Research outputs:

**Consequence of Non-Uniform Expansion of InP-on-Si Wafers for the Performance of Buried Heterostructure Photonic Crystal Lasers**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2019 › Research › peer-review

**Investigation of the Expansion in InP layer bonded to Si and its Effects on the Performance of the Photonic Crystal Lasers with the Buried Heterostructure**
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2019 › Research › peer-review

**Low temperature bonding of heterogeneous materials using Al2O3 as an intermediate layer**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2018 › Research › peer-review

**Low temperature bonding of heterogeneous materials using Al2O3 as an intermediate layer**
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

**Nano-engineered high-confinement AlGaAs waveguide devices for nonlinear photonics**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2018 › Research › peer-review

**Pulse carving using nanocavity-enhanced nonlinear effects in photonic crystal Fano structures**
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

**Quantifying non-uniform InP-on-Si wafer expansion with a sub-50 nm precision using E-beam metrology**
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2019 › Research › peer-review

**signal reshaping and noise suppression using photonic crystal Fano structures**
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

**Single-source chip-based frequency comb enabling extreme parallel data transmission**
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

**Ultra-Efficient and Broadband Nonlinear AlGaAs-on-Insulator Chip for Low-Power Optical Signal Processing**
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

**Wavelength tunable MEMS VCSELs for OCT imaging**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2018 › Research › peer-review

**An ultra-efficient nonlinear planar integrated platform for optical signal processing and generation**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2018 › Research › peer-review

**Characterization and optimization of a high-efficiency AlGaAs-On-Insulator-based wavelength converter for 64- and 256-QAM signals**
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review
Fabrication and experimental demonstration of photonic crystal laser with buried heterostructure
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2017 › Research › peer-review

Lasers, switches and non-reciprocal elements based on photonic crystal Fano resonances
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2017 › Research › peer-review

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

Parity control of Fano resonances and its application for signal regeneration and pulse carving
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2018 › Research › peer-review

Photonic crystal Fano lasers and Fano switches
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2017 › Research › peer-review

Photonic crystal Fano resonances for realizing optical switches, lasers and non-reciprocal elements
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2017 › Research › peer-review

Photonic Crystal with Buried Heterostructure Platform for Laser Devices Directly Bonded to Si
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2017 › Research › peer-review

Towards Polarization-Independent Four-Wave Mixing in Dispersion Engineered AlGaAs-on-Insulator Nano-Waveguide
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2018 › Research › peer-review

Towards Ultra-High Q Microresonators in High-Index Contrast AlGaAs-On-Insulator
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2017 › Research › peer-review

An Ultra-Efficient Nonlinear Platform: AlGaAs-On-Insulator
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2016 › Research › peer-review

Broadband and Efficient Dual-Pump Four-Wave Mixing in AlGaAs-On-Insulator Nano-Waveguide
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2016 › Research › peer-review

Broadband and efficient dual-pump four-wave-mixing in AlGaAs-on-insulator nano-waveguides
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2016 › Research › peer-review

Characterization of a Wavelength Converter for 256-QAM Signals Based on an AlGaAs-On-Insulator Nano-waveguide
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2016 › Research › peer-review
Efficient frequency comb generation in AlGaAs-on-insulator
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review

Low-loss high-confinement waveguides and microring resonators in AlGaAs-on-insulator
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review

Nonlinear Optics in AlGaAs on Insulator
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2016 › Research › peer-review

Optically pumped 1550nm wavelength tunable MEMS VCSEL
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2016 › Research › peer-review

Phase-sensitive Four-wave Mixing in AlGaAs-on-Insulator Nano-waveguides
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2016 › Research › peer-review

Single-Source AlGaAs Frequency Comb Transmitter for 661 Tbit/s Data Transmission in a 30-core Fiber
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2016 › Research › peer-review

Supercontinuum Generation in AlGaAs-On-Insulator Nano-Waveguide at Telecom Wavelengths
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2016 › Research › peer-review

Surface Plasmons on Highly Doped InP
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2016 › Research › peer-review

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

A Highly Efficient Nonlinear Platform: AlGaAs-On-Insulator
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2015 › Research › peer-review

AlGaAs-On-Insulator Nanowire with 750 nm FWM Bandwidth, -9 dB CW Conversion Efficiency, and Ultrafast Operation Enabling Record Tbaud Wavelength Conversion
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2015 › Research › peer-review

AlGaAs-On-Insulator nonlinear photonics
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2015 › Research › peer-review

Highly Efficient Four-Wave Mixing in an AlGaAs-On-Insulator (AlGaAsOI) Nano-Waveguide
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2015 › Research › peer-review

Highly Sensitive Photonic Crystal Cavity Laser Noise Measurements using Bayesian Filtering
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2015 › Research › peer-review
Slow-light effects in photonic crystal membrane lasers
Research output: Chapter in Book/Report/Conference proceeding → Article in proceedings – Annual report year: 2015 → Research → peer-review

Thermal analysis of line-defect photonic crystal lasers
Research output: Contribution to journal → Journal article – Annual report year: 2015 → Research → peer-review

Research output: Chapter in Book/Report/Conference proceeding → Article in proceedings – Annual report year: 2015 → Research → peer-review

Tailored design of WDM filters in BCB embedded PhC membranes
Research output: Contribution to journal → Journal article – Annual report year: 2013 → Research → peer-review

High-speed photodetectors in a photonic crystal platform
Research output: Chapter in Book/Report/Conference proceeding → Conference abstract in proceedings – Annual report year: 2012 → Research → peer-review

Strip detector for nanoscale resolution
Research output: Non-textual form → Sound/Visual production (digital) – Annual report year: 2009 → Research

Projects:

Fabrication and characterization of novel nanophotonic structures with electrical control
Project: PhD

Ultrahigh-speed Si-integrated on-chip laser
Project: PhD

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

Photonic crystal Fano structures
Project: PhD

Quantum dot Energy level Engineering for laser applicationNs on InP and Si platforms
Project: Research

Compact Otdm/wdm optical receiveRs based on photonc crystal Integrated
Project: Research

Activities:

Tunable MEMS VCSEL on silicon substrate
Activity: Talks and presentations → Conference presentations

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