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**Plenary Talk: Black Holes, Quantum Information, and Unification**

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The study of black holes has revealed a deep and general connection between quantum information and spacetime geometry. Its origin must lie in a quantum theory of gravity, so it offers a valuable hint in our search for a unified theory. Precise formulations of this relation recently led to new insights in Quantum Field Theory, some of which have been rigorously proven. An important example is the first universal lower bound on the local energy density.