



## **International Dual Degree Program of Biomedical Engineering at Shanghai Jiao Tong University(China)-KTH(Sweden)**

### **Introduction of SJTU and KTH**

Shanghai Jiao Tong University (SJTU), as one of the higher education institutions which enjoy a long history and a world-renowned reputation in China, is a key university directly under the administration of the Ministry of Education (MOE) of the People's Republic of China and co-constructed by MOE and Shanghai Municipal Government. Through 119 years' unremitting efforts, SJTU has become a comprehensive, research-oriented, and internationalized top university in China.

KTH has an extensive international student population, as well as research facilities and partner universities around the world. In the 2014-2015 ranking from the internationally recognized publication Times Higher Education, KTH was ranked as one of the top 30 most international universities in the world. KTH participates at a number of fairs at partner universities and international venues each year.

### **Biomedical Engineering at SJTU and KTH**

The Biomedical Engineering (BME) Program was first established at SJTU in 1979. After more than 30 years of rapid development, the School of BME was formally established. The BME program of SJTU has been ranked consistently in the top three in China and has the following unique advantages to support its rapid development into a world-class BME discipline: SJTU is very strong not only in engineering and physical sciences that have had a history over 100 years, but also in the ranked #1 clinical medicine with 12 top ranked affiliated hospitals in China. BME at SJTU has the following divisions: Biomedical Instrumentation, Neuroengineering, Medical Imaging and Informatics, disease biology, Nano Biomaterial and Systems Biology and Medicine.

KTH is a popular university for international students. Nearly 100 nationalities make up our vibrant student community. During 2014, KTH received 956 exchange students and a large number of international master's students. KTH has a global reputation for excellence and an internationally diverse student body. Over 12,000 students from around the world study at KTH.



### **SJTU-KTH Dual Ph. D./Master's Degree Program**

In 2011, SJTU and KTH signed Memorandum of cooperation. In 2012, two schools launched cooperation contract and a dual PhD's degree program. In 2012, a dual master's has been fulfilled with the efforts of two parts.



# Semesters for the Dual Degree Programs



Year 1 Fall Semester	Year 1-2 Spring Semester Fall Semester	Year 2 Spring Semester
SJTU/Course	KTH/Course	SJTU/Internship + thesis
or		
KTH/Course		SJTU/Course+Internship + thesis

## Major courses offered in SJTU-KTH dual degree program

<b>SJTU- Mandatory</b>	<b>KTH-Mandatory</b>
<ul style="list-style-type: none"> <li>➤ Overview of Chinese Cultures</li> <li>➤ Chinese</li> <li>➤ Computational Method</li> <li>➤ Matrix Theory</li> </ul>	<ul style="list-style-type: none"> <li>➤ Medical engineering</li> <li>➤ Advanced Physiology</li> <li>➤ Ergonomics, Human Factors and Patient Safety</li> <li>➤ Technology in Surgery, Anesthesia, and Intensive Care</li> <li>➤ Medical IT</li> <li>➤ Implants and Biomaterials</li> <li>➤ Theory and Methodology of Science</li> </ul>
<b>SJTU-Elective</b>	<b>KTH-Conditionally elective</b>
<ul style="list-style-type: none"> <li>➤ Neural Control and Neuroprosthesis</li> <li>➤ Biomedical Optics</li> <li>➤ Neural Signal Processing</li> <li>➤ Advanced Digital Image Processing</li> <li>➤ Bioheat and Mass transfer</li> <li>➤ Neuroimaging</li> <li>➤ Systems Biology: concepts, methodologies and applications</li> <li>➤ Biomaterials and Tissue Engineering</li> <li>➤ Frontiers in Biomedical Engineering Seminar Series</li> <li>➤ Ethics in Biomedical Engineering Research</li> <li>➤ Advanced Biomedical Imaging</li> <li>➤ Biomedical Ultrasound</li> <li>➤ Fiber Optics and Biomedical Optics</li> </ul>	<ul style="list-style-type: none"> <li>➤ Physics of Biomedical Microscopy</li> <li>➤ Advanced Physiology</li> <li>➤ Simulation Methods in Medical Engineering</li> <li>➤ Ionizing Radiation Imaging</li> <li>➤ Ultrasound</li> <li>➤ Magnetic Resonance Imaging</li> <li>➤ Image Analysis and Reconstruction</li> <li>➤ Safe Medical Products</li> <li>➤ Radiation Therapy</li> <li>➤ Structural Biology and Cell Biology</li> <li>➤ Electro Dynamics and Waves</li> <li>➤ Quantum Mechanics of Electron Microscopy</li> <li>➤ X-ray Crystallography and X-ray Microscopy</li> <li>➤ Electron Microscopy</li> <li>➤ Biomechanics and Neuronic</li> </ul>

## Scholarships

Chinese Government Scholarship for International Students ( [www.sie.sjtu.edu.cn](http://www.sie.sjtu.edu.cn) )

Chinese Government Special Scholarship for International Students ( [www.csc.edu.cn](http://www.csc.edu.cn) )

Shanghai Government Scholarship for International Students

( [http://www.study-shanghai.org/Scholarship\\_en.asp](http://www.study-shanghai.org/Scholarship_en.asp) )

### Deadline for Application

Deadline varies with the specific program, usually the application should be submitted in January, and the decision will be made by the end of March. Please contact the program secretary regarding the deadline of each program.

### For more information, please contact:

**Ms. Li Shang, Program Secretary**

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BME at SJTU



BME at KTH