NCNST

国家纳米科学中心

National Center for Nanoscience and Technology (NCNST)

研精闡微

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白春礼

中国科学院院长
国家纳米科学中心理事长

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From the CAS President

Nanoscience and technology, as an emerging leading-edge discipline, is becoming a global focus due to its significant impact on future economic and social developments. Major economic entities around the world are taking active measures to meet the evolving opportunities in this area. China is one of the earliest countries engaging in nanoscience and technology, with its overall recoginzable research accomplishment in the world. To better promote China's research and development on nanoscience and technology, the National Center for Nanoscience and Technology (NCNST) was officially founded on December 31, 2003, with the Chinese Academy of Sciences (CAS), Peking University and Tsinghua University as its cofounders.

NCNST will be engaged in basic and applied researches involving four areas: nano-fabrication & nano-devices, nano-materials & nanostructures, nano-biotechnology & nano-medicine, nano-structure characterization & measurement. It will focus on basic researches in nanoscience and technology with important potentials in fundamental studies and application prospects. Besides, NCNST will provide technical support services to domestic and international organizations and researchers in nanoscience and technology through its advanced research platforms. It aims to achieve an open organizational infrastructure, an internationalized research management and a world-class public technological platform and research base.

Taking Knowledge Innovation Project of CAS as an opportunity for development, NCNST will move forward with solid steps to carry out explorations and innovations. Aiming at scientific and technological frontiers of the world, NCNST will strive to make its own efforts to satisfy the strategically important national needs and improve the innovative abilities of China in nanoscience and technology.

At the establishing stage, NCNST received strong supports from National Development and Reform Commission, Ministry of Science and Technology, Ministry of Education, Chinese Academy of Sciences and Natural Science Foundation of China. Following its development, NCNST also received help and supports from domestic and international colleagues. Here, on behalf of NCNST, I would like to express my sincere acknowledgement to the organizations and friends for their vigorous supports.

As a national public technological platform and research base for nanoscience and technology, NCNST with all its staffs is eagerly looking forward to committed supports for its developments and active participation in its progress from different parties of our society. We sincerely wish to collaborate with colleagues in related scientific areas at various levels and with full dimensions, so that we can work together to promote nanoscience and technology. Let us strive together to bring a brilliant tomorrow for Chinese nanoscience and technology!

理事长致辞

中科院院长：白春礼 院士

CAS President: Prof. Chunli Bai

纳米科技作为新兴前沿学科领域，因其对经济社会未来发展所产生的重要影响，正成为全球关注的焦点。世界主要经济体均在积极部署，以期赢得在这一领域的发展机遇。我国纳米科技起步较早，总体研究水平居世界前列。为更好地集中我国纳米科技研究力量，推动我国纳米科技的快速发展，2003年12月31日中国科学院纳米科技中心、北京大学和清华大学联合发起，中国科学院与教育部共同建设的国家纳米科学中心正式成立。

国家纳米科学中心主要围绕纳米加工与纳米器件、纳米材料与纳米结构、纳米生物与纳米医学、纳米结构表征与检测等四个领域，从事纳米科学的基础研究和应用基础研究，重点在前瞻性、具有重要应用前景的纳米科学与技术基础研究。同时，通过先进的科研实验平台向国内外纳米科技研发机构和人员提供服务。国家纳米科学中心将以开放的组织系统、国际化的科研管理、国际一流水平的公共技术平台和研究基地作为今后的建设目标。

国家纳米科学中心瞄准国际科技前沿，瞄准国家纳米科技方面的重大战略需求，努力为提升中国纳米科技创新能力做出应有的贡献。

在国家纳米科学中心组建的过程中，国家发展和改革委员会、科学技术部、教育部、中国科学院和国家自然科学基金委员会给予了大力支持。在其建设和发展中得到了国内外各界人士和朋友的关心和帮助。在此，我代表国家纳米科学中心对给予我们大力支持的单位和朋友致以诚挚的谢意！

作为开放型的国家纳米科技公共技术平台和研究基地，国家纳米科学中心的全体同仁热切期望社会各界继续关心支持她的发展，积极参与她的建设，希望与相关领域的同行开展全方位和多层次的精诚合作，共同为推动我国纳米科技进步谱写新的篇章！

From the Director

Pines and cypresses have to strike a firm root before they can flourish. Rivers and streams have to possess a fully dredged source before they can flow unceasingly far. Founded in 2003, National Center for Nanoscience and Technology has become a world-famous research institution from an unknown new organization.

I wish to take this opportunity, on behalf of all personnel to say thank you to all members of National Center for Nanoscience and Technology, leaders of China's Science Academy, Peking University and Tsinghua University and cooperators of all international and national universities and research institutions for your support and contribution to the establishment and development of National Center for Nanoscience and Technology. I also wish to show my reverence to pioneers who have made historical commitments to the construction and progress of it. As one of the sources of high-tech innovation, nanotechnology is the strategic and emerging area of technological "innovation initiative". In the wake of information technology, artificial intelligence, quantum technology (telecommunications, computing), new energy, chemical catalyst, green manufacture, comprehensive health, new medicine, brain-like science, deep blue, deep sea, deep space and so on, nanotechnology has underpinned these areas. How to employ nanotechnology to enhance innovation in all efforts to drive the economy has become the major challenge we are facing. As such, we should do justice to our mission, and will have a long hard way to go.

The scientific community is confronted with an unprecedented evolution. The reform of estimation of talents, projects and achievements has been launched, and China's science is moving towards the qualified output. Although we always need to work from 1→2, 2→3, 1→100 or 100→1000, the breakthrough of 0→1 will be more previous, without which we will be far away from "independent innovation", let alone "innovation nation".

The social climate to prepare talent pool is also undergoing profound changes. How can we encourage the talent mobility with the stability of core human resource? How can we build up the empowering environment without negligent performance? How can we inspire human creativity with high-class purchase of materialism and spirituality? It is down to each of us to meet these far-reaching changes and challenges. We need to strive in unison to make for the advancement of nanotechnology.

The god will return those who are diligent. We believe that we will get our return via commitments.

We hope to join hands to work with all in the nanotechnology circle in China to meet challenges, realize common growth and build receptive future. National Center for Nanoscience and Technology will be built into:

The avant-garde of the "national" nanotechnology innovation;

The base of transformation nanotechnology innovation;

The cradle of talent pool of nanotechnology innovation.

主任致辞

中心主任：赵宇亮 院士

Director: Prof. Yuliang Zhao

松柏之茂，枝叶茂者深其根；川之方至，水流长者浚其源。

2003年成立的国家纳米科学中心，今天已经从一个默默无闻的新建单位，成长为蜚声海内外的知名研究机构。

藉此，我谨代表全体职工向国家纳米科学中心理事会各成员机构和中国科学院、北京大学、清华大学三家共建单位的领导，国内外各高校和科研机构的合作者，为国家纳米科学中心建设和发展做出的全力支持和无私贡献，表示衷心的感谢！向为创建和发展国家纳米科学中心做出历史性贡献的开拓者们，致以崇高的敬意！

纳米科技是我国具有“创新主动权”的战略性新兴科技领域，也是众多高新技术产业创新的源头之一。近年来，信息技术、人工智能、量子技术（通讯、计算）、新能源、新材料、化工催化与绿色制造、大健康与新医学、类脑科学、深蓝、深海、深空等领域蓬勃发展，纳米科技已经成为这些新领域的关键支撑。如何通过纳米科技的发展来提升我国在诸多领域或行业的源头创新能力，成为我国经济发展的重要动力引擎，是我们大家面临的重大挑战。为此，我们倍感责任重大，任重而道远！

中国科技界正处在前所未有的变革时期。人才评价、项目评价、成果评价的改革号角已经吹响，中国科技正朝向高质量产出的目标发展。1→2、2→3、1→100、或100→1000的研究工作固然不可缺少，0→1的突破尤为可贵。如果没有0→1的成就，“自主创新”我们还遥不可及，“创新型国家”亦难可期。

当今培养和造就人才的环境也在发生变化。我们如何才能既要鼓励人才的流动，又能保持核心人才的稳定？如何创造任由人才潜能自由发挥的宽松环境，又能保证不出现人浮于事的懒散生态？如何既能激活人才的创造力，又能保持追求和精神的高品位？如何应对这些深刻的变化和面临的挑战，是每一位同事共同的课题。我们需要一起努力，用辛勤的付出去为纳米科学技术的发展贡献力量。

天道酬勤，真诚付出一定会有真实收获！

我们也期望与全国的纳米科技工作者携手努力，共同面对挑战，共同发展，共同创造美好的未来，把国家纳米科学中心建设成为：

“国家”纳米科技创新未来引领的先锋；

“国家”纳米科技创新成果转化的基地；

“国家”纳米科技创新人才辈出的摇篮。

About NCNST

National Center for Nanoscience and Technology, China (NCNST), established in December2003, is co-founded by the Chinese Academy of Sciences (CAS) and the Ministry of Education as an institution dedicated to fundamental and applied researches in the field of nanoscience and technology, especially those with important potential applications. NCNST is operated under the supervision of the Governing Board and aims to become a world-class research center, as well as public technological platform and young talents training center in the field, and to act as an important bridge for international academic exchange and collaboration.

The NCNST currently has three CAS Key Laboratories: the CAS Key Laboratory for Biological Effects of Nanomaterials & Nanosafety, the CAS Key Laboratory for Standardization & Measurement for Nanotechnology and the CAS Key Laboratory for Nanosystem and Hierarchical Fabrication. Besides, there are Division of Nanotechnology Development, Nano Processing Laboratory and Theoretical Laboratory. The NCNST has co-founded 19 collaborative laboratories with Tsinghua University, Peking University, and Chinese Academy of Sciences.

Management departments of NCNST consist of General Administration Office, Science and Technology Management, Human Resource Management, Education department, S&T development and promotion Management, Finance Management, Administration Management and Assets Equipment Management. The National Technical Committee 279 of Standardization Administration of China (SAC/TC279) on Nanotechnology, the Special Committee on Nanotechnology of China National Accreditation Service for Conformity Assessment, the Chinese Society of Nanoscience and Technology, and Secretariat of National Steering Committee for Nanoscience and Nanotechnology are affiliated to the Center. The high impact academic journal on nanoscience and nanotechnology, Nanoscale, is co-hosted by the Center and the Royal Society of Chemistry Publishing Group.

The NCNST has doctor and postdoctoral education programs in condensed matter physics, physical chemistry, materials science, nanoscience and technology. In 2014 the International Evaluation Committee highly applauded the significant achievements and outstanding contributions in nanoscience, and remarked that NCNST had risen to a position of “by far the best in China”. In 2018 the Nature Index showed that NCNST had been one of the “Top 5 Institute of CAS”. According to the latest data of Clarivate Analytics in 2018, five researchers in NCNST was included in the " Highly-Cited Researchers” around the world in recent 10 years , a total of 216 highly cited papers.

In November 2013, the NCNST initiated one of the Strategic Priority Research Program of CAS, entitled "Industrial Nanomanufacturing Focus". The innovation teams from 25 institutes of CAS joined forces to focus on the main R&D targets of the nanotechnology-related new product development and nanosystems integration, which will finally raise the technical level of the traditional industry. In December 2018, the program "Industrial Nanomanufacturing Focus " has passed the test.

In October 2015, the CAS set up the "Center for Excellence in Nanoscience" (CAS-CENano) to speed up the establishment of a new model for scientific research. The CAS-CENano's tasks are to accumulate innovative talent, focus on the fore frontier of nanoscience, achieve a major breakthrough and become an internationally renowned organization.

单位简介

领导班子成员：

赵宇亮　　欧龙新

熊国祥　　唐智勇

魏志祥　　薛其坤

张　　锦

Members of Management Team:

Yuliang Zhao，Longxin Ou

Guoxiang Xiong，Zhiyong Tang

Zhixiang Wei，Qikun Xue

Jin Zhang

国家纳米科学中心于2003年12月31日正式成立，由中国科学院与教育部共建，实行理事会领导下的主任负责制。定位于纳米科学的基础研究和应用基础研究，重点在前瞻性、具有重要应用前景的纳米科学技术基础研究，目标是建成具有国际先进水平的研究基地、面向国内外开放的纳米科学研究公共技术平台、中国纳米科技领域国际交流的窗口和人才培养基地。

现有3个中国科学院重点实验室，分别是中国科学院纳米生物效应与安全性重点实验室、中国科学院纳米标准与检测重点实验室和中国科学院纳米系统与多级次制造重点实验室；设有理论研究室、纳米加工实验室和纳米技术发展部，负责理论支持、公共仪器设备的开放共享和管理运行服务。国家纳米科学中心还与北京大学、清华大学、中国科学院直属单位等科研院校共建了19个协作实验室。

国家纳米科学中心设有办公室、科技处、人事处、教育处、科技发展与促进处、财务处、行政处、资产管理处等8个职能管理部门。全国纳米技术标准化技术委员会 (SAC/TC 279)、中国合格评定国家认可委员会 (CNAS) 实验室技术委员会纳米专业委员会、中国微米纳米技术学会纳米科学技术分会、国家纳米科学技术指导协调委员会专家组秘书处等机构挂靠在国家纳米科学中心。与英国皇家化学会联合主办的英文期刊Nanoscale自2009年创刊发行后，受到了国内外学术界的广泛关注。

国家纳米科学中心现有凝聚态物理、物理化学、材料学和纳米科学与技术四个博士生培养点，设有化学专业一级学科博士后流动站。在中国科学院2014年组织的国际评估中获得国际同领域专家高度认可，并被认为是“迄今中国最优秀的纳米科学研究机构”。2018年公布的自然指数(Nature Index)表明，国家纳米科学中心进入中国科学院各研究所前五行列。根据科睿唯安 (Clarivate Analytics) 2018年最新数据，最近10年中心有五位研究员入选“全球高被引科学家 (Highly-Cited Researchers)，入选高被引论文共216篇。

按照中国科学院的统一部署，2013年11月，国家纳米科学中心作为依托单位，牵头组织实施中国科学院战略性先导科技专项A类“变革性纳米产业制造技术聚焦”。集聚了中国科学院25个研究单位的优势力量，围绕有重要产业影响的纳米产业制造技术的研发与系统集成，致力于提升传统产业的创新水平。2018年12月，“变革性纳米产业制造技术聚焦”先导专项通过结题验收。2015年10月，中国科学院决定成立中国科学院纳米科学卓越创新中心，作为院设非法人单元，依托国家纳米科学中心。纳米卓越中心的定位是依托“变革性纳米产业制造技术聚焦”战略性先导科技专项，建立有利于重大科研产出的科研活动组织新模式，聚焦纳米科技相关的多学科综合交叉领域，汇聚和培养纳米领域优秀人才，率先在纳米领域的重大科学问题上取得突破，引领纳米领域的发展。2016年12月，纳米卓越中心的建设试点工作顺利通过中国科学院的验收。

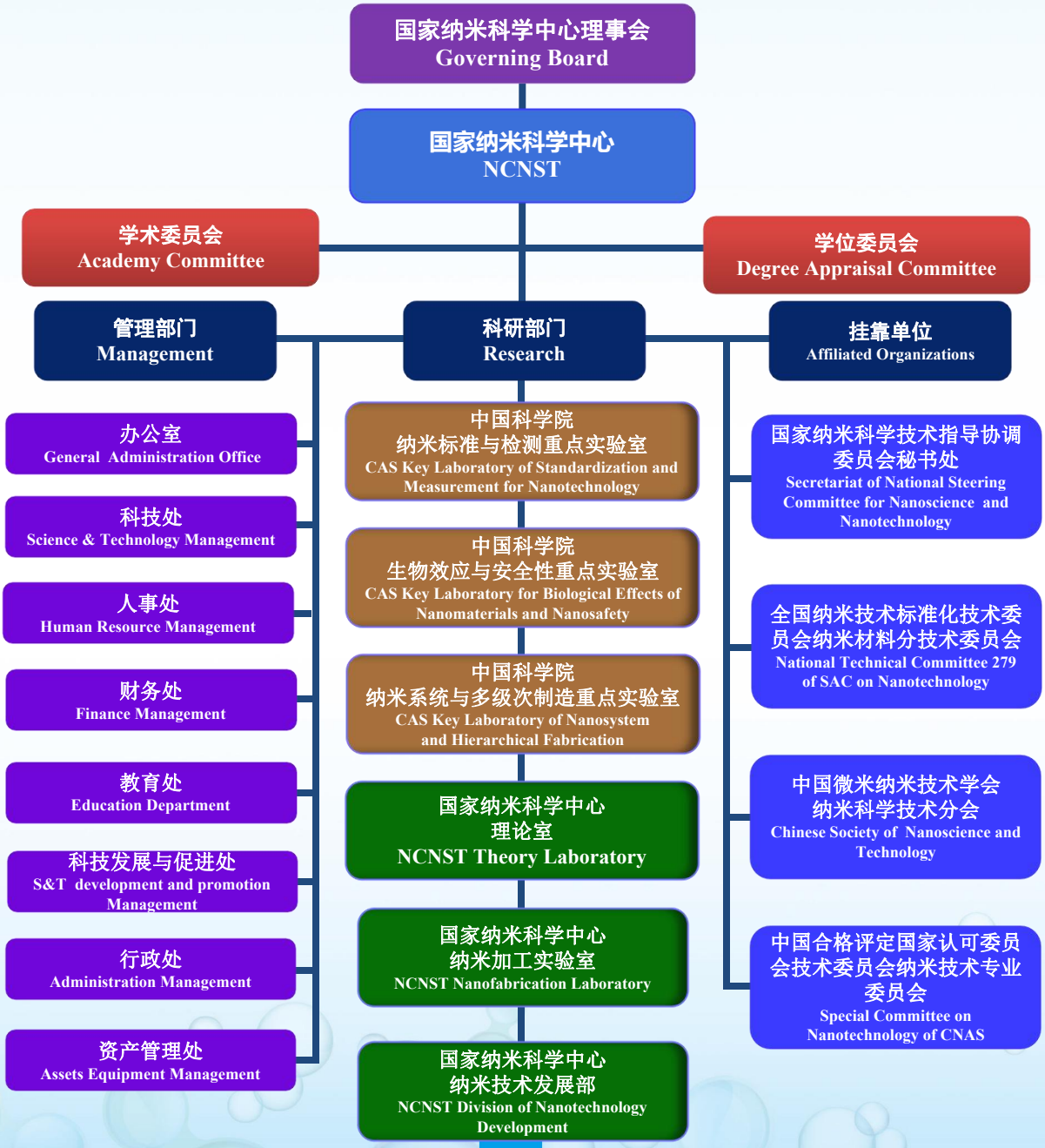
理事会

理事长单位：中国科学院

副理事长单位：教育部　科学技术部　北京市人民政府　财政部 国家发展和改革委员会　国家自然科学基金委员会

理事单位：国家发展和改革委员会　科学技术部　教育部　财政部　国家卫生计生委　中国科学院　中国工程院　北京市科学技术委员会

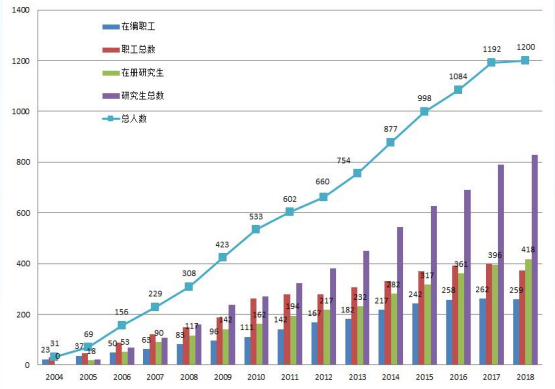
Organization



人才队伍

国家纳米科学中心拥有一支结构合理、素质优良、具有较强竞争力和持续发展能力的科研、技术支撑和管理队伍。国家纳米科学中心现有职工314人，其中包括中科院院士2人，国家杰出青年基金获得者13人，优秀青年基金获得者13人，国家“青年千人计划”入选者2人、“万人计划”入选者7人，中科院“百人计划”入选者27人、北京市“百名领军人才”入选者2名。具有博士学位人员占专业技术人员的82%。

国家纳米科学中心现有在读研究生828人，包括在籍研究生418名(博士生226人，硕士生192人)和联合培养学生410名。在籍研究生中，有来自10个国家的留学生63人，占在籍学生15% 。2008年开始，中心向社会输送了十一届毕业学生共474人，其中获得中国科学院优秀博士论文奖7名，中国科学院院长奖学金14名，中科院各类冠名奖学金22名，各种国际学术交流中获奖10余名。



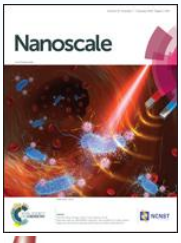
国家纳米科学中心2004-2018年人员队伍情况
NCNST Personnel Team in 2004-2018

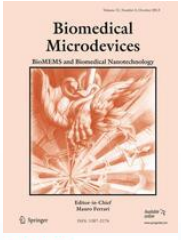
Research Faculty and Graduate Education

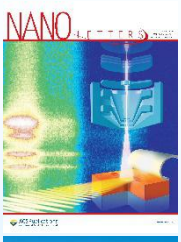
NCNST has a professional and vigorous team of high-quality talents in research, technical support and management, ensuring the competitiveness and sustainable development of the institute. We now have 314 regular staff, including 2 Academician, 13 winners of the National Science Fund for Distinguished Young Scholars，13 winners of the Outstanding Youth Fund，2 awardees of the National Thousand Young Talents Program, 7 winners of the National Ten Thousand Young Talents Program，27 awardees of the 100 CAS Talent Project and 2 winners of the Beijing Hundred Leading Talent. 82% of the professionals are with doctorates.

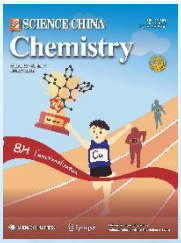
NCNST has 828 students, including 418 registered students (226 Ph.D. candidates and 192 master students) and 410 visiting students from other universities. Among the registered students, there are 63 International students, accounting for 15% of the total. They come from 10 countries, bringing the institute with a diversified culture. In 2008, NCNST had the first class of graduates. Up to now, there have been 474 alumni. Many graduates have done an excellent job and were awarded with various distinguished honors, including National Outstanding Ph.D. Thesis Awardee (7), CAS President's Scholarship Awardee (14), CAS scholarship with special titles (22), and more than 10 prizes in all kinds of international academic forums.

国际学术期刊任职情况









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SCI期刊 Nano Lett.	副主编
SCI期刊 Small	客座编辑
SCI期刊 Biomaterials	副主编
SCI期刊 Nanoscale	副主编
SCI期刊 Part. Fiber Toxicol.	副主编
SCI期刊 J. Biomed. Nanotechnol.	亚洲主编
SCI期刊 Nanomedicine	副主编
SCI期刊 J. Nanopart. Res.	副主编
SCI期刊 Sci. Bull.	副主编
SCI期刊 Sci. Rep.	编委
SCI期刊 Mater. Today Chem.	副主编
SCI期刊 Mater. Today Energ.	副主编
SCI期刊 ChemPhysChem	顾问编委
SCI期刊 Curr. Drug. Deliv.	主编
SCI期刊 Biomed. Microdevices	副主编
SCI期刊 Surf. Sci.	顾问编委
SCI期刊 J. Compos. Mater.	编委
SCI期刊 J. Nanosci. Nanotechnol.	副主编
SCI期刊 NanoImpact	副主编
SCI期刊 Sci. China Chem.	副主编
SCI期刊 Acc. Chem. Res.	客座编辑
SCI期刊 J. Plast. Technol.	编委

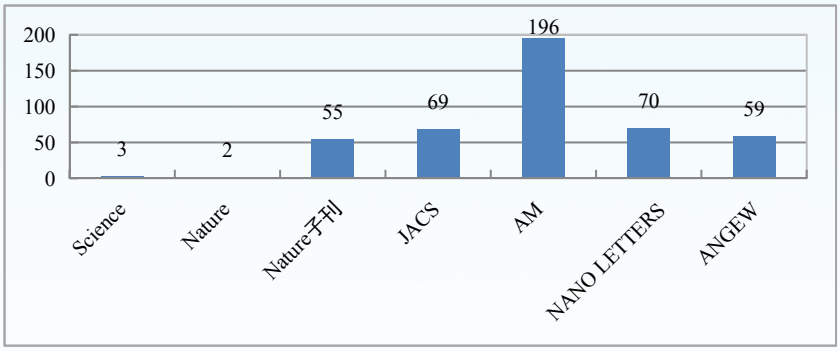
所获荣誉

奖项	项数
国家自然科学奖二等奖	3
TWAS化学奖	2
中国青年科技奖	2
中国毒理学杰出贡献奖	1
2018年度中国科学十大进展	1
中国青年女科学家奖	1
省部级奖	8
行业级奖项	20
科学院奖项	11

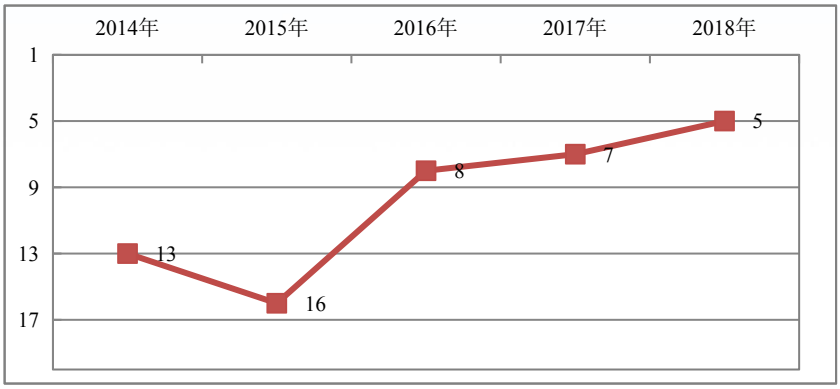
人才/荣誉	人数
中国科学院院士	2
基金委“杰青”获得者	13
基金委“优青”获得者	13
“全国优秀科技工作者”称号	1
“万人计划”科技创新领军人才	6
国家百千万人才工程	5
国家“青年千人”计划	2
中组部青年拔尖人才	2
“中国标准化十佳研究者”称号	1
中国科学院改革开放四十年40项标志性重大科技成果	1
北京市人才称号	8
中国科学院人才称号	14

基础科研成果

10年间共发表高档次论文454篇，其中Science3篇，Nature2篇，Nature子刊55篇，J. Am. Chem. Soc. 69篇，Adv. Mater. 196篇，Nano Letters 70篇，Angew. Chemie 59篇。根据公布的自然指数(Nature Index)表明，国家纳米科学中心在中国科学院各研究所的排名从2015年的第16名、到2016年的第8名、2017年的第7名，2018年度进入前五行列，基础创新能力持续提高。根据科睿唯安（Clarivate Analytics）2018年最新数据，最近10年中心有五位研究员入选“全球高被引科学家（Highly-Cited Researchers），入选高被引论文共216篇。



10年间发表高档次论文情况



2014-2018 国家纳米科学中心“自然指数”在中国科学院的排名情况

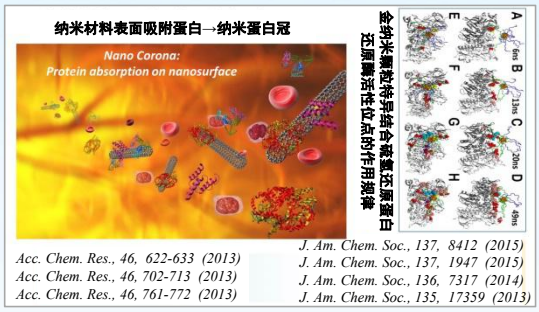
Basic scientific achievement

Over the past decade, 454 high-grade papers were published, including 3 papers in Science, 2 papers in Nature, 55 papers in Nature Series, 69 papers in J. Am. Chem. Soc., 196 papers in Adv. Mater., 70 papers in Nano Letters, and 59 papers in Angew. Chemie. In 2018 the Nature Index showed that NCNST had been one of the “Top 5 Institute of CAS”. Basic innovation capacity continued increase.

According to the latest data of Clarivate Analytics in 2018, there are five researchers in the NCNST included in the " Highly-Cited Researchers” around the world in recent 10 years , a total of 216 highly cited papers.

中国科学院纳米生物效应与安全性重点实验室

中国科学院纳米生物效应与安全性重点实验室成立于2008年12月，是我国第一个以纳米材料的生物效应与安全性为研究方向的重点实验室。实验室以纳米尺度物质的生物效应这个新的科学问题为核心，以健康安全的国家需求为导向，针对纳米结构以及纳米尺寸物质与生命过程相互作用所产生的新效应，新现象，新规律，开展纳米材料与毒理学、生物学和医学交叉研究。

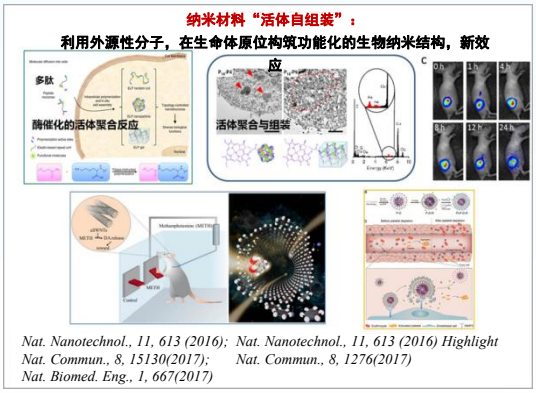


Acc. Chem. Res., 46, 622-633 (2013)
Acc. Chem. Res., 46, 702-713 (2013)
Acc. Chem. Res., 46, 761-772 (2013)
J. Am. Chem. Soc., 137, 8412 (2015)
J. Am. Chem. Soc., 137, 1947 (2015)
J. Am. Chem. Soc., 136, 7317 (2014)
J. Am. Chem. Soc., 135, 17359 (2013)

揭示了纳米蛋白冠干扰内源生物学过程及机制
Revealing the process and mechanism of nanoparticle–protein corona interfering endogenous bionomics

研究方向

1. 纳米生物安全性及其化学基础研究
2. 生物体系化学自组装与纳米药物研究
3. 纳米生物效应分析方法研究
4. 纳米生物医学技术及其应用研究



Nat. Nanotechnol., 11, 613 (2016);
Nat. Commun., 8, 15130(2017);
Nat. Biomed. Eng., 1, 667(2017)
Nat. Nanotechnol., 11, 613 (2016) Highlight
Nat. Commun., 8, 1276(2017)

提出了细胞中“活体自组装”新理念
Developing a new way understanding the biofunctions of self-assembled materials in living subjects

研究员

王浩，实验室主任，2005年在南开大学获得博士学位，2011年入选中国科学院“百人计划”， 国家杰出青年科学基金获得者。
研究领域：以超分子组装，功能超分子聚集体和集成化的生物医学检测技术为手段，围绕重大疾病的诊断与治疗，开展功能化超分子聚集体生物效应和生理条件下聚集机制的研究，为超分子聚集体的设计与生物应用提供新方法和新途径。

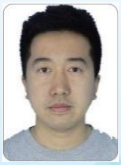
Hao Wang, Director, Ph. D, 2005, Nankai University.
Research Interests: Develop supramolecular assemblies in physiological condition; study their bio-effect and further regulate biological behavior; explore supramolecular assemblies based imaging probes and drug delivery systems.

李乐乐，实验室副主任，2010年在北京大学获得博士学位，2015年入选“青年千人计划”，国家优秀青年科学基金获得者。
研究领域：功能核酸分子设计及生物材料构建；稀土基生物功能材料；肿瘤诊疗。

Lele Li, Deputy Director, Ph.D., 2010, Peking University.
Research Interests: Functional nucleic acids-based biomaterials; Rare earth based functional biomaterials; and cancer diagnosis and therapy.

刘颖，实验室副主任，2006年在军事医学科学院基础医学研究所获得博士学位，国家优秀青年科学基金获得者。
研究领域：纳米药物的抗肿瘤机制研究；纳米材料用于组织工程的疗效及机制研究。

Ying Liu, Deputy Director, Ph.D., 2010, Academy of Military Medical Sciences.
Research Interests: Nanomedicine; Therapy for malignant tumor using nanoparticles; Nanoparticles used for tissue Engineering.



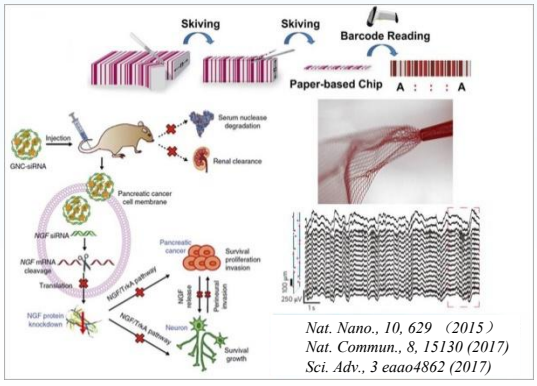
高远，实验室副主任，2011年在美国布兰迪斯大学获得博士学位，2015年入选中国科学院“百人计划”。
研究领域：活体内可控超分子自组装；药物递送和可控释放；分子影像及癌症诊疗；动态光散射，小角中子散射。

Yuan Gao, Deputy Director, Ph.D., 2011, Brandeis University.
Rearch Interests: In vivo controlled self-assembly for applications in biology and medicine.

CAS Key Laboratory for Biological Effects of Nanomaterials and Nanosafety

CAS Key Laboratory for Biological Effects of Nanomaterials and Nanosafety, established in December, 2008, is a research and technology innovation platform engaged in the exploration of the biological effects of nanomaterials as well as nanosafety to support long-term nanotechnology development and applications. With bioeffects of nanomaterials as the key scientific focus under national demands of health and safety, the lab develops interdisciplinary researches of nanomaterials, toxicology, biology, and biomedical science that focus on new effects, new phenomena and new rules derived from interactions between nanostructures or nanomaterials and biological processes.

实现了精确组装、可控导航的药物释放纳米机器
A DNA Nanorobot Functions as a Cancer Therapeutic in Response to a Molecular Trigger in vivo



基于微纳器件的分析检测
Analytical detection based on micro-nano devices

Research field

1. Fundmental studies on biomedical effects, nanosafety and chemical mechanism of nanomaterials
2. Studies on chemical self-assembly in biological systems and nanodrugs
3. Studies on analytic methods for understanding biomedical effects of nanomaterials
4. Development and application of nanobiotechnology

Professors

王琛，1992年在美国弗吉尼亚大学获得博士学位，国家杰出青年科学基金获得者。
研究领域：扫描隧道显微技术的原理及其在单分子表征，分子自组装，表面物理化学等方面的应用，近年来从事多肤分子组装结构与功能调控的研究。

Chen Wang, Ph.D., 1992, University of Virginia.
Research Interests: Scanning tunneling microscopy and its applications in single molecule physics and chemistry, molecular self-assembly, surface physical chemistry, molecular mechanism of peptide assembly and its structural and functional modulations.

赵宇亮，中国科学院院士，国家纳米科学中心主任，1999年在日本东京都立大学获得博士学位，2000年入选中国科学院“百人计划”，国家杰出青年科学基金获得者。
研究方向：纳米尺度下的化学生物学，分析化学(如：纳米生物效应分析与纳米安全性、纳米药物化学等)。

Yuliang Zhao, academician of the Chinese Academy of Sciences, Director of NCNST, Ph.D.,1999, Tokyo Metropolitan University.
Research Interests: Analytical chemistry in chemical biology at nanoscale (e.g, nanotoxocological analysis, nano-biomedical analysis and chemistry, etc).

陈春英，1996年在华中科技大学获得博士学位，国家杰出青年科学基金获得者。
研究领域：高效低毒抗肿瘤纳米药物的研制及其作用机制的研究，典型纳米材料与生物体相互作用的规律及其影响因素，核分析与同步辐射技术及组学技术用于生物体系纳米颗粒暴露和效应标志物的研究。

Chunying Chen, Ph.D., 1996, Huazhong University of Science and
Technology of China.
Research Interests: Cellular and molecular mechanisms of potential toxicity of nanoparticles, developing multifunctional nanomaterials for cancer therapy and vaccine, and advanced nuclear techniques for in situ analysis

蒋兴宇，2004年在哈佛大学获得博士学位，2008年入选中国科学院“百人计划”，国家杰出青年科学基金获得者，“万人计划”青年拔尖人才入选者。
研究领域：微流控、柔性电子学、表面化学、纳米材料、生物医学工程。

Xingyu Jiang, Ph.D., 2004, Harvard University.
Research Interests: Microfluidics, flexible electronics, surface chemistry, nanomaterials, biomedical engineering.

中国科学院纳米生物效应与安全性重点实验室

Professors

梁兴杰，2000年在中科院生物物理研究所获得博士学位，2007年入选中国科学院“百人计划”，国家杰出青年科学基金获得者。
研究领域：纳米药物的分子和细胞肿瘤学作用机理、以及纳米科学在肿瘤医学和生物学领域的应用。

Xingjie Liang, Ph.D., 2000, Institute of Biophysics, Chinese Academy of Sciences.
Research Interests: Molecular and cellular mechanisms of controllable nanopharmaceuticals to treat diseases as well as the application of nanomedicine in cancer and biology.

聂广军，2002年在中科院生物物理研究所获得博士学位，2008年入选中国科学院“百人计划”，国家杰出青年科学基金获得者。
研究领域：纳米医学、肿瘤微环境调控、纳米生物技术和纳米生物效应与安全性。

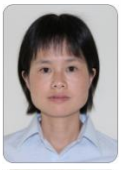
Guangjun Nie, Ph.D., 2002, Institute of Biophysics, Chinese Academy of Sciences.
Research Interests: Cancer nanomedicines for tumor microenvironmen regulation, pancreatic cancer biology, blood pathophysiology, design of bio-inspired intellegient materials and nanosafety.

韩东，2001年在中国中医科学院获得医学博士学位。
研究领域：纳米生物医学成像表征、生命介观复杂流体以及生物力药理学。

Dong Han, Ph.D., 2001, China Academy of Chinese Medical Sciences.
Research Interests: Biological imaging and nanomedicine with a focus on micro/-nanoscale complex fluid and biomechanopharmacology.

方英，2007年在哈佛大学获得博士学位，“万人计划”青年拔尖人才入选者，国家优秀青年科学基金获得者。
研究领域：脑研究新技术开发。目前的研究重点是基于新型纳米材料和纳米技术，发展超薄柔性电子器件及光电器件，研制具有良好生物相容性的柔性石墨烯神经电极阵列，发展高时空分辨率、长效性的神经信息检测技术。

Ying Fang, Ph.D., 2007, Harvard University.
Research Interests: Development of highly biocompatible and high resolution flexible electronics for long-term brain activity recording.



方巧君，2005年在美国约翰霍普金斯大学获得博士学位，2013年入选中国科学院“百人计划”。
研究领域：系统生物学的计算方法分析纳米材料的生物效应及在分子水平上的毒性和毒理；多肽药物设计和计算模拟。

Qiaojun Fang, Ph.D., 2005, Johns Hopkins University.
Research Interests: Study of the systematic bioeffects of nanomaterials using proteomics based system biology method; molecular modeling and computer- aided design of peptide-based drug.

吴雁，2003年在南开大学获得博士学位。
研究领域：各种功能高分子材料作为药物载体的研究，包括两亲性天然和合成多功能聚合物纳米药物载体的构建研究；具有多重环境响应的聚合物纳米药物载体的构建研究；具有超分子结构纳米药物载体的构建研究;纳米药物输送及其生物效应研究。

Yan Wu, Ph.D., 2003, NanKai University.
Research Interests: Synthesis and characterization of multifunctional polymer drug carriers; construction of drug-loaded polymeric nanoparticles based on amphiphilic polymer, multi-sensitive polymer; super-molecular polymer; delivery and application of drug-loaded nanoparticles in vitro and in vivo.

张伟，2004年在清华大学获得博士学位。
研究领域：纳米生物材料，主要包括利用生物材料和微纳结构技术构建体外组织结构；基于表面化学和微纳结构的细胞生物学研究方法的建豆及相关研究；材料的表面修饰、功能化研究及应用等。

Wei Zhang, Ph.D., 2004, Tsinghua University.
Research Interests: Nano-biomaterials, functional research and application surface modification.

杨蓉，2006年在美国俄亥俄大学获博士学位。
研究领域：新型纳米功能材料及其应用；纳米/生物界面构筑及其性质研究。

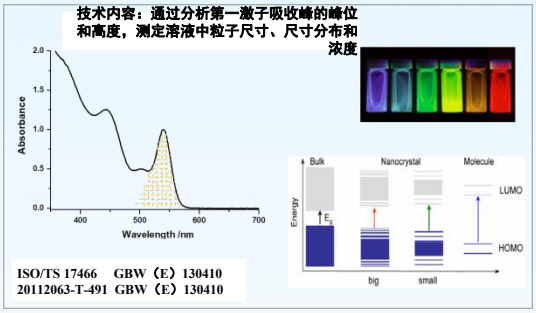
Rong Yang, Ph.D, 2006, Ohio University.
Research Interests: Functional nanomaterials and applications; nano/hiointerfaces.

赵颖，2010年在名古屋工业大学获得博士学位，国家优秀青年科学基金获得者。
研究领域：生物纳米材料，生物有机功能纳米材料。

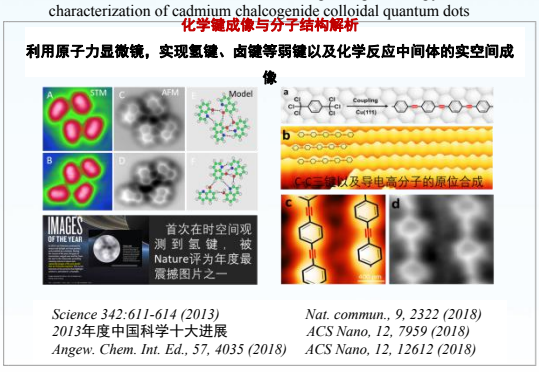
Ying Zhao, Ph.D., 2010, Nagoya Institute of Technology.
Research Interests: Bio-nanomaterials, bio-organic functional nanomaterials.

中国科学院纳米标准与检测重点实验室

中国科学院纳米标准与检测重点实验室成立于2009年12月，由纳米测量与表征新技术、纳米检测和纳米技术标准化三个科研单元构成。实验室定位于纳米测量科学的前沿基础研究，重点关注纳米尺度的精确测量与表征技术，发展用于研究纳米材料物理和化学性质的新原理、方法及仪器设备，建立面向纳米产业的灵敏、准确和高效的检测技术，制定纳米技术的国际和国家标准，为我国纳米产业参与国际竞争提供技术保障。



量子点吸收光谱表征ISO国际标准发布
ISO/TS 17466：2015 Use of UV-Vis absorption spectroscopy in the characterization of cadmium chalcogenide colloidal quantum dots



Science 342:611-614 (2013)
2013年度中国科学十大进展
Angew. Chem. Int. Ed., 57, 4035 (2018)
Nat. commun., 9, 2322 (2018)
ACS Nano, 12, 7959 (2018)
ACS Nano, 12, 12612 (2018)

原子/分子尺度物理化学过程的原位观测
In situ characterization of physical and chemical process in atomic/molecular scale

研究方向

1. 纳米标准制定与标准物质研制
2. 纳米测量技术与表征方法研究
3. 纳米光子学技术研究
4. 纳米生物检测与应用

研究员

葛广路，实验室主任，2001年在美国哥伦比亚大学获得博士学位。
研究领域：纳米标准物质和标准检测方法的建立，纳米测量准确性和可靠性研究，纳米生物界面的构建与表征。

Guanglu Ge, Director, Ph.D., 2001, Columbia University.
Research Interests: Development of nanoscale reference materials and standardized test methods, accuracy and reliability assessment of nanoscale measurements, construction and characterization of nano-bio interface.

杨延莲，实验室副主任，2002年在北京大学获得博士学位。
研究领域：基于多肽的肿瘤体外检测纳米技术、疾病相关的多肽组装结构及其调控、基于扫描探针显微技术的纳米表征方法和技术。

Yanlian Yang, Deputy Director, Ph.D., 2002, Peking University.
Research Interests: Peptide-based IVD nanotechnology for tumor detection structure and modulation of peptide assembly associated with diseases, development of new nano-characterization methods based on scanning probe microscopy.

吴晓春，实验室副主任， 1995年在南开大学获得博士学位。
研究领域：功能纳米材料与生化检测。

Xiaochun Wu, Deputy Director, Ph. D., 1995, Nankai University.
Research Interests: Functional nanomaterials and bio/chemical as assays.

刘新风，实验室副主任， 2011年在国家纳米科学中心获得博士学位，2015年入选中国科学院 “百人计划”。
研究领域：光与物质相互作用，包括纳米光子学，超快光学，非线性光学。

Xinfeng Liu, Deputy Director, Ph.D., 2011, National Center for Nanoscience and Technology.
Research Interests: Light-matter interaction in condensed matter physics, nanophotonics, ultrafast optics and nonlinear optics.

孙佳妹，实验室副主任， 2010年在美国范德堡大学获得博士学位，国家优秀青年科学基金获得者。
研究领域：微流控生化分析技术；微纳尺度中纳米功能材料精准组装；纳米生物医学等。

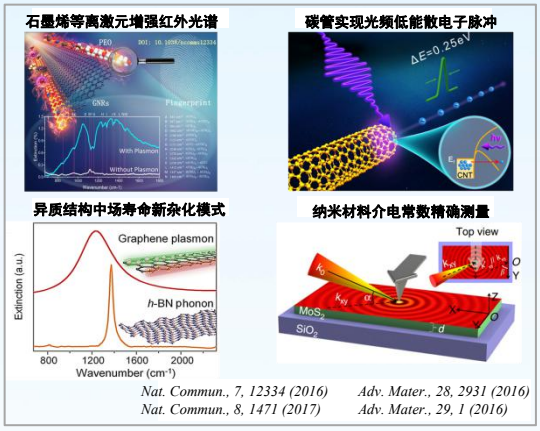
Jiashu Sun, Deputy Director, Ph.D., 2010, Vanderbilt University.
Research Interests: Microfluidics-based biochemical assays; precise assembly of functional nanomaterials in micro/nanoscale; nanomedicine.

CAS Key Laboratory of Standardization and Measurement for Nanotechnology

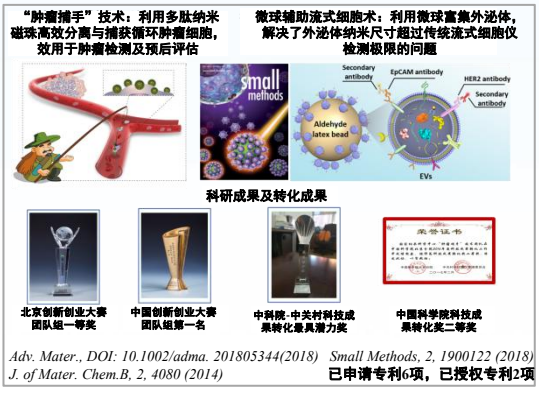
CAS Key Laboratory of Standardization and Measurement for Nanotechnology, founded in 2009, aims at the basic research related to measurement science and standardization for nanotechnology, including the development of sensitive, precise, in-situ and real-time measurement schemes at nanoscale, the improvement of the measurement accuracy in nano-manufacturing, and the establishment of metrological traceability procedures, as well as the international and national standards for testing the physical and chemical properties of nanomaterials.

Research field

1. Standardized test methods and reference materials for nanotechnology.
2. Nanomeasurement and nanocharacterization
3. Nanophotonics.
4. Nano-enabled biological detection



碳基纳米材料的光学性质研究
Optical properties of carbon-based nanomaterials



液体活检纳米技术
Nanotechnologies for liquid biopsy

Professors

朱星，1986年在德国萨尔兰大学获得博士学位，国家杰出青年科学基金获得者。
研究领域：近场光学，扫描探针显微学。

Xing Zhu, Ph.D.,1986, University of Saarland.
Research Interests: Near-field optics, scanning probe microscopy.

裘晓辉，2000年在中科院化学所获得博士学位，2005年入选中国科学院“百人计划”，国家杰出青年科学基金获得者。
研究领域：发展和建豆对分子和低维结构材料的电学及光学性质的检测技术，探索量子效应在功能器件中的应用。

Xiaohui Qiu, Ph.D., 2000, Institute of Chemistry，Chinese Academy of Sciences.
Research Interests: Single-molecule physics and chemistry studied by scanning probe microscopy, electrical characterization of nanostructured materials using scanning probe-based techniques, charge transfer in nanomaterials investigated by time-resolved Spectroscopy.

戴庆，2011年在英国剑桥大学获得博士学位，2012年入选“青年千人计划”。
研究领域：碳基纳米材料的可控制备及其光电特性研究石墨烯等离激元特性调控与器件应用。

Qing Dai, Ph.D., 2011, University of Cambridge.
Research Interests: Fabrication and electric and optoelectronic properties of low dimensional carbon nano-materials such as CNTs
and graphene; the plasmonic properties of graphene.

中国科学院纳米标准与检测重点实验室

研究员

江潮，1998年在中科院半导体所获得博士学位，2005年入选中国科学院“百人计划”。
研究领域：有机半导体纳米结构制备和相关物理性质研究(光学和输运特性)及其大面积柔性器件集成。

Chao Jiang, Ph.D.,1998, Institute of Semiconductors, Chinese Academy of Sciences.
Research Interests: Organic opto-electronics and large area flexible organic electronics and device integration.

江鹏，1 999年在北京大学获得博士学位。
研究领域：有机一无机纳米功能材料的设计，制备及自组装;扫描探针显微镜在纳米科技中的应用；纳米模板的制备(深紫外光刻，聚焦离子束和电子束刻蚀)和应用。

Peng Jiang, Ph.D.,1999, Peking University.
Research Interests: Scanning tunneling microscopy molecular assembly, green nanoenergy supercapacitor, Li-ion battery, synthesis, physical and chemical properties of metal and semiconductor nanomaterials.

曾庆祷，1997年在南京大学获得博士学位。
研究领域：物理化学、有机合成、晶体工程、超分子化学。

Qingdao Zeng, Ph.D.,1997, Nanjing University.
Research Interests: Organic molecular assembling, host-guest interaction and physical chemistry of surface phenomena of photoelectric response with an aid of scanning tunneling microscopy(STM) technique; the design, synthesis and application of crystals.

谢黎明，2009年在北京大学获得博士学位，国家优秀青年科学基金获得者。
研究领域：二维半导体材料、纳米生物安全性标准化评价体系。

Liming Xie, Ph.D, 2009, Peking University.
Research Interests: Two-dimensional materials, standardization of physicochemical characterization and bio-effect evaluation of nanomaterials.

朴玲钰，2002年在天津大学获得博士学位。
研究领域：纳米功能材料的设计、精准合成及其在能源与环境光催化领域的应用，同时开展纳米材料性质与功效标准物质的研制、相关国家标准的制订。

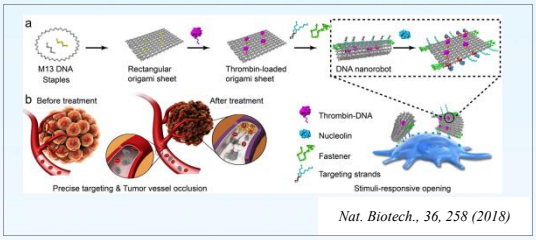
Lingyu Piao, Ph.D., 2002, Tianjin University.
Research Interests: Application of functional nanomaterials in fields of environment and energy.

胡志远，2005年在美国约翰霍普金斯大学获得博士学位，2011年入选中国科学院“百人计划”。
研究领域：探索纳米科学和蛋白质组学的交叉前沿，尤其纳米技术在转化医学上的应用；高通量分子组学技术用于纳米生物效应的研究，以及疾病标志物的发现和检测。

Zhiyuan Hu, Ph.D., 2005, Johns Hopkins University.
Research Interests: Nanosciences and systems biology, and the application of nanotechnology in translational medicine (In Vitro Diagnostics, IVD)

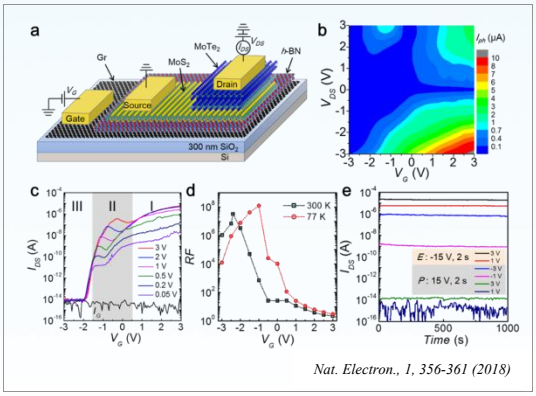
中国科学院纳米系统与多级次制造重点实验室

中国科学院纳米系统与多级次制造重点实验室成立于2014年9月，围绕功能导向多级次纳米结构的可控制备、功能调控及其在微纳米系统中的加工、集成和应用这一主要研究方向，在纳米材料、器件、工程学科交叉的基础上，实现纳米材料制备、微纳器件集成、宏观系统功能的多重跨尺度研究。



Nat. Biotech., 36, 258 (2018)

DNA分子机器作为智能药物载体实现肿瘤栓塞治疗
A DNA nanorobot functions as a cancer therapeutic in response to a molecular trigger in vivo



Nat. Electron., 1, 356-361 (2018)

非对称范德华异质结器件结构示意图与电输运/光电特性
High–performance, multifunctional devices based on asymmetric van der Waals heterostructures

研究方向

1. 纳米系统基元的设计和构建。主要包括分子与分子聚体、纳米结构与纳米材料、以及基元间相互作用三方面。
2. 集成与多级次制造。主要包括自上而下器件加工与集成、自下而上多级次制造、以及跨尺度性能传递与协同三方面。
3. 服役性能与失效机制。主要包括纳米系统服役过程中结构和性能的原位表征技术、纳米材料规模化制备过程中的统计分析与质量控制、以及纳米材料的失效机制。

研究员

张忠，实验室主任，1999年在中国科学技术大学获得博士学位，国家杰出青年科学基金获得者。
研究领域：多层级纳米复合材料力学、多功能有机无机纳米复合材料、纳米结构表面及复合涂层材料、纳米制造与应用。

Zhong Zhang, Director, Ph.D., 1999, University of Science and Technology of China.
Research Interests: Hierarchically structured multi-functional polymer nanocomposites, nanostructured surfaces and coatings, nanomanufacturing and applications.

何军，实验室副主任，2003年在中科院半导体所获得博士学位，2010年入选中科院“百人计划”，国家杰出青年科学基金获得者。
研究领域：新型低维半导体纳米材料的可控制备、物性调控；新型电子、光电子及光信息器件；新型能源器件的制备的性能优化；多体系复合材料的设计制备及其在能源、电子、光电子领域的应用。

Jun He, Deputy Director, Ph.D., 2003, Institute of Semiconductors, Chinese Academy of Sciences.
Research Interests: Low dimensional semiconductor growth and device application.

丁宝全，实验室副主任，2006年在美国纽约大学获得博士学位，2010年入选中国科学院“百人计划”，国家优秀青年科学基金获得者，“万人计划”青年拔尖人才入选者。
研究领域：核酸纳米结构与器件，自组装的生物纳米材料的合理设计及其在智能化药物载体、生物检测及纳米光子学、纳米电子学方面的可能应用。

Baoquan Ding, Deputy Director, Ph.D., 2006, New York University.
Research Interests: Nanostructures and devices fabrication with self-assembled biomaterials especially nucleic acids and nanoparticles, and development of the applications in wide areas such as drug delivery, chemical or biosensor, nanophotonics and nanoelectronics.

孙向南，实验室副主任，2011年在中科院化学所获得博士学位，2016年入选中科院“百人计划”，国家优秀青年科学基金获得者。
研究领域：复合功能分子自旋电子器件和分子半导体中的自旋输运研究，新型分子光电材料和器件。

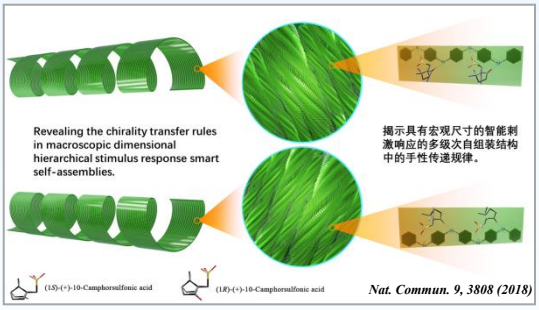
Xiangnan Sun, Deputy Director, Ph.D., 2011, Institute of Chemistry, Chinese Academy of Sciences.
Research Interests: Molecular spintronics and molecular electronics

CAS Key Laboratory of Nanosystem and Hierarchical Fabrication

CAS Key Laboratory of Nanosystem and Hierarchical Fabrication (KLNHF) was found in September, 2014. The research of KLNHF is mainly focused on controllable preparation of hierarchical nanostructures, functionality manipulation, as well as fabrication, integration and application of nanostructures in nano-/micro-systems. Based on disciplinary crossing of materials, devices and engineering, KLNHF aims at realization of cross—scale processing of nanomaterials preparation, nano-/micro-devices integration and macrosystem functionality.

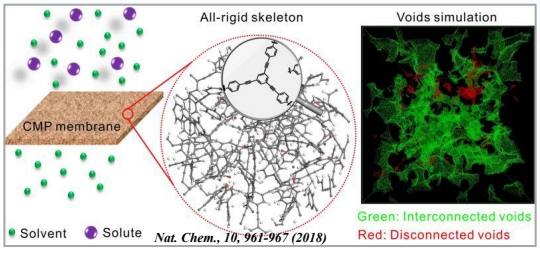
Research field

1. Design and fabrication of nanosystem building blocks. The research mainly includes molecules and molecular assemblies, nanostructures and nanomaterials, and interactions between building blocks.
2. Integration and hierarchical manufacture. The research mainly includes up-to-bottom device fabrication and integration, bottom-to-up hierarchical manufacture, and cross-scale property transfer and synergy.
3. Service capability and failure mechanism. The research mainly includes insitu characterization techniques about structure and performance of nanosystems during application processes, statistic analysis and quality control over up-scale manufacture of nanomaterials, and failure mechanism of nanomaterials.



揭示具有宏观尺寸的智能刺激响应的多级次自组装结构中的手性传递规律

Revealing the chirality transfer rules in macroscopic dimensional hierarchical stimulus response smart self-assemblies



共轭微孔聚合物全共轭的骨架结构提供了高的骨架刚性，从而导致薄膜具有丰富的微孔及优异的孔道内部联通性

The all-conjugated structure of conjugated microporous polymer (CMP) affords highly rigid backbone, leading to a membrane with high porosity and pore interconnectivity.

Professors

唐智勇，1999年在中科院长春应化所获得博士学位，2007年入选中国科学院“百人计划”，国家杰出青年科学基金获得者。
研究领域：功能无机纳米材料的制备、组装及其在能源和催化中的应用。

Zhiyong Tang, Ph.D., 1999, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences.
Research Interests: Fabrication, assembly and application of inorganic nanomaterials in the field of energy and catalysis.

魏志祥，2003年在中科院化学所获得博士学位，2006年入选中国科学院“百人计划”，国家杰出青年科学基金获得者。
研究领域：有机光电材料的自组装与柔性器件。

Zhixiang Wei, Ph.D., 2003, Institute of Chemistry, Chinese Academy of Sciences.
Research Interests: Organic functional nanomaterials and flexible devices.

孙连峰，2000年在中科院物理所获得博士学位，2004年入选中国科学院“百人计划”。
研究领域：基纳米材料中奇异物性、机理及应用研究。

Lianfeng Sun, Ph.D., 2000, Institute of Physics, Chinese Academy of Sciences.
Research Interests: Novel properties, machanisms and applications
Of carbon nanomaterials。

中国科学院纳米系统与多级次制造重点实验室

研究员

刘前，2005年在日本北海道大学获得博士学位。
研究领域：微纳加工新方法、纳米薄膜材料与器件、纳米光学与光子学、纳米功能材料等。

Qian Liu, PhD., 2005, Hokkaido University.
Research Interests: Novel micro/nano fabrication method, nano-thin-film devices, nanooptics and nanophotonics, nano functional thin-film materials and so on.

韩宝航，1999年在南开大学获得博士学位.
研究领域：功能纳米多孔材料:有机多孔聚合物材料、多孔石墨烯材料、超分子纳米材料。

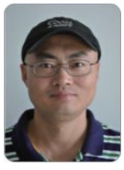
Baohang Han, Ph.D., 1999, Nankai University.
Research Interests: Functional nanoporous materials: nanoporous polymeric materials, porous graphene materials, supramolecular nanomaterials.

智林杰，2000年在中科院煤炭化学所获得博士学位，2007年入选中国科学院“百人计划”，国家杰出青年科学基金获得者。
研究领域：富碳纳米材料的设计、合成及其在超级电容器中的应用研究；有机/无机杂化材料的设计、合成及在理离子电池中的应用研究；石墨烯基透明导电薄膜的制备及应用研究。

Linjie Zhi, Ph.D., 2000, Institute of Coal Chemistry, Chinese Academy of Sciences.
Research Interests: Well-defined carbon-rich nanomaterials and their energy-related applications.

贺涛，2002年在中科院化学所获得博士学位，2009年入选中国科学院“百人计划”。
研究领域：纳米科技与太阳能利用;光电纳米功能材料的制备与表征；二氧化碳催化还原;太赫兹探测器；新型光电转换器件。

Tao He, Ph.D., 2002, Institute of Chemistry, Chinese Academy of Sciences.
Research Interests: Nanotechnology and utilization of solar energy, photoelectronic nanomaterials, catalytic reduction of carbon dioxide, terahertz detector, and new concept device for photoelectric conversion.



丁黎明，1996年在中国科技大学获得博士学位，2009年入选中国科学院“百人计划”。
研究领域：有机太阳电池，钙铁矿太阳电池。

Liming Ding, Ph.D., 1996, University of Science and Technology of China.
Research Interests: Organic solar cells, perovskite solar cells.

宫建茹，2005年在中科院化学所获得博士学位。
研究领域：新型纳米材料和器件的制备及其在绿色能源和生物医学领域的应用研究。

Jianru Gong, Ph.D., 2005, Institute of Chemistry, Chinese Academy of Sciences.
Research Interests: Design and preparation of novel nanomaterials and nanodevices, and their applications in sustainable energy and biomedicine.

周二军，2007年在中科院化学所获得博士学位，2014年入选中国科学院“百人计划”。
研究领域：有机及聚合物功能材料的设计、合成、表征以及在光电及光伏电池领域的应用。

Erjun Zhou, Ph.D, 2007, Institute of Chemistry, Chinese Academy of Sciences.
Research Interests: The design, synthesis, and characterization of organic and polymeric functional materials for optoelectronic and photovoltaic applications.

鄢勇，2010年在国家纳米科学中心获得博士学位，2015年入选中国科学院“百人计划”，科技部“纳米科技”重点专项青年项目负责人。
研究领域：新型光、电、磁功能纳米材料与器件；手性科学。

Yong Yan, Ph.D. 2010, National Center for Nanoscience and Technology.
Research Interests: Functional nanomaterials and devices; chirality.

贺蒙，2002年在中国科学院物理研究所获得博士学位。
研究领域：晶体材料探索与结构分析；能源转化与储存器件。

Meng He, Ph.D., 2002, Institute of Physics, Chinese Academy of Sciences.
Research Interests: Structural characterization and device application of crystalline materials.

CAS Key Laboratory of Nanosystem and Hierarchical Fabrication

Professors

张勇，2006年在中科院化学所获得博士学位，2015年入选中国科学院“百人计划”。
研究领域：功能纳米材料的集成和应用；低维纳米材料；薄膜材料；高分子复合材料。

Yong Zhang, Ph.D., 2006, Institute of Chemistry, Chinese Academy of Sciences.
Research Interests: Nanointegration and application; low-dimensional nanomaterials; thin films; polymer nanocomposites.

周惠琼，2009年在国家纳米科学中心获得博士学位，2015年入选中国科学院“百人计划”。
研究领域：新型太阳能电池器件及界面修饰；新型光电材料的制备和表征。

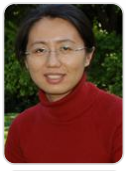
Huiqiong Zhou, 2009, Ph.D., National Center for Nanoscience and Technology, China.
Research Interests: Organic solar cells and perovskite solar cells.

段鹏飞，2011年在中科院化学所获得博士学位，2015年入选中国科学院“百人计划”。
研究领域：光功能纳米体系开发及其光化学与物理性能研究；自组装手性纳米材料制备及其在光电和生物领域的应用。

Pengfei Duan, Ph.D., 2011, Institute of Chemistry, Chinese Academy of Sciences.
Research Interests: Photochemistry and photophysics of nano-assemblies; self-assembly of designed nanoarchitectures from chiral compounds.

李国栋，2011年在北京化工大学获得博士学位，国家优秀青年科学基金获得者。
研究领域：功能纳米复合材料的设计、可控制备及其在催化和能源存储与转化中的应用。

Guodong Li, Ph.D., 2011, Beijing University of Chemical Technology.
Research Interests: Nanocatalysis, energy storage and conversion.



刘璐琪，2003年在中国科学院化学研究所获得博士学位。
研究领域：功能性纳米聚合物复合材料。

Luqi Liu, Ph.D., 2003, Institute of Chemistry, Chinese Academy of Scicences.
Rresearch Interests: Functional nano-polymer Composites.

刘雅玲，2008年在中国科学院化学研究所获得博士学位，国家优秀青年科学基金获得者。
研究领域：功能材料及器件。

Yaling Liu, Ph.D., 2008, Institute of Chemistry, Chinese Academy of Scicences.
Rresearch Interests: Functional Nanomaterials and Devices.

吕 琨，2009年在中国科学院化学研究所获得博士学位，国家优秀青年科学基金获得者。
研究领域：有机光电功能材料与器件。

Ku Lv, Ph.D., 2009, Institute of Chemistry, Chinese Academy of Scicences.
Rresearch Interests: Organic photovoltaic materials and devices.
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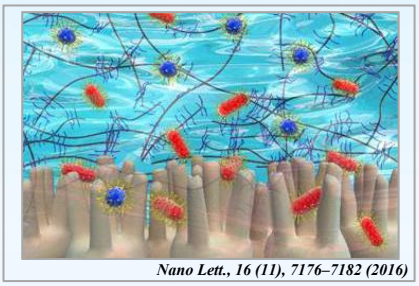
国家纳米科学中心理论室

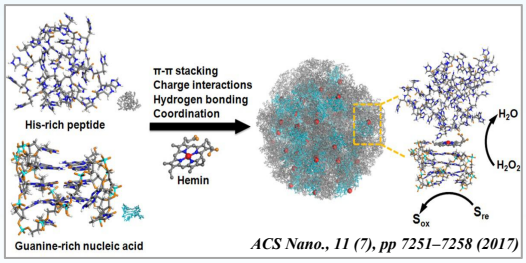
理论室成立于2018年12月，致力于纳米结构材料、生物体系的多尺度理论与计算研究，主要研究方向包括精准自组装、纳米药物、纳米催化、新型功能材料设计等方面，发展并利用包括第一性原理计算、分子动力学方法、蒙特卡洛方法、有限元方法、机器学习方法在内的多种手段来解释、预测实验现象与机理，力求从原子、分子层面上理解纳米之内的大千世界。



纳米药物载体在克服肠道黏液障碍中的形状效应
The shape effect of nano drug-carrier in overcoming intestinal mucus barrier

研究方向

1. 纳米催化。计算研究纳米材料的电子结构、分子结构、物理化学性质及其在能源、环境、生物、医药等领域中的表界面吸附催化机理，从分子层面上进行新型纳米材料的改进与设计。
2. 纳米药物。建立理论计算方法研究纳米药物输运过程中，纳米颗粒的物理化学特性以及生物体内复杂介质的物理化学特性对其输运效率的调控。
3. 精准自组装。计算研究纳米粒子的自组装过程，包括原子、分子、超分子聚集体的组装，解释机理并设计功能性纳米粒子用于催化、药物等方面。



富含鸟嘌呤的核酸，富含His的肽和辅因子Hemin自组装成过氧化物酶
Self-assembly of guanine-rich nucleic acid, his-rich peptide, and the cofactor Hemin into the peroxidase mimicking nanoparticles

研究员

施兴华，理论室主任，2010年在美国布朗大学获得博士学位，国家优秀青年科学基金获得者。
研究领域：多尺度理论与计算，靶向纳米药物输运，生物力学，纳米材料自组装。

Xinghua Shi, 2010, Ph.D., Brown University.
Research Interests: Multiscale simulation, biomechanics, self-assembly, target drug delivery.

NCNST Theory Laboratory

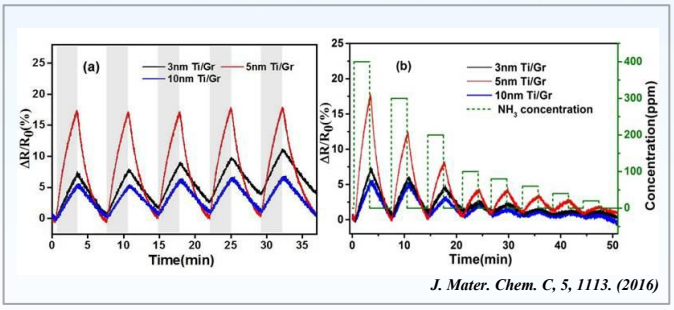
Founded in December 2018, the Laboratory of Theoretical and Computational Nanoscience is dedicated to the multi-scale theory and computational research of nanostructured materials and biological systems. The main research fields include: precise self-assembly, nano-drugs, nano-catalysis, and design of new functional materials. First-principle calculations, molecular dynamics methods, Monte Carlo methods, finite element methods, and machine learning methods are used to interpret and predict experimental phenomena and mechanisms, and strive to understand the Nano World at the atomic and molecular levels.

Research field

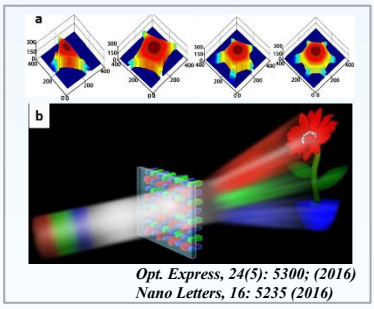
1. Nanocatalysis. Computational study on the electronic structure, molecular structure, physicochemical properties of nanomaterials and their surface adsorption and catalytic mechanism in energy, environment, biology, medicine, etc., and improvement and design of new nanomaterials from the molecular level.
2. Nano drugs. Develop theoretical and computational method to study the physicochemical properties of nanoparticles and the physicochemical properties of complex media in the process of nano drug transport.
3. Precise self-assembly. Computational study of the self-assembly process of nanoparticles, including the assembly of atoms, molecules, supramolecular aggregates, interpretation of mechanisms and design of functional nanoparticles for catalysis, drugs and so on.

纳米加工实验室

纳米加工实验室成立于2018年12月，其中洁净室于2013年9月正式运行。洁净室总面积约为1500m^2，洁净区面积约600m^2，百级区面积为100m^2。实验室拥有多台先进微纳加工设备和有关材料、器件等表征仪器，形成一条较为完备的微纳加工线。实验室主要功能是针对在物理、化学、生物医学和材料等领域开展纳米研究所需要的各种微纳结构和原型器件进行加工和集成。实验室主要针对纳米加工关键技术、工艺以及各类纳米器件开展研究。同时，洁净室作为公共平台，对国内外开放。



常温可见光照射下石墨烯传感器对氨气探测灵敏度的提高
Sensitivity of grapheme-based sensors to ammonia improved by visible light illumination at room temperature



多边形光场相位信息的像素化偏振检测及可见光多波长消色差和高色散全息超表面
Detection of phase information of polygonal light field by pixelated polarization arrays, and Visible-frequency dielectric metasurfaces for multiwavelength achromatic and highly-dispersive holograms

研究方向

1. 关键加工技术与方法研究
2. 人工微纳结构制备研究
3. 各种微纳器件加工、集成研究

研究员

褚卫国，纳米加工实验室主任，2000年在哈尔滨工业大学获得博士学位。
研究方向:纳米传感器及其应用、超表面光学器件与能源器件，新型纳米加工技术研究。

Weiguo Chu, Director of Nanofabrication Laboratory, 2000, Ph.D., Harbin Institute of Technology.
Research Interests: Nanosensors and their applications, Metasurfaces and energy-related nanodevices, Novel fabrication technologies and processes.

NCNST Nanofabrication Laboratory

Nanofabrication Laboratory was established in Dec. 2018, with a clean room of about 1500 m^2 including an area of about 100 m^2 for class 100 and 500 m^2 for class 1000 which was constructed in Sept. 2013. Nanofabrication laboratory aims to develop key fabrication technologies and processes, artificial micro/nanostructures and nanodevices. NFL has diversified state of the art fabrication facilities and characterization tools available to the users of micro and nano-technology both at home and abroad.

Research field

1. Key fabrication technologies and processes.
2. Artificial micro/nanostructures.
3. Diversified nanodevices and integration.

纳米技术发展部

纳米技术发展部是国家纳米科学中心面向国内外开放的纳米科技公共技术平台，下设纳米检测技术室、纳米加工技术室、纳米生物技术室、纳米系统技术室四个专业技术室。现拥有100多台套仪器设备，形成了纳米材料微结构成像分析、物性测量、元素及化学成分分析、材料结构分析、微纳器件加工、复合材料制备与失效分析、生物活体成像、生物检测、以及理论计算等专业设备群。可提供一站式检测、全天候自助、专家型定制、第三方认证、以及标准研制等多层级的服务模式。除支撑纳米中心的科研外，已经为国内60多个科研院所300多个研究团队，以及30多家企业提供了技术服务。

研究员

范伟民，纳米技术发展部主任，2000年在中科院动物所获得博士学位，2006年在清华大学获得MBA学位。

Weimin Fan, Director of Nanotechnology Development Division, Ph.D., 2000, Institute of Zoology, Chinese Academy of Sciences, MBA, 2006, Tsinghua University.

郭延军，纳米技术发展部副主任，纳米检测技术室主任工程师，2003年在北京大学获得博士学位。
研究领域：拉曼光谱及表面增强泣曼光谱的应用研究，复杂材料体系的分析和表征。

Yanjun Guo, Deputy Director of Testing Laboratory for Nanostructures, Ph.D., 2003, Peking University.
Research Interests: Application of Raman spectroscopy and surface enhanced Raman spectroscopy (SERS), analysis and characterization of complex materials.

熊玉峰，纳米技术发展部副主任，在武汉大学获得博士学位。

Yufeng Xiong, Deputy Director of Testing Laboratory for Nanostructures, Ph.D., Wuhan University.

Division of Nanotechnology Development

The Division of Nanotechnology Development (DND) is the public technology platform at the National Center for Nanoscience and Technology (NCNST). It is a meeting point at nanotechnology for researchers from NCNST and other academia, institutes and industry both at home and abroad. To assist research efforts, the DND provide state-of-art resources by four labs: Nano-Measurement Lab, Nanofabrication Lab, Nano-Biology Lab and Nanosystem Lab.

The DND fully equipped more than 100 sophisticated instrumentation supports researchers from basic research, applied research to industry as far-ranging as: topographic imaging, physical properties measurement, element and component analysis, and structure characterization for nanomaterial; nanodevice fabrication; fabrication and failure analysis for composite material; bio-imaging and biological detection; and theoretical calculation. The DND provides high-quality services in flexible and multi-level service models: one-stop service, 24-hour self service, joint development services, third part certification and reference material fabrication service.

中国科学院纳米科学卓越创新中心

背景：2014年8月18日，中国科学院发布《中国科学院“率先行动”计划暨全面深化改革纲要》，明确提出“面向基础科学前沿，建设一批国内领先、国际上有重要影响的卓越创新中心”。2015年10月23日，中国科学院纳米科学卓越创新中心成立，依托国家纳米科学中心，为非法人单元，实行理事会领导下的主任负责制。目前凝聚了中国科学院所属5家科研机构在纳米科学领域中的重要力量，聘任全时研究骨干人员75人(其中院士2人，国家杰出青年科学基金获得者18人)。

定位：依托“变革性纳米产业制造技术聚焦”战略性先导科技专项，建立有利于重大科研产出的科研活动组织新模式，聚集纳米科技相关的多学科综合交叉领域，汇聚和培养纳米领域优秀人才，率先在纳米领域的重大科学问题上取得突破，引领纳米领域的发展。

任务：聚焦纳米科学领域重大挑战，深入认识原子、分子水平上纳米结构的精准构筑与性能调控规律，通过发展极限分辨能力的成像理论与方法，揭示纳米尺度物质的形成、相互作用、结构演变以及性能调控规律；揭示纳米效应的跨尺度传递规律，实现功能纳米材料的设计和可控制备；认知纳米结构与生物系统相互作用规律，发展纳米生物医用新技术。

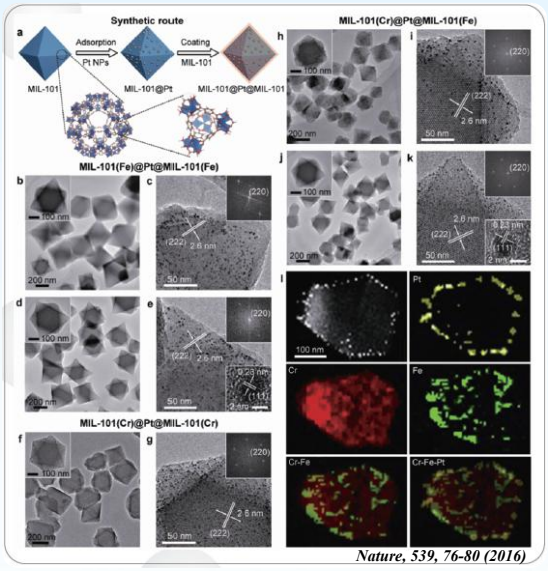
领域方向：1. 亚纳米尺度成像与多尺度表界面性质研究；

2. 纳米结构的精准组装与功能化；

3. 纳米结构能量转化与自驱动系统；

4. 纳米结构的系统生物效应。

CAS Center for Excellence in Nanoscience



多级次精准纳米结构用于选择氢化反应催化剂
Accurate nanostructures for selective hydrogenation of cinnamaldehyde

Background: In 2015, the Chinese Academy of Sciences (CAS) launched a new reform and setup the "Center for Excellence in Nanoscience" (CAS-CENano) to speed up the establishment of a new model for scientific research. It is required for CAS-CENano to accumulate innovative talent, focus on the fore frontier of nanoscience, to achieve a major breakthrough and become an internationally visible organization. The CAS-CENano has accumulated 75 key PIs, including 2 academicians and 18 awardees of Distinguished Young Scholars by NSFC.

Focus: The CAS-CENano will focus on the precise construction and regulation of nanostructures from an atomic, molecular to a hierarchical higher level. These include the development of advanced nano-characterization technologies based on new methods or new theories; the hierarchical construction, fabrication and function development such as catalysis of nanomaterials cross various scales, the biomedical effects of nanomaterial and the possible applications of the nanomaterials to energy, environment and biomedicine.

Research Directions: The CAS-CENano set research directions in four main areas: (1) Subnanometer scale imaging and characterization of surface and interface (Nano Measurement); (2) Precise assembly and functionalization of nanostructures (Nano Manufacturing); (3) Nanostructures in energy harvesting and self-powered systems (Nano Energy); (4) System biological effect of nanostructure (Nano Biology).

全国纳米技术标准化委员会

2005年4月，国家标准化管理委员会批准成立全国纳米技术标准化委员会（以下简称“纳米标委会”)(SAC/TC279)，中国科学院常务院长白春礼任主任委员，秘书处设在国家纳米科学中心。2012年1月，纳米标委会完成了换届工作，朱星任主任委员。2017年11月，成立第三届全国纳米技术标准化技术委员会，刘华任新一届主任委员。截至到2018年12月，已发布且归口纳米标委会的国家标准80项，已列入国家标准化管理委员会计划项目70项。

在国际标准方面，受国家标准化管理委员会委托，纳米标委会担负起对口国际标准化组织纳米技术委员会(ISO/TC229)和国际电工委员会纳米技术委员(IEC/TC113)的工作，开展与国外标准化组织的交流和合作。截止到2018年12月，已颁布实施11项国际标准，17项国际标准立项。2008年11月，在上海成功召开了ISO/TC229第七次会议，共有来自26个国家和地区的223位代表参加了此次会议，此次会议是历届ISO/TC229会议中规模最大的一届，会议得到了各国代表的一致肯定。

National Technical Committee 279 of SAC on Nanotechnology

Upon the authorization of Standardization Administration of China (SAC), National Technical Committee 279 of SAC on Nanotechnology(SAC/TC279) was formed in April, 2005. First Chairman was Chunli Bai, President of Chinese Academy of Sciences. The secretariat is located in the National Center for Nanoscience and Technology (NCNST). Second term of SAC/TC279 was started from January 2012. New Chairman of Committee is Prof. Xing Zhu. Third term of SAC/TC279 was started from November 2017. New Chairman of Committee is Prof. Minghua Liu. As the end of 2018, TC279 has published 80 National Standards and about 70 projects of nanotechnology standard are underway.

SAC/TC279 is the member of the 229th Technical Committee of International Standardization Organization (ISO/TC229 nanotechnologies) and the 113th Technical Committee of International Electrotechnical Commission (IEC/TC113 nanotechnologies). SAC/TC279 is corresponding to the works of ISO/TC229 and IEC/TC113 for developing and cooperation international standard with international organizations and foreign countries. As the end of 2018, 11 ISO standards contributed by SAC/TC279 have published, 17 projects of ISO standards proposed by SAC/TC279 are underway. As a host, the 7th Plenary Meeting of ISO/TC229 nanotechnologies was hold in Shanghai from Novenmber 17 to 21，2008 successfully. About 223 delegates from 26 countries and member bodies took part in the meeting which is one of the largest in the ISO/TC229 meetings.

CNAS实验室技术委员会纳米专业委员会

中国合格评定国家认可委员会(CNAS)实验室技术委员会纳米专业委员会成立于2004年4月13日。2014年3月完成换届工作，国家纳米科学中心王深研究员任主任委员，中国科学院物理研究所解思深院士、中国计量科学研究院高思田研究员任副主任委员，秘书处设在国家纳米科学中心。

根据国内纳米检测技术领域的现状和实验室认可的需要，CNAS纳米专委会秘书处开展了扫描和透射电镜、动态光散射仪、X射线小角散射仪测量纳米颗粒粒径及BET法测定固态物质比表面积的实验室间比对。在各参加比对实验的实验室支持和配合下，完成了实验室间的比对实验，为纳米检测实验室的认可做好支撑工作。

针对科研类实验室认可工作的需求，组织了实验室认可知识与管理体系的建立、纳米测量中的溯源、纳米测量不确定度等内容的培训。对扫描和透射电镜、动态光散射仪、X射线小角散射仪测量纳米颗粒粒径方法的一致性及“标准物质/标准样品生产者能力认可准则”(CNAS-CL04)在纳米标准物质/标准样品制备、生产中的适用性进行研讨，提出了相应的方案，为实验室认可前期准备工作打好基础。

Special Committee on Nanotechnology of CNAS

China National Accreditation Service for Conformity Assessment (CNAS) has set a special committee on Nanotechnology (CNAS/TC/SC14) on April 13, 2004. Third term of CNAS/TC/SC14 was started from March, 2014. The Chairman is Chen Wang, Professor of NCNST. Vice Chairmen are Sishen Xie, academician of Chinese Academy of Sciences(CAS), Institute of Physics of CAS, and Sitian Gao, vice president of National Institute of Metrology. The secretariat is located in NCNST. According to the demand in the nanotechnology test and laboratory accreditation CNAS/TC/SC14 has completed comparative tests on Scanning and Transmission Microscopy (SEM/TEM), Dynamic Light Scattering(DLS) and Surface Area Tests (BET) methods to measure the diameter and specific surface area of particles in different laboratories.

CNAS/TC/SC14 also hold regular classes on knowledge of Laboratory Accreditation and Quality Management System. In the classes, based on "Accreditation Criteria for the Competence of Reference Material Producers" (CNAS-CL04) has discussed measuring consistency in the size and specific surface area measurement of SEM/TEM, DLS and BET. These efforts are for supporting the produce and applying of reference materials in industry and for preparing to carry out laboratory accreditation nationwide

中国微米纳米技术学会纳米科学技术分会

经民政部审查并准予登记，中国微米纳米技术学会纳米科学技术分会于2007年9月20日正式成立，全国纳米科技界的专家、学者将以此为桥梁和纽带，加强交流与合作，共同推动我国纳米科技的发展，纳米科学技术分会挂靠在国家纳米科学中心。

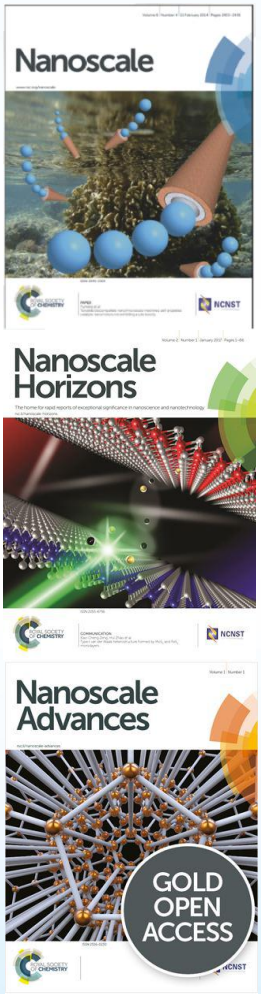
Chinese Society of Nanoscience and Technology

Authorized by the Ministry of Civil Affairs, Chinese Society of Nanoscience and Technology (CSNST) was formed on September 20th, 2007. Experts and scholars in nanoscience and technology field can better communicate with each other based on this platform which will further promote development of nanoscience and technology in China.

期刊

国家纳米科学中心和英国皇家化学会于2009年秋季联合创办了期刊Nanoscale，旨在发表纳米科学和纳米技术范围内理论性和实验性的著作。2009年至2011年每月出版一期，从2012年开始每月出版两期，包含各类研究文章，如通讯、综述和全文文章。

自创刊以来，Nanoscale一直致力于吸引和出版纳米领域内的杰出研究成果，并在全世界拥有广泛的读者。2011年Nanoscale获得了第一个影响因子4.1，2018年的影响因子上升到7.233，快速和稳定的进步使Nanoscale在纳米领域内备受瞩目。后又创办了Nanoscale Horizons 和 Nanoscale Advances期刊，丰富并充实了学术期刊在纳米领域的内容，给这个快速发展领域中的作者们提供了一个全新的、内容专业的期刊，该期刊高质、快速和创新的特征也受到了更多科研工作者的肯定。



Journals

Nanoscale is a collaborative venture between RSC Publishing and the National Center for Nanoscience and Technology launched in late 2009. It is a high-impact peer reviewed journal publishing experimental and theoretical work across the breadth of nanoscience and nanotechnology. The journal annually published 12 issues from 2009 to 2011, and 24 issues since 2012, including all type of research articles-communication, review articles and research papers.

Since its launch, Nanoscale is dedicated to attract and publish outstanding researches in the nano field and has gained a broad readership. It acquired the first impact factor of 4.1 in 2011. This figure increased to 7.233 in 2018. Nanoscale has quickly established itself as a platform for high-quality community-spanning research. Later, Nanoscale Horizons and Nanoscale Advances journals were created, which bridges the various disciplines involved with nanoscience and nanotechnology, publishing important research from leading international research groups.

合作交流

国家纳米科学中心成立以来，不仅自身积极参与国内外的交流与合作，而且不遗余力地推动国内与国外在纳米科技领域的交流与合作。

在国内万面，与中国科学院物理研究所、化学研究所、高能物理研究所、北京大学、清华大学等主要科研院所建立了长期稳定的合作交流关系。在国际合作万面，与德国、法国、英国、瑞士、丹麦、芬兰、美国、加拿大、澳大利亚、俄国、韩国、日本等国家建立了联合研究机构或开展了实质性合作交流。纳米中心积极参与了中丹、中沙研究生联合培养计划，并大力接受丁WAS计划和其他形式的留学生和博士后，促进了人才培养的国际化。

为了推动国际合作与交流，纳米中心每年主办的双边和多边国际会议平均在5-6个。随着对外合作与交流的深入，纳米中心在国际纳米科技界的影响和地位正在不断扩大和提高，为推动我国纳米科技事业的持续、健康和快速发展做出了贡献。

与国际机构建立合作关系的情况

时间	国家	机构	内容
2017年08月	葡萄牙	葡西国际纳米实验室	签署合作协议
2017年06月	澳大利亚	阿德莱德大学	人员交流和互访
2017年05月	伊朗	伊朗纳米生物材料、纳米医学等领域代表团	项目合作、人才交流
2017年03月	伊朗	伊朗科研院校科学家组成的脑科学代表团	联合培养、科学研究合作
2016年04月	以色列	巴伊兰大学纳米技术与先进材料学院	项目合作、人才交流
2016年02月	澳大利亚	格里菲斯大学	项目合作、人才交流
2015年06月	南非	南非大学	项目合作、人才交流
2014年03月	日本	北海道大学电子科学研究所	签署合作协议
2013年04月	泰国	国家纳米技术中心	中泰纳米战略合作协议
2012年09月	巴西	科技创新部	中巴双边合作协议
2011年12月	德国	马普胶体与界面研究所	中德纳米结构碳能源材料国际联合实验室
2010年01月	美国	加州纳米系统研究所	合作备忘录

合作交流

品牌会议介绍

ChinaNANO

中国国际纳米科学技术会议(ChinaNANO)是具有世界影响力的、综合性品牌国际会议，在科技部、教育部、基金委和科学院大力支持下，从2005年起每两年举办一次，目前已成功举办7届，在国内外引起广泛反响，是国际纳米科技交流的重要平台。2017年邀请共有来自全球30多个国家和地区的2000多名代表出席。

大会包括特邀报告、分会特邀和邀请报告、口头报告和墙报以及圆桌会议。2013年起启动全球纳米科技中心主任论坛，通过围绕主题充分探讨纳米科技的学术研究前沿和产业发展中的挑战问题，推动各国科学家间的深入合作，为世界纳米科技的发展带来新的机遇。

此外，大会还设置“纳米科技展览”，成为纳米企业放眼全球、展示竞争实力、开发新兴市场的竞技平台，为纳米领域高技术企业营造一个与国际著名专家、研究学者、医院主任等面对面交流的机会，共同创建“政-商-产-学-研”密切合作的纳米创新链及供应链。

ChinaNanomedicine

ChinaNanomedicine 是由国家纳米科学中心与中国药学会纳米药物专业委员会发起的纳米药物系列会议，每两年举办一次，目前已成功举办3届，分别在上海（2018年）、湖北武汉（2016年）和浙江杭州（2015年）顺利召开，已成为国内外纳米药物研究和临床转化领域的最重要学术盛会之一，受到国内外同行的广泛关注和高度认可。

2018年大会由中国科学院上海药物研究所、中国药学会纳米药物专业委员会、中国抗癌协会纳米肿瘤学专业委员会、中国毒理学会纳米毒理学专业委员会、中国化学会纳米化学专业委员会和药物制剂国家工程研究中心主办。国家纳米科学中心主任赵宇亮院士作为中国药学会纳米药物专业委员会主任委员，担任大会主席，中科院上海药物所李亚平研究员担任大会执行主席。1300多位来自国外和大陆的专家学者及研究生代表参会。会议报告内容涵盖纳米药物、靶向给药纳米技术、肿瘤微环境纳米药物、肿瘤免疫治疗纳米药物、工业纳米药剂学、纳米探针分子影像、体外纳米医学诊断、移动医疗纳米技术、用于生物分离和生物分析的纳米技术、生物医用纳米材料与组织工程、纳米/生物界面、纳米毒理学及生物安全性等十多个领域。参会代表围绕会议主题开展多学科讨论和深度交流，有望促进海内外纳米药物研究领域的广泛合作。

Collaboration and Exchanged

Since the establishment of NCNST, it has actively participated in domestic and international collaboration. At the same time, NCNST has been committed to promoting international collaboration and exchange in the field of nanoscience and technology between China and abroad.

In domestic collaboration, NCNST has established long-term and stable collaboration with Institute of Physics of CAS, Institute of Chemistry of CAS, Institute of High Energy Physics of CAS, Peking University, Tsinghua University and etc.

In the area of international collaboration, NCNST has made substantial collaboration with many research institutes from countries like Germany, France, UK, Switzerland, Denmark, Finland, USA, Canada, Australia, Russia, South Korea, Japan and so on.

NCNST has actively participated in joint-graduate-training program with Demark and Saudi Arabia, and received overseas students sponsored by TWAS fellowship and other forms of scholarship, which promote the internationalization of talented people.

In order to promote collaboration with foreign counties, NCNST host 5-6 bilateral or multilateral international conferences annually. With deepening of international collaboration and exchange, NCNST has gradually made influence in the field nanoscience both in China and around the world, it also strive to make its own contribution to promote the sustainable, healthy and rapid development of nanoscience and technology in China.

ChinaNANO

China International Conference on Nanoscience and Technology (ChinaNANO), as an influential and integrated brand international conference in the world, takes place every two years from Year 2005 with great support from Ministry of Science and Technology of the People's Republic of China, Ministry of Education of the People's Republic of China, National Natural Science Foundation of China and Chinese Academy of Sciences. So far, the ChinaNANO has been successfully held for seven times, evoked a widespread response at home and abroad and worked as an important platform for international nanoscience and technology exchange. Totally more than 2,000 representatives from over 30 countries and regions all over the world were invited to attend the conference in 2017.

The ChinaNANO Conference consists of plenary lecture, invited lecture, invited report, oral presentation, poster and round-table conference. The Directors' Forum on Global Nanoscience and Technology has been initiated since 2013, the frontier of academic research on nanoscience and technology and challenges in related industrial development are in full discussions around the theme of the forum and the forum can boost further cooperation among scientists from different countries and create new opportunities for world nanoscience and technology development.

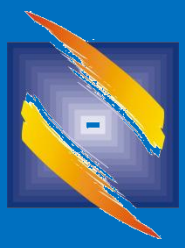
Furthermore, "Nanoscience and Technology Fair" is also arranged in the conference as a competition and cooperation platform for nanotechnology enterprises to make global vision, show their competitive strength and develop emerging markets and creates an opportunity for high-tech enterprises in the nanotechnology field to conduct face-to-face communication with professionals such as internationally renowned experts, research scholars and directors of hospitals for the purpose to establish nano innovation chain and supply chain based on close cooperation of "governmental-commercial-industrial-academic-research" circles mutually.

Collaboration and Exchanged

ChinaNanomedicine

ChinaNanomedicine refers to conference series on nanomedicine imitated and sponsored by the National Center for Nanoscience and Technology and the Nanomedicine Committee of Chinese Pharmaceutical Association. So far, the conference has been successfully held for three times respectively in Shanghai (2018), Hangzhou of Zhejiang Province (2015) and Wuhan of Hubei Province (2016), become one of the most important academic events in the field of nanomedicine research and clinical transformation in China and abroad, and received extensive attention and high reputation from domestic and foreign counterparts.

ChinaNanomedicine 2018 was hosted by Shanghai Institute of Materia Medica, Chinese Academy of Sciences, Nanomedicine Committee of Chinese Pharmaceutical Association, Nano-oncology Committee of China Anti-Cancer Association, Nanotoxicology Committee of Chinese Society of Toxicology, Nanochemistry Committee of Chinese Chemical Society, and National Pharmaceutical Engineering Research Center. Academician Yuliang Zhao, who was the Director of National Center for Nanoscience and Technology and Chairman of Nanomedicine Committee of Chinese Pharmaceutical Association, acted as the General Chair and Prof. Yaping Li from Shanghai Institute of Materia Medica, Chinese Academy of Sciences served as the Executive General Chair. More than 1,300 experts, scholars and postgraduate representatives from abroad and mainland China participated in the conference. The conference report covered more than 10 fields including nanomedicine, nanotechnology for targeted drug delivery, nanomedicine for tumor microenvironment, nanomedicine for tumor immunotherapy, industrial nano-pharmaceutical, nanoparticle probes for molecular imaging, nanomedicine for in vitro diagnosis, mobile medical nanotechnology, nanotechnology for bio-separation and bio-analysis, nano-biomedical materials and tissue engineering, nano–bio interface, nanotoxicology and biological safety, etc. Participants conducted multidisciplinary discussions and in-depth exchange around the conference theme. It is expected to promote broad cooperation in nanomedicine research field at home and abroad.



国家纳米科学中心

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