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Bio

ACADEMIC APPOINTMENTS

- Physical Science Research Scientist, Edward L. Ginzton Laboratory

Publications

PUBLICATIONS

- **Planar Josephson junctions templated by nanowire shadowing.** *Nanotechnology*
Zhang, P., Zarassi, A., Pendharkar, M., Lee, J. S., Jarjat, L., van de Sande, V., Zhang, B., Mudi, S., Wu, H., Tan, S., Dempsey, C., Mcfadden, A. P., Harrington, et al
2026
- **Transmon Qubit Using Sn as a Junction Superconductor.** *Nano letters*
Purkayastha, A., Sharma, A., Patel, P. J., Chen, A. H., Dempsey, C. P., Asodekar, S., Sinha, S., Tomasian, M., Pendharkar, M., Palmstrøm, C. J., Hocevar, M., Zuo, K., Hatridge, et al
2026
- **Erratum: "Automated tabletop exfoliation and identification of monolayer graphene flakes" [Rev. Sci. Instrum. 96, 053907 (2025)].** *The Review of scientific instruments*
Courtney, E. D., Pendharkar, M., Bittner, N. J., Sharpe, A. L., Goldhaber-Gordon, D.
2026; 97 (1)
- **High-Q, Size-Independent, and Reconfigurable Optical Antennas Embedded in Zero-Index Cavities.** *ACS nano*
Iyer, P. P., Pendharkar, M., Agarwal, A., Foronda, H., Iza, M., Mishra, U. K., Nakamura, S., DenBaars, S., Keller, S., Palmstrøm, C., Schuller, J. A.
2025
- **Sn-InAs Nanowire Shadow-Defined Josephson Junctions.** *Nano letters*
Sharma, A., Chen, A., Dempsey, C. P., Purkayastha, A., Pendharkar, M., Tan, S., Palmstrom, C. J., Frolov, S. M., Hocevar, M.
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- **Effects of strain compensation on electron mobilities in InAs quantum wells grown on InP(001)** *PHYSICAL REVIEW MATERIALS*
Dempsey, C. P., Dong, J. T., Rodriguez, I., Gul, Y., Chatterjee, S., Pendharkar, M., Holmes, S. N., Pepper, M., Palmstrom, C. J.
2025; 9 (5)
- **Automated tabletop exfoliation and identification of monolayer graphene flakes.** *The Review of scientific instruments*
Courtney, E. D., Pendharkar, M., Bittner, N. J., Sharpe, A. L., Goldhaber-Gordon, D.
2025; 96 (5)
- **Supercurrent through a single transverse mode in nanowire Josephson junctions** *PHYSICAL REVIEW B*
Zhang, B., Li, Z., Wu, H., Pendharkar, M., Dempsey, C., Lee, J. S., Harrington, S. D., Palmstrom, C. J., Frolov, S. M.
2025; 111 (16)
- **Phase-Selective Synthesis of Rhombohedral WS₂ Multilayers by Confined-Space Hybrid Metal-Organic Chemical Vapor Deposition.** *Nano letters*
Zhang, Z., Hocking, M., Peng, Z., Pendharkar, M., Courtney, E. D., Hu, J., Kastner, M. A., Goldhaber-Gordon, D., Heinz, T. F., Mannix, A. J.

2024

- **Deterministic fabrication of graphene hexagonal boron nitride moire superlattices.** *Proceedings of the National Academy of Sciences of the United States of America*
Kamat, R. V., Sharpe, A. L., Pendharkar, M., Hu, J., Tran, S. J., Zaborski, G. J., Hocking, M., Finney, J., Watanabe, K., Taniguchi, T., Kastner, M. A., Mannix, A. J., Heinz, et al
2024; 121 (40): e2410993121
- **Quantitative determination of twist angle and strain in Van der Waals moiré superlattices** *APPLIED PHYSICS LETTERS*
Tran, S. J., Uslu, J., Pendharkar, M., Finney, J., Sharpe, A. L., Hocking, M., Bittner, N. J., Watanabe, K., Taniguchi, T., Kastner, M. A., Mannix, A. J., Goldhaber-Gordon, D.
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- **Thermal relaxation of strain and twist in ferroelectric hexagonal boron nitride moiré interfaces** *JOURNAL OF APPLIED PHYSICS*
Hocking, M., Henzinger, C. E., Tran, S. J., Pendharkar, M., Bittner, N. J., Watanabe, K., Taniguchi, T., Goldhaber-Gordon, D., Mannix, A. J.
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- **Torsional force microscopy of van der Waals moirés and atomic lattices.** *Proceedings of the National Academy of Sciences of the United States of America*
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- **Tuning the band topology of GdSb by epitaxial strain** *APL MATERIALS*
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- **Role of a capping layer on the crystalline structure of Sn thin films grown at cryogenic temperatures on InSb substrates.** *Nanotechnology*
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- **Electronic structure of InSb (001), (110), and (111)B surfaces (vol 41, 032808, 2023)** *JOURNAL OF VACUUM SCIENCE & TECHNOLOGY B*
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- **Epitaxial growth, magnetoresistance, and electronic band structure of GdSb magnetic semimetal films** *PHYSICAL REVIEW MATERIALS*
Inbar, H. S., Ho, D. Q., Chatterjee, S., Pendharkar, M., Engel, A. N., Dong, J. T., Khalid, S., Chang, Y., Guo, T., Fedorov, A., Lu, D., Hashimoto, M., Read, et al
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- **Selective control of conductance modes in multi-terminal Josephson junctions.** *Nature communications*
Graziano, G. V., Gupta, M., Pendharkar, M., Dong, J. T., Dempsey, C. P., Palmstrøm, C., Pribiag, V. S.
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- **Supercurrent parity meter in a nanowire Cooper pair transistor** *SCIENCE ADVANCES*
Wang, J., Schrade, C., Levajac, V., van Driel, D., Li, K., Gazibegovic, S., Badawy, G., Veld, R., Lee, J., Pendharkar, M., Dempsey, C. P., Palmstrom, C. J., Bakkers, et al
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- **In-plane selective area InSb-Al nanowire quantum networks (vol 3, 59, 2020)** *COMMUNICATIONS PHYSICS*
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- **In-plane selective area InSb-Al nanowire quantum networks** *COMMUNICATIONS PHYSICS*
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- **Transport studies in a gate-tunable three-terminal Josephson junction** *PHYSICAL REVIEW B*
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- **Selective-area chemical beam epitaxy of in-plane InAs one-dimensional channels grown on InP(001), InP(111)B, and InP(011) surfaces** *PHYSICAL REVIEW MATERIALS*
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- **Electric field tunable superconductor-semiconductor coupling in Majorana nanowires** *NEW JOURNAL OF PHYSICS*
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- **Interface formation of epitaxial MgO/Co₂MnSi(001) structures: Elemental segregation and oxygen migration** *JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS*
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- **Ultrawide thermal free-carrier tuning of dielectric antennas coupled to epsilon-near-zero substrates** *NATURE COMMUNICATIONS*
Iyer, P. P., Pendharkar, M., Palmstrom, C. J., Schuller, J. A.
2017; 8: 472
- **Electrically Reconfigurable Metasurfaces Using Heterojunction Resonators** *ADVANCED OPTICAL MATERIALS*
Iyer, P. P., Pendharkar, M., Schuller, J. A.
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