YITIAN WANG

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EDUCATION

University of California, Riverside, CA *Mar. 2021 - Dec. 2025 (expected)*
Ph.D. in Electrical and Computer Engineering
Award: MRS 2023 Spring Highly Commended Student Talk Award

Columbia University in the City of New York, NY *Aug. 2019 - Feb. 2021*
Master of Science, Material science and engineering

University of California, Berkeley, CA *Jul. 2017 - Aug. 2017*
Summer Session

Beijing Normal University, CN *Sep. 2015 - Jun. 2019*
Bachelor of Science, Physics
Award: 'Jingshi' Scholarship (2016 - 2018)

SKILLS

Software / Programming

- Python (advanced), MATLAB (advanced), LaTeX (advanced), SolidWorks (intermediate)
- GSAS-II (advanced), Mantid (advanced), ImageJ (intermediate)

Experimental Techniques

- FZ Crystal Growth (advanced), PVD (intermediate), CVD (intermediate)
- SEM (advanced), XRD (advanced), INS (advanced), Raman (intermediate), FTIR (intermediate)
- PPMS (advanced), DSC (intermediate), TGA (intermediate)
- Battery Assembly (advanced), Impedance Spectroscopy (intermediate)

PROJECTS

Thermal transport and ionic mobility in solid electrolytes *Jun. 2021 - Jun. 2025*
University of California *Riverside, CA*

· Grew single crystal samples with floating zone method using image furnace.
· Studied the physical properties in comparison with other solid electrolytes.

Inelastic neutron scattering on LLZTO single crystal *Jan. 2022 - Jul. 2023*
Oak Ridge National Laboratory *Oak Ridge, TN*

· Conducted inelastic neutron scattering experiments using TAX and ARCS.
· Processed and analyzed the data with Mantid and Python.

Two-channel fitting model for thermal conductivity *Mar. 2022 - Sep. 2023*
University of California *Riverside, CA*

· Developed a expandable fitting model for thermal conductivity data in MatLab.

Advanced separator of lithium-ion battery *Oct. 2019 - Jan. 2021*
Columbia University *New York, NY*

· Made composite battery separator with $\gamma - C_3N_4$ and PVDF.
· Assembled full cell batteries and tested electrochemical properties.

First-principle calculation of olivine structure *Sep. 2019 - Jan. 2020*
Columbia university *New York, NY*

· Calculated the stable olivine structure with hydrogen defects with Quantum ESPRESSO.

Low temperature uniaxial strain device *Sep. 2018 - May 2019*
Beijing Normal University *Beijing, CN*

· Modeled devices in Solidworks to apply uniaxial pressure on film samples utilizing thermal expansion.
· Tested the strain induced detwinning effect with PPMS.

SELECTED PUBLICATIONS

- Glass-like thermal transport in polycrystalline perovskite lithium-ion conductor $Li_{3/8}Sr_{7/16}Hf_{1/4}Ta_{3/4}O_3$
  - Chemical Communications, 2025
  - **Y. Wang**, Q. Jia, S. Li, L. Shi, Y. Li, X. Chen
- Low Thermal Conductivity and Lattice Anharmonicity of NaSICON-type Solid Electrolyte $Na_3Zr_2Si_2PO_{12}$
  - Tungsten, 2025
  - **Y. Wang**, Q. Jia, S. Li, L. Shi, Y. Li, X. Chen
- Origin of intrinsically low thermal conductivity in a garnet-type solid electrolyte: Linking lattice and ionic dynamics with thermal transport
  - PRX Energy, 2025
  - **Y. Wang**, Y. Su, J. Carrete, H. Zhang, N. Wu, Y. Li, H. Li, J. He, Y. Xu, S. Guo, Q. Cai, D. L. Abernathy, T. Williams, K. V. Kravchyk, M. V. Kovalenko, G. K. H. Madsen, C. Li, X. Chen
- Thermal properties and lattice anharmonicity of Li-ion conducting garnet solid electrolyte $Li_{6.5}La_3Zr_{1.5}Ta_{0.5}O_{12}$
  - Journal of Materials Chemistry A, 2024
  - **Y. Wang**, S. Li, N. Wu, Q. Jia, T. Hoke, L. Shi, Y. Li, X. Chen
- Enhanced magnon thermal transport in yttrium-doped spin ladder compounds $Sr_{14-x}Y_xCu_{24}O_{41}$
  - Journal of Applied Physics, 2024
  - S. Li, S. Guo, **Y. Wang**, H. Li, Y. Xu, V. Carta, J. Zhou, X. Chen
- Size-dependent magnon thermal transport in a nanostructured quantum magnet
  - Cell Reports Physical Science, 2024
  - S. Guo, H. Li, X. Bai, **Y. Wang**, S. Li, R. E. Dunin-Borkowski, J. Zhou, X. Chen
- Crystal structure and thermoelectric properties of layered van der Waals semimetal $ZrTiSe_4$
  - Chemistry of Materials, 2022

  - Y. Xu, Z. Barani, P. Xiao, S. Sudhindra, **Y. Wang**, A. A. Rezaie, V. Carta, K. N. Bozhilov, D. Luong, B. P. T. Fokwa, F. Kargar, A. A. Balandin, X. Chen

- Single crystal growth and electrochemical studies of garnet-type fast Li-ion conductors
  - Tungsten, 2022
  - **Y. Wang**, X. Chen

EXTRA-CIRRUCULAR

GSA Python Coding Contest	Aug. 2020
COMAP Mathematical Contest in Modeling	Jan. 2017
BNU Physics Department Soccer Team	2015 - 2019