

Postdoctoral positions and PhD scholarships at DTU

Nanophotonics for Terabit Communications (NATEC)

A new research centre focusing on nanophotonics for terabit communications is being established at the Technical University of Denmark (DTU). The centre is based on donations from a private foundation, VILLUM KANN RASNUSSEN FONDEN. The NATEC centre will, in particular, perform research on light-matter interaction in semiconductor quantum dots and photonic crystal structures and explore the use of such nanostructured materials for realizing photonic chips operating in the terabit regime. The centre is a strongly focused effort involving nanofabrication, experimental characterisation based on nanoscopy and ultrafast lasers, fundamental theory including topology optimization, and systems experiments and will provide ample opportunities for cross-fertilization between these areas.

The [NATEC Centre](#) is headed by Professor Jesper Mørk (jm@com.dtu.dk) from [Department of Photonics Engineering](#), DTU, and involves the collaboration with 4 other institutes at DTU: [Department of Micro- and Nanotechnology](#), [Department of Mechanical Engineering](#), [Center for Electron Nanoscopy](#) and [Danchip](#).

At the moment we have openings within the following areas of research:

- Growth and characterisation of semiconductor quantum dots and fabrication of photonic crystal based devices (Kresten Yvind; ky@com.dtu.dk).
- Characterisation of pulse propagation in photonic crystal structures and ultrafast dynamics in quantum dots (Mike van der Poel; mvp@com.dtu.dk).
- Theory and modelling of light-matter interaction in photonic crystal structures with quantum dots (Niels Asger Mortensen; nam@mic.dtu.dk).
- Topology optimization of nanophotonic structures incorporating effects of nonlinearities and fabrication uncertainties (Ole Sigmund; sigmund@mek.dtu.dk).
- Experimental and theoretical investigations of terabit systems emphasizing noise limitations and information capacity (Palle Jeppesen; pj@com.dtu.dk).

Depending on the background of the candidates, these areas may be filled by either 3-year PhD scholarships or 2-year postdoctoral positions. We are looking for candidates with a strong track record and with a good experimental, theoretical and/or computational background in photonics, electromagnetics or materials engineering and physics. The annual salary of a postdoctoral candidate starts at approximately 360,000 DKK (48,000 EUR) + pension, while PhD students get a salary that starts at approximately 277,000 DKK (36,900 EUR) + pension.

For further information please contact Jesper Mørk or the persons mentioned above, or see the full [job announcement](#) at the homepage of [DTU](#). Please send your application as **a single pdf file**, including CV, list of publications, certificates of exams and grades, as well as a list of references to:

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Deadline for application:
July 14, 2008 at 12.00 noon.

