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

UNIVERSITY COMMITTEE ASSIGNMENTS:

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

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. 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***.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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.

Published before joining UT:

7. 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.
8. 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.
9. 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.
10. S. O. Mundhada, A. Grimm, J. Venkatraman, Z. K. Minev, 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.
11. 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.
12. Z. K. Minev, 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.
13. 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.
14. 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.
15. Z. Wang, S. Shankar, Z. K. Minev, 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.

16. 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.
17. K. Serniak, M. Hays, G. de Lange, S. Diamond, S. Shankar, L. D. Burkhart, 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.
18. 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.
19. 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.
20. P. Campagne-Ibarcq, E. Zalys-Geller, A. Narla, S. Shankar, P. Reinhold, L. Burkhart, 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.
21. 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.
22. 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.
23. 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.
24. U. Vool, S. Shankar, S. O. Mundhada, N. Ofek, A. Narla, K. Sliwa, E. Zalys-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.
25. A. Narla, S. Shankar, M. Hatridge, Z. Leghtas, K. M. Sliwa, E. Zalys-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.
26. 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.
27. 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.
28. 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.
29. 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.
30. 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.
31. 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.
32. 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.

33. 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.
34. 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.
35. 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.
36. 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.
37. 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.
38. 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.
39. 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.
40. 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.
41. S. Shankar, A. M. Tyryshkin, J. He, and *S. A. Lyon*, Spin Relaxation and Coherence Times for Electrons at the $\text{Si}/{\text{SiO}}_{2}$ Interface, Phys. Rev. B 82, 195323, Nov. 2010, doi:10.1103/PhysRevB.82.195323.
42. 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.
43. 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.
44. 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 31P Nuclear Spin, Nature 455, 1085, Oct. 2008, doi:10.1038/nature07295.
45. 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.
46. 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 preprint:

47. E. Zalys-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.	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
2.	Josephson parametric amplifiers for rapid, high-fidelity measurement of solid-state qubits	Cornell University, Ithaca, NY, USA	11/2023
3.	Josephson parametric amplifiers for rapid, high-fidelity measurement of solid-state qubits	University of Illinois Urbana-Champaign, Physics, Urbana, IL, USA	10/2023
4.	Josephson parametric amplifiers for rapid, high-fidelity measurement of solid-state qubits	University of Pennsylvania, Electrical and Systems Engineering, Philadelphia, PA, USA	09/2023
5.	Josephson parametric amplifiers for rapid, high-fidelity measurement of solid-state qubits	Device Research Conference 2023, Santa Barbara, CA, USA	06/2023
6.	Josephson parametric amplifiers for rapid, high-fidelity measurement of solid-state qubits	Berkeley Advanced Quantum Testbed (virtual)	04/2023
7.	Josephson parametric amplifiers for rapid, high-fidelity measurement of solid-state qubits	International Electron Devices Meeting 2022, San Francisco, CA, USA	12/2022
8.	Josephson parametric amplifiers for rapid, high-fidelity measurement of solid-state qubits	New York University, New York City, NY, USA	10/2022
9.	Josephson parametric amplifiers for rapid, high-fidelity measurement of solid-state qubits	13th International Conference on Materials and Mechanisms of Superconductivity and High Temperature Superconductors, Vancouver, Canada	07/2022
10.	Nano-to-Macro Fabrication of Superconducting Circuits for Quantum Information Technology	NASCENT weekly seminar, University of Texas at Austin, Austin, TX, USA	04/2021
11.	Amplifying microwave signals with noise set by Heisenberg's uncertainty principle	ECE dept., Texas Tech University, Lubbock, TX, USA	02/2020
12.	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
13.	Quantum computation and simulation with superconducting circuits	Texas Quantum Institute Kickoff meeting, College Station, TX, USA	10/2019
14.	Amplifying microwave signals with noise set by Heisenberg's uncertainty principle	Physics dept., University of Texas at Austin, Austin, TX, USA	10/2019
15.	Amplifying microwave signals with noise set by Heisenberg's uncertainty principle	Physics dept., University of Texas at Dallas, Dallas, TX, USA	09/2019
16.	To catch and reverse a quantum jump mid-flight	Indian Institute of Science, Bengaluru, India	07/2019
17.	To catch and reverse a quantum jump mid-flight	Physics of Quantum Electronics, Snowbird, UT, USA	01/2019
18.	Remote Entanglement of Superconducting Quantum Circuit Modules	Quantum Science Gordon Research Conference, Easton, MA, USA	07/2018
19.	Transfer of quantum information from microwave to optical frequencies	ARO Quantum Computing Program Review, Denver, CO, USA	08/2018
20.	Deterministic remote entanglement of superconducting circuits through microwave two-photon transitions	American Physical Society DAMOP 2018, Fort Lauderdale, FL, USA, 2018	05/2018

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

1. Josephson nonlinear circuit (US11791818), S. Mundhada, N. E. Frattini, S. Puri, S. Shankar, S. M. Girvin, *M. H. Devoret*. Awarded Oct 2023.
2. 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.
3. 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.
4. 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 Shabani, Javad (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)	($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)	($121,477)	08/2020 – 07/2023
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 - 08/2024
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:	($6,159,732)	

PH.D. SUPERVISIONS COMPLETED:

None

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
  1. Hao, Zhuoqun
  2. Riswadkar, Ameya
  3. Shaw, Theodore

B. Post M.S. students preparing to take Ph.D. qualifying exam
  1. Cole, Haley

M.S. IN PROGRESS:

1. Kargioti, Aikaterini
2. 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.