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NITheP Colloquium

Monday, 17 August 2020, 16h00

Prof. Artur Ekert

University of Oxford

Privacy for the paranoid ones - the ultimate limits of secrecy

Abstract: Among those who make a living from the science of secrecy, worry and paranoia are just signs of professionalism. Can we protect our secrets against those who wield superior technological powers? Can we trust those who provide us with tools for protection? Can we even trust ourselves, our own freedom of choice? Recent developments in quantum cryptography show that some of these questions can be addressed and discussed in precise and operational terms, suggesting that privacy is indeed possible under surprisingly weak assumptions. I will provide an overview of how quantum entanglement, after playing a significant role in the development of the foundations of quantum mechanics, became a new physical resource for all those who seek the ultimate limits of secrecy.

Bio: Artur Ekert is professor of quantum physics at the Mathematical Institute, University of Oxford, professorial fellow in quantum physics and cryptography at Merton College, Oxford, Lee Kong Chian Centennial Professor at the National University of Singapore and director of the Centre for Quantum Technologies (CQT). His research interests extend over most aspects of information processing in quantum-mechanical systems, with a focus on quantum communication and quantum computation. He is best known for important contributions to the field of quantum cryptography

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