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## The first decade of real time Multimessenger astronomy

*Wednesday 14 December 2022 09:00 (30 minutes)*

The past decade has seen the opening of two new windows to the Universe - high energy neutrinos and gravitational waves. Leveraging data from other astrophysical messengers, two extragalactic candidate sources have been identified for the high energy neutrinos - TXS 0506+056 and NGC 1068. The existence of this flux enables the testing of fundamental particle physics at energies far beyond the reach of colliders on Earth - the Glashow resonance and neutrino nucleon scattering cross sections at TeV-PeV energies. This talk will review these developments as well as the resulting multimessenger theoretical understanding from an IceCube perspective, and provide an outlook for the next decade with a special focus on opportunities for the Indian community.

### Session

Plenary

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