Jesper Mørk - DTU Orbit (07/09/2017)

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Department of Photonics Engineering - Professor, Group Leader
Nanophotonics Theory and Signal Processing

Publications:

Benchmarking five computational methods for analyzing large photonic crystal membrane cavities
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Comparison of Five Computational Methods for Computing Q Factors in Photonic Crystal Membrane Cavities
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Comparison of Five Numerical Methods for Computing Quality Factors and Resonance Wavelengths in Photonic Crystal Membrane Cavities
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Control of exceptional points in photonic crystal slabs
Publication: Research - peer-review › Journal article – Annual report year: 2017

Demonstration of a self-pulsing photonic crystal Fano laser
Publication: Research - peer-review › Journal article – Annual report year: 2017

Efficient Modeling of Excitons in Type-II Nanowire Quantum Dots
Taherkhani, M., Gregersen, N., Mørk, J. & Willatzen, M. 2017
Publication: Research - peer-review › Paper – Annual report year: 2017

Limitations of two-level emitters as nonlinearities in two-photon controlled-PHASE gates
Publication: Research - peer-review › Journal article – Annual report year: 2017

Optical Time Domain Demultiplexing using Fano Resonance in InP Photonic Crystals
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2017

Phonon scattering inhibits simultaneous near-unity efficiency and indistinguishability in semiconductor single-photon sources
Iles-Smith, J., McCutcheon, D. P. S., Nazir, A. & Mørk, J. 2017 In *Nature Photonics*. 11, 8, p. 521-+
Publication: Research - peer-review › Journal article – Annual report year: 2017

Photonic crystal Fano resonances for realizing optical switches, lasers and non-reciprocal elements
Probing Electron-Phonon Interaction through Two-Photon Interference in Resonantly Driven Semiconductor Quantum Dots

Single-photon sources for quantum technologies - Results of the joint research project SIQUTE

Theory and simulations of self-pulsing in photonic crystal Fano lasers

Theory of Self-pulsing in Photonic Crystal Fano Lasers

Type-II Quantum Dot Nanowire Structures with Large Oscillator Strengths for Optical Quantum Gating Applications

A broadband tapered nanocavity for efficient nonclassical light emission

All-Optical Switching Improvement Using Photonic-Crystal Fano Structures

A modal approach to light emission and propagation in coupled cavity waveguide systems

Broadband Purcell enhancement in highly efficient photonic nanowire-based single-photon sources

Comparison of four computational methods for computing Q factors and resonance wavelengths in photonic crystal membrane cavities

Efficient Modeling of Coulomb Interaction Effect on Exciton in Crystal-Phase Nanowire Quantum Dot
Fundamental Limits to Coherent Scattering and Photon Coalescence from Solid-State Quantum Emitters [arXiv]
Publication: Research - peer-review › Journal article – Annual report year: 2016

Numerical Investigation of Vertical Cavity Lasers With High-Contrast Gratings Using the Fourier Modal Method
Taghizadeh, A., Mark, J. & Chung, I-S. 2016 In : Journal of Lightwave Technology. 34, 18, p. 4240-4251
Publication: Research - peer-review › Journal article – Annual report year: 2016

Phonon limit to simultaneous near-unity efficiency and indistinguishability in semiconductor single photon sources
Publication: Research - peer-review › Journal article – Annual report year: 2017

Site-controlled quantum dots coupled to photonic crystal waveguides
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Spectrally and temporally resolved resonance shifts of a photonic crystal cavity switch
(2016 Conference on Lasers and Electro-optics (cleo)).
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Spectral symmetry of Fano resonances in a waveguide coupled to a microcavity
Publication: Research - peer-review › Journal article – Annual report year: 2016

Switching dynamics in InP photonic-crystal nanocavity
Publication: Research - peer-review › Journal article – Annual report year: 2016

Theoretical Investigation of Subwavelength Gratings and Vertical Cavity Lasers Employing Grating Structures
Publication: Research › Ph.D. thesis – Annual report year: 2016

Threshold Characteristics of Slow-Light Photonic Crystal Lasers
Publication: Research - peer-review › Journal article – Annual report year: 2016

Ultrafast coherent dynamics of a photonic crystal all-optical switch
Publication: Research - peer-review › Journal article – Annual report year: 2016

Ultrafast coherent dynamics of a photonic crystal all-optical switch
Publication: Research - peer-review › Journal article – Annual report year: 2016

Ultrahigh-speed Si-integrated on-chip laser with tailored dynamic characteristics
Park, G. C., Xue, W., Piels, M., Zibar, D., Mørk, J., Semenova, E. & Chung, I-S. 2016 In : Scientific Reports. 6, 38801
Publication: Research - peer-review › Journal article – Annual report year: 2016

A Hybrid Photonic Nanowire-Cavity Design for a Single-Indistinguishable-Photon Source
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2015
III-V/SOI vertical cavity laser structure for 120 Gbit/s speed

III-V/SOI vertical cavity laser with in-plane output into a Si waveguide

Impact of slow-light enhancement on optical propagation in active semiconductor photonic crystal waveguides

Investigations on the parity of Fano resonances in photonic crystals
Østergryger, A. D., de Lasson, J. R., Yu, Y., Mørk, J. & Gregersen, N. 2015

Laser Rate Equation Based Filtering for Carrier Recovery in Characterization and Communication

Modeling and simulations of light emission and propagation in open nanophotonic systems

Nonreciprocal transmission in a nonlinear photonic-crystal Fano structure with broken symmetry

Observation of resonance fluorescence and the Mollow triplet from a coherently driven site-controlled quantum dot

Scattering of two photons on a quantum emitter in a one-dimensional waveguide: exact dynamics and induced correlations

Semi-analytical quasi-normal mode theory for the local density of states in coupled photonic crystal cavity-waveguide structures

Slow-light effects in photonic crystal membrane lasers
Strong nonlinearity-induced correlations for counterpropagating photons scattering on a two-level emitter
Publication: Research - peer-review › Journal article – Annual report year: 2015

Thermal analysis of line-defect photonic crystal lasers
Publication: Research - peer-review › Journal article – Annual report year: 2015

Two-photon interference from a quantum dot-microcavity: Persistent pure-dephasing and suppression of time-jitter
Publication: Research - peer-review › Journal article – Annual report year: 2015

Ultracompact resonator with high quality-factor based on a hybrid grating structure
Publication: Research - peer-review › Journal article – Annual report year: 2015

Ultrafast all-optical modulation using a photonic-crystal Fano structure with broken symmetry
Publication: Research - peer-review › Journal article – Annual report year: 2015

Ultrafast low-energy all-optical switching using a photonic-crystal asymmetric Fano structure
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Vertical-Cavity In-plane Heterostructures: Physics and Applications
Publication: Research - peer-review › Journal article – Annual report year: 2015

130-nm tunable grating-mirror VCSEL
Publication: Research - peer-review › Conference article – Annual report year: 2014

A Bloch modal approach for engineering waveguide and cavity modes in two-dimensional photonic crystals
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

A Bloch mode expansion approach for analyzing quasi-normal modes in open nanophotonic structures
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

All-optical signal processing using InP photonic-crystal nanocavity switches
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Application of Nanophotonic Devices in High Speed Optical Communications
Publication: Research › Ph.D. thesis – Annual report year: 2015
Bright single photon source based on self-aligned quantum dot–cavity systems
Publication: Research - peer-review › Journal article – Annual report year: 2014

Comparison of Different Numerical Methods for Quality Factor Calculation of Nano and Micro Photonic Cavities
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Decoherence in semiconductor cavity QED systems due to phonon couplings
Publication: Research - peer-review › Journal article – Annual report year: 2014

Dual resonance approach to optical signal processing beyond the carrier relaxation rate
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Dual-resonances approach to broadband cavity-assisted optical signal processing beyond the carrier relaxation rate
Publication: Research - peer-review › Journal article – Annual report year: 2014

Fano resonance control in a photonic crystal structure and its application to ultrafast switching
Publication: Research - peer-review › Journal article – Annual report year: 2014

Far-off-resonant coupling between a semiconductor quantum dot and an optical cavity
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Hybrid grating reflector with high reflectivity and broad bandwidth
Publication: Research - peer-review › Journal article – Annual report year: 2014

Indistinguishable photons from a quantum dot–cavity system: competing roles of timing-jitter and pure-dephasing
Publication: Research - peer-review › Poster – Annual report year: 2014

Indistinguishable single photons generated by quantum dots in adiabatic micropillar cavities
Publication: Research - peer-review › Poster – Annual report year: 2014

Low-power 10 Gbit/s RZ-OOK all-optical modulation using a novel photonic-crystal Fano switch
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Noise Spectrum of a Semiconductor Optical Amplifier Excited by a Modulated Signal
Publication: Research - peer-review › Journal article – Annual report year: 2014
Nonlinear switching dynamics in a photonic-crystal nanocavity
Publication: Research - peer-review › Journal article – Annual report year: 2014

Photonic Crystal Fano Laser: Terahertz Modulation and Ultrashort Pulse Generation
Publication: Research - peer-review › Journal article – Annual report year: 2014

Photonic Crystal Nanocavity Devices for Nonlinear Signal Processing
Publication: Research › Ph.D. thesis – Annual report year: 2015

Random nanolasing in the Anderson localized regime
Publication: Research - peer-review › Journal article – Annual report year: 2014

Roundtrip matrix method for calculating the leaky resonant modes of open nanophotonic structures
Publication: Research - peer-review › Journal article – Annual report year: 2014

Saturation broadening effect in an InP photonic-crystal nanocavity switch
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Slow-light-enhanced gain in active photonic crystal waveguides
Publication: Research - peer-review › Journal article – Annual report year: 2014

Temporal dynamics of all-optical switching in Photonic Crystal Cavity
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

The photonic nanowire: An emerging platform for a highly efficient quantum light source
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2014

Two-photon interference from a quantum dot-microcavity: Persistent pure-dephasing and suppression of time-jitter
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2014

Wavelength Conversion of a 9.35-Gb/s RZ OOK Signal in an InP Photonic Crystal Nanocavity
Publication: Research - peer-review › Journal article – Annual report year: 2014

All-Optical Switching in Photonic Crystal Cavities
Publication: Research › Ph.D. thesis – Annual report year: 2013
A comparison between experiment and theory on few-quantum-dot nanolasing in a photonic-crystal cavity
Liu, J., Ates, S., Lorke, M., Mørk, J., Lodahl, P. & Stobbe, S. 2013 In : Optics Express. 21, 23, p. 28507-28512
Publication: Research - peer-review › Journal article – Annual report year: 2013

Active Photonic Crystal Switches: Modeling, Design and Experimental Characterization
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

All-Optical 9.35 Gb/s Wavelength Conversion in an InP Photonic Crystal Nanocavity
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

A photonic nanowire trumpet for interfacing a quantum dot and a Gaussian free-space mode
Publication: Research - peer-review › Conference article – Annual report year: 2013

Auger Processes Mediating the Nonresonant Optical Emission from a Semiconductor Quantum Dot Embedded Inside an Optical Cavity
Publication: Research - peer-review › Journal article – Annual report year: 2013

Auger Processes Mediating the Nonresonant Optical Emission from a Semiconductor Quantum Dot Embedded Inside an Optical Cavity
Publication: Research - peer-review › Journal article – Annual report year: 2013

Dynamical Properties of Nanolasers Based on Few Discrete Emitters
Publication: Research - peer-review › Journal article – Annual report year: 2013

Effect of External Optical Feedback for Nano-laser Structures
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Erratum: Dielectric GaAs Antenna Ensuring an Efficient Broadband Coupling between an InAs Quantum Dot and a Gaussian Optical Beam [Phys. Rev. Lett. 110, 177402 (2013)]
Publication: Research › Comment/debate – Annual report year: 2013
Global optimization of silicon nanowires for efficient parametric processes
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Heterodyne pump probe measurements of nonlinear dynamics in an indium phosphide photonic crystal cavity
Publication: Research - peer-review › Journal article – Annual report year: 2013

High beta lasing in micropillar cavities with adiabatic layer design
Publication: Research - peer-review › Journal article – Annual report year: 2013

Highly efficient photonic nanowire single-photon sources for quantum information applications
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2013

Improved switching using Fano resonances in photonic crystal structures
Publication: Research - peer-review › Journal article – Annual report year: 2013

Modeling and Design of High-Efficiency Single-Photon Sources
Publication: Research - peer-review › Journal article – Annual report year: 2013

Nonlinear Gain Saturation in Active Slow Light Photonic Crystal Waveguides
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2013

Optimal switching using coherent control
Publication: Research - peer-review › Journal article – Annual report year: 2013
Photonic wires and trumpets for ultrabright single photon sources
Publication: Research - peer-review » Conference article – Annual report year: 2013

Polarization-independent high-index contrast grating and its fabrication tolerances
Publication: Research - peer-review » Journal article – Annual report year: 2013

Probing plasmon resonance's dependence on gap size in silver dimers by EELS
Publication: Research - peer-review » Poster – Annual report year: 2013

Proposed Quenching of Phonon-Induced Processes in Photoexcited Quantum Dots due to Electron-Hole Asymmetries
Publication: Research - peer-review » Journal article – Annual report year: 2013

Quantum Optics with Photonic Nanowires and Photonic Trumpets: Basics and Applications
Publication: Research - peer-review » Conference abstract for conference – Annual report year: 2013

Speed enhancement in VCSELs employing grating mirrors
Publication: Research - peer-review » Conference article – Annual report year: 2013

Switching characteristics of an InP photonic crystal nanocavity: Experiment and theory
Publication: Research - peer-review » Journal article – Annual report year: 2013

Theory of carrier depletion and light amplification in active slow light photonic crystal waveguides
Chen, Y. & Mørk, J. 2013 In : Optics Express. 21, 24, p. 29392-29400
Publication: Research - peer-review » Journal article – Annual report year: 2013

Theory of nanolaser devices: Rate equation analysis versus microscopic theory
Publication: Research - peer-review » Journal article – Annual report year: 2013

The photonic nanowire: an emerging platform for highly efficient single-photon sources for quantum information applications
Publication: Research - peer-review » Conference article – Annual report year: 2013

The role of phonon scattering in the indistinguishability of photons emitted from semiconductor cavity QED systems
Publication: Research - peer-review » Journal article – Annual report year: 2013
Three-dimensional integral equation approach to light scattering, extinction cross sections, local density of states, and quasi-normal modes
Publication: Research - peer-review › Journal article – Annual report year: 2013

Ultra-Fast Low Energy Switching Using an InP Photonic Crystal H0 Nanocavity
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Ultrahigh-speed hybrid laser for silicon photonic integrated chips
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2014

VCSELs with a high-index-contrast grating for mode-division multiplexing
Publication: Research - peer-review › Conference article – Annual report year: 2013

Semiconductor Nanomembranes for Quantum Photonics: Quantum Light Sources and Optomechanics
Publication: Research › Ph.D. thesis – Annual report year: 2012

Fundamental properties of devices for quantum information technology
Publication: Research › Ph.D. thesis – Annual report year: 2012

Active Photonic Crystal Waveguides
Publication: Research › Ph.D. thesis – Annual report year: 2012

A bright single-photon source based on a photonic trumpet
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2012

A Non-Hermitian Approach to Non-Linear Switching Dynamics in Coupled Cavity-Waveguide Systems
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2012

Bloch-wave engineering of quantum dot-micropillars for cavity quantum electrodynamics experiments
Publication: Research - peer-review › Journal article – Annual report year: 2012

Coherent single-photon absorption by single emitters coupled to 1D nanophotonic waveguides
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Controlling light emission from single-photon sources using photonic nanowires
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012
Integrated Photonics Enabled by Slow Light
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Linearly Polarized, Single-Mode Spontaneous Emission in a Photonic Nanowire
Publication: Research - peer-review › Journal article – Annual report year: 2012

Low-energy-consumption hybrid lasers for silicon photonics
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Microscopic theory of phonon-induced effects on semiconductor quantum dot decay dynamics in cavity QED
Publication: Research - peer-review › Journal article – Annual report year: 2012

Modeling of cavities using the analytic modal method and an open geometry formalism
Publication: Research - peer-review › Journal article – Annual report year: 2012

Modeling of Coupled Nano-Cavity Lasers
Publication: Research › Ph.D. thesis – Annual report year: 2012

Modeling of gain saturation effects in active semiconductor photonic crystal waveguides
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Multiple-scattering formalism beyond the quasistatic approximation: Analyzing resonances in plasmonic chains
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Near-unity efficiency, single-photon sources based on tapered photonic nanowires
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2012

Nonlinear carrier dynamics in a quantum dash optical amplifier
Publication: Research - peer-review › Journal article – Annual report year: 2012

Non-Markovian phonon dephasing of a quantum dot in a photonic-crystal nanocavity
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2012

Optimal on/off scheme for all-optical switching
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012
Suppressing electron-phonon interactions in semiconductor quantum dot systems by engineering the electronic wavefunctions
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2012

Systematic design of loss-engineered slow-light waveguides
Publication: Research - peer-review › Journal article – Annual report year: 2012

Systematic Design of Slow Light Waveguides
Publication: Research › Ph.D. thesis – Annual report year: 2012

VCSELs and silicon light sources exploiting SOI grating mirrors
Publication: Research - peer-review › Conference article – Annual report year: 2012

Wave-front-engineered grating mirrors for VCSELs
Publication: Research - peer-review › Conference article – Annual report year: 2012

Active III-V Semiconductor Photonic Crystal Waveguides
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

A High-Efficiency Photonic Nanowire Single-Photon Source Featuring An Inverted Conical Taper
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Bloch-Wave Engineered Submicron Diameter Micropillars with Quality Factors Exceeding 10,000
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Coherent all-optical switching in a bistable waveguide-cavity-waveguide system
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Coherent single-photon absorption by single emitters coupled to one-dimensional nanophotonic waveguides
Publication: Research - peer-review › Journal article – Annual report year: 2011

Decay dynamics of radiatively coupled quantum dots in photonic crystal slabs
Publication: Research - peer-review › Journal article – Annual report year: 2011
Decay dynamics of radiatively coupled quantum dots in photonic crystal slabs
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Demultiplexing of OTDM-DPSK signals based on a single semiconductor optical amplifier and optical filtering
Publication: Research - peer-review › Journal article – Annual report year: 2011

Dependence of the modulation response of quantum dot based nanocavity devices on the number of emitters
Publication: Research - peer-review › Journal article – Annual report year: 2011

Design for an Electrically-Pumped Photonic Nanowire Single-Photon Source with an Efficiency of 89%
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Dynamical Properties of QD-based Nanolaser Devices
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Efficient and broadband control of the spontaneous emission in photonic nanowires
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2011

Electrically pumped photonic nanowire single-photon source with an efficiency of 89%
Publication: Research - peer-review › Conference article – Annual report year: 2011

Energy-bandwidth trade-off in all-optical photonic crystal microcavity switches
Heuck, M., Kristensen, P. T. & Mark, J. 2011 In : Optics Express. 19, 19, p. 18410-18422
Publication: Research - peer-review › Journal article – Annual report year: 2011

Enhanced Gain in Slow-Light Photonic Crystal Waveguides with Embedded Quantum Dots
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Enhancement of light-matter interactions in photonic crystal structures with quantum dots
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Enhancing light-matter interactions by slow light
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Enhancing slow- and fast-light effects in quantum dot semiconductor waveguides through ultrafast dynamics
Publication: Research - peer-review › Conference article – Annual report year: 2011
Finite element modeling of plasmon based single-photon sources
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

High-index-contrast grating reflector with beam steering ability for the transmitted beam
Carletti, L., Malureanu, R., Mark, J. & Chung, I-S. 2011 In : Optics Express. 19, 23, p. 23567-23572
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Hybrid Si/III-V vertical-cavity laser for silicon photonics
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Modelling of Active Semiconductor Photonic Crystal Waveguides and Robust Designs based on Topology Optimization
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Modulation response of quantum dot nano-LEDs and nano-lasers
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Modulation response of quantum dot nanolight-emitting-diodes exploiting purcell-enhanced spontaneous emission
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Modulation Response of Semiconductor Quantum Dot Nanocavity Lasers
Publication: Research - peer-review › Conference article – Annual report year: 2012

Numerical modeling in photonic crystals integrated technology: the COPERNICUS Project
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Patterning Effects in Ultrafast All-Optical Photonic Crystal Nanocavity Switches
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2011

Phase-locking regimes of photonic crystal nanocavity laser arrays
Publication: Research - peer-review › Journal article – Annual report year: 2011

Resonance fluorescence from quantum dots: beyond the Mollow triplet
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Role of the lightmatter coupling strength on nonMarkovian phonon effects in semiconductor cavity QED
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011
Simple and efficient methods for the accurate evaluation of patterning effects in ultrafast photonic switches
Xu, J., Ding, Y., Peucheret, C., Xue, W., Seoane, J., Zsigri, B., Jeppesen, P. & Mørk, J. 2011 In : Optics Express. 19, 1, p. 155-161
Publication: Research - peer-review › Journal article – Annual report year: 2011

Slow-light enhancement of integrated photonics
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

SOA-based OTDM-DPSK Demultiplexing Assisted by Offset-Filtering
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

SOA-based OTDM-DPSK Demultiplexing Assisted by Offset-Filtering
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Switch-on dynamics of nanocavity laser devices
Publication: Research - peer-review › Journal article – Annual report year: 2011

The influence of optical filtering on the noise performance of microwave photonic phase shifters based on SOAs
Lloret, J., Ramos, F., Xue, W., Sancho, J., Gasulla, I., Sales, S., Mørk, J. & Capmany, J. 2011 In : Journal of Lightwave Technology. 29, 12, p. 1746-1752
Publication: Research - peer-review › Journal article – Annual report year: 2011

Quantum Dot Devices for Optical Signal Processing
Publication: Research › Ph.D. thesis – Annual report year: 2010

Quantum Dot Devices for Optical Signal Processing
Publication: Research › Ph.D. thesis – Annual report year: 2010

Slow and fast light effects in semiconductor optical amplifiers for applications in microwave photonics
Publication: Research › Ph.D. thesis – Annual report year: 2010

Slow and fast light effects in semiconductor optical amplifiers for applications in microwave photonics
Publication: Research › Ph.D. thesis – Annual report year: 2010

Slow light and pulse propagation in semiconductor waveguides
Publication: Research › Ph.D. thesis – Annual report year: 2010

Light-matter interaction in nanostructured materials
Publication: Research › Ph.D. thesis – Annual report year: 2010

Quantum Kinetics of charge carriers in quantum dots: applications to slow light and light amplification
Experimental validation of efficient methods for the prediction of patterning effects in SOA-based optical switches
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Finite-element modeling of spontaneous emission of a quantum emitter at nanoscale proximity to plasmonic waveguides
Publication: Research - peer-review › Journal article – Annual report year: 2010

High-index-contrast subwavelength grating VCSEL
Publication: Research - peer-review › Conference article – Annual report year: 2010

Hybrid vertical cavity laser
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Influence of carrier dynamics on the modulation bandwidth of quantum-dot based nanocavity devices
Publication: Research - peer-review › Journal article – Annual report year: 2010

Investigation of patterning effects in ultrafast SOA-based optical switches
Publication: Research - peer-review › Journal article – Annual report year: 2010

Light propagation in finite-sized photonic crystals: multiple scattering using an electric field integral equation
Publication: Research - peer-review › Journal article – Annual report year: 2010

Microwave photonic true time delay based on cross gain modulation in semiconductor optical amplifiers
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Microwave signal processing based on ultrafast dynamics in quantum dot waveguides
Chen, Y. & Mørk, J. 2010 International Conference on Transparent Optical Networks. IEEE, p. 1-4
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Modeling of mode-locked coupled-resonator optical waveguide lasers
Publication: Research - peer-review › Journal article – Annual report year: 2010

Modulation response of nanoLEDs and nanolasers exploiting Purcell enhanced spontaneous emission
Publication: Research - peer-review › Journal article – Annual report year: 2010

Monomode surface emitting laser: (Third year activity report)
Chung, I-S. & Mørk, J. 2010
Publication: Research - peer-review › Report – Annual report year: 2010

Non-markovian effects in semiconductor cavity QED: Role of phonon-mediated processes
Transverse-mode-selectable microlens vertical-cavity surface-emitting laser
Publication: Research - peer-review › Journal article – Annual report year: 2010

Ultrahigh-frequency microwave phase shifts mediated by ultrafast dynamics in quantum-dot semiconductor optical amplifiers
Publication: Research - peer-review › Journal article – Annual report year: 2010

Une source de photons uniques efficace basée sur une boîte quantique intégrée dans un fil photonique
Publication: Research › Sound/Visual production (digital) – Annual report year: 2010

Wideband 360 degrees microwave photonic phase shifter based on slow light in semiconductor optical amplifiers
Xue, W., Sales, S., Capmany, J. & Mørk, J. 2010 In : Optics Express. 18, 6, p. 6156-6163
Publication: Research - peer-review › Journal article – Annual report year: 2010

2R-regeneration in a monolithically integrated four-section SOA-EA chip
Publication: Research - peer-review › Journal article – Annual report year: 2009

Advanced vectorial simulation of VCSELs with nano structures invited paper
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

A highly efficient monomode single photon source in the photonic wire geometry
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

A method to achieve large tunable delays based on EIT in an inhomogeneously broadened quantum dot medium
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Broadband microwave phase shifter based on high speed cross gain modulation in quantum dot semiconductor optical amplifiers
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Comparison of electromagnetically induced transparency schemes in semiconductor quantum dot structures: Impact of many-body interactions
Publication: Research - peer-review › Journal article – Annual report year: 2009

Controlling the speed of light in semiconductor waveguides: Physics and applications: [invited]
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009
Control of ultrafast pulse propagation in semiconductor components: [invited]
Publication: Research - peer-review › Conference article – Annual report year: 2009

Conversion of phase-modulated signals to amplitude-modulated signals in SOAs due to mirror reflections
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Demonstration of tunable microwave photonic notch filters using slow and fast light effects in semiconductor optical amplifiers
Xue, W., Sales, S., Mørk, J. & Capmany, J. 2009 Conference proceedings, OFC. IEEE
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Effect of temperature and phonons on the spectral properties of a multi-level semiconductor quantum dot single-photon source
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Enhancing slow and fast light effects in quantum dot optical amplifiers through ultrafast dynamics
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Experimental demonstration of 360 tunable RF phase shift using slow and fast light effects
Xue, W., Sales, S., Capmany, J. & Mørk, J. 2009 Proceedings of Slow and Fast Light, Topical meeting and Tabletop Exhibit. Optical Society of America, p. SMB6
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Exploring carrier dynamics in semiconductors for slow light: [invited]
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Fast, accurate and stable scattering calculation method with application to finite sized photonic crystal waveguides
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

General Method for Calculating the Response and Noise Spectra of Active Fabry-Perot Semiconductor Waveguides With External Optical Injection
Publication: Research - peer-review › Journal article – Annual report year: 2009

High-efficiency single-photon source: The photonic wire geometry
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Investigation of patterning effect in ultrafast SOA-based optical switches
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Microwave phase shifter with controllable power response based on slow-and fast-light effects in semiconductor optical amplifiers
Xue, W., Sales, S., Capmany, J. & Mørk, J. 2009 In : Optics Letters. 34, 7, p. 929-931
Microwave photonics processing controlling the speed of light in semiconductor waveguides: [invited]

Nonlinear dynamics in photonic crystal nanocavity lasers

Optical properties and optimization of electromagnetically induced transparency in strained InAs/GaAs quantum dot structures

Optical signal processing using slow and fast light technologies: [invited]

Optimizing the spontaneous-emission ß factor for single optical plasmon generation

Oscillatory variations in the Q factors of high quality micropillar cavities

Photonic generation of ultrawideband monocycle and doublet pulses by using a semiconductor-optical-amplifier-based wavelength converter

Quantitative analysis of oscillatory variations in the quality factor of micropillar cavities

Quantum dot waveguides: ultrafast dynamics and applications: [invited]

Reducing the impact of inhomogeneous broadening on quantum dot based electromagnetically induced transparency

Selectively-pumped grating-mirror long-wavelength VCSEL
Slow and fast light: Controlling the speed of light using semiconductor waveguides
Publication: Research - peer-review › Journal article – Annual report year: 2009

Slow and fast light effects in semiconductor waveguides for applications in microwave photonics
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Slow and fast light in semiconductor structures: physics and applications: [invited]
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2009

Slow light based on material and waveguide dispersion
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Slow light in quantum dot photonic crystal waveguides
Publication: Research - peer-review › Journal article – Annual report year: 2009

Slow light pulse propagation in dispersive media
Publication: Research - peer-review › Journal article – Annual report year: 2009

The optical chip: high speed and diminutive size
Publication: Communication › Book chapter – Annual report year: 2009

The role of input chirp on phase shifters based on slow and fast light effects in semiconductor optical amplifiers
Xue, W., Chen, Y., Öhman, F. & Mørk, J. 2009 In : Optics Express. 17, 3, p. 1404-1413
Publication: Research - peer-review › Journal article – Annual report year: 2009

Vectorial analysis of dielectric photonic crystal VCSEL
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Widely tunable microwave photonic notch filter based on slow and fast light effects
Xue, W., Sales, S., Mark, J. & Capmany, J. 2009 In : IEEE Photonics Technology Letters. 21, 3, p. 167-169
Publication: Research - peer-review › Journal article – Annual report year: 2009

Controlling the emission profile of a nanowire with a conical taper
Publication: Research - peer-review › Journal article – Annual report year: 2008

A many-body model of semiconductor single-photon sources
Publication: Research - peer-review › Poster – Annual report year: 2008
Analysis of an effective optical filtering technique to enhance microwave phase shifts based on slow and fast light effects
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

Analysis of quantum dot EIT based on 8-band k*p theory
Publication: Research - peer-review › Poster – Annual report year: 2008

An improved perfectly matched layer for the eigenmode expansion technique
Gregersen, N. & Mørk, J. 2008 In : Optical and Quantum Electronics. 40, 11-12, p. 957-966
Publication: Research - peer-review › Journal article – Annual report year: 2008

An improved perfectly matched layer in the eigenmode expansion technique
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

A novel high-efficiency single-mode quantum dot single photon source
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

Broadband microwave photonic phase shifter based on polarisation rotation
Publication: Research - peer-review › Journal article – Annual report year: 2008

Broadband subwavelength grating mirror and its application to vertical-cavity surface-emitting laser
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

Carrier dynamics and slow light in semiconductor nanostructures
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

Chirp Dependence of Filter Assisted Slow and Fast Light Effects in Semiconductor Optical Amplifiers
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

Comparison of EIT schemes in semiconductor quantum dots
Publication: Research - peer-review › Poster – Annual report year: 2008

Controlling nanowire emission profile using conical taper
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

Controlling the emission profile of a nanowire with a conical taper
Publication: Research - peer-review › Poster – Annual report year: 2008
Enhanced slow light in quantum dot photonic crystal waveguides
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

Enhancing light slow-down in semiconductor optical amplifiers by optical filtering
Publication: Research - peer-review › Journal article – Annual report year: 2008

Experimental demonstration of strongly enhanced light slow-down in semiconductor optical amplifiers by optical filtering
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

Fractional decay of quantum dots in photonic crystals
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

Fractional decay of quantum dots in photonic crystals
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

Fractional decay of quantum dots in real photonic crystals
Publication: Research - peer-review › Journal article – Annual report year: 2008

General and efficient method for calculating modulation responses and noise spectra of active semiconductor waveguides
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

Influence of many-particle interactions on slow light phenomena in quantum dots
Publication: Research - peer-review › Journal article – Annual report year: 2008

Influence of pure dephasing on emission spectra from quantum dot-cavity systems
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

Influence of pure dephasing on emission spectra from single photon sources
Publication: Research - peer-review › Journal article – Annual report year: 2008

Influence of pure dephasing on emission spectra from single photon sources
Publication: Research - peer-review › Poster – Annual report year: 2008
Pulse train amplification and regeneration based on semiconductor quantum dots waveguide
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

Reduction of patterning effects in SOA-based wavelength converters by combining cross-gain and cross-absorption modulation
Zhou, E., Öhman, F., Cheng, C., Zhang, X., Hong, W., Mørk, J. & Huang, D. 2008 In : Optics Express. 16, 26, p. 21522-21528
Publication: Research - peer-review › Journal article – Annual report year: 2008

Semi-analytical model of filtering effects in microwave phase shifters based on semiconductor optical amplifiers
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

Slow and fast light effects in semiconductor waveguides for applications in microwave photonics
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

Slow and fast light in semiconductor waveguides for applications in microwave photonics
Mørk, J., Öhman, F., Chen, Y., Poel, M. V. D. & Yvind, K. 2008 Photonics West. San Jose, USA: SPIE - International Society for Optical Engineering
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

Strong coupling of a quantum emitter to surface plasmon polaritons
Publication: Research - peer-review › Journal article – Annual report year: 2008

Subwavelength grating-mirror VCSEL with a thin oxide gap
Publication: Research - peer-review › Journal article – Annual report year: 2008

Theory of Optical-Filtering Enhanced Slow and Fast Light Effects in Semiconductor Optical Waveguides
Publication: Research - peer-review › Journal article – Annual report year: 2008

To decay or not to decay - or both! quantum mechanics of spontaneous emission
Kristensen, P. T., Lodahl, P. & Mørk, J. 2008 In : DOPS - Nyt. 23, 1
Publication: Research - peer-review › Journal article – Annual report year: 2008

High-speed clock recovery and demodulation using short pulse sources and phase-locked loop techniques
Publication: Research › Ph.D. thesis – Annual report year: 2007

Optical methods for characterization of surface structures on a nanometer scale
Gregersen, N., Hanson, S. G., Mørk, J. & Tromborg, B. Mar 2007
Publication: Research › Ph.D. thesis – Annual report year: 2007

10 Gb/s-NRZ Optical 2R-regeneration in two-section SOA-EA chip
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007
Analysis of the effects of pulse shape and width on the retiming properties of a 3R regenerator
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

Applications for the slow and fast light effects in SOA-EA structures in the radio over fiber links
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

Breakdown of Wigner-Weisskopf theory for spontaneous emission: a quantitative analysis
Kristensen, P. T., Tromborg, B., Lodahl, P. & Mørk, J. 2007
Publication: Research - peer-review › Poster – Annual report year: 2007

Controlling microwave signals by means of slow and fast light effects in SOA-EA structures
Publication: Research › Journal article – Annual report year: 2007

Frequency response of slow and fast light in integrated semiconductor waveguide amplifiers and absorbers
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

Influence of Coulomb interactions on quantum coherence in quantum dots
Publication: Research - peer-review › Poster – Annual report year: 2007

Influence of geometry on the quality factor of a micro pillar
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

Influence of geometry on the quality factor of a micro-pillar
Publication: Research - peer-review › Poster – Annual report year: 2007

Large microwave phase shift and small distortion in an integrated waveguide device
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2007

Modelling Q-factors of micro pillars
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

Nanomaterials - quantum dots for optoelectronics
Mørk, J. 2007 European Conference on Integrated Optics (ECIO). Lyngby, Denmark
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

Numerical investigation of electromagnetically induced transparency in a quantum dot structure
Nielsen, P. K., Nielsen, H. T., Mørk, J. & Tromborg, B. 2007 In : Optics Express. 15, 10, p. 6396-6408
Publication: Research - peer-review › Journal article – Annual report year: 2007

Output power PDF of a saturated semiconductor optical amplifier: Second-order noise contributions by path integral method
Publication: Research - peer-review › Journal article – Annual report year: 2007
Phase noise analysis of clock recovery based on an optoelectronic phase-locked loop
Publication: Research - peer-review › Journal article – Annual report year: 2007

Quality factors of nonideal micro pillars
Publication: Research - peer-review › Journal article – Annual report year: 2007

Quality factors of nonideal micro pillars
Nielsen, T. R., Gregersen, N., Tromborg, B. & Mørk, J. 2007 Integrated photonics and nanophotonics research and applications. Salt Lake City, USA
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

Self-consistent FDTD Maxwell-Bloch solver
Publication: Research - peer-review › Poster – Annual report year: 2007

Slow light in a semiconductor waveguide for true-time delay applications in microwave photonics
Publication: Research - peer-review › Journal article – Annual report year: 2007

Slow light in semiconductor quantum dots
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2007

Slow light in semiconductor quantum dots
Publication: Research - peer-review › Poster – Annual report year: 2007

Slow light in semiconductor waveguides: theory and experiment
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2007

Slow light in semiconductor waveguides: Theory and experiment
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

The effect of timing jitter on a 160-Gb/s demultiplexer
Publication: Research - peer-review › Journal article – Annual report year: 2007

Analysis of timing jitter in external-cavity mode-locked semiconductor lasers
Publication: Research - peer-review › Journal article – Annual report year: 2006

Bandwidth enhancement of SOA-based switches using optical filtering: theory and experimental verification
Publication: Research - peer-review › Journal article – Annual report year: 2006

Comment on "Dephasing times in quantum dots due to elastic LO phonon-carrier collisions" - Uskov et al. reply
Dynamic Spatio-temporal Speed Control of Ultrashort Pulses in Quantum-Dot SOAs
Publication: Research - peer-review › Journal article – Annual report year: 2006

Experimental and theoretical investigation of the impact of ultra-fast carrier dynamics on high-speed SOA-based all-optical switches
Publication: Research - peer-review › Journal article – Annual report year: 2006

Influence of wetting-layer wave functions on phonon-mediated carrier capture into self-assembled quantum dots
Publication: Research - peer-review › Journal article – Annual report year: 2006

Large Signal Modulation and Distortion in a Microwave Phase Shifter Based on Slow Light in a Semiconductor Waveguide
Publication: Research - peer-review › Article in proceedings – Annual report year: 2006

Modeling of Bit Error Rate in Cascaded 2R Regenerators
Publication: Research - peer-review › Journal article – Annual report year: 2006

Monolithically integrated reflective SOA-EA carrier re-modulator for broadband access nodes
Publication: Research - peer-review › Journal article – Annual report year: 2006

Publication: Research - peer-review › Article in proceedings – Annual report year: 2006

Patterning effects in multi-purpose amplification by a quantum dot amplifier
Publication: Research - peer-review › Article in proceedings – Annual report year: 2006

Phased-array antennas employing slow and fast light in alternating amplifying and absorbing sections
Sales, S., Öhman, F., Bernejo, A., Mørk, J. & Capmany, J. 2006
Publication: Research - peer-review › Poster – Annual report year: 2006

Pulse interactions in a quantum dot waveguide in the regime of electromagnetically Induced transparency
Nielsen, P., Nielsen, H., Mørk, J. & Tromborg, B. 2006 CLEO/QELS Technical Digest CD-Rom. p. CThW6
Publication: Research - peer-review › Article in proceedings – Annual report year: 2006

Pulse properties of external cavity mode locked semiconductor lasers
Publication: Research - peer-review › Journal article – Annual report year: 2006

Recent Advancements in Semiconductor-based Optical Signal Processing
Publication: Research - peer-review › Article in proceedings – Annual report year: 2006
Reduction of Timing Jitter by Clock Recovery based on an Optical Phase-Locked Loop
Publication: Research - peer-review › Article in proceedings – Annual report year: 2006

Semiconductor Quantum Dots Devices: Recent Advances and Application Prospects
Publication: Research - peer-review › Journal article – Annual report year: 2006

Slow and Fast Light in an Electro-Absorber
Publication: Research - peer-review › Article in proceedings – Annual report year: 2006

Slow and fast light in SOA-EA structures for phased-array antennas
Sales, S., Öhman, F., Bermejo, A., Mørk, J. & Capmany, J. 2006
Publication: Research - peer-review › Poster – Annual report year: 2006

Slow Light at High Frequencies in an Amplifying Semiconductor Waveguide
Publication: Research - peer-review › Article in proceedings – Annual report year: 2006

Steep and Adjustable Transfer Functions of Monolithic SOA-EA 2R-Regenerators
Publication: Research - peer-review › Journal article – Annual report year: 2006

The impact of gating timing jitter on a 160 Gb/s demultiplexer
Publication: Research - peer-review › Conference article – Annual report year: 2006

True-time delay by slow light in a semiconductor waveguide with alternating amplifying and absorbing sections
Publication: Research - peer-review › Article in proceedings – Annual report year: 2006

Ultrafast gain and index dynamics of quantum dash structures emitting at 1.55 μm
Publication: Research - peer-review › Journal article – Annual report year: 2006

Voltage-controlled slow light in an integrated semiconductor structure with net gain
Öhman, F., Yvind, K. & Mørk, J. 2006 In : Optics Express. 14, 21, p. 9955-9962
Publication: Research - peer-review › Journal article – Annual report year: 2006

A new orthogonal labeling scheme based on a 40-Gb/s DPSK payload and a 2.5-Gb/s PolSK label
Publication: Research - peer-review › Journal article – Annual report year: 2005
A second order model of noise in saturated semiconductor optical amplifiers
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2005

Bandwidth Enhancement of SOA-based Switches Using Optical Filtering: Theory and Experiment
Publication: Research - peer-review › Article in proceedings – Annual report year: 2005

Carrier dynamics in quantum well and quantum dot lasers and optical amplifiers
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2005

Controllable delay of ultrashort pulses in a quantum dot optical amplifier
Poel, M. V. D., Mørk, J. & Hvam, J. M. 2005 In : Optics Express. 13, 20, p. 8032-8037
Publication: Research - peer-review › Journal article – Annual report year: 2005

Design and evaluation of modelocked semiconductor lasers for low noise and high stability
Publication: Research - peer-review › Article in proceedings – Annual report year: 2005

Detailed modelling and experimental characterisation of an ultra-fast optoelectronic clock recovery circuit
Publication: Research - peer-review › Article in proceedings – Annual report year: 2005

Experimental Demonstration and Theoretical Analysis of Slow Light in a Semiconductor Waveguide at GHz Frequencies
Publication: Research - peer-review › Article in proceedings – Annual report year: 2005

Impact of Optical Filtering on Linear and Nonlinear Patterning Effects in SOA-based All-optical Switches
Publication: Research - peer-review › Article in proceedings – Annual report year: 2005

Influence of wetting layer wave functions on carrier capture in quantum dots
Publication: Research - peer-review › Article in proceedings – Annual report year: 2005

Influence of wetting layer wave functions on carrier capture in quantum dots
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2005

InP based lasers and optical amplifiers with wire-/dot-like active regions
Publication: Research - peer-review › Journal article – Annual report year: 2005

Integrated Pattern Effect Compensator based on Self-Switching
Integrated SO-MZI for pattern effect free amplification

Light slow-down in semiconductor waveguides due to population pulsations

Measurement and Modeling of the Transfer Function of a Monolithic SOA-EA 2R-Regenerator

Measurements and simulations of non-linear noise re-distribution in an SOA

Mode-locked semiconductor lasers with low noise and high stability

Nonlinear saturation dynamics and its application to all-optical regeneration and light slow-down
Mørk, J., Öhman, F., Kjær, R. & Yvind, K. 2005

Optical Regeneration and Noise in Semiconductor Devices

Propagation delay of femtosecond pulses in an optical amplifier
Poel, M. V. D., Mørk, J. & Hvam, J. M. 2005

Pulsewidth and stability properties of external-cavity mode-locked semiconductor lasers: Simulations and experiments

Quantum dot devices for optical communications

Reduction of nonlinear patterning effects in SOA-based All-optical Switches using Optical filtering
Self-slowdown and advancement of fs pulses in a quantum-dot semiconductor optical amplifier
Publication: Research - peer-review • Article in proceedings – Annual report year: 2005

Semiconductor laser
Publication: Research - peer-review • Book chapter – Annual report year: 2005

Slow light in a semiconductor waveguide at gigahertz frequencies
Mørk, J., Kjærgaard, R., Poel, M. V. D. & Yvind, K. 2005 In : Optics Express. 13, 20, p. 8136
Publication: Research - peer-review • Journal article – Annual report year: 2005

The Influence of Nonlinearity, Noise and Extinction Ratio on the Cascading Properties of 2R-Regenerators
Publication: Research - peer-review • Article in proceedings – Annual report year: 2005

Theoretical and experimental study of fundamental differences in the noise suppression of high-speed SOA-based all-optical switches
Publication: Research - peer-review • Journal article – Annual report year: 2005

Timing Jitter Analysis for Clock recovery Circuits Based on an Optoelectronic Phase-Locked Loop (OPLL)
Publication: Research - peer-review • Article in proceedings – Annual report year: 2005

Tunable propagation delay of femtosecond pulse in quantum-dot optical amplifier at room temperature
Publication: Research - peer-review • Article in proceedings – Annual report year: 2005

Tunable propagation delay of femtosecond pulses in a quantum-dot optical amplifier at room temperature
Publication: Research - peer-review • Article in proceedings – Annual report year: 2005

Electroabsorption modulators used for all-optical signal processing and labelling
Publication: Research • Ph.D. thesis – Annual report year: 2004

Experimental and theoretical investigation of semiconductor optical amplifier (SOA) based all-optical switches
Publication: Research • Ph.D. thesis – Annual report year: 2004

106 to 10 Gb/s all-optical demultiplexing using a single electroabsorption modulator
Publication: Research - peer-review • Article in proceedings – Annual report year: 2004

2R Regeneration in Concatenated Semiconductor Optical Amplifiers and Electroabsorbers
Publication: Research - peer-review • Article in proceedings – Annual report year: 2004
Measurements of gain and index dynamics in quantum dash semiconductor optical amplifiers
Publication: Research - peer-review › Article in proceedings – Annual report year: 2004

Measurements of non-linear noise re-distribution in an SOA
Publication: Research - peer-review › Article in proceedings – Annual report year: 2004

Noise and regeneration in semiconductor waveguides with saturable gain and absorption
Publication: Research - peer-review › Journal article – Annual report year: 2004

Novel design of low-jitter 10 GHz all-active monolithic mode-locked lasers
Publication: Research - peer-review › Article in proceedings – Annual report year: 2004

Numerical investigations on the performance of external-cavity mode-locked semiconductor lasers
Publication: Research - peer-review › Journal article – Annual report year: 2004

On the mechanisms governing the repetition rate of mode-locked semiconductor lasers
Publication: Research - peer-review › Article in proceedings – Annual report year: 2004

Quantum Dot Semiconductor Optical Amplifiers - Physics and Applications
Publication: Research › Ph.D. thesis – Annual report year: 2005

Saturation and noise properties of quantum-dot optical amplifiers
Publication: Research - peer-review › Journal article – Annual report year: 2004

Theory of Pulse Train Amplification Without Patterning Effects in Quantum Dot Semiconductor Optical Amplifiers
Publication: Research - peer-review › Journal article – Annual report year: 2004

The Role of Fast Carrier Dynamics in SOA Based Devices: (invited paper)
Publication: Research - peer-review › Journal article – Annual report year: 2004

Ultrafast optical properties of quantum dot devices
Poel, M. V. D., Berg, T. W., Birkedal, D., Mark, J. & Hvam, J. M. 2004
Publication: Research › Poster – Annual report year: 2004

Ultralow noise monolithic mode-locked semiconductor lasers
Publication: Research › Poster – Annual report year: 2004

Modeling of phonon- and Coulomb-mediated capture processes in quantum dots
10 GHz All-Active Monolithic Mode-Locked Lasers

Absorption recovery in strongly saturated quantum-well electroabsorption modulators

All optical regeneration using semiconductor devices
Mørk, J., Öhman, F. & Tromborg, B. 2003

Analytical expression for the bit error rate of cascaded all-optical regenerators

Geometry dependence of Auger carrier capture rates into cone-shaped self-assembled quantum dots

Geometry dependence of Auger carrier capture rates into self-assembled quantum dots
Magnúsdóttir, I., Bischoff, S., Uskov, A. V. & Mørk, J. 2003

Low jitter and high power all-active mode-locked lasers

Low jitter and high power all-active mode-locked lasers

Noise properties of semiconductor waveguides with alternating sections of saturable gain and absorption
Öhman, F., Bischoff, S., Tromborg, B. & Mørk, J. 2003

Nonlinear and ultrafast dynamics in semiconductor lasers and optical amplifiers
Mørk, J. 2003

On high-speed cross-gain modulation without pattern effects in quantum dot semiconductor optical amplifiers
Uskov, A. V., Mørk, J., Tromborg, B., Berg, T. W., Magnúsdóttir, I. & O'Reilly, E. P. 2003 In : Optics communications. 227, 4-6, p. 363-369

Optical label encoding using electroabsorption modulators and investigation of chirp properties
Optical signal processing using electro-absorption modulators: (invited)
Publication: Research - peer-review › Article in proceedings – Annual report year: 2003

Polarisation independent optical sampling using four-wave mixing: SCOOP
Publication: Research - peer-review › Article in proceedings – Annual report year: 2003

Quantum dot amplifiers with high output power and low noise
Publication: Research - peer-review › Journal article – Annual report year: 2003

Semiconductor devices for all-optical regeneration: (invited)
Publication: Research - peer-review › Article in proceedings – Annual report year: 2003

The Dynamics of Semiconductor Optical Amplifiers – Modelling and Applications
Publication: Research - peer-review › Journal article – Annual report year: 2003

Theoretical analysis of four wave mixing in quantum dot optical amplifiers
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2003

Theoretical and experimental investigation of a balanced phase-locked loop based clock recovery at a bit rate of 160 Gb/s
Publication: Research - peer-review › Article in proceedings – Annual report year: 2003

Two-phonon capture processes into quantum dots: The role of intermediate states
Magnúsdóttir, I., Uskov, A. V., Bischoff, S., Tromborg, B. & Mørk, J. 2003 In : Physica E: Low-Dimensional Systems and Nanostructures. 17, 1-4, p. 111-113
Publication: Research - peer-review › Conference article – Annual report year: 2003

Ultrafast dynamics in semiconductor optical amplifiers and all-optical processing: Bulk versus quantum dot devices: (invited)
Publication: Research - peer-review › Article in proceedings – Annual report year: 2003

Absorption and refractive index dynamics in waveguide semiconductor electroabsorbers
Publication: Research › Ph.D. thesis – Annual report year: 2003

Analysis of noise suppression in cascaded all-optical regenerators
Publication: Research - peer-review › Article in proceedings – Annual report year: 2002

Bandwidth and chirp characterisation of wavelength conversion based on electroabsorption modulators
Publication: Research - peer-review › Article in proceedings – Annual report year: 2002
BER estimation for all-optical regenerators influenced by pattern effects
Publication: Research - peer-review › Journal article – Annual report year: 2002

Dispersion-induced nonlinearities in semiconductors
Mark, J. & Mecozzi, A. 2002 In : Optics Communications. 210, 3-6, p. 173-177
Publication: Research - peer-review › Journal article – Annual report year: 2002

Experimental characterisation of wavelength conversion at 40 Gb/s based on electroabsorption modulators
Publication: Research - peer-review › Journal article – Annual report year: 2002

Fast processes in semiconductor optical amplifiers: theory and experiment
Publication: Research - peer-review › Article in proceedings – Annual report year: 2002

Heterodyne technique for measuring the amplitude and phase transfer functions of an optical modulator
Publication: Research - peer-review › Journal article – Annual report year: 2002

Influence of quasibound states on the carrier capture in quantum dots
Publication: Research - peer-review › Journal article – Annual report year: 2002

Influence of quasi-bound states on the carrier capture into quantum dots
Publication: Research - peer-review › Article in proceedings – Annual report year: 2002

Modeling of Carrier Dynamics in Electroabsorption Modulators
Publication: Research › Ph.D. thesis – Annual report year: 2002

Modeling of carrier dynamics in quantum-well electroabsorption modulators
Højfeldt, S. & Mørk, J. 2002 In : I E E E Journal on Selected Topics in Quantum Electronics. 8, 6, p. 1265-1276
Publication: Research - peer-review › Journal article – Annual report year: 2002

Modeling of carrier transport in multi-quantum-well p-i-n modulators
Publication: Research - peer-review › Conference article – Annual report year: 2002

Modeling of semiconductor optical amplifiers
Mark, J., Bischoff, S., Berg, T. W., Nielsen, M. L. & Öhman, F. 2002
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2002

Noise and saturation properties of semiconductor quantum dot optical amplifiers
Publication: Research - peer-review › Article in proceedings – Annual report year: 2002

Noise properties and cascaddability of SOA-EA regenerators
Numerical Analysis of an All-optical Logic XOR gate based on an active MZ interferometer

One- and two-phonon capture processes in quantum dots

Performance of external cavity mode-locked semiconductor lasers employing reverse biased saturable absorbers

Precise measurement of EAM chirp alpha-parameter and theoretical analysis of effective chirp under large signal moduling

Reduction of pattern effects in SOA-based all-optical switches by using cross-gain modulated holding signal

Short pulse absorption dynamics in a p-i-n InGaAsP MQW waveguide saturable absorber

Theoretical analysis of quantum dot amplifiers with high saturation power and low noise figure

Two-phonon capture processes into quantum dots: The role of intermediate states
Magnúsdóttir, I., Uskov, A., Bischoff, S., Tromborg, B. & Mørk, J. 2002

Ultrafast optical signal processing using semiconductor optical devices

Ultrafast optical signal processing using semiconductor quantum dot amplifiers

Ultrafast signal processing in quantum dot amplifiers through effective spectral holeburning

Absorption and refractive index recovery in an InGaAsP MQW electro-absorption modulator
Comparison of all-optical co- and counter-propagating high-speed signal processing in SOA-based Mach-Zehnder interferometers
Bischoff, S., Buxens, A., Fischer, S., Dülk, M., Clausen, A., Poulsen, H. N. & Mørk, J. 2001 In : Optical and Quantum Electronics. 33, 7-10, p. 907-926
Publication: Research - peer-review › Journal article – Annual report year: 2001

Efficient phonon-assisted capture into quantum dots
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2001

Electrical versus optical pumping of quantum dot amplifiers
Publication: Research - peer-review › Article in proceedings – Annual report year: 2001

Gain recovery dynamics and limitations in quantum dot amplifiers
Publication: Research - peer-review › Article in proceedings – Annual report year: 2001

Improvement of noise redistribution by employing an SOA-EA cascade
Publication: Research › Article in proceedings – Annual report year: 2001

Limits to speed of semiconductor devices for all-optical processing
Publication: Research - peer-review › Article in proceedings – Annual report year: 2001

Line broadening caused by Coulomb carrier-carrier correlations and dynamics of carrier capture and emission in quantum dots
Publication: Research - peer-review › Journal article – Annual report year: 2001

Measurement of the amplitude and phase transfer functions of an optical modulator using a heterodyne technique
Publication: Research - peer-review › Article in proceedings – Annual report year: 2001

Modeling of carrier transport in multi-quantum-well p-i-n modulators
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2001

Modeling of semiconductor devices for high-speed all-optical signal processing
Publication: Research - peer-review › Journal article – Annual report year: 2001

Modeling of temperature characteristics of quantum dot amplifiers: rate vs. master equation models
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2001

Multiphonon capture processes in self-assembled quantum dots
Publication: Research - peer-review › Article in proceedings – Annual report year: 2001
Elastic LO-phonon scattering as an efficient mechanism of dephasing and homogeneous broadening in quantum dots
Publication: Research - peer-review › Article in proceedings – Annual report year: 2000

Elastic LO-phonon scattering as an efficient mechanism of dephasing and homogeneous broadening in quantum dots
Publication: Research - peer-review › Article in proceedings – Annual report year: 2000

Measurement of pulse amplitude and phase distortion in a semiconductor optical amplifier: from pulse compression to breakup
Publication: Research - peer-review › Journal article – Annual report year: 2000

Non-adiabatic effects in semiconductor waveguide
Publication: Research - peer-review › Article in proceedings – Annual report year: 2000

Pulse-distortion in a quantum-dot optical amplifier
Publication: Research - peer-review › Article in proceedings – Annual report year: 2000

Room-Temperature Dephasing in InAs Quantum Dots
Publication: Research - peer-review › Journal article – Annual report year: 2000

Separation of coherent and incoherent nonlinearities in a heterodyne pump-probe experiment
Publication: Research - peer-review › Journal article – Annual report year: 2000

All-optical Demultiplexing Using an Electroabsorption Modulator
Publication: Research › Article in proceedings – Annual report year: 1999

All-optical wavelength conversion and signal regeneration using an electroabsorption modulator
Publication: Research - peer-review › Article in proceedings – Annual report year: 1999

Bi-directional four wave mixing in semiconductor amplifiers for mid-span spectral inversion: theory and experiment
Publication: Research - peer-review › Article in proceedings – Annual report year: 1999

Bi-directional four-wave mixing in semiconductor optical amplifiers
Publication: Research - peer-review › Article in proceedings – Annual report year: 1999

Bidirectional Four-Wave Mixing in Semiconductor Optical Amplifiers: Theory and Experiment
Bit rate and pulse width dependence of four-wave mixing of short optical pulses in semiconductor optical amplifiers

Carrier Dynamics in Quantum Dots and Quantum Dot Lasers

Dephasing in InAs/GaAs quantum dots

Dispersion-induced non-linearities in semiconductors

Fotonik - et nyt og revolutionerende begreb

Four-wave mixing between short optical pulses in SOAs

Heterodyne pump-probe and four-wave mixing in semiconductor optical amplifiers using balanced lock-in detection
Borri, P., Langbein, W., Mørk, J. & Hvam, J. M. 1999 In : Optics Communications. 169, p. 317-324

Measurements and calculation of the critical pulsewidth for gain saturation in semiconductor optical amplifiers

Numerical model of frequency converter based on four-wave mixing in semiconductor amplifiers

Return-map for low-frequency fluctuations in semiconductor lasers with optical feedback
Mørk, J., Sabbatier, H., Sørensen, M. P. & Tromborg, B. 1999 In : Optics Communications. 171, 1-3, p. 93-97

Return-map for semiconductor lasers with optical feedback

Room-temperature dephasing in InGaAs quantum dots
Saturation properties of four-wave mixing between short optical pulses in semiconductor optical amplifiers
Publication: Research - peer-review › Article in proceedings – Annual report year: 1999

Semiconductor Devices for All Optical Signal Processing: Just How Fast can They Go?
Publication: Research - peer-review › Article in proceedings – Annual report year: 1999

Sub-picosecond pulse break-up in an InGaAsP optical amplifier
Publication: Research › Article in proceedings – Annual report year: 1999

Sub-picosecond pulse distortion in an InGaAsP optical amplifier
Publication: Research - peer-review › Article in proceedings – Annual report year: 1999

The Modulation Response of a Semiconductor Laser Amplifier
Publication: Research - peer-review › Journal article – Annual report year: 1999

Ultrafast gain and index dynamics in quantum dot amplifiers
Publication: Research - peer-review › Article in proceedings – Annual report year: 1999

Measurement and calculation of the critical pulsewidth for gain saturation in semiconductor optical amplifiers
Publication: Research - peer-review › Article in proceedings – Annual report year: 1998

Theory of four-wave mixing
Publication: Research › Book chapter – Annual report year: 1998

Chirp of hybridly modelocked monolithic CPM diode lasers
Publication: Research - peer-review › Journal article – Annual report year: 1997

Chirp of monolithic colliding pulse mode-locked diode lasers
Publication: Research - peer-review › Journal article – Annual report year: 1997

Monolithic colliding pulse mode-locked semiconductor lasers
Publication: Research - peer-review › Journal article – Annual report year: 1997
Theory of nondegenerate four-wave mixing between pulses in a semiconductor waveguide
Publication: Research - peer-review › Journal article – Annual report year: 1997

Projects:

Light-matter interaction and laser dynamics in nanophotonic structures
Rasmussen, T. S., Mørk, J., Gregersen, N. & Yu, Y.
15/08/2017 → 14/08/2020
Project: PhD

An open quantum systems approach to few photon scattering in photonic devices
Joanesarson, K. B., Mørk, J., Gregersen, N. & Iles-Smith, J.
01/02/2017 → 31/01/2020
Project: PhD

Photonic quantum technologies in structured environments
Denning, E. V., Mørk, J., Iles-Smith, J. & Willatzen, M.
01/02/2017 → 31/01/2020
Project: PhD

Fabrication and characterization of novel nanophotonic structures with electrical control
Marchevsky, A., Yvind, K., Mørk, J. & Ottaviano, L.
01/10/2016 → 30/09/2019
Project: PhD

Photonic Crystal Fano Lasers
Mathiesen, K. S., Mørk, J. & Yvind, K.
01/09/2016 → 31/08/2019
Project: PhD

k.p Theory of Two-Dimensional Materials
Jensen, M. R., Willatzen, M. & Mørk, J.
01/07/2016 → 29/11/2019
Project: PhD

Theory of superradiance and quantum noise in few-emitter lasers
André, E. C., Wubs, M. & Mørk, J.
01/07/2016 → 30/06/2019
Project: PhD

Avtive nanophotonic antenna arrays for effective light-matter interactions
Kaminski, P. M., Arslanagic, S., Breinbjerg, O. & Mørk, J.
15/08/2015 → 14/08/2018
Project: PhD

Tailored nanoscale optical materials and devices
Sakanas, A., Yvind, K., Mørk, J. & Semenova, E.
01/08/2015 → 31/07/2018
Project: PhD

Photonic crystal Fano structures
Bekele, D. A., Mørk, J., Ottaviano, L. & Yvind, K.
15/05/2015 → 14/05/2018
Project: PhD
Single-photon quantum information technology
Taherkhani, M., Gregersen, N. & Mørk, J.
15/05/2015 → 14/05/2018
Project: PhD

Single photon sources for quantum information applications
Østerkryger, A. D., Gregersen, N. & Mørk, J.
15/03/2015 → 14/03/2018
Project: PhD

Hybrid III-V-on-Si laser with ultralow energy consumption
01/02/2013 → 04/05/2016
Project: PhD

Advanced simulation tools for nanophotonic devices
de Lasson, J. R., Gregersen, N., Kristensen, P. T., Mørk, J., Lavrinenko, A., Hughes, S. & Søndergaard, T.
01/10/2012 → 20/01/2016
Project: PhD

Compact Otdm/wdm optical receiveRs based on photonIC crystal integrated
01/07/2012 → 01/07/2015
Project

Nanophotonic devices for quantum information technology
Nysteen, A., Mørk, J., Kristensen, P. T., McCutcheon, D., Nielsen, P. K., Wubs, M., Busch, K. & Fiore, A.
15/02/2012 → 18/06/2015
Project: PhD

High-speed Laser with Ultralow Energy Consumption for Silicon Photonics
Chung, I., Ran, Q., Mørk, J. & Yvind, K.
01/01/2012 → 31/12/2014
Project

Applications of Nanophotonic Devices for Terabit Optical Communications
Vukovic, D., Oxenløwe, L. K., Mørk, J., Peucheret, C., Xu, J., Rottwitt, K., Cassan, E. & Schubert, C.
01/10/2011 → 18/03/2015
Project: PhD

Optical switching in nanophotonic structures
Yu, Y., Mørk, J., Yvind, K., Morioka, T., Krauss, T. F. & Manning, R. J.
01/09/2011 → 18/03/2015
Project: PhD

Probing photonic nanostructures with electron energy loss spectroscopy
Raza, S., Mortensen, N. A., Wagner, J. B., Wubs, M., Mørk, J., Abajo, J. G. D. & Wegener, M.
01/09/2011 → 15/11/2014
Project: PhD

Plasmon-based Light-Emitting Diodes
Chen, Y., Ou, H. & Mørk, J.
15/03/2011 → 14/03/2013
Project
From classical to quantum all-optical switching
Kristensen, P. T., Mørk, J. & Lodahl, P.
01/01/2011 → 31/12/2013
Project

QDLaser: Development of novel quantum dot based materials for compact laser devices for potential
Mørk, J. & Semenova, E.
01/01/2011 → 31/12/2012
Project

Properties of single quantum dot lasers
Lund, A. M., Mørk, J., Nielsen, P. K., Jauho, A., Björk, G. & Kapon, E.
01/09/2010 → 19/03/2014
Project: PhD

A high-efficiency nanowire single-photon source
Gregersen, N., Mørk, J., Lodahl, P. & Gérard, J.
01/06/2010 → 31/05/2011
Project

Hybrid vertical cavity laser
Nielsen, T., Chung, I. & Mørk, J.
01/06/2010 → 31/12/2011
Project

Metamaterial Homogenization and Antenna Miniaturization
Hansen, T. V., Breinbjerg, O., Arslanagic, S., Kim, O. S., Mørk, J., Gustafsson, M. & Yaghjian, A. D.
01/04/2010 → 15/01/2014
Project: PhD

Coherent Dynamics of Quantum Dots in Photonic Crystals
Madsen, K. H., Mørk, J., Lodahl, P., Gregersen, N., Atatüre, M. & Julsgaard, B.
15/03/2010 → 30/09/2013
Project: PhD

Self-configurable optical links
01/02/2010 → 28/02/2012
Project

All-optical transistor / Optisk transistor
Heuck, M., Mørk, J., Kristensen, P. T., Willatzen, M., Manning, R. J. & Santagiustina, M.
01/01/2010 → 15/08/2013
Project: PhD

Modulation response of semiconductor quantum dot nanolasers and nanoLEDs
Nielsen, T. R., Lorke, M., Mørk, J. & Jauho, A.
01/01/2010 → 31/12/2012
Project

Optical networking in future aircraft systems
15/11/2009 → 04/04/2013
Project: PhD
Energy Harvesting for Photocatalysis
Hansen, L. C., Mortensen, N. A., Mørk, J. & Sigmund, O.
01/10/2009 → 31/03/2010
Project: PhD

Femtosecond semiconductor LASers Harnessed
Yvind, K., Kim, J. M., Semenova, E., Mørk, J., Hvam, J. M. & Penty, R.
01/09/2009 → 31/10/2012
Project

Systematic design of nano-photonic systems
Wang, F., Jensen, J. S., Mørk, J., Sigmund, O., Pedersen, N. L., Qiu, M. & Tortorelli, D. A.
01/09/2009 → 20/12/2012
Project: PhD

Single-photon emission in disordered photonic crystal waveguides
15/07/2009 → 27/09/2012
Project: PhD

Fundamentale egenskaber af komponenter til kvanteinformationsteknologi
Nielsen, P. K., Mørk, J., Jauho, A., Lodahl, P., Knorr, A. & Mølmer, K.
01/02/2009 → 20/09/2012
Project: PhD

Pulse Shaping
Palushani, E., Oxenløwe, L. K., Clausen, A., Mørk, J., Alic, N. & Doran, N. J.
15/01/2009 → 22/06/2012
Project: PhD

Slow light enhancement and limitations in periodic media
Grgic, J., Mortensen, N. A., Jauho, A., Mørk, J., Lavrinenko, A., De Rossi, A. & Willatzen, M.
01/01/2009 → 19/04/2012
Project: PhD

Thermo-electro-optical analysis of subwavelength grating-mirror VCSELs
Chung, I., Mørk, J. & Lavrinenko, A.
01/01/2009 → 31/12/2011
Project

Characterization of pulse propagation in photonic crystal structures and ultrafast dynamics in quantum dots
Ek, S., Mørk, J., Hansen, P. L., Yvind, K., Oxenløwe, L. K., Albrechtsen, O. & Dorren, H. J. S.
01/11/2008 → 22/06/2012
Project: PhD

Modeling of Coupled Nano-Cavity Lasers
Skovgård, T. S., Mørk, J., Gregersen, N., Abram, I. & Willatzen, M.
01/10/2008 → 19/04/2012
Project: PhD

Governing the speed of light
Mørk, J., Gregersen, N., Yvind, K., Kristensen, P. T., Hansen, P. L., Semenova, E., Xue, W., Pu, M. & Larsson, D.
01/09/2008 → 31/12/2011
Project
Nanophotonics for terabit communications: VKR Centre of Excellence - NATEC
01/09/2008 → 31/08/2014
Project

Topology Optimization of Transient Optoelectronic Wave-Interaction Problems
Matzen, R., Sigmund, O., Jensen, J. S., Mørk, J., Diaz, A. R. & Kawamoto, A.
01/04/2008 → 31/08/2011
Project: PhD

Metamaterialer til lab-on-a-chip applikationer
15/12/2007 → 20/04/2011
Project: PhD

Modelling of semiconductor single-photon sources
01/09/2007 → 21/12/2010
Project: PhD

Slow and Fast Light for Applications in Microwave Photonics
Xue, W., Mørk, J., Sales, S., Öhman, F., Oxenløwe, L. K., Morthier, G. J. I. & Nielsen, M. L.
01/07/2007 → 29/09/2010
Project: PhD

Semiconductor Quantum Dot Devices for Optical Signal Processing
Chen, Y., Mørk, J., Poel, M. V. D., Öhman, F., Jeppesen, P., Manning, R. J. & Willatzen, M.
01/05/2007 → 29/09/2010
Project: PhD

Electrons And Photons In Periodic Structures
Pedersen, J. G., Mortensen, N. A., Mørk, J., Qiu, M. & Schomerus, H.
01/03/2007 → 29/09/2010
Project: PhD

Semiconductor Devices for Quantum Information Processing
Andersen, M. L., Lodahl, P., Mørk, J., Hvam, J. M. & Pedersen, T. G.
01/03/2007 → 21/12/2010
Project: PhD

Light-matter Interaction in Nano-structured Materials
Kristensen, P. T., Mørk, J., Lodahl, P., Breinbjerg, O., Busch, K. & Willatzen, M.
15/10/2006 → 21/04/2010
Project: PhD

Processing and Characterization of Quantum dot Devices
15/06/2006 → 26/05/2010
Project: PhD

Monomode Surface Emitting Lasers
01/06/2006 → 31/05/2009
Project

Quantum Kinetics of charge carriers in quantum dots: applications to slow light and light amplification
Houmark-Nielsen, J., Jauho, A., Mørk, J., Nielsen, T. R., Willatzen, M., Mortensen, N. A., Kuhn, T. & Pedersen, T. G.
15/05/2006 → 20/01/2010
Project: PhD

Quantum Photonics in Nanostructured Media
Ivinskaya, A., Lavrinenko, A., Lodahl, P., Mørk, J., Lægsgaard, J., Busch, K. & Søndergaard, T.
01/04/2006 → 24/08/2011
Project: PhD

Photonic devices for multi-wavelength amplification and regeneration (M-WARE)
Ohman, F., Mørk, J., Yvind, K. & Tromborg, B.
01/03/2006 → 28/02/2009
Project

Threshold less Photonic Crystal Laser
01/02/2006 → 23/09/2009
Project: PhD

Quantum dot structures enabling light slow-down and amplification
01/01/2006 → 30/06/2012
Project

Optical coherent control in photonic nanostructures
Lodahl, P., Tromborg, B., Yvind, K., Poel, M. V. D., Johansen, J., Hvam, J. M. & Mørk, J.
01/09/2005 → 31/08/2008
Project

Ultrahurtige Data Signalers Transmission og Databehandling i optiske Fibre
01/07/2005 → 27/10/2008
Project: PhD

Elektroniske og Fotoniske Halvleder Nanostruktur
01/04/2005 → 29/08/2008
Project: PhD

Quantum-limited measurement in mesoscopic
Flindt, C., Jauho, A., Flensberg, K., Mørk, J., Brandes, T. & Loss, D.
15/08/2004 → 29/10/2007
Project: PhD

Optoelectronic integration technologies
Yvind, K., Larsson, D., Mørk, J., Hvam, J. M. & Greibe, T.
01/08/2004 → 31/07/2006
Project

Methods for stability and Noise Analysis of Coupled Oscillating Systems
Djurhuus, T., Krozer, V., Vidkjær, J., Mørk, J., Leuzzi, G. & Quéré, R.
01/07/2004 → 24/06/2008
Project: PhD

Low Power Adaptive Beamforming
Zibar, D., Jeppesen, P., Clausen, A., Mørk, J., Oxenløwe, L. K., Christensen, E. L., Jacobsen, G. & Petermann, K.
01/05/2004 → 28/09/2007
Project: PhD

Meta-materialer i antenneteknik til trådløs kommunikation
Arslanagic, S., Breinbjerg, O., Mørk, J., Mosig, J. R. & Nosich, A. I.
15/03/2004 → 03/09/2007
Project: PhD

Active Device Based on Planar Photonic Crystal Structures
Rasmussen, M. M., Tromborg, B., Kristensen, M. & Mørk, J.
01/01/2004 → 30/09/2005
Project: PhD

Optical Methods for Characterization of Surface or Interface Structures on a Nanometer Scale
Gregersen, N., Mørk, J., Garnæs, J., Hanson, S. G., Tromborg, B., Lægsgaard, J., Bienstman, P. & Vohnsen, B.
01/11/2003 → 30/03/2007
Project: PhD

Polymer Dye Micro-Cavity Lasers
Balslev, S., Kristensen, A., Mørk, J., Lading, L. & Turnbull, G. A.
01/02/2003 → 31/05/2006
Project: PhD

Modelling of Ultrafast Semiconductor Components
Nielsen, J. A., Mørk, J., Yvind, K., Hvam, J. M., Lenstra, D. & Willatzen, M.
01/01/2003 → 29/10/2007
Project: PhD

Ulinaer Dynamik i Halvledderlasere
Blaaberg, S., Rottwitt, K., Petersen, P. M., Tromborg, B., Mørk, J., Buus, J. & Willatzen, M.
01/11/2002 → 30/01/2007
Project: PhD

Novel Fibre-ring Laser System Based on Frequency Chriping for Optical Coherence Tomography (OCT)
Agger, S. D., Povlsen, J. H., Rottwitt, K., Mørk, J., Pedersen, B. & Taylor, J. R.
01/10/2002 → 31/05/2006
Project: PhD

Dispersionskompenserende fotoniske krystalfibre
01/05/2002 → 04/11/2005
Project: PhD

Study of semiconductor devices for ultrafast all-optical signal processing
Kawaguchi, H., Takahashi, Y., Katayama, T., Mørk, J., Bischoff, S., White, I. H. & Sukhoivanov, I. A.
01/01/2002 → 31/12/2003
Project

Photonic Bandgap Based Add/Drop Multiplexer
Harpøth, A., Kristensen, M., Borel, P. I., Mørk, J., Pedersen, J. E. & Wehrspohn, R. B.
01/12/2001 → 12/02/2005
**High-capacity optical communication systems employing optical signal processing**
01/11/2001 → 17/12/2004
Project: PhD

**High Channel Density Wavelength Division Multiplexed Systems**
Seoane, J., Jeppesen, P., Clausen, A., Mørk, J. & Eisenstein, G.
01/11/2001 → 26/09/2005
Project: PhD

**Advanced devices for ultra-high capacity optical communication systems**
Ohman, F., Mørk, J., Bischoff, S., Tromborg, B., Bang, O., Jacobsen, G. & Shtaif, M.
01/09/2001 → 18/03/2005
Project: PhD

**Kompakte Fiberbaserede Ultrahurtige Pulskilder**
Greibe, T., Hvam, J. M., Birkedal, D., Yvind, K., Mørk, J., Hanberg, P. J. & Larsson, A. G.
01/09/2001 → 01/03/2007
Project: PhD

**Quantum DOT laser devices for optoelectronic information COMmunication**
01/09/2001 → 31/05/2005
Project: PhD

**Transport in nanostructures**
Donarini, A., Jauho, A., Novotny, T., Mørk, J., Armour, A. D. & Platero, G.
01/09/2001 → 27/10/2004
Project: PhD

**Ulinære effekter i fotoniske krystal fibre**
01/04/2001 → …
Project: PhD

**Technology Platform for digital optical filter structures**
Philipp, H. T., Rottwitt, K., Povlsen, J. H., Mørk, J., Johansen, P. M. & Margalit, M.
01/02/2001 → 26/10/2004
Project: PhD

**Logiske funktioner til rent-optiske netværk**
Nielsen, M. L., Dittmann, L., Clausen, A., Mørk, J., Jeppesen, P., Manning, R. J. & Pedersen, C. F.
15/10/2000 → 09/03/2005
Project: PhD

**Opto-elektroniske komponenter baseret på kvante-strukturer**
Berg, T. W., Mørk, J., Birkedal, D., Tromborg, B., Jauho, A. & Willatzen, M.
15/10/2000 → 06/09/2004
Project: PhD

**UV-skriver af optiske bøjleledere**
Færch, K. U., Kristensen, M., Svalgaard, M., Mørk, J., Bøttiger, J. & Douay, M.
01/10/2000 → 24/05/2004
Project: PhD
Techniques for Sampling of Ultra-High Speed Optical Signals
Tersigni, A., Jeppesen, P., Mørk, J. & Poulsen, H. N.
01/06/2000 → 01/09/2004
Project: PhD

Gain dynamics in quantum dot structures
Magnúsdóttir, I., Mørk, J., Bischoff, S., Hvam, J. M., Bjarklev, A. O., Vinter, B. & Willatzen, M.
01/09/1999 → 28/05/2003
Project: PhD

Modelling of quantum dot semiconductor devices
Mørk, J., Bischoff, S. & Magnúsdóttir, I.
01/08/1999 → 31/08/2002
Project

Traffic analysis and signal processing in optical packet switched networks
Fjelde, T., Dittmann, L., Stubkjær, K., Mørk, J., Koonen, T. & Poustie, A. J.
01/11/1998 → 03/09/2002
Project: PhD

Systems technology and component characterisation
Oxenløwe, L. K., Stubkjær, K., Mørk, J., Tromborg, B., Devaux, F. & Pedersen, C. F.
01/09/1998 → 14/11/2002
Project: PhD

Modelling of optoelectronic components for ultra high-speed optical signal processing
Højfeldt, S., Mørk, J., Bischoff, S., Rottwitt, K., Olin, U. & Tessier, N.
01/08/1998 → 14/11/2002
Project: PhD

Processing and Characterization of optoelectronic components for ultra high-speed signal processing
Romstad, F., Hvam, J. M., Mørk, J., Tromborg, B. & Thirstrup, C.
01/05/1998 → 30/08/2002
Project: PhD

Ikke-lineære pulser i optiske medier
Schjødt-Eriksen, J., Christiansen, P. L., Rasmussen, J. J., Sørensen, M. P., Mørk, J., Bergé, L. & Johansen, P. M.
01/02/1998 → 29/05/2001
Project: PhD

Modelling/SCOOP (Semiconductor Components for Optical signal Processing)
Mørk, J., Hvam, J. M., Bischoff, S. & Højfeldt, S.
01/01/1998 → 31/12/2005
Project

Modelling/SCOOP (Semiconductor Components for Optical signal Processing)
Hvam, J. M., Mørk, J., Bischoff, S. & Højfeldt, S.
01/01/1998 → 31/12/1999
Project

Ultrafast dynamics after optical pulse excitation in semiconductor waveguide structures
01/03/1997 → 31/12/1999
Project
Ultrafast dynamics after optical pulse excitation in semiconductor waveguide structures
01/03/1997 → 31/12/2002
Project

Activities:

The International Workshop on Theoretical and computational Nanophotonics 3
Mørk, J. (Participant)
3 Nov 2010 → 5 Nov 2010
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.

Journées de la Matière Condensée
Mørk, J. (Participant)
23 Aug 2010 → 27 Aug 2010
Activity: Attending an event › Participating in or organising a conference

10th International Workshop on Nonlinear Optics and Excitation Kinetics in Semiconductors
Mørk, J. (Participant)
16 Aug 2010 → 19 Aug 2010
Activity: Attending an event › Participating in or organising a conference

Integrated Photonics Research, Silicon and Nano Photonics
Mørk, J. (Participant)
25 Jul 2010 → 28 Jul 2010
Activity: Attending an event › Participating in or organising a conference

International Conference on Superlattices, Nanostructures and Nanodevices
Mørk, J. (Participant)
18 Jul 2010 → 23 Jul 2010
Activity: Attending an event › Participating in or organising a conference

International Conference on Transparent Optical Networks (ICTON); 12
Mørk, J. (Other)
27 Jun 2010 → 1 Jul 2010
Activity: Talks and presentations › Conference presentations

6th International Conference on Quantum Dots 2010
Mørk, J. (Participant)
26 Apr 2010 → 30 Apr 2010
Activity: Attending an event › Participating in or organising a conference

International Nano-Optoelectronics Workshop (iNOW)
Mørk, J. (Speaker)
10 Aug 2009 → 14 Aug 2009
Activity: Talks and presentations › Conference presentations

17th International Workshop on Optical Waveguide Theory and Numerical Modelling
Mørk, J. (Participant)
13 May 2008 → 14 May 2008
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.