MEENAKSHI SINGH

Director, Quantum Engineering & Associate Professor

Colorado School of Mines
1523 Illinois St., Golden, CO 80401
msingh@mines.edu | (303)-273-3844

34	15	1,959
PEER-REVIEWED PUBLICATIONS	H-INDEX	TOTAL CITATIONS

ACADEMIC APPOINTMENTS & FELLOWSHIPS

TITLE	INSTITUTION	YEARS
Director, Quantum Engineering	Colorado School of Mines, Golden, CO	2024 – present
Associate Professor of Physics	Colorado School of Mines, Golden, CO	2023 – present
Assistant Professor of Physics	Colorado School of Mines, Golden, CO	2017 – 2023
Post-doctoral Research Fellow	Sandia National Laboratories, Albuquerque, NM	2013 – 2016
Post-doctoral Scholar	Pennsylvania State University, University Park, PA	2012

EDUCATION

Ph.D. in Physics	Pennsylvania State University	2012
M.S. in Physics	Indian Institute of Technology, Kanpur	2006

NATIONAL LEADERSHIP & PROFESSIONAL SERVICE

- **Organizer:** NSF Research Traineeship (NRT) Annual Meeting (2026).
- **Committees & Advisory Boards:** Advisory Committee, InTriQATE, UCSB (2025 – present); Steering Committee, Colorado Office of Economic Development and International Trade (OEDIT) Quantum Seed Grant (2023 – present); Technical Advisory Committee, Quantum Economic Development Consortium (QED-C) (2018 – present); Selection Committee, Blewett Fellowship, American Physical Society (APS) (2017).
- **Symposia & Workshops:** Co-organizer & Facilitator, NSF workshops supporting Minority Serving Institutions in quantum workforce creation (2022 – 2023); Lead Organizer & Chair, Quantum Thermodynamics focus session at the APS March Meeting (2022); Lead Organizer & Chair, DARPA workshop on Neuromorphic Computing (2018).
- **Reviewer & Panelist:** Major funding bodies, including the National Science Foundation (NSF), Department of Energy (DoE), Department of Defense (DoD), and international science agencies such as India's Department of Science and Technology (DST) (2017 – present).

RESEARCH FUNDING SUMMARY

> **Overview:** Principal Investigator and Co-PI on multiple high-impact federal and industry grants. Key funding sources include the **National Science Foundation (NSF)**—highlighted by a prestigious **NSF CAREER award**—the **Department of Energy (DoE)**, and strategic industry partners such as **Lockheed Martin** and **Honeywell**.

SELECTED HONORS & AWARDS

- **Fulbright-Nehru Professional and Academic Excellence Award** (2023 – 2024)
- **NSF CAREER Award** (2021 – 2026)
- **Peter Eklund Memorial Award**, Pennsylvania State University (2011 – 2012)

SELECTED SCHOLARSHIP & PUBLICATIONS (Complete list on Google Scholar)

- **Lloyd et al.**, "A cryogenic uniaxial strain cell for quantum devices", *Applied Physics Letters* (Accepted, 2026).
- **Saiter et al.**, "Magnetotransport Measurements on Isolated Polycrystalline Grains of Type-II Silicon Clathrate", *ACS Appl. Electron. Mater.* 8(15): 6457–6465 (2026).
- **Liu et al.**, "An Optically Enhanced Crystalline Silicon Allotrope: Hydrogen Passivated Type II Silicon Clathrate", *Advanced Functional Materials* 0:e20848 (2026).
- **Briggs et al.**, "Enhanced understanding of silicon clathrates and guests through magnetic spectroscopies", *Micro and Nanostructures* 208612 (2026).
- **Liu et al.**, "Advancements in low-density crystalline silicon allotropes", *Applied Physics Letters* 126, 090501 (2025).
- **Briggs et al.**, "Characterization of low sodium type II silicon clathrate film spin dynamics", *Applied Physics Letters* 125, 202402 (2024).
- **Howard et al.**, "Demonstrating two-qubit entangling gates at the quantum speed limit using superconducting qubits", *Physical Review Research* 5, 043194 (2023).
- **Liu et al.**, "Formation of Type II Silicon Clathrate with Lithium Guests through Thermal Diffusion", *Inorganic Chemistry* 62, 18, 6882 (2023).
- **Blagg et al.**, "On-chip heating effects in electronic measurements at cryogenic temperatures", *Cryogenics* 126, 103536 (2022).
- **Lee et al.**, "Transition metal impurities in Silicon: Computational search for a semiconductor qubit", *npj Computational Materials* 8, 172 (2022).
- **Altman et al.**, "PRX Quantum Perspective on Quantum Information Science", *PRX Quantum* 2, 017003 (2021).
- **Aiello et al.**, "Achieving a Quantum Smart Workforce", *Quantum Science and Technology* 6, 030501 (2021).
- **Blagg et al.**, "Focused ion beam deposited carbon-platinum nanowires for cryogenic resistive thermometry", *Carbon* 169, 482 (2020).