

## Developments and challenges in neutrino source modeling

*jeudi 5 février 2026 09:30 (30 minutes)*

The IceCube South Pole Observatory detects cosmic neutrinos up to a few PeV, and the KM3NeT experiment in the Mediterranean Sea has recently detected the first event above 100 PeV, inaugurating the era of ultra-high-energy neutrino astronomy. Active black holes, in particular blazar jets, are among the most promising candidate sources. In this talk, I summarize recent developments in leptohadronic blazar modeling. I discuss predictions for the electromagnetic signatures of neutrino production, current degeneracies and challenges faced by models, and the crucial role of future multi-messenger facilities.

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**Classification de Session:** AGN modelling and observation