Quantum Information Science and Technology*

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Abstract

At sizes approaching the atomic scale, quantum effects become important. The vision of our Science and Technology Center is to create quantum sensors, quantum networks and quantum computers based on quantum materials. Our Center joins faculty groups at Harvard University, Howard University, the Massachusetts Institute of Technology 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 Checkelskey, 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. Our education program engages a College Network of students at community and 4-year colleges.

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Bio: Director of the STC for Integrated Quantum Materials (DMR-1231319)
Director of the Center for Nanoscale Systems at Harvard.