



Contribution ID: 353

Type: Oral Presentation

From quantum quirks to microscopic wonders: journey into the future of imaging with entangled photons!

Wednesday, 5 July 2023 11:00 (40 minutes)

Quantum physics may be at the origin of tomorrow's microscopes - let's understand how it works!

Quantum imaging harnesses quantum properties of light to go beyond the limits of classical imaging. In this respect, entangled photons sources are very promising. They have been proposed and used to achieve super-resolution and sub-shot-noise imaging, and to create new imaging approaches such as ghost imaging, quantum illumination and quantum holography. In this non-specialist presentation, I will review some recent imaging techniques based on entangled photon pairs that have been developed in recent years. I will discuss some fundamental aspects of these approaches, including the critical role of entanglement, but I will also insist on their application potential for microscopy.

Apply to be considered for a student ; award (Yes / No)?

No

Level for award;(Hons, MSc, PhD, N/A)?

N/A

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Session Classification: Photonics

Track Classification: Track C - Photonics