

NOBEL SYMPOSIA SERIES

Entanglement: From Theory to Quantum Computers

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6 Melrose Road, Muizenberg**



ABSTRACT

The Nobel Prize in Physics 2022 was awarded to Alain Aspect, John Clauser and Anton Zeilinger for conducting groundbreaking experiments using entangled quantum states. In this lecture, we will reconstruct the story of quantum entanglement from the early days of quantum mechanics to today's efforts to build quantum computers.

BIOGRAPHY

Francesco Petruccione studied Physics at the University of Freiburg i. Br. and received his PhD in 1988 and the "Habilitation" degree (Dr. rer. nat. habil.) in 1994. In 2004, he was appointed Professor of Theoretical Physics at the University of KwaZulu-Natal (UKZN), in Durban (South Africa). In 2007, he was granted the South African Research Chair for Quantum Information Processing and Communication. At UKZN he has been Pro-Vice-Chancellor Big Data and Informatics. Currently, he is the interim Director of the National Institute for Theoretical and Computational Sciences and (since May 2022) a Professor of Quantum Computing at Stellenbosch University and a fractional Professor at UKZN.

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