# IEEE Microwave Magazine Best Paper Award

Recognizes, on an annual basis, the most significant contribution in a paper published in the IEEE Microwave Magazine.

J.C. Bardin, D. Sank, O. Naaman, and E. Jeffrey, for their paper "Quantum Computing: An Introduction for Microwave Engineers", IEEE Microwave Magazine, Vol. 21, No. 8, pp. 24-44, August 2020.



#### **Joe Bardin**

Joseph Bardin is a Professor of Electrical Engineering at UMass Amherst and a Research Scientist with the Google Quantum AI team. At UMass, he leads a research group that investigates novel low-temperature applications of silicon integrated circuit technologies, with applications in areas such as radio astronomy and the quantum information sciences. At Google, he leads the team working on integrated circuits for future quantum computers. Professor Bardin is an Associate Editor of IEEE Transactions on Quantum Engineering, a Track Editor of IEEE Journal of Microwaves, an MTT-S elected AdCom member, and the recipient of numerous awards, including a 2020 MTT-S Outstanding Young Engineer Award.



#### **Daniel Sank**

Daniel Sank earned his BS in physics from Yale University in 2007 after which he went to University of California Santa Barbara for his PhD. His PhD work, done in collaboration with Evan Jeffrey, was on fast microwave readout of superconducting qubits. In 2014 Daniel joined the Google Quantum group where he works on qubit readout and reset. Daniel is committed to outreach and education, which inspired his co-authorship in the paper being honored today.

Dr. Daniel Sank is a staff research scientist at Google Quantum AI where his team works on readout and reset of superconducting quantum bits. His work covers the full stack of qubit microwave readout, including conventional pcb design, microfabricated superconducting circuits, and precision metrology and modeling of quantum effects. Recent work has focused on detailed understanding of the error channels in qubit readout and reset to inform design of a high speed and scalable architecture. Daniel supports pedagogy within the field through a publicly available repository of technical notes and an active Stack Exchange profile. Daniel enjoys classical guitar and backcountry trekking.

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## **Ofer Naaman**

Ofer Naaman is a Research Scientist at Google Quantum AI. His research is on passive and active superconducting microwave circuits for qubit control and readout. Ofer received a BSc degree from Tel Aviv University and a PhD in physics from UC San Diego. Prior to joining Google, Ofer was at NIST Boulder, UC Berkeley, and Northrop Grumman, where he has worked on topics ranging from single-electron transistors and parametric amplifiers, to superconducting logic and cryogenic memory. He is a member of APS and IEEE-MTT.

## E. Jeffrey

No photo or bio available at time of publication.