

*QuEST* will educate middle and high school students in quantum science and computing activities while learning about career pathways in quantum technologies. Science teachers are also key stakeholders and will attend professional development in quantum science instruction, quantum computing applications, and career pathways.

**New Challenges & Next Steps**

Quantum physics is not represented in a substantive way in most science curricula and many high school teachers do not have any background in quantum physics, let alone keeping track of academic/industrial developments of quantum technology. To maximize our impact, we are reordering our outreach activities to focus on teacher education before hosting student activities at Stony Brook and New York Hall of Science.

**Equity**

The broader impacts of this work relate to increased introductory quantum science and computing participation for students from diverse backgrounds who may not have equitable access due to restricted school resources, lack of science course offerings, and limited teacher knowledge about quantum principles and applications. Students and teachers will participate in program activities, with 50% of participants recruited from high need schools.

**Lessons Learned & Insights Gained**

We are creating educational processes starting early in the STEM pipeline at the middle and high school level, with an emphasis on the didactic development of age-appropriate understanding of fundamental concepts. The novelty lies in the holistic/vertical integration of conceptual learning, hands-on activities, laboratory immersion, and career awareness, connecting the informal science institution setting to university research.

**QuEST: Quantum Education for Students and Teachers**

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Project Overview: *QuEST*, a partnership between Stony Brook University and the New York Hall of Science, will advance quantum education, physical science literacy, and the diversity of the STEM pipeline through quantum science and quantum computing learning opportunities for precollege students (grades 8-12) and secondary science teachers, directly impacting 800 students and 160 teachers.