

# Physics Colloquium

**Professor Camillo Mariani**

(Physics, Virginia Tech)

**“Neutrinos-an interesting journey”**

**Friday, September 4, 2020**

**2:30pm—3:30pm**

**Virtual Meeting**

**Zoom link: <https://virginiatech.zoom.us/s/96084996911>**

Neutrino physics has made tremendous strides in the past decade; the next challenge is to determine if neutrinos violate charge-parity (CP) symmetry, and to identify the neutrino mass hierarchy. The focus of my research group is to understand neutrino interactions in matter and their role in the discovery of the CP violating phase in the neutrino sector. Neutrino can also be used for other applications like nuclear reactor monitoring. The latter presents multiple experimental challenges, but there has been huge technology advancement in the last few years, one lead by a group at VT.

More specifically, I will discuss our VT group research efforts preparing the next generation neutrino detectors and experiments. Throughout the talk we will rediscover the importance of nuclear physics and its influence in describing the neutrino interactions with matter.