College of Nano Science & Technology Innovative pioneer of higher education in China

Researchers at the Institute of Functional Nano & Soft Materials are leading the way at the forefront of interdisciplinary disciplines.

he Institute of Functional Nano & Soft Materials (FUNSOM) is located at Soochow University in Suzhou, China — a city that has a long reputation for being a paradise on Earth. Since its foundation in 2008, FUNSOM has focused on scientific research and application development in the interdisciplinary fields of optoelectronics, new energy, environment and biomedicine. All principal investigators at FUNSOM obtained their degrees from or have had extensive experience working at worldleading universities overseas. To date, FUNSOM has been awarded 284 competitive research grants at various levels, with a total research fund of over US\$51 million. FUNSOM researchers have published over 900 Science Citation Index papers, most of which were published in high-impact journals such as Science, Nature Communications, Advanced Materials, Journal of the American Chemistry Society, Angewandte Chemistry International Edition and Nano Letters. In addition, one work was selected as one of the top-ten scientific progress of China in 2015. Thanks to the significant contributions of College of Nano Science & Technology (CNST) and





FUNSOM, Soochow University is in the top ten most improved universities in the world in terms of the weighted fractional count of Nature Index (it increased dramatically from 56.04 in 2012 to 108.47 in 2015).

College of Nano Science & Technology

CNST at Soochow University was jointly established by Soochow University, Suzhou Industrial Park and the University of Waterloo in Canada. It is regarded as a leader in promoting internationalization of undergraduate education in China. Founded in 2010, CNST was selected as one of the 17 National Pilot Colleges by the State Ministry of Education in 2011 with the aim of reforming China's higher education system. CNST is the first college in China that focuses on innovative education in nanotechnology. Its mission is to cultivate internationally competitive students who have a global vision. CNST is qualified to provide bachelor, master and PhD degree programmes in nanomaterials & engineering. It is committed to providing high-quality education that meets the demands of these rapidly developing disciplines. In 2014, CNST teachers were

honored by being designated a National Outstanding Group of Education by the State Ministry of Education.

Collaborative Innovation Center of Suzhou Nano Science and Technology (NANO-CIC)

The Collaborative Innovation Center of Suzhou Nano Science and Technology (NANO-CIC) is a collaborative innovation centre established under the National 2011 Plan Program. Its ultimate goal is to become an innovative leader to promote the research development and diverse applications of nanoscience and nanotechnology, and to make China a global leader in this area.

Leader of FUNSOM, CNST and NANO-CIC

Shuit-Tong Lee is the founding dean of CNST and founding director of FUNSOM and NANO-CIC. He is a fellow of Chinese Academy of Sciences (CAS) and a fellow of the Academy of Sciences for the Developing World. Lee is a distinguished material scientist and has been designated by Thomson Reuters as a Highly Cited Researcher in 2016 and one of the World's Most Influential Scientific Minds in 2015.



The primary task of CNST, FUNSOM and NANO-CIC is to provide high-quality education that instills students with a global vision, an interdisciplinary knowledge base and the ability to think innovatively. Its education system is characterized by the following three features.

Extensive integration of teaching and research

CNST has assembled a world-leading teaching and research team (including CAS Academicians, 1000-Talent Program Scholars, Changjiang Scholars, and recipients of the National Distinguished Young Scholar Fund) to lead its teaching activities. The teaching fellows in this team bring the cutting edge of scientific research and innovative thinking into the classroom. The student-to-faculty ratios are only 6:1 and 10:1 for undergraduate and postgraduate courses, respectively. In addition, CNST has been actively exploring new strategies to promote interactions between classroom teaching and laboratory research. Each undergraduate student has a professor as the supervisor.

A number of funds and grants have been provided to encourage undergraduate students to participate in extracurricular research projects and to create an academic atmosphere that encourages innovation and teamwork in nanoscience and nanotechnology.

Interdisciplinary education

Nanoscience and nanotechnology is a rapid advancing field, which is promising to provide effective solutions to solve current challenges in science and technology. Given the diverse nature of nanoscience and nanotechnology, it is vital to enhance the integration of disciplines of engineering and science. Thus, CNST promotes education across the boundaries of disciplines, and all faculty members have backgrounds in multiple disciplines. CNST provides a BEng degree in nanomaterials and engineering that has three streams: nanoelectronics, nanomaterials and nanomedicine. Undergraduate students are free to select the streams according to their interests. Innovative thinking in interdisciplinary research and



applications is encouraged throughout the undergraduate courses.

MSc students are encouraged to explore their research interests among 30 interdisciplinary research directions in the disciplines of materials science and engineering, physics, chemistry, and biology, while PhD candidates can independently select from 18 interdisciplinary research directions in the fields of materials science and engineering, physics, and chemistry.

Internationalization in education

Through collaborating with several world-leading universities, CNST has developed a general and professional curriculum system. All academic courses are delivered in English. To improve teaching effectiveness, a college-based English Language Center was established. Its experienced native English-language teachers provide intensive courses in English for academic purposes.

CNST is dedicated to internationalization in education and has developed longterm collaborations with more than ten overseas universities, including Humboldt University of Berlin, University of Waterloo, University of Western Ontario and Trinity College. CNST offers a wide variety of crossborder education opportunities, such as 2+2 BEng, 3+1+1 MSc and 2+2 PhD joint projects. To date, 60% of CNST students have had the chance to participate in overseas exchange or study programmes.

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