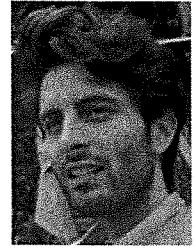


Curriculum vitae

Personal data:

Davide Bacco (male 27.12.1986), Italian.
DTU Fotonik, Department of Photonics Engineering, Building 340, Office 1.13 E
Technical University of Denmark, DK-2800, Kgs. Lyngby, Denmark,
E-mail: dabac@fotonik.dtu.dk; Mobile: +45 50 25 52 58
H-index: 17, i-10 index: 20, Total citations: 1214 ([Google Scholar](#))



Research and professional experience

2019- Assistant Professor at Technical University of Denmark (DTU) – Fotonik
May-Aug 2020: Guest researcher at INO, National Institute of Optics, Florence
2017-2018 MSCA H.C. Ørsted Postdoc, DTU - Fotonik
Sep.-Dec. 2018: Guest researcher at LENS, European Lab for Non-linear spectroscopy, Florence
Jan.-Feb. 2017: Guest researcher at University of Bristol, HH Wills Physics Laboratory, Bristol.
2015-2016: Postdoc in Center of Excellence SPOC, DTU Fotonik, DK.
2015-2015: Postdoc at CNR-IFN (Photonic and nanotechnology Institute), Padova, Italy.
2011-2014: PhD Student in Science, Technology and Space Measurements, CISAS, UniPD
Oct-2011: Junior Research Fellow at Department of Information Engineering, UniPD

Education

20.03.2015: PhD in Science Technology and Spatial Measures, University of Padova, -IT-
Supervisor: Prof. *Giampiero Naletto* Title: *Quantum communications between Earth and Space*
11.07.2011: M.Sc. in Telecommunication Engineering, University of Padova, -IT-
Supervisor: Prof. *Paolo Villorosi* and Giuseppe Vallone Title: *Free-space quantum communications for exchanging cryptographic keys*
25.11.2008: B.Sc. in Information Engineering, University of Padova, -IT-
Supervisor: Dr. *Tommaso Erseghe*, Title: *Analysis and elaboration of DVB streams*

Awards and Honors

2020: Score A: Final evaluation ERC-StG (not granted)
2020: Best Cover of Advanced Photonics 2019” ([link](#))
2019: DOPS (Danish Optical Society) Best Young Researcher price.
2017: H.C. Ørsted Postdoc Marie Curie Skłodowska-Curie Actions COFUND DTU
2011: PhD scholarship ASI (Italian Space Agency)

Grants

2020-2024: **Principal Investigator @ DTU** of IFD FIRE-Q Total grant 27 MDKK, DTU budget 3.5 MDKK
2021-2026: **Co-Investigator** of Danish National Research Foundation, Center of Excellence SPOC II (41,5MDKK),
2019-2022: **Co-Investigator** of OpenQKD-Quantum Key Distribution testbed H2020 (PI AIT Austria, 38 partners)
Total Budget: 15M€ (130K€ in DK)
2018-2021: **Co-Investigator** of SQUARE-European project H2020 (PI Prof. Karsten Rottwitt) Total Budget: 1.934.307 €;
2019: **Principal Investigator** of EUopSTART grant: Advanced light-matter interface for quantum information (10 000€);
2018-2019: **Co-Investigator** of SCQC- Silicon-based classical and quantum communications **International Network Programme** Total Budget: 40 000 €;
2018: **PI** of EUopSTART grant: Silicon photonics for quantum communications (10 000€);
2016: **PI** Marie Skłodowska-Curie Actions Cofund action (total~200 000€)

Supervision of students and teaching (S: supervisor, Co-S: Co-supervisor)

2020 and 2019: Master Course *Quantum Photonic Communication*, 5 ECTS, 13 weeks course
2016-2020: 8 Special courses; 2 PhD courses; 3 M.Sc. Thesis, 2 B.Sc. Thesis, Co-S 2 PhD students; S 4 visiting PhD

Administrative and collective duties

Journals Reviewer: Nature Physics, Physical Review X, Nature Communications, Science Advances, Quantum Science and Technology, Communication Physics, Physical Review Applied, Scientific Reports, Physical Review A., Journal of Lightwave Technology, Journal of Selected Topics in Quantum Electronics, Photonics.

Funding bodies expert: Fet-Open H2020, Research Foundation Flanders, OSA Travel grant

Guest Editor: Guest Editor Applied Sciences MDPI, Special Issue on Quantum Communication

Technical Program Committee Member: QCrypt 2020, SPW 2019

Conferences and school

1 PhD school 2013; 38 conferences from 2013 (18 Talks and 19 posters)

Invited talks and seminars

(2016) Asia Communications and Photonics Conference, Wuhan; (2017) Crossing Seminar- Technical University of Darmstadt; (2017) Politecnico di Milano; (2017) Center for quantum technology (CQT) Singapore; (2018) LENS- European Laboratory for Non-Linear Spectroscopy, Firenze; (2018) CNIT, Pisa; (2019) ICTON Conference; (2019) META Conference; (2019) IQC Waterloo Seminar; (2019) SPIE-COS Photonic Asia ;(2020) IEEE Photonic Society summer topical conference; (2020) Bristol quantum information science, workshop; (2021) CLEO USA, ECOC.

10-most important publications († equally contributed)

1. D. Bacco, et al., Experimental quantum key distribution with finite-key security analysis for noisy channels, Nat. Commun. 4:2363(2013)
2. D. Bacco, et al., Two-dimensional distributed-phase-reference protocol for quantum key distribution, Sci. Reports 6 :36756 (2016)
3. Y. Ding†, D. Bacco†, et al., High-Dimensional Quantum Key Distribution based on Multicore Fiber using Silicon Photonic Integrated Circuits, npj Quantum Information: 3:25 (2017)
4. D. Bacco†, et al., Scientific Reports 7, 12459 (2017)
5. J. Wang, et al., Multidimensional quantum entanglement with large-scale integrated optics, Science eaar7053 (2018)
6. D. Cozzolino†, D. Bacco†, et al., Orbital angular momentum states enabling fiber-based high-dimensional quantum communication, Phys. Rev. Applied 11, 064058 (2019)
7. D. Bacco†*, et al., Boosting the secret key rate in a shared quantum and classical fibre communication system, Communication Physics 2, 140 (2019)
8. D. Llewellyn, et al., Chip-to-chip quantum teleportation and multi-photon entanglement in silicon, Nature Physics, 16 148-153 (2019)
9. D. Bacco*, et al., Field trial of a finite-key quantum key distribution system in the Florence metropolitan area, EPJ Quantum Technology, EPJ Quantum Technology 6, Article number: 5 (2019)
10. I. Vagniluca, .. et al.,, D. Bacco*, Efficient time-bin encoding for practical high-dimensional quantum key distribution, Phys. Rev. Applied 14, 014051 (2020)