

Title: Lecture Series presented by KPMG - Creating Spacetime

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Abstract: Our understanding of the physical world at the most fundamental level is based on two theories: quantum theory and general relativity. They are impressively successful when each is considered on its own, but in situations where both play a role, we are reduced to puzzles and absurdity. To the great frustration of researchers, candidate theories of quantum gravity produce more puzzles than answers. We shall tour of some of the problems, focusing on the role of spacetime and causality. We will consider the possibility that spacetime did not always exist but is instead emergent and explore how one can create a spacetime from a world with no notion of "here" and "there".

