

**Contacts:**

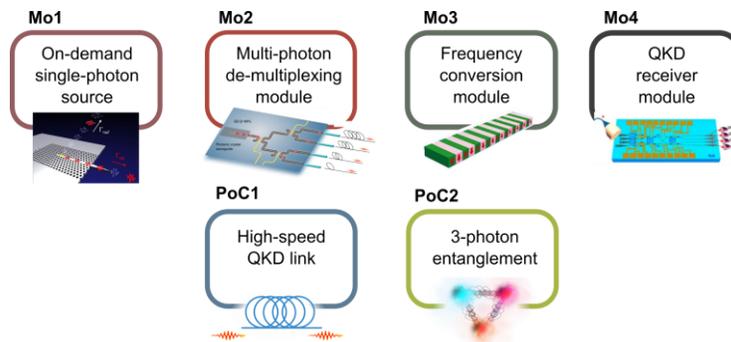
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Two postdoctoral positions within: Field-Ready Single-Photon Quantum Technologies

The Quantum Photonics Group (www.quantum-photonics.dk) at the Niels Bohr Institute (NBI), University of Copenhagen will open two postdoc vacancies on next-generation single-photon quantum devices within the newly established project "FIRE-Q: Field-Ready Single-Photon Quantum Technologies".

Mission:

FIRE-Q's vision is to bring single-photon quantum technology to the market, enabling unbreakable secure communication and ultimately parallel quantum computing. The key building block is a source of single photons¹ that can be transmitted over long distances in existing optical fiber networks. Following a modular approach, we will deliver the hardware required for photonic quantum computing in a scalable photonic platform. At NBI, we will build the first field-ready single-photon source together with industrial and academic partners and perform real-world field tests of quantum-secure communication protocols between two Danish universities.



The quantum hardware modules which will be developed and commercialized within FIRE-Q

Consortium:

FIRE-Q is an international project between industry and academia involving three major Danish universities (University of Copenhagen, Technical University of Denmark, and Aarhus University) and four companies in photonic technology ([Sparrow Quantum A/S \[DK\]](#), [SiPhotonIC ApS \[DK\]](#), [NanoPHAB B.V. \[NL\]](#), and [Swabian Instruments GmbH \[GE\]](#)).

Vacancies:

We seek two post-doctoral candidates (for a period of 4 years) with background in optical engineering and physics, to develop plug-and-play (single-/multi-) photon sources based on quantum dots² and frequency conversion modules for telecom-wavelength quantum cryptography. The postdocs will be actively involved with the industrial and academic partners and will engage in the quantum photonics group research, towards multi-photon entanglement and scalable quantum computing.

Interested candidates should contact Prof. Peter Lodahl (lodahl@nbi.ku.dk) or Dr. Leonardo Midolo (midolo@nbi.ku.dk).

¹ R. Uppu et al., <https://arxiv.org/abs/2003.08919> (2020).

² R. Uppu et al., <https://arxiv.org/abs/2001.10716> (2020).