Ole Sigmund - DTU Orbit (20/01/2019)

Sigmund, Ole

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Department of Mechanical Engineering - Professor

Solid Mechanics

Research outputs:

Design of segmented off-diagonal thermoelectric generators using topology optimization
Research output: Research - peer-review › Journal article – Annual report year: 2019

Stress-constrained topology optimization considering uniform manufacturing uncertainties
Research output: Research - peer-review › Journal article – Annual report year: 2019

Acoustic Rainbows Passive Shaping of Free Space Sound Emission
Christiansen, R. E. & Sigmund, O. 2018 p. 1
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2018

A density-based topology optimization methodology for thermoelectric energy conversion problems
Lundgaard, C. & Sigmund, O. 2018 In : Structural and Multidisciplinary Optimization. 57, 4, p. 1427-1442
Research output: Research - peer-review › Journal article – Annual report year: 2018

A non-linear material interpolation for design of metallic nano-particles using topology optimization
Research output: Research - peer-review › Journal article – Annual report year: 2018

A "poor man's approach" to topology optimization of cooling channels based on a Darcy flow model
Research output: Research - peer-review › Journal article – Annual report year: 2018

Benchmarking five numerical simulation techniques for computing resonance wavelengths and quality factors in photonic crystal membrane line defect cavities
Research output: Research - peer-review › Journal article – Annual report year: 2018

Benchmarking state-of-the-art numerical simulation techniques for analyzing large photonic crystal membrane line defect cavities
Research output: Research - peer-review › Article in proceedings – Annual report year: 2018

Benchmarking state-of-the-art optical simulation methods for analyzing large nanophotonic structures
Research output: Research - peer-review › Article in proceedings – Annual report year: 2018
Buckling strength topology optimization of 2D periodic materials based on linearized bifurcation analysis
Research output: Research - peer-review › Journal article – Annual report year: 2018

Density based topology optimization of turbulent flow heat transfer systems
Research output: Research - peer-review › Journal article – Annual report year: 2018

Design of finite optical cavities using topology optimization
Wang, F., Christiansen, R. & Sigmund, O. 2018 1 p.
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2018

Design of passive coolers for light-emitting diode lamps using topology optimisation
Research output: Research - peer-review › Journal article – Annual report year: 2018

Dose regularization via filtering and projection: An open-source code for optimization-based proximity-effect-correction for nanoscale lithography
Eriksen, E. H., Nazir, A., Balling, P., Vester-Petersen, J., Christiansen, R. E., Sigmund, O. & Madsen, S. P. 2018 In : Microelectronic Engineering. 199, p. 52-57
Research output: Research - peer-review › Journal article – Annual report year: 2018

Eigenvalue topology optimization via efficient multilevel solution of the frequency response: Eigenvalue topology optimization
Research output: Research - peer-review › Journal article – Annual report year: 2018

Experimental validation of additively manufactured optimized shapes for passive cooling
Research output: Research - peer-review › Journal article – Annual report year: 2018

Field-enhancing photonic devices utilizing waveguide coupling and plasmonics - a selection rule for optimization-based design
Vester-Petersen, J., Madsen, S. P., Sigmund, O., Balling, P., Julsgaard, B. & Christiansen, R. E. 2018 In : Optics Express. 26, 18, p. A788-A795
Research output: Research - peer-review › Journal article – Annual report year: 2018

Frequency response as a surrogate eigenvalue problem in topology optimization
Research output: Research - peer-review › Journal article – Annual report year: 2018

Homogenization-based topology optimization for high-resolution manufacturable micro-structures
Research output: Research - peer-review › Journal article – Annual report year: 2018

Improving the efficiency of solar cells by upconverting sunlight using field enhancement from optimized nano structures
Research output: Research - peer-review › Journal article – Annual report year: 2018
Infill Optimization for Additive Manufacturing - Approaching Bone-like Porous Structures
Research output: Research - peer-review › Journal article – Annual report year: 2017

Investment casting and experimental testing of heat sinks designed by topology optimization
Research output: Research - peer-review › Journal article – Annual report year: 2018

Maximizing the quality factor to mode volume ratio for ultra-small photonic crystal cavities
Research output: Research - peer-review › Journal article – Annual report year: 2018

On the non-optimality of tree structures for heat conduction
Research output: Research - peer-review › Journal article – Annual report year: 2018

Optimal design of robust piezoelectric microgrippers undergoing large displacements
Ruiz, D. & Sigmund, O. 2018 In : Structural and Multidisciplinary Optimization. 75, p. 71-82
Research output: Research - peer-review › Journal article – Annual report year: 2018

Optimal design of robust piezoelectric unimorph microgrippers
Research output: Research - peer-review › Journal article – Annual report year: 2018

Optimal truss and frame design from projected homogenization-based topology optimization
Larsen, S. D., Sigmund, O. & Groen, J. P. 2018 In : Structural and Multidisciplinary Optimization. 57, 4, p. 1461-1474
Research output: Research - peer-review › Journal article – Annual report year: 2018

Revisiting density-based topology optimization for fluid-structure-interaction problems
Research output: Research - peer-review › Journal article – Annual report year: 2018

Shape morphing and topology optimization of fluid channels by explicit boundary tracking
Research output: Research - peer-review › Journal article – Annual report year: 2018

Shape preserving design of geometrically nonlinear structures using topology optimization
Research output: Research - peer-review › Journal article – Annual report year: 2018

Structural topology optimization of bridge girders in cable supported bridges
Baandrup, M. J., Aage, N. & Sigmund, O. 2018 8 p.
Research output: Research - peer-review › Paper – Annual report year: 2018

Topology optimization of a pseudo 3D thermofluid heat sink model
Research output: Research - peer-review › Journal article – Annual report year: 2018
Efficient topology optimization of multiscale and multiphysics problems

Experimental validation of systematically designed acoustic hyperbolic meta material slab exhibiting negative refraction
Christiansen, R. E. & Sigmund, O. 2016 In : Applied Physics Letters. 109, 10, 5 p., 101905
Research output: Research › peer-review › Journal article – Annual report year: 2016

Exploiting Additive Manufacturing Infill in Topology Optimization for Improved Buckling Load
Research output: Research › peer-review › Journal article – Annual report year: 2016

Improving topology optimization intuition through games
Research output: Research › peer-review › Journal article – Annual report year: 2016

Industrial Application of Topology Optimization for Combined Conductive and Convective Heat Transfer Problems
Research output: Research › peer-review › Journal article – Annual report year: 2016

Inverse design engineering of all-silicon polarization beam splitters
Research output: Research › peer-review › Article in proceedings – Annual report year: 2016

Large scale three-dimensional topology optimisation of heat sinks cooled by natural convection
Research output: Research › peer-review › Journal article – Annual report year: 2016

Length scale and manufacturability in density-based topology optimization
Research output: Research › peer-review › Journal article – Annual report year: 2016

On nanostructured silicon success
Sigmund, O., Jensen, J. S. & Frandsen, L. H. 2016 In : Nature Photonics. 10, 3, p. 142-143
Research output: Research › peer-review › Letter – Annual report year: 2016

On the implementation and effectiveness of morphological close-open and open-close filters for topology optimization
Schevenels, M. & Sigmund, O. 2016 In : Structural and Multidisciplinary Optimization. 54, 1, p. 15–21
Research output: Research › peer-review › Journal article – Annual report year: 2016

Topography Optimization for Additive Manufacturing
Topology optimization for simplified structural fire safety
Research output: Research - peer-review › Journal article – Annual report year: 2016

Topology optimization for transient heat transfer problems
Zeidan, S., Sigmund, O. & Lazarov, B. S. 2016 1 p.
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2016

Topology Optimization for Wave Propagation Problems with Experimental Validation

Topology optimization of piezo modal transducers with null-polarity phases
Donoso, A. & Sigmund, O. 2016 In : Structural and Multidisciplinary Optimization. 53, 2, p. 193-203
Research output: Research - peer-review › Journal article – Annual report year: 2015

Topology optimization of two-dimensional elastic wave barriers
Van Hoorickx, C., Sigmund, O., Schevenels, M., Lazarov, B. S. & Lombaert, G. 2016 In : Journal of Sound and Vibration. 376, p. 95-111
Research output: Research - peer-review › Journal article – Annual report year: 2016

Topology optimization of unsteady flow problems using the lattice Boltzmann method
Research output: Research - peer-review › Journal article – Annual report year: 2016

Topology optimized design of a transverse electric higher order mode converter
Research output: Research - peer-review › Article in proceedings – Annual report year: 2017

Topology-optimized mode converter in a silicon-on-insulator photonic wire waveguide
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

Topology optimized mode multiplexing in silicon-on-insulator photonic wire waveguides
Frellsen, L. F., Ding, Y., Sigmund, O. & Frandsen, L. H. 2016 In : Optics Express. 24, 15, p. 16866-16873
Research output: Research - peer-review › Journal article – Annual report year: 2016

3D interactive topology optimization on hand-held devices
Research output: Research - peer-review › Journal article – Annual report year: 2014

Combined Shape and Topology Optimization
Research output: Research › Ph.D. thesis – Annual report year: 2015

Combined shape and topology optimization of 3D structures
Research output: Research - peer-review › Conference article – Annual report year: 2014
Topology Optimization of Thermal Heat Sinks
Research output: Research - peer-review › Article in proceedings – Annual report year: 2015

Topology Optimized Architectures with Programmable Poisson's Ratio over Large Deformations
Research output: Research - peer-review › Journal article – Annual report year: 2015

Topology optimized design for silicon-on-insulator mode converter
Research output: Research - peer-review › Article in proceedings – Annual report year: 2015

Topology-optimized silicon photonic wire mode (de)multiplexer
Research output: Research - peer-review › Article in proceedings – Annual report year: 2015

Benefits and Challenges when Performing Robust Topology Optimization for Interior Acoustic Problems
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2014

Combined shape and topology optimization for minimization of von Mises Stress
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2014

Design of manufacturable 3D extremal elastic microstructure
Research output: Research - peer-review › Journal article – Annual report year: 2014

Design of materials with prescribed nonlinear properties
Research output: Research - peer-review › Journal article – Annual report year: 2014

Design of structurally colored surfaces based on scalar diffraction theory
Research output: Research - peer-review › Journal article – Annual report year: 2014

Interpolation scheme for fictitious domain techniques and topology optimization of finite strain elastic problems
Research output: Research - peer-review › Journal article – Annual report year: 2014

Inverse design of nanostructured surfaces for color effects
Research output: Research - peer-review › Journal article – Annual report year: 2014

On the realization of the bulk modulus bounds for two-phase viscoelastic composites
Research output: Research - peer-review › Journal article – Annual report year: 2014
Structural colours and applications to anodised aluminium surfaces
Research output: Research › Ph.D. thesis – Annual report year: 2015

Time domain topology optimization of 3D nanophotonic devices
Research output: Research - peer-review › Journal article – Annual report year: 2014

Topology optimisation of natural convection problems
Research output: Research - peer-review › Journal article – Annual report year: 2014

Topology Optimisation of Thermomechanical Functionally Graded Materials and Material Interfaces
Alexandersen, J., Lazarov, B. S. & Sigmund, O. 2014 1 p.
Research output: Research › Conference abstract for conference – Annual report year: 2014

Topology optimised design of robust material microstructures without length scale separation
Alexandersen, J., Lazarov, B. S. & Sigmund, O. 2014 1 p.
Research output: Research › Conference abstract for conference – Annual report year: 2014

Topology optimization for optical projection lithography with manufacturing uncertainties
Research output: Research - peer-review › Journal article – Annual report year: 2014

Topology optimization of fail-safe structures using a simplified local damage model
Research output: Research - peer-review › Journal article – Annual report year: 2014

Topology optimization using an explicit interface representation
Research output: Research - peer-review › Journal article – Annual report year: 2014

Topology optimization with flexible void area
Clausen, A., Aage, N. & Sigmund, O. 2014 In : Structural and Multidisciplinary Optimization. 50, 6, p. 927-943
Research output: Research - peer-review › Journal article – Annual report year: 2014

Topology-optimized broadband surface relief transmission grating
Research output: Research - peer-review › Conference article – Annual report year: 2014

Topology optimized mode conversion in a photonic crystal waveguide fabricated in siliconon-insulator material
Research output: Research - peer-review › Journal article – Annual report year: 2014

A Review of the Scattering-Parameter Extraction Method with Clarification of Ambiguity Issues In Relation to Metamaterial Homogenization
Experimental Validation of Topology Optimization for RF MEMS Capacitive Switch Design
Research output: Research - peer-review › Journal article – Annual report year: 2013

Improving Topology Optimization using Games
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2013

Interactive topology optimization on hand-held devices
Research output: Research - peer-review › Journal article – Annual report year: 2013

On the similarities between micro/nano lithography and topology optimization projection methods
Research output: Research - peer-review › Journal article – Annual report year: 2013

Optimization of extraordinary optical absorption in plasmonic and dielectric structures
Research output: Research - peer-review › Journal article – Annual report year: 2013

Reinforcement layout design for concrete structures based on continuum damage and truss topology optimization
Amir, O. & Sigmund, O. 2013 In : Structural and Multidisciplinary Optimization. 47, 2, p. 157-174
Research output: Research - peer-review › Journal article – Annual report year: 2013

Robust topology optimization accounting for geometric imperfections
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

Robust topology optimization accounting for misplacement of material
Research output: Research - peer-review › Journal article – Annual report year: 2012

Shape optimization of the stokes flow problem based on isogeometric analysis
Park, B-U., Seo, Y-D., Sigmund, O. & Youn, S-K. 2013 In : Structural and Multidisciplinary Optimization. 48, p. 965-977
Research output: Research - peer-review › Journal article – Annual report year: 2013

Structural Color Optimization using Scalar Diffraction Theory
Johansen, V. E. & Sigmund, O. 2013 1 p.
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2013

Topological design of electromechanical actuators with robustness toward over- and under-etching
Research output: Research - peer-review › Journal article – Annual report year: 2013

Topology Optimisation for Coupled Convection Problems
Research output: Research › Report – Annual report year: 2013
Topology Optimisation for Coupled Convection Problems
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2013

Topology Optimisation for Coupled Convection Problems
Alexandersen, J., Andreasen, C. S., Aage, N., Lazarov, B. S. & Sigmund, O. 2013
Research output: Research › Conference abstract for conference – Annual report year: 2013

Topology optimization approaches: A comparative review
Sigmund, O. & Maute, K. 2013 In : Structural and Multidisciplinary Optimization. 48, 6, p. 1031-1055
Research output: Research - peer-review › Journal article – Annual report year: 2013

Topology optimization of fluid-structure-interaction problems in poroelasticity
Research output: Research - peer-review › Journal article – Annual report year: 2013

Topology Optimization of Stressed Capacitive RF MEMS Switches
Research output: Research - peer-review › Journal article – Annual report year: 2013

Topology Optimization using an Explicit Interface Representation
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2013

Topology optimized cloak for airborne sound
Andkjær, J. A. & Sigmund, O. 2013 In : Journal of Vibration and Acoustics. 135, 4, 041011
Research output: Research - peer-review › Journal article – Annual report year: 2013

Topology Optimized Mode Conversion in a Photonic Crystal Waveguide
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2013

Topology optimized RF MEMS switches
Research output: Research - peer-review › Article in proceedings – Annual report year: 2013

Wavelength Selective 3D Topology Optimized Photonic Crystal Devices
Research output: Research - peer-review › Article in proceedings – Annual report year: 2013

Design of robust and efficient photonic switches using topology optimization
Research output: Research - peer-review › Journal article – Annual report year: 2012

Efficient reanalysis techniques for robust topology optimization
Research output: Research - peer-review › Journal article – Annual report year: 2012
Enhancing the Damping Properties of Viscoelastic Composites by Topology Optimization
Andreasen, C. S., Andreassen, E., Sigmund, O. & Jensen, J. S. 2012
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2012

Fundamental Limitations to Gain Enhancement in Periodic Media and Waveguides
Research output: Research - peer-review › Journal article – Annual report year: 2012

Fundamental limitations to gain enhancement in slow-light photonic structures
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012

High-performance slow light photonic crystal waveguides with topology optimized or circular-hole based material layouts
Research output: Research - peer-review › Journal article – Annual report year: 2012

Interactive topology optimization
Research output: Research › Conference abstract for conference – Annual report year: 2012

Inverse design of dielectric materials by topology optimization
Research output: Research › Journal article – Annual report year: 2012

Light Scattering of TiO₂ Nanoparticles Embedded in Polyurethane
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2012

Multiscale modeling and topology optimization of poroelastic actuators
Andreasen, C. S. & Sigmund, O. 2012 In: Smart Materials and Structures. 21, 6, p. Paper 065005
Research output: Research - peer-review › Journal article – Annual report year: 2012

Optimized manufacturable porous materials
Research output: Research › Conference abstract for conference – Annual report year: 2012

Plasmonic versus dielectric enhancement in thin-film solar cells
Research output: Research - peer-review › Journal article – Annual report year: 2012

Reduction of initial stress stiffening by topology optimization
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012

Robust topology design of periodic grating surfaces
Friis, K. S. & Sigmund, O. 2012 In: Optical Society of America. Journal B: Optical Physics. 29, 10, p. 2935-2943
Research output: Research - peer-review › Journal article – Annual report year: 2012
Sensitivity filtering from a continuum mechanics perspective
Sigmund, O. & Maute, K. 2012 In : Structural and Multidisciplinary Optimization. 46, 4, p. 471-475
Research output: Research - peer-review › Journal article – Annual report year: 2012

Systematic design of loss-engineered slow-light waveguides
Research output: Research - peer-review › Journal article – Annual report year: 2012

Systematic Design of Slow Light Waveguides
Research output: Research › Ph. D. thesis – Annual report year: 2012

Topology optimization considering material and geometric uncertainties using stochastic collocation methods
Lazarov, B. S., Schevenels, M. & Sigmund, O. 2012 In : Structural and Multidisciplinary Optimization. 46, 4, p. 597-612
Research output: Research - peer-review › Journal article – Annual report year: 2012

Topology optimization of antennas and resonators
Aage, N. & Sigmund, O. 2012
Research output: Research › Paper – Annual report year: 2012

Topology optimization of nano-photonic systems
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012

Topology optimization of optical surfaces
Friis, K. S. & Sigmund, O. 2012 1 p.
Research output: Research › Poster – Annual report year: 2012

Topology optimization with geometric uncertainties by perturbation techniques
Research output: Research - peer-review › Journal article – Annual report year: 2012

Towards all-dielectric, polarization-independent optical cloaks
Research output: Research - peer-review › Journal article – Annual report year: 2012

Wave Manipulation by Topology Optimization
Research output: Research › Ph. D. thesis – Annual report year: 2012

Antenna Miniaturization in Complex Electromagnetic Environments: Designs and Measurements of Electrically Small Antennas for Hearing-Aid Applications
Zhang, J., Breinbjerg, O., Mortensen, N. A. & Sigmund, O. Sep 2011 Kgs. Lyngby, Denmark: Technical University of Denmark (DTU).
Research output: Research › Ph. D. thesis – Annual report year: 2011

Automated Design of Advanced Mechatronic Systems
Research output: Research › Ph. D. thesis – Annual report year: 2011
Comparison between different dispersion engineering methods in slow light photonic crystal waveguides
Research output: Research - peer-review › Conference article – Annual report year: 2011

Efficient topology optimization in MATLAB using 88 lines of code
Andreasen, E., Clausen, A., Schevenels, M., Lazarov, B. S. & Sigmund, O. 2011 In : Structural and Multidisciplinary Optimization. 43, 1, p. 1-16
Research output: Research - peer-review › Journal article – Annual report year: 2011

Factorized parallel preconditioner for the saddle point problem
Lazarov, B. S. & Sigmund, O. 2011 In : International Journal for Numerical Methods in Biomedical Engineering. 27, 9, p. 1398-1410
Research output: Research - peer-review › Journal article – Annual report year: 2011

Filters in topology optimization based on Helmholtz-type differential equations
Research output: Research - peer-review › Journal article – Annual report year: 2011

Isogeometric shape optimization of photonic crystals via Coons patches
Research output: Research - peer-review › Journal article – Annual report year: 2011

Maximizing opto-mechanical interaction using topology optimization
Research output: Research - peer-review › Journal article – Annual report year: 2011

Minimal compliance design for metal–ceramic composites with lamellar microstructures
Piat, R., Sinchuk, Y., Vasoya, M. & Sigmund, O. 2011 In : Acta Materialia. 59, 12, p. 4835-4846
Research output: Research - peer-review › Journal article – Annual report year: 2011

Modelling of Active Semiconductor Photonic Crystal Waveguides and Robust Designs based on Topology Optimization
Research output: Research - peer-review › Article in proceedings – Annual report year: 2011

Multiscale optimization of saturated poroelastic actuators
Andreasen, C. S. & Sigmund, O. 2011
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2011

Multiscale topology optimization of solid and fluid structures
Research output: Research › Ph.D. thesis – Annual report year: 2011

On projection methods, convergence and robust formulations in topology optimization
Wang, F., Lazarov, B. S. & Sigmund, O. 2011 In : Structural and Multidisciplinary Optimization. 43, 6, p. 767-784
Research output: Research - peer-review › Journal article – Annual report year: 2011

On reducing computational effort in topology optimization: how far can we go?
Amir, O. & Sigmund, O. 2011 In : Structural and Multidisciplinary Optimization. 44, 1, p. 25-29
Research output: Research - peer-review › Journal article – Annual report year: 2011

On the usefulness of non-gradient approaches in topology optimization
Sigmund, O. 2011 In : Structural and Multidisciplinary Optimization. 43, 5, p. 589-596
Research output: Research - peer-review › Journal article – Annual report year: 2011
Robust design of large-displacement compliant mechanisms
Lazarov, B. S., Schevenels, M. & Sigmund, O. 2011 In : Mechanical Sciences. 2, 2, p. 175-182
Research output: Research - peer-review › Journal article – Annual report year: 2011

Robust topology optimization accounting for spatially varying manufacturing errors
Research output: Research - peer-review › Journal article – Annual report year: 2011

Robust topology optimization of photonic crystal waveguides with tailored dispersion properties
Research output: Research - peer-review › Journal article – Annual report year: 2011

Saturated poroelastic actuators generated by topology optimization
Andreasen, C. S. & Sigmund, O. 2011 In : Structural and Multidisciplinary Optimization. 43, 5, p. 693-706
Research output: Research - peer-review › Journal article – Annual report year: 2011

Systematic design of slow-light photonic waveguides
Research output: Research - peer-review › Journal article – Annual report year: 2011

Topology optimization for nano-photonic devices
Research output: Research - peer-review › Journal article – Annual report year: 2011

Topology Optimization for Transient Wave Propagation Problems
Research output: Research › Ph.D. thesis – Annual report year: 2011

Topology Optimization of Nanophotonic Devices
Research output: Research › Ph.D. thesis – Annual report year: 2011

Topology optimization of radio frequency and microwave structures
Research output: Research › Ph.D. thesis – Annual report year: 2011

Topology Optimization of Sub-Wavelength Antennas
Erentok, A. & Sigmund, O. 2011 In : I E E E Transactions on Antennas and Propagation. 59, 1, p. 58-69
Research output: Research - peer-review › Journal article – Annual report year: 2011

Topology optimization of ultra-fast nano-photonic switches
Research output: Research - peer-review › Conference article – Annual report year: 2011

Topology optimized low-contrast all-dielectric optical cloak
Research output: Research - peer-review › Journal article – Annual report year: 2011
Efficient use of iterative solvers in nested topology optimization
Amir, O., Stolpe, M. & Sigmund, O. Jul 2010 In : Structural and Multidisciplinary Optimization. 42, 1, p. 55-72
Research output: Research - peer-review • Journal article – Annual report year: 2010

A topology optimization method for design of negative permeability metamaterials
Diaz, A. R. & Sigmund, O. 2010 In : Structural and Multidisciplinary Optimization. 41, 2, p. 163-177
Research output: Research - peer-review • Journal article – Annual report year: 2010

Design of photonic bandgap fibers by topology optimization
Research output: Research - peer-review • Journal article – Annual report year: 2010

Efficient computational procedures for topology optimization of nonlinear structures
Amir, O., Stolpe, M. & Sigmund, O. 2010
Research output: Research - peer-review • Conference abstract for conference – Annual report year: 2010

Extreme non-linear elasticity and transformation optics
Gersborg, A. R. & Sigmund, O. 2010 In : Optics Express. 18, 18, p. 19020-19031
Research output: Research - peer-review • Journal article – Annual report year: 2010

On the unambiguous determination of effective optical properties of periodic metamaterials: a one-dimensional case study
Mortensen, A., Yan, M., Sigmund, O. & Breinbjerg, O. 2010 In : European Optical Society. 5, p. 10010
Research output: Research - peer-review • Journal article – Annual report year: 2010

Optimization of the pressure coupling coefficient in periodic poroelastic materials
Research output: Research - peer-review • Article in proceedings – Annual report year: 2010

Systematic and robust design of photonic crystal waveguides by topology optimization
Research output: Research - peer-review • Conference abstract – Annual report year: 2010

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

Topology optimization for transient response of photonic crystal structures
Research output: Research - peer-review • Journal article – Annual report year: 2010

Topology optimization of grating couplers for the efficient excitation of surface plasmons
Research output: Research - peer-review • Journal article – Annual report year: 2010

Topology optimization of metallic devices for microwave applications
Research output: Research - peer-review • Journal article – Annual report year: 2010

Topology-optimized slow-light couplers for ring-shaped photonic crystal waveguide
Research output: Research - peer-review • Article in proceedings – Annual report year: 2010
Approximate Reanalysis in Topology Optimization
Research output: Research - peer-review › Journal article – Annual report year: 2009

Design of one-dimensional optical pulse-shaping filters by time-domain topology optimization
Research output: Research - peer-review › Journal article – Annual report year: 2009

Efficient use of iterative solvers in nested topology optimization
Amir, O., Stolpe, M. & Sigmund, O. 2009 Eighth World Congress on Structural and Multidisciplinary Optimization. 
Research output: Research › Article in proceedings – Annual report year: 2009

Improving the acousto-optical interaction in a Mach-Zehnder interferometer
Dühring, M. B. & Sigmund, O. 2009 In : Journal of Applied Physics. 105, 8, p. 083529
Research output: Research - peer-review › Journal article – Annual report year: 2009

Manufacturing tolerant topology optimization
Sigmund, O. 2009 In : Acta Mechanica Sinica. 25, 2, p. 227-239
Research output: Research - peer-review › Journal article – Annual report year: 2009

Maximizing opto-elastic interaction using topology optimization
Gersborg, A. R. & Sigmund, O. 2009
Research output: Research › Sound/Visual production (digital) – Annual report year: 2009

Optimization of piezoelectric bimorph actuators with active damping for static and dynamic loads
Donoso, A. & Sigmund, O. 2009 In : Structural and Multidisciplinary Optimization. 38, 2, p. 171-183
Research output: Research - peer-review › Journal article – Annual report year: 2009

PDE-interpolations in topology optimization
Research output: Research - peer-review › Article in proceedings – Annual report year: 2009

Prospects for poor-man's cloaking with low-contrast all-dielectric optical elements
Mortensen, A., Sigmund, O. & Breinbjerg, O. 2009 In : Journal of the European Optical Society - Rapid Publications. 4, p. 5
Research output: Research - peer-review › Journal article – Annual report year: 2009

Sensitivity Filters In Topology Optimisation As A Solution To Helmholtz Type Differential Equation
Lazarov, B. S. & Sigmund, O. 2009 WCSMO-8 8th World Congress on Structural and Multidisciplinary Optimization - 8, 2009, LNEC, Lisbon, Portugal.
Research output: Research - peer-review › Article in proceedings – Annual report year: 2009

Systematic design of metamaterials by topology optimization
Research output: Research - peer-review › Article in proceedings – Annual report year: 2009

Topological material layout in plates for vibration suppression and wave propagation control
Larsen, A. A., Laksafoss, B., Jensen, J. S. & Sigmund, O. 2009 In : Structural and Multidisciplinary Optimization. 37, 6, p. 585-594
Research output: Research - peer-review › Journal article – Annual report year: 2009
Topology optimization of devices for wireless energy transfer: The design parametrization
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1D Grating structures designed by the time domain topology optimization

Acoustic design by topology optimization

A monolithic approach for topology optimization of electrostatically actuated devices

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Amir, O., Bendsøe, M. P. & Sigmund, O. 2008 Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2008

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Sardan, Ö., Nordström Andersen, K., MacDonald, A. N., Bøggild, P., Sigmund, O. & Horsewell, A. 2008 Research output: Research - peer-review › Poster – Annual report year: 2008

Focused Ion Beam (FIB) Modification of Topology Optimized Polysilicon Microgrippers

Geometric properties of optimal photonic crystals

Inverse design of dispersion compensating optical fiber using topology optimization
Riishede, J. & Sigmund, O. 2008 In : Journal of the Optical Society of America - B - Optical Physics. 25, 1, p. 88-97 Research output: Research - peer-review › Journal article – Annual report year: 2008

MAXIMIZING OPTO-ELASTIC INTERACTION
Transient Topology Optimization of Two-Dimensional Elastic Wave Propagation
Research output: Research - peer-review › Article in proceedings – Annual report year: 2008

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

Maximizing the Optical Band Gap in 2D Photonic Crystals
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Research output: Research - peer-review › Poster – Annual report year: 2007

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

Simulation of acousto-optical interaction in a Mach-Zehnder interferometer
Dühring, M. B., Sigmund, O. & Jensen, J. S. 2007
Research output: Research - peer-review › Poster – Annual report year: 2007

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Research output: Research - peer-review › Article in proceedings – Annual report year: 2007

Tailoring group velocity by topology optimization
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Topology optimization
Research output: Research - peer-review › Book chapter – Annual report year: 2007

Topology Optimization for Acoustic Structure Interaction Problems
Research output: Research - peer-review › Journal article – Annual report year: 2007
Topography optimization of acoustic-structure interaction problems using a mixed finite element formulation
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Topology Optimization of Metamaterial-Based Electrically Small Antennas
Research output: Research - peer-review › Article in proceedings – Annual report year: 2007

Topology optimization using a mixed formulation: An alternative way to solve pressure load problems
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Controlling the speed of light
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Current Developments in Topology Optimization and Material Design
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Optical characterisation of photonic wire and photonic crystal waveguides fabricated using nanoimprint lithography
Research output: Research - peer-review › Article in proceedings – Annual report year: 2006

Photonic crystal and quantum dot technologies for all-optical switch and logic device
Research output: Research - peer-review › Journal article – Annual report year: 2006

Photonic Crystals and Quantum Dots: Towards Integrated Optics for Advanced Ultra-Fast All-Optical Signal Processing
Research output: Research - peer-review › Article in proceedings – Annual report year: 2006

The pressure load problem revisited
Topological Design for Acoustic-Structure Interaction Problems with a Mixed Finite Element Method

Topological design optimization of structures, machines and materials: Status and perspectives

Topology optimised photonic crystal waveguide intersections with high-transmittance and low crosstalk

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Research output: Research - peer-review › Article in proceedings – Annual report year: 2005

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

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Notes and Exercises for the course: FEM-Heavy (41525), Fall semester
Sigmund, O. 2002
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Sigmund, O., Beukema, M. A. & Pedersen, J. E. 2001 17 May 2001
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Research output: Research - peer-review › Journal article – Annual report year: 2001

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Optimization of integrated magnetic field sensors
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Research output: Research › Journal article – Annual report year: 2000

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Research output: Research › Article in proceedings – Annual report year: 2000

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Research output: Research › Article in proceedings – Annual report year: 2000

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Compliant thermal microactuators
Research output: Research - peer-review › Conference article – Annual report year: 1999

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Compliant electrothermal microactuators
Research output: Research - peer-review › Article in proceedings – Annual report year: 1999

Compliant thermal microactuators
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On the Optimality of Bone Microstructure
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Design of Extreme Materials and Microrobots: Applications of Topology Optimization
Research output: Research › Journal article – Annual report year: 1998

Design of materials with extreme elastic or thermoelastic properties using topology optimization
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Gibiansky, L. V. & Sigmund, O. 1998
Research output: Research - peer-review › Report – Annual report year: 1998

New Developments in Handling Optimal Stress Constraints In Optimal Material Distributions
Research output: Research - peer-review › Article in proceedings – Annual report year: 1998

Numerical instabilities in topology optimization: A survey on procedures dealing with checkerboards, mesh-dependencies and local minima
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On the design of 1-3 piezo-composites using topology optimization
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On the design of hydrophones made as 1-3 piezoelectrics
Research output: Research - peer-review › Article in proceedings – Annual report year: 1998

Optimering af konstruktioneres topologi, form og materiale
Research output: Research - peer-review › Book chapter – Annual report year: 1998
Optimiering af konstruktioners topologi, form og materiale
Research output: Research › Article in proceedings – Annual report year: 1998

Optimization of structural topology, shape, and materials
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Research output: Research - peer-review › Book – Annual report year: 1998

Slope constrained Topology Optimization
Research output: Research - peer-review › Journal article – Annual report year: 1998

Systematic design of electrothermomechanical microactuators using topology optimization
Research output: Research - peer-review › Article in proceedings – Annual report year: 1998

Systematic design of micro actuators using topology optimization
Research output: Research - peer-review › Article in proceedings – Annual report year: 1998

Topology Optimization in Multiphysics Problems
Research output: Research - peer-review › Article in proceedings – Annual report year: 1998

Design of materials with extreme thermal expansion using a three-phase topology optimization method
Research output: Research - peer-review › Journal article – Annual report year: 1997

Design and fabrication of compliant mechanisms and material structures with negative Poisson's ratio
Research output: Research - peer-review › Journal article – Annual report year: 1997

Design and fabrication of compliant micromechanisms and structures with negative Poisson's ratio
Research output: Research - peer-review › Journal article – Annual report year: 1997

Design of materials with extreme thermal expansion using a three-phase topology optimization method
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Design of thermoelectric actuators using topology optimization
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Sigmund, O. & Torquato, S. 1997
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Research output: Research - peer-review › Journal article – Annual report year: 1996

Design and fabrication of compliant mechanisms and material structures with negative Poisson's ratio
Research output: Research - peer-review › Article in proceedings – Annual report year: 1996

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Design and manufacturing of material microstructures and micromechanisms
Sigmund, O. 1996 Proceedings of the 3rd Int. Conf. on Intelligent Materials, ICIM 96. SPIE, p. 856-866
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Sigmund, O. 1996
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On the design of Compliant mechanisms using topology optimization
Sigmund, O. 1996
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Some inverse problems in topology design of materials and mechanisms
Research output: Research - peer-review › Article in proceedings – Annual report year: 1996

Projects:

Design optimization for resilient composite material microstructures
Bluhm, G. L., Sigmund, O., Poulios, K. & Wang, F.
Samfinansieret - Andet
01/05/2018 → 30/04/2021
Project: PhD

Multiscale topology optimization strategies including local and global stability
Andersen, M. N., Sigmund, O., Aage, N. & Wang, F.
Samfinansieret - Andet
01/04/2018 → 31/03/2021
Project: PhD
PhD on Mesh Generation from Optimized Shapes
Stutz, F. C., Bærentzen, J. A., Aage, N. & Sigmund, O.
Fonde
01/02/2018 → 31/01/2021
Project: PhD

Development of ultra-high quality mechanical oscillators
Høj, D., Andersen, U. L. & Sigmund, O.
 Grundforskningsfonden
01/11/2017 → 31/10/2020
Project: PhD

Shape and Topology Optimization of Aeroelastic Systems
Conlan-Smith, C. J., Andreasen, C. S., Ramos Garcia, N. & Sigmund, O.
Samfinansieret - Andet
15/11/2017 → 14/11/2020
Project: PhD

Topology optimization for transient problems
Kristiansen, H., Aage, N., Poullos, K. & Sigmund, O.
Samfinansieret - Andet
15/09/2017 → 14/09/2020
Project: PhD

Innovativt design af ståldragere til kabelbårne broer
Baandrup, M. J., Poulsen, P. N., Olesen, J. F., Sigmund, O., Sigmund, O. & Polk, H.
Industrial PhD
01/01/2017 → 31/12/2019
Project: PhD

Topologioptimering af strømnings under multifysisk belastning
DTU-lønnet stipendie
01/02/2004 → 31/05/2007
Project: PhD

Multiscale design methods for Topology Optimization
Samfinansieret - Andet
01/01/2016 → 31/12/2018
Project: PhD

Topology Optimization of Thermoelectric Generators
Lundgaard, C., Sigmund, O., Engelbrecht, K., Lazarov, B. S., Aage, N., Lund, E., Wachtuka, G., Lund, E. & Wachtuka, G.
Samfinansieret - Andet
01/04/2015 → 06/09/2018
Project: PhD

Topology optimization of thermal heat sinks
Haertel, J. H. K., Engelbrecht, K., Lazarov, B. S., Sigmund, O., Frandsen, H. L., Dede, E. M. & Langelaar, M.
Forskningsrådsfinansiering
01/11/2014 → 18/04/2018
Project: PhD

Topology Optimization and Lattice Boltzmann Methods
Samfinansieret - Andet
01/09/2014 → 01/02/2018
Project: PhD

Development of interconnect substrates in silicon with flexible regions for multichip microsystems
Lisby, T., Hansen, O., Branebjerg, J., Sigmund, O., Dyrbye, K. & Schweitz, J.
Erhvervsforskerordningen
01/10/1998 → 27/01/2003
Project: PhD

Generation of Articulated Mechanisms by Optimization Techniques - Matrix Inequalities and Global Search
Kawamoto, A., Bendseee, M. P., Sigmund, O., Klit, P., Eberhard, P. & Klarbring, A.
Privatist
18/03/2005 → 18/03/2005
Project: PhD

Microtools for Automated Nanomanipulation
Sardan Sukas, Ø., Bøggild, P., Melhave, K., Sigmund, O., Jensen, J. S., Nelson, B. J. & Staufer, U.
Anden EU-finansiering
15/10/2006 → 03/03/2010
Project: PhD

Nanoresonators for high resolution mass detection
Davis, Z. J., Boisen, A., Hansen, O., Sigmund, O., Brand, O. & Brugger, J.
Anden EU-finansiering
01/02/2000 → 30/06/2003
Project: PhD

Mathematical programming methods for large-scale structural topology optimization
Rojas Labanda, S., Stolpe, M., Sigmund, O., Jensen, J. S., Evgrafov, A., Stingl, M. W. & Stingl, M. W.
Eksternt finansieret virksomhed
01/09/2012 → 28/01/2016
Project: PhD

Systematic design of nano-photonic systems
Wang, F., Jensen, J. S., Mørk, J., Sigmund, O., Pedersen, N. L., Qiu, M. & Tortorelli, D. A.
Programbevilling
01/09/2009 → 20/12/2012
Project: PhD

Optimal design of porous materials
Andreassen, E., Jensen, J. S., Sigmund, O., Thomsen, J. J., Høgsberg, J. B., Guedes, J. A. P. L. M. & Lund, E.
Forskningsrådsfinansiering
01/09/2011 → 19/03/2015
Project: PhD

Multiscale Optimization of Materials Subjected to Impact Loading
Andreassen, C. S., Sigmund, O., Jensen, J. S., Klarbring, A. & Rodrigues, H. C.
Forskningsrådsfinansiering
01/03/2008 → 28/09/2011
Project: PhD

Topology Optimization of Transient Optoelastic Wave-interaction Problems
Matzen, R., Sigmund, O., Jensen, J. S., Mørk, J., Diaz, A. R. & Kawamoto, A.
Forskningsrådsfinansiering
01/04/2008 → 31/08/2011
Project: PhD
Automated Design of Advanced Mechatronic Systems
Dupuis, J., Fan, Z., Goodman, E., Sigmund, O., Blanke, M., Jin, Y. & Zhang, Q.
Forskningsrådsfinansiering
15/05/2007 → 11/05/2011
Project: PhD

Fabrication, characterization and implementation of cantilevers for biochemical sensing
Thaysen, J., Boisen, A., Bouwstra, S., Grey, F., Frans de Rooij, N., Brugger, J. & Sigmund, O.
Forskningsrådsfinansiering
01/01/1999 → 16/11/2001
Project: PhD

Topology Optimisation for Multiscale Problems
Institut, samfinansiering
15/03/2013 → 09/12/2016
Project: PhD

Topology optimization for additive manufacturing
Institut, samfinansiering
01/03/2013 → 09/12/2016
Project: PhD

Optimal design af adaptive konstruktioner
Sigmund, O., Pedersen, P. & Bendse, M. P.
Gammel ordning u/skema-SU
09/12/1992 → 20/03/1995
Project: PhD

Teknologiudvikling for mikroakruatorer
Jonsmann, J., Bouwstra, S., Sigmund, O. & Sparsø, J.
Mic-Finansieret-SU
01/07/1996 → 17/07/2000
Project: PhD

Modelling and design of Anodised Aluminium Surfaces
Johansen, V. E., Sigmund, O., Aage, N., Breinbjerg, O., Mortensen, N. A., Berggren, M. & Shin, J. H.
1/3 FUU, 1/3 inst 1/3 Andet
01/12/2011 → 19/03/2015
Project: PhD

CMOS kompatible multilag metalliske mikrostrukturer for intelligente transducere
Ravnkilde, J. T., Hansen, O., Sigmund, O., Gravesen, P. & Wagner, B.
DTU-Su Stipendium, Eksperiment
01/03/1997 → 21/06/2001
Project: PhD

Topology optimization of non-linear compliant systems
Buhl, T., Pedersen, P., Sigmund, O., Olhoff, N., Bestle, D. & Bletzinger, K.
DTU-lønnet stipendie
01/09/1999 → 18/02/2003
Project: PhD
Topology Optimization of Non-linear Structures
DTU-lønnet stipendie
01/07/1999 → 18/11/2002
Project: PhD

Multi-scale Representations in Design Optimization
Poulsen, T. A., Sigmund, O., Bendsøe, M. P., Pedersen, P., Lund, E., Petersson, J. & Soto, C. A.
DTU-lønnet stipendie
01/09/1998 → 12/07/2002
Project: PhD

Topology Optimization of Surface Acoustic Wave Devices
Dühring, M. B., Sigmund, O., Jensen, J. S., Hansen, O., Maute, K. & Willatzen, M.
DTU-lønnet stipendie
01/02/2006 → 21/10/2009
Project: PhD

Geometrical Design Representations for Topology Optimization
Institut stipendie (DTU) Samf.
01/11/2011 → 23/01/2015
Project: PhD

Topology Optimization for Crashworthiness Design Using Approximate Procedures
Amir, O., Stolpe, M., Sigmund, O., Evgrafov, A., Klarbring, A. & Lund, E.
DTU-lønnet stipendie
15/09/2007 → 30/03/2011
Project: PhD

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

Investigation of Nano-resonators for Mass Detection
Dohn, S., Boisen, A., Hansen, O., Sigmund, O., Bouwstra, S. & Laegsgaard, E.
DTU-lønnet stipendie
01/09/2003 → 30/03/2007
Project: PhD

Topology Optimization Problems with Design-Dependent Sets of Constraints
Schou, M. H., Stolpe, M., Evgrafov, A., Sigmund, O., Jørgensen, J. B., Kocvara, M., Svanberg, K. & Kocvara, M.
DTU-lønnet stipendie
01/01/2006 → 30/06/2010
Project: PhD

Topology optimization for medium- to high-frequency applications
Christiansen, R. E., Sigmund, O., Jensen, J. S., Lazarov, B. S., Agerkvist, F. T., Berggren, M., Schevenels, M. & Berggren, M.
Institut, samfinansiering
15/06/2013 → 30/09/2016
Project: PhD

Antenna Miniaturization in Complex Environments
Zhang, J., Breinbjerg, O., Mortensen, N. A., Sigmund, O., Meincke, P., Vázquez, M. M. & Ziolkowski, R. W.
DTU-lønnet stipendie
01/01/2008 → 28/09/2011
Project: PhD

**Tool Optimization for Welding Processes**
Larsen, A. A.; Stolpe, M.; Hattel, J. H.; Sigmund, O.; Lindgren, L.; Duysinx, P. & Lund, E.
DTU, Samfinansiering
15/06/2006 → 10/02/2010
Project: PhD

**Smart indpakning af fiber lasere**
Voxen, L. H.; Sigmund, O.; Pedersen, J. E.; Poulsen, C.; Thomsen, J. J.; Santos, I.; Hald, J. & Tinnsten, M.
1/3 DTU-stip, 2/3 FUR/andet
01/12/2001 → 18/05/2005
Project: PhD

**Interactive Topology Optimization**
Nobel-Jørgensen, M.; Bærentzen, J. A.; Aage, N.; Sigmund, O.; Rose, M.; Singh, K. S.; van Keulen, A.; Singh, K. S. & van Keulen, A.
Institut stipendie (DTU) Samf.
01/04/2012 → 21/09/2015
Project: PhD

**Systematic Design of Miniaturized Devices for Energy Transfer**
Aage, N.; Sigmund, O.; Breinbjerg, O.; Mortensen, N. A.; Stolpe, M.; Diaz, A. R. & Kawamoto, A.
Institut stipendie (DTU)
01/01/2008 → 31/08/2011
Project: PhD

**Optimization of Metamaterials**
Andkjær, J. A.; Sigmund, O.; Breinbjerg, O.; Mortensen, N. A.; Lavrinenko, A.; Bozhevolnyi, S. I. & Leugering, G.
Institut stipendie (DTU) Samf.
01/02/2009 → 02/05/2012
Project: PhD

**Wireless Communication for Hearing Aid Systems**
Nour, B.; Breinbjerg, O.; Mortensen, N. A.; Sigmund, O.; Meincke, P.; Kabacik, P. & Nosich, A. I.
Institut stipendie (DTU) Samf.
01/12/2008 → 20/09/2012
Project: PhD

**Topology Optimisation for Convection Problems**
Alexandersen, J. & Sigmund, O.
30/08/2010 → 30/09/2011
Project: Research

**TOPTEN: Topology optimization of thermal heat sinks**
Engelbrecht, K.; Haertel, J. H. K.; Sigmund, O. & Lazarov, B. S.
01/11/2014 → 31/10/2017
Project: Research

**Topology Optimisation for Coupled Convection Problems**
Alexandersen, J.; Sigmund, O.; Andreasen, C. S. & Aage, N.
03/09/2012 → 22/02/2013
Project: Research

**NATEC: Nanophotonics for terabit communications : VKR centre of excellence - NATEC**
Topography Optimization - Methods, Convergence and Adaptive Finite Elements
Petersson, J., Bendsøe, M. P. & Sigmund, O.
01/03/1996 → 28/02/1997
Project: Research

Numerical problems in topology optimization
Sigmund, O., Petersson, J. & Bourdin, B.
01/01/1993 → …
Project: Research

Optimal topology design of dissipative structures
Bendsøe, M. P., Sigmund, O., Pedersen, C. B. W. & Taylor, J. E.
01/08/1998 → …
Project: Research

Improving the buckling performance of topology designed periodic microstructures
Bendsøe, M. P., Sigmund, O. & Neves, M.
01/01/1999 → 31/12/2000
Project: Research

Material Interpolation Schemes in Topology Design
Bendsøe, M. P. & Sigmund, O.
01/02/1999 → 31/12/2000
Project: Research

Optimal Design and manufacturing of composite materials
Sigmund, O. & Torquato, S.
01/09/1995 → …
Project: Research

Design and Manufacturing of MicroElectroMechanical Systems (MEMS)
Sigmund, O., Pedersen, N. L. & Tchemiak, D.
01/06/1994 → …
Project: Research

EDS: Design of metamaterials
Bendsøe, M. P., Sigmund, O. & Diaz, A. R.
Gaver, Private danske Fonde
01/05/2007 → 31/12/2007
Project: Research

Topological design optimization of structures, machines and materials : IUTAM-SYMPOSIUM
Bendsøe, M. P., Sigmund, O. & Olhoff, N.
[Ordinær drift UK 10], Gaver, Private danske Fonde
01/01/2004 → 31/12/2005
Project: Research

Topographic optimization of photonic crystals and application to ultra-small and ultra-fast optical signal processing devices
Asakawa, K., Sugimoto, Y., Watanabe, Y., Nakamura, S., Ishikawa, H., Awazu, K., Watanabe, A., Kristensen, M., Borel, P. I., Sigmund, O. & Baets, R.
Samarb. aftaler - Udenlandske offentlige og private
01/10/2004 → 30/09/2006
Project: Research

**Fonon**
Sigmund, O. & Tvergaard, V.
Forskningsrådene - STVF
01/01/2003 → 31/12/2005
Project: Research

**Activities:**

**DESIGN OF FINITE SIZE OPTICAL CAVITIES USING TOPOLOGY OPTIMIZATION**
Wang, F. (Speaker), Christiansen, R. E. (Other), Sigmund, O. (Other)
18 Sep 2018
Activity: Talks and presentations › Conference presentations

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

**Comsol Conference 2008**
Sigmund, O. (Participant)
4 Nov 2008 → 6 Nov 2008
Activity: Attending an event › Participating in or organising a conference

**ASME 2008 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference**
Sigmund, O. (Participant)
Activity: Attending an event › Participating in or organising a conference

**2008 MRS Spring Meeting & Exhibit**
Sigmund, O. (Participant)
Activity: Attending an event › Participating in or organising a conference