





Preparing Secondary Teachers and Students for Quantum Information Science

Karen Jo Matsler, Ramon E. Lopez

NSF Award Number: 2048691 Dates: 2021-2024

Project type: DRL/ISTE

Project URL: www.quantumforall.org

Project Overview: Provide opportunities for educators to learn about QIS and practice

teaching it to students via camps.

The professional development model supports educators as they gain confidence and deepen their understanding of QIS. Students are curious about QIS and are eager to learn concepts.

Lessons Learned & Insights Gained

There is a great deal of uncertainty and initial hesitation in implementing QIS concepts in the STEM classrooms. Providing peer support, collaborative practice, and age appropriate curricular resources seems to increase confidence, at least temporarily. Whether this will carry over to the classroom is yet to be determined.

Equity

Workshops and camps were in accessible locations. All students in grades 9-12 were invited to attend regardless of their grades or STEM background. One of the main barriers would have been math, so without this prerequisite we had students from all grade levels attend. The camp curriculum was designed by teachers for teachers/students and therefore was engaging and appropriate.

New Challenges & Next Steps

The students were paid a small stipend to attend in 2022, but we cannot do that in 2022 because the paperwork was too overwhelming. We will need to find other incentives if needed. Retention of teachers due to travel expenses and students signing up and not attending were issues that impacted our total outreach. A small registration fee may be the solutions for 2023.