

STC for Integrated Quantum Materials* Quantum Information Science & Technology

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Abstract

The Vision of our Center is to create quantum sensors, quantum communication and quantum computers [1]. We bring together researchers at Harvard, Howard University and MIT, with public outreach through the Museum of Science, Boston. The Research Areas are: (1) Novel van der Waals Heterostructures, led by Philip Kim, (2) Discovery of New Topological Crystals, led by Joseph Checkelsky, (3) Topologically Protected Qubits, led by Amir Yacoby and Pablo Jarillo-Herrero, and (4) Quantum Networks with Engineered Solid-State Quantum Emitters, led by Marko Loncar. Active collaborations between research groups at different institutions promote multidisciplinary research. College Network schools - Bunker Hill and Prince George's Community Colleges, Mt Holyoke and Wellesley Women's Colleges, and Gaulladet University for the deaf and hard of hearing - encourage undergraduates to pursue careers in science and technology.

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References

[1] Center website: CIQM.harvard.edu

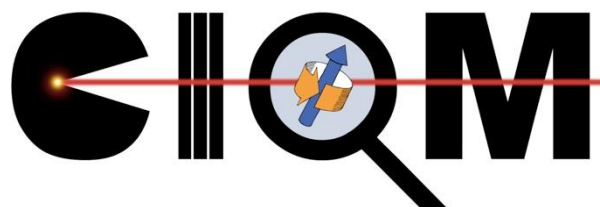


Figure 1: Science & Technology Center for Integrated Quantum Materials logo, showing a laser beam striking a nitrogen vacancy (NV) center in a diamond nanopillar, passing through a 2D material stack and a lens to illuminate electron spin and orbital motion (David Macaulay).

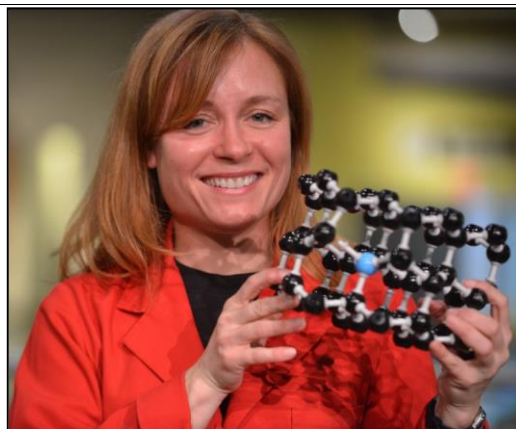


Figure 2: Museum of Science team member Karine Thate in a stage presentation on the Quantum Revolution in diamond created by nitrogen vacancy (NV) center qubits. Museum stage presentations reached over 11,000 children and adults.
