

DTU



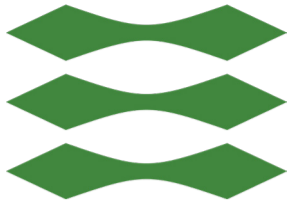
Inaugural lecture
Christian Pedersen

“Optical sensor technology for
advanced applications”

Friday 31 January 2020 from 15:00 to 16:00



DTU



“Optical sensor technology for advanced applications”

DTU Fotonik is pleased to invite all interested parties to welcome our new Professor Christian Pedersen.

In his inaugural lecture, he will outline the trends and challenges in the area of photonic sensor devices and show specific highlights from the work done at DTU.

His inaugural lecture will take place on:

Friday 31 January 2020 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 Christian and seeing all of you.

Best regards,
DTU Fotonik

Lars-Ulrik Aaen Andersen
Head of Department

Summary

In recent years, the rapid progress of optoelectronics has resulted in cheap, reliable and sensitive optical sensors used in a vast number of applications, affecting almost all scientific disciplines. At the heart of these sensor applications, lies the extremely well defined properties of light anchored in stable atomic transitions provided by matter itself. Light sensors facilitate sensing of faint emission from ancient stars, sterile “hands off” interaction with tissue for smart diagnostics, wind or environmental gas sensing in the atmosphere or on-line monitoring of industrial processes such as large-scale plastic sorting, supporting a greener environment.

Combining novel light sources such as solid lasers, Light Emitting Diodes and Quantum Cascade lasers with nonlinear optics has open up for additional spectral bands such as the mid-infrared wavelength section, where characteristic vibration of large molecules can be probed providing unique chemical fingerprints of complex molecules such as tissue, food or anesthetic gasses.

Optical sensors will definitively play an ever more important role for solving today’s climate challenges, contributing to a sustainable society for coming generations. This will happen through development of new advanced optical innovations as well as through new scientific achievements.

Christian Pedersen

Professor Christian Pedersen received his MSc from Technical University of Denmark (DTU) in 1991. In 1995, he received his Industrial PhD from the Department of Physics within the field of nonlinear optics and solid state lasers.

From 1996 to 2004, he worked in two start-up laser companies. From 2005 to 2008, he headed the Optical Sensor Technology Programme at Risø National Laboratory. In 2008, Risø National Laboratory became a part of DTU. Since then, he has been employed at DTU Fotonik, Department of Photonics Engineering, appointed professor in 2019 within the field of photonics sensors.