Andrei Lavrinenko - DTU Orbit (09/11/2017)

Lavrinenko, Andrei
alav@fotonik.dtu.dk

Department of Photonics Engineering - Associate Professor, Head of Group
Plasmonics and Metamaterials

Publications:

**Advanced fabrication of hyperbolic metamaterials**
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

**Analytical solutions for waves in spherically- and cylindrically-symmetric inhomogeneous media**
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

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

**Broadband infrared absorption enhancement by electroless-deposited silver nanoparticles**
Publication: Research - peer-review › Journal article – 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

**Effect of substrate on optical bound states in the continuum in 1D photonic structures**
Publication: Research - peer-review › Conference article – Annual report year: 2017

**Enhancing Optical Forces in InP-Based Waveguides**
Publication: Research - peer-review › Journal article – Annual report year: 2017

**Experimental verification of the intrinsic ultrafast delayed nonlinearity of gold**
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2017
Highly ordered Al-doped ZnO nano-pillar and tube structures as hyperbolic metamaterials for mid-infrared plasmonics
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2017

Highly Ordered Transparent Conductive Oxide Nanopillar Metamaterials for Mid-Infrared Plasmonics
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2017

High-Quality Ultrathin Gold Layers with an APTMS Adhesion for Optimal Performance of Surface Plasmon Polariton-Based Devices
Sukham, J., Takayama, O., Lavrinenko, A. & Malureanu, R. 2017 In : A C S Applied Materials and Interfaces. 9, 29, p. 25049-25056
Publication: Research - peer-review › Journal article – Annual report year: 2017

Large-scale high aspect ratio Al-doped ZnO nanopillars arrays as anisotropic metamaterials.
Publication: Research - peer-review › Journal article – Annual report year: 2017

Matter-Wave Tractor Beams
Publication: Research - peer-review › Journal article – Annual report year: 2017

Midinfrared Surface Waves on a High Aspect Ratio Nanotrench Platform
Publication: Research - peer-review › Journal article – Annual report year: 2017

Mid-IR optical properties of silicon doped InP
Publication: Research - peer-review › Journal article – Annual report year: 2017

Near- and far field spectroscopy of semi-continuous gold films with optically induced anisotropy.
Frydendahl, C., Repàın, T., Geisler, M., Novikov, S. M., Beermann, J., Lavrinenko, A., Bozhevolnyi, S. I., Mortensen, N. A. & Stenger, N. 2017
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2017

Non-Diffractive Tractor Beams
Novitsky, A., Gao, D., Gorlach, A. A., Qiu, C-W. & Lavrinenko, A. 2017 Proceedings of 19th International Conference on Transparent Optical Networks. IEEE, 4 p. We.C4.2
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Numerical simulations of nanostructured gold films
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Optical reconfiguration and polarization control in semi-continuous gold films close to the percolation threshold
Publication: Research - peer-review › Journal article – Annual report year: 2017
Surface Waves on Metamaterials Interfaces
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Tailoring Spectral Properties of Binary PT-Symmetric Gratings by Duty-Cycle Methods
Publication: Research - peer-review › Journal article – Annual report year: 2016

Third-order susceptibility of gold for ultrathin layers
Publication: Research - peer-review › Journal article – Annual report year: 2016

Time-resolved terahertz spectroscopy of charge carrier dynamics in the chalcogenide glass As30Se30Te40 [Invited]
Publication: Research - peer-review › Journal article – Annual report year: 2016

Adiabatic Nanofocusing of Short-Range SPPs
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2015

Anomalous effective medium approximation breakdown in deeply subwavelength all-dielectric photonic multilayers
Publication: Research - peer-review › Journal article – Annual report year: 2015

Applicability of point-dipoles approximation to all-dielectric metamaterials
Publication: Research - peer-review › Journal article – Annual report year: 2015

Boosting Local Field Enhancement by on-Chip Nanofocusing and Impedance-Matched Plasmonic Antennas
Publication: Research - peer-review › Journal article – Annual report year: 2015

Dark-field hyperlens: Super-resolution imaging of weakly scattering objects
Publication: Research - peer-review › Journal article – Annual report year: 2015

Deep subwavelength photonic multilayers fabricated by atomic layer deposition
Publication: Research - peer-review › Paper – Annual report year: 2015

Experimental Demonstration of Effective Medium Approximation Breakdown In Deeply Subwavelength All-Dielectric Multilayers
Publication: Research - peer-review › Journal article – Annual report year: 2015

Fabrication of TiO2 and Al2O3 High Aspect Ratio Nanostructured Gratings at Sub-Micrometer Scale
Publication: Research - peer-review › Paper – Annual report year: 2015
Graphene-enhanced metamaterials in THz applications
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2015

Improved Coupling to Plasmonic Slot Waveguide via a Resonant Nanoantenna
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2015

Internal Roughness Improves Hyperbolic Metamaterial Absorber
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2015

Is Effective Medium Approximation Always Valid for Ultrathin Multilayer All-dielectric Metamaterials?
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2015

Metamaterial-based Design for a Half Wavelength Plate in the Terahertz Range
Publication: Research - peer-review › Journal article – Annual report year: 2015

Metasurfaces for Terahertz Waves Polarization Control
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2015

Modeling, fabrication and high power optical characterization of plasmonic waveguides
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Nanophotonic Modulator with Bismuth Ferrite as Low-loss Switchable Material
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Optical Modes in Graphene on Silicon Photonic Crystal Membrane
Andryieuski, A., Low, T. & Lavrinenko, A. 2015
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2015

Optical Nano-antennae as Compact and Efficient Couplers from Free-space to Waveguide Modes
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2015

Overcoming doping limits in MOVPE grown n-doped InP for plasmonic applications
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Photonic and Plasmonic Guided Modes in Graphene-Silicon Photonic Crystals
Publication: Research - peer-review › Journal article – Annual report year: 2015
Photoswitchable molecular dipole antennas with tailored coherent coupling in glassy composite
Publication: Research - peer-review › Journal article – Annual report year: 2015

Plasmonic and Photonic Modes Excitation in Graphene on Silicon Photonic Crystal Membrane
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2015

Selective Electroless Silver Deposition on Graphene Edges
Publication: Research - peer-review › Journal article – Annual report year: 2015

TiO2 and Al2O3 ALD Grown Multilayers for Subwavelength Photonics
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2015

Transparent conducting oxides for electro-optical plasmonic modulators
Publication: Research - peer-review › Journal article – Annual report year: 2015

Ultrabroadband terahertz characterization of highly doped ZnO and ITO
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Ultra-thin films for plasmonics: a technology overview
Publication: Research - peer-review › Journal article – Annual report year: 2015

Ultra-thin Metal and Dielectric Layers for Nanophotonic Applications
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Understanding of increased diffuse scattering in regular arrays of fluctuating resonant particles
Water: Promising Opportunities For Tunable All-dielectric Electromagnetic Metamaterials
Andryieuski, A., Kuznetsova, S. M., Zhukovsky, S., Kivshar, Y. S. & Lavrinenko, A. 2015 In : Scientific Reports. 5, 9 p., 13535
Publication: Research - peer-review › Journal article – Annual report year: 2015

Hyperbolic metamaterials beyond simple multilayers
Publication: Research - peer-review › Journal article – Annual report year: 2014

Bismuth ferrite as low-loss switchable material for plasmonic waveguide modulator
Publication: Research - peer-review › Journal article – Annual report year: 2014

Bismuth Ferrite for Active Control of Surface Plasmon Polariton Modes
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Bulk photovoltaic effect in photoconductive metamaterials based on cone-shaped nanoparticles
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

CMOS Compatible Ultra-Compact Modulator
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Direct Characterization of Plasmonic Slot Waveguides and Nanocouplers
Publication: Research - peer-review › Journal article – Annual report year: 2014

Electron photoemission in plasmonic nanoparticle arrays: analysis of collective resonances and embedding effects
Publication: Research - peer-review › Journal article – Annual report year: 2014

Enhanced Electron Photoemission by Collective Lattice Resonances in Plasmonic Nanoparticle-Array Photodetectors and Solar Cells
Publication: Research - peer-review › Journal article – Annual report year: 2014

Existence conditions for bulk large-wavevector waves in metal-dielectric and graphene-dielectric multilayer hyperbolic metamaterials
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

From surface to volume plasmons in hyperbolic metamaterials: General existence conditions for bulk high-k waves in metal-dielectric and graphene-dielectric multilayers.
Publication: Research - peer-review › Journal article – Annual report year: 2014
Giant Photogalvanic Effect in Noncentrosymmetric Plasmonic Nanoparticles
Publication: Research - peer-review › Journal article – Annual report year: 2014

Hot Electron Photoemission from Plasmonic Nanoparticles: Role of Transient Absorption in Surface Mechanism
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Hybrid plasmonic/semiconductor nanoparticle monolayer assemblies as hyperbolic metamaterials
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2014

Internal photoemission from plasmonic nanoparticles: comparison between surface and volume photoelectric effects
Publication: Research - peer-review › Journal article – Annual report year: 2014

Hybrid plasmonic/semiconductor nanoparticle monolayer assemblies as hyperbolic metamaterials
Zhukovsky, S., Ozel, T., Muffugun, E., Eychmüller, A., Lavrinenko, A., Demir, H. V. & Gaponenko, S. V. 2014

Linear and nonlinear properties of chalcogenide glasses in the terahertz frequency
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Metal membrane with dimer slots as a universal polarizer
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2014

Metal nanoparticles for thin film solar cells
Publication: Research › Ph.D. thesis – Annual report year: 2015

Metamaterial composite bandpass filter with an ultra-broadband rejection bandwidth of up to 240 terahertz
Publication: Research - peer-review › Journal article – Annual report year: 2014

Metamaterial Composite with an Ultra-Broadband Usable Range of over 25 Terahertz
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Metamaterial Composite with an Ultra-Broadband Usable Range of over 25 Terahertz
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014
Multilayer Graphene for Waveguide Terahertz Modulator
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Multi-Periodic Photonic Hyper-Crystals: Volume Plasmon Polaritons and the Purcell Effect
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Nanoplasmonic solution for nonlinear optics
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2014

Numerical Methods in Photonics
Publication: Research - peer-review › Book – Annual report year: 2015

Photoconductive metamaterials with giant plasmonic photogalvanic effect
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Photo-driven Super Absorber as an Active Metamaterial with a Tunable Molecular-Plasmonic Coupling
Publication: Research - peer-review › Journal article – Annual report year: 2014

Photon absorption and photocurrent in solar cells below semiconductor bandgap due to electron photoemission from plasmonic nanoantennas
Publication: Research - peer-review › Journal article – Annual report year: 2012

Photonic-band-gap engineering for volume plasmon polaritons in multiscale multilayer hyperbolic metamaterials
Publication: Research - peer-review › Journal article – Annual report year: 2014

Plasmonic Antennas Nanocoupler for Telecom Range: Simulation, Fabrication and Near-Field Characterization
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Plasmonic Modulator Using CMOS Compatible Material Platform
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Plasmonic Nanocone Arrays as Photoconductive and Photovoltaic Metamaterials
Populating the Large-Wavevector Realm: Bloch Volume Plasmon Polaritons in Hyperbolic and Extremely Anisotropic Metamaterials

Rough metal and dielectric layers make an even better hyperbolic metamaterial absorber

Scattering of Light and Pulling Optical Forces for Hyperbolic-Metamaterial Spheres

Simulation, Fabrication and Near-Field Characterization of Nanoantenna Couplers for Telecom Range

Super-resolution near field imaging device
Andryieuski, A., Malureanu, R. & Lavrinenko, A. 2014

Surface and volume photoemission of hot electrons from plasmonic nanoantennas

Terahertz/infrared waveguide modulators using graphene metamaterials

A plasmonic modulator based on metal-insulator-metal waveguide with barium titanate core
Babicheva, V. & Lavrinenko, A. 2013 In : Photonics Letters of Poland. 5, 2, p. 57-59

Coherence matrix of plasmonic beams
Novitsky, A. & Lavrinenko, A. 2013 In : Photonics Letters of Poland. 5, 2, p. 66-68

Collective Resonances in Hexagonal Array of Plasmonic Nanoparticles
Dichroism, chirality, and polarization eigenstates in Babinet nanoslot-dimer membrane metamaterials
Zhukovsky, S., Chigrin, D. N., Kremers, C. & Lavrinenko, A. 2013 In : Photonics and Nanostructures. 11, 4, p. 353-361

Effective Surface Conductivity Approach for Graphene Metamaterials Based Terahertz Devices

Electron Photoemission Enhancement from Collective Effects in Plasmonic Nanoparticle Arrays

Engineering the propagation of high-k bulk plasmonic waves in multilayer hyperbolic metamaterials by multiscale structuring
Zhukovsky, S., Lavrinenko, A. & Sipe, J. E. 2013 In : Proceedings of SPIE, the International Society for Optical Engineering. 8915, 10 p., 891512

Fabrication and characterization of transparent metallic electrodes in the terahertz domain

Fabrication approaches for plasmon-improved photovoltaic cells
Gritti, C., Malureanu, R., Kardynal, B. & Lavrinenko, A. 2013

Graphene Based Terahertz Absorber Designed With Effective Surface Conductivity Approach
Andryieuski, A., Pizzocchero, F., Booth, T., Bøggild, P. & Lavrinenko, A. 2013

Graphene metamaterials based tunable terahertz absorber: effective surface conductivity approach
Andryieuski, A. & Lavrinenko, A. 2013 In : Optics Express. 21, 7, p. 9144-9155

Metamaterial characterization using Boltzmann's kinetic equation for electrons

Metamaterial polarization converter analysis: limits of performance

Metamaterials and Metasurfaces in THz Applications
Slot-dimer babinet metamaterials as polarization shapers for terahertz waves
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Terahertz cross-phase modulation of an optical mode
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Terahertz-induced Kerr effect in amorphous chalcogenide glasses
Publication: Research - peer-review › Journal article – Annual report year: 2013

Terahertz wave manipulation with metamaterials based on metal and graphene
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2013

Towards CMOS-compatible nanophotonics: Ultra-compact modulators using alternative plasmonic materials
Publication: Research - peer-review › Journal article – Annual report year: 2013

Transparent electrodes in the terahertz regime – a new approach
Publication: Research - peer-review › Journal article – Annual report year: 2013

Anisotropic anti-rod dimer metamaterial film for terahertz polarization manipulation
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Bloch-mode analysis for effective parameters restoration
Bloch-mode analysis for retrieving effective parameters of metamaterials
Publication: Research - peer-review › Journal article – Annual report year: 2012

Capacity analysis for high-speed terahertz wireless communications
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Compact dipole nanoantenna coupler to plasmonic slot waveguide.
Andryieuski, A., Malureanu, R., Biagi, G., Holmgaard, T. & Lavrinenko, A. 2012 In : Optics Letters. 37, 6, p. 1124-1126
Publication: Research - peer-review › Journal article – Annual report year: 2012

Coupled plasmon-exciton induced transparency and slow light in plexcitonic metamaterials
Publication: Research - peer-review › Journal article – Annual report year: 2012

Fabrication activity for nanophotonics
Publication: Research - peer-review › Paper – Annual report year: 2012

Fabrication and characterization of terahertz anisotropic anti-rod dimer planar metamaterials
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Field approach in the transformation optics concept
Publication: Research - peer-review › Journal article – Annual report year: 2012

Finite-thickness metal-semiconductor-metal waveguide as plasmonic modulator
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Graphene hyperlens for terahertz radiation
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Graphene hyperlens for terahertz radiation
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2012

Graphene hyperlens for terahertz radiation
Publication: Research - peer-review › Journal article – Annual report year: 2012
Graphene wire medium: Homogenization and application
Publication: Research - peer-review » Conference abstract in proceedings – Annual report year: 2012

Improving plasmonic waveguides coupling efficiency using nanoantennas
Publication: Research - peer-review » Article in proceedings – Annual report year: 2012

Infrared nanoantenna couplers for plasmonic slot waveguide
Andryieuski, A., Malureanu, R. & Lavrinenko, A. 2012
Publication: Research - peer-review » Paper – Annual report year: 2012

Light modulation abilities of nanostructures
Publication: Research - peer-review » Conference abstract in proceedings – Annual report year: 2012

Material-Independent and Size-Independent Tractor Beams for Dipole Objects
Publication: Research - peer-review » Journal article – Annual report year: 2012

Metamaterials modelling, fabrication and characterisation techniques
Publication: Research - peer-review » Paper – Annual report year: 2012

Metamaterials modelling, fabrication, and characterisation techniques
Publication: Research - peer-review » Conference article – Annual report year: 2013

Nanocouplers for Infrared and Visible Light
Publication: Research - peer-review » Journal article – Annual report year: 2012

Non-resonant terahertz field enhancement in periodically arranged nanoslits
Publication: Research - peer-review » Journal article – Annual report year: 2012

Optical characterisation of nanostructures using a discretised forward model
Publication: Research - peer-review » Conference abstract in proceedings – Annual report year: 2013

Optical waveguide mode control by nanoslit-enhanced terahertz field
Publication: Research - peer-review » Journal article – Annual report year: 2012

Passive THz metamaterials
Publication: Research - peer-review » Article in proceedings – Annual report year: 2012
Plasmonic modulator based on finite-thickness metal-semiconductor-metal waveguide with gain core
Publication: Research - peer-review › Paper – Annual report year: 2012

Plasmonic modulator based on gain-assisted metal-semiconductor-metal waveguide
Publication: Research - peer-review › Journal article – Annual report year: 2012

Plasmonic modulator optimized by patterning of active layer and tuning permittivity
Publication: Research - peer-review › Journal article – Annual report year: 2012

Plasmonic solutions for coupling and modulation
Publication: Research - peer-review › Paper – Annual report year: 2012

Reflectors and resonators for high-k bulk Bloch plasmonic waves in multilayer hyperbolic metamaterials
(AI P Conference Proceedings Series).
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Subwavelength terahertz imaging with graphene hyperlens
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2012

Surface plasmon polariton modulator with optimized active layer
Publication: Research - peer-review › Conference article – Annual report year: 2012

Terahertz field enhancement to the MV/cm regime in a tapered parallel plate waveguide
Iwaszczuk, K., Andryieuski, A., Lavrinenko, A., Zhang, X-C. & Jepsen, P. U. 2012 In : Optics Express. 20, 8, p. 8344-8355
Publication: Research - peer-review › Journal article – Annual report year: 2012

THz and infrared metamaterial polarization converter with tunable ellipticity
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Ultrad broadband terahertz spectroscopy of chalcogenide glasses
Publication: Research - peer-review › Journal article – Annual report year: 2012

Ultrad broadband THz spectroscopic investigation of As2S3
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Bloch-mode analysis for retrieval of effective metamaterial parameters
Andryieuski, A., Ha, S., Sukhorukov, A. A., Kivshar, Y. S. & Lavrinenko, A. 2011
Publication: Research - peer-review › Poster – Annual report year: 2011
Comparative Study of FDTD-Adopted Numerical Algorithms for Kerr Nonlinearties
Publication: Research - peer-review › Journal article – Annual report year: 2011

Efficient and broadband nanoantenna coupler to plasmonic slot waveguide
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2011

Enhanced broadband optical transmission in metallized woodpiles
Publication: Research - peer-review › Journal article – Annual report year: 2010

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

Fabircation and characterization of woodpile structures
Publication: Research - peer-review › Conference article – Annual report year: 2011

Finite-Difference Frequency-Domain Method in Nanophotonics
Publication: Research › Ph.D. thesis – Annual report year: 2011

Impedance Conjugate Matching of Plasmonic Nanoantenna in Optical Nanocircuits
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Increased electron photoemission from plasmonic nanoparticles and photoemission enhanced solar cells
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Microscopic model of the THz field enhancement in a metal nanoslit
Publication: Research - peer-review › Journal article – Annual report year: 2011

Modelling of Nanophotonic Resonators with the Finite-Difference Frequency-Domain Method
Publication: Research - peer-review › Journal article – Annual report year: 2011

Modelling, fabrication and characterisation of THz fractal meta-materials
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2011

Negative Index Materials and Plasmonic Antennas Based Nanocouplers
Publication: Research › Ph.D. thesis – Annual report year: 2011
New Circular Fractal Sensors for Near-infrared Wavelengths
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2011

New fractal structures for frequencies close to the visible range
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Non-invasive method of field imaging in parallel plate waveguides
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Non-invasive terahertz field imaging inside parallel plate waveguides
Publication: Research - peer-review › Journal article – Annual report year: 2011

Observation of tunneling of slow and fast electromagnetic modes in coupled periodic waveguides
Publication: Research - peer-review › Journal article – Annual report year: 2011

Paired modes of heterostructure cavities
Publication: Research - peer-review › Poster – Annual report year: 2011

Plasmonic nanoantenna based coupler for telecom range
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Review of the results of the COST MP0702 exercise on the sensitivity of metal-dielectric layered flat lens to fabrication inaccuracies
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Surface Plasmon Polariton Modulator with Periodic Patterning of Indium Tin Oxide Layers
Publication: Research - peer-review › Conference article – Annual report year: 2011

Terahertz field imaging inside tapered parallel plate waveguides
Publication: Research - peer-review › Poster – Annual report year: 2011

Topology Optimization of Nanophotonic Devices
Publication: Research › Ph.D. thesis – Annual report year: 2011
Transmission and Reflection Spectroscopy of Terahertz Fractal Metamaterials
Malureanu, R., Cooke, D., Jepsen, P. U. & Lavrinenko, A. 2011
Publication: Research - peer-review › Poster – Annual report year: 2011

Two-Dimensional Fractal Metamaterials for Applications in THz
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Ultrabroadband THz spectroscopy of disordered materials
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Unified approach for retrieval of effective parameters of metamaterials
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Wave impedance retrieving via Bloch modes analysis
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Wave propagation in metamaterials and effective parameters retrieving
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2011

Wave propagation in structured materials as a platform for effective parameters retrieving
Andryieuski, A., Ha, S., Sukhorukov, A. A., Malureanu, R., Kivshar, Y. S. & Lavrinenko, A. 2011
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2011

Wave propagation phenomena in metamaterials for retrieving of effective parameters
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2011

Wave propagation phenomena in structured materials and problems of metamaterials homogenization
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2011

Application of the method of auxiliary sources in optical diffraction microscopy
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010
Application of the method of auxiliary sources to a defect-detection inverse problem of optical diffraction microscopy
Publication: Research - peer-review › Journal article – Annual report year: 2010

Cavity mode control in side-coupled periodic waveguides: theory and experiment
Ha, S., Sukhorukov, A., Lavrinenko, A. & Kivshar, Y. A. 2010 In : Photonics and Nanostructures. 8, 4, p. 310-317
Publication: Research - peer-review › Journal article – Annual report year: 2010

Cavity mode control in side-coupled periodic waveguides: theory and experiment
Ha, S., Sukhorukov, A. A., Lavrinenko, A. & Kivshar, Y. S. 2010 In : Proceedings of SPIE, the International Society for Optical Engineering. 7612-22, p. 9
Publication: Research - peer-review › Conference article – Annual report year: 2010

Chiral metamaterials characterisation using the wave propagation retrieval method
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Complete effective parameters retrieval employing wave propagation phenomena
(Advances in Science and Technology).
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Controlled Ag electroless deposition in bulk structures with complex three-dimensional profiles
Publication: Research - peer-review › Journal article – Annual report year: 2010

Coupling of cavities - the way to impose control over their modes
Publication: Research - peer-review › Conference article – Annual report year: 2010

Dielectric waveguides on the basis of photonic crystals
Lavrinenko, A. & Lavrinenko, Y. V. 2010 9, Visnik odesskogo gzervavnogo ekologochnogo univertyty
Publication: Communication › Newspaper article – Annual report year: 2010

Enhanced broadband optical transmission in metallized woodpiles
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Fast closed-form calculation of THz field enhancement in a metal nanoslit
Novitsky, A. & Lavrinenko, A. 2010
Publication: Research - peer-review › Poster – Annual report year: 2010

Fractal THz metamaterials: design, fabrication and characterisation
Publication: Research - peer-review › Conference article – Annual report year: 2010

Free-Space Squeezing Assists Perfectly Matched Layers in Simulations on a Tight Domain
Publication: Research - peer-review › Journal article – Annual report year: 2010
**High symmetry versus optical isotropy of a negative-index metamaterial**
Publication: Research - peer-review › Journal article – Annual report year: 2010

**Homogenization of metamaterials: Parameters retrieval methods and intrinsic problems**
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

**Homogenization of resonant chiral metamaterials**
Publication: Research - peer-review › Journal article – Annual report year: 2010

**Is it possible to homogenize resonant chiral metamaterials?**
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

**Isotropic optical metamaterials**
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

**Isotropic optical metamaterials**
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

**Longitudinal Shift in Coupled Nanobeams and Mode Degeneracy**
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

**Optical isotropic negative index metamaterials**
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

**Optimisation of the electroless metal deposition technique for use in photonics**
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

**Paired modes of heterostructure cavities in photonic crystal waveguides with split band edges**
Publication: Research - peer-review › Journal article – Annual report year: 2010

**Sensitivity of imaging properties of metal-dielectric layered flat lens to fabrication inaccuracies**
Publication: Research - peer-review › Journal article – Annual report year: 2010
Three dimensional finite-difference frequency-domain method in modeling of photonic nanocavities
Ivinskaya, A., Shyroki, D. & Lavrinenko, A. 2010
Publication: Research - peer-review › Poster – Annual report year: 2010

THz field enhancement by a metal nanoslit: a simple model
Novitsky, A. & Lavrinenko, A. 2010
Publication: Research - peer-review › Poster – Annual report year: 2010

Time-Domain Topology Optimization of Pulse-Shaping Filters
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2010

Transmission and reflection properties of terahertz fractal metamaterials
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Wave propagation retrieval method for chiral metamaterials
Andryieuski, A., Malureanu, R. & Lavrinenko, A. 2010 In : Optics Express. 18, 15, p. 15498-15503
Publication: Research - peer-review › Journal article – Annual report year: 2010

3D geometrically isotropic metamaterial for telecom wavelengths
Malureanu, R., Andryieuski, A. & Lavrinenko, A. 2009 Proceedings, NANOMETA. p. TUE4F.16
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Bulk isotropic negative-index material design for infrared
Andryieuski, A., Malureanu, R. & Lavrinenko, A. 2009
Publication: Research - peer-review › Poster – Annual report year: 2009

Bulk metamaterials: Design, fabrication and characterization: [invited]
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Control of cavity modes in coupled periodic waveguides
Sukhorukov, A. A., Lavrinenko, A., Ha, S. & Kivshar, Y. S. 2009 Conference proceedings, TaCoNa-Photonics. American Institute of Physics, p. 84-86
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Coupled nanopillar waveguides: optical properties and applications: Chapter 5
Publication: Research - peer-review › Book chapter – Annual report year: 2009

Design and fabrication activity towards 3D negative refraction index materials in the IR region
Malureanu, R., Andryieuski, A. & Lavrinenko, A. 2009 Proceedings, ETOPI. p. session 4, presentation 4
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Design of a three-dimensional metamaterial exhibiting isotropic properties in the near infrared range
Andryieuski, A., Malureanu, R. & Lavrinenko, A. 2009
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2009

Design of one-dimensional optical pulse-shaping filters by time-domain topology optimization
Publication: Research - peer-review › Journal article – Annual report year: 2009
Influence of imperfections on the photonic insulating and guiding properties of finite Si-inverted opal crystals
Lavrinenko, A., Wohlleben, W. & Leyrer, R. J. 2009 In : Optics Express. 17, 2, p. 747-760
Publication: Research - peer-review › Journal article – Annual report year: 2009

Insulating and guiding properties of finite Si-inverted opal crystals
Lavrinenko, A., Wohlleben, W. & Leyrer, R. J. 2009
Publication: Research - peer-review › Poster – Annual report year: 2009

Isotropic metal deposition technique for metamaterials fabrication
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Metahorizons for metamaterials: invisibility - more than pure speculation
Publication: Communication › Book chapter – Annual report year: 2009

Nested structures approach for bulk 3D negative index materials: [invited]
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Nested structures approach in designing an isotropic negative-index material for infrared
Publication: Research - peer-review › Journal article – Annual report year: 2009

Observation of slow-light dynamics in coupled periodic waveguides
Ha, S., Sukhorukov, A. A., Powell, D. A., Shadrivov, I. V., Lavrinenko, A., Chigrin, D. N. & Kivshar, Y. S. 2009
Publication: Research - peer-review › Poster – Annual report year: 2009

Photonic applications of two-dimensional quasicrystals
Publication: Research - peer-review › Book chapter – Annual report year: 2009

Simplified 3D isotropic structure for negative index materials in the IR regime
Andryieuski, A., Malureanu, R. & Lavrinenko, A. 2009
Publication: Research - peer-review › Poster – 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 dynamics in nonlinear periodic waveguides couplers
Sukhorukov, A. A., Ha, S., Powell, D. A., Shadrivov, I. V., Lavrinenko, A., Chigrin, D. N. & Kivshar, Y. S. 2009
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

Slow light vortices in periodic waveguides
Publication: Research - peer-review › Journal article – Annual report year: 2009

Slow-light vortices in periodic waveguides
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

TaCoNa-Photonics 2008
Publication: Research - peer-review › Editorial – Annual report year: 2009

The split cube in a cage: bulk negative-index material for infrared applications
Publication: Research - peer-review › Journal article – Annual report year: 2009

Wave propagation method as an accurate technique for effective refractive index retrieving
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Wave propagation retrieval method for metamaterials: Unambiguous restoration of effective parameters
Publication: Research - peer-review › Journal article – Annual report year: 2009

1D Grating structures designed by the time domain topology optimization
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

Accurate analysis of planar metamaterials using the RLC theory
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

Band edge effects in photonic crystal waveguides: polarization conversion
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

Bistability and ultrafast mode switching in microlasers
Design and experimental realization of 3D photonic components via two-photon polymerization

Dispersionless tunneling of slow light in antisymmetric photonic-crystal couplers
Ha, S., Sukhorukov, A. A., Dossou, K. B., Botten, L. C., Lavrinenko, A., Chigrin, D. N. & Kivshar, Y. S. 2008 In : Optics Express. 16, 2, p. 1104-1114

Enhanced slow light in quantum dot photonic crystal waveguides

Experimental observation of slow light tunneling in coupled periodic waveguides

FDTD method in nanophotonics: 2D and 3D photonic crystals and lasing
Lavrinenko, A. 2008

Observation of slow light tunneling in coupled periodic waveguides

Optical Characterisation of Nanostructures Embedded in Materials

Photonic crystal couplers for slow light

Photonic crystal waveguides in artificial opals

Probing the dispersion properties of 1D nanophotonic waveguides with far-field Fourier optics
Pulse propagation in dispersive media
Publication: Research - peer-review › Poster – Annual report year: 2008

Pulse propagation in quantum dot photonic crystal waveguides
Publication: Research - peer-review › Poster – Annual report year: 2008

Slow light dispersion in coupled periodic waveguides
Publication: Research - peer-review › Journal article – Annual report year: 2008

Tunneling of slow light in coupled photonic crystal waveguides
Publication: Research - peer-review › Journal article – Annual report year: 2008

Coupled nanopillar waveguides: optical properties and applications
Publication: Research - peer-review › Journal article – Annual report year: 2007

A 'Couplonic' approach to out-of-phase coupled periodic waveguides
Publication: Research - peer-review › Poster – Annual report year: 2007

Artificial Opals as Nanophotonic Materials for Optical Communication
Publication: Research › Article in proceedings – Annual report year: 2007

Artificial opals as nanophotonic materials for optical communications
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

Effect of disorder on transmission characteristics of inverse-opal photonic crystals
Lavrinenko, A., Wohlleben, W. & Leyrer, R. J. 2007
Publication: Research - peer-review › Poster – Annual report year: 2007

Far-field investigation of slow-light propagating below the light cone in planar photonic structures
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

Far-field Investigation of slow-light propagating below the light cone in planar photonic structures
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

General covariance in computational electrodynamics
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2007
Grating-assisted superresolution of slow waves in Fourier space
Publication: Research - peer-review › Journal article – Annual report year: 2007

High numerical aperture real and fourier space investigation of planar photonic devices operating below the light cone
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

Imprinted silicon-based nanophotonics
Publication: Research - peer-review › Journal article – Annual report year: 2007

Mapping the broadband polarization properties of linear 2D SOI photonic crystal waveguides
Publication: Research - peer-review › Journal article – Annual report year: 2007

Multistable lasing in coupled micropillars and nanopillar waveguides: Mode switching dynamics
Publication: Research - peer-review › Poster – Annual report year: 2007

Optimization of photonic crystal 60 degrees waveguide bends for broadband and slow-light transmission
Publication: Research - peer-review › Journal article – Annual report year: 2007

Out-of-phase coupled periodic waveguides: a "couplonic" approach
Boucher, Y. G., Lavrinenko, A. & Chigrin, D. N. 2007 In: Optical and Quantum Electronics. 39, 10-11, p. 837-847
Publication: Research - peer-review › Journal article – Annual report year: 2007

Perfectly matched layer method in the finite-difference time-domain and frequency-domain calculations
Publication: Research - peer-review › Journal article – Annual report year: 2007

Perfectly matched layers in the finite-difference time-domain and frequency domain methods
Publication: Research - peer-review › Journal article – Annual report year: 2007

Preface
Publication: Research - peer-review › Journal article – Annual report year: 2007

Progress in photonic metamaterials based on artificial opals
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

Properties of octagonal quasi-crystals and their photonic applications
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007
Q-Factor calculations with the finite-difference time-domain method
Ivinskaya, A. & Lavrinenko, A. 2007
Publication: Research - peer-review › Poster – Annual report year: 2007

Reflective configuration in a system for nonlinear polarization spectroscopy
Publication: Research - peer-review › Journal article – Annual report year: 2007

Selective lasing in multimode periodic and non-periodic nanopillar waveguides
Publication: Research - peer-review › Journal article – Annual report year: 2007

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

Special issue on optical waveguide theory and numerical modelling - Preface
Lavrinenko, A. & Roberts, P. J. 2007 In : Optical and Quantum Electronics. 39, 10-11, p. 795-796
Publication: Research - peer-review › Journal article – Annual report year: 2007

Strong mode coupling, bistable lasing and switching mode dynamics in twin coupled microcavities
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

Switchable lasing in multimode coupled photonic microcavities
Publication: Research - peer-review › Poster – Annual report year: 2007

Switchable lasing in multimode microcavities
Publication: Research - peer-review › Poster – Annual report year: 2007

The finite-difference time-domain modeling of bi-directional transmission spectra in thin 3-dimensional opal-based photonic crystals
Lavrinenko, A. & Romanov, S. G. 2007
Publication: Research - peer-review › Poster – Annual report year: 2007

Topology optimization of slow light coupling to photonic crystal waveguides
Publication: Research - peer-review › Journal article – Annual report year: 2007

Topology-optimized and dispersion-tailored photonic crystal slow-light devices
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

A linear electrooptic effect in silicon, induced by use of strain
Publication: Research - peer-review › Article in proceedings – Annual report year: 2006
Tailoring the group velocity in photonic crystal waveguides

Coupled mode theory of periodic waveguides arrays
Lavrinenko, A. & Chigrin, D. N. 2005

Coupled periodic waveguides: From basic idea to efficient photonics components

Design of a WDM add-drop filter based on a photonic quasicrystal
Romero-Vivas, J., Chigrin, D. N., Lavrinenko, A. & Sotomayor Torres, C. M. 2005

Direct experimental and numerical determination of extremely high group indices in photonic crystal waveguides

Direct numerical and experimental determination of group index dispersion in photonic crystal waveguides

Extreme group index measured and calculated in 2D SOI-based photonic crystal waveguides

Optimization and applications of planar silicon-based photonic crystal devices

Out-of-Phase Coupled Periodic Micro-Structured Waveguides

Photonic crystal waveguides based on an antiresonant reflecting platform

Photonic frequency-sensitive components based on coupled nanopillar periodic waveguides
Photonic quasicrystals for application in WDM systems

Resonant add-drop filter based on a photonic quasicrystal
Romero-Vivas, J., Chigrin, D. N., Lavrinenko, A. & Sotomayor Torres, C. M. 2005 In : Optics Express. 13, 3, p. 826-835

Ring resonator add/drop filter based on a Photonic Crystal
Romero-Vivas, J., Chigrin, D. N., Lavrinenko, A. & Sotomayor Torres, C. M. 2005

Simulation and measurement of slow light in photonic crystal waveguides

Slow light in photonic crystal waveguides

Slow light in photonic crystal waveguides

Spectral self-similarity in fractal one-dimensional photonic structures
Zhukovsky, S. V. & Lavrinenko, A. 2005

Comprehensive FDTD modelling of photonic crystal waveguide components

Efficient waveguiding in nanopillars periodic photonic waveguides
Lavrinenko, A. & Chigrin, D. N. 2004

Optical waves in one-dimensional fractal inhomogeneous media.

Photonic Crystal Waveguides in Triangular Lattice of Nanopillars

Propagation of light in periodic layered structures and waveguides based on photonic crystals.
Dielectric multilayer waveguides for TE and TM mode matching

Propagation of TE and TM polarised light through smoothed sixty degree bends in planar photonic crystal waveguides

Properties of directional couplers using photonic crystal waveguides

Very high coupling of TM polarised light in photonic crystal directional couplers

Very low losses for TM polarized light in photonic crystal waveguides

Designing large-bandwidth planar photonic crystal waveguides

Large-bandwidth planar photonic crystal waveguides
Søndergaard, T. & Lavrinenko, A. 2002 In : Optics Communications. 203, 3-6, p. 263-270

Modeling of coupled waveguide systems
Thorhauge, M., Lavrinenko, A. & Søndergaard, T. 2002 IQEC/LAT.

Operator formalism in polarization nonlinear optics and spectroscopy of polarization inhomogeneous media.

Propagation loss in photonic crystal waveguides

Resource-saving application of FDTD technique in 3D photonic crystal waveguide calculations

3D numerical analysis of transmission in photonic crystal waveguides
Lavrinenko, A. 2001

Publication: Research - peer-review › Book chapter – Annual report year: 2004

Publication: Research - peer-review › Journal article – Annual report year: 2003

Publication: Research - peer-review › Article in proceedings – Annual report year: 2003

Publication: Research - peer-review › Article in proceedings – Annual report year: 2003

Publication: Research - peer-review › Article in proceedings – Annual report year: 2003

Publication: Research - peer-review › Article in proceedings – Annual report year: 2003

Publication: Research - peer-review › Article in proceedings – Annual report year: 2003

Publication: Research - peer-review › Article in proceedings – Annual report year: 2003

Publication: Research - peer-review › Article in proceedings – Annual report year: 2003

Publication: Research - peer-review › Article in proceedings – Annual report year: 2002

Publication: Research - peer-review › Journal article – Annual report year: 2002

Publication: Research - peer-review › Article in proceedings – Annual report year: 2002

Publication: Research - peer-review › Article in proceedings – Annual report year: 2002

Publication: Research - peer-review › Paper – Annual report year: 2002

Publication: Research - peer-review › Article in proceedings – Annual report year: 2002

Publication: Research - peer-review › Article in proceedings – Annual report year: 2002

Publication: Research - peer-review › Poster – Annual report year: 2001
Development of new functional methods in modern electrodynamics, optics and acoustics of complex media.
Publication: Research - peer-review › Article in proceedings – Annual report year: 2001

Planar photonic crystal waveguides
Publication: Research - peer-review › Journal article – Annual report year: 2001

Scalability and self-similarity in optical Cantor multilayers
Publication: Research - peer-review › Poster – Annual report year: 2001

Theoretical analysis of finite-height planar photonic crystal waveguides
Publication: Research › Article in proceedings – Annual report year: 2001

Projects:

Quantum emitters in Epsilon-Near-Zero Medium
Vertchenko, L., Lavrinenko, A. & Akopian, N.
01/03/2017 → 29/02/2020
Project: PhD

Dark-field hyperlens: Superresolution imaging and label-free sensing device for biological applications
Lavrinenko, A., Novitsky, A., Takayama, O., Shkondin, E. & Repän, T.
01/06/2016 → 06/09/2019
Project: PhD

Fabrication and characterization of hyperbolic metamaterials
Sukham, J., Malureanu, R., Lavrinenko, A. & Stenger, N.
01/04/2016 → 31/03/2019
Project: PhD

Dark-field hyperlens: high-contrast subwavelength imaging in optics and acoustics
Repän, T., Lavrinenko, A. & Willatzen, M.
01/09/2015 → 31/08/2018
Project: PhD

Near-Field Microscopy of Plasmonic Nanostructures
01/09/2014 → 31/08/2017
Project: PhD

Design and fabrication of mid-infrared plasmonic materials based on highly doped III-V semiconductors
Panah, M. E. A., Lavrinenko, A., Semenova, E., Yvind, K., Bordo, V. G. & Engheta, N.
15/02/2014 → 23/08/2017
Project: PhD

System solution for low-cost, energy-efficient, high speed acces, backhaul and front haul networks
15/02/2014 → 08/03/2017
Project: PhD
Fabrication of hyperbolic metamaterials using atomic layer deposition
Shkondin, E., Lavrinenko, A., Jensen, F., Hansen, O., Kovalgin, A. Y. & Strangi, G.
15/11/2013 → 08/03/2017
Project: PhD

Thin-film deposition and characterization of new solar cell materials
01/08/2013 → 08/02/2017
Project: PhD

Nonlinear optical properties of ultra-thin metal layers
Lysenko, O., Lavrinenko, A., Bache, M., Mortensen, N. A., Leosson, K. & Shalaev, V. M.
15/06/2013 → 17/08/2016
Project: PhD

Hybrid III-V-on-Si laser with ultralow energy consumption
01/02/2013 → 04/09/2016
Project: PhD

Hybrid Photonic Metamaterials at the Multiscale
Zhukovsky, S. & Lavrinenko, A.
01/10/2012 → 30/09/2014
Project

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

Sino-Danish network activity on nanoplasmonics
01/03/2012 → 31/12/2012
Project

Homogenization and Realization of Periodically Structured Materials
01/06/2011 → 18/03/2015
Project: PhD

Structural color effects on plastic surfaces
Christiansen, A. B., Kristensen, A., Mortensen, N. A., Lavrinenko, A., Ahopelto, J. K. & Sutherland, D.
01/04/2011 → 20/08/2014
Project: PhD

Metal nanocrystal enhanced thin film solar cells
Gritti, C., Lavrinenko, A., Kardynal, B., Malureanu, R., Ou, H., Belov, P. & Larsen, A. N.
15/01/2011 → 12/12/2014
Project: PhD

Metal-dielectric-metal waveguides as ultrafast CMOS compatible modulators
15/10/2010 → 11/12/2013
Project: PhD
Optical modulator at THz frequencies
Zalkovskij, M., Lavrinenko, A., Jepsen, P. U., Malureanu, R., Mortensen, N. A., Keiding, S. R. & Planken, P. C. M.
01/05/2010 → 15/01/2014
Project: PhD

THz Control over an Optical Wave
01/04/2010 → 31/03/2013
Project

Optimization of Metamaterials
Andkjær, J. A., Sigmund, O., Breinbjerg, O., Mortensen, N. A., Lavrinenko, A., Bozhevolnyi, S. I. & Leugering, G.
01/02/2009 → 02/05/2012
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

Slow-light photonics
Sukhorukov, A. & Lavrinenko, A.
01/01/2009 → 31/12/2010
Project

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

Negative Index Materials and Plasmonic Antennas Based Nanocoupler
Andryieuski, A., Lavrinenko, A., Malureanu, R., Breinbjerg, O., Martin, O. J. & Willatzen, M.
01/06/2008 → 23/11/2011
Project: PhD

Negative Index Materials Based nano-Couplers
Lavrinenko, A., Malureanu, R. & Andryieuski, A.
01/06/2008 → 31/12/2011
Project

Metamaterials for on-chip-nano-manipulation and imaging
Nielsen, R. B., Hvam, J. M., Boltasseva, A., Kristensen, A., Lavrinenko, A., Maier, S. & Rubahn, H.
01/10/2007 → 25/05/2011
Project: PhD

Silicon-based Nanophotonic Structures for Controlling Light
Yang, L., Hvam, J. M., Lavrinenko, A., Sigmund, O., Melloni, A. & Willatzen, M.
01/11/2006 → 20/04/2011
Project: PhD

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

01/01/2006 → 31/12/2008
**Project**

**Activities:**

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

**4th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics**
Lavrinenko, A. (Participant)
13 Sep 2010 → 16 Sep 2010
Activity: Attending an event › Participating in or organising a conference

**International Congress on Advanced electromagnetic Magterials in Microwaves and Optics**
Lavrinenko, A. (Participant)
13 Sep 2010
Activity: Attending an event › Participating in or organising a conference

**Advanced Topics in Optoelectronics, Microelectronics and Nanotechnologies**
Lavrinenko, A. (Participant)
26 Aug 2010 → 29 Aug 2010
Activity: Attending an event › Participating in or organising a conference

**Photonics Europe**
Lavrinenko, A. (Speaker)
12 Apr 2010 → 16 Apr 2010
Activity: Talks and presentations › Conference presentations

**Photonics Europe: Coupling of cavities - the way to impose control over their modes**
Lavrinenko, A. (Speaker)
12 Apr 2010 → 16 Apr 2010
Activity: Talks and presentations › Conference presentations

**International Workshop on Optical Waveguide Theory and Numerical Modelling ( OWTNM); 19**
Lavrinenko, A. (Speaker)
9 Apr 2010 → 10 Apr 2010
Activity: Talks and presentations › Conference presentations

**International Workshop on Photonic Nanomaterials ( PhoNa-2010); 6 (Event)**
Lavrinenko, A. (Reviewer)
24 Mar 2010 → 25 Mar 2010
Activity: Research › Peer review of manuscripts
Dansk Fysisk Selskab Årsmøde 2009
Lavrinenko, A. (Participant)
16 Jun 2009 → 18 Jun 2009
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.

3D isotropic double negative material design for infrared
Lavrinenko, A. (Speaker)
3 Dec 2008 → 5 Dec 2008
Activity: Talks and presentations › Conference presentations

The First International Workshop on Theoretical and Computational nano-photonics TaCoNa-Photonics
Lavrinenko, A. (Participant)
3 Dec 2008 → 5 Dec 2008
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.

Progress in photonic metamaterials based on artificial opals; I10/I1-1: ICONO/LAT 2007
Lavrinenko, A. (Speaker)
28 May 2007 → 1 Jun 2007
Activity: Talks and presentations › Conference presentations