Contribution ID: **10** Type: **not specified**

Chasing Long-lived Scalars at the Future Lepton Colliders

Monday, 16 February 2026 16:20 (20 minutes)

In this talk, I will discuss novel strategies to search for long-lived scalars at future lepton colliders in the context of the Type-II seesaw model. In the low-mass range, and for an appropriate choice of the triplet vev, these scalars can become long-lived, leading to displaced-vertex signatures. Depending on the proposed center-of-mass energy, we consider the pair production of these scalars at the ILC and at future muon colliders. Taking into account the relevant theoretical and experimental constraints, we explore this possibility in multi-lepton plus missing-energy final states. While displaced-vertex signatures highlight the long-lived nature of the scalars, the invariant-mass distribution of same-sign dileptons can be used to discover the non-standard charged Higgs at the ILC and muon colliders.

Presenter: GHOSH, Nivedita

Session Classification: parallel session B: Higgs