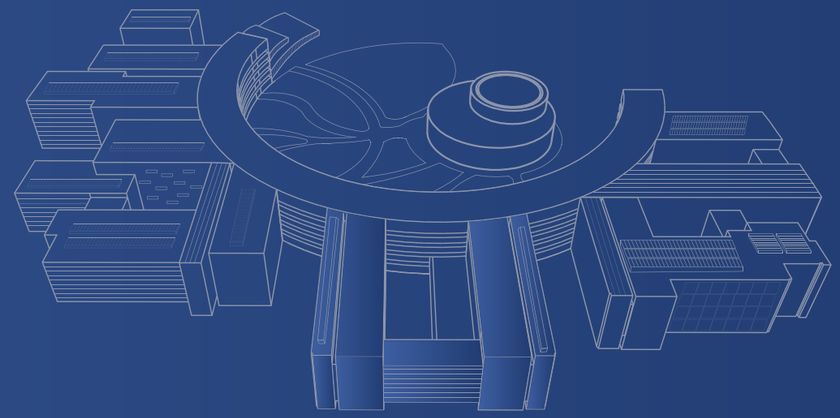
WESTLAKE UNIVERSITY | DEPARTMENT OF CHEMISTRY

西湖大学化学系

DEPARTMENT OF CHEMISTRY
WESTLAKE UNIVERSITY



WESTLAKE UNIVERSITY | DEPARTMENT OF CHEMISTRY

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ABOUT DEPARTMENT OF CHEMISTRY

化学系介绍

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WESTLAKE UNIVERSITY | DEPARTMENT OF CHEMISTRY

化学是对变化的研究。作为国家战略性基础学科和创造新物质的学科，化学对推动生命和医学科学、材料与制造科学等领域交叉发展有着强有力的支撑作用，对国民经济和社会的可持续发展具有不可替代的作用。

西湖大学化学学科建立于2018年，2023年获批为一级学科博士学位授权点。在国际知名有机合成化学家、有机催化领域的创始者和引领者之一邓力教授的带领下，学科快速发展，在全球范围内已初具影响力。

学科面向全球招收本科生和博士研究生，通过一流的课程和触及学科前沿的研究实践，让学生具备宽广的知识基础和扎实的创新研究能力，培养面向未来的一流拔尖创新人才。

学科采用国际通行的人才招聘和评价制度，已积聚一支具有国际竞争力的人才队伍。所有教授均具有海外一流大学或研究机构的学习或工作经历，并在各自的研究领域取得了国际同行广泛认可的成就。

学科实行独立实验室（PI）制度，开展催化与合成、化学生物学、材料化学、理论与计算化学、实验物理化学等领域的研究，聚焦人类能源环境挑战关键问题，在仿生催化领域建立了世界顶尖学者领军团队，在发现和提高催化活性和选择性方面国际领先。

学科营造与国际接轨的办学环境，广泛开展国内外学术交流，鼓励学科交叉和自由探索，注重标志性成果的实际贡献和科学价值。

The Department of Chemistry at Westlake University endeavors to make groundbreaking contributions in the realm of chemical sciences, and strives to unlock new scientific and technological frontiers through robust interdisciplinary connections with branches such as physical sciences, biology, medicine, and engineering.

Our esteemed faculty members are globally recognized for their excellence in research and education. They are wholeheartedly committed to advancing the frontiers of chemistry and nurturing the next generation of leaders in the field.

At Westlake Chemistry, our researchers study a wide range of active research areas, including organic chemistry, energy chemistry, physical chemistry, material chemistry, and interdisciplinary fields like chemical biology.

Our cutting-edge research facilities empower our researchers to turn their innovative ideas into reality. Our academic environment promotes a free environment for scientific pursuit, an extensive exchange of ideas, out-of-the-box creativity in research, academic integrity, and a collegial atmosphere for all students, postdocs, staff, and faculty.

The Department of Chemistry offers high-quality academic programs tailored for undergraduate and doctoral students. Our curriculum is thoughtfully designed to cultivate curiosity, creativity, and critical thinking in our students, equipping them with a solid foundation of knowledge and skills to excel in professional careers, make new discoveries, lead technological innovations across disciplines, find personal satisfaction, and contribute to society.

Guided by our faculty members, students are prepared to become the next generation of leaders in the chemical industry, academia, medicine, education, or any other path they choose to pursue.

In all our academic and scientific pursuits, the Department of Chemistry remains unwaveringly committed to excellence.

治理结构

Current Chemistry Committees Setup

化学系充分发扬民主，尊重和保障每一位教授参与公共事务管理，在系主任的领导下，按照委员会的模式进行治理。

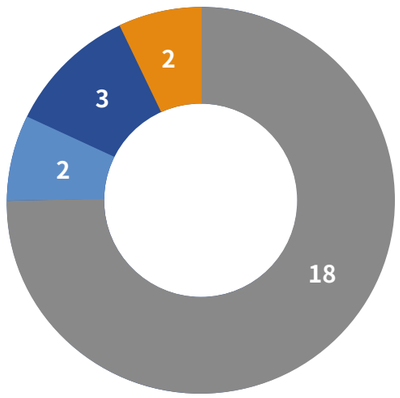
系主任：张 鑫

Committee	Chair	Members
Graduate Admission Committee （招生委员会）	石 航	陈虹宇、张鑫、王盼、胡鹏飞、张彪彪、杨汶醒
Graduate Studies Committee （研究生培养委员会）	张 鑫	王鸿飞、陈虹宇、吴明轩、石航、王盼、王涛、孙磊
Curriculum and Teaching Committee （课程及教学委员会）	王鸿飞	张鑫、陈虹宇、吴明轩、王兆彬、张彪彪、窦文杰
Colloquium Committee （学术活动委员会）	张骊騑	王怀民、陆海华、孙磊、窦文杰
Faculty Search Committee （教研系列教师招聘委员会）	张 鑫	邓力、孙立成、王鸿飞、陈虹宇、石航、窦文杰
Instrument, Facility and Safety Committee （仪器、设施和安全委员会）	陈虹宇	王怀民、刘志常、陆海华、张彪彪、杨汶醒
Teaching Faculty Recruit Committee （教学系列教师招聘委员会）	王鸿飞	张鑫、陈虹宇、吴明轩、王兆彬、张彪彪、窦文杰
Library, Information and Website Committee （图书馆、信息及网站委员会）	王 涛	张骊騑、孙磊、胡鹏飞
Award Committee （奖励委员会）	邓 力、孙立成	
Undergraduate Affairs Committee （本科生事务委员会）	陈虹宇	石航、吴明轩、杨汶醒、孙磊、权新峰、李霄

FACULTY
师资力量

2

25位特聘教授



讲席讲授2人　教授3人　副教授2人　助理教授18人

100%
具有海外一流大学和科研机构学习和工作经验

68%
团队负责人为国家级人才

Caltech · Stanford University · MIT · Leibniz Universität Hannover · 東京大学 · Berkeley · Harvard University · Princeton University · UCSF · Yale · ILLINOIS · Penn · KTH · NUS · Max Planck Institute for Chemical Ecology · Columbia University · 清華大学 Tsinghua University · Cornell University · Nanyang Technological University Singapore · 香港大學 The University of Hong Kong · Brandeis University · 北京大学 Peking University · Northwestern University · The University of Chicago · Scripps Research · Emory University · Imperial College London · Johns Hopkins University · The Hong Kong University of Science and Technology

Laboratory of Nanosynthesis
纳米合成实验室

Hongyu Chen
陈虹宇

Laboratory of Catalysis and Organic Synthesis
催化反应与有机合成实验室

Li Deng
邓 力

Laboratory of Theoretical and Computational Chemistry
理论计算化学实验室

Wenjie Dou
窦文杰

Surface Coordination Chemistry and Energy Catalysis Lab
表面配位化学与能源催化实验室

Lele Duan
段乐乐

Laboratory of Quantum Dynamics and Spectroscopy
量子动力学与理论光谱实验室

Bing Gu
顾 冰

Laboratory of Plant Secondary Metabolism
植物天然产物实验室

Benke Hong
洪本科

Laboratory of Organic Synthesis
有机合成实验室

Pengfei Hu
胡鹏飞

Laboratory of Supramolecular Organic Functional Assemblies (SOFA LAB)
超分子有机功能组装体实验室

Zhichang Liu
刘志常

The Laboratory of Natural Product Synthesis
天然产物合成实验室

Haihua Lu
陆海华

Laboratory of Molecular Quantum Devices and Quantum Information
分子量子器件和量子信息实验室

Lei Sun
孙 磊

The Sun Laboratory on Solar Fuels & Solar Cells
太阳能燃料与太阳能电池实验室

Licheng Sun
孙立成

Laboratory of Chemical Biology and Tissue Regeneration
化学生物学与组织再生实验室

Sida Shao
邵思达

Organometallic Methodology and Functional Molecules Synthesis Laboratory
金属有机方法学及功能分子合成实验室

Hang Shi
石 航

Ultrafast Laser Spectroscopy and Suface/ Interface Physical Chemistry Laboratory
表面界面与凝聚相物理化学实验室

Hongfei Wang
王鸿飞

Laboratory for Intelligent Functional Biomaterials
生物材料实验室

Huaimin Wang
王怀民

Organic Functional Materials Laboratory
有机功能材料实验室

Pan Wang
王 盼

Laboratory of Advanced Materials and Catalysis
理论催化与材料智能设计实验室

Tao Wang
王 涛

Laboratory of Asymmetric Synthesis and Catalysis
不对称催化合成实验室

Zhaobin Wang
王兆彬

Protein Chemistry Laboratory
蛋白质化学实验室

Mingxuan Wu
吴明轩

2D-IR Spectroscopy and Molecular Polariton Laboratory
二维红外光谱和分子极化激元实验室

Bo Xiang
项 博

Spectroscopy and Catalvitc Mechanism Laboratory
光谱与催化机制实验室

Wenxing Yang
杨汶醒

Laboratory of Biocatalysis
酶催化有机合成实验室

Yuxuan Ye
叶宇轩

Molecular Catalysis and Molecular Materials Lab
分子催化与分子材料实验室

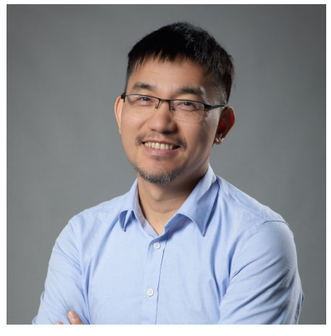
Biaobiao Zhang
张彪彪

Laboratory of Natural Products Bioengineering
天然产物化学生物学实验室

Lihan Zhang
张骊骅

Laboratory of Biological Aggregates
生物聚集体实验室

Xin Zhang
张 鑫



Laboratory of Nanosynthesis

纳米合成实验室

Professor

Hongyu Chen

陈虹宇 教授

- 英国皇家化学会会士

1998 年获中国科学技术大学理学学士学位，2004 年获耶鲁大学博士学位，2005 年起在康奈尔大学从事博士后研究工作。2006 年加入新加坡南洋理工大学任助理教授，2011年升为终身教职副教授，历任化学系副系主任、数理学院副院长、理学部副主任。2016 年加入南京工业大学，共同组建了先进化学制造研究院，任执行院长。2021 年 7 月加入西湖大学任理学院教授、校长助理、本科生书院院长。

Hongyu Chen obtained his bachelor's degree from University of Science and Technology of China (USTC) in 1998, and then Ph.D. from Yale University in 2004. After working as a postdoctoral fellow in Cornell University, he jointed Nanyang Technological University (NTU) in Singapore in 2006 as Assistant Professor. In 2011, he was promoted to Associate Professor with tenure. He served as Deputy Head of Division of Chemistry and Biological Chemistry (CBC); Assistant and then Associate Chair of School of Physical and Mathematical Sciences (SPMS); and Associate Dean of College of Science. In 2016, he moved back to China and joined Nanjing Tech University, where he co-founded the Institute of Advanced Synthesis (IAS) and served as Executive Dean. He joined the School of Science, Westlake University in July 2021 as a tenured Professor, Dean of Undergraduate College and serves as Associate Vice President.

研究方向:

陈虹宇致力于推进纳米合成的控制力，发展新的合成方法（类似有机反应），发现其背后的机理，并应用这些工具拓展新颖的纳米结构，探索新型应用。其发展的合成方法包括:1）通过固-固界面的构筑，连续调控核-壳、偏心、Janus等纳米结构；2）纳米线的溶液操作方法，如盘旋成圈，扭转成麻花，编织成绳等；3）手性纳米结构的构筑；4）位点选择性的多步纳米合成；5）新的操控手段，如通过宏观载体的拉伸，超声造成弯折，外磁场诱导变形等。

RESEARCH INTERESTS:

Professor Chen's research interest centers on the advancement of synthetic capability at the nanoscale, more specifically on the development of synthetic methods (similar to organic reactions), understanding the underlying principles, and applying these tools for novel nanostructures and new applications. The research directions include: 1) Control of the solid-solid interface for continual structural modulation from core-shell to Janus nanostructures; 2) Solution manipulation of nanowires to coiled rings, twisted double helices, and braided ropes; 3) Construction of chiral nanostructures; 4) Site-selective multi-step nanosynthesis; 5) Exploration of new synthetic handles, via sonication, external magnetic field, and matrix stretching.

Laboratory of Catalysis and Organic Synthesis

催化反应与有机合成实验室

Professor

Li Deng

邓 力 徐益明讲席教授

- 美国化学会亚瑟·柯普学者奖
- 陈氏有机化学奖
- 日本科学促进会会士奖
- 美国斯隆研究奖
- 美国New Investigator Award, The Medical Foundation
- 美国Research Innovation Award, Research Corporation

1987年毕业于清华大学，1995 年获得哈佛大学博士学位，随后获得美国癌症协会博士后奖学金，在哈佛大学继续从事博士后研究。1998 年受聘于美国布兰迪斯大学历任助理教授、副教授、教授和 Orrie Friedman终身讲席教授，2011-2014 年担任布兰迪斯大学化学系系主任。2018 年 7 月全职加入西湖大学，现任徐益明讲席教授、西湖大学副校长、校学术委员会主任、理学院执行院长。

Li Deng received his B.S. degree from Tsinghua University in 1987, and Ph.D. degree from Harvard University in 1995. He stayed at Harvard as an American Cancer Society postdoctoral fellow. He joined Brandeis University as an Assistant Professor of Chemistry in 1998. He was promoted to Associate Professor with tenure in 2003, to Full Professor and was named the Orrie Friedman Distinguished Professor of Chemistry in 2005. He served as the Chair of the Chemistry Department at Brandies University from 2011 to 2014. He joined Westlake University in July of 2018, and is currently Xu Yiming Endowed Chair Professor, the Vice President of Westlake University, the Executive Dean of school of Science and Chair of University Academic Committee.

研究方向:

致力于有机小分子催化反应及机理研究，以及相关反应在有机合成中的应用，并在该领域取得了原创而系统性的奠基性成果。国际同行公认其为不对称有机催化领域的开创者和引领者之一。邓力教授有关弱键有机催化的系统性研究产生了广泛影响。其建立的新概念、理论和策略,被世界各地大学及工业界实验室广泛应用于新型催化剂和新反应的开发。邓力实验室所开发的多种催化剂和催化反应也在有机合成中得到广泛应用。

RESEARCH INTERESTS:

Professor Deng is widely recognized as a pioneer and leader in the field of organocatalysis. His research focuses on the invention and the development of new catalytic reactions of importance in synthetic organic chemistry. His studies have established new concepts and strategies for weak bonding organocatalysis that are utilized by laboratories around the world for the successful development of numerous new catalysts and reactions. The catalysts and reactions developed by the Deng laboratories are widely used for organic synthesis in both academic and industrial settings.

Laboratory of Theoretical and Computational Chemistry
理论计算化学实验室

Professor
Wenjie Dou
窦文杰 助理教授

2013 年获中国科学技术大学物理学学士学位，2018 年获美国宾夕法尼亚大学化学博士学位。2018 年 8 月至 2020 年12 月在美国加州大学伯克利分校从事博士后研究工作。2021 年 1月加入西湖大学理学院，任特聘研究员，从事理论计算化学研究。

Wenjie Dou earned a B.S. in physics from the University of Science and Technology of China in 2013 and a Ph.D. in Theoretical Chemistry from the University of Pennsylvania in 2018. From 2018 to 2020, he was a postdoc at UC Berkeley. He started his independent career at Westlake University in January 2021. His main research interests lie in theoretical physical chemistry, with a special focus on nonadiabatic (quantum) dynamics and (excitedstates) electronic structure theory for molecular systems in condensed phases, at interfaces, and within nanomaterials.

研究方向:

围绕复杂体系激发态动力学开展理论研究工作：1）分子与光子强耦合的化学动力学及（光腔中）非线性超快光谱；2）量子材料中的激子动力学和量子干涉调控；3）非均相界面的ab initio非绝热动力学与电化学；4）量子计算与量子 动力学。

RESEARCH INTERESTS:

Wenjie Dou is interested in electron and energy flow through complex molecular systems. At Westlake, his group will develop excited-state (stochastic) electronic structure theory (many-body perturbation theory) and nonadiabatic (quantum) dynamics (beyond Born-Oppenheimer approximation) to describe electron transfer, energy relaxation, exciton recombination, light-matter interaction, and coherence control in complex chemical system.

Surface Coordination Chemistry and Energy Catalysis Lab
表面配位化学与能源催化实验室

Professor
Lele Duan
段乐乐 副教授

本科和硕士毕业于大连理工大学，2011年获瑞典皇家工学院有机化学专业博士学位。2012年至2015年期间在瑞典皇家理工学院、美国布鲁克海文国家实验室从事博士后研究。2015年获得瑞典皇家工学院助理教授职位，2017年获得南方科技大学化学系准聘副教授职位。2023年加入西湖大学理学院、人工光合作用与太阳能燃料中心，任特聘研究员，研究兴趣集中在表面配位化学和能源催化领域。

Lele Duan graduated from Dalian University of Technology with a bachelor's and master's degree. In 2011, he received his Ph.D. in organic chemistry from the KTH Royal Institute of Technology in Sweden. From 2012 to 2015, he conducted postdoctoral research at the Royal Institute of Technology in Sweden and the Brookhaven National Laboratory in the United States. In 2015, he was appointed as an Assistant Professor at KTH, and in 2017, he moved to the Department of Chemistry, the Southern University of Science and Technology. In 2023, he joined the School of Science, Center of Artificial Photosynthesis for Solar Fuels at Westlake University as a tenured Associate Professor.

研究方向:

集中在表面配位化学和能源催化领域，包括1）电催化剂的设计合成、性能优化和反应机理研究；2）碱性膜电极电解水器件关键材料的开发；3）石墨炔基碳载体材料的宏量制备。

RESEARCH INTERESTS:

The Duan group focuses on the surface coordination chemistry on two-dimensional carbon materials such as graphyne and graphene, and constructs single-atom, subnano- and nano-catalysts, and systematically studies the catalytic performance, reaction mechanism and structure-activity relationship of catalysts for the conversion of small molecules into green fuels.

Laboratory of Quantum Dynamics and Spectroscopy
量子动力学与理论光谱实验室

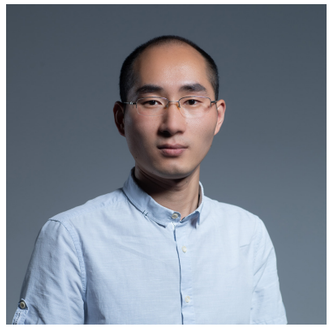
Professor
Bing Gu
顾 冰　助理教授

2011 年获中国科学技术大学化学物理系学士学位，2016 年获南卡罗莱纳大学哥伦比亚分校理论与计算化学博士学位。2023 年 2 月加入西湖大学理学院，任特聘研究员，从事非线性超快光谱.激发态分子动力学、分子极化激元的理论研究。

Bing Gu received his bachelor's degree in Chemical Physics from the University of Science and Technology of China in 2011 and his Ph.D. in Theoretical and Computational Chemistry from the University of South Carolina at Columbia in 2016. In February 2023, he joined Westlake University as an assistant professor in the School of Science, established the Laboratory of Quantum Dynamicsand and Spectroscopy.

研究方向:
主要开展非线性超快光谱，激发态分子动力学，和分子极化激元的理论研究。包括新型量子光谱的理论设计与模拟（如何利用量子光源增强光谱的分辨率）、开放量子体系的动力学（如何模拟环境对量子体系的影响）、分子在微腔中的反应动力学以及光学调控材料的物理化学性质（如何利用光学微腔和激光来调控分子、材料的物理化学性质）。

RESEARCH INTERESTS:
The Gu group mainly conducts theoretical research on nonlinear ultrafast spectroscopy, excited state molecular dynamics, and molecular polaritons. It includes the design and simulation of novel spectroscopy with quantum light sources; the dynamics of open quantum systems; and photochemistry in optical microcavities and laser control of the physicochemical properties of materials.



Laboratory of Plant Secondary Metabolism
植物天然产物实验室

Professor
Benke Hong
洪本科　助理教授

2011 年获辽宁大学学士学位，2016 年获得天津大学和北京生命科学研究所博士学位，2016-2019 年在北京大学担任科研助理，2019 年11 月至 2023年 4月在德国马普化学生态研究所从事博士后研究工作。2023年 5 月加入西湖大学理学院，任特聘研究员，从事植物天然产物方面的研究。

Benke Hong received his B.Sc. degree from Liaoning University in 2011 and his Ph.D. degree from Tianjin University and the National Institute of Biological Sciences (NIBS) in 2016.He was a research assistant at Peking University from 2016 to 2019. He then moved to Germany to conduct his postdoc at the Max Planck Institute for Chemical Ecology from November 2019 to April 2023. He joined Westlake University in may 2023 and became an assistant professor and principal investigator in the School of Science. The research interests of his laboratory focus on plant secondary metabolism.

研究方向:
基于植物天然产物开展三个方向的研究：1）全合成，通过利用和改造生物合成途径中的关键合成酶，并结合有机化学的优势开发化学-酶法合成，实现活性天然产物的高效制备；2）解析生源合成途径，为通过合成生物学手段实现功能分子的绿色制造奠定基础；3）阐明生源中关键的合成酶和酶学机制，为高效普适的生物催化剂的开发提够基础。

RESEARCH INTERESTS:
The Hong group has a strong interest in chemical biology of plant secondary metabolism, including 1) chemoenzymatic synthesis by the combination of synthetic methods and biosynthetic enzymes; 2) biosynthetic pathway elucidation of functinal molecules; 3) discovery of critical biosynthetic enzymes and investigation of their enzymology.

Laboratory of Organic Synthesis

有机合成实验室

Professor

Pengfei Hu

胡鹏飞 助理教授

2019年获芝加哥大学博士学位，师从Scott Snyder教授。期间获得了芝加哥大学最高荣誉之一的William Rainey Harper Dissertation Fellowship。2019年9月至2021年3月作为Hewitt Foundation Fellow在Scripps研究所的Phil S. Baran课题组进行电合成化学博士后研究。2021年4月全职加入西湖大学理学院，任特聘研究员，主要研究方向为电有机合成化学、高活性天然产物全合成以及药物化学。

Pengfei earned his PhD degree in August 2019 with Prof. Scott A. Snyder at University of Chicago, where he was awarded the William Rainey Harper Dissertation Fellowship, one of University' s highest honors. He then conducted postdoc research at Phil S. Baran's lab at Scripps Research, where he was a Hewitt Foundation Fellow working on synthetic electrochemistry. He is currently an assistant professor at Westlake University since April 2021. His research interest is total synthesis of bioactive natural product, synthetic electrochemical chemistry, and medicinal chemistry.

研究方向:

研究集中在通过开发突破传统观念的合成策略和反应方法学高效地合成复杂天然产物分子。

RESEARCH INTERESTS:

Hu's research centers on developing efficient and scalable chemical synthesis of complex, biologically active molecules. This mission includes the pursuit of new guidelines for synthesizing natural products with densely functionalized skeleton and new approaches to harness the reactivity and selectivity of highly reactive intermediates.

Laboratory of Supramolecular Organic Functional Assemblies (SOFA LAB)

超分子有机功能组装体实验室

Professor

Zhichang Liu

刘志常 助理教授

2006-2010 年在中国科学院上海有机化学研究所攻读博士学位。2010-2018 年在美国西北大学Sir Fraser Stoddart 教授组从事博士后研究。2018 年 9 月起全职加入西湖大学理学院，任特聘研究员、超分子有机功能组装体实验室主任。主要研究方向为分子张力工程。

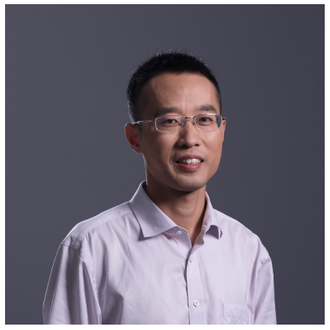
Zhichang Liu received his doctoral degree at the Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences in 2010. From 2010 to 2018, he worked as a postdoctoral researcher in the research group of Professor Sir Fraser Stoddart at Northwestern University. In September 2018, he joined the School of Science at Westlake University as a full-time principal investigator and director of the Laboratory of Supramolecular OrganicFunctional Assemblies. His main research direction is molecular-strain engineering.

研究方向:

研究内容包括：1）分子弓（弓形张力大环分子）的设计合成和基于分子张力工程的超分子组装和应变调控的反应机理等研究。分子张力工程（Molecular-Strain Engineering, MSE）—利用结构应变在分子内部施加张力，从而使分子本身产生精确可调的应变构型；这些应变构型有望在自身物理化学性质、可控超分子组装、调控反应进程和选择性等方面，表现出异于非应变构型的独特性能；2）复杂有机拓扑分子大环和笼的设计合成与精准可控自组装及应用研究；3）通过超分子模版聚合的途径构筑一维、二维和三维机械互锁拓扑聚合物，利用机械键的特性来制备新型刺激响应材料。

RESEARCH INTERESTS:

His current research interests focus on the development of Molecular-Strain Engineering (MSE) and Supramolecular Organic Functional Assemblies (SOFA). Projects in the Liu's SOFA Lab involve (i) molecular-strain engineering of multi-walled Platonic solids, (ii) mechanical trapping of active intermediates employing molecular-strain engineering, and (iii) strain-modulated emergent properties of supramolecular assemblies as well as topological knots and links.



The Laboratory of Natural Product Synthesis
天然产物合成实验室

Professor
Haihua Lu
陆海华　助理教授

- Thieme Chemistry Journals Award获得者

2010年获得有机化学理学博士学位（导师：肖文精教授，方向：不对称催化）。随后，进入药企从事药物合成工艺和抗癌新药的研发工作。他于2012年在德国汉诺威大学开展大环内酯类化合物的合成及相关化学生物学研究工作（合作导师：Markus Kalesse教授）；2014年赴美国Scripps 研究所，从事萜烯类天然产物合成（合作导师：Ryan Shenvi教授）。2016 年9月入职南京工业大学先进化学制造研究院，并于2019年3月全职加入西湖大学理学院，任特聘研究员。

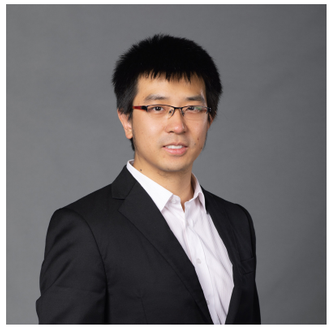
Haihua LU earned his Ph.D. in 2010 with Professor Wen-Jing Xiao at the Central China Normal University (CCNU), investigating organocatalysis, after which he had an experience in pharmaceutical industry for one and a half years. He then continued his studies as a postdoctoral associate on natural product chemistry with Professor Markus Kalesse at the Leibniz Universität Hannover (LUH), supported by the Alexander von Humboldt foundation (AvH, 2012-2014), and later with Professor Ryan Shenvi at The Scripps Research Institute (TSRI, 2014-2016). He started his independent career at NJTECH University (IAS) in 2016 and joined the School of Science of Westlake University in March 2019.

研究方向：

围绕复杂天然产物，主要开展两方面的研究工作：1）探寻天然产物高效合成设计新思路；2）以天然产物为先导，发展高效、不对称多样性导向合成，继而进行天然产物类药物创制研究。

RESEARCH INTERESTS:

Lu's research interests include: 1) diversity-oriented total synthesis based on natural products as leads for drug development; 2) concise natural product total synthesis.



Laboratory of Molecular Quantum Devices and Quantum Information
分子量子器件和量子信息实验室

Professor
Lei Sun
孙 磊　助理教授

2011 年获南京大学学士学位，2017 年获麻省理工学院博士学位。2017-2021 年先后在美国西北大学和阿贡国家实验室从事博士后研究工作。2021 年 11月加入西湖大学理学院，任特聘研究员，致力于以化学的视角研究量子信息学和凝聚态物理，设计功能分子来探索量子现象，并通过器件实现单分子级别的量子调控。

Lei Sun obtained his bachelor's degree from Nanjing University in 2011 and his doctoral degree from Massachusetts Institute of Technology in 2017. From 2017 to 2021, he conducted postdoctoral research at Northwestern University and Argonne National Laboratory. In November 2021, he joined Westlake University as an assistant professor in the Department of Chemistry and Department of Physics.

研究方向：

从化学的视角出发研究量子信息学和凝聚态物理，致力于设计功能分子以探索量子现象，并通过器件实现单分子级别的量子调控：1）精准合成分子电子自旋量子比特，研究其在微纳器件、固体表面和微孔材料等多种应用场景中的电子自旋动力学性质；2）利用单分子器件实现电子自旋量子调控，开发分子量子传感、通讯、计算等技术；3）制备单层二维金属有机框架及其异质结，通过测试输运性质来探索拓扑态、超导、二维磁性等量子现象。

RESEARCH INTERESTS:

The Sun Laboratory is interested in exploring quantum information science and condensed matter physics from chemistry perspective. The lab's research focuses on designing functional molecules to study fundamental quantum phenomena and using devices to realize single-molecular quantum manipulation.

The Sun Laboratory on
Solar Fuels & Solar Cells
太阳能燃料与太阳能电池实验室

Professor
Licheng Sun
孙立成 讲席教授

- 中国科学院院士
- 欧洲化学会会士
- 英国化学会会士
- 瑞典皇家科学院沃尔玛克奖获得者
- 中华人民共和国国际科技合作奖获得者

1984 年获大连理工大学学士学位，1990 年获大连理工大学博士学位，1992-1993 年在德国马普辐射化学研究所做博士后，1993-1995 年在德国柏林自由大学有机化学系做洪堡学者，2004 年受聘瑞典皇家工学院分子器件讲席教授，2017 年入选瑞典国家研究理事会瑞典国家杰出教授。2020 年 3月全职加入西湖大学，任化学讲席教授、西湖大学人工光合作用与太阳能燃料中心主任。

Licheng Sun received his B.S. (1984), M.S. (1987) and Ph.D. (1990) degrees from Dalian University of Technology (DUT). Between 1992 and 1993, he performed postdoc research at Max-Planck-Institut für Strahlenchemie, Mülheim an der Ruhr Germany. He then joined Freie Universität Berlin as an Alexander von Humboldt fellow from 1993 to 1995. He was appointed as a full professor in 2004 at the Department of Chemistry, KTH Royal Institute of Technology. He served as director of the DUT-KTH Joint Education and Research Center on Molecular Devices since 2006, and was honored as Distinguished Professor of the Swedish Research Council (VR Radsprofessor) since 2017. Sun joined Westlake University as a Chair Professor of Chemistry in March 2020, and serves as the Director of CAP for Solar Fuel.

研究方向:

孙立成教授长期从事太阳能燃料与太阳能电池科学前沿领域应用基础研究，在人工光合作用关键科学问题既高效水氧化催化剂设计合成、氧 氧键形成机理、光解水制氢功能器件设计、光电催化二氧化碳 /氮气还原、新型钙矿太阳能电池空穴传输材料设计与制备等领域具有深厚研究基础。他连续多年入选全球“高被引学者”(Clarivate Highly CitedResearcher),曾任德国 *wiley* 期刊ChemSusChem 编委会主席荷兰 *Elsevier* 期刊 J. Energy Chemisty 副主编。

RESEARCH INTERESTS:

Sun's research work mainly focuses on artificial photosynthesis, dye-sensitized solar cells, perovskitesolar cells, bio-inspired catalysts for water oxidation and hydrogen generation, nanomaterials and photoelectrochemical cells for water splitting, CO_2 reduction, and N_2 fixation.

Laboratory of Chemical Biology and
Tissue Regeneration
化学生物学与组织再生实验室

Professor
Sida Shao
邵思达 助理教授

2013 年获北京大学生物科学学士学位，2019 年获斯克里普斯研究所化学生物学博士学位。2019 年 9月至 2023年 7月在斯克里普斯研究所化学系从事博士后研究工作，负责小分子药物临床转化工作。2023 年 8 月加入西湖大学理学院，任特聘研究员，从事化学生物学和再生医学方面的研究。

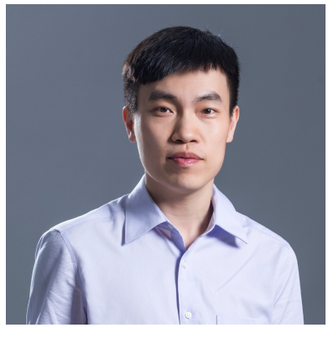
Sida Shao received his B.S. degree in Biological Sciences from Peking University in 2013, and subsequently his Ph.D. degree in Chemical Biology from The Scripps Research Institute in 2019. Prior to joining Westlake University in 2023, he was a research investigator in Calibr at Scripps Research leading translational development of small molecule therapy for lung diseases.

研究方向:

聚焦发展、使用化学生物学手段研究干细胞的生物学问题，寻找可以特异性调控干细胞命运和功能的工具分子，并开发新型的再生医学药物。

RESEARCH INTERESTS:

Sida Shao's research resided at the intersection between chemical biology and stem cell biology with a focus on understanding and manipulating stem cell behavior with chemistry principle and methods.



Organometallic Methodology and Functional Molecules Synthesis Laboratory
金属有机方法学及功能分子合成实验室

Professor
Hang Shi
石 航 副教授

- 求是杰出青年学者奖获得者
- Thieme Chemistry Journals Award获得者

2008年获湖南大学学士学位，指导教师为尹双凤教授；2013年获北京大学有机化学博士学位，指导教师为杨震教授；2013-2015年在美国Harvard大学Tobias Ritter教授课题组从事博士后研究工作，期间在美国Massachusetts General Hospital (MGH)从事放射化学研究。2015-2018年在美国Scripps研究所Jin-Quan Yu教授课题组从事博士后研究工作。2018年9月加入西湖大学理学院，任特聘研究员；2023年1月晋升长聘副教授。

Hang Shi obtained his bachelor's degree with honors in Chemical Engineering and Technology at Hunan University in 2008. He received his Ph.D. in Organic Chemistry from Peking University in 2013. In the following two years, Hang worked as a postdoctoral researcher at Professor Tobias Ritter's laboratory at Harvard University. In November 2015, Hang moved to the Scripps Research Institute and joined Prof Jin-Quan Yu's laboratory as a research associate, and mainly focused on developing regioselective and stereoselective remote C-H bond activation. Hang joined Westlake University to commence his independent studies in 2018 and was awarded Zhongzhou Endowed Assistant Professor. In 2023, Hang was promoted to associate professor.

RESEARCH INTERESTS:

The Shi Research Group is dedicated to the exploration and innovation of novel methodologies in metal-catalyzed reactions and asymmetric catalysis. Recent research endeavors are centered on pioneering catalytic processes for the functionalization and transformation of aromatic molecules through π-coordination, employing meticulously engineered transition metal catalysts. In addition to the catalysis development, the group places a strong emphasis on unraveling the underlying reaction mechanisms. This fundamental understanding forms the bedrock for the future applications of our chemistry.

Ultrafast Laser Spectroscopy and Surface/ Interface Physical Chemistry Laboratory
表面界面与凝聚相物理化学与化学物理实验室

Professor
Hongfei Wang
王鸿飞 教授

- 美国物理学会会士
- 国家杰出青年基金获得者

1988 年毕业于中国科学技术大学化学物理系，1996年获美国哥伦比亚大学化学系物理化学博士学位，1996-1999 年在美国宾夕法尼亚大学化学系、物质结构研究所和杜邦公司 Marshall 研究所进行博士后研究。1999-2009 年任中国科学院化学研究所研究员，期间曾任化学所分子反应动力学实验室主任、分子反应动力学国家重点实验室副主任，2009-2017年任美国能源部西北太平洋国家实验室环境分子科学研究所和物质与计算科学部主任级科学家，2017 年入职复旦大学化学系任教授、特聘教授，2019 年加入西湖大学理学院。

Hongfei Wang graduated from the Department of Chemical Physics at the University of Science and Technology of China in 1988. He received his Ph.D. in Physical Chemistry from the Department of Chemistry at Columbia University in 1996. He did his postdoctoral research jointly at the DuPont Marshall laboratory & Department of Chemistry, University of Pennsylvania from 1996 to 1999. Then he joined the State Key Laboratory of Molecular Reaction Dynamics, Institute of Chemistry, Chinese Academy of Sciences as a professor until 2009. Later on, he continued his research as a Chief Scientist at the Environmental Molecular Sciences Laboratory (EMSL), Pacific Northwest National Laboratory (PNNL) of United States Department of Energy. In 2017 he joined the Department of Chemistry, Fudan University as a professor and distinguished professor. In 2019, he joined the School of Science at Westlake University as a professor.

研究方向:

王鸿飞教授课题组主要开展以表面、界面和凝聚相超快和非线性光谱与动力学相关的现代物理化学和化学物理方面的研究，包括但不限于：1）表面和界面的物理化学;结构、相互作用与化学动力学；2）光谱学与分子反应动力学:振动与电子光谱；3）线性与非线性和光谱学与现代光谱分析方法：红外、拉曼及和频光谱；4）表面与生物膜上的手性与立体化学等。

RESEARCH INTERESTS:

Wang's research interests include the structure and reaction dynamics of surface and interface, linear and nonlinear optical spectroscopy and modern analytical spectroscopy. He is mostly known for his "seminal contributions to the development of surface nonlinear vibrational spectroscopyand to the understanding of molecular interaction and structure at interfaces". His most cited paper so far is a systematic survey on the "Quantitative spectral and orientational analysis in surface sum frequency generation vibrational spectroscopy (SFG-VS)". In recent years, he developed the sub wavenumber high resolution broadband SFG-VS and demonstrated its ability for obtaining intrinsic and accurate spectral lineshape in SFG-VS and other nonlinear spectroscopic techniques, such as the Femtosecond Stimulated Raman Spectroscopy (FSRS).

Laboratory for
Intelligent Functional Biomaterials
生物材料实验室

Professor
Huaimin Wang
王怀民　助理教授

2008 年获天津大学理学学士学位，2012 年获南开大学理学硕士学位，2015 年获南开大学理学博士学位。2015 年6月至 2019年 8月在美国布兰迪斯大学化学系从事博士后研究工作。2019 年 9月加入西湖大学理学院，任特聘研究员,2022 年 1 月兼任工学院生物医学工程方向特聘研究员，从事生物材料、药物递送和多肽化学生物学方面的研究。

After receiving his B.S. from Tianjin University, Huaimin obtained his Ph.D. in 2015 from Nankai University. Before starting independent research, he was a postdoctoral fellow at Brandeis University.

研究方向:

课题组目前主要开发设计新型生物功能材料，化学生物学工具、活细胞原位标记探针和反应等。方向包括：生物功能材料、多肽水凝胶、多肽体内组装、免疫治疗、纳米医学、神经生物学材料、活性探针。

RESEARCH INTERESTS:

Huaimin Wang's research interests mainly focus on applying supramolecular assemblies of small molecules to explore and engineer living organisms; designing functional supramolecular nanomaterial for applications in materials chemistry and biomedicine.

Organic Functional Materials Laboratory
有机功能材料实验室

Professor
Pan Wang
王 盼　助理教授

2010年获中南大学理学学士学位，2015年获中国科学院上海有机化学研究所博士学位。2016年至2019年在麻省理工学院MIT从事博士后研究。2019 年 11月加入西湖大学理学院，任特聘研究员，组建有机功能材料实验室，从事有机功能材料、高分子能源材料领域的研究。

Pan Wang received her Bachelor's degree in 2010 from Central South University and pursued her Ph.D. degree at Shanghai Institute of Organic Chemistry (SIOC), Chinese Academy of Sciences (CAS), under the guidance of Prof. Yong Tang in 2015. In 2016, she joined Massachusetts Institute of Technology (MIT) as a postdoctoral researcher with Prof. Timothy M. Swager. Dr. Wang joined Westlake University as an assistant professor in November 2019. Her research group primarily concentrates on the development of organic functional materials from the molecular level, and the applications in energy storage and conversions.

研究方向:

研究方向聚焦于在有机合成化学、能源化学和材料化学交叉领域，致力于设计和发展新材料。以有机合成化学为手段，以有机材料功能为导向进行分子设计与精准合成，从分子水平对有机材料进行结构修饰及物化性能调控。探索有机小分子、高分子材料在光能、电能和化学能之间的相互转化，研究其在能量转化与存储等学科前沿交叉领域的应用。

RESEARCH INTERESTS:

Research in Dr. Pan Wang' s group centers on the interplay between organic materials design, fundamental aspects of understanding the intrinsic functional mechanisms, and device applications in energy storage and conversions. The overarching goal is to develop innovative organic materials starting from the molecular level, endowing them with various functions through molecular design and engineering. By addressing challenges related to energy consumption and environmental protection, our research aims to contribute to sustainable solutions.

Laboratory of
Advanced Materials and Catalysis
理论催化与材料智能设计实验室

Professor
Tao Wang
王 涛 助理教授

2009 年获曲阜师范大学学士学位，2012 年获中国科学院山西煤炭化学研究所硕士学位，2015 年博士毕业于德国莱布尼茨催化所。2015-2020 年相继在法国里昂高等师范学校、美国斯坦福大学、美国斯坦福大学 SLAC 国家实验室 SUNCAT 中心开展博士后研究工作。2020年10 月加入西湖大学理学院、人工光合作用与太阳能燃料中心，任特聘研究员，从事理论催化与材料智能设计方面的研究。

Tao Wang received his B.E. degree from Qufu Normal University in 2009 and his M.S. degree from the Institute of Coal Chemistry, Chinese Academy of Sciences in 2012. He received his Ph.D. from the Leibniz-Institute for Catalysis, Germany, in 2015. From 2015 to 2020, he worked as a postdoc at ENS de Lyon in France, SUNCAT Center at Stanford University, and SLAC National Accelerator Laboratory. He started his independent career as an assistant professor at Westlake University in Oct. 2020.

研究方向:

致力于基于超级计算机的多尺度量子力学模拟，并结合高通量计算、人工智能和机器学习方法，进行理性、智能和高效的催化剂和新颖材料的设计并提供催化反应机理的微观理解，最终用于解决能源领域的关键催化科学问题如费托合成、生物质转化、水分解制氢、二氧化碳热/电催化转化、氮气还原合成氨等。

RESEARCH INTERESTS:

Tao Wang's research mainly focuses on the applications of multi-scale quantum mechanics simulations in atomic understandings of reaction mechanisms and rational design of advanced materials as catalysts for industrial processes in energy society.

Laboratory of Asymmetric Synthesis and Catalysis
不对称催化合成实验室

Professor
Zhaobin Wang
王兆彬 助理教授

- Thieme Chemistry Journals Award获得者

2011年毕业于南京大学，获得学士学位。2015年毕业于香港科技大学，获得博士学位，师从孙建伟教授。2016至2019年，在美国加州理工学院（Caltech）从事博士后研究，师从Gregory C. Fu 教授。2019年10月加入西湖大学理学院，任特聘研究员，开展独立研究工作。

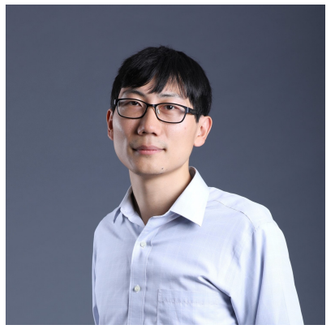
Zhaobin Wang received his B.S. degree in 2011 from Nanjing University, and Ph.D. degree in 2015 under the supervision of Prof. Jianwei Sun from the Hong Kong University of Science and Technology. In 2016, he went to Caltech as a postdoctoral researcher and worked with Prof. Gregory C. Fu. Zhaobin joined the School of Science at Westlake University in October of 2019.

研究方向:

旨在研究绿色、高效的不对称催化合成方法，主要涉及有机小分子催化、过渡金属催化及自由基化学等，并致力于所发展合成方法在生物化学及材料化学中的应用研究。

RESEARCH INTERESTS:

Research in the Wang group focuses on the development of novel methodologies for organic synthesis and applying our new methods in synthesizing valuable molecules, such as biologically active compounds.



Protein Chemistry Laboratory
蛋白质化学实验室

Professor
Mingxuan Wu
吴明轩 助理教授

2004-2010年就读于上海交通大学生命科学与技术学院基地班，先后获得学士和硕士学位，导师为周虎臣教授和白林泉教授。毕业后赴美就读于普林斯顿大学化学系，师从Dorothea Fiedler教授，于2015年获得博士学位。随后师从Philip A. Cole教授，于2015-2017年在约翰霍普金斯大学医学院以及2017-2019年在哈佛医学院布莱根妇女医院从事博士后工作。2019年 9 月加入西湖大学理学院，任特聘研究员，从事化学生物学领域研究。

Mingxuan Wu obtained his B.S. and M.S. degree from School of Life Science and Biotechnology at Shanghai Jiao Tong University. He received his Ph.D. degree in chemistry from Princeton University under the supervision of Dr. Dorothea Fiedler. Next, he joined the Phil Cole lab for postdoc training at Johns Hopkins University School of Medicine, and later moved to Harvard Medical School Brigham and Women's Hospital. He was appointed to the Department of Chemistry at Westlake University as an assistant professor in 2019.

研究方向:

通过有机小分子合成和蛋白质半合成等方法开发使用化学工具，研究蛋白翻译后修饰调控细胞蛋白功能的分子机理。

RESEARCH INTERESTS:

Investigate how protein posttranslational modifications (PTMs) regulate protein functions in cells by novel chemical tools that are developed by small molecule synthesis and protein semisynthesis.

2D-IR Spectroscopy and Molecular Polariton Laboratory
二维红外光谱和分子极化激元实验室

Professor
Bo Xiang
项 博 助理教授

2014 年获浙江大学工学学士学位，2015 年获美国加州大学圣地亚哥分校理学硕士学位,2020 年获美国加州大学圣地亚哥分校哲学博士学位，攻读专业均为材料科学与工程。2021 年 5月至 2023年 5 月在美国哥伦比亚大学化学系从事博士后研究工作。2023 年 6月加入西湖大学理学院，任特聘研究员，从事二维红外光谱与分子极化激元的研究。

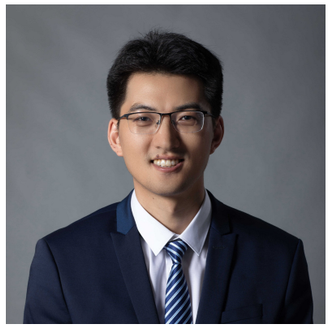
Bo Xiang obtained his bachelor's degree from Zhejiang University in 2014. He received his M.S. and Ph.D. from the University of California, San Diego in 2015 and 2020, majoring in Materials Science and Engineering. From May 2021 to May 2023, he worked as a postdoctoral research fellow in the chemistry department at Columbia University. He joined Westlake University in June 2023 and became an assistant professor and principal investigator in the School of Science. His research mainly focuses on two-dimensional infrared spectroscopic investigation on molecular vibrational polaritons.

研究方向:

项博课题组致力于光-分子强耦合作用的光谱学研究：1）运用二维红外光谱技术揭示了分子振动极化激元体系中能级间的相互作用，并将探索空腔光子对分子构型和动力学的调控；2）通过离域光学空腔能级在多分子体系中构建能量长距离传递的通道，并将设计光子-等离子体等复合型空腔实现空间上的精准控制；3）利用异频双激发光束技术在分子极化激元体系中建立分子量子态，并在复合型空腔中设计分子量子模拟平台。

RESEARCH INTERESTS:

Bo Xiang's lab is focused on spectroscopic studies on light-molecule strong coupling. 1）Reveal the interactions between energetic states in molecular vibrational polaritons (MVPs) and seek the mechanisms to modulate molecular structural properties and ultrafast dynamics. 2）Build the long-distance energy transfer pathways in multi-molecular system using delocalized cavity photon modes and design photonic-plasmonic hybrid cavity to achieve precise spatial control. 3）Create quantum states in molecular vibrational modes using tailored double-pulsed pump and design molecule-based quantum simulation templates.



Spectroscopies and Catalytic Mechanism Laboratory

光谱与催化机制实验室

Professor

Wenxing Yang

杨汶醒　助理教授

2010 年本科毕业于武汉理工大学，2012年硕士毕业于华南理工大学，2017 年获瑞典乌普萨拉大学博士学位。2017-2018 年在英国帝国理工大学从事博士后研究工作，2018-2021 年在美国埃默里大学从事博士后研究工作。2021年9月加入西湖大学理学院、人工光合作用与太阳能燃料中心，任特聘研究员，从事时间分辨光谱、电化学原位光谱、光电催化机制等方面的研究。

Wenxing Yang received his B.S. degree from Wuhan University of Technology in 2010, his M.S.degree from South China University of Technology in 2012, and his Ph.D. degree from Uppsala University, Sweden, in 2017. From 2017 to 2018, he conducted a postdoc stay at Imperial College London. In 2018, he began his second postdoc stay at Emory University, USA. He started his independent career as an assistant professor at Westlake University in September 2021.

研究方向:

致力于光催化、电催化、光电催化过程中的时间分辨光谱和原位光谱研究。通过结合原位电化学光谱(红外、拉曼)、超快光谱等谱学手段和结构表征技术,探索催化剂表面结构、活性位点与化学键断裂、结合之间的构效关系，旨在促进太阳能转化技术的发展,推动光电催化关键学问题的新认知。

RESEARCH INTERESTS:

Wenxing Yang's research mainly focuses on the spectroscopic investigation of fundamental processes in solar cells, solar fuels, and optoelectronic materials. By combining time-resolved multi-time scale spectroscopic techniques, including ultrafast spectroscopy, flash photolysis, photoluminescent decay, etc., he studies excited-state dynamics of optoelectronic materials and their subsequent charge transfer in related solar energy conversion devices, which provides in-depth understanding of microscopic working mechanisms of these systems and offers rational design guidelines for further device developments.

Laboratory of Biocatalysis

酶催化有机合成实验室

Professor

Yuxuan Ye

叶宇轩　助理教授

2013 年获北京大学学士学位，2018 年获美国麻省理工学院博士学位，2019-2022年在美国普林斯顿大学和康奈尔大学从事博士后研究工作。2022 年 9 月全职加入西湖大学理学院，任特聘研究员，主要从事新型酶催化非天然反应的发展和应用研究。

Yuxuan Ye obtained his B.S. in Chemistry from Peking University and his Ph.D. degree in Organic Chemistry from Massachusetts Institute of Technology. He then worked as a postdoctoral researcher at Princeton University and Cornell University, respectively. Dr. Ye has been an assistant professor at Westlake University since September 2022. His research interests focus on the development of novel biocatalytic methods for organic synthesis and other applications.

研究方向:

长期开展酶催化相关的基础与应用研究，主要包括：1）利用光化学，电化学，以及金属催化等技术解锁酶的非天然反应性，发展高效的新型酶催化反应；2）借鉴生物体中独特的酶催化反应机理，实现新型仿生催化；3）利用酶的非天然反应，发展新型生物传感器。

RESEARCH INTERESTS:

Yuxuan Ye's research interests focus on the development of novel biocatalytic methods for organic synthesis and other applications, and his research covers a number of topics in organic chemistry including biocatalysis, photocatalysis, and transition metal catalysis.

Molecular Catalysis and Molecular Materials Lab
分子催化与分子材料实验室

Professor
Biaobiao Zhang
张彪彪　助理教授

2009 年本科毕业于曲阜师范大学，2015 年获大连理工大学工学博士学位，2015-2020 年在瑞典皇家理工学院化学系从事博士后研究工作。2020 年 5 月加入西湖大学理学院、人工光合作用与太阳能燃料中心，任特聘研究员，从事配位化学、催化化学、材料表界面与新能源的交叉学科领域研究。

Biaobiao Zhang received his Ph.D. in Applied Chemistry from Dalian University of Technology in 2015. He joined Prof. Licheng Sun's research group at the KTH Royal Institute of Technology as a postdoctoral researcher between 2015 and 2020. His research focuses on the mechanism of O-O bonds formation by natural OEC, development of molecular WOCs, and molecular WOCs engineered materials for artificial photosynthesis devices. He started his independent career as an assistant professor at Westlake University in 2020.

研究方向:

实验室近年围绕太阳能燃料制备利用相关催化反应，展开分子层面的前沿基础研究和技术突破。课题方向主要包括：水氧化催化剂及电解水技术开发、氨氧化催化剂开发及机理揭示、电催化CO_2还原制液态燃料、人工光合作用器件设计与组装等。

RESEARCH INTERESTS:

Biaobiao Zhang's group recently focus on the following researches: developing catalysts for acidic water oxidation for PEM electrolyzer, catalytic NH_3 oxidation, CO_2 electroreduction for liquid fuels.

Laboratory of Natural Products Bioengineering
天然产物化学生物学实验室

Professor
Lihan Zhang
张骊騑　助理教授

2012 年、2014 年、2017 年分别获日本东京大学学士、硕士、博士学位。2017-2019 年在美国哈佛大学 Emily Balskus 教授组从事博士后研究工作。2019 年 9 月加入西湖大学，任理学院特聘研究员，从事天然产物的发掘及合成生物学研究。

Lihan Zhang received his B.S., M.S., and Ph.D. degrees from the University of Tokyo in 2012, 2014, and 2017. He then moved to the laboratory of Professor Emily Balskus at Harvard University to pursue postdoctoral research between 2017 and 2019. He joined the School of Science at Westlake University as an assistant professor in September 2019.

研究方向:

从事天然产物的生物合成研究，尤其在聚酮类化合物的生物合成领域取得了突破性研究成果。1）通过进化生物信息学分析提出了聚酮合成酶的新定义，对其合成生物学应用奠定了基础。2）基于公开细菌基因组序列探索了芳香型聚酮在全球的分布，数量以及结构多样性，揭示了世界上首次达到分子结构层次的天然产物全景图。同时也对多肽、萜类等进行深入研究。

RESEARCH INTERESTS:

Zhang has been working on the discovery, biosynthesis, and bioengineering of natural products. Fascinated by polyketide natural products particularly, his scientific achievements include: (1) elucidating the evolutionary mechanism of modular polyketide synthases, which opened the door to evolution-guided engineering of these modular enzymes; (2) unveiled the global landscape of type II polyketide synthases and the aromatic polyketides by large-scale bioinformatics.

Laboratory of Biological Aggregates

生物聚集体实验室

Professor

Xin Zhang

张 鑫 教授

- 美国斯隆研究奖和美国研究基金会 Scialog研究奖
- 皮尤生物医学奖和美国国立卫生研究院研究奖
- 美国自然科学基金会早期职业奖
- 中美华人化学-化学生物学教授协会杰出青年教授奖
- 美国国家科学院 KavliFellow奖

2001 年本科毕业于中国科学技术大学化学物理系，2004 年获中科院大连化物所硕士学位，2010 年获加州理工学院化学系博士学位，随后进入美国 Scripps 研究所做博士后研究。2015 年获聘美国宾州州立大学化学系和生物化学与分子生物学系助理教授及 Paul& Mildred Berg Early Career讲席教授，2020 年晋升长聘副教授。2021 年 10 月加入西湖大学，受聘化学教授与细胞生物学教授。自 2022年1 月起，任工学院生物医学工程领域兼聘教授。2023年10月起，担任化学系系主任。

Xin Zhang received his bachelor's degree at the University of Science and Technology of China in 2001. In 2004, he graduated with a master's degree at the Dalian Institute of Chemical Physics of the Chinese Academy of Sciences. In 2010, he earned a doctoral degree at the California Institute of Technology, and continued his training at The Scripps Research Institute as a Helen Hay Whitney postdoctoral fellow. In 2015, he joined The Pennsylvania State University as Assistant Professor of Chemistry, Biochemistry & Molecular Biology, and Paul & Mildred Berg Early Career Professor, In 2020, he was promoted to Associate Professor with tenure. He joined Westlake University in October 2021 as Professor of Chemistry and Cell Biology. From January 2022, he was appointed as an adjunct professor in the field of Biomedical Engineering at the School of Engineering.He served as the Chair of the Chemistry Department since October, 2023.

研究方向:

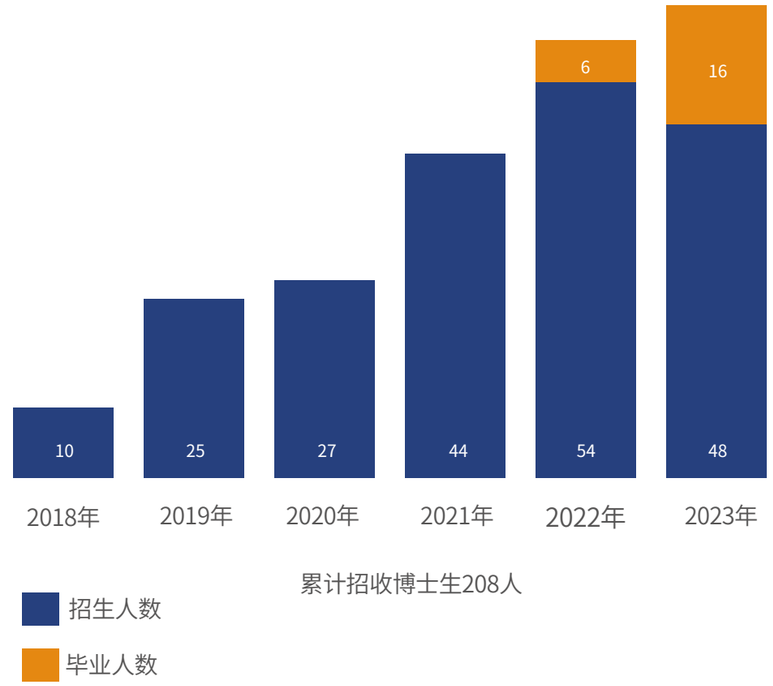
张鑫课题组聚焦于生物有机化学和蛋白质生物化学的交叉领域，以“生物大分子相分离和聚集的化学生物学”为研究中心，瞄准此研究领域亟需解决的重要科学和技术问题，为基础生物学和生物医药产业发展提供重要科学支持。

RESEARCH INTERESTS:

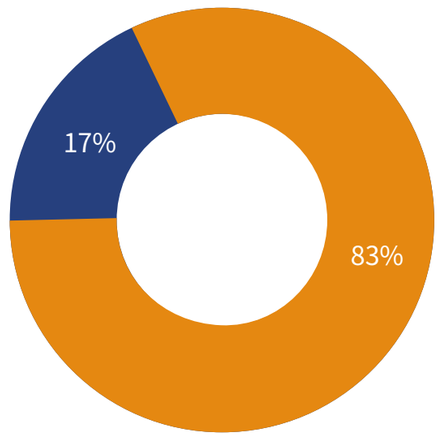
Focused on the “Chemistry of Biological Aggregates”,the Zhang lab aspires to develop enabling chemical methodologies and solve transformative biological questions. At present, the Zhang lab combines expertise from synthetic chemistry, biological chemistry, cellularbiology and chemical biology to develop chemical tools that quantitatively report on the physicochemical changes of biomolecules during processes of phase separation and aggregation. These results have the potential to correlate the physicochemical properties of biological aggregates to their physiological or pathological functions.

EDUCATION
人才培养

2018-2023年博士生招生与毕业



2018-2023年博士研究生生源



双一流及海外高校毕业生

其他

来自北京大学、清华大学、浙江大学、上海交大、中国科技大学、武汉大学、南京大学、美国约翰霍普金斯大学、加拿大多伦多大学、德国海德堡大学、英国伦敦大学学院等国内外知名高校的生源占比超80%。

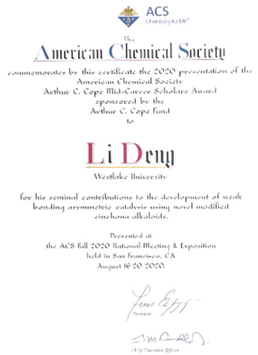
ACADEMIC HIGHLIGHTS
科学研究

4

WESTLAKE UNIVERSITY | DEPARTMENT OF CHEMISTRY

部分学术奖项

邓力 2020年
美国化学会Arthur Cope亚瑟·柯普学者奖



ACS

The
American Chemical Society

commemorates by this certificate the 2020 presentation of the American Chemical Society Arthur C. Cope Mid-Career Scholars Award sponsored by the Arthur C. Cope Fund to

Li Deng

Westlake University

for his seminal contributions to the development of work bonding asymmetric catalysis using novel modified cinchona alkaloids.

Presented at the ACS fall 2020 National Meeting & Exposition held in San Francisco, CA August 16-20 2020

王兆彬 2023年
Thieme化学期刊奖

Certificate

The Thieme Chemistry Journals Award, established in 1999 with the aim to encourage young scientists, is granted to prospective chemists, who have been recognized as high-potential researchers in the field of synthetic organic chemistry by the editorial board members of SYNTHESIS, SYNLETT and SYNFACTS.

Thieme Chemistry Journals Award

Sponsored by Thieme Group in collaboration with the editors of SYNTHESIS, SYNLETT and SYNFACTS

This is to certify that

Zhaobin Wang

is an official recipient of the Thieme Chemistry Journals Award 2023

Stuttgart, January 13, 2023

Thieme

石航 2021年
Thieme化学期刊奖

Certificate

The Thieme Chemistry Journals Award, established in 1999 with the aim to encourage young scientists, is granted to prospective chemists, who have been recognized as high-potential researchers in the field of synthetic organic chemistry by the editorial board members of SYNTHESIS, SYNLETT and SYNFACTS.

Thieme Chemistry Journals Award

This is to certify that

Hang Shi

is an official recipient of the Thieme Chemistry Journals Award 2021

Stuttgart, January 1, 2021

Dr. Susanne Haak
Senior Director
Thieme Chemistry Journals

Thieme

陆海华 2021年
Thieme化学期刊奖

Certificate

The Thieme Chemistry Journals Award, established in 1999 with the aim to encourage young scientists, is granted to prospective chemists, who have been recognized as high-potential researchers in the field of synthetic organic chemistry by the editorial board members of SYNTHESIS, SYNLETT and SYNFACTS.

Thieme Chemistry Journals Award

Sponsored by Thieme Group in collaboration with the editors of SYNTHESIS, SYNLETT and SYNFACTS

This is to certify that

Hai-Hua Lu

is an official recipient of the Thieme Chemistry Journals Award 2021

Stuttgart, January 1, 2021

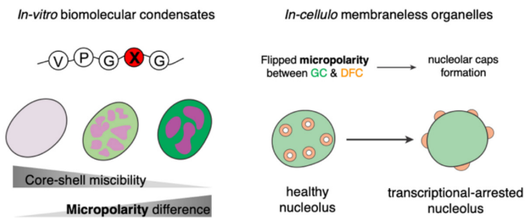
Dr. Susanne Haak
Senior Director
Thieme Chemistry Journals

Thieme

部分学术成果

张鑫 2023年11月
成果发表于Nature Chemical Biology

集成合成化学、生物化学、物理化学和细胞生物学，系统性地揭示了微观极性对于生物凝聚体分层结构的关键性控制作用，为理解细胞内多层无膜细胞器的形貌和功能调控提供了全新分子机制。

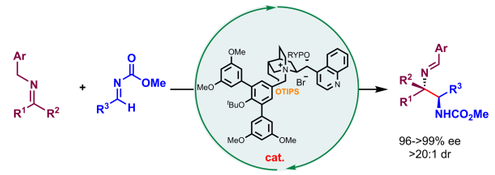


王盼 2023年8月
成果发表于 Nature Energy

成功实现了对二氧化碳的高效高容量捕集。在实际运行过程中，以1,8-ESP为活性物质的电池体系，既可作为二氧化碳捕集系统，也可同时进行能量存储。该系统能够根据市场与实际需求，来进行储能与碳捕集的及时调整与响应，以获得最大经济效益。

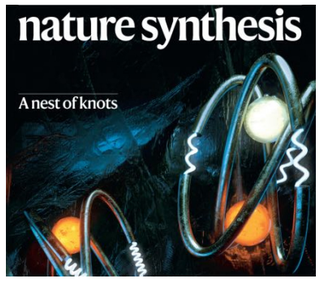
邓力 2023年2月
成果发表于 JACS

开发了一种新型手性季铵盐催化剂，实现了不对称亚胺交叉偶联反应，高效构建了手性邻二胺化合物。



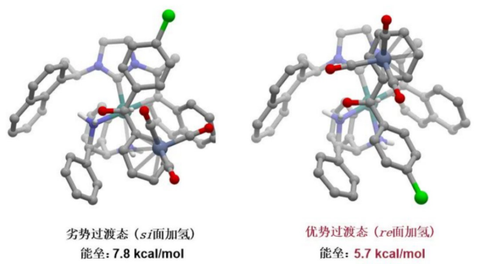
刘志常 2022年10月
成果发表于 Nature Synthesis

在分子张力工程的基础上利用嵌套反螺旋策略一锅自组装高效构建了具有不同张力的拓扑分子三叶结，并实现了手性自分类，同时也实现了分子内的拓扑机械张力调控的热诱导自旋交叉转变现。



石航 2023年5月
成果发表于 JACS、Nature Communications等

在芳香环π配位催化领域有了一系列发现。利用萘-三羰基铬配合物的选择性芳环交换将三羰基铬转移到二芳基甲酮（或乙烯）底物的一个芳香环上，将该芳香环平面变为立体的桶状结构，进而利用已知催化剂控制氢化反应的立体选择性。

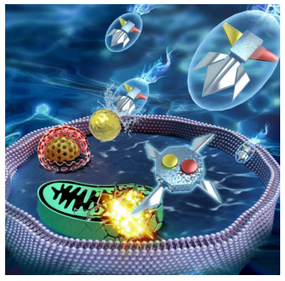


孙立成 2023年3月
成果发表于 JACS

利用量子化学计算模型，提出自然界氧气形成的新机制。采用密度泛函理论(DFT)系统地研究了所有可能的O-O键形成路径，最终确定了五价锰Mn(V)=oxo 和μ3-oxo 之间的亲核氧-氧偶联(NOOC)是唯一的可行机制。

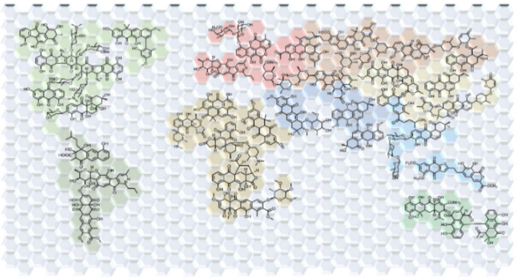
王怀民 2022年8月
成果发表于 Nano Letters 并作为封面文章

通过引入主客体相互作用力，控制多肽分子在细胞内的酶促组装动力学，实现了功能多肽分子在线粒体内的可控自组装，并引起细胞铁死亡。



张骊騑 2022年4月
成果发表于 Angew. Chem. Int. Ed.

探究了细菌来源的芳香型聚酮化合物的进化过程及其结构多样性，绘制出世界上首张芳香型聚酮的全景图。



ACADEMIC EXCHANGES
学术交流

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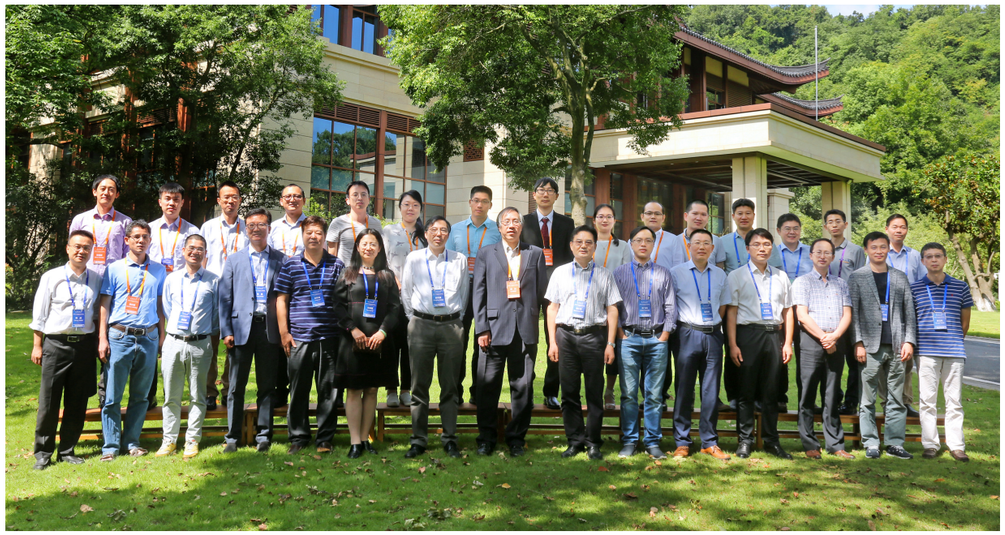
西湖大学化学系定期举办化学前沿论坛、名师论坛以及专题学术讲座，邀请来自不同研究领域的杰出人士参加，为化学科研工作者提供交流平台，激发思想碰撞，促进相互学习，建立共赢的合作关系。

The department of Chemistry hosts distinguished forums that feature luminaries from diverse research fields, creating a platform for the vibrant exchange of innovative ideas. Events like the Chemistry Frontiers Symposium, Master Forums and Chemistry Colloquium enrich our dynamic academic milieu and create a dynamic space for the exploration of groundbreaking concepts.

2023年11月3-4日
西湖大学化学前沿论坛举办，16位国内外专家就物理化学、材料化学、化学生物学和有机化学等领域展开讨论
The 2023 Chemistry Frontiers Symposium was held by on November 3rd- 4th, 2023, focusing on fields including Physical Chemistry, Materials Chemistry, Biological Chemistry and Synthetic Chemistry.



2019年9月20-21日
西湖大学化学研讨会在杭州成功举办
The 2019 Chemistry Symposium of Westlake University has been successfully held on September 20th - 21st, 2019 in Hangzhou, China.

西湖名师论坛 Westlake Master Forum

TALENT RECRUITMENT
人才招聘

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WESTLAKE UNIVERSITY | DEPARTMENT OF CHEMISTRY

化学系致力于促进开放包容、追求卓越的科研发展，目前实验室覆盖了几乎所有化学学科领域，并与生命科学学院、工学院有紧密的学科交叉合作。

化学系采用国际通行的人才招聘和评价制度，已积聚一支具有国际竞争力的人才队伍。所有教授均具有世界一流大学或研究机构长期学习或研究工作经历，并在各自的研究领域取得了国际同行广泛认可的成就。实行独立实验室（PI）制度，开展合成与催化、材料化学、物理化学、能源化学、化学生物学等领域的研究。

Chemistry at the School of Science is committed to fostering inclusive excellence in a variety of research and teaching activities. Our current research laboratories cover all areas of Chemistry, with collaborative ties to School of Life Sciences and School of Engineering.

招聘学科方向

西湖大学化学系欢迎不同化学方向的杰出学者加盟，包括但不限于有机化学、无机化学、材料化学、化学生物学、物理化学、理论化学、合成化学、分析化学等。

申请人须拥有博士学位，突出的科研成果，以及具有创新性的未来研究计划，同时具备优秀的本科和研究生教学能力，致力于在科学实践和教学中培养多元化和包容性的氛围。我们期待成功的申请人能够开展具有国际影响力的科学研究，教授本科和研究生阶段课程，并积极投入学校发展与公共服务。

招聘岗位

1. 长聘教职/Tenured Faculty：主要包括副教授、教授、讲席教授

（1）应聘人应在国际一流高校、科研院所担任终身副教授以上或相当职务，具有国际一流的学术水平；

（2）承诺通过评选后全职来西湖大学工作。

2. 准聘教职/Tenure-Track Faculty：主要包括助理教授、副教授

（1）具有博士学位；

（2）应聘人学术水平和资历应达到担任国际知名高校助理教授或副教授职务的相应标准；

（3）承诺通过评选后全职来西湖大学工作，首聘期6年。

薪酬福利与其他待遇

1. 薪酬和福利待遇

西湖大学将参照国际一流大学相应职位，根据具体情况，为入选者提供有国际竞争力的、能够使其安心学术的协议薪酬和福利待遇。对于已获得国际一流大学教职职位的申请人，将提供同样或更优越的薪酬福利待遇。

2. 科研保障

西湖大学将参照国际一流大学相应职位提供充足的科研启动经费；同时，将视引进人才的实际科研工作需要，在实验室空间、团队配备、博士生招生指标等方面给予充分支持。

3. 安家补助

协助解决住房问题，或提供相应的住房补贴。

4. 其他待遇

西湖大学将为引进人才及其配偶、未成年子女购买高端商业医疗保险，协助解决子女入学入托问题，为引进人才解决后顾之忧。

申请方式

1.申请人请准备以下英文申请材料并通过INTERFOLIO投递，申请链接：http://apply.interfolio.com/110457。

2. 申请材料主要包括以下内容：

（1）Cover Letter：包括拟申请的教职类别、研究目标/前景概述、最重要的研究成果、研究经历总结等；

（2）CV（含学术成果发表情况）；

（3）详细的研究成果（不超过1页）和研究计划（不超过6页）；

（4）准聘助理教授岗位申请人须提交3封推荐信。

ABOUT THIS SEARCH

This search is open to candidates in all broadly defined areas of Chemistry (organic, inorganic, materials, biological, chemical biology, physical, theoretical, analytical, etc). Competitive candidates should have a Ph.D., an outstanding record of research accomplishments, an innovative future research plan, an ability to achieve teaching excellence at both the undergraduate and graduate levels, and a commitment to fostering a diverse and inclusive community in the practice and teaching of science. The successful candidates will be expected to have a promising research and publication agenda, teach graduate and undergraduate courses, and a commitment to university service and public outreach. Westlake provides an inclusive environment for all employees and welcomes applications from candidates of diverse background.

Multiple positions are open at all ranks

Tenured faculty: Associate Professor, Full Professor, or Chair Professor

- The applicant should have world-class academic achievements and hold tenured Associate Professorship (or above) or equivalent positions in world-class universities or research institutes.
- The applicant promises to work full time at Westlake upon acceptance of the offer.
- The applicant should have a doctorate degree.
- The applicant promises to work full time at Westlake upon acceptance of the offer. The first appointment will be six years.

Salary, Benefits and Start-up package

Each faculty member will receive an internationally competitive salary and a fringe benefits package that includes a generous housing option, a high-end medical care plan for the entire family, generous retirement pension, and schooling assistance for children.

Each faculty member is provided with an internationally competitive start-up package that includes long-term and sufficient research funds, ample laboratory space, excellent equipment and research support. Stable financial support safeguards every research project that is designed to push the envelope of human knowledge.

How to apply

Applications should be submitted electronically via INTERFOLIO: http://apply.interfolio.com/110457.

The application package should include the following materials:

1. Cover letter: rank of the position that you apply to, overview of the goals/vision of your research program, your most significant scientific accomplishments, a summary of experiences and qualifications that position you to achieve your goals;
2. Curriculum vitae: a complete list of publications should be included;
3. A detailed Statement of Research Summary (maximum of 1 page) and Research Proposals (maximum of 6 pages);
4. For junior candidates who apply to tenure track assistant professor positions, 3 letters of reference should be provided.

STUDENT RECRUITMENT

博士招生

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中国籍申请者Chinese Applicants

招生方式

西湖大学理学院化学系博士研究生招生方式分为推免直博、普通招考两类，采用“申请—考核”制选拔博士研究生，面向校内外优秀的应、往届本或硕毕业生。

1.推免直博：校内外具有当年推荐免试资格且符合化学系最低申请要求的优秀应届本科毕业生可在第一轮申请

2.普通招考: 应、往届本、硕毕业生，若符合化学系的最低申请要求都可申请普通招考博士生

*化学系每年均举办暑期招生夏令营（和暑期科研实习），优秀营员将提前获得拟录取资格。

学习方式和学制

化学系博士研究生的学习方式为全日制，学制为4-5年。其中以学士学位入学的博士生学制为5年,以硕士学位入学的博士生学制为4年。

招生批次

第一轮: 入学前一年8月上旬 - 9月上旬 推免直博生及普招生

第二轮: 入学前一年9月中旬 - 11月上旬 普招生

第三轮: 入学前一年11月中旬 – 入学当年2月中旬 普招生

国际申请者International Applicants

The online admission portal is usually open from early August (one year prior to the enrolment year) to mid-February of the enrolment year. You may refer to the Admission Guide of the year for the specific dates. Tuition is CNY 10,000 per academic year, with various scholarships available.

In addition to the common admission mechanism, the department holds Summer Camp (round mid-July, one year prior to the enrolment year) each year to recruit excellent PhD students. The highly performed students will receive pre-admission offer after the Camp.

申请材料 Required Documents

1.个人陈述（含学术科研经历及研究计划，1500字左右）Personal statement (approximately 1500 words, including academic research experiences and research proposal)

2.学历学位证明Degree certificate

3.历年在校成绩单Transcript

4.英语成绩证明或国（境）外学历学位认证书 English Language test score

5.学术科研成果（体现自身学术水平得代表性学术科研成果）Academic research achievement

6.获奖证明（含课外科技活动等）Other certificate of awards

7.至少2位报考学科领域内的教授（或相当技术职称专家）或博士生导师出具的推荐信Two recommendation letter from professors or equivalent

申请系统网址 Online Admission System

https://gradadmission.westlake.edu.cn/

暑期夏令营 Summer Camp

报名对象与时间安排

报名对象：化学、生物学、药学、材料等相关专业本、硕毕业生

报名时间：预计每年4月中旬开放

表现优异者将获得“西湖大学夏令营优秀营员”证书。

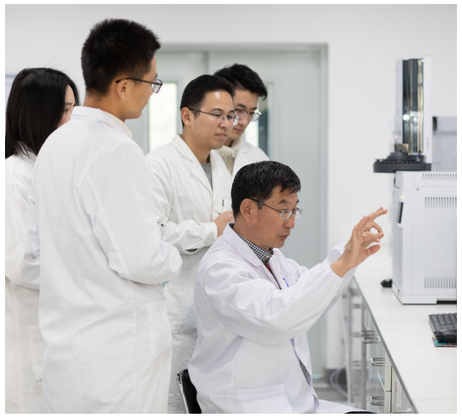
优秀营员:

- 如具备推免资格，并符合西湖大学的报考条件，将优先获得西湖大学推荐免试直博生的拟录取资格;
- 如不具有推免资格，若符合西湖大学的报考条件，仍将优先获得西湖大学博士研究生拟录取资格。

暑期科研实习 Summer Research Internship

化学、生物学、药学、材料学等相关专业优秀应届本科毕业生

- 活动时间：预计每年7月中旬至8月中旬
- 申请时间：预计每年4月底开始网上报名
- 活动安排：开展为期4周科研训练，参与学术交流等活动
- 活动地点：西湖大学云谷/云栖校区



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CONTACT US

联系我们

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