

# Certification of quantum systems and technologies

---

**Antonio Acín**

*ICREA/ICFO, Spain*

[antonio.acin@icfo.eu](mailto:antonio.acin@icfo.eu)

---

The need of a new paradigm for quantum certification has emerged as a consequence of the impressive advances on the control of quantum phenomena. On the one hand, complex many-body quantum systems are prepared in many labs worldwide. On the other hand, quantum information technologies are making the transition to real applications. Quantum certification is a highly transversal concept that covers a broad range of scenarios, from many-body systems to protocols employing few devices, and questions, from theoretical results and experimental demonstrations to commercial products. The talk presents recent advances on the design of efficient and scalable methods for the certification of quantum systems and quantum information protocols.