Dr. Mala S. Bagiya

Dr. Mala S. Bagiya completed her PhD in Physics from Saurashtra University in 2010 and is currently working as a scientist in the Indian Institute of Geomagnetism (IIG), Navi Mumbai. She has made significant contributions in the field of ionospheric seismology through recently evolved interdisciplinary program of IIG. Dr. Mala plays an important role in the largest experimental setup of IIG to study the lithospheric-atmospheric-ionosheric coupling over the North-East Indian region. Two of her recent publications have made it to the Cover Pages of the prestigious American Journal, Journal of Geophysical Research-Space Physics highlighting their significance and international recognition.

Dr. Mala is involved in the challenging topic of quantifying the effects of non-tectonic forcing mechanisms on the evolution of tectonically induced ionospheric perturbations with an ultimate aim to use the seismic induced ionopsheric perturbations as proxy to extract the earthquake source characteristics.

She, along with her team has developed a 2-D model for earthquake induced wave perturbations in the earth's atmosphere. Based on this model they demonstrated for the first time that the evolution of earthquake induced ionospheric perturbations is linked to the orientations of thrusts along the rupture and not merely to the displacements along the rupture propagation direction.

Through their work her team has been able to successfully explain the Sumatra 2004 tsunami induced ionospheric signatures which were observed ~90 minutes before the arrival of the actual tsunami over the Indian east coast. This work offers an alternative tool to monitor the offshore signatures 'ahead of tsunami' in the ionosphere and hence could potentially be an important early warning tool for the tsunami over coastal regions.

In recognition to her outstanding research contributions in the field of Earth System Science the Ministry of Earth Sciences honours Dr.Mala S. Bagiya with the "Young Researcher Award in the field of Earth System Science" for the year 2018.