

Mysteries of Matter – The Unknown Neutrino

Professor Mary Kidd

TTU, Physics

Over sixty years have passed since the first detection of a neutrino, and yet it is still one of the most mysterious particles. The mass of the neutrino has not yet been determined, and experiments to measure this mass are some of the most sensitive experiments in operation. Understanding the nature of the neutrino can potentially explain the question:

Why are we here?

Current experiments working to measure different aspects of the neutrino along with another mysterious particle, dark matter, are pushing the boundaries of our detection capabilities. GEMADARC (Germanium Materials And Detectors Advancement Research Consortium) is a collection of scientists involved in such experiments who are working to improve and innovate germanium detectors for these next-generation neutrino and dark matter experiments.

In this seminar, I will motivate neutrino and dark matter studies, and present ways you can get involved in a summer research program with GEMADARC, which culminates in a 5-6 week research experience in China! You will be paid a \$5000 stipend for a 10-week program, as well as \$5500 for travel costs. I have two positions available.

If you cannot attend this seminar, but are interested in hearing more about this opportunity, please contact Dr. Mary Kidd (mkidd@tntech.edu) as soon as possible.