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#### 教育经历:

2017-09 至 2022-09, 北京交通大学, 光学工程, 获得工学博士学位

2013-09 至 2017-07, 聊城大学, 物理学, 获得学士学位

工作经历:      2022.10~2024.10: 讲师 鲁东大学物理与光电工程学院

2024.10~至今: 副教授 鲁东大学物理与光电工程学院

目前研究领域:      钙钛矿太阳能电池设计制备及机理研究      有机光电子材料与器件自旋动力学研究

承担研究课题:      国家自然科学基金青年科学基金项目, 柔性钙钛矿太阳能电池中自旋与轨道相互作用的应力调控及作用机制, 2024-01-01~ 2026-12-31 在研, 主持

主讲课程:      《太阳能电池原理与工艺》      《材料表面工程技术》      《普通物理 B2》      《材料物理与化学》

#### 代表性成果:

- (1) Shaowei Zhang, Shufang Zhang\*, **Qi Zhang\***. et al. Bio-chelation-inspired interfacial design for stable perovskite solar cells via molecular-anchored heavy-metal trapping. *Materials Today Chemistry* **2026**, 53, 103525.
- (2) ShunShang Zhou, Shufang Zhang\*, **Qi Zhang\***. et al. Continuous Polymer Dipole Layer Enhances Carrier Transport and Lead Immobilization in Perovskite Solar Cells. *Materials Today Chemistry*. **2026**, 51, 103273.
- (3) Yongqi Xie, Shufang Zhang\*, **Qi Zhang\***. et al.. Dual-functional biodegradable chelator synchronizes crystallization control and lead sequestration for efficient eco-perovskite solar cells. *Electrochimica Acta*, **2026**, 545, 147731.
- (4) **Qi Zhang**; Shufang Zhang\*. et al., Strain Relaxation via Lattice Matching Effect for Highly Efficiency Stable Perovskite Solar Cells. *Advanced Functional Materials*. **2025**, 35(38): 2507369.
- (5) Yongjia Li, Shufang Zhang\*, **Qi Zhang\***. et al.. In-situ polymerization of natural amino acids in SnO<sub>2</sub> for environmentally friendly and high-efficiency perovskite solar cells. *Chemical Engineering Journal*, **2025**, 518, 164637.
- (6) Xinjing Chen, Shufang Zhang\*, **Qi Zhang\***. et al.. Synergistic interfacial molecular design for high-performance and eco-friendly perovskite solar cells. *Rare Metals*, **2025**,44.
- (7) Xuan Wang, Shufang Zhang\*, **Qi Zhang\***. et al.. UV-shielding and charge-transfer enhanced interface via amphoteric molecule for stable, high-efficiency solar cells. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, **2025**, 727, 138293.
- (8) **Qi Zhang\***; Haomiao Yu\*. et al., Defect-Induced Rashba Effect in Metal Halide Perovskite Thin Films Deposited on a Flexible Substrate, *Advanced Optical Materials*, **2024**, 2302238.
- (9) **Qi Zhang**; Liying Pei; Haomiao Yu. et al. Achieving Band Gap Reduction and Carrier Lifetime Enhancement in Metal Halide Perovskites via Mechanical Stretching, *The Journal of Physical*

*Chemistry Letters*, **2021**, 12(30): 7207-7212.

- (10) **Qi Zhang**; Haomiao Yu; Bin Hu. et al. External Field-Tunable Internal Orbit-Orbit Interaction in Flexible Perovskites. *The Journal of Physical Chemistry Letters*, **2020**, 11(24): 10323-10328.
- (11) **Qi Zhang**; Haomiao Yu; Bin Hu. et al. Substrate Dependent Spin–Orbit Coupling in Hybrid Perovskite Thin Films, *Advanced Functional Materials*, **2019**, 29(35): 1-7.