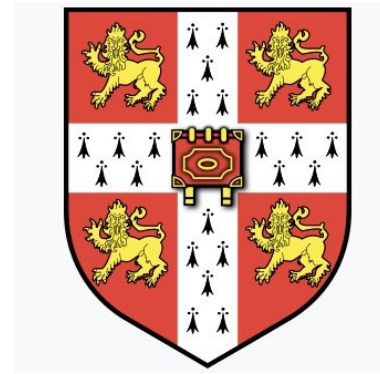


INTENSE: particle physics experiments at the intensity frontier. A cooperative Europe – United States effort.



The University of Cambridge

MidTerm Review Meeting, Dec 2, 2022

Melissa Uchida



UNIVERSITY OF
CAMBRIDGE

Department of Physics
The Cavendish Laboratory



The University of Cambridge



- Founded in 1209.
- A collegiate University
 - with 31 colleges.
- >20,000 students.
- Rated 2nd best university in the world, and the best in Europe, according to the QS World University Rankings.
- 121 Nobel laureates, 11 Fields Medalists, and 7 Turing Award winners, and more...



Physics at Cambridge

- The Cavendish Laboratory was founded in 1874.
- The core of the Laboratory's programme has been, and continues to be, experimental physics, supported by excellence in theory.
- Diverse research: Astrophysics, Atomic, Mesoscopic and Optical Physics, Biological and Soft Systems, **High Energy Physics**, NanoPhotonics, Optoelectronics, Microelectronics, Molecular Engineering, Quantum Matter, Quantum Sensors, Scientific Computing, Semiconductor Physics, Surfaces, Microstructure and Fracture, Theory of Condensed Matter and Thin Film Magnetism.

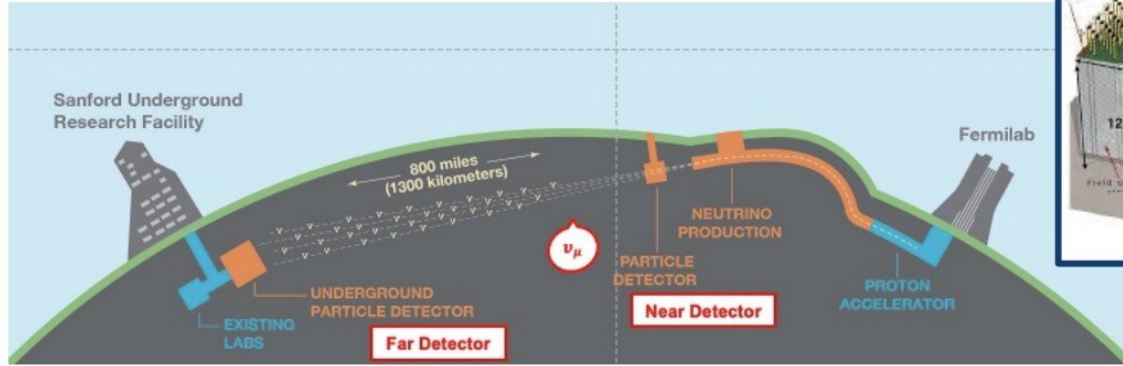
My Research and Group

- The team:
 - 1 associate prof (M A Uchida)
 - 2 postdocs
 - 6 PhD students
- Working on:
 - DUNE
 - Long baseline Neutrino physics
 - MicroBooNE
 - Short baseline Neutrino Physics
 - AION
 - Mid-range gravitational waves detector
 - Muon Collider

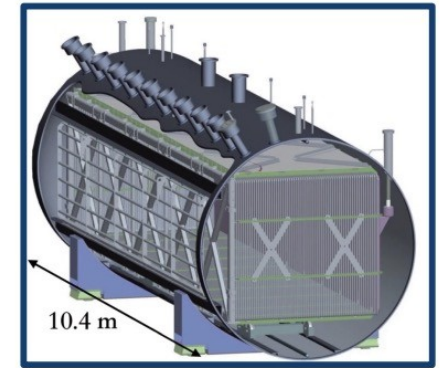
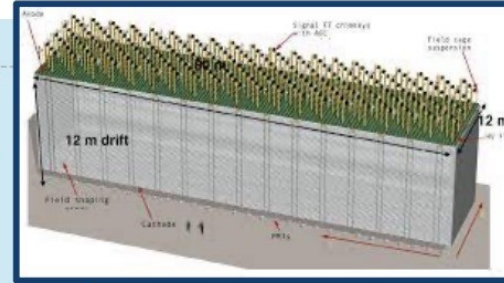


Intense at Cambridge

Deep Underground Neutrino Experiment (DUNE) at Fermilab



MicroBooNE at Fermilab



Early Stage Researcher: Natsumi Taniuchi



Natsumi Analysis and Secondments

- Kaon Cross section at MicroBooNE leading to proton decay at DUNE. → Papers expected for both see talk this afternoon.
- FNAL
 - Since MicroBooNE and DUNE and the main analysis teams at both will be at FNAL this makes more sense than CERN now.
 - Machine learning courses at Cambridge replaced SLAC training.