

# Jichen Feng

University of Pennsylvania  
Department of Chemistry 260B CRET  
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## EDUCATION

- Aug. 2021–present **UNIVERSITY OF PENNSYLVANIA** Philadelphia, PA  
Ph.D. in Chemistry (GPA: 4.0/ 4.0)  
*Advisors: Prof. Joseph E. Subotnik and Prof. Abraham Nitzan*
- Sept. 2017–Jun. 2021 **UNIVERSITY OF SCIENCE AND TECHNOLOGY OF CHINA (USTC)** Hefei, Anhui, China  
B.S. in Physics
- Jul. 2018 **TSINGHUA UNIVERSITY** Beijing, China  
Summer School in Quantum Information

## WORKING EXPERIENCE

- Jul. 2024–present **PRINCETON UNIVERSITY** Princeton, NJ  
Research with Prof. Joseph E. Subotnik  
• Research on quantum–classical dynamics in chiral molecular systems

## RESEARCH

- **Graduate Research: Chirality-Induced Spin Selectivity** May. 2023–present  
*Advisor: Prof. Abraham Nitzan, University of Pennsylvania and Prof. Joseph E. Subotnik, Princeton University*
  - \* Analyze structural chirality and chiral vibrational modes in small molecules
  - \* Study linear and angular momentum coupling in chiral molecular systems
  - \* Investigate polaron formation and dynamics in chiral molecular systems
- **Graduate Research: Bulk Photovoltaic Effect** May. 2022–May. 2023  
*Advisor: Prof. Andrew M. Rappe, University of Pennsylvania*
  - \* Developed a real-time photocurrent simulation algorithm for solid-state systems
  - \* Investigated shift-current responses in noncollinear magnetic materials
- **Undergraduate Researchs: Quantum Information and Condensed Matter Physics** 2018–2021
  - \* Quantum Optics Experiments: PDH locking, MOT operation, single-photon sources, quantum-state tomography
  - \* Designed an experimental scheme for state-dependent quantum cloning; evaluated achievable cloning fidelities
  - \* Built DFT + machine-learning workflows for two-dimensional materials;

## FIRST AUTHOR PUBLICATIONS

1. **Jichen Feng**, Yifan Zhang, Chenggong Zhang, Yifu Lu, Shilong Liu, Mengdi Wang, “Web World Models,” *arXiv preprint arxiv:2512.23676* (2025)
2. **Jichen Feng**, Ethan Abraham, Joseph E. Subotnik, and Abraham Nitzan, “Rectification of vibrational energy transfer in driven chiral molecules,” *The Journal of Chemical Physics* **163**(23) (2025).
3. **Jichen Feng**, Ethan Abraham, Joseph E. Subotnik, and Abraham Nitzan, “Nuclear Angular Momentum Generation in Thermally Driven Chiral Systems,” *arXiv preprint arXiv:2508.06738* (2025).
4. **Jichen Feng**, Ethan Abraham, Joseph E. Subotnik, and Abraham Nitzan, “Chiral vibrational modes in small molecules,” *The Journal of Chemical Physics* **163**(1) (2025).

## RESEARCH SKILLS

- Programming: C / MATLAB / Python / Julia
- Scientific Computing: LAMMPS; DFT; Quantum–Classical Dynamics

## RESEARCH INTERESTS

- Quantum information
- Computational condensed matter physics

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- Nonadiabatic dynamics
- AI for science

## AWARDS & SCHOLARSHIPS

- |   |           |
|---|-----------|
| • Outstanding Student Scholarship         | 2018–2020 |
| • Yanjici Physics Elite Class Scholarship | 2018      |
| • Graduate Committee's List               | 2022      |