

Curriculum Vitae

Name: He, Rui

Education:

Doctor of Philosophy, October 2006, Applied Physics, Columbia University, New York, USA
Master of Science, February 2003, Applied Physics, Columbia University, New York, USA
Bachelor of Science, July 1999, Light Sources and Illuminating Engineering, Fudan University, Shanghai, China

Academic experience:

Sept 2023 - present: Professor, Department of Electrical and Computer Engineering, Texas Tech University, Lubbock, Texas
July 2017 – Aug 2023: Associate Professor, Department of Electrical and Computer Engineering, Texas Tech University, Lubbock, Texas
July 2016 – July 2017: Associate Professor, Department of Physics, University of Northern Iowa, Cedar Falls, Iowa
Aug 2011 – June 2016: Assistant Professor, Department of Physics, University of Northern Iowa, Cedar Falls, Iowa
Nov 2009 – Aug 2011: Postdoctoral Research Scientist, Physics Department, Columbia University, New York
July 2007 – Oct. 2009: Maternity Leave
Nov 2006 – June 2007: Post-doc Fellow and Research Assistant, Physics Department and Mathematics Department, Hong Kong University of Science & Technology, Hong Kong

Non-academic experience: None

Certifications or professional registrations: None

Current membership in professional organizations:

American Physical Society
Materials Research Society

Honors and awards:

TTU College of Engineering Ed and Linda Whitacre Faculty Fellow, 2021
TTU Whitacre College of Engineering Research Award, 2018-2019
Texas Tech University Excellence in Research, 2018
National Science Foundation CAREER Award, 2016
Joseph Wang Award in Nanoscience (Cognizure Publishing Division), 2015
University of Northern Iowa Faculty External Grant Seeking Award, 2014

Service activities:

- TTU ECE Department Graduate Studies Committee, Undergraduate Curriculum Math and Physics Subcommittee, Faculty Pre-Tenure 3rd Year Review Committee, Department Chair Search Committee, Energy Position Faculty Search Committee, Semiconductor Materials and Devices Faculty Search Committee
- TTU College of Engineering Tenure and Promotion Committee
- TTU Physics Department Assistant Professor Search Committee
- Co-organizer for Symposium EP03: “Beyond-Graphene 2D Materials-Synthesis, Properties and Device Applications” for the 2018 Materials Research Society (MRS) Fall Meeting.
- Reviewer for research proposals from various organizations (NSF, DOE, ACS Petroleum Research Fund, Research Corporation for Science Advancement, and Army Research Office).
- Reviewer for various journals (Nature Series, APS, ACS, AIP, etc.)

The most important publications from the past five years: (*corresponding author)

- Zeliang Sun, Gaihua Ye, Chengkang Zhou, Mengqi Huang, Nan Huang, Xilong Xu, Qiuyang Li, Guoxin Zheng, Zhipeng Ye, Cynthia Nnokwe, Lu Li, Hui Deng, Li Yang, David Mandrus, Zi Yang Meng, Kai Sun, Chunhui Du, **Rui He***, and Liuyan Zhao*, “Dimensionality crossover to 2D vestigial nematicity from 3D zigzag antiferromagnetism in an XY-type honeycomb van der Waals magnet,” *Nature Physics* 20, 1764–1771 (2024).
- Hongchao Xie, Xiangpeng Luo, Zhipeng Ye, Zeliang Sun, Gaihua Ye, Suk Hyun Sung, Nishkarsh Agarwal, Haiwen Ge, Shaohua Yan, Yang Fu, Shangjie Tian, Hechang Lei, Kai Sun, Robert Hovden, **Rui He***, and Liuyan Zhao*, “Evidence of non-collinear spin texture in magnetic moiré superlattices,” *Nature Physics* 19, 1150–1155 (2023).
- David Lujan, Jeongheon Choe, Martin Rodriguez-Vega*, Zhipeng Ye, Aritz Leonardo, T. Nathan Nunley, Liang-Juan Chang, Shang-Fan Lee, Jiaqiang Yan, Gregory A. Fiete, **Rui He***, and Xiaoqin Li*, “Magnons and magnetic fluctuations in atomically thin MnBi_2Te_4 ,” *Nature Communications* 13, 2527 (2022).
- Hongchao Xie, Xiangpeng Luo, Gaihua Ye, Zhipeng Ye, Haiwen Ge, Suk Hyun Sung, Emily Rennich, Shaohua Yan, Yang Fu, Shangjie Tian, Hechang Lei, Robert Hovden, Kai Sun, **Rui He***, and Liuyan Zhao*, “Twist engineering of the two-dimensional magnetism in double bilayer chromium triiodide homostructures,” *Nature Physics* 18, 30–36 (2022).
- Wencan Jin, Hyun Ho Kim, Zhipeng Ye, Gaihua Ye, Laura Rojas, Xiangpeng Luo, Bowen Yang, Fangzhou Yin, Jason Shih An Horng, Shangjie Tian, Yang Fu, Gongjun Xu, Hui Deng, Hechang Lei, Adam W. Tsen, Kai Sun, **Rui He***, and Liuyan Zhao*, “Observation of the polaronic character of excitons in a two-dimensional semiconducting magnet CrI_3 ,” *Nature Communications* 11, 4780 (2020).

Professional development activities:

ABET Fundamentals of Program Assessment workshop (Jan.-Feb., 2022)