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## Living on the edge: Quantum black hole physics from the event horizon

*Friday 27 September 2024 10:20 (40 minutes)*

In this talk, I will employ a particle physics approach to uncover universal insights into the quantum properties of black holes. This framework will enable us to calculate thermodynamic quantities of the black hole, including the Hawking temperature and entropy, using model-independent expressions. I will also deduce general consistency conditions for the metric deformations. The approach is relevant for several applications ranging from a deeper understanding of the nature of the space and time to (astro) particle physics and cosmology. Finally, I will also suggest a novel way of testing Hawking Radiation via Black Hole morsels observations by atmospheric Cherenkov telescopes, opening the way of testing new high energy physics scenarios before the advent of the next generation colliders.

**Presenter:** SANNINO, Francesco (University of South Denmark (DK))