

Stanford



Huaiyu Wang

Postdoctoral Scholar, Photon Science, SLAC

CONTACT INFORMATION

- **Alternate Contact**

Huaiyu Wang

Email hugo17.wang@gmail.com

Tel 8148760430

Bio

STANFORD ADVISORS

- David Reis, Postdoctoral Faculty Sponsor

Publications

PUBLICATIONS

- **Decoding THz-Driven Dynamic Fingerprints of Ferroelectric Nanotwin Networks.** *Advanced materials (Deerfield Beach, Fla.)*
Li, X., Ross, A., Stoica, V. A., Das, S., Hazra, S., Wang, H. H., Padma, H., Hoffmann, M. C., Kramer, P., Song, S., Nelson, S., Sato, T., Zhu, et al
2026: e73118
- **Terahertz-field activation of polar skyrons.** *Nature communications*
Wang, H. H., Stoica, V. A., Dai, C., Paściak, M., Das, S., Yang, T., Gonçalves, M. A., Kulda, J., McCarter, M. R., Mangu, A., Cao, Y., Padma, H., Saha, et al
2025; 16 (1): 8994
- **Coupled order parameters and photoinduced domain walls in the charge density wave of (TaSe₄)₂I** *NPJ QUANTUM MATERIALS*
Duncan, R. A., Orenstein, G., Kim, S., Huang, Y., Wang, H., Teitelbaum, S. W., Stanton, J., Hurley, M., Miller, A., Leonard, N., Hanlon, D., Reis, D. A., Osaka, et al
2025; 10 (1)
- **Hidden domain boundary dynamics toward crystalline perfection.** *Proceedings of the National Academy of Sciences of the United States of America*
Mangu, A., Stoica, V. A., Zheng, H., Yang, T., Zhang, M., Wang, H. H., Zu, R., Nguyen, Q. L., Song, S., Das, S., Meisenheimer, P., Donoway, E., Chollet, et al
2025; 122 (2): e2407772122
- **Non-equilibrium pathways to emergent polar supertextures.** *Nature materials*
Stoica, V. A., Yang, T., Das, S., Cao, Y., Wang, H. H., Kubota, Y., Dai, C., Padma, H., Sato, Y., Mangu, A., Nguyen, Q. L., Zhang, Z., Talreja, et al
2024
- **Strong electron-phonon coupling driven pseudogap modulation and density-wave fluctuations in a correlated polar metal.** *Nature communications*
Wang, H. H., Xiong, Y., Padma, H., Wang, Y., Wang, Z., Claes, R., Brunin, G., Min, L., Zu, R., Wetherington, M. T., Wang, Y., Mao, Z., Hautier, et al

2023; 14 (1): 5769

- **Bipolaronic Nature of the Pseudogap in Quasi-One-Dimensional (TaSe₄)₂I Revealed via Weak Photoexcitation.** *Nano letters*
Zhang, Y., Murthy, C., Kafle, T. R., You, W., Shi, X., Min, L., Wang, H. H., Li, N., Gopalan, V., Mao, Z., Rossnagel, K., Yang, L., Kapteyn, et al
2023
- **Large Exchange Coupling Between Localized Spins and Topological Bands in Magnetic Topological Insulator MnBi₂Te₄.** *Advanced materials (Deerfield Beach, Fla.)*
Padmanabhan, H., Stoica, V. A., Kim, P. K., Poore, M., Yang, T., Shen, X., Reid, A. H., Lin, M., Park, S., Yang, J., Hugo Wang, H., Koocher, N. Z., Puggioni, et al
2022: e2202841
- **Computing diffraction patterns of microstructures from phase-field simulations** *ACTA MATERIALIA*
Yang, T., Dai, C., Stoica, V. A., Xue, F., Wang, H., Ji, Y., Gopalan, V., Chen, L.
2022; 239
- **Fe_{3-x}InSn_xO₆ (x=0, 0.25, or 0.5): A Family of Corundum Derivatives with Sn-induced Polarization and Above Room Temperature Antiferromagnetic Ordering** *CHEMISTRY OF MATERIALS*
Frank, C. E., McCabe, E. E., Orlandi, F., Manuel, P., Tan, X., Deng, Z., Jin, C., Croft, M., Emge, T., Yu, S., Wang, H., Gopalan, V., Lapidus, et al
2022; 34 (11)
- **SnP₂S₆: A Promising Infrared Nonlinear Optical Crystal with Strong Nonresonant Second Harmonic Generation and Phase-Matchability** *ACS PHOTONICS*
He, J., Lee, S., Naccarato, F., Brunin, G., Zu, R., Wang, Y., Miao, L., Wang, H., Alem, N., Hautier, G., Rignanese, G., Mao, Z., Gopalan, et al
2022; 9 (5): 1724-1732
- **Interlayer magnetophononic coupling in MnBi₂Te₄.** *Nature communications*
Padmanabhan, H., Poore, M., Kim, P. K., Koocher, N. Z., Stoica, V. A., Puggioni, D., Hugo Wang, H., Shen, X., Reid, A. H., Gu, M., Wetherington, M., Lee, S. H., Schaller, et al
2022; 13 (1): 1929
- **Low-temperature processed beta-phase In₂Se₃ ferroelectric semiconductor thin film transistors** *2D MATERIALS*
Lee, S., Zhang, X., McKnight, T., Ramkorun, B., Wang, H., Gopalan, V., Redwing, J. M., Jackson, T. N.
2022; 9 (2)
- **Ultrasensitive electrode-free and co-catalyst-free detection of nanomoles per hour hydrogen evolution for the discovery of new photocatalysts** *REVIEW OF SCIENTIFIC INSTRUMENTS*
Wang, H., Katz, R., Fanghanel, J., Schaak, R. E., Gopalan, V.
2022; 93 (2): 025002
- **Optimizing accuracy and efficacy in data-driven materials discovery for the solar production of hydrogen** *ENERGY & ENVIRONMENTAL SCIENCE*
Xiong, Y., Campbell, Q. T., Fanghanel, J., Badding, C. K., Wang, H., Kirchner-Hall, N. E., Theibault, M. J., Timrov, I., Mondschein, J. S., Seth, K., Katz, R., Villarino, A., Pamuk, et al
2021; 14 (4): 2335-2348
- **Searching for New Ferroelectric Materials Using High-Throughput Databases: An Experimental Perspective on BiAlO₃ and BiInO₃** *CHEMISTRY OF MATERIALS*
Acharya, M., Mack, S., Fernandez, A., Kim, J., Wang, H., Eriguchi, K., Meyers, D., Gopalan, V., Neaton, J., Martin, L. W.
2020; 32 (17): 7274-7283
- **High-Pressure, High-Temperature Synthesis and Characterization of Polar and Magnetic LuCrWO₆** *INORGANIC CHEMISTRY*
Kim, S., Tan, X., Frank, C. E., Deng, Z., Wang, H., Collins, L., Lapidus, S. H., Jin, C., Gopalan, V., Kalinin, S., Walker, D., Greenblatt, M.
2020; 59 (6): 3579-3584
- **Competing Polar and Antipolar Structures in the Ruddlesden-Popper Layered Perovskite Li₂SrNb₂O₇.** *Chemistry of materials : a publication of the American Chemical Society*
Uppuluri, R., Akamatsu, H., Gupta, A. S., Wang, H., Brown, C. M., Lopez, K. E., Alem, N., Gopalan, V., Mallouk, T. E.
2019; 31 (12)