

DTU



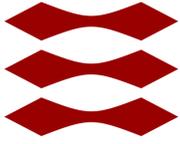
Inaugural lecture
Niels Gregersen

“Quantum Light Sources for
Quantum Information Technology”

Friday 9 December 2022 from 15:00 to 16:00



DTU



“Quantum Light Sources for Quantum Information Technology”

DTU Electro is pleased to invite all interested parties to welcome our new Professor Niels Gregersen.

In his inaugural lecture Niels will outline the trends and challenges in the area of semiconductor quantum light sources and show specific highlights from the work done at DTU.

His inaugural lecture will take place on:

Friday 9 December 2022 from 15:00 to 16:00

Building 101, Room M1
Anker Engelundsvej
2800 Kgs. Lyngby

The lecture is followed by a reception from 16:00 to 17:00.

We look forward to celebrating Niels and seeing all of you.

Best regards, DTU Electro

Lars-Ulrik Aaen Andersen
Head of Department

DTU Electro
Ørstedes Plads
2800 Kgs. Lyngby

Summary

Addressing global challenges within the health and the energy sectors requires solving computational problems intractable on existing classical computers. Here, the quantum computer offers unprecedented computational power, as required for drug design in the pharmaceutical industry and for reducing energy consumption in the synthesis of ammonia. The engine of the optical quantum computer is quantum light source, which produces the photons used to encode the quantum bits of the quantum computer. I will discuss how we can produce high quality single indistinguishable photons using semiconductor quantum dots placed in carefully engineered micro and nano structures, and I will discuss the further progress needed to build a fully functional optical quantum computer.

Niels Gregersen

Professor Niels Gregersen received his MSc from the University of Copenhagen in 2002 and subsequently worked for 1½ years in the startup Alight Technologies. In 2007, he received his PhD from DTU Electro within the field of near field microscopy. Since then he has worked at DTU Electro specializing in optical simulations of nanophotonic components, as postdoc (2006-2010), assistant professor (2010-2011), associate professor (2011-2022) and now as full professor. His scientific achievements include producing designs leading to world records (2010, 2016, 2019) in single-photon source performance demonstrated with international collaborators. He has been awarded the Sapere Aude Starting Grant in 2014, the ERC Consolidator Grant in 2019 and is presently coordinating a H2020 Marie Curie Innovative Training Network.