

QuiX: the fastest way to a quantum future

A group of outstanding Dutch scientists Profs. Ad Lagendijk, Willem Vos, Klaus Boller, Pepijn Pinkse, and Dr. Jelmer Renema have teamed up to create the first quantum photonic processor based on silicon nitride waveguides. Supported by pre-seed investor RAPH2INVEST, they have launched QuiX with the aim to create the fastest way to a quantum future that builds on their fundamental research.

QuiX B.V. aims to introduce the first single-purpose photonic quantum computer on the market for use in machine learning and quantum simulation applications.

In two years, QuiX will make the first components of this computer available, in the form of a photonic processor with specifications far beyond the current state-of-the-art. Such a device will be of strong interest to the academic and commercial quantum computing communities.

Quantum computers will outperform the world's best super computers in terms of computing power. The main advantage of photonics over other quantum computing technologies is that our processor operates at room temperature whereas most other quantum computing platforms function just above 0 Kelvin (-273 Centigrade) thereby being thirsty for costly refrigerants.

CEO Hans van den Vlekkert states: "QuiX will enable the implementation of photonic integrated circuit (PIC) technology in the upcoming market of quantum computing enabling reliable, cost effective, easy to operate computers at room temperature."

CTO Jelmer Renema emphasizes: "Our PIC technology is based on the proprietary TripleX technology of LioniX International. Their ultra-low loss waveguide technology enables us to produce sufficiently large matrices to facilitate complex calculations and thereby outperform classical computers."

A photonic quantum computer is a special type of a quantum computer that uses photons as its information carrying medium. Such a computer consists of single photon sources, photon detectors and a photonic integrated circuit (PIC). This PIC is the key component of the quantum computer and consist of a network of coupled interferometers which can be programmed such that they can carry out complex computations (see artist impression).

About QuiX BV:

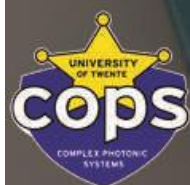
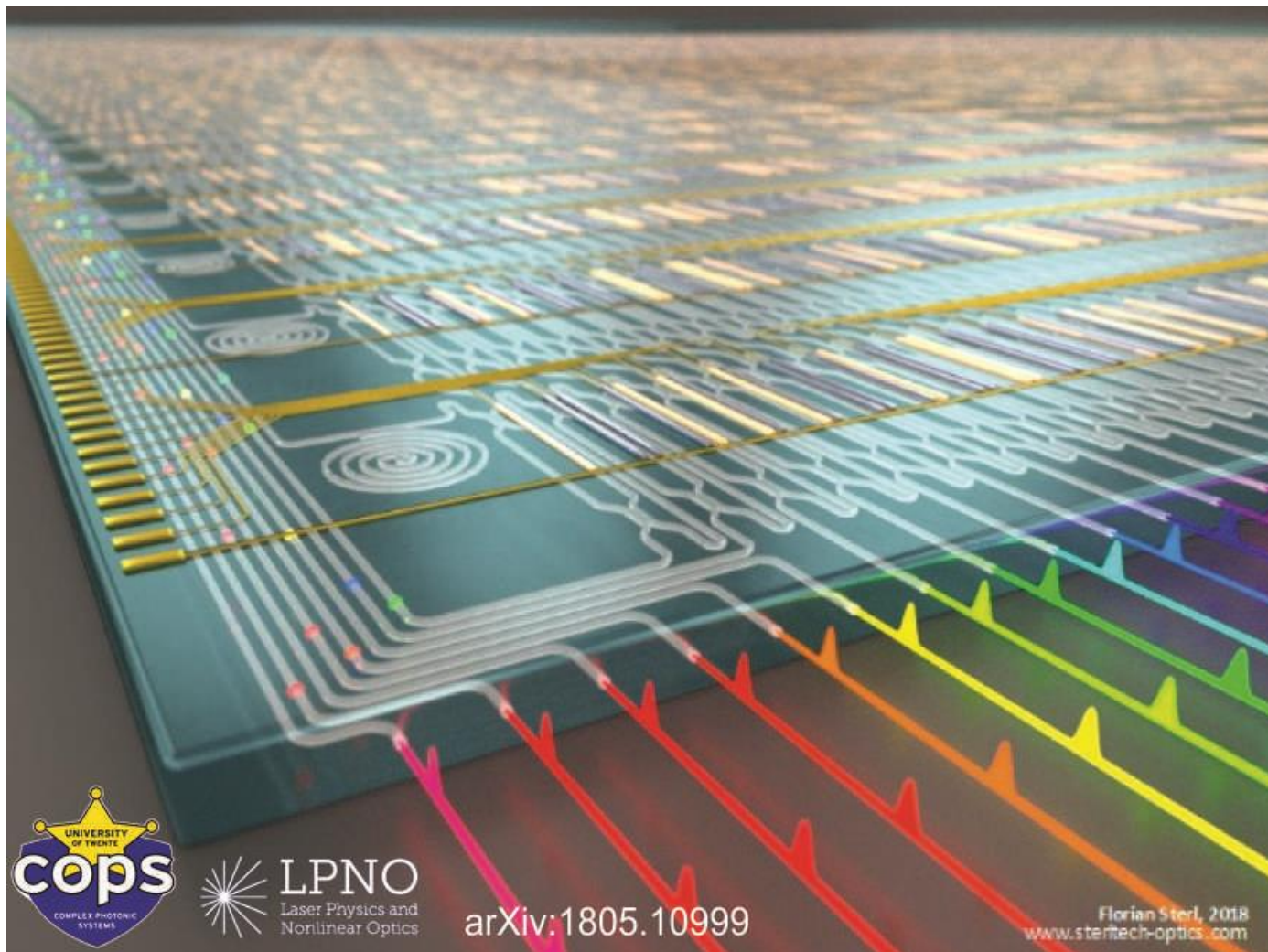
QuiX B.V. aims to introduce the first single-purpose photonic quantum computer on the market, particularly for machine learning and quantum simulation applications. It will also supply the core processor of such a computer to external parties (universities, research institutes and businesses) to enable them to develop their own quantum computers. The core processors can be made to operate over a range of wavelengths to allow interfacing with a range of single photon sources and detector systems. QuiX is located in the Gallery, Hengelosestraat 500, Enschede, The Netherlands.

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About RAPH2Invest

RAPH2INVEST is a pre-seed investment company that invests in high tech start-up's and helps them through the first stage of product development and to close the first seed investment round.

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LPNO
Laser Physics and
Nonlinear Optics

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Florian Sterl, 2018
www.sterltech-optics.com