Introduction

The discipline of Electronic Science and Engineering of Xiamen University has a long history since its founding. The discipline originated from the Department of Physics, founded in 1923 and the Department of Electrical Engineering, founded in 1940. Several specialties were incorporated in 1952 into Tsinghua University, Zhejiang University, Southeast University, Beijing University of Aeronautics and Astronautics and etc. Xiamen University, which is along the Taiwan Strait, is one of the first universities in China to introduce electronic related disciplines, and one of the five universities in China to jointly run “semiconductor specialization” in 1956.

By end of 2016, multiple departments in Xiamen University were integrated to establish a new entity, the School of Electronic Science and Engineering. In 2018, the Ministry of Education officially approved the inclusion of the School of Microelectronics of Xiamen University in the preparatory unit of the National Model Microelectronics College. In the past four years, the department adjustment was completed, and the Department of Electronic Engineering, the Department of Microelectronics and Integrated Circuits, and the Institute of Electromagnetics and Acoustics were inaugurated.

National Innovation Platform for the Fusion of Industry and Education in Integrated Circuits

The platform was formally approved by the Ministry of Education in 2019 to build a regional shared platform that integrates industrial talent training, scientific research, and discipline construction. This platform focuses on the development of key bottleneck technologies in integrated circuit design, specific process technology and advanced packaging and testing, third-generation semiconductors, future display and etc. The construction of the platform will comprehensively promote the amalgamation of education, talents, industry, and innovation.

Under the guidance of the National Development and Reform Commission and the Ministry of Education, expert advisory committees, talent training steering committees, technology industry development committees, and management agencies were set up. Professor Zhang Rong was appointed as Director, Professor Chen Zhong was appointed as Executive Director. The strategy consists of an integrated circuit design platform and an integrated circuit manufacturing platform. The manufacturing platform consists of integrated circuit specific technology and advanced packaging and testing sub-platforms and third-generation semiconductor technology sub-platforms, focusing on basic process training and industrial technology research.
Research

Serving national major development strategies, the School of Electronic Science and Engineering has achieved significant results in scientific research. For example, the discipline has participated and contributed to major national strategic plan of “Chang'e 5” lunar exploration project and the National Key R&D Project Digital Diagnosis Treatment Equipment. In addition, we achieved 3D wafer level packaging, empowering leading enterprises to upgrade their technologies in key bottleneck areas.

In the past four years, our school has presided 102 state-level scientific research projects, with a total funding of about 136.472 million yuan; 126 provincial and ministerial level and important horizontal projects, with a total funding of about 96.275 million yuan; 817 papers have been included in SCI (more than 100 papers have been published in top international academic journals (JCR Q1), 15 papers have been cited ranking the first 1% of ESI); 17 invention patents have been transformed; 10 projects won Heliang Heli Prize for Scientific and Technological Progress and provincial and ministerial science and technology awards.

Recent Achievements

The micro-nano optoelectronics research team has made a breakthrough in green-color GaN-based vertical cavity surface emitting laser (VCSEL).

The magnetic resonance research team used 3D printing and liquid metal technology to build a multi-dimensional integrated NMR probe front end and with complex structure 3D coil and customized sample pipeline, opening up new ideas and methods for NMR detection.

Zhang Rong, President of Xiamen University, was awarded Heliang Heli Prize for Scientific and Technological Progress.

Students have achieved good results in high level academic competitions at home and abroad.

New laser technology team has made important progress in ultrafast fiber lasers and high-order vortex microchip lasers.