Research outputs:

**All-Si photodetector for telecommunication wavelength based on subwavelength grating structure and critical coupling**
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review

**Compact dielectric cavities based on frozen bound states in the continuum**
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2017 › Research › peer-review

**Dynamical dispersion engineering in coupled vertical cavities employing a high-contrast grating**
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review

**Efficient quality-factor estimation of a vertical cavity employing a high-contrast grating**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2017 › Research › peer-review

**Hybrid Si-on-chip Lasers with Nano Structures**
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2017 › Research › peer-review

**Quasi bound states in the continuum with few unit cells of photonic crystal slab**
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review

**Reciprocal-Space Engineering of Quasi-Bound States in the Continuum in Photonic Crystal Slabs for High-Q Microcavities**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2018 › Research › peer-review

**Vertical cavity laser**
Research output: Patent › Patent – Annual report year: 2016 › Research

**Hybrid grating reflectors: Origin of ultrabroad stopband**
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review

**Hybrid III-V on Si grating as a broadband reflector and a high-Q resonator**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2016 › Research › peer-review

**Hybrid III-V/SOI resonant cavity enhanced photodetector**
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review

**Hybrid III-V/SOI Resonant Cavity Photodetector**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2016 › Research › peer-review

**Hybrid vertical cavity laser for silicon photonics light source integration (invited paper)**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2016 › Research › peer-review
Numerical Investigation of Vertical Cavity Lasers With High-Contrast Gratings Using the Fourier Modal Method
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review

Ultrabroadband Hybrid III-V/SOI Grating Reflector for On-chip Lasers
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2016 › Research › peer-review

Ultrahigh-speed Si-integrated on-chip laser with tailored dynamic characteristics
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review

Vcsel structure

A New Compact Broadband Reflector: The Hybrid Grating
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2016 › Research › peer-review

Effect of In-plane Mirror Dispersion on Vertical Cavities Based on High-Contrast Grating Mirrors
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2015 › Research › peer-review

Hybrid III-V-on-Si Laser with Ultra-low Energy Consumption
Research output: Contribution to conference › Poster – Annual report year: 2015 › Research › peer-review

Hybrid III-V/SOI single-mode vertical-cavity laser with in-plane emission into a silicon waveguide
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2015 › Research › peer-review

Hybrid vertical-cavity laser with lateral emission into a silicon waveguide
Research output: Contribution to journal › Journal article – Annual report year: 2015 › Research › peer-review

III-V/SOI vertical cavity laser structure for 120 Gbit/s speed
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2015 › Research › peer-review

III-V/SOI vertical cavity laser with in-plane output into a Si waveguide
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2015 › Research › peer-review

Polarization-Independent Wideband High-Index-Contrast Grating Mirror
Research output: Contribution to journal › Journal article – Annual report year: 2015 › Research › peer-review

Study on differences between high contrast grating reflectors for TM and TE polarizations and their impact on VCSEL designs
Research output: Contribution to journal › Journal article – Annual report year: 2015 › Research › peer-review

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

Vertical-Cavity In-plane Heterostructures: Physics and Applications
Research output: Contribution to journal › Journal article – Annual report year: 2015 › Research › peer-review
130-nm tunable grating-mirror VCSEL
Research output: Contribution to journal › Conference article – Annual report year: 2014 › Research › peer-review

Comparison of Different Numerical Methods for Quality Factor Calculation of Nano and Micro Photonic Cavities
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2014 › Research › peer-review

Electrical Injection Schemes for Nanolasers
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review

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

Mode selection laser

Wavelength sweepable laser source

1060-nm Tunable Monolithic High Index Contrast Subwavelength Grating VCSEL
Research output: Contribution to journal › Journal article – Annual report year: 2013 › Research › peer-review

Effect of External Optical Feedback for Nano-laser Structures
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2013 › Research › peer-review

Hybrid III-V-on-Si Vertical Cavity laser for Optical Interconnects
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2014 › Research › peer-review

Laser device

Polarization-independent high-index contrast grating and its fabrication tolerances
Research output: Contribution to journal › Journal article – Annual report year: 2013 › Research › peer-review

Resonant MEMS tunable VCSEL
Research output: Contribution to journal › Journal article – Annual report year: 2013 › Research › peer-review

Speed enhancement in VCSELs employing grating mirrors
Research output: Contribution to journal › Conference article – Annual report year: 2013 › Research › peer-review

Tunable Resonant-Cavity-Enhanced Photodetector with Double High-Index-Contrast Grating Mirrors
Research output: Contribution to journal › Conference article – Annual report year: 2013 › Research › peer-review

Ultrahigh-speed hybrid laser for silicon photonic integrated chips
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2014 › Research › peer-review
VCSELs with a high-index-contrast grating for mode-division multiplexing
Research output: Non-textual form › Sound/Visual production (digital) – Annual report year: 2013 › Research

Fabrication activity for nanophotonics
Research output: Contribution to conference › Paper – Annual report year: 2012 › Research › peer-review

Low-energy-consumption hybrid lasers for silicon photonics
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2012 › Research › peer-review

Reflectivity-modulated grating-mirror
Research output: Patent › Patent – Annual report year: 2012 › Research

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

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

High-index-contrast grating reflector with beam steering ability for the transmitted beam
Research output: Contribution to journal › Journal article – Annual report year: 2011 › Research › peer-review

Hybrid Si/III-V vertical-cavity laser for silicon photonics
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2011 › Research › peer-review

Hybrid vertical-cavity laser

Modelling of photonic-crystal VCSELs with semi-vectorial and vectorial models
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2011 › Research › peer-review

80-nm-tunable high-index-contrast subwavelength grating long-wavelength VCSEL: Proposal and numerical simulations
Research output: Contribution to journal › Conference article – Annual report year: 2010 › Research › peer-review

Broadband MEMS-tunable high-index-contrast subwavelength grating long-wavelength VCSEL
Research output: Contribution to journal › Journal article – Annual report year: 2010 › Research › peer-review

High-index-contrast subwavelength grating VCSEL
Research output: Contribution to journal › Conference article – Annual report year: 2010 › Research › peer-review

Hybrid vertical cavity laser
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2010 › Research › peer-review

Hybrid Vertical-Cavity Laser
Research output: Patent › Patent – Annual report year: 2010 › Research
Monomode surface emitting laser: (Third year activity report)
Research output: Book/Report › Report – Annual report year: 2010 › Research › peer-review

Numerical methods for modeling photonic-crystal VCSELs
Research output: Contribution to journal › Journal article – Annual report year: 2010 › Research › peer-review

Optimization of VCSELs for Self-Mixing Sensing
Research output: Contribution to journal › Journal article – Annual report year: 2010 › Research › peer-review

Polymer-coated vertical-cavity surface-emitting laser diode vapor sensor
Research output: Contribution to journal › Journal article – Annual report year: 2010 › Research › peer-review

Silicon-photonics light source realized by III-V/Si grating-mirror laser
Research output: Contribution to journal › Journal article – Annual report year: 2010 › Research › peer-review

Transverse-mode-selectable microlens vertical-cavity surface-emitting laser
Research output: Contribution to journal › Journal article – Annual report year: 2010 › Research › peer-review

Acetone vapor sensing using a vertical cavity surface emitting laser diode coated with polystyrene
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2009 › Research › peer-review

Advanced vectorial simulation of VCSELs with nano structures invited paper
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2009 › Research › peer-review

Selectively-pumped grating-mirror long-wavelength VCSEL
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2009 › Research › peer-review

The optical chip: high speed and diminutive size
Research output: Chapter in Book/Report/Conference proceeding › Book chapter – Annual report year: 2009 › Communication

Time-resolved measurement of the light-current characteristic of a coated VCSEL diode in acetone vapour
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2009 › Research › peer-review

Vectorial analysis of dielectric photonic crystal VCSEL
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2009 › Research › peer-review

Broadband subwavelength grating mirror and its application to vertical-cavity surface-emitting laser
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2008 › Research › peer-review

Nanophotonics: Semiconductor Optical Devices
Research output: Contribution to conference › Poster – Annual report year: 2008 › Research › peer-review

Subwavelength grating-mirror VCSEL with a thin oxide gap
Research output: Contribution to journal › Journal article – Annual report year: 2008 › Research › peer-review
Finite-difference time-domain analysis of micro-lens integrated vertical-cavity surface-emitting lasers
Research output: Contribution to conference › Poster – Annual report year: 2007 › Research › peer-review

Opto-VLSI-based reconfigurable free-space optical interconnects architecture
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2007 › Research › peer-review

A method to tune the cavity-mode wavelength of resonant cavity-enhanced photodetectors for bidirectional optical interconnects
Research output: Contribution to journal › Journal article – Annual report year: 2006 › Research › peer-review

High Speed (2.5Gbps) reconfigurable inter-chip optical interconnects using opto-VLSI processors
Research output: Contribution to journal › Journal article – Annual report year: 2006 › Research › peer-review

Effect of outermost layers on resonant cavity enhanced devices
Research output: Contribution to journal › Journal article – Annual report year: 2004 › Research › peer-review

Projects:

VCSEL’S til medicinsk diagnosticering
Project: PhD

Ultrahigh-speed SI-Integrated on-chip laser
Project: PhD

Ultrahigh-speed hybrid III-C-on-Si lasers
Project: PhD

Electrically pumped nanolaser for terabit communication
Project: PhD

Hybrid III-V-on-Si laser with ultralow energy consumption
Project: PhD

Vertical-cavity laser with a novel grating mirror
Project: PhD

MEMS tunable nano-structured photodetector
Project: PhD

End-to-end energy efficient communication networks
Project: PhD

High-speed Laser with Ultralow Energy Consumption for Silicon Photonics
Project: Research

Nanophotonics for terabit communications : VKR centre of excellence - NATEC
Project: Research

Hybrid vertical cavity laser
Project: Research
Monomode surface emitting lasers
Project: Research

Thermo-electro-optical analysis of subwavelength grating-mirror VCSELs
Project: Research

Self-configurable optical links
Project: Research

Activities:

Ohmic Contacts to n-Type InP for High-Speed Silicon-on-Chip Vertical-Cavity Lasers
Activity: Talks and presentations › Conference presentations

Ultrahigh-speed hybrid VCSEL for short-distance optical interconnects
Activity: Talks and presentations › Conference presentations

Annual Conference on Commercialization of Micro and Nano Systems
Activity: Attending an event › Participating in or organising a conference