Research outputs:

Deep-UV to Mid-IR Supercontinuum Generation driven by Mid-IR Ultrashort Pulses in a Gas-filled Hollow-core Fiber
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review

Directional supercontinuum generation: The role of the Soliton
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review

Poor-man's model of hollow-core anti-resonant fibers
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review

Ultra-low-noise supercontinuum generation with a flat near-zero normal dispersion fiber
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review

Multi-stage generation of extreme ultraviolet dispersive waves by tapering gas-filled hollow-core anti-resonant fibers
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

Optical fiber
Research output: Patent › Patent – Annual report year: 2018 › Research

Cascaded nonlinearities for ultrafast nonlinear optical science and applications
Research output: Book/Report › Doctoral thesis – Annual report year: 2018 › Research

Curvature and position of nested tubes in hollow-core anti-resonant fibers
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2017 › Research › peer-review

Experimental verification of the intrinsic ultrafast delayed nonlinearity of gold
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2017 › Research › peer-review

Generation of multiple VUV dispersive waves using a tapered gas-filled hollow-core anti-resonant fiber
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2017 › Research › peer-review

Influence of dispersion of nonlinearity on coherent supercontinuum generation bandwidth in photonic crystal fibers pumped at 2 μm
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2017 › Research › peer-review

Multiple soliton compression stages in mid-IR gas-filled hollow-core fibers
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2017 › Research › peer-review

Octave-spanning supercontinuum generation in a silicon-rich nitride waveguide: Erratum
Research output: Contribution to journal › Comment/debate – Annual report year: 2017 › Research › peer-review

Parametrically tunable soliton-induced resonant radiation by three-wave mixing
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review
Low Loss Double-clad Hollow Core Anti-Resonant Fibers in the Mid-IR
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2015 › Research › peer-review

Low-loss hollow-core silica fibers with adjacent nested anti-resonant tubes
Research output: Contribution to journal › Journal article – Annual report year: 2015 › Research › peer-review

Mid-IR femtosecond frequency conversion by soliton-probe collision in phase-mismatched quadratic nonlinear crystals
Research output: Contribution to journal › Journal article – Annual report year: 2015 › Research › peer-review

Supercontinuum generation in quadratic nonlinear waveguides without quasi-phase matching
Research output: Contribution to journal › Journal article – Annual report year: 2015 › Research › peer-review

Tunable mid-infrared radiations in quadratic media through near-infrared soliton interactions with second-harmonic resonances
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2015 › Research › peer-review

Efficient femtosecond mid-infrared pulse generation by dispersivewave radiation in bulk lithium niobate crystal
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2014 › Research › peer-review

Efficient Femtosecond Mid-infrared Pulse Generation by Dispersive Wave Radiation In Bulk Lithium Niobate Crystal
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2014 › Research › peer-review

Few-cycle solitons and supercontinuum generation with cascaded quadratic nonlinearities in unpoled lithium niobate ridge waveguides
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review

Generating Efficient Femtosecond Mid-infrared Pulse by Single Near-infrared Pump Wavelength In Bulk Nonlinear Crystal Without Phase-matching
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2014 › Research › peer-review

High-energy pulse compressor using self-defocusing spectral broadening in anomalously dispersive media
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2014 › Research › peer-review

Highly coherent mid-IR supercontinuum by self-defocusing solitons in lithium niobate waveguides with all-normal dispersion
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review

Low-energy Self-defocusing Soliton Compression at Optical Communication Wavelengths in Unpoled Lithium Niobate Ridge Waveguide
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2014 › Research › peer-review

Nanoplasmonic solution for nonlinear optics
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2014 › Research › peer-review
Observation of an octave-spanning supercontinuum in the mid-infrared using ultrafast cascaded nonlinearities
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2014 › Research › peer-review

Octave-Spanning Mid-IR Supercontinuum Generation with Ultrafast Cascaded Nonlinearities
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2014 › Research › peer-review

Soliton-induced nonlocal resonances observed through high-intensity tunable spectrally compressed second-harmonic peaks
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review

Nonlinear wave equation in frequency domain: accurate modeling of ultrafast interaction in anisotropic nonlinear media
Research output: Contribution to journal › Journal article – Annual report year: 2013 › Research › peer-review

Broadband Cherenkov Radiation by Using Group-velocity-matching in Index-guiding Photonic Crystal Fiber
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2013 › Research › peer-review

Completely background free broadband coherent anti-Stokes Raman scattering spectroscopy
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2013 › Research › peer-review

Cross-correlation frequency-resolved optical gating by molecular vibration for ultrashort pulse
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2013 › Research › peer-review

Directional Selective Nonlinear Transmission of Femtosecond Pulses in Glass-Metal Nanocomposites
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2013 › Research › peer-review

Few-cycle nonlinear mid-IR pulse generated with cascaded quadratic nonlinearities
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2013 › Research › peer-review

Generalized Nonlinear Wave Equation in Frequency Domain
Research output: Working paper › Working paper – Annual report year: 2013 › Research

Generating mid-IR octave-spanning supercontinua and few-cycle pulses with solitons in phase-mismatched quadratic nonlinear crystals
Research output: Contribution to journal › Journal article – Annual report year: 2013 › Research › peer-review

Near- and Mid-IR Few-cycle Self-defocusing Soliton Compression in PPLNWaveguide
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2013 › Research › peer-review

Near- and MID-IR few-cycle self-defocusing soliton compression in PPLN Waveguide
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2014 › Research › peer-review

Pressure tunable cascaded third order nonlinearity and temporal pulse switching
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2013 › Research › peer-review
Soliton Delay Driven by Cascading and Raman Responses
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2013 › Research › peer-review

The anisotropic Kerr nonlinear refractive index of the beta-barium borate (β-BaB₂O₄) nonlinear crystal
Research output: Contribution to journal › Journal article – Annual report year: 2013 › Research › peer-review

The Kerr nonlinearity of the beta-barium borate crystal
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2013 › Research › peer-review

Ultrafast and Broadband Optical Nonlinearities from Strongly Phase-Mismatched Second Harmonic Generation
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2013 › Research › peer-review

Understanding Soliton Spectral Tunneling as a Spectral Coupling Effect
Research output: Contribution to journal › Journal article – Annual report year: 2013 › Research › peer-review

Anomalous interaction of nonlocal solitons in media with competing nonlinearities
Research output: Contribution to journal › Journal article – Annual report year: 2012 › Research › peer-review

Cascaded Soliton Compression of Energetic Femtosecond Pulses at 1030 nm
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2012 › Research › peer-review

Critical Boundary of Cascaded Quadratic Soliton Compression in PPLN
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2012 › Research › peer-review

High-energy Few-cycle Pulses Directly Generated from Strongly Phase-mismatched Lithium Niobate Crystal
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2012 › Research › peer-review

Higher-order Kerr effect and harmonic cascading in gases
Research output: Contribution to journal › Journal article – Annual report year: 2012 › Research › peer-review

Improving Soliton Compression Quality with Cascaded Nonlinearities by Engineered Multi-section Quasi-phase-matching Design
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2012 › Research › peer-review

Modulational instability and solitons in nonlocal media with competing nonlinearities
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2012 › Research › peer-review

Quadratic solitons for negative effective second-harmonic diffraction as nonlocal solitons with periodic nonlocal response function
Research output: Contribution to journal › Journal article – Annual report year: 2012 › Research › peer-review

Soliton compression to few-cycle pulses with a high quality factor by engineering cascaded quadratic nonlinearities
Research output: Contribution to journal › Journal article – Annual report year: 2012 › Research › peer-review
Spectral Compression of Intense Femtosecond Pulses by Self Phase Modulation in Silica Glass
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2012 › Research › peer-review

Temporal switching induced by cascaded third order nonlinearity
Research output: Contribution to journal › Journal article – Annual report year: 2012 › Research › peer-review

Ultrafast and octave-spanning optical nonlinearities from strongly phase-mismatched cascaded interactions
Research output: Contribution to journal › Journal article – Annual report year: 2012 › Research › peer-review

Improved thermal and strain performance of annealed polymer optical fiber Bragg gratings
Research output: Contribution to journal › Journal article – Annual report year: 2011 › Research › peer-review

Modulational instability and solitons in nonlocal media with competing nonlinearities
Research output: Contribution to journal › Journal article – Annual report year: 2011 › Research › peer-review

Nonlocal quintic nonlinearity by cascaded THG in dispersive media
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2011 › Research › peer-review

Optical Cherenkov radiation by cascaded nonlinear interaction: an efficient source of few-cycle energetic near- to mid-IR pulses
Research output: Contribution to journal › Journal article – Annual report year: 2011 › Research › peer-review

Optical Cherenkov radiation by cascaded nonlinear interaction: an efficient source of few-cycle near- to mid-IR pulses
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2011 › Research › peer-review

Sub-20 fs energetic near-IR pulses generated with cascaded soliton compression in short lithium niobate crystals
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2011 › Research › peer-review

Few-cycle femtosecond optical pulses in the visible and near-infrared: [Invited]
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2010 › Research › peer-review

Generating energetic few-cycle pulses at 800 nm using soliton compression with type 0 cascaded quadratic interaction in lithium niobate
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2010 › Research › peer-review

Generating ultra-short energetic pulses with cascaded soliton compression in lithium niobate crystals
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2011 › Research › peer-review

Hvordan er universet sammensat?
Research output: Contribution to journal › Contribution to newspaper - Newspaper article – Annual report year: 2010 › Communication

Optical Cherenkov radiation in ultrafast cascaded second-harmonic generation
Research output: Contribution to journal › Journal article – Annual report year: 2010 › Research › peer-review
Scaling laws for soliton pulse compression by cascaded quadratic nonlinearities (vol 24, pg 2752, 2007)
Research output: Contribution to journal › Journal article – Annual report year: 2010 › Research › peer-review

Type-I cascaded quadratic soliton compression in lithium niobate: Compressing femtosecond pulses from high-power fiber lasers
Research output: Contribution to journal › Journal article – Annual report year: 2010 › Research › peer-review

Controlling the outcome: how extremely short laser pulses can help us in the future
Research output: Chapter in Book/Report/Conference proceeding › Book chapter – Annual report year: 2009 › Communication

Designing microstructured polymer optical fibers for cascaded quadratic soliton compression of femtosecond pulses
Research output: Contribution to journal › Journal article – Annual report year: 2009 › Research › peer-review

Dispersive waves in fs cascaded second-harmonic generation
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2009 › Research › peer-review

Cascaded quadratic soliton compression of high-power femtosecond fiber lasers in Lithium Niobate crystals
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2008 › Research › peer-review

Compression limits in cascaded quadratic soliton compression
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2008 › Research › peer-review

Controllable nonlocal behaviour by cascaded second-harmonic generation of fs pulses
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2008 › Research › peer-review

Limits to compression with cascaded quadratic soliton compressors
Research output: Contribution to journal › Journal article – Annual report year: 2008 › Research › peer-review

Accurate nonlocal theory for cascaded quadratic soliton compression
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2007 › Research › peer-review

Cascaded quadratic soliton compression at 800 nm
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2007 › Research › peer-review

Coherent imaging of a pure phase object with classical incoherent light
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2007 › Research › peer-review

Designing quadratic nonlinear photonic crystal fibers for soliton compression to few-cycle pulses
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2007 › Research › peer-review

Ghost imaging
Research output: Chapter in Book/Report/Conference proceeding › Book chapter – Annual report year: 2007 › Research › peer-review
Nonlocal explanation of stationary and nonstationary regimes in cascaded pulse compression
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2007 › Research › peer-review

Nonlocal explanation of stationary and nonstationary regimes in cascaded soliton pulse compression
Research output: Contribution to journal › Journal article – Annual report year: 2007 › Research › peer-review

Scaling laws for soliton pulse compression by cascaded quadratic nonlinearities
Research output: Contribution to journal › Journal article – Annual report year: 2007 › Research › peer-review

Soliton compression to few-cycle pulses by cascaded quadratic nonlinearities
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2007 › Research › peer-review

Soliton compression to few-cycle pulses using quadratic nonlinear photonic crystal fibers: A design study
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2007 › Research › peer-review

Soliton compression to ultra-short pulses using cascaded quadratic nonlinearities in silica photonic crystal fibers
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2007 › Research › peer-review

Tailoring the dispersion properties of photonic crystal fibers
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2007 › Research › peer-review

Tailoring the dispersion properties of photonic crystal fibers
Research output: Contribution to journal › Journal article – Annual report year: 2007 › Research › peer-review

Coherent imaging of a pure phase object with classical incoherent light
Research output: Contribution to journal › Journal article – Annual report year: 2006 › Research › peer-review

Coherent imaging of a pure phase object with classical incoherent light
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2006 › Research › peer-review

Coherent imaging with pseudo-thermal incoherent light
Research output: Contribution to journal › Journal article – Annual report year: 2006 › Research › peer-review

Detection of quantum spatial correlation in High-gain parametric down-conversion
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2005 › Research › peer-review

Group-velocity matched nonlinear photonic crystal fibers
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2006 › Research › peer-review

Quantum spatial correlations in high-gain parametric down-conversion measured by means of a CCD camera
Research output: Contribution to journal › Journal article – Annual report year: 2006 › Research › peer-review

Second-harmonic generation with zero group-velocity mismatch in nonlinear photonic crystal fibers
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2006 › Research › peer-review
**Second-harmonic Generation with Zero Group-Velocity Mismatch in Nonlinear Photonic Crystal Fibers**
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2006 › Research › peer-review

**Tuning quadratic nonlinear photonic crystal fibers for zero group-velocity mismatch**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2006 › Research › peer-review

**Cavity soliton laser based on VCSEL with saturable absorber**
Research output: Contribution to journal › Journal article – Annual report year: 2006 › Research › peer-review

**Cavity solitons in a VCSEL with saturable absorber**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2005 › Research › peer-review

**Classical and entangled ghost imaging schemes**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2005 › Research › peer-review

**Entangled Imaging in the large photon number regime**
Research output: Contribution to journal › Journal article – Annual report year: 2005 › Research › peer-review

**Ghost imaging with spatial averages: fast and broadband**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2005 › Research › peer-review

**High resolution ghost image and ghost diffraction experiments with incoherent pseudo-thermal light**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2005 › Research › peer-review

**High-resolution ghost imaging and ghost diffraction experiments with thermal light**
Research output: Contribution to journal › Journal article – Annual report year: 2005 › Research › peer-review

**High resolution ghost imaging experiments with classical thermal light**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2005 › Research › peer-review

**Analysis of elliptically polarized states in vertical-cavity-surface-emitting lasers**
Research output: Contribution to journal › Journal article – Annual report year: 2004 › Research › peer-review

**Correlated imaging, quantum and classical**
Research output: Contribution to journal › Journal article – Annual report year: 2004 › Research › peer-review

**Correlated imaging with macroscopic fields**
Research output: Contribution to journal › Journal article – Annual report year: 2004 › Research › peer-review

**Ghost imaging schemes: fast and broadband**
Research output: Contribution to journal › Journal article – Annual report year: 2004 › Research › peer-review
Pattern formation in second harmonic generation with competing parametric oscillation
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 1999 › Research

Stationary space-periodic structures with equal diffusion coefficients
Research output: Contribution to journal › Journal article – Annual report year: 1999 › Research › peer-review

Projects:

Efficient mid-IR supercontinuum generation in quadratic nonlinear waveguides
Project: PhD

Nanophotonics devices for ultra-fast nonlinear processes in the infrared
Project: PhD

Supercontinuum generation with rugged femtosecond fibre lasers
Project: PhD

Novel ultrafast mid-IR laser source for spectroscopy
Project: Research

Ultrafast mid-IR nonlinear optics in gas-filled hollow-core photonic crystal fibers
Project: PhD

Spatial solitons, vortices, and patterns in non-linear optical media
Project: PhD

Hollow-core fibers for high power laser applications
Project: PhD

Laser frequency standards based on gas-filled hollow-core fibres
Project: PhD

2-10um mid-infrared supercontinuum light sources
Project: PhD

High-intensity terahertz radiation for nonlinear spectroscopy at long wavelengths
Project: PhD

Femtosecond few-cycle mid-infrared laser pulses
Project: PhD

Cascaded Quadratic Soliton Compression in Waveguide Structures
Project: PhD

Terabit/s Optical Regeneration
Project: PhD

Nonlinear optical properties of ultra-thin metal layers
Project: PhD
Continuous Wave Supercontinuum Light Sources based on Tapered Photonic Crystal Fibres  
Project: PhD

Femto-midIR: Femtosecond few-cycle mid-infrared laser pulses  
Project: Research

Nanostructured polymer photonic crystal fibers for effective second-harmonic generation  
Project: Research

Cascaded Optical Pulse Compressor  
Project: Research

Few-cycle femtosecond optical pulses in the visible and near-Infrared  
Project: Research

Activities:

Ulrafast mid-IR laser pulses - enabling new frontiers in science  
Activity: Talks and presentations › Conference presentations

Ultrashort and broadband mid-IR pulses: challenges and solutions  
Activity: Talks and presentations › Conference presentations

Reviews In Physics (Journal)  
Activity: Editorial work and peer review › Journal editor › Research

Ultra-korte laserpulser i fremtidens forskning  
Activity: Talks and presentations › Conference presentations

Generating ultra-short energetic pulses with cascaded soliton compression in lithium niobate crystals  
Activity: Talks and presentations › Conference presentations

Phase-matching with a twist: Second-harmonic generation in birefringent periodically poled fibers (Journal)  
Activity: Editorial work and peer review › Peer review of manuscripts › Research