



My Road to CMS

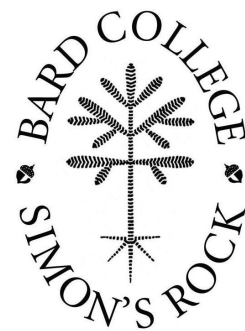
Lindsey Tensen

Background

How did my background influence my decision to become a scientist?

What undergraduate coursework led me to pursue a career in physics? What research?

Was I always sure that physics was my calling?



Working in Industry

Was I able to apply my physics knowledge to my career as either a consultant or as a supply chain specialist?

How different is academia vs industry?

Why did I come back to physics?

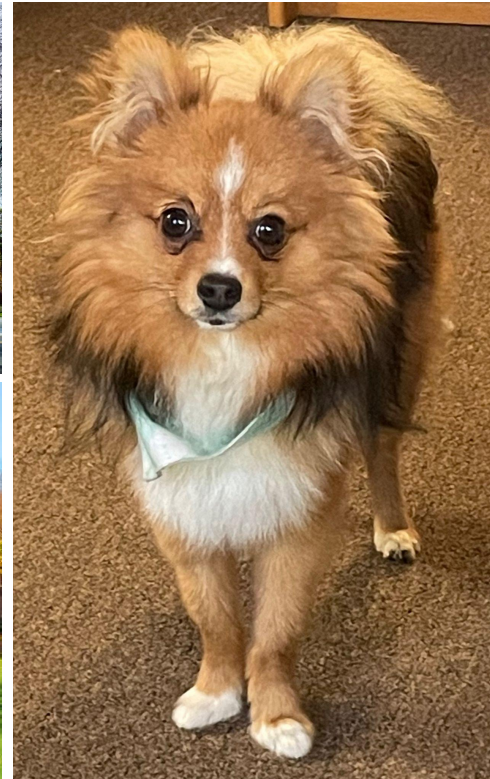


Grad School

How did I decide on experimental high energy?

What is it like as a first year graduate student?

What is this cool grant you are working on?



Brookhaven National Lab

Working in the Quantum Information lab in the instrumentation division of BNL

Building the first quantum network in the US, the infrastructure for next level quantum computing

Relies on quantum entanglement between two sources a distance L apart

The goal is to build a network of entangled memories around Long Island and NYC

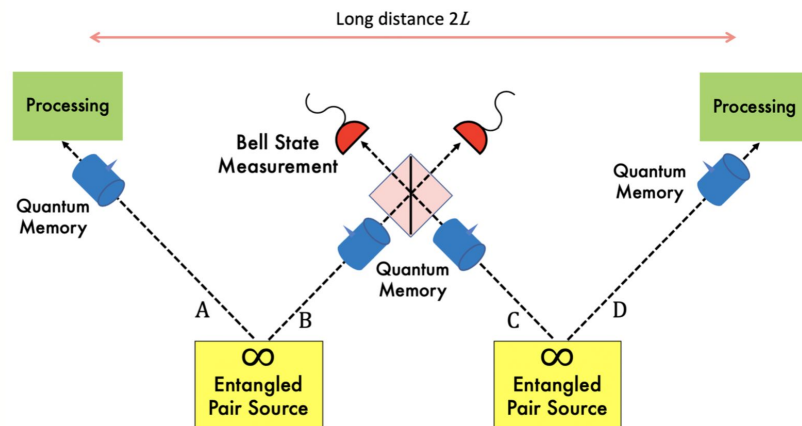
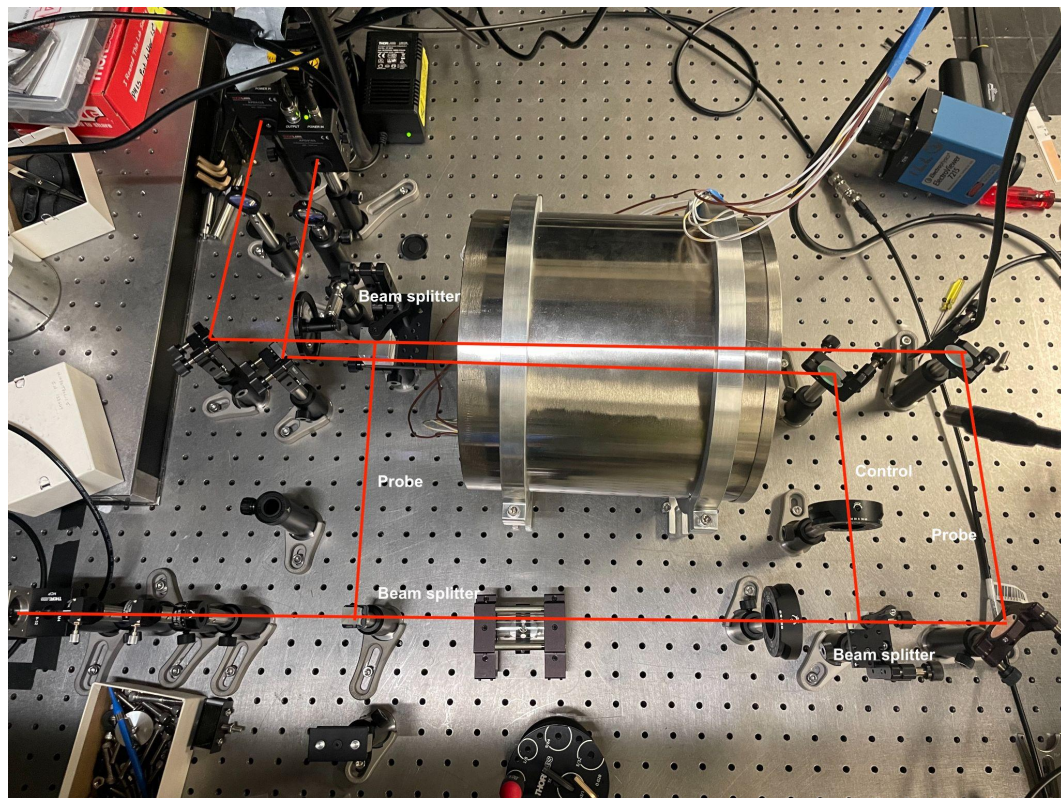
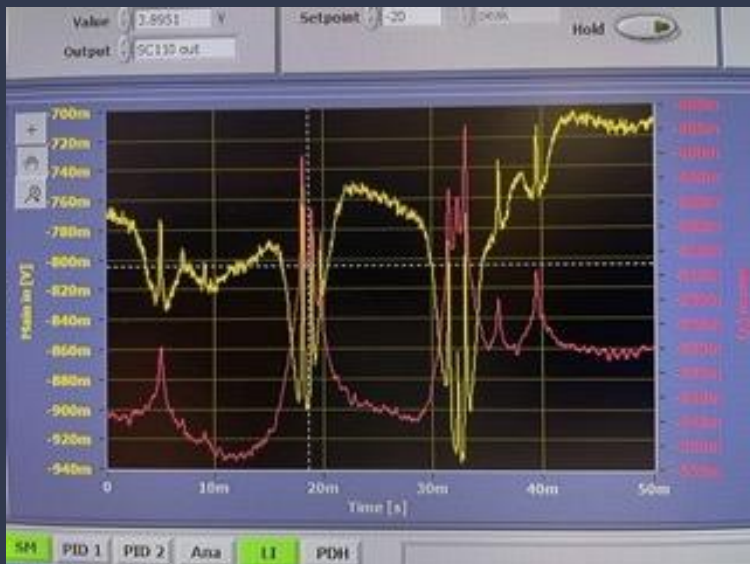


Figure 2:3. Example of a one-hop, first-generation quantum repeater. Two sources generate independent entangled pairs A-B and C-D. One member of each pair, B and C, are brought together and interfered at an intermediate location, projecting the B-C pair onto one of four Bell states (Bell state measurement). This partial collapse of the four-particle wavefunction results in the two remaining particles, A and D, being in an entangled state, separated by a long distance.

Rb Spectroscopy and Optical Pumping

Rubidium gas is the primary material used in quantum sensing and networks



Future Plans

Will continue to work with the group at BNL during the upcoming semester

Looking at ways to tie quantum sensing and networks in with high energy physics and the search for dark matter

Will also be returning to CMS, hoping to explore opportunities for overlap between these two fairly distinct research areas

Will be helping to organize the Conference for Undergraduate Women in Physics this January at Brown

Questions?