



International Dual Degree Program of Biomedical Engineering at Shanghai Jiao Tong University-of Heidelberg University

Introduction of SJTU and Heidelberg Univ

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.

Heidelberg University is Germany's oldest university and sees itself as a research university with a strong international orientation. Occupying a leading position in Germany and in Europe, the University is committed to providing its global competitiveness. It will continue to increase its attractiveness for outstanding international scholars and students and to expand its international networks in order to provide both junior researchers and senior faculty with the best possible opportunities for further qualification and advancement.

Biomedical Engineering at SJTU and Heidelberg Univ.

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.

The Faculty of Medicine in Mannheim is one of twelve faculties at Heidelberg University. It was founded in 1964 and is located in Mannheim. It comprises 11 institutes. The Faculty of Medicine in Mannheim has a particular research interest in medical technology. It thus works in close association with the Mannheim University of Applied Sciences. Major concerns are the development of optical measuring techniques, the simulation of operative and diagnostic procedures, the development of operation support systems, the advancement of minimally invasive surgical techniques, and software development.



SJTU-Heidelberg University Dual Ph. D./Master's Degree Program

In 2004, SJTU and Heidelberg signed cooperative contract. Two schools launched a dual master's degree program on biomedical engineering in 2009 and a dual PhD's degree program in 2014.



Semesters for the Dual Degree Programs



Year 1
Fall Semester
Spring Semester

Year 2
Fall Semester
Spring Semester

Year 3
Fall Semester
Spring Semester

SJTU

SJTU

University of Heidelberg

Major courses offered in SJTU-UH Dual Degree Program

SJTU- Mandatory

- Overview of Chinese Cultures
- Chinese
- Computational Method
- Matrix Theory

University of Heidelberg-Mandatory

- Medical engineering
- Advanced Physiology
- Ergonomics, Human Factors and Patient Safety
- Technology in Surgery, Anesthesia, and Intensive Care
- Medical IT
- Implants and Biomaterials
- Theory and Methodology of Science

SJTU-Elective

- Neural Control and Neuroprosthesis
- Biomedical Optics
- Neural Signal Processing
- Advanced Digital Image Processing
- Bioheat and Mass transfer
- Neuroimaging
- Systems Biology: concepts, methodologies and applications
- Biomaterials and Tissue Engineering
- Frontiers in Biomedical Engineering Seminar Series
- Ethics in Biomedical Engineering Research
- Advanced Biomedical Imaging
- Biomedical Ultrasound
- Fiber Optics and Biomedical Optics

University of Heidelberg-Conditionally elective

- Physics of Biomedical Microscopy
- Advanced Physiology
- Simulation Methods in Medical Engineering
- Ionizing Radiation Imaging
- Ultrasound
- Magnetic Resonance Imaging
- Image Analysis and Reconstruction
- Safe Medical Products
- Radiation Therapy
- Structural Biology and Cell Biology
- Electro Dynamics and Waves
- Quantum Mechanics of Electron Microscopy
- X-ray Crystallography and X-ray Microscopy
- Electron Microscopy
- Biomechanics and Neuronics

Scholarships

Chinese Government Scholarship for International Students (www.sie.sjtu.edu.cn)

Chinese Government Special Scholarship for International Students (www.csc.edu.cn)

Shanghai Government Scholarship for International Students

(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:

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Graduate Application of SJTU



Graduate Application of UH