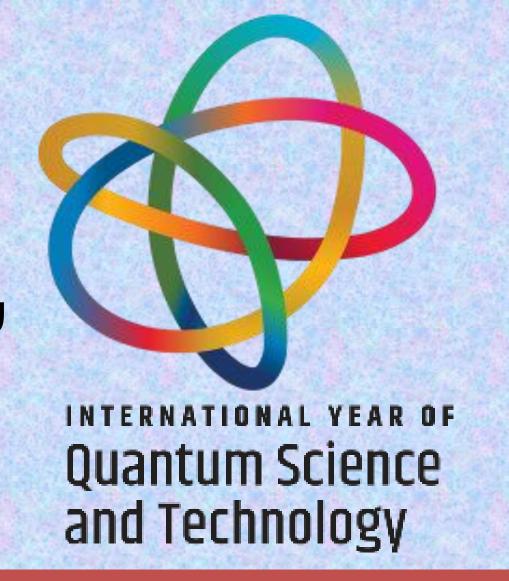


International Year of Quantum Science and Technology (IYQ)-2025, at TCG CREST (Kolkata, India)





Prof. Vlatko Vedral University of Oxford, UK, and Center for Quantum Technologies (CQT), National University of Singapore.



Date & Time:

28th October, 2025@4:30 PM IST

Classroom-4, TCG CREST

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Title - No collapses, No quantum jumps, and No Observers: Universal Quantum Physics and How to Test It

Abstract

I will argue that the only way to understand quantum physics without any contradictions and paradoxes is to quantise everything. This includes not only the systems under consideration, but also any measurement apparatuses involved in the process. I will show that there is then no "measurement problem", and this will also remove the need for observers with a special status, as well as the need for any collapses, jumps, or discontinuities. In fact, whenever we have a hybrid description (half quantum, half classical, as frequently advocated by various practitioners) of anything in physics, we invariably end up violating various conservation principles and other symmetries; the only consistent way to proceed is to treat everything quantumly. I plan to discuss a number of experiments relevant for testing quantum physics in the macro domain, among which are tests of the quantum nature of the gravitational field as well as the equivalence principle.

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