Title: Signatures of the Hunga Tonga-Hunga Ha’apai Volcanic Eruptions in the near field Ionosphere

Presented by: Satyamesh H Tiwari

Abstract:

Natural hazards of earthquakes, tsunamis, and volcanoes can produce ionospheric perturbations in acoustic and gravity frequencies. On January 15^{th,} 2022, the Hunga Tonga-Hunga Ha’apai underwater volcano exploded violently releasing a large amount of volcanic ash (which travelled up to the stratopause) and triggered ionospheric disturbances which were observed globally. These powerful eruptions could also lead to the ionospheric acoustic resonance within 1000 km of the volcano origin location. The present talk will discuss the volcano eruption processes and imprints of the Hunga Tonga-Hunga Ha’apai volcano in the near field ionosphere. The ionospheric signatures are derived using GPS-TEC measurements. The talk will also brief the GPS-TEC technique.