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国家纳米科学中心

National Center for Nanoscience and Technology (NCNST)

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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 recognizable 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!

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 Chinese Academy of Sciences, 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.

About NCNST

National Center for Nanoscience and Technology, China (NCNST), established in December 2003, 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, Nanofabrication Laboratory, Intelligent Nano-sensing 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 doctoral 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 Institutes of CAS”. According to the latest data of Clarivate Analytics in 2018, five researchers in NCNST were 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.

唐智勇

Zhiyong Tang

Ph. D., Professor

Email: zytang@nanoctr.cn

Homepage: http://www.nanoctr.cn/zhiyongtang/ketizu/

Qualifications

1999 Doctor of Chinese Academy of Sciences

1996 Master of Wuhan University

1993 Bachelor of Wuhan University

Employment History

2006-Present Professor, National Center for Nanoscience and Technology, China

2003-2006 Research Fellow, Department of Chemical Engineering, University of Michigan, Dr. Nicholas A. Kotov's research group

2001-2003 Research Fellow, Chemistry Department, Oklahoma State University, Dr. Nicholas A. Kotov's research group

2000-2001 Research Associate, Institute for Chemical and Bioengineering, Swiss Federal Institute of Technology Zurich, Zurich, Switzerland, Dr. RoelPrins' research group

Professional Service

Advisory Board Member, Nanoscale, From 2012-

Guest Editor, Special Issue "Nanomaterials", ChemPhysChem, 2012

Awards and Honours

Asian Rising Stars, The 15th Asian Chemical Congress, 2013

Emerging Investigator, ChemComm, RSC 2013

Distinguished Asian Speaker, University of Alberta, Canada 2012

"Ten Outstanding Young People" of Chinese Academy of Sciences, China 2012

"EvonikParticuology Innovation Award, The Chinese Society of Particuology, 2012

National Natural Science Foundation for Distinguished Youth Scholars of China 2010

ARCH Venture Partners Young Researcher Achievement Award, China 2010

100-Talent Program, Chinese Academy of Sciences, China 2006

Excellent Graduate Student Award, Changchun Institute of Applied Chemistry, China 1999

Distinguished Graduate Student, Wuhan University, China 1994/1995/1996

Distinguished Undergraduate Student, Wuhan University, China 1990/1991/1992/1993

Research Interest

Controllable synthesis and assembly, property manipulation and practical application of inorganic nanomaterials.

魏志祥

Zhixiang Wei

Ph. D., Professor

Email: weizx@nanoctr.cn

Homepage: http://www.nanoctr.cn/zhixiangwei/gerenjianjie/

Educational and Professional Experiences

2006.1- Present. Professor, National Center for Nanoscience and Technology

2005.1 - 2006. 12. Postdoctoral Fellow, University of Toronto, Canada.

2003.7 - 2004. 12. Postdoctoral Fellow, Max Planck Institute of Colloids and Interfaces, Germany;

2000. 9 - 2003. 6 Ph. D., Institute of Chemistry, the Chinese Academy of Sciences,

1997. 9 - 2000. 7 M.S.and B.S,Xi'an Jiaotong University,

Research Interests

We are focused on organic functional nanomaterials: self-assembly and flexible devices. We are using bottom-up approach to self-assemble organic functional nanostructures and supramolecular structures by adjusting non-covalent interactions. We are especially interested with structures with chiral, electro-optical and multifunctional properties. On the other hand, we are developing novel methods to printing highly controlled nanostructures on flexible substrate. Further property investigations are also being carried out in our lab, which may lead potential applications in flexible sensors, photovoltaic devices, supercapacitors, and lithium ion batteries.

Dr. Wei has published more than 80 papers in peer review scientific journals, which have been cited more than 3000 times.

Honors

1)Chinese Academy of Science President Award, 2003

2)Hundred Talents Program of Chinese Academy of Sciences, 2006

3) Youth Chemist, Chinese Chemical Society, 2009

4)Outstanding Young Scientist Award, NSFC, 2011

5)First Prize of Beijing Science and Technology Award, 2011

6)Second Prize of National Natural Science Award, 2014

杨雨荷

Yuhe Yang
Ph.D., Professor
Email: yangyh@nanoctr.cn
reneeyang0526@gmail.com

Research Interest

Dr. Yang ‘ Renee ’ 's research focused on DNA self-assembly and immune response evaluation and modulation. She has developed site-specific and non-site-specific protein-DNA conjugation and assembly methods, which can arrange any proteins of interest with controlled position, ratio, and orientation on DNA scaffolds. With this method, Renee created artificial multi-enzyme DNA complexes and networks that addressed important fundamental enzymology issues related to multi-enzyme catalysis. Renee also used new principles and approaches for designing self-assembled catalysts that have broad applications in the production of high-value products in industry and bioenergy as well as diagnostic applications in biomedicine. During postdoc training, Renee solved high-resolution cryoEM structures of HIV surface protein and neutralizing antibody complexes, demonstrated the structural details, and revealed the molecular interactions at the ‘ glycan hole ’ epitope and explained why it is difficult to broaden, contributed to improving HIV vaccine design. Dr. Yang is continuing research in using DNA nanostructure as molecular scaffolds and develop next-generation vaccine and EM-based immune response evaluation platform.

Education

2017-2021 The Scripps Research Institute, La Jolla, CA, USA
Postdoctoral Research Associate; Advisor: Andrew B. Ward
2011 – 2016 The Biodesign Institute, Arizona State University, AZ, USA
Ph.D. in biochemistry; Advisor: Hao Yan
2007 – 2011 Tsinghua University, Beijing, P. R. China
B.S. in Chemistry, Advisor Dongsheng Liu, outstanding thesis award

Selected Publication

Fu J., Yang YR., Johnson-Buck A, Liu M, Liu Y, Walter NG, Woodbury NW, Yan H*. 2014. Multi-enzyme complexes on DNA scaffolds capable of substrate channelling with an artificial swinging arm. Nature nanotechnology 9:531. (co-first author)

Yang YR?, McCoy LE?, van Gils MJ, Andrabi R, Turner HL, Yuan M, Cottrell CA, Ozorowski G, Voss J, Pauthner M, Polveroni TM, Messmer T, Wilson IA, Sanders RW, Burton DR, Ward AB*. 2020. Autologous neutralizing antibody responses to an HIV envelope glycan hole are not easily broadened in rabbits. Journal of Virology 94 (7), e01861-19.

Yang YR, Fu J, Wootten S, Qi X, Liu M, Yan H, Liu Y*. 2018. 2D enzyme Cascade network with efficient substrate Channeling by swinging arms. ChemBioChem 19:212-216.

Fu J, Yang YR, Dhakal S, Zhao Z, Liu M, Zhang T, Walter NG, Yan H*. 2016. Assembly of multienzyme complexes on DNA nanostructures. Nature protocols 11:2243.

Yang YR, Liu Y, Yan H*. 2015. DNA nanostructures as programmable biomolecular scaffolds. Bioconjugate chemistry 26:1381-1395. (cover)

王斌

Prof. Bin Wang
Ph.D., Professor
wangb@nanoctr.cn
http://sourcedb.nanoctr.cas.cn/zw/zxrck/201909/t20190923_5399242.html
https://www.researchgate.net/profile/Bin-Wang-176

Resume

Bin Wang is a professor at National Center for Nanoscience and Technology (NCNST), an institute in Chinese Academy of Sciences, Beijing, China. He received his Ph. D. at NCNST in 2014 and then moved to Prof. Rodney S. Ruoff ' s group at the Center for Multidimensional Carbon Materials in Korea and Prof. Liming Dai ' s group in the University of New South Wales in Australia as a research fellow until 2019. He has received the Chinese Academy of Sciences President Award and the Hundred Talents Program of Chinese Academy of Sciences.

Research Interests

His research interests include 2D materials synthesis (graphene, TMD, LDH, perovskite…) and the related mechanoelectrochemistry studies, in detail, the mechanical issues in chemical energy such as batteries and catalysis; the standard testing methods of the on chip electrochemical reactions; the mechanically reinforced carbon composites (films, fibers, and 3D printed architectures).

Publications

1.Xiaoxiong Huang, Bin Wang*, Linjie Zhi*, et al. An Orientated Mass Transfer in Ni-Cu Tandem Nanofibers for Highly Selective Reducing CO2 to Ethanol. Fundamental Research 2022, accepted.
2.Shuaishuai Xu, Bin Wang*, Rodney S. Ruoff*, et al. Chemical Vapor Deposition of Graphene on Thin Metal Films. Cell Rep. Phys. Sci. 2021, 2, 100372.
3.Bin Wang, Benjamin V. Cunning*, Rodney S. Ruoff*, et al. Ultra-stiff, Strong, and Highly Thermally Conductive Crystalline Graphitic Films with Mixed Stacking Order. Adv. Mater. 2019, 31, 1903039.
4.Bin Wang, Nicola M. Pugno*, Rodney S. Ruoff*, et al. Folding Large Graphene-on-Polymer Films Yields Laminated Composites with Enhanced Mechanical Performance. Adv. Mater. 2018, 30, 1707449.
5.Bin Wang, Feng Ding, Rodney S. Ruoff*, et al. Camphor-Enabled Transfer and Mechanical Testing of Centimeter-Scale Ultrathin Films. Adv. Mater. 2018, 30, 1800888.
6.Bin Wang, Xianglong Li*, Linjie Zhi*, et al. Approaching the Downsizing Limit of Silicon for Surface-Controlled Lithium Storage. Adv. Mater. 2015, 27, 1526-1532.

贺涛

Tao He

Ph. D., Professor

E-mail: het@nanoctr.cn

Education

1999.9 – 2002.7 Ph.D. The Chinese Academy of Sciences, Beijing,
China Institute of Chemistry; Key Laboratory of Photochemistry
1996.9 – 1999.7 M.S. Shandong University, Jinan, China
School of Chemistry and Chemical Engineering
1989.9 – 1993.7 B.Ch.E. Dalian University of Technology, Dalian, China
School of Chemical Engineering

Professional Experience

2009.7 – Present Professor National Center for Nanoscience and Technology, China
2005.7 – 2009.5 Postdoc Rice University, Houston, TX, USA
Department of Chemistry & Smalley Institute for Nanoscale Science and Technology
2002.10 – 2005.7 Postdoc Weizmann Institute of Science, Rehovot, Israel
Faculty of Chemistry; Department of Materials and Interfaces
Prof. Dr. Tao He, receieved his Ph.D. in 2002 from Institute of Chemistry, CAS, China. He did postdoctoral research at Weizmann Institute of Science (Israel) and Rice University (USA) from 2002 to 2009. Since July of 2009, he joined National Center for Nanoscienc and Technology, China as a full professor. He has published more than 70 papers in peer-reviewed scientific journals, such as Nature, J. Am. Chem. Soc.,Adv. Mater., Prog. Mater.Sci., J. Phys. Chem., J. Mater.Chem. and Appl. Catal. B.
His research interest is focusing on R&
D of novel photoelectric functional namomaterials and related devices that can efficiently utilize solar energy at relatively low cost, mainly including:
1) Fabrication of photoelectric functional namomaterials and related devices via modern micro- and nano -technology;
2) Controllable modulation of surface & interfacial electronic and photoelectronic property;
3) Photocatalytic reduction of CO2 into value-added chemicals;
4) New-concept devices that convert light into electricity.

Research Interests

Dr. He's research interest is focusing on R&
D of novel photoelectric functional namomaterials and related devices that can efficiently utilize solar energy at a relatively low cost, mainly including new-concept solar cells and artificial photosynthesis. He has published more than 50 papers in peer-reviewed scientific journals (such as Nature, J. Am. Chem. Soc., Adv. Mater., Proc. Natl. Acad. Sci. USA, and Prog.Mater.Sci.), which have been cited more than 800 times.
Fabrication of photoelectric functional namomaterials and related devices via modern micro- and nano-technology; Controllable modulation of surface & interfacial electronic and photoelectronic property; New-concept solar cells that convert photoenergy into electrical energy; Artificial photosynthesis that convert photoenergy into chemical energy ,such as photoreduction of CO2.

丁宝全

Baoquan Ding

Ph. D., Professor

E-mail:dingbq@nanoctr.cn

Education and Professional Experience:

2010- Present Professor, National Center for NanoScience and Technology
2009-2010 Research assistant professor, Arizona State University, USA
2006-2009 Postdoctoral Researcher, Lawrence Berkeley National Lab, USA
2006 PhD New York University, USA
2000 BS Jilin University, China

Research Interests:

DNA nanotechnology, Self-assembled biomolecules, drug delivery and biocatalysis

Selected Publications:

1. Y. Shang, N. Li, S. Liu, L. Wang, Z. Wang, Z. Zhang and B. Ding* Site-specific Synthesis of Silica Nanostructures on DNA Origami Templates Adv. Mater., 2020, DOI:10.1002/adma.202000294.
2. J. Liu, T. Wu, X. Lu, X. Wu, S. Liu, S. Zhao, X. Xu, B. Ding* A Self-Assembled Platform Based on Branched DNA for sgRNA/Cas9/Antisense Delivery J. Am. Chem. Soc., 2019, 141, 19032-19037.
3. N. Li, Y. Shang, R. Xu, Q. Jiang, J. Liu, L. Wang, Z. Cheng, B. Ding* Precise Organization of Metal and Metal Oxide Nanoclusters into Arbitrary Patterns on DNA Origami J. Am. Chem. Soc., 2019, 141, 17968-17972.
4. T. Wu, J. Liu, M. Liu, S. Liu, S. Zhao, R. Tian, D. Wei, Y. Liu, Y. Zhao, H. Xiao, B. Ding* A Nanobody-Conjugated DNA Nanoplatform for Targeted Platinum Drug Delivery Angew. Chem. Int. Ed., 2019, 58, 14224-14228.
5. Q. Jiang, X. Xu, P. Yin, K. Ma, Y. Zhen, P. Duan, Q. Peng*, W. Chen, B. Ding* Circularly polarized luminescence of achiral cyanine molecules assembled on DNA templates J. Am. Chem. Soc., 2019, 141, 9490-9494.
6. Q. Jiang, S. Zhao, J. Liu, L. Song, Z. Wang, B. Ding* Rationally designed DNA-based nanocarriers Advanced Drug Delivery Reviews, 2019, 147, 2-21.
7. Q. Jiang, S. Liu, J. Liu, Z. Wang, B. Ding* Rationally Designed DNA Origami Nanomaterials for Drug Delivery In Vivo Adv. Mater. 2019 31(45): e1804785, doi: 10.1002.adma.201804785.
8. J. Liu, L. Song, S. Liu, S. Zhao, Q. Jiang, B. Ding* A Tailored DNA Nanoplatform for Synergistic RNAi-/Chemo-Therapy of Multidrug-Resistant Tumors Angew. Chem. Int. Ed., 2018, 57, 15486-15490.
9. P. Zhan, T. Wen, Z. Wang, Y. He, J. Shi, T[illegible]ng, X. Liu, G. Lu, B. Ding* DNA Origami Directed Assembly of Gold Bowtie Nanoa[illegible]as for Single Molecule Surface-Enhanced

何军

Jun He

Ph. D., Professor

E-Mail: hej@nanoctr.cn;

Homepage:

http://sourcedb.nanoctr.cas.cn/zw/zxrck/201102/t20110215_3071437.html

Resume

Prof. He received his PhD in Semiconductor Physics from the Institute of Semiconductors, Chinese Academy of Sciences (CAS), in 2003. Then he joined Applied Physics Department of TechnischeUniversiteit Eindhoven, Netherlands, as a postdoctoral fellow. From 2005 to 2007, he worked at Material Department of University of California, Santa Babara, USA. From 2007 to 2010, he worked at California NanoSystemInsitute (CNSI), University of California, Los Angeles, USA. He joined the “100-Talents” Program of CAS in Nov. 2010 and became a Full Professor of NCNST since then. Up to date, He has authored or co-authored over 50 peer-reviewed papers.

Current Research Interests

1) Synthesis, physical properties and devices of low-dimensional semiconductor materials

2) Electronic, optoelectronic and optical information devices

3) Multi-component hybrid nanostructure design and applications in energy, electronics, and optoelectronics

Article

1. Q. S.Wang, M. Safdar, K. Xu, M. Mirza, Z.X. Wang andJ He*.Van der Waals Epitaxy and Photoresponse of Hexagonal Tellurium Nanoplates on Flexible Mica Sheets, ACS Nano.8, 7497-7505 (2014).

2. K. Xu, F. M. Wang, Z. X. Wang, X. Y. Zhan, Q. S. Wang, Z. Z. Cheng, M. Safdar andJ He* Component-Controllable WS2 (1-x) Se2x Nanotube for Efficient Hydrogen Evolution Reaction, ACS Nano. 8, 8468-8476(2014).

3. Z. X. Wang, K. Xu, Y. C. Li, X. Y. Zhan, M. Safdar, Q. S. Wang, F. M. Wang, and J He*Role of Ga Vacancy on a Multilayer GaTe Phototransistor, ACS Nano. 8, 4859-4865 (2014).

4. M. Safdar, Q. S. Wang, M. Mirza, Z. X. Wang, K. Xu, and J He* Topological Surface Transport Properties of Single-Crystalline SnTe nanowire, Nano Letters. 13, 5344-5349 (2013).

5. Q. S. Wang, M. Safdar, Z. X. Wang, and J He* Low-Dimensional Te-Based Nanostructures Advanced Materials. 25, 3915-3921 (2013).

6. Z. X. Wang, M. Safdar, C. Jiang, J He*High-Performance UV-Visible-NIR Broad Spectral Photodetectors Based on One-Dimensional In2Te3Nanostructures, Nano Letters. 12, 4715-4721 (2012).

施兴华

Xinghua Shi

Ph. D., Professor

E-mail: shixh@nanoctr.cn

Resume

Xinghua Shi received his Bachelor degree from Peking University, Master degree from Institute of Mechanics, Chinese Academy of Sciences and PhD from Brown University. He studied nanoparticle-cell interaction with multiscale modeling. In the beginning of 2016 he joined National Center for Nanoscience and Technology (NCNST) as full professor and principle investigator. There he focused on the mechanics problems of drug delivery systems. He has published several papers in the international journals like Nature Nanotechnology、 Nature Materials、Physical Review Letters、Nano Letters、Advanced Materials、ACS Nano etc.

Research Interest

Multiscale simulation, biomechanics, self-assembly, target drug delivery

Article

1.Xinghua Shi, Annette VomdemBussche, Robert Hurt, Agnes Kane, HuajianGao, Cell entry of one-dimensional nanomaterials occurs by tip recognition and rotation, Nature Nanotechnology,6(11), 714-719 (2011).

2.Yujie Wei, Jiangtao Wu, HanqingYin,XinghuaShi,Ronggui Yang, Mildred S. Dresselhaus, The nature of strength enhancement and weakening by pentagon-heptagon defects in graphene,Nature Materials,11, 759-763 (2012).

3.Jiuling Wang, HaiminYao, Xinghua Shi*, Cooperative entry of nanoparticles intothe cell, Journal of the Mechanics and Physics of Solids,73, 151-165 (2014).

4. Jiashu Sun, Lu Zhang, Jiuling Wang, QiangFeng, Dingbin Liu, Qifang Yin, DongyanXu, Yujie Wei, BaoquanDing,Xinghua Shi*, Xingyu Jiang*, Tunable rigidity of (polymeric core)-(lipid shell) nanoparticles for regulated cellular uptake,Advanced Materials,27, 1402-1407 (2015).

5.Miaorong Yu, Jiuling Wang, Yiwei Yang, Chunliu Zhu, Qian Su, ShiyanGuo, Jiashu Sun, Yong Gan*, Xinghua Shi*, HuajianGao*, Rotation-facilitated rapid transport of nanorods in mucosal tissues, Nano Letters, 16, 7176-7182 (2016).

王振兴

Zhenxing Wang

Ph. D., Professor

E-mail: wangzx@nanoctr.cn

Education and Professional Experience

1998.09 —2002.06 B.S., University of Science and Technology of China (USTC)

2002.07 —2009.03 Ph. D., University of Science and Technology of China (USTC)

2006.02 —2006.08 Visit student, University of Alberta, Canada

2009.04 —2011.06 Postdoctoral Fellow, Peking University

2011.07 —2013.06 Assistant Prof., National Center for Nanoscience and Technology, China

2013.07 —2017.03 Associate Prof., National Center for Nanoscience and Technology, China

2017.04 —Present Prof., National Center for Nanoscience and Technology, China

Research Interests

1. Low dimensional semiconductor materials, properties

2. Electronic devices: computing in memory, neuromorphic computing, negative capacitance FET

3. Design and synthesis of low-dimensional materials for photo(electro)catalysis (water splitting, CO2 reduction etc.) and energy conversion

Selected Publications (Max 20)

Nanostructures, Nano Lett. 12, 4715-4721 (2012).

[9] Yuyu Yao, Zhenxing Wang*, Shengjun Yuan, Chao Jiang, Congxin Xia * and Jun He* et al, Growth and Raman Scattering Investigation of a New 2D MOX Material: YbOCl, Adv. Funct. Mater. 29, 1903017 (2019).

[10] Jie Li#, Zhenxing Wang#, Le Lei, Peng He, Chao Jiang, Liping Feng* and Jun He* et al, High Performance Near-infrared Photodetector Based on Ultrathin Bi2O2Se Nanosheets, Adv. Funct. Mater. 28, 1706437 (2018).

[11] Tofik Ahmed Shifa, Fengmei Wang, Chao Jiang, Zhenxing Wang* and Jun He* et al, High crystal quality 2D manganese phosphorus trichalcogenide nanosheets and their photocatalytic, Adv. Funct. Mater . 28, 1800548 (2018).

[12] Feng Wang, Zhenxing Wang*, Tofik Ahmed Shifa, Chao Jiang and Jun He* et al, Two-dimensional non -layered materials: synthesis, properties and applications, Adv. Funct. Mater. 27, 1603254 (2017).

[13] Feng Wang#, Zhenxing Wang#, Lei Yin, Ruiqing Cheng, Junjun Wang, Yao Wen, Tofik Ahmed Shifa, Fengmei Wang, Yu Zhang, Xueying Zhan, and Jun He*, 2D Library beyond Graphene and Transition Metal Dichalcogenides: A Focus on Photodetection, Chem. Soc. Rev. 47, 6296-6341 (2018).

[14] Pengfei Liu, Lei Yin, Liping Feng*, Congxin Xia, Zhenxing Wang, * et al, Controllable preparation of ultrathin 2D BiOBr crystals for high-performance ultraviolet photodetector, Science China Materials 64, 189 (2021).

梁兴杰

Xingjie Liang

Ph. D., Professor

Email:liangxj@nanoctr.cn

Homepage: http://www.nanoctr.cn/liangxingjie/ketizu/

Resume

Dr. Liang got Ph.D at National Key Laboratory of Biomacromolecules, Institute of Biophysics, Chinese Academy of Sciences. He finished his postdoc with Dr. Michael M. Gottesman for 5 years at Laboratory of Cell Biology, Center for Cancer Research, National Cancer Institute, National Institutes of Health, Bethesda, Maryland. Then, he worked as a Research Fellow at Surgical Neurology Branch, NINDS (National Institute of Neurological Diseases and Strokes, NIH) for 2 years. In 2007, he was an assistant professor at Department of Radiology, School of Medicine, Howard University.

Dr. Liang currently is deputy director of Key Laboratory for Biomedical Effects of Nanomaterials and Nanosafety, Chinese Academy of Sciences and chief of laboratory of Nanomedicine and Nanosafety, National Center for Nanoscience and Technology of China. Dr. Liang is a founder member of International Society of Nanomedicine, member of American Association for Cancer Research and Union for International Cancer Control. Dr. Liang is current editorial board member of 《Advances in Nano Research》 《ActaBiophysicaSinica》 《Journal of Nanomaterials》and 《Current Nanoscience》, guest editor of 《Biotechnology Advances》. Dr. Liang was honored with 2004、2005、2006 “Fellows Award for Research Excellence” in NIH; “Special Government Allowances” by Department of State, 2011; “National Distinguished Young Scholars” by NSFC; and “Young Pharmaceutics Scholar” by CPA, 2012.

His research interests are in elucidating mechanisms to improve nanomedicinal bioavailability by nanotechnology in vivo, and novel strategies to increase therapeutic effect on cancers and infective diseases. Developing drug delivery strategies for prevention/treatment of AIDS and cancers are current program ongoing in Dr. Liang's lab based on understanding of basic physio-chemical and biological processes of nanomedicine. Most protocols are employed for delivering therapeutic molecules (chemical compounds or nucleic acids) to actively target cells or tissues in vivo to enhance drug safety and efficacy.

陈春英

Chunying Chen

Ph. D., Professor

Email: chenchy@nanoctr.cn

Resume

Dr. Chen received her Bachelor's degree in chemistry (1991) and obtained her PhD degree in Biomedical engineering from Huazhong University of Science and Technology of China in 1996. She worked as a postdoctoral research fellow at the Key Laboratory of Nuclear Analytical Techniques, Institute of High Energy Physics of Chinese Academy of Sciences (1996-1998) and at the Medical Nobel Institute for Biochemistry of Karolinska Institute, Sweden (2001-2002). From 2002 onwards, she is working as a group and project leader at the China Nanosafety lab. She is one of the earliest researchers in this new field in China. Dr. Chen currently is a principal investigator at Key Laboratory for Biomedical Effects of Nanomaterials and Nanosafety in National Center for Nanoscience and Technology of China. She has authored/co-authored over 150 peer-reviewed papers/book chapters and 3 books. She has been authorized 13 granted patents and one international standard. She has served as editorial board members of peer-reviewed journals. She is the principle investigator of several domestic and international projects, such as China MOST 973 Program and projects from Natural Science Foundation of China, the EU-FP6 and EU-FP7, IAEA Coordinated Research Project (2009-2012), Danish Council for Strategic Research (2013-2015), Germany BMBF Cooperation Project (2011-2014), and Japan photon factory cooperation projects (2006-2007, 2008-2009). She has been supported by the National Science Foundation for Distinguished Young Scholars of China in 2014. She has been awarded the National Award for Innovation and Outstanding Service to the Standard authorized by Standardization Administration of the People's Republic of China in 2011, the Second Prize of Beijing Science and Technology (ranked second) in 2008, the Second Prize of the National Natural Science Award (ranked second) in 2012, and Chinese Young Female Scientists Award in 2014. She has been selected as one of Highly Cited Researchers in Pharmacology & Toxicology field during 2002-2012 by Thomson Reuters in 2014.

Research Interests

1) Development of novel nanomedicine with high efficiency and low toxicity for tumor theranostics.

2) Investigation on the interaction of engineered nanomaterials with biological systems.

3) Integrating advanced nuclear techniques and biotechnologies for nanomaterials exposure and molecular mechanisms.

4) Exposure scenarios and the occupational exposure to nanomaterials.

English homepage：http://english.nanoctr.cas.cn/chenchunying/home/

Chinese homepage：http://www.nanoctr.cn/chenchunying/ketizu/

聂广军

Guangjun Nie

Ph. D., Professor

Email: niegj@nanoctr.cn

Education/Training

2002-2008 Jewish General Hospital, McGill University, Canada Postdoctoral Associate

Hematology and Cell Biology

2002 Institute of Biophysics, Academia Sinica, Beijing Ph.D

Biophysics

2007 Simon Fraser University, Vancouver, Canada Masters

Business Administration in Biotechnology Management

1999 Jilin University, China Masters, Biochemistry and Molecular Biology

1996 Northeast Normal University, China Bachelor, Biology

Positions and Employment

2008-present Professor of Nanobiology and Nanomedicine, National Center for Nanoscience and Technology, PR China

2002-08 Postdoctoral Research Associate, Jewish General Hospital, McGill University, Canada

2000 Jun-Dec Visiting Scientist, Institute of Food Research, Norwich, United Kingdom

Resume

GuangjunNie is a Professor at the National Center for Nanoscience and Technology of China. He obtained his Ph.D in Biochemistry and Biophysics at the Institute of Biophysics, CAS in 2002. Currently, he is a CAS 100 Talents Scientist and Chief Scientist of a MoST National Basic Research Program Grant. He has a long standing interest in cancer biology and blood pathophysiology. Currently, his main interests are intracellular trafficking of nanoparticles and design of bio-inspired materials to overcome the current barriers in tumor therapy. In particular, his group is working toward controlling the chemical properties of multi-functional nanoparticles in order to allow specific targeting and regulation of tumor cells and their microenvironment. His most recent research activities generated a group of interdisciplinary works in nanobiology and nanomedicine fields, including papers published in AccChem Res, Adv Mater, AngewChem, Blood, Biomaterials, Br J Haematol, JACS, JBC, Scientific Reports, Small.

胡志远

Zhiyuan Hu

Ph.D., Professor

Email: huzy@nanoctr.cn

Homepage: http://www.nanoctr.cn/huzhiyuan/ktzjj/

Hu's lab is focused on in vitro diagnostics for immune diseases based on proteomics and nano technology. We have developed a microfluidic platform for high throughput peptides/peptoids synthesis. We also have developed a method for high throughput peptide on-beads screening based on magnetic beads enrichment, MS sequencing, and Surface Plasmon Resonance imaging (SPRi) chip analysis. The goal is to discover disease specific biomarkers of autoantigens and allergens, then to further develop peptide chip for personal diagnosis for autoimmune and allergy diseases.

Resume

2011- Professor, National Center for Nanoscience and Technology of China

2007-2010 Research Scientist, Institute for Systems Biology, USA

2006-2007 Postdoctoral Fellow, Institute for Systems Biology, USA

2005-2006 Postdoctoral Fellow, Johns Hopkins University

2000-2005 Ph. D. at Dept. Biological Chemistry, Johns Hopkins University

1990-1995 B.S. at Dept. Genetics, Fudan University, China.

Publications

1) Sun B, Utleg AG, Hu Z, Qin S, Keller A, Lorang C, Gray L, Brightman A, Lee D, Alexander VM, Ranish JA, Moritz RL, Hood L. Glycocapture-Assisted Global Quantitative Proteomics (gagQP) Reveals Multiorgan Responses in Serum Toxicoproteome.J Proteome Res. (2013);12(5):2034-44

2) Lausted C., Hu Z., Hood L., Label-free detection with surface plasmon resonance imaging. Methods Mol. Biol., 2011, 723:321-33.

3) Wang K, Zhang S, Marzolf B, Troisch P, Brightman A, Hu Z, Hood L, and Galas D. Circulating microRNAs, a new class of blood biomarker for drug- induced liver injury. PNAS. (2009); 106(11): 4402-7

4) Lausted C*, Hu Z*, Hood L. Quantitative serum proteomics from surface plasmon resonance imaging. Mol Cell Proteomics. (2008); 7(12): 2464–2474

5) Hu Z, Hood L and Tian Q. Quantitative Proteomic Approaches for Biomarker Discovery. Proteomics-Clinical Applications. (2007); 1(9): 1036-41

6) Chakravarthy MV, Zhu Y, Lopez M, Yin L, Wozniak DF, Coleman T, Hu Z, Wolfgang M, Vidal-Puig A, Lane MD, Semenkovich CF. Brain fatty acid synthase activates PPARalpha to maintain energy homeostasis. J Clin Invest. (2007); 117(9): 2539-52

7) Hu Z, Cha SH, van Haasteren G, Wang J and Lane MD.Effect of centrally-administered C75, a FAS inhibitor, on ghrelin secretion and its downstream effects.PNAS. (2005); 102(11): 3972-7

王浩

Hao Wang

Ph. D., Professor

Email: wanghao@nanoctr.cn

Homepage: http://www.nanoctr.cn/wanghao

Current Research Interests

My research interests are to develop supramolecular materials for the advancement of molecular diagnostics (imaging) and therapeutics, as well as in vitro molecular diagnostics. We envision that the combination of modular molecular assembly strategy and modern in vivo molecular diagnostics/therapeutics and in vitro molecular diagnostics represents an important paradigm shift for drug discovery and clinical patient management applications.

Qualifications/Advisors

2011-present Professor, National Center for Nanoscience and Technology of China

2010-2011 Staff Research Associate, Department of Molecular and Medical Pharmacology, UCLA

2007-2010 Postdoctoral Fellow, Department of Molecular and Medical Pharmacology, UCLA

2006 - 2007 Alexander von Humboldt (AvH) Fellow, Univers?tWürzburg, Germany.

2000 -2005 Ph. D. at Department of Chemistry, Nankai University, China.

1996 - 2000 B.S. at the Department of Chemistry, Nankai University, China.

Graduate Advisor Prof. Yu Liu (Nankai University)

Postdoctoral Advisor Prof. Frank Würthner (Univers?tWürzburg, Germany)

Prof. Hsian-Rong Tseng (UCLA)

Awards and Honors

Adjunct Professor，East China University of Science and Technology, 2011-2014

100 Talents Program of The Chinese Academy of Sciences, 2011

Excellent Ph. D. Thesis Award in Tianjin, 2007

Nomination National Top 100 Excellent Ph. D. Thesis Award in China, 2007

Alexander von Humboldt Fellowship in 2005-2007

Scholarship of Chinese Academy of Science in 2004

“Yang Shi-xian” award in 2004.

“Top 10 Graduates of Nankai University” award in 2004.

Professional Societies

American Association for the Advancement of Science (AAAS)

American Chemical Society (ACS)

方巧君

Qiaojun Fang

Ph. D., Professor

E-mail: fangqj@nanoctr.cn

Homepage: http://www.nanoctr.cn/qiaojunfang/ktzjj/

Education:

Ph. D. 2005 Department of Biological Chemistry, Johns Hopkins University, Baltimore, MD, USA

M.S. 1999 Biochemistry Department, Peking University, Beijing, P. R. China

B.S. 1996 Department of Plant Physiology and Molecular Biology, Peking University, Beijing, P. R. China

Research Experience

2/2013 to current Professor, National Center for Nanoscience and Technology, Beijing, China

7/2009 to 1/2013 Staff scientist, Fred Hutchinson Cancer Research Center, Seattle, WA

2/2007 to 6/2009 Post-doctoral fellow, Fred Hutchinson Cancer Research Center, Seattle, WA

10/2005 to 1/2007 Post-doctoral fellow, Department of Biological Chemistry at the Johns Hopkins University School of Medicine, Baltimore, MD

Research Interests

1. Computational simulation of bio-nano interactions.
2. Peptide design and self-assembly.

Publications

1.Xiaoliang Yang, Zihua Wang, Zhichu Xiang, Dan Li, Zhiyuan Hu, Wei Cui*, Lingling Geng*, Qiaojun Fang*, “ Peptide probes derived from pertuzumab by molecular dynamics modeling for HER2 positive tumor imaging ” , PLoS Computational Biology, 2017 Apr 13;13(4):e1005441

2.Lanlan Yu, Wenbo Zhang, Wendi Luo, Robert L. Dupont, Yang Xu, Yibing Wang, Bin Tu, Haiyan Xu, Xiaoguang Wang, Qiaojun Fang*, Yanlian Yang, Chen Wang, and Chenxuan Wang*， “ Molecular recognition of human islet amyloid polypeptide assembly by selective oligomerization of thioflavin T ” , Science Advances. 2020 Aug ; 6(32): eabc1449.

杨蓉

Rong Yang

Ph. D., Professor

E-mail: yangr@nanoctr.cn

Resume

Rong Yang is a Professor in National Center for Nanoscience and Technology of China. Rong Yang got her Ph.D. from Ohio University, U.S.A. in 2006. After that she worked as a postdoctoral researcher at department of Chemical Engineering and Materials Science in University of Minnesota from 2006 to 2007. She is working on the interdisciplinary research linking materials, biology, chemistry and physics. Her research includes studies of preparation and properties of nanomaterials/biointerface; preparations and applications of nano-biomaterials, nano-drugs; bioeffects of nanomaterials, etc. She has published 26 papers in academic journals.

Direction

Functional nanomaterials; nano-biomaterials; nano/bio interface properties.

Article

1. Wang X, Han Q, Yu N*, Li J, Yang L, Yang R*, Wang C. Aptamer-Conjugated Graphene oxide/gold Nanocomposites for Targeted Chemo-Photothermal Therapy of Cancer Cells. Journal of Materials Chemistry B 2015, DOI: 10.1039/C5TB00134J.

2. Li J, Han Q, Wang X, Yu N, Yang L, Yang R*, Wang C*, "Reduced aggregation and cytotoxicity of amyloid peptides by graphene oxide/gold nanocomposites prepared by pulsed laser ablation in water", Small, 2014,10, 4386-4394. (IF 8.3)

3. Li J, Han Q, Wang X, Yang R*, Wang C*, "Enhanced cell growth on nanotexturedGaN surface treated by UV illumination and fibronectin Adsorption", Colloids and Surfaces B, 2014, 123, 293-301 (IF 4.2)

4. Wu H, Yang R*, Song B, Han Q, Li J, Zhang Y, Fang Y, Tenne T, Wang C*, "Biocompatible Inorganic Fullerene-Like Molybdenum Disulfide Nanoparticles Produced by Pulsed Laser Ablation in Water", ACS Nano 2011, 5,1276. (IF 9.855)

Commitment to Research the Situation

1.National Natural Science Foundation of China(General Program) : "Studies of Gallium nitride nano-structure and related biointerface in molecular level", PI.

2. The Major Program of Chinese Academy of Sciences: "Major diseases related nanotechnology research", Key Member.

3. National Natural Science Foundation of China- Sino-Denmark Joint Project : "Self-assembly and Function of Molecular Nanostructures on Surfaces", Key Member.

4. Start funding from NCNST, PI.

葛广路

Guanglu Ge

Ph. D., Professor

Email: gegl@nanoctr.cn

Resume

Bachelor degree in 1992 and Master degree in 1995 from Department of Chemsitry, Shandong University.Ph.D. in 2001 under supervision of Prof. L. E. Brus from Columbia University, US. Thesis was on selfassembly of nanoparticles at solid/liquid interface. Postdoctoral research from 2001 to 2005 at California Institute of Technology, with research focus on large scale protein detection using array of silicon nanowires.Joined NCNST in 2005.

Direction

Nanoscale Physical Chemistry

Article

1.“MAC mode Atomic Force Microscopy Studies of Living Samples, Ranging from Cells to fresh Tissue”, G. Ge, D. Han, D. Lin, W. Chu, Y. Sun, L. Jiang, W. Ma, C. Wang, Ultramicroscopy, 107, 299-307, 2007.

2. “Electrochemically Programmed, Spatially Selective Biofunctionalization of Silicon Wires” Y. L. Bunimovich, G. Ge, K. C. Beverly, R. S. Ries, L. Hood, and J. R. Heath Langmuir, 20(24), 10630-10638, 2004.

3. “Gas-liquid-solid Phase Transition Model for Two-dimensional Nanocrystal Self-assembly on Graphite” J. Tang, G. Ge, and L. E. Brus, J PhysChem B, 106(22), 5653-5658, 2002.

4. “Fast Surface Diffusion of Large Disk-Shaped Nanocrystal Aggregates” G. Ge and L. E. Brus, Nano Letters, 1, (4), 219, 2001.

5. “Evidence for Spinodal Phase Separation in Two-Dimensional Nanocrystal Self-Assembly” G. Ge and L. E. Brus, J PhysChem B, 104, (41), 9573, 2000.

Community Service

Youth councilor of Chinese Particuology Society, Member of SAC/TC118 on Reference

Materials

Commitment to Research the Situation

1.NSFC general project

2.National Key Scientific Research Project

3.Knowledge Innovation Program of the Chinese Academy of Sciences

杨延莲

Yanlian Yang

Ph. D., Professor

Email:yangyl@nanoctr.cn

Resume

Yanlian Yang, Professor. She received B.S. and M.S. degrees in Chemistry from Shandong University in 1996 and 1999, respectively. In 2002, she obtained PhD degree in Physical Chemistry from Peking University, and then worked as a postdoctoral researcher in Peking University from 2002 to 2004. Since 2004, she joined National Center for Nanoscience and Technology (NCNST). She was a visiting scholar at the Center for Biomedical Engineering, Massachusetts Institute of Technology from 2007 to 2008. She currently is a Professor in NCNST. Her research interests include: structure, modulation and the molecular mechanism of peptide assembly related to degeneration diseases; development of new nano-characterization methods based on scanning probe microscopy; and construction and characterization of functional molecular nanostructures.

Direction

1) Structure, modulation and the molecular mechanism of peptide assembly related to degeneration diseases;

2) Development of new nano-characterization methods based on scanning probe microscopy;

3) Construction and characterization of functional molecular nanostructures;

Peer Reviewed Papers

1. Lei Liu, Lin Niu, MengXu, Qiusen Han, HongyangDuan, Mingdong Dong, FlemmingBesenbacher, Chen Wang*, Yanlian Yang*, “Molecular tethering effect of C-terminus of amyloid peptide Aβ42”, ACS Nano, 2014, 8(9), 9503-9510.

2. Xiaobo Mao, YuanyuanGuo, Yin Luo, Lin Niu, Lei Liu, Xiaojing Ma, Huibin Wang, Yanlian Yang*, Guanghong Wei*, Chen Wang*, “Sequence Effects on Peptide Assembly Characteristics Observed by Using Scanning Tunneling Microscopy” J. Am. Chem. Soc. 2013, 135 (6), 2181–2187.

3. Min Zhang, Xiaobo Mao, Yue Yu, Chenxuan Wang, Xiaobo Mao, Yanlian Yang,* Chen Wang* “Nanomaterials for reducing amyloid cytotoxicity”, Adv. Mater., 2013, 2013, 25(28), 3780–3801.

6. Lei Liu, Lan Zhang, Lin Niu, MengXu, Xiaobo Mao, Yanlian Yang*, Chen Wang*, “Observation of Reduced Cytotoxicity of Aggregated Amyloidogenic Peptides with Chaperone-like Molecules” ACS Nano, 2011, 5(7), 6001-6007.

7. Yanlian Yang, Chen Wang*, Hierarchical construction of self-assembled low-dimensional molecular architectures observed by using scanning tunneling microscopy, Chem. Soc. Rev., 2009, 38, 2576-2589.

吴晓春

Xiaochun Wu

Ph. D., Professor

Email:wuxc@nanoctr.cn

Resume

Xinghua Shi received his Bachelor degree from Peking University, Master degree from Institute of Mechanics, Chinese Academy of Sciences and PhD from Brown University. He studied nanoparticle-cell interaction with multiscale modeling. In the beginning of 2016 he joined National Center for Nanoscience and Technology (NCNST) as full professor and principle investigator. There he focused on the mechanics problems of drug delivery systems. He has published several papers in the international journals like Nature Nanotechnology、 Nature Materials、Physical Review Letters、Nano Letters、Advanced Materials、ACS Nano etc.

Research Interest

Multiscale simulation, biomechanics, self-assembly, target drug delivery

Article

1.Xinghua Shi, Annette VomdemBussche, Robert Hurt, Agnes Kane, HuajianGao, Cell entry of one-dimensional nanomaterials occurs by tip recognition and rotation, Nature Nanotechnology,6(11), 714-719 (2011).

2.Yujie Wei, Jiangtao Wu, HanqingYin,XinghuaShi,Ronggui Yang, Mildred S. Dresselhaus, The nature of strength enhancement and weakening by pentagon-heptagon defects in graphene,Nature Materials,11, 759-763 (2012).

3.Jiuling Wang, HaiminYao, Xinghua Shi*, Cooperative entry of nanoparticles intothe cell, Journal of the Mechanics and Physics of Solids,73, 151-165 (2014).

4. Jiashu Sun, Lu Zhang, Jiuling Wang, QiangFeng, Dingbin Liu, Qifang Yin, DongyanXu, Yujie Wei, BaoquanDing,Xinghua Shi*, Xingyu Jiang*, Tunable rigidity of (polymeric core)-(lipid shell) nanoparticles for regulated cellular uptake,Advanced Materials,27, 1402-1407 (2015).

5.Miaorong Yu, Jiuling Wang, Yiwei Yang, Chunliu Zhu, Qian Su, ShiyanGuo, Jiashu Sun, Yong Gan*, Xinghua Shi*, HuajianGao*, Rotation-facilitated rapid transport of nanorods in mucosal tissues, Nano Letters, 16, 7176-7182 (2016).

江潮

Chao Jiang

Ph. D., Professor

Email: jiangch@nanoctr.cn

Homepage: http://www.nanoctr.cn/jiangchao/

Resume

Prof. Dr. Chao JIANG, male, born in January, 1965. Being the Professor of Physics in National Center for Nanoscience and Technology, China, from 2005. Awarded by the “Hundred Talent Program” of Chinese Academy of Sciences in 2007. He received his BS from Peking University in 1986, and PhD from Institute of Semiconductors, CAS in 1998. From 1998 to 2005, Prof. Jiang, as post-doctoral researcher and JSPS Foreigner Research Fellow working on fabrication of low-dimensional semiconductors and its characterization in Hokkaido University and University of Tokyo, respectively. He is the principal Scientist for the “973” project of “Standardization for the key Nano-measurement Techniques” (2006-2010). His current research interests include (1) Organic electronics and its larger area circuit architectures; (2) Optical characterization and nano-metrology.

Article

1. “Electrical transport mechanism of single monolayer pentance film employing field-effect characterization”,Jiawei Wang, Chao Jiang*,Org. Electron. 16 (2015) 164-170.

2. “Novel Top-Contact Monolayer Pentacene-Based Thin-Film Transistor for Ammonia Gas Detection”,Mishbah Mirza, Jiawei Wang, Dexing Li, S. Atika Arabi, and Chao Jiang*, ACS Appl. Mater. Interfaces 2014, 6, 5679-5684.

4. “Photoinduced degradation of organic solar cells with different microstructures”,Lu Chun-Xi, Yan Peng, Wang Jin-Ze, Liu Ai-Min, Song De, and Jiang Chao*, Chin. Phys. B, 23 (2014) 088803.

5. “Influence of grain size at first monolayer on bias-stress effect in pentacene-based thin film transistors” ,Yiwei Zhang, Dexing Li, and Chao Jiang*, Appl. Phys. Lett., 103, 213304 (2013).

7. “Scattering due to anisotropy of ellipsoid quantum dots in GaAs/InGaAs single quantum well”,Dong-Dong Jin, Chao Jiang, Guo-Dong Li, Liu-Wan Zhang, Tao Yang, Xiang-Lin Liu, Shao-Yan Yang, Qin-Sheng Zhu, and Zhan-Guo Wang, J. Appl. Phys. 113, 033701 (2013).

8. “Controllable synthesis and photocatalytic properties of hierarchical flower-like TiO2 nanostructure”,Lixia Du, Zhijiao Wu, Qian Wu, Chao Jiang*, Lingyu Piao*, Chin. J. Catal., 2013, 34(4): 808-814.

9. “Atomic-layer triangular WSe2 sheets: synthesis and layer-dependent photoluminescence property”,Kai Xu, Zhenxing Wang, Xiaolei Du, Muhammad Safdar, Chao Jiang and Jun He, , Nanotechnology, 24 (2013) 465705.

10. “Two-step growth of large pentacene single crystals based on crystallization of pentacene monolayer film”, Qiao Jin, Dexing Li, Qiong Qi, Yiwei Zhang, Jun He, and Chao Jiang*, Cryst. Growth Des., 12, 5432-5438(2012).

戴庆

Qing Dai

Ph. D., Professor

Email:daiq@nanoctr.cn

Homepage: http://www.daiqlab.com

Curriculum Vitae

Dr. Qing Dai is a professor in Nanophotonics at National Center for Nanoscience and Technology (NCNST). He received his BEng and MEng [Electronic & Electrical Engineering] from Imperial College, London, before coming to the University of Cambridge to pursue a PhD in Nanophotonics at the Department of Engineering. After completing his PhD in 2011, Qing continued as a Research Associate at CMMPE (Centre of molecular materials for photonics and electronics) working in collaboration with Samsung to develop novel nanophotonic devices using patterned-aligned carbon nanotubes (CNTs) for applications in 3D display.Since 2012, he joined National Center for Nanoscience and Technology (NCNST).

Honors and Awards

2013 Lu Jiaxi Young Talent Award of the Chinese Academy of Sciences

2012 Junior Research Fellowship at Wolfson College, University of Cambridge

2012 Global Experts Programme supported by Chinese central government

Researcher Interests

Her research interests include: Light-matter interaction and photonic devices based on graphene and other 2D nanomaterials; carrier transport and electronic devices using carbon nanomaterials; device applications in communications and biosensors; integration of emerging and traditional materials.

Key Publications

1. Xiang-Tian Kong, Bing Bai, Qing Dai*, Grapheneplasmon propagation on corrugated silicon substrates, Opt. Lett., 40(1), 1,(2015)

2. Zhenjun Li, Xiaoxia Yang, Feng He, Bing Bai, Hang Zhou, Chi Li*, Qing Dai*, High Current Field Emission from Individual Non-Linear Resistor Ballasted Carbon Nanotube Cluster Array, Carbon,89,1,(2015)

3. Xiaoxia Yang, Zhenjun Li, Feng He, Mingju Liu, Bing Bai, Wei Liu, XiaohuiQiu, Hang Zhou, Chi Li*, Qing Dai*, Enhanced Field Emission from a Carbon Nanotube Array Coated with a Hexagonal Boron Nitride Thin Film, Small, DOI: 10.1002/smll.201403323, (2015)

4. H. Butt,A.K. Yetisen, R. Ahmed, S.H. Yun, Q. Dai, Carbon nanotube biconvex microcavities, Appl. Phys. Lett., 106(12),121108, (2015)

5. Xiang Liu, Nianze Liu, Mingju Liu, Zhi Tao, WenjianKuang, XiangbingJi, Jing Chen, Wei Lei*,Qing Dai*, Chi Li*, XuehuaLia and ArokiaNathanb, Graphenenanomeshphotodetector with effective charge tunnelling from quantum dots, Nanoscale,7,4242, (2015).

朴玲钰

Lingyu Piao

Ph. D., Professor

Email: piaoly@nanoctr.cn

Homepage: http://www.nanoctr.cn/piaolingyu/yanjiuzujianjie/

Resume

2005, 7 – Now, Professor, National Center for Nanoscience and Technology, China.

2004, 4 – 2005, 4 As a Post-Ph.D, Laboratory Reactivity of Surface, University Pierre and Marie Curie, Paris, France.

2002, 7 – 2004, 4 As a Post-Ph.D, College of Chemistry and Molecular Engineering, Peking University.

1999, 9 – 2002, 6 Ph.D Degree, Department of Catalysis Science and Technology, School of Chemical Engineering, Tianjin University.

Direction

1. Functional nano-materials: controllable synthesis and application in new energy source and environmental protection.

2. Interaction between nano-materials and biomoleculars.

Article

1. YingjuanXie, Xiao Zhang, Peijun Ma, Zhijiao Wu, and LingyuPiao*, Hierarchical TiO2 Photocatalysts with One-dimensional Heterojunction for Improved Photocatalytic Activities, Nano Research, 2015, 8, 2092–2101.

2. Hongmei Li, YangsuZeng, Tongcheng Huang, LingyuPiao*, Zijie Yan, and Min Liu*, Hierarchical TiO2Nanospheres with Dominant {001} Facets: Facile Synthesis, Growth Mechanism, and Photocatalytic Activity, Chem. Eur. J, 2012, 18, 7525 – 7532.

3. Qian Wu, Min Liu, Zhijiao Wu, Yongliang Li, LingyuPiao*, Is Photooxidation Activity of {001} Facets Truly Lower Than That of {101} Facets for Anatase TiO2 Crystals?J. Phys. Chem. C, 2012, 116 (51), 26800–26804.

4. Min Liu,LingyuPiao*, Weiming Lu, Lei Zhao, Siting Ju, Zijie Yan, Tao He, Wenjing Wang*, Anatase TiO2 Single Crystals with Exposed {001} and {110} Facets: Facile Synthesis and Enhanced Photocatalysis, Chem. Commun., 2010, 46:1664-1666.

5. Min Liu,LingyuPiao*, Weiming Lu, Lei Zhao, Siting Ju, Wenjing Wang*, Flower-like TiO2 Nanostructures with Exposed {001} Facets: Facile Synthesis and Enhanced Photocatalysis, Nanoscale, 2010, 2: 1115-1117.

鄢勇

Yong Yan

Ph.D., Professor

E-mail: yany@nanoctr.cn

Resume

Ph. D. 2010 Physical Chemistry, National Center for Nanoscience and Technology

M.S. 2007 Applied Chemistry, University of Science and Technology Beijing

B.S. 2005 Applied Chemistry, University of Science and Technology Beijing

Postdoctoral Training, Northwestern University (Evanston, IL)

Professor 2015 Chemistry and material sciences, focus on electronics, chirality, and energy, NCNST

Research Interests

1.Nanoelectronics, memristor, and neuromorphic computing

2.Spintronic devices based on chiral materials

3.Energy harvest from nanomaterials

Selected Publications

1.Li, M.#; Tu, B.#; Cui, B.; Zhao, X.; Yang, L.; Fang, Q.; Yan, Y.*; Grzybowski, B.*, Efficient and long-lasting current rectification by laminated yet separated, oppositely-charged monolayers, ACS Appl. Electron. Mater., 2019, Accepted.

2.Zhao, X.; Guo, J.; Xiao, T.; Zhang, Y.; Yan, Y.*; Grzybowski, B.*, Charged metal nanoparticles for chemoelectronic circuits, Adv. Mater., 2019, 31, 1804864.

3.Zhao, X.#; Tu, B.#; Li, M.; Feng, X.; Zhang, Y.; Fang, Q.; Li, T.; Grzybowski, B.*, Yan, Y.*, Switchable counterion gradients around charged metallic nanoparticles enable reception of radio waves, Science Advances, 2018, 4, eaau3546.

4.Feng, X.#; Zhao, X.#; Yang, L.#; Li, M.; Qie, F.; Guo, J.; Zhang, Y.; Li, T.; Yuan, W.; Yan, Y. *, All-carbon materials p-n diode, Nature Commun. 2018, 9, 3750.

5.Yan, Y.; Warren, S.; Fuller, P.; Grzybowski, B.*, Chemoelectronic circuits based on metal nanoparticles. Nature Nanotech. 2016, 11, 603-608 (Cover art).

6.Yan, Y.; Timonen, J.; Grzybowski, B.*, A long-lasting, concentration cell based on a magnetic electrolyte, Nature Nanotech. 2014, 9, 901-906.

7.Zou, W.#; Yan, Y.#; Fang, J.; Liang, J.; Deng, K.*; Yao, J.*; Wei, Z.*, Biomimetic Superhelical Conducting Microfibers with Homochirality for Enantioselective Sensing, J. Am. Chem. Soc. 2014, 136, 578-581.

8.Nakanishi, H.; Walker, D.; Bishop, K.; Wesson, P.; Yan, Y.; Soh, S.; Swaminathan, S.; Grzybowski, B.*, Dynamic internal gradients control and direct electric currents within nanostructured materials, Nature Nanotech. 2011, 6, 740-746. (Cover art)

9.Yan, Y.; Wang, R.; Qiu, X.; Wei, Z.*, Hexagonal Superlattices of Chiral Polymer Self-assembled by Mimic Protein β-folding with Anisotropic Electrical Transport, J. Am. Chem. Soc. 2010, 132, 12006-12012.

10.Yan, Y.; Deng, K.; Yu, Z.; Wei, Z. X.*, Tuning the Supramolecular Chirality of Polyaniline by Methyl Substitution, Angew. Chem. Int. Ed. 2009, 48, 2003-2006.

刘新风

Xinfeng Liu

Ph. D., Professor

E-Mail: liuxf@nanoctr.cn;

Homepage: http://www.escience.cn/people/liuxf/index.html

Research ID: https://publons.com/researcher/1780321/xinfeng-liu/

Xinfeng Liu is a professor at the National Center for Nanoscience and Technology (NCNST), China. He received his Ph.D. from NCNST in 2011. After that, he joined SPMS of Nanyang Technological University (NTU), as a postdoctoral research fellow. In 2015, he joined Chinese Academy of Sciences (CAS) and became a Project leader at NCNST. His current research interests mainly focus on nano-photonics, nonlinear optics and ultrafast spectroscopy. He has over 190 peer-reviewed publications with citations 13000, h index 56. He was invited to write review articles on Adv. Mater., InfoMat, Science China Materials. He is the peer reviewer of Nature Nanotech., Sci. Adv., JACS, Adv. Mater., Nano Letters. He now served as editorial board of Journal of Physics: Photonics, Materials Today Physics, Nano Materials, Young editorial board of Info Mat., he also served as the Early career Research Board Member of Materials Today Sustainability.

References:

1.Xinyu Sui, Xiaoqing Gao, Xianxin Wu, Chun Li, Xuekang Yang, Wenna Du, Zhengping Ding, Shengye Jin, Kaifeng Wu, Tze Chien Sum, Peng Gao, Junjie Liu, Xiaoding Wei, Jun Zhang, Qing Zhang, Zhiyong Tang,* and Xinfeng Liu*, Nano Letters, 21, 4137-4144 (2021)

2.Xian-Xin Wu, Wen-Yu Jiang, Xiao-Feng Wang, Li-Yun Zhao, Jia Shi, Shuai Zhang, Xinyu Sui, Zhe-Xue Chen, Wen-Na Du, Jian-Wei Shi, Qian Liu, Qing Zhang, Yong Zhang*, and Xin-Feng Liu*, ACS Nano, 15, 1291-1300 (2021)

3.Yangguang Zhong, Kun Liao, Wenna Du, Jiangrui Zhu, Qiuyu Shang, Fan Zhou, Xianxin Wu, Xinyu Sui, Jianwei Shi, Shuai Yue, Qi Wang, Yanfeng Zhang, Qing Zhang*, Xiaoyong Hu*, and Xinfeng Liu*, ACS Nano, 14, 15605 – 15615 (2020)

4.Shuai Zhang, Yangguang Zhong, Fan Yang, Qinxuan Cao, Wenna Du, Jianwei Shi, Xinfeng Liu*, Photonics Research, 8, A72-A90 (2020)

5.Shuai Zhang, Jie Chen, Jia Shi, Lei Fu, Wenna Du, Xinyu Sui, Yang Mi, Zhili Jia, Fengjing Liu, Jianwei Shi, Xianxin Wu, Ning Tang, Qing Zhang, Xinfeng Liu*, ACS Photonics, 7, 327-337 (2020)

6.Jia Shi, Yuanzheng Li, Zhepeng Zhang, Weiqiang Feng, Qi Wang, Shuliang Ren, Jun Zhang, Wenna Du, Xianxin Wu, Xinyu Sui, Yang Mi, Rui Wang, Yuanhui Sun, Lijun Zhang, Xiaohui Qiu, Jiong Lu, Chao Shen*, Yanfeng Zhang, Qing Zhang*, Xinfeng Liu*, ACS Photonics, 6, 3082 (2019)

7.Wenna Du, Shuai Zhang, Qing Zhang,* Xinfeng Liu,* Advanced Materials, 31, 1804894 (2019)

8.Qiu yu Shang, Shuai Zhang, Zhen Liu, Jie Chen, Pengfei Yang, Chun Li, Wei Li, Yanfeng Zhang, Qihua Xiong*, Xinfeng Liu*, and Qing Zhang*, Nano Letters, 18, 3335 (2018)

9.Wenna Du, Shuai Zhang, Jia Shi, Jie Chen, Zhiyong Wu, Yang Mi, Zhixiong Liu, Yuanzheng Li, Xinyu Sui, Rui Wang, Xiaohui Qiu, Tom Wu, Yun Feng Xiao*, Qing Zhang* and Xinfeng Liu*, ACS Photonics, 5, 2051 (2018)

10.Jia Shi,Peng Yu,Fucai Liu,Peng He, Rui Wang, Liang Qin, Junbo Zhou, Xin Li, Jiadong Zhou, Xinyu Sui, Shuai Zhang, Yanfeng Zhang, Qing Zhang, Tze Chien Sum, Xiaohui Qiu,* Zheng Liu,* and Xinfeng Liu*, Advanced Materials, 29, 1701486 (2017)

李国栋

Guodong li

Ph. D., Professor

Email: liguodong@nanoctr.cn

Qualifications

2004 Bachelor of Jinan University

2007 Master of Ocean University of China

2011 Doctor of Beijing University of Chemical Technology

Articles

1.Meiting Zhao,‡ Kuo Yuan,‡ Yun Wang, Guodong Li,* Jun Guo, Lin Gu, Wenping Hu, Huijun Zhao,* Zhiyong Tang.* Metal-organic frameworks as selectivity regulators for hydrogenation reactions. Nature, 2016, 539, 76−80.

2.Wei Chen,‡ Guodong Li,‡ Allen Pei, Yuzhang Li, Lei Liao, Hongxia Wang, Jiayu Wan, Zheng Liang, Hao Zhang, Jiangyan Wang, Yi Cui*. A manganese-hydrogen battery with potential for grid-scale energy storage. Nature Energy, 2018, 3, 428−435. (‡Co-first author)

3.Meiting Zhao, Ke Deng, Liangcan He, Yong Liu, Guodong Li,* Huijun Zhao and Zhiyong Tang.* Core-shell palladium nanoparticle@metal-organic frameworks as multifunctional catalysts for cascade reactions. Journal of the American Chemical Society, 2014, 136, 1738−1741.

4.Guodong Li, Shenlong Zhao, Yin Zhang and Zhiyong Tang*. Metal-organic frameworks encapsulating active nanoparticles as emerging composites for catalysis: recent progress and perspective. Advanced Materials, 2018, 30, 1800702.

5.Yongde Tong,‡ Guangxin Xue,‡ Hui Wang,‡ Mei Liu, Jin Wang, Changlong Hao, Xiaofei Zhang, Dawei Wang, Xinghua Shi, Wei Liu,* Guodong Li,* and Zhiyong Tang. Interfacial coupling between noble metal nanoparticles and metal-organic frameworks for enhanced catalytic activity. Nanoscale, 2018, 10, 16425−16430.

Research Interest

Design and fabrication of inorganic nanocomposites with well-defined structures as well as their application in energy, environment and catalysis.

王晓莉

Xiaoli Wang

Ph. D., Associate professor

Email: wangxl@nanoctr.cn

Resume:

Xiaoli Wang received her PhD degree in physics from Université Pierre et Marie Curie-Paris VI in 2013 following the studies in Zhejiang University for Master degree in optics. Afterwards, she went to Chalmers University of Technology in Sweden to work as a postdoctoral fellow. Now she is an Associate Professor at the National Center for Nanoscience and Technology, China. Her current research interests are plasmonics, nanophotonics and photocatalysis, especially focused on plasmon-induced hot electron science and applications.

Research subjects:

1.Plasmonic perfect absorber based on 2D materials

2.Plasmon enhanced photoelectrochemical water splitting

3.Ultrafast electron dynamics of plasmonic nanoparticles and hybrid nanostructures

4.Hot electron assisted ultrafast all-optical demagnetization and spin dynamics

5.Hot electron assisted all-optical plasmonic modulator and switching

Selected Publications from 2015:

1.Megersa F. Mideksa, Hongyan Liu, Fei Wang, Wajid Ali, Hongdong Li, Xiaoli Wang*, and Zhiyong Tang, Configuration-Modulated Hot Electron Dynamics of Gold Nanorod Assemblies, J. Phys. Chem. Lett., 2019, 10, 6578−6583.

2.Hongdong Li, Wajid Ali , Zuochao Wang , Megersa F. Mideksa, Fei Wang, Xiaoli Wang*, Lei Wanga*, Zhiyong Tang, Enhancing hot-electron generation and transfer from metal to semiconductor in a plasmonic absorber, Nano Energy, 2019, 63, 103873.

3.Hongyan Liu*, Jingjing Peng, Weiming Liu, Yonglin Wang, Jianhua Wu, Guanli Zhang, Xiaoli Wang*, Yue Yan*, Strong interference based ultra-thin conductive antireflection coating on metal substrate for optoelectronics, NPG Asia Materials, 2018,10,309-317.

4.Jun Guo, Yin Zhang, Lin Shi, Yanfei Zhu, Megersa F. Mideksa, Ke Hou, Wenshi Zhao, Dawei Wang, Meiting Zhao, Xiaofei Zhang, Jiawei Lv, Jianqi Zhang, Xiaoli Wang*, and Zhiyong Tang*, Boosting Hot Electrons in Hetero-superstructures for Plasmon-Enhanced Catalysis, J. Am. Chem. Soc., 2017, 139 (49), 17964–17972.

5.Xiaoli Wang*, Zhiyong Tang*, Circular dichroism studies on plasmonic nanostructures, Small, 2017, 13, 1601115.

6.Xiaoli Wang, Roberta Morea, Jose Gonzalo and Bruno Palpant, “Coupling loalized plasmonic and photonic modes tailors and boosts ultrafast light modulation by gold nanoparticles” , Nano Lett., 2015, 15 (4), 2633–2639.

Xiaoli Wang, Y. Guillet, P. R. Selvakannan, H. Remita, and B. Palpant, “Broadband Spectral Signature of the Ultrafast Transient Optical Response of Gold Nanorods”, J. Phys. Chem. C, 2015, 119 (13), 7416-7427.

李莉莉

li lili

Ph. D., Professor

Email: lill@nanoctr.cn

Tel: +86-10-82545524

Phone: +86-18618465606

QUALIFICATIONS/ADVISORS

2018-present	Professor, National Center for Nanoscience and Technology, China
2017-2018	Associate Professor, National Center for Nanoscience and Technology, China
2015-2017	Assistant Professor, National Center for Nanoscience and Technology, China
2012-2015	Postdoctoral Fellow, National Center for Nanoscience and Technology, China
2006-2012	Ph. D. Life Science and Technology, Beijing University of Chemical Technology, China
2001-2005	B.S. Chemistry and Chemical Engineering, Tianjin University of Technology, China
Graduate Advisor	Prof. Wei Feng (Beijing University of Chemical Technology)
Postdoctoral Advisor	Prof. Hao Wang (National Center for Nanoscience and Technology)

AWARDS AND HONORS

Youth Innovation Promotion Association, CAS (2017-2021)

GRANTS

- •National Key Research and Development Program of China (2018YFE0205401)
- •National Natural Science Foundation of China (51873045 and 31671028)
- •Youth Innovation Promotion Association, CAS (2017053)
- •Young Scientists Fund of National Natural Science Foundation of China (51303036)

REPRESENTATIVE PUBLICATIONS

- •Xiao-Xiao Zhao†, Li-Li Li†, Guangjun Nie*, Hao Wang*,et al., Angew Chem Int Ed, 2019, 58, 15287
- •Li-Li Li; Hao Wang* et al.,Mater. Horiz. 2019, 2, 3582
- •Li-Li Li, Zeng-Ying Qiao*, Lei Wang*, Hao Wang*, Adv. Mater. 2018, e1804971.
- •Qian Cai, Li-Li Li*, Hao Wang*, et al., Nano Lett. 2018, 18, 6229.
- •Li-Li Li ,Hao Wang*, Nat. Biomed. Eng. 2018, 2, 56. (News & Views)
- •Li-Li Li, Hao Wang*, et al., Nat. Commun., 2017 8, 1276.
- •Sheng-Lin Qiao, Li-Li Li,*, Hao Wang*, et al., ACS Nano, 2017, 11, 7301.
- •Li-Li Li, Zhi-yuan Hu,* Hao Wang,* et al., Adv. Mater. 2016. 28, 254.
- •Li-Li Li, Hao Wang,* et al., Adv. Mater. 2015. 20, 3181
- •Li-Li Li, Hao Wang,* et al., ACS Nano 2014, 8, 4975

BOOKS

Eds: Hao Wang and Li-Li Li, In Vivo Self-Assembly Nanotechnology for Biomedical Applications, Springer, Nanomedicine and Nanotoxicology, 2018, Print ISBN: 978-981-10-6912-3.

PROFESSIONAL SOCIETIES

- •China Anti-Cancer Association amd China Anti-Microbial Association ; Youth Committee Member
- •Chinese Chemical Society, American Chemical Society, Chinese Society of Toxicology, Chinese Society for Biomaterials; Member

陈岚

Lan Chen

Ph. D., Associate Professor

Tel (office): +86 10 82545543

Email: chenlan@nanoctr.cn

Website: http://uk.linkedin.com/pub/dr-lan-chen/5a/232/41

Qualifications

2008 PhD Materials Chemistry, University College Cork

2002 MSc Chemical Technology, IPE, Chinese Academy of Sciences

1997 BEng Chemical Engineering, Inner Mongolia University of Technology

Employment History

2014-Present Associate Professor, National Center for Nanoscience and Technology, China

2011-2014 Marie Curie Intra-European Fellow, University of Cambridge, UK

2011.01-2011.06 Visiting Scholar, Georgia Institute of Technology, USA

2008-2010 Postdoctoral Research Associate, University College Cork, Ireland

1997-1999 Chemical Engineer, Mengxi Hi-Tech Materials Co., Ltd., China

Professional Service

Editorial Board, Nanoscience and Nanometrology (SPG), From 2016

-Editorial Board, Science Journal of Chemistry (SPG), From 2013

Awards and Honors

Marie Curie Intra-European Fellowship for Career Development, European Commission, 2011-2013

Outstanding Graduate Studentship, UCC, 2004-2007

Outstanding Undergraduate Studentship, IMUT, China, 1994-1996

Research Interest

Ligand-Nano interaction; Nano measurement on the interface of colloids and nanostructures

曹宇虹

Yuhong Cao
Ph.D Professor

Personal Bio

Dr. Yuhong Cao received her B.S. in chemistry fromLinfield College, OR, USA in 2011. She did his graduate work on the development of a nondestructive nanostraw system for longitudinal living cell sampling with Professor. Nicolas Meloshat theStanford University, CA, USA and got her Ph.D in materials science and engineering in 2018. She pursued her postdoctoral training on T cell engineering by applying CRISPR-Cas technology withProfessor. Peidong Yang (Fellow of National Academy of Sciences, USA) in partnership with Professor. Jennifer Doudna at the University of California, Berkeley, CA, USA and then returned to Stanford University for her second postdoctoral training with Professor. Steven Chu. She returned to Beijing, China where she joinedthe National Center of Nanoscience and Technology, CAS as a professor in December 2020.

Research Interests

Her research focuses on overcoming the current drugdelivery barriers by applying micro-nanotechnology todevelopnon-viral delivery strategies enabling direct intracellular access for in vivo/in vitro biomedical applications with high viability, high efficiency, high uniformity and high throughput. She believes these novel strategies will produce big impact in various biomedical fields, including immunotherapy, regenerative medicine, and animal disease modeling, and will lead to groundbreaking scientific discoveries.

Recent Publications

1.Non-Destructive Nanostraw Intracellular Sampling for Longitudinal Cell Monitoring Proceedings of the National Academy of Sciences, 2017,114(10)E1866-E1874
2.Nanostraw-Electroporation for Universal Biomolecules Intracellular Delivery with Dosage Quantitative Control， Science Advances 2018, 4, 10.
3.Nontoxic Nanopore Electroporation for Effective Intracellular delivery of Biological Macromolecules, Proceedings of the National Academy of Sciences, Apr 2019,116(16)7899-7904.
4.Nanopore Mediated Protein Delivery Enabling 3-color Single Molecule Tracking in Living Cells, Proceedings of the National Academy of Sciences, Feb 2, 2021118(5)e2012229118.
5.Fabrication of sealed nanostraw microdevices for oral drug delivery, ACS Nano 2016, 10, 5873-5881.

赵宇亮

Yuliang ZHAO
Zhaoyl@nanoctr.cn

Professor of Chemistry, Chinese Academy of Sciences, the Director-General, National Center for Nanosciences and Technology, China. He graduated from Sichuan Univ. in 1985, and received PhD at Tokyo Metropolitan Univ. in 1999. He moved to Chinese Academy of Sciences from RIKEN in 2001.

Research Interest: He proposed the toxicity study of engineered nanomaterials in 2001, and is a pioneer with innovative ideas for initiating the study on nanosafety issues. His work focuses on biological effects/activities of nanomaterials with an emphasis on the establishment of reliable and valid analysis methods for discovering the biological effects of nanomaterials/ nanomedicines in vivo, understanding of the chemical mechanisms of nanosafety and safe application of nanomaterials. These have led to an ISO standard analytical method being adapted by ISO/IEC 168 member countries, the establish nanosafety assessment framework for occupational exposure of nanomaterials, the discovery of a new-concept nanomedicine for cancer therapeutics, etc.

Before 2001, he and colleagues in Japan discovered the Element 113 (Nh) which is first new element that has been discovered in Asia and filled in the Element Periodic Table.

Publications: He published ~580 peer-review scientific papers, 8 editorials in international journals, with citation by >40,000 times (H-index 101); edited and published 13 books (3 books in English and 10 in Chinese), with his earliest efforts on systematizing the knowledge for nanosafety in category of nanomaterials, and made significant contribution to building the knowledge framework for nanosafety issue.

Invited/Plenary Lectures: He delivered > 330 plenary and invited lectures at conferences, universities/institutes worldwide. He was invited to serve as a nanosafety expert/advisor by UNEP (United Nations, 2006), OECD (Nanosafety Team, 2006), Finland (2010), France (2009), Canada (2007), etc.

Prize/Awards: The elected Member of TWAS (2018), the Academician of CAS (2017), TWAS Prize in Chemistry (2016), National Prize for Natural Sciences (2012, 2018), China Award for Outstanding Contribution on Toxicology (2015), the 60 Years Achievement of Chinese Academy of Sciences (2009); Beijing Award for Leading Talent in Science & Technology (2014) , etc. Chinese Academy of Sciences-Bayer Young Scientist Award (2006), Beijing Award for Science and Technology (2008), the National Natural Science Fund for Distinguished Young Scholars (2005), etc.

高兴发

Xingfa Gao

Ph. D., Professor
E-mail: gaoxf@nanoctr.cn

Resume

Dr. Gao received his Bachelor ’ s degree in chemistry (2001) in East China Normal University and his PhD degree in Particle Physics and Nuclear Physics (2006) in Institute for High Energy Physics, Chinese Academy of Sciences (CAS). He worked as a postdoc research fellow in Institute for Molecular Science of Japan (2006-2010) and Rensselaer Polytechnic Institute of USA (2010-2011). From 2011 to 2017, he was a professor at the Nanosafety lab in Institute for High Energy Physics, Chinese Academy of Sciences. From 2017-2020, he was a professor in Jiangxi Normal University of China. In 2021, he became a professor and principal investigator at Theory and Computational Nanosciences in National Center for Nanoscience and Technology of China. He has authored/co-authored over 100 peer-reviewed papers/book chapters and 3 books. He has been the principal investigator/co-investigator of several domestic and international projects, such as China MOST 973 Program and projects from Natural Science Foundation of China.

Research Interests

Gao ’ s group are focused on the development and application of molecular modelling and machine learning approaches toward:
1) the investigation of basic interaction principles between nanomaterials and biosystems;
2) in-silico design of catalytic nanomaterials for therapeutic applications;
3) in-silico design of nanoparticles as drug carriers.

Recent Publications

1. Xiaomei Shen, Zhenzhen Wang, Xingfa Gao*, Yuliang Zhao, Density Functional Theory-Based Method to Predict the Activities of Nanomaterials as Peroxidase Mimics, ACS Catalysis 2020, 10, 21, 12657 – 12665.
2. Meng Gao, Zhenzhen Wang, Huizhen Zheng, Li Wang, Shujuan Xu, Xi Liu, Wei Li, Yanxia Pan, Weili Wang, Xiaoming Cai, Ren'an Wu, Xingfa Gao,* Ruibin Li, Two-Dimensional Tin Selenide (SnSe) Nanosheets Capable of Mimicking Key Dehydrogenases in Cellular Metabolism, Angew. Chem. Int. Ed. 2020, 59, 3618-3623.
3. Jiaming Liu, Liming Wang, Xiaomei Shend, Xingfa Gao,* Yanhuan Chen, Huibiao Liu,* Ying Liu, Dongtao Yin, Yang Liu, Wei Xu, Rong Cai, Min You, Mengyu Guo, Yaling Wang, Jiayang Lia, Yuliang Li, Chunying Chen* Graphdiyne-templated palladium-nanoparticle assembly as a robust oxygen generator to attenuate tumor hypoxia, Nano Today, 2020, 34, 100907.

Homepage

http://www.gao-lab.net

郭延军

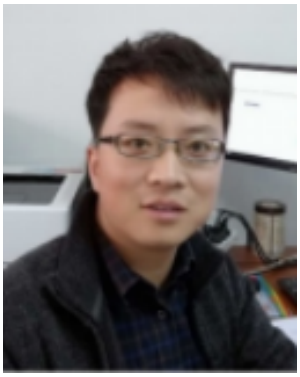
GUO Yan-Jun
Ph.D., Professor & Senior Engineer
Phone: +86-10-82545519
Email: guoyj@nanoctr.cn

Resume:
Guo Yan-Jun received his BSc, MSc from Nanjing University in 1997 and 2003, and received his Ph.D. in Mineralogy from Peking University in 2003. Afterwards, he worked in Anhuai Lu ' s group as a postdoctoral fellow in Peking University. In 2006, he joined the National Center for Nanoscience and Technology, China (NCNST) as senior engineer. He was appointed as the director of the Testing Laboratory for Nanostructures NCNST In 2014 and became a professor at NCNST in 2015. His current research interests include molecular spectroscopy, chemometrics and nanomaterials.

Research Subjects:

1. Raman spectroscopy and SERS based sensors
2.Chemometrics in Spectroscopy
3.Characterization of nanomaterials
4.Surface chemistry of minerals
Awards and Honors:
CAS key technical personnel award, 2014
Beijing science and technology third-class award, 2015

段鹏飞



Pengfei Duan

Ph. D., Professor
Email: duanpf@nanoctr.cn
Homepage: http://www.nanoctr.cas.cn/duanpengfei/ktzjj/

Duan ’ s lab is broadly interested in multi-level molecular, supramolecular, and nano-micro systems including self-assembling phenomena, chirality, and related photochemical and physics. We are committed to identify problems of fundamental significance in supramolecular photochemistry and physics. Our approach involves the synthesis of materials that contain both molecular and inorganic components, and study of their structure and properties by a variety of physical techniques. The current study of nano-/molecular assemblies mostly in one of three areas: (1) photochemistry and physics of nano- and mesoscopic assemblies, (2) development and application of photo upconversion materials, chiral optoelectronic materials and devices (circularly polarized luminescence, upconversion luminescence, upconversion circularly polarized luminescence), and chiral science of soft matter systems; (3) self-assembly of designed nanoarchitectures from chiral compounds and chiral nanomaterials. In general, we use the tools of synthetic and physical organic chemistry to address problems at the interdisciplinary of supramolecular chemistry, photochemistry, and materials science.

Resume:

2015- Professor, National Center for Nanoscience and Technology
2013-2015 Assistant Professor, Kyushu University, Japan
2011-2013 JSPS Postdoctoral Fellow, Kyushu University, Japan
2006-2011 Ph. D. at Institute of Chemistry, Chinese Academy of Sciences
2002-2006 B.S. at Dept. Applied Chemistry, Xiangtan University, China

Selected Publications:

(1) Han, Dongxue; Yang, Xuefeng; Han, Jianlei; Zhou, Jin; Jiao, Tifeng; Duan, Pengfei*. Sequentially amplified circularly polarized ultraviolet luminescence for enantioselective photopolymerization. Nat. Commun. 2020, 11, 5659.
(2) Zhang, Haowen; Han, Jianlei; Jin, Xue; Duan, Pengfei*. Improving Overall Properties of Circularly Polarized Luminescent Materials through Arene-Perfluoroarene Interaction. Angew. Chem. Int. Ed. 2021, 60, 4575-4580.
(3) Yang, Xuefeng; Zhou, Minghao; Wang, Yafei; Duan, Pengfei*. Electric-Field-Regulated Energy Transfer in Chiral Liquid Crystals for Enhancing Upconverted Circularly Polarized Luminescence through Steering the Photonic Bandgap. Adv. Mater. 2020, 32, 2000820.
(4) Zhao, Tonghan; Han, Jianlei; Jin, Xue; Liu, Yan; Liu, Minghua; Duan, Pengfei*. Enhanced Circularly Polarized Luminescence from Reorganized Chiral Emitters on the Skeleton of a Zeolitic Imidazolate Framework. Angew. Chem. Int. Ed. 2019, 58, 4978-4982.
(5) Yang, Dong; Han, Jianlei; Liu, Minghua; Duan, Pengfei*. Photon Upconverted Circularly Polarized Luminescence via Triplet-Triplet Annihilation. Adv. Mater. 2019, 31, 1805683.

董凤良

Fengliang Dong
Ph.D., Professor
Email: dongfl@nanoctr.cn

Education & Professional Experience

1998-2002 B.S., Hefei University of Technology
2002-2007 PHD., University of Science & Technology of China (USTC)
2008-2011 Postdoctoral researcher,INESC-MN, Lisbon, Portugal
2011- Engineer, Senior Engineer, and Professor, National Center for Nanoscience and Technology, China

Current Research Interests

Nanophotonics and Nano-optical/ photonic devices, inculding:
Pixelated polarization arrays and their applications;
Metasurface-based wavefront manipulation, etc
Awards and Honors
2015-2018 Member of the Youth Innovation Promotion Association CAS
2016-2018 CAS Key Technology Talent Program
2020- Excellent Member of the Youth Innovation Promotion Association CAS

Selected Publications

1. Y. Xu, X. Liu, X. Cao, C. Huang, E. Liu, S. Qian, X. Liu, Y. Wu, F. Dong, et al. Artificial intelligence: a powerful paradigm for scientific research, The Innovation, 2021, 2, 100179. (AI in Nanophotonics)
2.F. Dong, W. Chu*, Multichannel-Independent Information Encoding with Optical Metasurfaces. Adv. Mater., 2019, 31, 1804921.
3.F. Dong#, H. Feng#,L. Xu#, et al. Information Encoding with Optical Dielectric Metasurface via Independent Multichannels. ACS Photonics, 2019, 6, 230-237.
4. X. Ma#, F. Dong#, et al. Pixelated- polarization-camera-based polarimetry system for wide real-time optical rotation measurement. Sensor. Actuat. B-Chem., 2019, 283, 857-864. (Co-1st)
4. X. Zang#,F. Dong#, et al. Polarization Encoded Color Image Embedded in a Dielectric Metasurface. Adv. Mater., 2018, 30, 1707499. (Co-1st)
5. B. Wang#, F. Dong#, et al. Visible-frequency dielectric metasurfaces for multiwavelength achromatic and highly dispersive holograms. Nano Lett., 2016, 16(8) , 5235-5240. (Co-1st)

高玉瑞

Yurui Gao
Ph. D., Professor
E-mail: gaoyr@nanoctr.cn

Education

2010.09-2015.07 Ph.D. Institute of Physics, Chinese Academy of Sciences
2006.09-2010.07 B.S. Henan University, China

Research Experience

2021.04- Principle Investigator, National Center for Nanoscience and Technology, China
2018.12-2020.09 Postdoctoral fellow, University of Nebraska-Lincoln, USA
2015.10-2018.11 Postdoctoral fellow, California State University Northridge, USA

Research Interests

Simulations on water-surface interaction, nanomaterial-biological surface interaction, and energy conversion and storage; Development of computational methods based on machine learning.

Recent Publications

1.Yurui Gao#, Chongqin Zhu#, Craig Zuhlke, Dennis Alexander, Joseph S. Francisco*, Xiao Cheng Zeng*. Turning a Superhydrophilic Surface Weakly Hydrophilic: Topological Wetting States. J. Am. Chem. Soc. 142 (43), 18491-18502 (2020).
2.Yurui Gao, Yuan Liu, Jian Jiang, Chongqin Zhu*, Craig Zuhlke, Dennis Alexander, Joseph S. Francisco* and Xiao Cheng Zeng* Multiple Wetting – Dewetting States of a Water Droplet on Dual-Scale Hierarchical Structured Surfaces. JACS Au, 2021, 1 (7), 955-966.
3.Chongqin Zhu#, Yurui Gao#, Weiduo Zhu, Jian jiang, Jie Liu, Jianjun Wang, Joseph S. Francisco*, Xiao Cheng Zeng*. Direct observation of two-dimensional ices on different surfaces near room temperature without confinement. Proc. Natl. Acad. Sci. 116 (34) 16723-16728 (2019).
4.Simeng Zhang, Gaojing Yang, Zepeng Liu, Suting Weng, Xiaoyun Li, Xuefeng Wang*, Yurui Gao*, Zhaoxiang Wang*, Liquan Chen. Phase Diagram Determined Lithium Plating/Stripping Behaviors on Lithiophilic Substrates. ACS Energy Lett. 2021, 6, 11, 4118 – 4126.
5.Zepeng Liu, Chu Zhang, Meng Tian*, Ruizhi Yang*, Yurui Gao*, Xuefeng Wang, Zhaoxiang Wang*, Liquan Chen. Cationic disordering modulated electrochemical performances of layer-structured Li2MoO3. Materials Today Physics, 2021, 21(8):100561.
6.Chongqin Zhu#, Yurui Gao#, Hui Li#, Sheng Meng, Lei Li, Joseph S. Francisco*, Xiao Cheng Zeng*. Characterizing hydrophobicity of amino acid side chains in a protein environment via measuring contact angle of a water nanodroplet on planar peptide network. Proc. Natl. Acad. Sci. 113, 12946-12951 (2016).

谭婷

Prof. Ting Tan
Ph.D., Professor
Email: tant@nanoctr.cn

Educational and Professional Experiences

2019 – Present. Professor, National Center for Nanoscience and Technology, Beijing, China
2016 - 2017 Post-doctoral Fellow, University of Pennsylvania, Philadelphia, USA
2009 - 2015 Doctor of Philosophy in Chemistry, Princeton University, Princeton, USA
2005 - 2009 Bachelor of Science in Chemical Physics, University of Science and Technology of China, Hefei, China

Research Interests

We focus on multi-scale modeling and simulation of materials and corresponding applications in the development and use of renewable energy. We are using high-level quantum computational methods to investigate the environmental chemistry, such as the combustion models. The catalytic mechanisms are also analyzed to help design new catalysts. On the other hand, we are working the development of high-level novel computational methods.

Selected Publications

1 A. T. Smith, X. Liu, H. Ding, S. Zeng, B. L. Williams, A. M. Lachance, C. Park, P. A. Gitman, A. Kokkula, X. Huang, S. L. Suib, H. Zeng, T. Tan* and L. Sun*, Tailoring Defects in Photocatalysts by Engineering Solvent Interactions for Highly Active and Responsive Color Switching, Adv. Opt. Mater., 2021, 9, 2101115.
2 X. Geng#, X. Liu#, L. Mawella-Vithanage, C. C. Hewa-Rahinduwage, L. Zhang, S. L. Brock, T. Tan* and L. Luo*, Photoexcited NO 2 Enables Accelerated Response and Recovery Kinetics in Light-Activated NO 2 Gas Sensing, ACS Sensors, 2021, acssensors.1c01694.
3 T. Tan, X. Yang, Y. Ju, and E. A. Carter, “Ab initio Kinetics Studies of Hydrogen Atom Abstraction from Methyl Propanoate”, Phys. Chem. Chem. Phys. 18, 4594-4607 (2016).
4 T. Tan, X. Yang, Y. Ju, and E. A. Carter, “Ab initio Pressure-Dependent Reaction Kinetics of Methyl Propanoate Radicals”, Phys. Chem. Chem. Phys. 17, 31061-31072 (2015).
5 T. Tan, X. Yang, Y. Ju, and E. A. Carter “Ab initio Reaction Kinetics of CH3O(=O) and H2OC(=O)H Radicals”, J. Phys. Chem. B 120,1590-1600 (2015).
6 T. Tan, X. Yang, Y. Ju, and E. A. Carter “Ab initio Unimolecular Reaction Kinetics of H2C (=O)OCH3 and CH3C(=O)OH2 Radicals”, J. Phys. Chem. A 119, 10553- 10562 (2015).
7 T. Tan, X. Yang, C. M, Krauter, Y. Ju, and E. A. Carter “Ab initio Reaction Kinetics of Hydrogen Abstraction from Methyl Acetate by Hydrogen, Methyl, Oxygen, Hydroxyl, and Hydroperoxy Radical”, J. Phys. Chem. A 119, 6377-6390 (2015).

朱嘉

Zhu Jia
Ph. D., Professor
E-mail: zhujia@nanoctr.cn

Research Interests

Dr. Zhu ’s research interest is mainly focused on the transport mechanism computation of Organic Semiconductor Materials and functional prediction of Organic Molecular Device, including Organic Field-Effect Transistor (OFET) and Organic Thermoelectric (OTE). Also, another interest is touched on the computation of electrocatalytic mechanism. With the effective cooperation, his contributions have been published in the peer-reviewed scientific journals (such as Nature Chem., J. Am. Chem. Soc., Adv. Mater., and Angew. Chem. Int. Ed.), which have been cited more than 900 times.

Resume

Jia Zhu is a professor in the National Center for Nanoscience and Technology of China (NCNST). He received his PhD in 2005 from the Department of Chemistry, University of Antwerp, Belgium under supervision of Professor P. V. Espen. After the PhD, he joined Marteria Nova, University of Mons, Belgium as post-doctor from 2005 to 2006, and then worked in Physikalisches Institut (The Nano- and Interface Physics Group, Prof. Harald Fuchs and Prof. Lifeng Chi ’s group), University of Münster, Germany as a visiting fellow from 2006 to 2007. Next, he moved to U.S. and worked at University of Dayton (Prof. Liming Dai ’s group) and University of Akron (Dr. Alper Buldum ’s group) from 2007 to 2009. Since 2009, he became an associate professor at College of Chemistry, Beijng Normal University. He joined NCNST in Nov. 2021.

Direction

Theoretical and Computational studies of organic semiconductors and devices

Recent Publications

1.Yao Huiying, Zhao Yasong, Zhu Jia*, Fang Weihai* etc., J. Energy Chem., 2022, 65, 141-148.
2.Hao, Wei; Wang, Yishan; Zhao, Hu; Zhu, Jia*; Li, Shuzhou*, Phys. Chem. Chem. Phys., 2020, 22 (24): 13802-13807.
3.Huang, Xing; Qiu, Yi; Wang, Yishan; Zhu, Jia*; Fang, Weihai; Sun, Junliang*; Xu, Wei*; Zhu, Daoben* etc., Angew. Chem. Int. Ed., 2020, 59(50): 22602-22609.
4.Wang, Yishan; Zhu, Jia* etc., J. Phys. Chem. Lett. 2020, 11, 39283933
5.Wang, Yishan; Zhu, Jia* etc., J. Phys. Chem. Lett., 2019, 10(12): 3376-3380.
6.Zhao Yasong; Yang Nailiang; Yao Huiying; Zhu Jia*; Wang Dan* etc., J. Am. Chem. Soc., 2019, 141(18): 7240-7244.
7.Liu Jinyu; Zhou; Zhu Jia*; Dong Huanli*; Hu Wenping* etc, Adv. Mater., 2018, 30(44): 1803655.
8.Jin Wenlong; Zhu Jia*; Di Chong an*; Zhu Daoben* etc., Nature Commun., 2018, 9(1): 3586.
9.Zhao Yasong; Wan Jiawei; Yao Huiying; Yang Nailiang*; Zhu Jia*; Li Yuliang*; Wang Dan* etc., Nature Chem., 2018, 10(9): 924-931.

国家纳米科学中心

National Center for Nanoscience and Technology

地址(Add): 北京市海淀区中关村北一条11号
No. 11, Beiyitiao Zhongguancun 100190 Beijing, P.R. China
邮编(ZIP Code): 100190
网址(URL): www.nanoctr.cn
E-mail: edu@nanoctr.cn
电话(Tel): +86-10-82543386
传真(Fax): +86-10-82543386