School of Pharmacy
Shanghai University of TCM
Core Values
Preeminence
Inclusivity
Innovation
Nobleness
On behalf of our faculty, staff and students, I thank you for your interest in the Shanghai University of Traditional Chinese Medicine (SUTCM) School of Pharmacy. Since its inception in 1972, the School of Pharmacy’s mission has been to lead in education, research and medical service, with the aim to contribute to the development of Chinese medicine and benefit patients, the pharmaceutical industry and the greater medical community. In the most recent National Education Evaluation by the Ministry of Education, our Chinese material medica specialty was ranked number one among the Traditional Chinese Medicine (TCM) universities in China.

Our school has eight departments, five research labs and one research center. Currently, we have 101 faculty members, 872 undergraduate students and 125 post-graduate students, making us the second largest school in the university. We offer BSc, MS and PhD programs. For undergraduate education, we have established two majors, namely Chinese Medicines and Pharmacy. The latter is an international collaborative program between the SUTCM and London Metropolitan University.

Our faculty is committed to providing all the necessary resources to support students. We insist on providing students with a high quality education integrated with scientific research and international concepts. Moreover, we aim to widen the scope of scientific research in Chinese medicines, especially in the field of new drug discovery, pharmaceutical techniques, quality control, pharmacology, pharmacodynamics and pharmacokinetics.

We continue to make significant progress in Chinese Medicines and Pharmacy education, and welcome all guests to visit our campus to view our impressive facilities and meet our talented group of faculty.

Dr. Hong-Xi Xu
Professor and Dean
School of Pharmacy
**Mission:**
Through offering high-quality curriculums, carrying out forefront scientific researches, strengthening external cooperation, we foster a group of professional talents in the field of Chinese medicines with international perspectives and try to do our best in teaching, scientific research, medical administration and so on.

**Vision:**
By taking innovative researches of Chinese medicines and by promoting international communication, we strive to become an international first-class school with the combination of education, research, medical service and administration.
Objective of Training: This program is customized to foster advanced talents in the field of Chinese medicines to be morally, intellectually, physically and aesthetically cultivated, to have socialist consciousness and to keep good value orientation of Chinese Medicines, and to possess independent study ability, and to have a sturdy foundation in the theory of TCM and Chinese medicines and professional practice capability. The program also provides a certain foundation in scientific research and teaching ability and prepares the graduates to be ready for TCM and Chinese medicines education, scientific research, international communication and also the administration of the courses of Chinese Medicines.
Objective of Training: This program is launched for the development of TCM and Chinese medicines and for the need of internationalized talents of TCM and Chinese medicines. It is aimed to foster talents with substantial bilingual capability and sturdy foundation of pharmacology knowledge and skill. It prepares pharmaceutical professional and technical personnel that are suitable in the industry of pharmaceutical production, drug inspection, drug distribution, drug utilization and application, and pharmaceutical research and also in drug identification, drug design, drug quality control, pharmaco-dynamic efficacy evaluation, drug preparation, drug sales, rationalized clinical application of drugs and various other fields.

"Field Botany" is one of the featured practice course offered by the school of pharmacy of SUTCM. With high professional quality of the instructing team, the sprightly and diversified nature of its form of teaching, as well as its rich reaching content and its closeness to the nature, the course is well-received by students.

The teaching activity is arranged each year in the third semester in the "Tian Mu Mountain teaching base" of the university that is located in Zhejiang Province. The leader of the instructing team is Professor Zhi-Li Zhao who is also a doctoral supervisor.

Through many years of teaching practice and course construction, the school of pharmacy has reached satisfying educational outcomes and earned unanimous favorable comments from the students.
The related teaching achievements:

"Field Botany Teaching Reform Discussion" has won the 4th Teaching Achievement Award of Shanghai University of Traditional Chinese Medicine in 2011.

The course of "Pharmaceutical Botany" was selected as Shanghai Municipal-Level Excellent Course of Universities and Colleges in 2011.

The instructing team of the course of "Pharmaceutical Botany" was selected as Excellent Instructing Team of Shanghai University of Traditional Chinese Medicine in 2012.

Professor Zhi-Li Zhao was awarded Shanghai Municipal Talent-Nurturing Price in 2012.
2014 Publications (Jan. ~ Nov.)


## National Research Projects

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Departments

**Department of Pharmaceutical Sciences**

- Novel drug delivery system for Chinese medicines
- Industrial pharmaceutics
- Nanotechnologies for Chinese medicines
- Pharmacokinetic of Chinese medicines

**Department of Pharmacology**

**Drug Metabolism and Pharmacokinetics of Chinese medicines:** Focus on ADME and Pharmacokinetics of Chinese medicines, relationship between Pharmacokinetics and the effectiveness/toxicity of Chinese medicines, metabolism and transporter-mediated herb-drug/herb-herb interactions.

**Cardiovascular Pharmacology:** Focus on the cellular and molecular mechanism of heart failure with the aim of developing effective therapeutic strategies in Chinese medicines.

**Inflammation and Immunity:** Focus on new treatment for inflammatory and immune-associated diseases.
Source and distribution of medicinal plants
Taxonomical identification

Department of Pharmacognosy

Department of TCM Formulas
Compatibility law of TCM formulas
Theory and clinical applications of TCM formulas
Mechanism of Chinese medicines compound
Department of Chinese Materia Medica

Review and study ancient Chinese medicines literature

Chinese Medicines efficacy study on cancer, pain, gout, hyperlipidemia, obesity, asthma, etc.

Department of Natural Product Chemistry

Active lead compounds isolation from Chinese medicines

Effective constituents identification from Chinese medicines
Department of Chemistry

Quality analysis of Chinese medicines
Quality control of Chinese medicines

Department of Mathematics & Physics

Mathematical pharmacology
Complexity of Chinese medicines
Medical Statistics
Medical physics
Engineering of Chinese medicines
The research center was formally established on July, 2012 upon approval from the Shanghai Science and Technology Committee. The center is committed to a distinctive mission of conducting quality research and developing new drugs from Chinese medicines. The center is continuously striving to perform original innovative researches, acquire intellectual properties, nurture talented young scientists for Chinese medicines research, and expand high-level international academic collaborations. Synergistic applications of the multi-disciplinary and cutting-edge technologies are particularly encouraged so as to establish the most innovative platforms for new drug discovery based on Chinese medicines.
Our research interest is focused on new drug discovery from natural resources, as well as the development of botanical dietary supplements from herbal medicines. Specifically, we are interested in finding natural lead compounds from medicinal plants and in developing new drug based on Chinese medicines against different diseases such as cancer, infectious diseases and metabolic diseases. We apply multiple assay models targeting cell death (e.g. apoptosis, autophagy), metastasis, and quiescent cell recurrence to screen for anti-cancer natural compounds. With state-of-the-art technologies, we investigate the in vitro and in vivo mechanisms of action of the novel compounds from medicinal plants. We have also built a number of research platforms, including proteomics, metabolomics, LC-MS and NMR analysis, anticancer and antiviral screening platforms.

Equipments including: Fluorescent live cell imaging system (Olympus IX83), Real-Time PCR machine (ABI), 2D proteomics system (Ettan), Western blot analysis system (Bio-rad), Chemiluminescent imaging system (GE LAS4000), FluoChemE gel analysis system (Protein Simple), Clean bench (ACB), Tissue culture incubators (Sanyo), Micro centrifuges (Eppendorf), ACQUITY UPLC H-Class (Waters), 2545 Prep-HPLC(Waters), 2535 Semi-Preparative HPLC(Waters), E2695 HPLC(Waters), DR FLASH-S Prep-Purification System (Lisure Science, Suzhou, Co. ltd), HSCCC (Tauto Biotech TBE-300C, Shanghai, Co. ltd), FreeZone (Labconco 2.5L), Coulter Allegra Refrigerated Centrifuge (Beckman X-12R), SPD111VP1 SpeedVacKit (Thermo Scientific) and so on.
In 2009, Dr. Cheng Huang established this Drug Discovery Lab at School of Pharmacy in SUTCM, where he built up several novel drug discovery patterns to study Chinese medicines on metabolic syndrome, cancer, atherosclerosis, aging and other diseases.

As the leader of this lab, Dr. Huang obtained his M.D degree in SUTCM, and received postdoc training in Chinese Academy of Sciences and Baylor College of Medicine in Texas, USA.
Research interests:

Metabolic syndrome is a complex medical condition including obesity, insulin resistance, hyperlipidemia and atherosclerosis, and is a worldwide problem with rapidly increasing prevalence. Our goal is to find novel therapy and nutraceuticals for fighting the diseases from Chinese herbs, foods and natural compounds. Currently, we focus our study on the ligands of nuclear receptor transcription factors, such as PPAR and LXR. Being screened via in vitro models, such as 3T3-L1 preadipocyte differentiation model and dual fluorescence report assay, along with different animal model, potential candidates are selected for further studies. We also study the underlying mechanism for the chemical reaction. For extract from food components and Chinese medicines, we will illuminate their cellular and molecular signaling pathways using multiple experimental techniques.
Up to the end of year 2014, the school of Pharmacy has sent out up to 180 undergraduate students through various exchange programs. Among them, a number of graduates have obtained master degrees and doctoral degrees in various universities abroad, such as Imperial College of Britain, University College London(UCL), Kings College of Britain and the University of Edinburgh.

To satisfy the demand of internationalized talents in the field of Chinese Materia Medica for the development of the course of Chinese mediciness and Pharmacy,

SUTCM conforms to its school-running characteristics of "featuring TCM" and "international communication oriented".

The school of pharmacy has carried out various co-operative educational programs with various universities abroad. It has launched under-graduate degree program of pharmacy with London Metropolitan University, and opened up graduate degree program with Paris Descartes University (Paris Number Five University). And it has also been making arrangements with University of British Columbia in Canada about starting new cooperation programs.
After launching international cooperation programs, through introducing excellent teaching resources from overseas and sending Chinese teachers abroad for advanced training and cultivation, and by the localized development of teaching materials of the programs introduced from overseas, and through the construction of Chinese Materia Medica Joint Research Center as well as other works, the integrative effect of international cooperative education is augmenting continuously.
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