

BELL'S THEOREM: DECIPHERING THE NATURE OF REALITY

SEMINAR

DR. MANIK BANIK

S. N. Bose National Centre for Basic Sciences, Kolkata

 Room No. 401, 4th Floor, S. N. Bose Bhaban, ISI, Kolkata

 17 June 2026, 02:30 PM



Abstract

The seminal 1964 theorem of John S. Bell profoundly transformed our understanding of the quantum world. It addresses a deep question about the nature of reality—a question first brought into sharp focus by Einstein and his collaborators in their famous 1935 critique of quantum mechanics. Bell's theorem demonstrates that the quantum description of nature is fundamentally incompatible with certain intuitive notions about physical reality that arise from our everyday classical experience. Beyond its foundational significance, Bell's theorem has also inspired a new, device-independent perspective on physical phenomena and information processing, leading to remarkable developments in quantum information science. In this talk, I will discuss the central ideas underlying Bell's theorem, explain its conceptual implications for our understanding of reality, and highlight some of its modern applications in quantum technologies.

Everyone is invited to attend