



## WEBINARS

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# Ultrafast and Photon-Number-Resolving Superconducting Nanowire Detectors

Thursday, October 6, 2022 10:00 AM - 11:00 AM EDT

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Presented by



## .: About This Webinar

Quantum technologies represent an increasing range of novel and useful applications, from advancing nanoscale manufacturing and compact devices for noninvasive medical imaging to provably unhackable data encryption and a new paradigm of computational architectures. High-quality single-photon detectors are a driving force behind innovations in photonic quantum applications. The highest development of such photonic quantum instrumentation lies in the technology of superconducting nanowire single-photon detectors (SNSPDs).

Félix Bussi eres, Ph.D., of ID Quantique explores recent advancements in the technology of SNSPDs and the quantum applications they empower. Standard SNSPD designs can only detect the presence or absence of photons, and their speed is limited by their intrinsic recovery times. With innovations found in ID Quantique's commercially available ID281 Superconducting Nanowire Series, SNSPD users can count single photons more precisely and efficiently with precise photon number resolution and with detection rates exceeding a billion counts per second. Bussi eres presents exciting developments on how technology is progressing closer to scalable quantum computing and simulation and a realizable quantum internet.

### Who should attend:

This webinar is for anyone with an interest in quantum optics or quantum information theory, as well as research scientists and engineers engaged in high-sensitivity photonic technologies, both in industry and academia. Those who work with detectors, imaging, laser systems, and optical components in industries such as aerospace, automotive, communications, defense energy, and medicine.

### About the presenter:

F elix Bussi eres, Ph.D., is vice president of research and technology at ID Quantique. He and his team are responsible for the development of ID Quantique's core technologies and for key innovative projects. Bussi eres obtained his doctorate in physics from the Universit e de Montr eal. He then worked as a senior researcher at the University of Geneva, where he conducted research in quantum technologies. In particular, he played a key role in developing high-performance superconducting detectors. After joining ID Quantique in 2016, he took the superconducting detector technology from a prototype to a successful product line for research laboratories and created a partnership with ArianeGroup to develop cutting-edge equipment dedicated to the upcoming Ariane 6 commercial space launcher. He now leads several innovation activities related to the development of single-photon detectors, quantum random number generators, and quantum key distribution.

### About ID Quantique:

ID Quantique provides photon counting solutions for visible and near-infrared wavelengths, pulsed laser sources, counting and timing electronics, and photonic sensing solutions for both industrial and research applications. These solutions are used in various domains such as quantum physics, communications, bio- and material sciences, defense and security, and oil and gas. ID Quantique's products help customers solve complex scientific and industrial problems with state-of-the-art tools and instrumentation combined with real-world experience.



## .: Mark Your Calendar

**Date: Thursday, October 6, 2022**

**Time: 10:00 AM - 11:00 AM EDT**

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