

Curriculum Vitae

Yongji Guan

Current Address

Department of Chemistry

Molecular Science Research Hub, Imperial College London

White City Campus, 80 Wood Lane, London, W12 0BZ, UK

Phone: +44-7579904711

Email: yongji.guan@imperial.ac.uk

Website: <https://www.yongjiguan.com/>

Higher Education

Ph.D. Radio Physics, Lanzhou University, Gansu, China Jun 2019

Advisor: Prof. Xiaoping Zhang and Prof. Youquan Deng

M.S. Radio Physics, Lanzhou University, Gansu, China Jun 2016

Advisor: Prof. Xiaoping Zhang and Dr. Qunfeng Shao

B.S. Communication Engineering, Lanzhou University, Gansu, China Jun 2014

Research Experience

Oct 2019 –present **Postdoctoral Researcher**

Department of Chemistry, Imperial College London

Co-Advisor: Prof. Tom Welton

Awards & Grants

May 2019 The Lanzhou University International Postdoctoral Fellowships

Dec 2018 The Liu Bing Alumni Scholarship

Dec 2017 The Title of Merit Postgraduate of Lanzhou University

2014 - 2018 The First Prize Scholarship of Lanzhou University

Journal Publications

12. **Yongji Guan**, Jiao Zhang, Jinyuan Wang, Fulong Yang, Huanwang Jing, Xiaoping Zhang*, Youquan Deng*: *In-Depth Investigation on THz Spectrum of 1-Butyl-3-Methylimidazolium Dicyanamide Spreading on Graphene Surface by Computational Calculation*. Journal of Molecular Liquids 05/2020; 311:113353., DOI:10.1016/j.molliq.2020.113353

11. Jiao Zhang¹, **Yongji Guan**¹, Jinyuan Wang, Fulong Yang, Huanwang Jing, Xiaoping Zhang*, Youquan Deng*: *Vibrational Spectrum of 1-Ethyl-3-Methylimidazolium Tetrafluoroborate on Graphene Surface*. Journal of Molecular Liquids 05/2020; 311:113340., DOI:10.1016/j.molliq.2020.113340
10. Wenqiong Chen, **Yongji Guan**, Jiao Zhang, Junjie Pei, Xiaoping Zhang*, Youquan Deng*: *Atomistic Insight into Changes in the Vibrational Spectrum of Ionic Liquids under External Electric Field*. Acta Physico-Chimica Sinica 03/2020; 36(X):1-11., DOI:10.3866/PKU.WHXB202001004
9. Jinyuan Wang, **Yongji Guan**, Xiaogang Yu, Youzhi Cao, Jiazang Chen, Yilin Wang, Bin Hu, Huanwang Jing*: *Photoelectrocatalytic reduction of CO₂ to Paraffin Using p-n Heterojunctions*. iScience 12/2019; 23(1):100768., DOI:10.1016/j.isci.2019.100768
8. Chao Du, **Yongji Guan**, Shimin Liu, Wenpeng Ni, Junjie Pei, Wei Zhang, Xiaoping Zhang*, Youquan Deng*: *Highly Efficient and Non-Precious Metal for the Li-SOCl₂ Battery Using Nitrogen Doped Carbon Supported Cu Nanoparticles*. Journal of The Electrochemical Society 03/2019; 166(4):A641-A648., DOI:10.1149/2.0701904jes
7. Fulong Yang, Jianhao Gong, E. Yang, **Yongji Guan**, Xiaodong He, Shimin Liu, Xiaoping Zhang*, Youquan Deng*: *Ultrabroadband Metamaterial Absorbers Based on Ionic Liquids*. Applied Physics A 02/2019; 125(2):149., DOI:10.1007/s00339-019-2443-x
6. Fulong Yang, Jiaohao Gong, E Yang, **Yongji Guan**, Xiaodong He, Shimin Liu, Xiaoping Zhang, Youquan Deng*: *Microwave-Absorbing Properties of Room-Temperature Ionic Liquids*. Journal of Physics D: Applied Physics 01/2019; 52(15):155302., DOI:10.1088/1361-6463/ab016c
5. **Yongji Guan**, Wenqiong Chen, Jiao Zhang, Fulong Yang, Chao Du, Xiaoping Zhang*, Youquan Deng*: *Ionic Liquid Filled Single-Walled Carbon Nanotubes for Flow-Induced Energy Harvesting*. The Journal of Physical Chemistry C 01/2019; 123(12):6981-6988., DOI:10.1021/acs.jpcc.8b11142
4. **Yongji Guan**, Qunfeng Shao, Wenqiong Chen, Zhang Jiao, Youquan Deng*, Xiaoping Zhang*: *Flow-Induced Voltage Generation by Driving Imidazolium-Based Ionic Liquids over a Graphene Nano-Channel*. Journal of Materials Chemistry A 05/2018; 6(25):11941-11950., DOI:10.1039/C8TA02629G
3. Wenqiong Chen, **Yongji Guan**, Xiaoping Zhang*, Youquan Deng*: *Influence of External Electric Field on Vibrational Spectrum of Imidazolium-Based Ionic Liquids Probed by Molecular Dynamics Simulation*. Acta Physico-Chimica Sinica 04/2018; 34(8):1-9., DOI:10.3866/PKU.WHXB201801091
2. **Yongji Guan**, Qunfeng Shao, Wenqiong Chen, Shimin Liu, Xiaoping Zhang*, Youquan Deng*: *Dynamic Three-Dimensional Nano-Wetting Behaviour of Imidazolium Based Ionic Liquids Probed by Molecular Dynamics Simulation*. The Journal of Physical Chemistry C 09/2017; 121(42):23716-23726., DOI:10.1021/acs.jpcc.7b07474
1. Qunfeng Shao, Jingjing Jia, **Yongji Guan**, Xiaodong He, Xiaoping Zhang*: *Flow-Induced Voltage Generation by Moving a Nano-Sized Ionic Liquids Droplet over a Graphene Sheet: Molecular Dynamics Simulation*. The Journal of Chemical Physics 03/2016; 144(12):124703., DOI:10.1063/1.4944611

Conference Proceedings

3. **Yongji Guan**, Qunfeng Shao, Xiaoping Zhang*, Youquan Deng*: *Flow-Induced Voltage Generation by Driving Imidazolium-Based Ionic Liquids over a Graphene Nano-Channel*. The 6th Asian Pacific Congress on Ionic Liquid & Green Processes (APCIL-6), Tottori, Japan; 10/2018 (Oral and poster)

2. **Yongji Guan**, Qunfeng Shao, Xiaoping Zhang*: *Probing Nano-Wettability of Hydrophilic/Hydrophobic Ionic Liquids Using Molecular Dynamics Simulation*. The 8th International Conference on Molecular Simulations and Informatics Technology Application (8th-ICMS&I), Dalian, China; 09/2016 (Oral and Poster)
1. Zhiyun Li, Zhinan Wang, Pengfei Cao*, **Yongji Guan**, Lin Cheng, Linshan Chen: *Near Infrared Plasmonic Optical Trapping Based on Hybrid Metal Nanorod*. 2016 Progress in Electromagnetic Research Symposium (PIERS); 08/2016, DOI:10.1109/PIERS.2016.7734436

Service & Leadership

Journal Review	Langmuir, Nano Energy, Chinese Physics B, Current Nanoscience, Plasmonics, Micro and Nano systems, The Journal of Physical Chemistry C, Energy Storage Materials, Optics and Laser Technology, Journal of Molecular Liquids, Journal of The Electrochemical Society
Conference Review	2019 8th International Conference on Advanced Materials and Engineering Materials (8th ICAMEM2019)

Research Support

2017 - 2019	The Fundamental Research Funds for the Central Universities (lzujbky-2018-it62)
2019 - 2021	The Lanzhou University International Postdoctoral Fellowships

Research Interest

Properties of ionic liquids	<ol style="list-style-type: none"> 1). Structure and dynamics of ionic liquids under external force 2). Moving behavior of ionic liquids under external force 3). Structure and dynamics of ionic liquids mixtures under external force 4). Predicting the physical and chemical properties of ionic liquids by deep learning
Microwave absorption of ionic liquids	<ol style="list-style-type: none"> 1). The mechanism of microwave absorption of ionic liquids 2). Ultra-broadband microwave absorber based on ionic liquids 3). Using deep learning to predict the dielectric parameters of ionic liquids

Teaching

Sep. 2015 – Jan. 2016	Principles of Wireless Communications (Teaching Assistant) - School of Information Science and Engineering, Lanzhou University
Mar. 2015 – Jul. 2015	Principles of Optical Fiber Communications (Teaching Assistant) - School of

Information Science and Engineering, Lanzhou University

Sep. 2014 – Jan. 2015 1). Principle of Communication (Teaching Assistant) - School of Information Science and Engineering, Lanzhou University
2). Mathematical Methods for Physicists (Teaching Assistant) - School of Information Science and Engineering, Lanzhou University