

# Loop Quantum Gravity: Basics and Some Recent Advances

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In this talk I will first provide a broad overview of Loop Quantum Gravity, emphasizing the interplay between *gravity, geometry and the quantum* that lies at its foundation. This approach has resolved some of the fundamental issues that had been posed already in the 1970s, such as the quantum nature of geometry, singularity resolution and the consequent physics beyond Einstein, and formulation and resolution of physical questions in absence of a classical spacetime geometry. In contrast to, say, string theory where the focus has shifted to application of techniques from classical gravity to other areas of physics, we will see that, in loop quantum gravity, the focus continues to be on questions rooted in quantum gravity, proper. In the second part of the talk, I will discuss a few recent advances to illustrate that the approach has matured sufficiently to commence the creation of 2-way bridges between fundamental theory and observations.