Research outputs:

- Benchmarking five numerical simulation techniques for computing resonance wavelengths and quality factors in photonic crystal membrane line defect cavities
- Benchmarking state-of-the-art numerical simulation techniques for analyzing large photonic crystal membrane line defect cavities
- Benchmarking state-of-the-art optical simulation methods for analyzing large nanophotonic structures
- Which Computational Methods Are Good for Analyzing Large Photonic Crystal Membrane Cavities?
- Benchmarking five computational methods for analyzing large photonic crystal membrane cavities
- Comparison of Five Computational Methods for Computing Q Factors in Photonic Crystal Membrane Cavities
- Comparison of Five Numerical Methods for Computing Quality Factors and Resonance Wavelengths in Photonic Crystal Membrane Cavities
- Modeling open nanophotonic systems using the Fourier modal method: Generalization to 3D Cartesian coordinates
- Modelling open nanophotonic structures using the Fourier modal method in infinite domains
- A modal approach to light emission and propagation in coupled cavity waveguide systems
- Comparison of four computational methods for computing Q factors and resonance wavelengths in photonic crystal membrane cavities
- Open-geometry Fourier modal method: modeling nanophotonic structures in infinite domains
- Site-controlled quantum dots coupled to photonic crystal waveguides
- Spectral symmetry of Fano resonances in a waveguide coupled to a microcavity
Design and simulations of highly efficient single-photon sources
Research output: Research - peer-review › Paper – Annual report year: 2015

Design of Slow and Fast Light Photonic Crystal Waveguides for Single-photon Emission Using a Bloch Mode Expansion Technique
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2015

Impact of slow-light enhancement on optical propagation in active semiconductor photonic crystal waveguides
Research output: Research - peer-review › Journal article – Annual report year: 2015

Investigations on the parity of Fano resonances in photonic crystals
Research output: Research - peer-review › Poster – Annual report year: 2015

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

Semi-analytical quasi-normal mode theory for the local density of states in coupled photonic crystal cavity-waveguide structures
Research output: Research - peer-review › Letter – Annual report year: 2015

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

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

Calculation, normalization and perturbation of quasinormal modes in coupled cavity-waveguide systems
Research output: Research - peer-review › Journal article – Annual report year: 2014

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

Scaling of the Surface Plasmon Resonance in Gold and Silver Dimers Probed by EELS
Research output: Research - peer-review › Journal article – Annual report year: 2014

Calibrating Au and Ag plasmonic rulers with EELS
Research output: Research - peer-review › Poster – Annual report year: 2013

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

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

Three-dimensional integral equation approach to light scattering, extinction cross sections, local density of states, and quasi-normal modes
Research output: Research - peer-review › Journal article – Annual report year: 2013

Electromagnetic Scattering in Micro- and Nanostructured Materials.
Research output: Research - peer-review › Report – Annual report year: 2012
Modeling of cavities using the analytic modal method and an open geometry formalism
Research output: Research - peer-review › Journal article – Annual report year: 2012

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

Projects:

Advanced simulation tools for nanophotonic devices
Project: PhD

Activities:

Nye forskere og Ph.D.-Studerende
Activity: Talks and presentations › Conference presentations

Nanofotonik og fotoniske krystaller – Tryllekunster med lys
Activity: Talks and presentations › Conference presentations

2015 Progress In Electromagnetics Research Symposium
Activity: Talks and presentations › Conference presentations

META’14
Activity: Talks and presentations › Conference presentations

Nanofotonik og fotoniske krystaller – Tryllekunster med lys
Activity: Talks and presentations › Conference presentations

SPIE Photonics Europe Conference 2014
Activity: Talks and presentations › Conference presentations

Les Houches Summer School
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.

International Physics Olympiad
Activity: Examinations and supervision › External examination

5th International Workshop on Theoretical and Computational Nano-Photonics
Activity: Talks and presentations › Conference presentations