

Chemical Engineering and Technology



Wei Gan

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Prof. Wei Gan graduated from the University of Science and Technology of China (USTC) in 1998 with B.S. in Chemical Physics. 1998-2001 he worked in Chinese Academy of Engineering Physics (CAEP). 2001-2006 he graduated from the Institute of Chemistry, Chinese Academy of Sciences (CAS) and got his Ph. D in Chemical Physics with the supervision of Prof. Hongfei Wang. During 2006-2011 he worked as a postdoc in Prof. Rafael Yuste's group in the Columbia University and Prof. Hai-Lung Dai's group in the Temple University. 2011-2016 he worked in the Xinjiang Technical Institute of Physics and Chemistry, Chinese Academy of Sciences as a principle investigator. In 2016, he became a professor in the Harbin Institute of Technology, Shenzhen. So far he has published more than 60 research papers, including those published in Phys. Rev. Lett., Angew. Chem. Int. Ed., Annu. Rev. Phys. Chem., J. Phys. Chem., J. Chem. Phys. These reports have been cited more than 2500 times.

Prof. Gan's group focuses on studying surface/interface molecular structures and dynamic processes in energy, environment, and biological related systems. Details of these researches were listed at: <http://faculty.hitsz.edu.cn/ganwei?lang=en> . All candidates who are interested in spectroscopy, colloids and interface studies are welcome.



Hengzhi You

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Education:

PhD, Organic Chemistry, Oxford University, UK, 2012-2016

BEng, Applied Chemistry, Shanghai University, China, 2008-2012

Academic Carrier:

Vertex Fellow, Vertex Pharmaceuticals, US/UK, 2017-2018

Full Professor, Harbin Institute of Technology (Shen Zhen), China, 2018-Present

Qualification & Award:

2018, Top Talent Youth of Harbin Institute of Technology

2018, The National Young Talent Program (Shenzhen)

Research Interests:

Green pharmaceutical manufacturing with machine automation and artificial intelligence.

1. Development of chemistry reactions under continuous flow manufacturing;
2. Prediction, design and optimization of chemical reactions using artificial intelligence combined with automated high-throughput flow system ;
3. Application-oriented pharmaceutical intermediates, functional molecules production process research.

All motivated students who are interested in continuous flow manufacturing, artificial intelligence in chemistry, and synthetic organic chemistry are welcome to join us.

Selected Publications:

1. You, H., Rideau, E., Sidera, M. & Fletcher, S. P. Non-stabilized nucleophiles in Cu-catalysed dynamic kinetic asymmetric allylic alkylation. *Nature*, 517, 351–355 (2015).
2. Rideau, E., You, H., Sidera, M., Claridge, T. D. W. & Fletcher, S. P. Mechanistic studies on a Cu-catalyzed asymmetric allylic alkylation with cyclic racemic starting materials. *J. Am. Chem. Soc.*, 139, 5614–5624 (2017).
3. Liao, J.; Zhang, S.; Wang, Z.; Song, X.; Zhang, D.; Kumar, R.; Jin, J.; Ren, P.; You, H.; Chen, F.-E. Transition-Metal Catalyzed Asymmetric Reactions under Continuous Flow from 2015 to Early 2020. *Green Synthesis and Catalysis*, 1, 121–133 (2020).



Yingchun Li

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Yingchun Li received her B.Sc. from Shihezi University in 2003, and M.Sc. from Xi'an Jiaotong University in 2006. She continued her Ph.D. study in Halle University in Germany and received her doctor degree in 2011. Then she joined Shihezi University as one scientist of the "Recruitment Program of Global Experts" (1000 Talent Plan). Now, Prof. Li continued her research in Harbin Institute of Technology (Shenzhen). As an independent PI, Prof. Li has published more than 70 research articles in well-known journals and got 5 national patents of invention. Prof. Li won the first prize of Provincial Science and Technology Progress Award of Xinjiang Bingtuan in 2017.

She is also the winner of Young Scientist Competition in the 27th International Symposium on PBA in the year of 2016. Li' group focuses on biochemical analysis. At present, the laboratory had developed a series of highly sensitive and selective analytical devices, methods and materials, which have found great potentials in the fields of clinical medicine, pharmaceutical industry, drug screening, toxicity assessment, food safety, environmental monitoring, etc. The techniques concerned include electrochemistry, photoelectrochemistry, electrochemiluminescence, colorimetry, microfluidics, and so on.



Lei Shi

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Prof. Lei Shi received his B.Sc. degree in Chemistry from Lanzhou University in 2000, where he also obtained his Ph.D. degree under the guidance of Prof. Yong-Qiang Tu in 2005. He then pursued post-doctoral research with Prof. Dieter Enders at RWTH Aachen, Prof. Herbert Mayr at LMU München, and Prof. Darren J. Dixon at the University of Oxford. In 2011, he started his independent career as a professor at Harbin Institute of Technology, China.

His group seeks to leverage the power of the redox strategies to address problems in the synthetic transformations of biologically active molecules and the asymmetric catalysis based on skeletally-diverse, privileged chiral scaffolds. His research focuses on developing novel reagents and new synthetic methodologies by obtaining insight from the in-depth mechanistic investigation.

High-quality applications from excellent potential postdocs, PhD students, undergraduates and visiting academics are always extremely welcome at any time. If you are keen to work in the Shi group please contact Prof. Lei Shi by email (lshi@hit.edu.cn) with an attached CV.



Zikai He

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Prof. Zikai HE graduated from the University of Science and Technology of China (USTC) in 2009 with B.S. in Chemistry. During 2009-2013 he graduated from the Chinese University of Hong Kong (CUHK) and got his Ph. D in Chemistry with the supervision of Prof. Qian Miao. During 2013-2016 he worked as a postdoctoral fellow in Prof. Ben Zhong Tang's group in the Hong Kong University of Science and Technology (HKUST). In 2016, he became an associate professor at the Harbin Institute of Technology, Shenzhen. So far, he has published more than 40 research papers, including those published in *Nat. Rev. Mater.*, *Chem*, *Nat. Commun.*, *Adv. Mater.*, *Angew. Chem.*, etc. These reports have been cited more than 2800 times.

HE's group is interested in the investigation on the Electronic Excited-State Dynamics at aggregates. The structure and energetics evolution of organic molecules in electronically excited states plays a great role in areas of photochemistry, photophysics, and reaction kinetics. We utilize the theoretical and computational chemistry, laser technology, spatial and time-resolved spectroscopy technology, synthetic chemistry as tools to conduct in-depth investigations of Electronic Excited-State Dynamics of organic optoelectronic materials at aggregates, aiming to reveal and establish novel mechanistic picture and basic laws of related processes, and to guide the design of new materials.

We are looking for graduate students, postdoctoral fellows, and research assistants with a research background in physical chemistry, organic chemistry, and material sciences. We will provide full financial support to the successful applicants. Applicants for graduate studentship should provide a resume with transcript and grade of English test (TOEFL or IELTS). Applicants should send the application to Prof. He at hezikai@hit.edu.cn.

Representative Publications

1. *JACS Au* 2021, 1 (10), 1694-1699.
2. *Nat. Rev. Mater.* 2020, 5 (12), 869-885.
3. *Nat. Commun.* 2019, 10 (1), 1595.
4. *Nat. Commun.* 2018, 9 (1), 3044.
5. *Nat. Commun.* 2017, 8 (1), 416.



Jia Zhou

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Personal Profile: I obtained M.Sc. in theoretical chemistry at Fudan University. After obtaining Ph.D. at Wayne State University in US, I worked as Postdoc at Texas A&M University for one year and Oak Ridge National Lab for two years. Since 2014, I have been working in HIT as associate professor. My expertise is Materials Simulation and Computational Chemistry.

PhD Requirement: Demonstrate proficiency in English or Chinese. The promising candidate should have at least one of the following backgrounds, such as quantum chemistry, computational chemistry, theoretical chemistry, materials simulation, molecular modeling, first-principle calculation and etc.

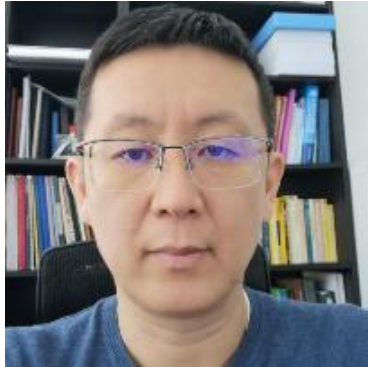
Yinghe Zhang

The Surface Science & Technology Group (SSTG), led by the chair professor Zhang, is active in carrying out research and outreach activities in the broad area of surfaces and interfaces, sensor technology, microelectronic devices, thin films, and nanotechnology. We educate and train the next generation of scientists and engineers in interdisciplinary fields. Outstanding opportunities exist for graduate students. They receive advanced training in many aspects of materials science, surface physics and chemistry, nanotechnology, bioengineering, device fabrication, and sensor technology. Beside traditional foundation courses, as well as specialized courses, specialized seminars and modules are presented by famous visiting scholars from around the world. The students of the SSTG also have the opportunity to work with scientists from other university, government, and industrial laboratories through collaborative research projects.

The SSTG, departments and our university provide instrumentation to synthesize and investigate materials properties at the atomic scale and up to macroscopic dimensions, as well as to fabricate and test a variety of micro/nano electronic devices and micro/nano systems. The funding base is derived from a mix of university,

government and industrial sources. The SSTG brings together researchers and industrial collaborators for research and experimentation into interdisciplinary fields. The SSTG researchers profit from the combined expertise of different disciplines. Their work will contribute to scientific advancements in many fields. The researchers of the SSTG could profit from the synergy brought about by many areas of expertise including physics, chemistry, chemical engineering, electrical engineering, bioengineering, mechanical engineering, and computer science. A wide variety of on-going activities span the range from fundamental research to applied development to technology transfer. The SSTG is home to researchers from a wide variety of scientific backgrounds including Chemistry, Physics, Engineering and Biology, etc. Our diverse scientific environment enables researchers in SSTG to focus on several areas of research. As the graduate students working at the SSTG, an Individualized Ph.D. Program in an interdisciplinary field is possible. Our door is always open for prospective students who have an interest in surface and interface Technology.

Mechanics



Dongfeng Li

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Professor Dongfeng Li is the director of Mechanics discipline at the Harbin Institute of Technology, Shenzhen. Dongfeng received his degree of undergraduate in Engineering Mechanics in 1999 and the degrees of PhD and Master in Solid Mechanics in 2005 all from Tsinghua University. After completing his PhD, he took up four postdoc positions at the University of Technology of Troyes, the Hong Kong Polytechnic University, University of Limerick and NUI Galway. Professor Li then joined the academic staff at Harbin Institute of Technology, Shenzhen, after competing successfully the national academic talent programme. He was a Visiting Professor at NUI Galway and is the executive director of Guangdong mechanics society in 2021. Professor Li's research is in the area of multi-scale mechanics of engineering materials. His research interests mainly concern with the mechanistic insights on the process-structure-property relationship for a wide range of structural materials in atomic-fuel and fossil-fuel power-plants, aero-engine components and flexible electronic packaging devices. His research spirit focuses on the synergistic applications of the advanced modeling and experimental methods and particularly concentrates on the interdisciplinary integration to achieve novel and creative solutions for those realistic engineering issues or challenges at both the national and international levels. He has published over seventy research articles in these and related areas.



Zhenjun Jiao

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The microstructure of materials directly affects their macroscopic properties. Traditional methods rely on multi-scale calculations to investigate the relationship between microstructure and physical properties, but there are difficulties in modeling the cross-scale aspects of materials. According to the need of this topic, we are going to recruit doctor candidates to analyze the relationship between material microstructure features (2D and 3D) and material mechanical properties using different computational mechanics methods, such as phase field method and peridynamics. Students with backgrounds in mechanics, materials science, and computer science are welcome to submit their resumes.



Zaoyang Guo

[z-guo\(at\)foxmail.com](mailto:z-guo(at)foxmail.com)

Dr. Zaoyang Guo received his Ph.D. degree in Engineering Mechanics from Northwestern University (USA) in 2004. He worked as a lecturer at University of Glasgow (UK) from 2006 to 2010, then as a reader at Newcastle University (UK) from 2010 to 2011. After that, he returned back to China and worked as a professor at Chongqing University in November 2011. He then joined the Institute of Solid Mechanics, Beihang University in July 2014. Prof. Guo moved to the School of Science, Harbin Institute of Technology (HIT), Shenzhen in November 2017. His research interests include mechanics of composites, computational solid mechanics, and biomechanics. He has published more than 60 journal papers in solid mechanics.



Jin Zhang

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Jin Zhang is currently an associate professor in School of Science of (HIT), Shenzhen. He graduated from Hunan University in 2009 with B.S. degree in Engineering Mechanics and obtained his Ph.D. degree (2014) in Computational Mechanics at Swansea University, UK. He worked as a postdoctoral fellow at the Mechanics and Aerospace Design Laboratory, University of Toronto, Canada before he joined HIT. He received Swansea University Engineering Graduation Student Award and Student Award for Outstanding Achievement in ZCCE Research Centre, Swansea University. His research interest includes electromechanics of nanomaterials, mechanics of biomaterials and nonlinear elasticity. He has co-authored over 90 journal papers. Now he is the Member of Editorial Board of 5 international journals.

Prospective candidates must possess good communication skills both written and oral, and show clearly their suitability for doctoral student positions by providing evidence of experience, interest and past contribution.

Computational Mathematics



Hui Liang

lianghui@hit.edu.cn

Professor Hui Liang got her PHD degree from Harbin Institute of Technology in July, 2008. She was a Visiting Research Scholar of Hong Kong Baptist University (HKBU) during March 1, 2010-September 31, 2011, and she visited HKBU many times. She was a Visiting Scholar of Memorial University of Newfoundland during December 1, 2017-November 30, 2018. Hui Liang worked at Heilongjiang University since 2008, then she moved to Harbin Institute of Technology (Shenzhen) in 2019. Hui Liang serves on the editorial boards of the journal “Computational & Applied Mathematics”.

She is a member of the Professional committee on simulation algorithms, China Simulation Federation, and she is also a member of the Mathematical Society of Heilongjiang Province. Her research interests are: the numerical analysis of delay differential equations and Volterra integral equations.