

Personal Information

Dr. Xujun Li

Date of birth: Oct. 6, 1992

Nationality: Chinese

Language: Chinese; English; German (Beginner)

Institute: State Key Laboratory of Multiphase Flow in Power Engineering
Xi'an Jiaotong University

Email: xujun_li@163.com; lxj2281313879@stu.xjtu.edu.cn



Education Experience

Xi'an Jiaotong University PhD candidate	China	2017.03-2023.12
Otto-von-Guericke-University Magdeburg Joint PhD student	Germany	2021.07-2022.08
Xi'an Jiaotong University MSc (part of a continuous academic project involves postgraduate and doctoral study)	China	2015.09-2017.02
Shandong University BSc	China	2011.09-2015.06

Research Interests

- Supercritical Water Gasification and Waste Treatment
- Hydrogen Production and Optimization of Reactor Design
- Heat/Mass Transfer in Multiphase Flows and Thermochemical Reactions
- Molecular Dynamics Simulations and Computational Fluid Dynamics

Publications (Selected)

- **X. Li**, X. Meng, Z. Zhuang, G. He, L. Li, H. Jin, L. Guo, In situ visualization of salt crystallization in sub-/supercritical water environments, *Desalination*, 583 (2024) 117700.
- **X. Li**, X. Qi, L. Lu, J. Zhao, H. Jin, Z. Ge, Y. Chen, L. Guo, Experimental and molecular dynamics simulation study on solubility characteristics of chloride and sulfate salts in supercritical water, *J. Supercrit. Fluids*, 205 (2024).
- **X. Li**, J. Sun, X. Wei, L. Li, H. Jin, L. Guo, Molecular dynamics study with COMPASS II forcefield on nucleation and growth mechanism of sodium chloride in supercritical water, *J. Supercrit. Fluids*, 202 (2023) 106053.
- **X. Li**, K. Chen, X. Wei, H. Jin, G. Wang, L. Guo, E. Tsotsas, Distribution characteristics of salt crystals in a supercritical water fluidized bed reactor with CFD-PBM coupled model, *Powder Technol.*, 420 (2023) 118357.

- L. Li, **X. Li**, W. Cao, An experimental and thermodynamic equilibrium investigation of heavy metals transformation in supercritical water gasification of oily sludge, J. Environ. Manage., 348 (2023) 119365.
- X. Qi, **X. Li**, F. Liu, L. Lu, H. Jin, W. Wei, Y. Chen, L. Guo, Hydrogen production by kraft black liquor supercritical water gasification: Reaction pathway and kinetic, Energy, 282 (2023) 128839.
- L. Li, **X. Li**, W. Cao, L. Li, X. Li, W. Cao, Reaction pathway and kinetics study on supercritical water gasification of oily sludge, J. Anal. Appl. Pyrolysis, 170 (2023) 105920.
- X. Qi, J. Zhang, **X. Li**, J. Cui, Y. Chen, H. Jin, L. Guo, Mechanistic insights and catalytic enhancement of phenolic wastewater supercritical water gasification: A combined experiment and density functional theory study, J. Environ. Manage., 358 (2024) 120836.
- G. Wang, J. Li, **X. Li**, J. Kou, Z. Ge, L. Li, P. Peng, L. Guo, Experimental study on supercritical water gasification of oily sludge using a continuous two-step method, J. Hazard. Mater., 455 (2023) 131619.
- L. Li, G. Wang, **X. Li**, L. Wang, J. Zhang, K. Cheng, P. Peng, W. Cao, H. Jin, L. Guo, Experimental study on alkali catalytic gasification of oily sludge in supercritical water with a continuous reactor, J. Environ. Manage., 327 (2023) 116957.

Academic Awards and Honors

- Excellent Postgraduate of Xi'an Jiaotong University, 2022
- China Scholarship Council Scholarship, 2021
- Academic Scholarship of Xi'an Jiaotong University, 2016-2020
- Academic Scholarship of Weichai Power, 2013&2014
- Advanced Individual of Shandong University, 2013
- Academic Scholarship of Jingcheng Computer Numerical Control, 2012

Software Skills

Including, but not limited to the following:

- **Computational Fluid Dynamics:** Ansys Fluent, SpaceClaim, Tecplot 360, CFD-Post;
- **Molecular Dynamics:** Materials studio; LAMMPS; Ovito;
- **Others:** Aspen Plus, Auto CAD, Endnote, Origin, Visio, Image J, ChatGPT, Midjourney

PhD Supervisors

Supervisor: **Prof. Liejin Guo**

Academician of the Chinese Academy of Sciences

Director, International Research Center for Renewable Energy (IRCRE)

Director, State Key Laboratory of Multiphase Flow in Power Engineering

Full Professor, Xi'an Jiaotong University, China

Email: lj-guo@mail.xjtu.edu.cn

Tel: +86 (0)29 82663895

Co-Supervisor: **Prof. Evangelos Tsotsas**

Faculty for Process and Systems Engineering

Institute for Process Engineering (IVT)

Universitätsplatz 2, 39106, Magdeburg, G10-238

Email: evangelos.tsotsas@ovgu.de

Tel : +49 391 67-58784