

Title: Lecture Series presented by KPMG - Quantum Foundations: From Plato's Cave to Bertlmann's Socks

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Abstract: The mysteries of quantum theory run deep. Despite 80 years of research, there is still no consensus on its interpretation. This talk will explore some of the important issues in the foundations of quantum theory, from the idea that we have only a limited knowledge of a deeper reality, like the prisoner in Plato's cave who sees only the shadows of objects and never the objects themselves, to John Bell's famous discovery of the difference between quantum correlations and Dr. Bertlmann's socks, namely, that whereas the mismatched colours of the doctor's socks can be attributed to a decision at the sock drawer that morning, certain quantum correlations cannot be explained by a common cause, at least not without doing violence to some cherished principles of physics, such as the fact that causes cannot travel faster than the speed of light.

