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## **Quantum non-locality**

Quantum non-locality was discovered by J. Bell more than three decades ago but, while it was of considerable interest to philosophers of physics, until very recently it received little attention from physicists. Today however non-locality is recognized as being one of the fundamental aspects of quantum mechanics. Furthermore, non-locality is the key element in all quantum information and computation processes. In my talk I will explain the basic concept of quantum non-locality, describe some of its applications in quantum information, and discuss some of the conceptual and mathematical challenges in understanding non-locality.