

School of Chemistry and Chemical Engineering

<http://scce.sjtu.edu.cn/en/>

I . Introduction to Disciplines and Main Research Fields

The School of Chemistry and Chemical Engineering (SCCE) has two primary disciplines: Chemistry and Chemical Engineering and Technology. The subject of Chemistry confers the master degree and doctoral degree. The subject of Chemical Engineering and Technology confers the master degree under which the subject of Applied Chemistry confers doctoral degree of Applied Chemistry. SCCE has two postdoctoral programs of Chemistry and Chemical Engineering and Technology. The subject of Polymer Chemistry and Physics under the primary subject of chemistry is awarded the key subject in Shanghai in 2007. Up to April 2015, the subject of Chemistry of SJTU has ranked in 133 of the world ranking according to ESI subject ranking in Chemistry, ascending into the top 1%. According to the latest QS ranking in 2015, both the subjects have ranked among 51-100 in the world.

Disciplines and Main Research Fields

Disciplines	Research Fields
Inorganic Chemistry	Mesoporous Materials, Chiral Inorganic Materials, Inorganic Synthesis and Preparative Chemistry, Inorganic Nano-materials, Inorganic Functional Material
Organic Chemistry	Organic Synthesis, Organometallic Chemistry, Asymmetric Catalysis, Drug Synthesis, Organic Functional Material
Physical Chemistry	Multi-level Theoretical Calculation Method, Quantum Chemistry, Molecular Dynamics
Analytical Chemistry	Single Molecule Spectroscopy and Imaging, Micro-nano Separation Analysis
Polymer Chemistry and Physics	Hyperbranched Polymer, Supramolecular Self-assembly, Polymer Synthesis and Characterization, Rheology of Polymer Complex System, Thermosetting Polymer, Bioactive Macromolecule, Functional Polymer
Polymer Material	Perfluorinated Ion Exchange Membrane, Biomedical Polymer Material, Nano Materials, Graphene Materials, Polymer Processing and Modification, Polymer Photoelectric Functional Materials, Polymeric Biomaterials

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Disciplines	Research Fields
Chemical Engineering	Chemical Engineering Thermodynamics, Material Chemical Engineering, Chemical Transfer and Separation Engineering, Clean Coal Technology, Green Chemical Industry, New Energy
Applied Chemistry	Electrochemical Energy, Lithium Ion Battery, Solar Cell
Industrial Catalysis	Heterogeneous Catalysis and Electrocatalysis
Fine Chemical Engineering	Surfactant, Environmental Protection Fuel and Lubricating Oil Additive Molecular Design and Synthesis Process, Research and Development of Petrochemical Processing Aids, Chemistry and Chemical Processes in The Supercritical Fluid, Biomass Preparation of Biofuels and Chemicals

II. Faculty

1. Overview of Faculty

SCCE now has a qualified faculty of 109 full-time teachers and researchers, consisting of 41 professors, eight distinguished research fellows, 44 associate professors and 16 lecturers. There are 12 chair professors (including distinguished professors), two academicians of Chinese Academy of Science, one Thousand Talents Plan expert, one expert of the Thousand Talents Plan of Shanghai, three members of the Thousand Talents Plan (youth), four distinguished professors of Chang Jiang Scholar, six winners of the National Science Fund for Distinguished Young Scholars, one chief scientist of the Major National Basic Research Program (973), nine members of the New Century Talents Program supported by the Ministry of Education, two winners of Shanghai Outstanding Subject Leaders, five Shanghai Dawn Scholars, five members of Shanghai Phosphorus of Science and Technology Talent Program, three Shanghai Oriental Scholars, six scholars of the Pujiang Talents Program of Shanghai and two winners of Hong Kong Qiu Shi Science and Technology Foundation for Outstanding Youths.

2. Renowned Professors

No.	Name	Positions	Research Fields
1	SHINICHI Hirano	Zhiyuan College chair professor	Synthetic chemistry; Ceramic
2	YAN Deyue	Academicians of Chinese Academy of Sciences	hyperbranched polymer
3	TU Yongqiang	Academicians of Chinese Academy of Sciences	Organic synthesis; Asymmetric organic chemistry
4	LU Yunfeng	Chair professor, distinguished expert of "Thousand Talents Plan"	Physical chemistry

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No.	Name	Positions	Research Fields
5	CHE Shunai	Distinguished Professor of Chang Jiang Scholar Winner of National Outstanding Youth Fund	Mesoporous material
6	CHEN Jiesheng	Distinguished Professor of Chang Jiang Scholar Winner of National Outstanding Youth Fund	Inorganic Synthesis and Preparative Chemistry
7	CUI Yong	Distinguished Professor of Chang Jiang Scholar Winner of National Outstanding Youth Fund	Chiral chemistry
8	ZHANG Wanbin	Distinguished professor of SJTU	Organic synthesis
9	LU Qinghua	Winner of National Outstanding Youth Fund	Nano materials
10	ZHOU Yongfeng	Winner of National Outstanding Youth Fund	Supramolecular self-assembly
	ZHANG Yongming	Distinguished professor of SJTU	Perfluorinated ion exchange membrane
11	XIAO Wende	Distinguished Professor of Chang Jiang Scholar	Chemical engineering; new energy
12	MA Zifeng	Chief scientist of Major National Basic Research Program (973)	Electrochemistry; Fuel cell

III. Achievements

From 2010 to 2014, SCCE has obtained 97 research grants including 12 key projects of Natural Science Foundation of China, four projects of National Science Fund for Distinguished Young Scholars, one special project of international cooperation, 13 newly increased Major National Basic Research Programs (973) and three projects mainly supported by Ministry of Science and Technology. SCCE has one innovation team of Ministry of Education and one key lab of Shanghai. It has produced four national distinguished doctoral papers, six national distinguished doctoral papers of award nomination and 20 Shanghai distinguished doctoral papers.

From 2010 to 2014, the faculty and students have published 1385 SCI papers, amid which papers published in *J. Am. Chem. Achievement Soc*, *Angew. Chem. Int. Ed*, *Adv. Mater* have important influence and value of potential applications. Also, a number of research achievements have made major breakthrough. The scientific achievement of Prof. YAN Deyue's group—"hyperbranched polymer controlled preparation and self-assembly" is currently in the global leading position, and won the second prize of "National Natural Science

Award” in 2009. Prof. YAN Deyue won the “Ho Leung Ho Lee Foundation for Scientific and Technological Progress Award” in 2011, and published an English monograph *HYPERBRANCHED POLYMER* (John & Wiley Publishers). The scientific achievement of Prof. ZHANG Yongming’s group—“perfluorinated ion-exchange membrane engineering technology” has solved a major problem to which China has devoted for 30 years and made our country become the third of mastering the entire complex technologies in the world. Prof. ZHANG Yongming won the second prize of “National Science and Technology Award” and “Ho Leung Ho Lee Foundation for Scientific and Technological Progress Award” in 2012. The scientific achievement of Prof. ZHANG Wanbin’s group—“Artemisinin efficient synthetic”, has firstly made the efficient synthetic of the antimalarial artemisinin so that the artemisinin can be produced on a large scale. This is also the first case of artemisinin efficient synthetic used by conventional chemical methods in the world. This achievement has been reported by CCTV News and many other news media, and was selected as one of the “Top Ten Technology News sponsored by Longliqi” and one of Shanghai’s ten biggest concerns of scientific and technological achievements in 2012.

In 2013, SCCE has made agreement with “Advanced Materials” (IF=14.829), Wiley-VCH’s top material science journal to publish a special issue of SJTU together. It has been published in September 2014, which is significant to SJTU to expand the impact of Chemistry and Materials Science in the world.

IV. International Collaboration

1. Student Exchange Programs

SCCE devotes to the academic communication with the leading overseas universities. It has conducted multi-azimuth substantive cooperation with UCLA, University of Connecticut, University of Akron, University of Lyon, Katholieke Universiteit Leuven, Nagoya University, Tohoku University, Seoul National University and South Korea’s Posco Technical University. It has built international cooperation projects such as Asian Campus, Bachelor “3+2”, Joint training for graduates, and short-term exchange etc. The faculty of SCCE has carried out deep scientific cooperation with German Max Planck Institute, Toyota, Hitachi, and many other well-known international scientific research institutes.

2. Joint Education Programs

SCCE with Japan and South Korea— “Asian Campus” project

SCCE with UCLA— short-term study tour

SCCE with Department of Polymer of the University of Akron— Bachelor “3+2” joint training

SCCE with University of Connecticut— short-term study tour and faculty academic exchange

SCCE with Katholic University of Leuven—upcoming Bachelor joint training

V. Platforms for Scientific Innovation

- Hirano Materials Innovation Institute
- Institute of Chiral Chemistry and Technology
- SJTU-Hitachi Chemical Research and Development Center
- Polymer Materials Institute
- Rheology Institute
- Shanghai Key Lab of “Electric Insulation and Thermal Aging”
- Research Institute of Fine Chemicals
- Institute of Electrochemical Engineering and Technology
- Postdoctoral Research Center of Chemistry
- Postdoctoral Research Center of Chemical Engineering and Technology
- Fundamental Chemistry Experiment Center (For Teaching)
- Public Experimental Instrument Center (For Scientific Research)

VI. Distinguished Alumni

XU Guangxian

Chinese Academy of Sciences member, educator, professor of Peking University, the founder of rare earth element research of our country

XU Ruren

Chinese Academy of Sciences member, professor of Jilin University

HUAI Guomo

Lieutenant general of Chinese People's Liberation Army, once the vice director of Commission of Science Technology and Industry for National Defense

YU Gangnian

Industrialist living in America, philanthropist, founder of the Yushi Charitable Education Foundation in San Francisco

YIN Jie

Vice president and academic dean of Shanghai University of Science and Technology, once the vice director of Shanghai Education Committee