

# PYSQT's SEMINARS

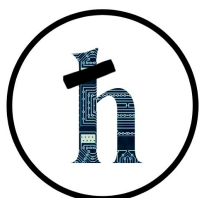
20<sup>th</sup> March 2024

16.00 h (CET), On-line

## Symmetry in Quantum Information: From Protocols to Foundations

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Symmetry has always played a preeminent role in physics forming the basis for formulating most, if not all, fundamental physical laws we know of. The role of symmetry is highly obscured in quantum information theory due to its highly abstract nature. As soon as one starts to associate this abstract formalism with physical magnitudes—associated with the mechanical, optical, or electromagnetic properties of physical systems—then one invariably takes symmetries along for the ride. In this seminar I will introduce the mathematical formalism for treating symmetries within the framework of quantum information theory, and then highlight the power of this formalism in problems involving processing of quantum information, the use of quantum systems for performing ultra precise measurements, as well as providing a fresh new look at some of the foundational issues of quantum physics.



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