OCEAN UNIVERSITY OF CHINA

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http://eweb.ouc.edu.cn/

Outline

Since its establishment in 1924, OUC has devoted itself to the exploration, development and protection of the ocean as well as the training of talented personnel with high quality, so as to build a strong marine-based country, and to enhance the harmonious coexistence between mankind and ocean and the sustainable development through opening up the university to the outside world and strengthening international cooperation.

OUC is the cradle of China's marine professionals, and it has graduated a large number of competent specialists in marine science for China. 70 percent of Ph.D. holders in oceanography and fisheries in China graduated from OUC. The first scientist to reach the South Pole, the first Chinese scientist to investigate the South Pole on foot and the first Chinese scientist to reach both the North and South Poles all graduated from OUC. 68 percent of the winners of National Foundation Awards for Distinguished Young Researchers in oceanography and 46 percent of the winners of National Foundation Awards for Distinguished Young Researchers in fisheries graduated from OUC.

OUC is recognized as the driving force of China's marine research and application. OUC boasts a number of research institutions at national level, including National Laboratory for Marine Science and Technology, Qingdao, China (under construction), Research Center for Marine Development of China, National Research Center for Marine Pharmaceutical Engineering Technology, etc. According to the ESI database, OUC has reached the top 1% of the most-cited universities and scientific institutions in eight research fields including plant & animal science, earth science, engineering, chemistry, agricultural sciences, materials science, biology and biochemistry, and environment/ecology. According to the Comprehensive Research Report on Competition in Marine Technology by the Chinese Ministry of Science and Technology, statistics show that from 2009 to 2013, OUC ranks No.14 in the world in terms of the amount of academic thesis published and included in the SCI information retrieval systems. Based on the analysis of 29912 theses on all the 50 journals in fishery sciences from 2009-2014 with impact factor, OUC ranked No.5 in terms of the amount of theses published by corresponding authors.

Research Achievements and Challenges

Research Areas:

Physical Oceanography, Aquaculture, Ocean Engineering, Marine environmental dynamics and engineering applications, the effect of climate change on Marine structure design standards and structural health monitoring technology, Underwater flow wave integrated measurement technique and Underwater flow wave integrated measurement technique.

Features of Research Activities:

Ocean engineering structure is complex, bulky, expensive and under harsh environment. The safety and raising the level of risk control of the whole life cycle of ocean engineering structure facilities means great social benefit and economic benefit. Our main research direction is the marine building design standard under the condition of bad environment, the safety monitoring and damage detection of ocean engineering structure, the safety assessment of ocean engineering structure, vibration and motion control of ocean engineering structures, the repair and reinforcement of ocean engineering structure and deep sea mooring technology etc. We are focus on applying risk assessment technology to ocean, and strive to get optimal equilibrium point in the benefits and risks, strengthen risk management, and reduce the engineering risk to the minimum standard

Suggestions for the Disaster Research Roadmap

3 years:

- Resource evaluation of wave energy
- Effective numerical model established for typhoon prediction and hindcast
- Long term statistical model to evaluate typhoon intensity

5 years:

- Design regulation of both wave energy facilities' safety and operation
- Typhoon numeral model calibration and validations with measured data
- Relation between typhoon intensity and typhoon loss in different kinds of coastal area

10 years:

- Demonstration projects
- Typhoon disaster mitigation with engineering and non-engineering measurements
- Increasing coastal community capability for disaster prevention