from Fujian province and Xiamen City. It also organized or hold some high-impact academic conferences including the Launch Conferences of the National Science Foundation of China's Mechanical Discipline.

### Students Cultivation and International Cooperation





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The Department of Mechanical and Electrical Engineering at XMU is aiming to cultivate high-quality innovative talents in the field of mechanical engineering with leadership, ability to innovate, practical ability and international vision. Through the close cooperation with KING LONG and XGMA Machinery Co., Ltd., the department has established the Innovation Base for Graduate Education in Mechanical and Electronic Engineering of Fujian Province, which was awarded to be Fujian Joint Training Base of Professional Graduate Degree and National Demonstrative Joint Training Base for Professional Graduate Degree (the only one at XMU). This innovation base has played an important role in discipline development and student cultivation. The department organized academic activities such as Summer School of Micro-Nano Manufacturing and Intelligent Manufacturing of Xiamen University, Enterprise Expert Lecture, Sino-German Study Week, and so on, which provided high-quality teaching resources to broaden students' international academic vision and enhance their practical ability. In the past five years, the students have obtained one Hiwin Doctoral Dissertation Award funded by the Hiwin Education Foundation, four best conference paper awards from domestic and international academic conferences, one Finalist Award for Excellent National Doctoral Dissertation in The field of Measurement Control and Instrumentation, two Excellent Doctoral Dissertations of Fujian Province, three Excellent Master Dissertations of Fujian Province, three prizes from international competitions, and twenty-nine prizes from national-wide competitions.

### Future Perspective on New Breakthroughs

In the future, the Department of Mechanical and Electrical Engineering at Xiamen University will focus on developing basic theories and technologies related to the fields of micro/nano manufacturing and intelligent manufacturing, and strive to solve the generic problems in the industries of equipment manufacturing, electronic information, optoelectronics, automobile, energy, and environmental protection. The ability of solving key scientific and technical problems to support the national strategy and local economic development will be continuously improved to lead the technology and innovation in Fujian Province and South China.

2019 Summer School of Micro-Nano Manufacturing and Intelligent Manufacturing of Xiamen University



2018 Sino-German Study Week



2018 "Internet plus" Competition, Golden prize



2017 "Challenge Cup" Competition of Science and Technology, Outstanding Winner

