

THE UNIVERSITY OF TEXAS AT AUSTIN
Cockrell School of Engineering
Standard Resume

FULL NAME: Shyam Shankar

TITLE: Assistant Professor

DEPARTMENT: Electrical and Computer Engineering

EDUCATION:

Princeton University	Electrical Engineering	Ph. D.	Sep 2010
Princeton University	Electrical Engineering	M. A.	Sep 2006
Indian Institute of Technology, Kanpur	Electrical Engineering	B. Tech.	May 2004

PROFESSIONAL REGISTRATION: None

CURRENT AND PREVIOUS ACADEMIC POSITIONS:

University of Texas at Austin	Assistant Professor	Aug 2019 – present
Yale University	Research scientist	Jul 2016 – Jul 2019
Yale University	Associate research scientist	Jun 2014 – Jun 2016
Yale University	Postdoctoral associate	Jul 2010 – May 2014

HONORS AND AWARDS:

Silicon Labs Fellowship	2024 - 2025
Texas ECE Early Career Fellowship	2021 - 2024

MEMBERSHIPS IN PROFESSIONAL AND HONORARY SOCIETIES:

American Physics Society	2006 - present
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UNIVERSITY COMMITTEE ASSIGNMENTS:

Departmental-	Member, ECE Partners	2022 - 2023
	Member, ECE Student Mentoring committee	2022 - 2023
	Member, Quantum Initiative Hiring Committee	2020 - 2023
	Member, ECE Colloquium Committee	2019 - 2020

PROFESSIONAL SOCIETY/GOVERNMENT SERVICE AND TECHNICAL COMMITTEES:

- Reviewed approximately 4 publications per year for journals such as Nature Physics, Nature Communications, Nature Nanotechnology, NPJ Quantum Information, Scientific Reports, Physical Review X, Physical Review Letters, Physical Review X Quantum, Physical Review Applied, Physical Review B, Science Advances, Applied Physics Letters, IEEE Transactions on Quantum Engineering etc.
- Reviewed conference proceedings for:

International Symposium on Computer Architecture (ISCA 2021)	12/2020
Applied Superconductivity Conference (ASC2014)	10/2014
Low Temperature Physics (LT28)	08/2017
- Reviewed proposals for:

U. S. Department of Energy, Office of Science	05/2025
U. S. Department of Energy, Office of Science	03/2024
Center for Nanoscale Materials, Argonne National Laboratory	07/2022
German Research Foundation (DFG)	11/2014
- Chaired session for:

American Physics Society March Meeting 2019	03/2019
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PUBLICATIONS:**A. Refereed Journal Papers**

(Italics font used for the names of PhD advisor and postdoctoral mentor who are co-authors)

Published in rank at UT:

1. W. Dai, G. Liu, V. Joshi, A. Miano, V. Sivak, S. Shankar, *M. H. Devoret*, Optimizing the pump coupling for a three-wave mixing Josephson parametric amplifier, *Phys. Rev. Appl.* 23, 054069, May 2025, doi: 10.1103/PhysRevApplied.23.054069.
2. Z. Hao, T. Shaw, M. Hatefipour, W. M. Strickland, B. H. Elfeky, D. Langone, J. Shabani, S. Shankar, Kerr nonlinearity and parametric amplification with an Al-InAs superconductor–semiconductor Josephson junction, *Appl. Phys. Lett.* 124, 254003, Jun 2024, doi: 10.1063/5.0205053, **Editor's pick**.
3. Yuxuan Zhang, Shahin Jahanbani, Ameya Riswadkar, S. Shankar, Andrew C. Potter, Sequential quantum simulation of spin chains with a single circuit QED device, *Phys. Rev. A* 109, 022606, Feb 2024, doi: 10.1103/PhysRevA.109.022606.
4. G. Liu, A. Lingenfelter, V. R. Joshi, N. E. Frattini, V. V. Sivak, S. Shankar, *M. H. Devoret*, Fully directional quantum-limited phase-preserving amplifier, *Phys. Rev. Applied* 21, 014021, Jan 2024, doi: 10.1103/PhysRevApplied.21.014021.
5. Z. Wang, M. Xu, X. Han, W. Fu, S. Puri, S. M. Girvin, H. X. Tang, S. Shankar, and *M. H. Devoret*, Quantum Microwave Radiometry with a Superconducting Qubit, *Phys. Rev. Lett.* 126, 180501, May 2021, doi:10.1103/PhysRevLett.126.180501.
6. A. Grimm, N. E. Frattini, S. Puri, S. O. Mundhada, S. Touzard, M. Mirrahimi, S. M. Girvin, S. Shankar, and *M. H. Devoret*, Stabilization and Operation of a Kerr-Cat Qubit, *Nature* 584, 205, Aug. 2020, doi:10.1038/s41586-020-2587-z.
7. P. Campagne-Ibarcq, A. Eickbusch, S. Touzard, E. Zalys-Geller, N. E. Frattini, V. V. Sivak, P. Reinhold, S. Puri, S. Shankar, R. J. Schoelkopf, L. Frunzio, M. Mirrahimi, and *M. H. Devoret*, Quantum Error Correction of a Qubit Encoded in Grid States of an Oscillator, *Nature* 584, 368, Aug. 2020, doi:10.1038/s41586-020-2603-3.
8. I. Tsioutsios, K. Serniak, S. Diamond, V. V. Sivak, Z. Wang, S. Shankar, L. Frunzio, R. J. Schoelkopf, and *M. H. Devoret*, Free-Standing Silicon Shadow Masks for Transmon Qubit Fabrication, *AIP Advances* 10, 065120, Jun. 2020, doi:10.1063/1.5138953.
9. V. V. Sivak, S. Shankar, G. Liu, J. Aumentado, and *M. H. Devoret*, Josephson Array-Mode Parametric Amplifier, *Phys. Rev. Applied* 13, 024014, Feb. 2020, doi:10.1103/PhysRevApplied.13.024014.
10. C. Zhong, Z. Wang, C. Zou, M. Zhang, X. Han, W. Fu, M. Xu, S. Shankar, *M. H. Devoret*, H. X. Tang, and L. Jiang, Proposal for Heralded Generation and Detection of Entangled Microwave–Optical-Photon Pairs, *Phys. Rev. Lett.* 124, 010511, Jan. 2020, doi:10.1103/PhysRevLett.124.010511.
11. S. O. Mundhada, A. Grimm, J. Venkatraman, Z. K. Mineev, S. Touzard, N. E. Frattini, V. V. Sivak, K. Sliwa, P. Reinhold, S. Shankar, M. Mirrahimi, and *M. H. Devoret*, Experimental Implementation of a Raman-Assisted Eight-Wave Mixing Process, *Phys. Rev. Applied* 12, 054051, Nov. 2019, doi:10.1103/PhysRevApplied.12.054051.

Published before joining UT:

12. K. Serniak, S. Diamond, M. Hays, V. Fatemi, S. Shankar, L. Frunzio, R. J. Schoelkopf, and *M. H. Devoret*, Direct Dispersive Monitoring of Charge Parity in Offset-Charge-Sensitive Transmons, *Phys. Rev. Applied* 12, 014052, Jul. 2019, doi:10.1103/PhysRevApplied.12.014052.
13. Z. K. Mineev, S. O. Mundhada, S. Shankar, P. Reinhold, R. Gutiérrez-Jáuregui, R. J. Schoelkopf, M. Mirrahimi, H. J. Carmichael, and *M. H. Devoret*, To Catch and Reverse a Quantum Jump Mid-Flight, *Nature* 570, 200, Jun. 2019, doi:10.1038/s41586-019-1287-z.
14. V. V. Sivak, N. E. Frattini, V. R. Joshi, A. Lingenfelter, S. Shankar, and *M. H. Devoret*, Kerr-Free Three-Wave Mixing in Superconducting Quantum Circuits, *Phys. Rev. Applied* 11, 054060, May 2019, doi:10.1103/PhysRevApplied.11.054060.
15. S. Touzard, A. Kou, N. E. Frattini, V. V. Sivak, S. Puri, A. Grimm, L. Frunzio, S. Shankar, and *M. H. Devoret*, Gated Conditional Displacement Readout of Superconducting Qubits, *Phys. Rev. Lett.* 122, 080502, Feb. 2019, doi:10.1103/PhysRevLett.122.080502.

16. Z. Wang, S. Shankar, Z. K. Mineev, P. Campagne-Ibarcq, A. Narla, and *M. H. Devoret*, Cavity Attenuators for Superconducting Qubits, *Phys. Rev. Applied* 11, 014031, Jan. 2019, doi:10.1103/PhysRevApplied.11.014031.
17. N. E. Frattini, V. V. Sivak, A. Lingenfelter, S. Shankar, and *M. H. Devoret*, Optimizing the Nonlinearity and Dissipation of a SNAIL Parametric Amplifier for Dynamic Range, *Phys. Rev. Applied* 10, 054020, Nov. 2018, doi:10.1103/PhysRevApplied.10.054020.
18. K. Serniak, M. Hays, G. de Lange, S. Diamond, S. Shankar, L. D. Burkhardt, L. Frunzio, M. Houzet, and *M. H. Devoret*, Hot Nonequilibrium Quasiparticles in Transmon Qubits, *Phys. Rev. Lett.* 121, 157701, Oct. 2018, doi:10.1103/PhysRevLett.121.157701.
19. N. Didier, J. Guillaud, S. Shankar, and M. Mirrahimi, Remote Entanglement Stabilization and Concentration by Quantum Reservoir Engineering, *Phys. Rev. A* 98, 012329, Jul. 2018, doi:10.1103/PhysRevA.98.012329.
20. U. Vool, A. Kou, W. C. Smith, N. E. Frattini, K. Serniak, P. Reinhold, I. M. Pop, S. Shankar, L. Frunzio, S. M. Girvin, and *M. H. Devoret*, Driving Forbidden Transitions in the Fluxonium Artificial Atom, *Phys. Rev. Applied* 9, 054046, May 2018, doi:10.1103/PhysRevApplied.9.054046.
21. P. Campagne-Ibarcq, E. Zalus-Geller, A. Narla, S. Shankar, P. Reinhold, L. Burkhardt, C. Axline, W. Pfaff, L. Frunzio, R. J. Schoelkopf, and *M. H. Devoret*, Deterministic Remote Entanglement of Superconducting Circuits through Microwave Two-Photon Transitions, *Phys. Rev. Lett.* 120, 200501, May 2018, doi:10.1103/PhysRevLett.120.200501.
22. S. Touzard, A. Grimm, Z. Leghtas, S. O. Mundhada, P. Reinhold, C. Axline, M. Reagor, K. Chou, J. Blumoff, K. M. Sliwa, S. Shankar, L. Frunzio, R. J. Schoelkopf, M. Mirrahimi, and *M. H. Devoret*, Coherent Oscillations inside a Quantum Manifold Stabilized by Dissipation, *Phys. Rev. X* 8, 021005, Apr. 2018, doi:10.1103/PhysRevX.8.021005.
23. N. E. Frattini, U. Vool, S. Shankar, A. Narla, K. M. Sliwa, and *M. H. Devoret*, 3-Wave Mixing Josephson Dipole Element, *Appl. Phys. Lett.* 110, 222603, May 2017, doi:10.1063/1.4984142.
24. S. O. Mundhada, A. Grimm, S. Touzard, U. Vool, S. Shankar, *M. H. Devoret*, and M. Mirrahimi, Generating Higher-Order Quantum Dissipation from Lower-Order Parametric Processes, *Quantum Sci. Technol.* 2, 024005, May 2017, doi:10.1088/2058-9565/aa6e9d.
25. U. Vool, S. Shankar, S. O. Mundhada, N. Ofek, A. Narla, K. Sliwa, E. Zalus-Geller, Y. Liu, L. Frunzio, R. J. Schoelkopf, S. M. Girvin, and *M. H. Devoret*, Continuous Quantum Nondemolition Measurement of the Transverse Component of a Qubit, *Phys. Rev. Lett.* 117, 133601, Sep. 2016, doi:10.1103/PhysRevLett.117.133601.
26. A. Narla, S. Shankar, M. Hatridge, Z. Leghtas, K. M. Sliwa, E. Zalus-Geller, S. O. Mundhada, W. Pfaff, L. Frunzio, R. J. Schoelkopf, and *M. H. Devoret*, Robust Concurrent Remote Entanglement Between Two Superconducting Qubits, *Phys. Rev. X* 6, 031036, Sep. 2016, doi:10.1103/PhysRevX.6.031036.
27. Y. Liu, S. Shankar, N. Ofek, M. Hatridge, A. Narla, K. M. Sliwa, L. Frunzio, R. J. Schoelkopf, and *M. H. Devoret*, Comparing and Combining Measurement-Based and Driven-Dissipative Entanglement Stabilization, *Phys. Rev. X* 6, 011022, Mar. 2016, doi:10.1103/PhysRevX.6.011022.
28. K. M. Sliwa, M. Hatridge, A. Narla, S. Shankar, L. Frunzio, R. J. Schoelkopf, and *M. H. Devoret*, Reconfigurable Josephson Circulator/Directional Amplifier, *Phys. Rev. X* 5, 041020, Nov. 2015, doi:10.1103/PhysRevX.5.041020.
29. S. Shankar, A. M. Tyryshkin, and S. A. Lyon, ESR Measurements of Phosphorus Dimers in Isotopically Enriched ^{28}Si Silicon, *Phys. Rev. B* 91, 245206, Jun. 2015, doi:10.1103/PhysRevB.91.245206.
30. Z. Leghtas, S. Touzard, I. M. Pop, A. Kou, B. Vlastakis, A. Petrenko, K. M. Sliwa, A. Narla, S. Shankar, M. J. Hatridge, M. Reagor, L. Frunzio, R. J. Schoelkopf, M. Mirrahimi, and *M. H. Devoret*, Confining the State of Light to a Quantum Manifold by Engineered Two-Photon Loss, *Science* 347, 853, 2015, doi:10.1126/science.aaa2085.
31. U. Vool, I. M. Pop, K. Sliwa, B. Abdo, C. Wang, T. Brecht, Y. Y. Gao, S. Shankar, M. Hatridge, G. Catelani, M. Mirrahimi, L. Frunzio, R. J. Schoelkopf, L. I. Glazman, and *M. H. Devoret*, Non-Poissonian Quantum Jumps of a Fluxonium Qubit Due to Quasiparticle Excitations, *Phys. Rev. Lett.* 113, 247001, Dec. 2014, doi:10.1103/PhysRevLett.113.247001.
32. L. Sun, A. Petrenko, Z. Leghtas, B. Vlastakis, G. Kirchmair, K. M. Sliwa, A. Narla, M. Hatridge, S. Shankar, J. Blumoff, L. Frunzio, M. Mirrahimi, *M. H. Devoret*, and R. J. Schoelkopf, Tracking Photon Jumps with Repeated Quantum Non-Demolition Parity Measurements, *Nature* 511, 444, Jul. 2014, doi:10.1038/nature13436.

33. A. Narla, K. M. Sliwa, M. Hatridge, S. Shankar, L. Frunzio, R. J. Schoelkopf, and *M. H. Devoret*, Wireless Josephson Amplifier, *Appl. Phys. Lett.* 104, 232605, Jun. 2014, doi:10.1063/1.4883373.
34. B. Abdo, K. Sliwa, S. Shankar, M. Hatridge, L. Frunzio, R. Schoelkopf, and M. Devoret, Josephson Directional Amplifier for Quantum Measurement of Superconducting Circuits, *Phys. Rev. Lett.* 112, 167701, Apr. 2014, doi:10.1103/PhysRevLett.112.167701.
35. S. Shankar, M. Hatridge, Z. Leghtas, K. M. Sliwa, A. Narla, U. Vool, S. M. Girvin, L. Frunzio, M. Mirrahimi, and *M. H. Devoret*, Autonomously Stabilized Entanglement between Two Superconducting Quantum Bits, *Nature* 504, 419, Dec. 2013, doi:10.1038/nature12802.
36. Z. Leghtas, U. Vool, S. Shankar, M. Hatridge, S. M. Girvin, *M. H. Devoret*, and M. Mirrahimi, Stabilizing a Bell State of Two Superconducting Qubits by Dissipation Engineering, *Phys. Rev. A* 88, 023849, Aug. 2013, doi:10.1103/PhysRevA.88.023849.
37. K. Geerlings, Z. Leghtas, I. M. Pop, S. Shankar, L. Frunzio, R. J. Schoelkopf, M. Mirrahimi, and *M. H. Devoret*, Demonstrating a Driven Reset Protocol for a Superconducting Qubit, *Phys. Rev. Lett.* 110, 120501, Mar. 2013, doi:10.1103/PhysRevLett.110.120501.
38. M. Hatridge, S. Shankar, M. Mirrahimi, F. Schackert, K. Geerlings, T. Brecht, K. M. Sliwa, B. Abdo, L. Frunzio, S. M. Girvin, R. J. Schoelkopf, and *M. H. Devoret*, Quantum Back-Action of an Individual Variable-Strength Measurement, *Science* 339, 178, Jan. 2013, doi:DOI: 10.1126/science.1226897.
39. S. E. Nigg, H. Paik, B. Vlastakis, G. Kirchmair, S. Shankar, L. Frunzio, *M. H. Devoret*, R. J. Schoelkopf, and S. M. Girvin, Black-Box Superconducting Circuit Quantization, *Phys. Rev. Lett.* 108, 240502, Jun. 2012, doi:10.1103/PhysRevLett.108.240502.
40. K. Geerlings, S. Shankar, E. Edwards, L. Frunzio, R. J. Schoelkopf, and *M. H. Devoret*, Improving the Quality Factor of Microwave Compact Resonators by Optimizing Their Geometrical Parameters, *Appl. Phys. Lett.* 100, 192601, May 2012, doi:10.1063/1.4710520.
41. R. M. Jock, S. Shankar, A. M. Tyryshkin, J. He, K. Eng, K. D. Childs, L. A. Tracy, M. P. Lilly, M. S. Carroll, and S. A. Lyon, Probing Band-Tail States in Silicon Metal-Oxide-Semiconductor Heterostructures with Electron Spin Resonance, *Appl. Phys. Lett.* 100, 023503, Jan. 2012, doi:10.1063/1.3675862.
42. S. Shankar, A. M. Tyryshkin, J. He, and S. A. Lyon, Spin Relaxation and Coherence Times for Electrons at the Si/SiO_2 Interface, *Phys. Rev. B* 82, 195323, Nov. 2010, doi:10.1103/PhysRevB.82.195323.
43. S. Shankar, G. Sabouret, and S. A. Lyon, A Low Power Photoemission Source for Electrons on Liquid Helium, *J Low Temp Phys* 161, 410, Nov. 2010, doi:10.1007/s10909-010-0204-5.
44. H. Tezuka, A. R. Stegner, A. M. Tyryshkin, S. Shankar, M. L. W. Thewalt, S. A. Lyon, K. M. Itoh, and M. S. Brandt, Electron Paramagnetic Resonance of Boron Acceptors in Isotopically Purified Silicon, *Phys. Rev. B* 81, 161203, Apr. 2010, doi:10.1103/PhysRevB.81.161203.
45. J. J. L. Morton, A. M. Tyryshkin, R. M. Brown, S. Shankar, B. W. Lovett, A. Ardavan, T. Schenkel, E. E. Haller, J. W. Ager, and S. A. Lyon, Solid-State Quantum Memory Using the ^{31}P Nuclear Spin, *Nature* 455, 1085, Oct. 2008, doi:10.1038/nature07295.
46. S. Shankar, A. M. Tyryshkin, S. Avasthi, and S. A. Lyon, Spin Resonance of 2D Electrons in a Large-Area Silicon MOSFET, *Physica E: Low-Dimensional Systems and Nanostructures* 40, 1659, Mar. 2008, doi:10.1016/j.physe.2007.10.030.
47. G. Sabouret, F. R. Bradbury, S. Shankar, J. A. Bert, and S. A. Lyon, Signal and Charge Transfer Efficiency of Few Electrons Clocked on Microscopic Superfluid Helium Channels, *Appl. Phys. Lett.* 92, 082104, Feb. 2008, doi:10.1063/1.2884693.

Unpublished preprints:

48. Z. Hao, J. Cochran, Y.-C. Chang, H. M. Cole, S. Shankar, Wireless Josephson parametric amplifier above 20 GHz, arXiv: 2508.11137.
49. E. Zaly-Geller, A. Narla, S. Shankar, M. Hatridge, M. P. Silveri, K. M. Sliwa, Z. Leghtas, *M. H. Devoret*, Generation of discord through a remote joint continuous variable measurement, arXiv:1803.01275.

B. Conference Proceedings

Published in rank at UT:

1. Z. Hao, T. Shaw, M. Hatefipour, W. M. Strickland, B. H. Elfeky, D. Langone, J. Shabani, S. Shankar, Al-InAs Superconductor-Semiconductor Josephson Junction Parametric Amplifier, 2024 Device Research Conference (DRC), doi: 10.1109/DRC61706.2024.10605281.
2. S. Shankar, Z. Hao, M. Hatefipour, W. Strickland, T. Shaw, J. Shabani, Josephson parametric amplifiers for rapid, high-fidelity measurement of solid-state qubits, 2023 Device Research Conference (DRC), doi: 10.1109/DRC58590.2023.10186961
3. S. Shankar, Z. Hao, W. M. Strickland, M. Hatefipour, J. Yuan, J. Shabani, Josephson parametric amplifiers for rapid, high-fidelity measurement of solid-state qubits, 2022 International Electron Devices Meeting (IEDM), doi:10.1109/IEDM45625.2022.10019347

PRESENTATIONS:**A. Invited seminars (Seminars given in rank highlighted in grey)**

	Title	Location	Date
1.	Parametric amplification with Al-InAs Superconductor-Semiconductor Josephson junction	Low Temperature Quantum Detectors 2025, Helsinki, Finland	08/2025
2.	Towards biased noise ancilla for quantum error correction with a Kerr-Cat qubit	Virtual talk to Michael Hartmann group, University of Erlangen, Germany	04/2025
3.	Josephson parametric amplifiers for rapid, high-fidelity measurement of solid-state qubits	Louisiana State University, Baton Rouge, LA	02/2025
4.	Kerr nonlinearity and parametric amplification with an Al-InAs superconductor-semiconductor Josephson junction	Progress on Realization of Topological States of Matter 2024, Honolulu, HI, USA	12/2024
5.	Kerr nonlinearity and parametric amplification with an Al-InAs superconductor-semiconductor Josephson junction	Cornell Center for Materials Research Symposium 2024, Ithaca, NY, USA	08/2024
6.	Josephson parametric amplifiers for rapid, high-fidelity measurement of solid-state qubits	Cornell University, Ithaca, NY, USA	11/2023
7.	Josephson parametric amplifiers for rapid, high-fidelity measurement of solid-state qubits	University of Illinois Urbana-Champaign, Physics, Urbana, IL, USA	10/2023
8.	Josephson parametric amplifiers for rapid, high-fidelity measurement of solid-state qubits	University of Pennsylvania, Electrical and Systems Engineering, Philadelphia, PA, USA	09/2023
9.	Josephson parametric amplifiers for rapid, high-fidelity measurement of solid-state qubits	Device Research Conference 2023, Santa Barbara, CA, USA	06/2023
10.	Josephson parametric amplifiers for rapid, high-fidelity measurement of solid-state qubits	Berkeley Advanced Quantum Testbed (virtual)	04/2023
11.	Josephson parametric amplifiers for rapid, high-fidelity measurement of solid-state qubits	International Electron Devices Meeting 2022, San Francisco, CA, USA	12/2022
12.	Josephson parametric amplifiers for rapid, high-fidelity measurement of solid-state qubits	New York University, New York City, NY, USA	10/2022
13.	Josephson parametric amplifiers for rapid, high-fidelity measurement of solid-state qubits	13 th International Conference on Materials and Mechanisms of Superconductivity and High Temperature Superconductors, Vancouver, Canada	07/2022
14.	Nano-to-Macro Fabrication of Superconducting Circuits for Quantum Information Technology	NASCENT weekly seminar, University of Texas at Austin, Austin, TX, USA	04/2021
15.	Amplifying microwave signals with noise set by Heisenberg's uncertainty principle	ECE dept., Texas Tech University, Lubbock, TX, USA	02/2020
16.	Nano-to-Macro Fabrication of Superconducting Circuits for Quantum Information Technology	American Society of Precision Engineering, ASPE Winter 2020 – Precision Micro-Nano, Austin, TX, USA	01/2020
17.	Quantum computation and simulation with superconducting circuits	Texas Quantum Institute Kickoff meeting, College Station, TX, USA	10/2019

18. Amplifying microwave signals with noise set by Heisenberg's uncertainty principle	Physics dept., University of Texas at Austin, Austin, TX, USA	10/2019
19. Amplifying microwave signals with noise set by Heisenberg's uncertainty principle	Physics dept., University of Texas at Dallas, Dallas, TX, USA	09/2019
20. To catch and reverse a quantum jump mid-flight	Indian Institute of Science, Bengaluru, India	07/2019
21. To catch and reverse a quantum jump mid-flight	Physics of Quantum Electronics, Snowbird, UT, USA	01/2019
22. Remote Entanglement of Superconducting Quantum Circuit Modules	Quantum Science Gordon Research Conference, Easton, MA, USA	07/2018
23. Transfer of quantum information from microwave to optical frequencies	ARO Quantum Computing Program Review, Denver, CO, USA	08/2018
24. Deterministic remote entanglement of superconducting circuits through microwave two-photon transitions	American Physical Society DAMOP 2018, Fort Lauderdale, FL, USA, 2018	05/2018
25. Amplifying microwave signals with noise set by Heisenberg's uncertainty principle	University of Texas, Austin, TX, USA	03/2018
26. Friction and measurements that preserve quantum entanglement	New York University, New York City, NY, USA	02/2018
27. Friction and measurements that preserve quantum entanglement	Princeton University, Princeton, NJ, USA	12/2017
28. Friction and Measurements that Preserve rather than Destroy Quantum Entanglement	University of Pittsburgh, Pittsburgh, PA, USA	10/2017
29. To catch a quantum jump mid-flight	Quantum Sensing with Quantum Correlated Systems workshop, Dresden, Germany	09/2017
30. Efficiently processing microwave photons with 3-wave mixing Josephson elements	Indian Institute of Technology, Chennai, India	08/2017
31. Processing microwave photons at the quantum limit with 3-wave mixing Josephson elements	Delft University of Technology, Delft, The Netherlands	07/2017
32. Robust, modular entanglement of two remote superconducting qubits	American Physical Society March meeting, New Orleans, LA, USA	03/2017
33. Robust, modular entanglement of two remote superconducting qubits	University of Toronto, Toronto, Canada	11/2016
34. Friction and Measurements that Preserve rather than Destroy Quantum Entanglement	Tata Institute of Fundamental Research, Mumbai, India	12/2014
35. Friction and Measurements that Preserve rather than Destroy Quantum Entanglement	Indian Institute of Science, Bengaluru, India	12/2014
36. Autonomously stabilized entanglement between two superconducting qubits	Applied Superconductivity Conference, Charlotte, NC, USA	08/2014
37. Autonomously stabilized entanglement between two superconducting qubits	American Physical Society March meeting, Denver, CO, USA	03/2014
38. Autonomous stabilization of an entangled state of two transmon qubits	16th Southwest Quantum Information Technology workshop, Santa Fe, NM, USA	02/2014
39. Autonomous stabilization of an entangled state of two transmon qubits	Frontiers in Quantum Engineered Devices workshop, Obergurgl, Austria	10/2013
40. Quantum measurement in action with a superconducting artificial atom	Indian Institute of Science, Bengaluru, India	12/2011
41. Spin resonance of electrons in a silicon MOSFET	Yale University, New Haven, CT, USA	04/2010
42. Spin resonance of electrons in a silicon MOSFET	Sandia National Laboratory, Albuquerque, NM, USA	03/2010
43. Spin resonance of electrons in a silicon MOSFET	National High Magnetic Field Laboratory, Tallahassee, FL, USA	03/2010

44. Spin resonance of 2D electrons in a silicon MOS transistor Indian Institute of Science, Bengaluru, India 12/2008

B. Conference contributions (Oral)

Title	Location	Date
1. Concurrent Remote Entanglement of Transmon Qubits using Flying Photons – Part 1	American Physical Society March meeting, Baltimore, MD, USA	03/2016
2. Autonomous stabilization of an entangled state of two transmon qubits	American Physical Society March meeting, Baltimore, MD, USA	03/2013
3. Observing quantum jumps of a transmon qubit with a Josephson parametric converter	American Physical Society March meeting, Boston, MA, USA	03/2012
4. Transmon qubits coupled to compact resonators	American Physical Society March meeting, Dallas, TX, USA	03/2011
5. Spin coherence and relaxation of natural quantum dots at the Si/SiO ₂ interface	American Physical Society March meeting, Portland, OR, USA	03/2010
6. Pulsed ESR on confined electrons in a silicon MOSFET	Gotham Metro Condensed Matter meeting, New York City, NY, USA	11/2009
7. ESR in silicon MOS structures down to 0.36 K	American Physical Society March meeting, Pittsburgh, PA, USA	03/2009
8. Spin resonance of 2D electrons in silicon MOS structures	29th International Conference on the Physics of Semiconductors, Rio de Janeiro, Brazil	07/2008
9. Spin resonance of 2D electrons in silicon MOS structures	American Physical Society March meeting, New Orleans, LA, USA	03/2008
10. Spin Resonance of Electrons in a Large-Area Silicon MOSFET	49th Rocky Mountain Conference on Analytical Chemistry, Breckenridge, CO, USA	07/2007
11. Electron Spin Resonance of Electrons in a Large-Area Silicon MOSFET	American Physical Society March meeting, Denver, CO, USA	03/2007
12. A Photoelectron Source for Electrons on Liquid Helium	American Physical Society March meeting, Baltimore, MD, USA	03/2006

C. Conference contributions (Poster)

Title	Location	Date
1. Concurrent remote entanglement of distant transmon qubits with flying single photons	Open Quantum Systems workshop, Bengaluru, India	07/2017
2. Autonomous stabilization of an entangled state of two transmon qubits	Frontiers in Quantum Engineered Devices workshop, Obergurgl, Austria	08/2013
3. Quantum back-action of variable-strength measurement	Gordon Research Conference on Quantum Science, Easton, Massachusetts, USA	08/2012
4. Quantum back-action of variable-strength measurement	Quantum Noise and Measurement workshop, Dresden, Germany	08/2012

PATENTS:

A. Patents Issued

- Josephson nonlinear circuit (US11791818), S. Mundhada, N. E. Frattini, S. Puri, S. Shankar, S. M. Girvin, *M. H. Devoret*. Awarded Oct 2023.
- Superconducting nonlinear asymmetric inductive element and related systems and methods (US11737376), N. E. Frattini, U. Vool, S. Shankar, A. Narla, K.M. Sliwa, *M.H. Devoret*, V. Sivak. Awarded Aug 2023.
- Inductively-shunted transmon qubit for superconducting circuits (US11223355), W. C. Smith, J. Venkatraman, X. Xiao, L. Verney, L. Frunzio, S. Shankar, M. Mirrahimi, *M. H. Devoret*. Awarded Jan. 2022.
- Wireless josephson parametric converter (US10693566), K. M. Sliwa, M. Hatridge, A. Narla, S. Shankar, L. Frunzio, R. J. Schoelkopf, *M. H. Devoret*. Awarded Jun. 2020.

5. Josephson junction-based circulators and related systems and methods (US10461385), K. M. Sliwa, M. Hatridge, A. Narla, S. Shankar, L. Frunzio, R. J. Schoelkopf, *M. H. Devoret*. Awarded Oct. 2019.
6. Techniques for producing quantum amplifiers and related systems and methods (US10404214), L. J. Szocs, A. Narla, K. M. Sliwa, M. Hatridge, S. Shankar, L. Frunzio, *M. H. Devoret*. Awarded Oct. 2019.
7. Wireless Josephson Bifurcation Amplifier (US9948254, US11271533), A. Narla, K. M. Sliwa, M. Hatridge, S. Shankar, L. Frunzio, R. J. Schoelkopf, *M. H. Devoret*. Awarded Apr. 2018 and Mar. 2022.

GRANTS AND CONTRACTS:

(Grants awarded in rank highlighted in grey)

Role and Co-Investigators	Title	Agency	Grant Total (My Share)	Grant Period
Co-PI Fan, Linran (PI)	Large-scale integrated acoustic circuit for quantum information processing	Office of Naval Research	\$750,000 (\$70,000)	02/2025 – 01/2028
Co-PI Shabani, Javad (PI) Higginbotham, Andrew (co-PI) Kamal, Archana (co-PI)	Superconducting High Operating Temperature Systems (SHOTS)	Defense Advanced Research Projects Agency New York University (Prime)	\$4,894,878 (\$1,190,004)	05/2024 – 05/2028
PI Shi, Li (co-PI) Chakram, Srivatsan (co-PI)	Thermalization of microwave components for improved qubit coherence	Army Research Office	\$2,081,691 (\$1,140,693)	07/2023 – 06/2027
Co-PI Pfaff, Wolfgang (PI)	Fluxonium-controlled Modular Multimode Cavity Quantum Processor	Army Research Office University of Illinois (Prime)	\$5,774,999 (\$1,401,998)	03/2023 – 02/2027
Co-PI Tureci, Hakan (PI)	(MURI) Superconducting reservoir computers for quantum memory and information processing	Air Force Office of Scientific Research Princeton University (Prime)	\$2,481,052 (\$519,690)	5/2022 – 4/2025
PI	Cryogenic probe station and control electronics for measurement of novel Josephson qubit devices and circuits	Air Force Office of Scientific Research	\$376,080 (\$376,080)	2/2022 – 1/2024
Co-PI Tureci, Hakan (PI)	Reservoir computing as a general framework for a comparative study of classical and quantum information processing	Air Force Office of Scientific Research Princeton University (Prime)	\$1,313,387 (\$171,477)	08/2020 – 07/2024
PI Potter, Andrew (co-PI)	Holographic quantum simulation of strongly correlated electron systems	Dept. of Energy - Office of Science	\$1,320,000 (\$1,077,918)	09/2021 - 08/2025
PI Shabani, Javad (co-PI)	(Quantum Accelerator) Superconducting-FET microwave amplifier for qubit readout	Air Force Office of Scientific Research	\$75,000 (\$45,000)	11/2020 - 02/2022

Co-PI Potter, Andrew (PI)	EAGER: QAC: QCH: Holographic quantum algorithms for simulating many-body systems	National Science Foundation	\$300,000 (\$146,872)	08/2020 - 07/2022
PI	Ferromagnetic resonance of programmable nano-magnets	Sandia National Laboratory	\$140,000 (\$140,000)	10/2019 - 09/2021
Total:			\$19,507,087 (\$6,279,732)	

PH.D. SUPERVISIONS COMPLETED:

Name	Title	Date of graduation	Graduate program	Name of institution
Hao, Zhuoqun	Advancing quantum-limited amplifiers with hybrid Josephson junctions	05/2025	Electrical and Computer Engineering	UT Austin

M.S. SUPERVISIONS COMPLETED:

Name	Title	Date of graduation	Graduate program	Name of institution
Kim, Yongrak	Design and experiment of room temperature ferromagnetic resonance	08/2021	Electrical and Computer Engineering	UT Austin
Kumar, Soubir	Design of diplexer for implementation in SPA	12/2020	Electrical and Computer Engineering	UT Austin

PH.D. IN PROGRESS:

- A. Students admitted to candidacy
- Shaw, Theodore
 - Cole, Haley
- B. Post M.S. students preparing to take Ph.D. qualifying exam
- Liu, Jian Jun

M.S. IN PROGRESS:

- Kargioti, Aikaterini
- Chang, Yao-Chun

VITA:

Shyam Shankar is an assistant professor in Electrical and Computer Engineering at the University of Texas at Austin. He received his B. Tech from Indian Institute of Technology, Kanpur in 2004 and his Ph.D. from Princeton University in 2010. From 2010 to 2019, he was a postdoctoral associate and subsequently a research scientist at Yale University in the group of Prof. Michel Devoret. Shankar is an expert in superconducting quantum circuits and has led a number of experiments that demonstrate the underlying principles for the design of large-scale quantum computers in this platform. These include a demonstration of rapid, high fidelity qubit measurement, the stabilization of quantum entanglement with feedback, the demonstration of modular remote entanglement of superconducting qubits, and the development of ultra-low-noise microwave amplifiers and non-reciprocal devices. He started the Quantum Circuits group at the University of Texas at Austin in fall 2019.