

List of Publications

- **E. Polino**, I. Agresti, D. Poderini, G. Carvacho, G. Milani, G. Barreto Lemos, R. Chaves, and F. Sciarrino, Device-Independent test of a delayed choice experiment, *Phys. Rev. A*, **100**, 022111 (2019)
- **E. Polino**, M. Riva, M. Valeri, R. Silvestri, G. Corrielli, A. Crespi, N. Spagnolo, R. Osellame, and F. Sciarrino, Experimental multiphase estimation on a chip, *Optica* **6**, 288-295 (2019)
- D. Poderini, I. Agresti, G. Marchese, **E. Polino**, T. Giordani, A. Suprano, M. Valeri, G. Milani, N. Spagnolo, G. Carvacho, R. Chaves, and F. Sciarrino, "Experimental violation of n-locality in a star quantum network", *Nature communications*, 11 (1), 1-8, 2020.
- K. Rambhatla, S. E. D'Aurelio, M. Valeri, **E. Polino**, N. Spagnolo, and F. Sciarrino, Adaptive phase estimation through a genetic algorithm, *Phys. Rev. Research* 2, 033078 (2020)
- T. Giordani, **E. Polino**, S. Emiliani, A. Suprano, L. Innocenti, H. Majury, L. Marrucci, M. Paternostro, A. Ferraro, N. Spagnolo, and F. Sciarrino, Experimental engineering of arbitrary qudit states with discrete-time quantum walks, *Phys. Rev. Lett.* **122**, 020503 (2019)
- A. Lumino, **E. Polino**, A.S. Rab, G. Milani, N. Spagnolo, N. Wiebe, and F. Sciarrino (*Editors' Suggestion*) Experimental phase estimation enhanced by machine learning, *Phys. Rev. Applied* **10**, 044033 (2018)
- I. Gianani, **E. Polino**, M. Sbroscia, A.S. Rab, E. Roccia, L. Mancino, N. Spagnolo, M. Barbieri, and F. Sciarrino, Hong-Ou-Mandel control through spectral shaping, *J.Opt.* **20**, 085201 (2018)
- S. Atzeni, A.S. Rab, G. Corrielli, **E. Polino**, M. Valeri, P. Mataloni, N. Spagnolo, A. Crespi, F. Sciarrino, and R. Osellame, Integrated sources of entangled photons at the telecom wavelength in femtosecond-laser-written circuits, *Optica* **5**, 311-314 (2018)
- T. Giordani, A. Suprano, **E. Polino**, F. Acanfora, L. Innocenti, A. Ferraro, M. Paternostro, N. Spagnolo, and F. Sciarrino, "Machine learning-based classification of vector vortex beams", *Physical Review Letters*, 124 (16), 160401, 202
- A.S. Rab, **E. Polino**, Z.-X. Man, N.B. An, Y.-J. Xia, N. Spagnolo, R. Lo Franco, and F. Sciarrino, Entanglement of photons in their dual wave-particle nature, *Nat. Commun.* **8**, 915 (2017)
- D. Cozzolino, **E. Polino**, M. Valeri, G. Carvacho, D. Bacco, N. Spagnolo, L. K.Oxenløwe, and F. Sciarrino, Air-core fiber distribution of hybrid vector vortex-polarization entangled states, *Advanced Photonics*, vol. 1, no. 4, p. 046005, (2019)
- **E. Polino**, M. Valeri, N. Spagnolo, and F. Sciarrino, *Photonic quantum metrology*, AVS Quantum Scienc no. 2, 02470 (2020)
- M. Valeri, **E. Polino**, D. Poderini, I. Gianani, G Corrielli, A Crespi, R Osellame, N. Spagnolo, and F. Sciarrino, *Experimental adaptive Bayesian estimation of multiple phases with limited data*, npj Quantum Information 6, no. 92 (2020)

Pre-prints

- V. Cimini, **E. Polino**, M. Valeri, I. Gianani, N. Spagnolo, G. Corrielli, A. Crespi, R. Osellame, M. Barbieri and F. Sciarrino, *Robust calibration of multiparameter sensors via machine learning at the single-photon level*, arXiv:2009.07122 (2020)
- Iris Agresti, Beatrice Polacchi, Davide Poderini, Emanuele Polino, Alessia Suprano, Ivan Šupić, Joseph Bowles, Gonzalo Carvacho, Daniel Cavalcanti, and F. Sciarrino, *Experimental robust self-testing of the state generated by a quantum network*, arXiv:2010.07737 (2020)
- Taira Giordani, Luca Innocenti, Alessia Suprano, Emanuele Polino, Mauro Paternostro, Nicolò Spagnolo, Fabio Sciarrino, and Alessandro Ferraro, *Entanglement transfer, accumulation and retrieval via quantum-walk-based qubit-qudit dynamics*, arXiv:2010.07127 (2020)
- Valeria Cimini, Emanuele Polino, Mauro Valeri, Ilaria Gianani, Nicolò Spagnolo, Giacomo Corrielli, Andrea Crespi, Roberto Osellame, Marco Barbieri, and Fabio Sciarrino, *Robust calibration of multiparameter sensors via machine learning at the single-photon level*, arXiv:2009.07122 (2020)

Proceedings Contributions

- **E. Polino**, G. Corrielli, A. Crespi, N. Spagnolo, R. Osellame and F. Sciarrino, *Platforms for telecom entangled photon sources*, "E. Fermi" International School of Physics "Nanoscale Quantum Optics", **204, 85** (2019)
- T. Giordani, **E. Polino**, S. Emiliani, A. Suprano, N. Spagnolo, F. Sciarrino, L. Innocenti, H. Majury, M. Paternostro, A. Ferraro, L. Marrucci, *Engineering of Quantum States through Quantum Walk in the Angular Momentum*, Quantum Information and Measurement, F5A. 48 (2019)
- A.S. Rab, **E. Polino**, M. Valeri, P. Mataloni, N. Spagnolo, F. Sciarrino, S. Atzeni, G. Corrielli, A. Crespi, and R. Osellame, *Integrated source of entangled photon pair at telecom wavelength*, Quantum Information and Measurement, T5A. 8 (2019)
- **E. Polino**, A. Lumino, A.S. Rab, G. Milani, N. Spagnolo, F. Sciarrino, and N. Wiebe, *Machine Learning For Experimental Single Shot Phase Estimation*, Quantum Information and Measurement, T5A. 41 (2019)
- D. Cozzolino, **E. Polino**, M. Valeri, G. Carvacho, D. Bacco, N. Spagnolo, L. K. Oxenlowe, and F. Sciarrino, *Towards hybrid entanglement distribution with an orbital angular momentum supporting fiber*, Quantum Information and Measurement, T5A. 56 (2019)
- S. Atzeni, A. Crespi, G. Corrielli, R. Osellame, A.S. Rab, **E. Polino**, M. Valeri, P. Mataloni, N. Spagnolo, F. Sciarrino, *Versatile integrated source of entangled photons at telecom wavelength in femtosecond-laser-written circuits*, Advances in Photonics of Quantum Computing, Memory, and Communication XI , 105470Y (2018)