Stanford



Hari Manoharan

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CONTACT INFORMATION

- **Administrative Contact**

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Bio

ACADEMIC APPOINTMENTS

- Associate Professor, Physics
- Faculty Affiliate, Institute for Human-Centered Artificial Intelligence (HAI)
- Principal Investigator, Stanford Institute for Materials and Energy Sciences

Teaching

COURSES

2026-27

- Introduction to Electronic Techniques for Physics Research Instrumentation : PHYSICS 104 (Aut)
- Quantum Information and Computing, Entangled and Unscrambled: PHYSICS 19N (Aut)
- Thermodynamics, Kinetic Theory, and Statistical Mechanics I: PHYSICS 170 (Win)

2025-26

- Quantum Information and Computing, Entangled and Unscrambled: PHYSICS 19N (Aut)
- Thermodynamics, Kinetic Theory, and Statistical Mechanics I: PHYSICS 170 (Win)

2024-25

- Quantum Information: Visions and Emerging Technologies: PHYSICS 14N (Spr)
- Thermodynamics, Kinetic Theory, and Statistical Mechanics I: PHYSICS 170 (Win)

2023-24

- Quantum Information: Visions and Emerging Technologies: PHYSICS 14N (Spr)
- Quantum and Thermal Physics: PHYSICS 71 (Win)

Publications

PUBLICATIONS

- **Nanoscale Electronic Transparency of Wafer-Scale Hexagonal Boron Nitride.** *Nano letters*

Zerger, C. Z., Rodenbach, L. K., Chen, Y., Safvati, B., Brubaker, M. Z., Tran, S., Chen, T., Li, M., Li, L., Goldhaber-Gordon, D., Manoharan, H. C.
2022

- **Signatures of two-dimensional superconductivity emerging within a three-dimensional host superconductor.** *Proceedings of the National Academy of Sciences of the United States of America*
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- **Quantum engineered Kondo lattices.** *Nature communications*
  Figgins, J. n., Mattos, L. S., Mar, W. n., Chen, Y. T., Manoharan, H. C., Morr, D. K.
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- **Phase Separation of Dirac Electrons in Topological Insulators at the Spatial Limit** *NANO LETTERS*
  Parra, C., Rodrigues da Cunha, T. H., Contryrnan, A. W., Kong, D., Montero-Silva, F., Rezende Goncalves, P. H., dos Reis, D. D., Giraldo-Gallo, P., Segura, R., Olivares, F., Niestemski, F., Cui, Y., Magalhaes-Paniago, et al
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- **Activating and optimizing MoS2 basal planes for hydrogen evolution through the formation of strained sulphur vacancies** *NATURE MATERIALS*
  Li, H., Tsai, C., Koh, A. L., Cai, L., Contryman, A. W., Fragapane, A. H., Zhao, J., Han, H. S., Manoharan, H. C., Abild-Pedersen, F., Norskov, J. K., Zheng, X.
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- **Optoelectronic crystal of artificial atoms in strain-textured molybdenum disulphide** *NATURE COMMUNICATIONS*
  Li, H., Contryman, A. W., Qian, X., Ardakani, S. M., Gong, Y., Wang, X., Weisse, J. M., Lee, C. H., Zhao, J., Ajayan, P. M., Li, J., Manoharan, H. C., Zheng, et al
  2015; 6

- **Optoelectronic crystal of artificial atoms in strain-textured molybdenum disulphide.** *Nature communications*
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- **Stripe-like nanoscale structural phase separation in superconducting BaPb1-xBixO3.** *Nature communications*
  Giraldo-Gallo, P., Zhang, Y., Parra, C., Manoharan, H. C., Beasley, M. R., Geballe, T. H., Kramer, M. J., Fisher, I. R.
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- **Unconventional molecule-resolved current rectification in diamondoid-fullerene hybrids** *NATURE COMMUNICATIONS*
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- **Artificial honeycomb lattices for electrons, atoms and photons** *NATURE NANOTECHNOLOGY*
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- **TOPOLOGICAL INSULATORS A romance with many dimensions** *NATURE NANOTECHNOLOGY*
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- **Detection and Cloaking of Molecular Objects in Coherent Nanostructures Using Inelastic Electron Tunneling Spectroscopy** *NANO LETTERS*
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- **Topological Insulator Nanowires and Nanoribbons** *NANO LETTERS*
  Kong, D., Randel, J. C., Peng, H., Cha, J. J., Meister, S., Lai, K., Chen, Y., Shen, Z., Manoharan, H. C., Cui, Y.
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- **Quantum holographic encoding in a two-dimensional electron gas** *NATURE NANOTECHNOLOGY*
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