Electronic Supplementary Material (ESI) for Chemical Society Reviews. This journal is © The Royal Society of Chemistry 2021



Yuting Wang received her Ph.D. degree from Tianjin University in 2021 (with Prof. Bin Zhang). Currently, she is a tenure-track research associate in the group of Prof. Bin Zhang at Tianjin University. Her research focuses on the synthesis of nanostructured materials for sustainable nitrogen chemistry.



Changhong Wang received his Ph.D. degree from Nankai University of China in 2016 (with Prof. Hui Liu and Prof. Weichao Wang). He is currently conducting postdoctoral research at Tianjin University (with Prof. Yifu Yu and Prof. Bin Zhang). His research focuses on the computational chemistry of electronic structure regulation and reaction mechanism investigation.



Mengyang Li received his B.S. degree from Zhengzhou University in 2018. He is currently working as a Ph.D. candidate at Tianjin University with Prof. Bin Zhang. His research interest focuses on electrocatalytic hydrogenation reactions and isotope labeling chemistry.



Yifu Yu received his B.E. and Ph.D. degrees in Chemical Engineering from Tianjin University. He carried out postdoctoral research in Nanyang Technological University under the direction of Prof. Hua Zhang (July 2014 to July 2017). Currently, he is a professor in the chemistry department at Tianjin University. His research interests focus on the artificial nitrogen cycle.



Bin Zhang received his Ph.D. degree from the University of Science and Technology of China in 2007. He carried out postdoctoral research at the University of Pennsylvania (July 2007 to July 2008) and worked as an Alexander von Humboldt fellow at the Max Planck Institute of Colloids and Interfaces (August 2008 to July 2009). Currently, he is a Fellow of the Royal Society of Chemistry (FRSC) and a professor at Tianjin University. He mainly focuses on the controlled transformation synthesis of advanced nanomaterials for water-involved catalytic applications from transfer hydrogenation reactions to sustainable nitrogen chemistry.