

**Bridging high and low energies in search of quantum gravity - 2025 Cost
Action CA23130 First Annual Conference**

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Type: **Working Group Highlight Talk**

WG5: Bridges challenges opportunities

Monday 7 July 2025 16:50 (50 minutes)

I offer a perspective on some research directions relevant for the COST Action, including IR/UV mixing, quantum-gravity-induced decoherence, spacetime fuzziness, quantum reference frames and the laws of particle propagation in a quantum spacetime. I also highlight two opportunities for phenomenology: the mystery concerning the origin of the KM3-230213A neutrino and the Caesium-Rubidium discrepancy for measurements of the fine structure constant.

Working Group

WG5 - Connection between low-energy and high-energy quantum gravity

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