Publications:

Unified quantum theory of elastic and inelastic atomic scattering from a physisorbed monolayer solid
Publication: Research - peer-review › Journal article – Annual report year: 2017

A Branch and Bound Algorithm for a Class of Biobjective Mixed Integer Programs
Publication: Research - peer-review › Journal article – Annual report year: 2014

A Decomposition Algorithm for Mean-Variance Economic Model Predictive Control of Stochastic Linear Systems
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

A Mean-Variance Criterion for Economic Model Predictive Control of Stochastic Linear Systems
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

High-performance small-scale solvers for linear Model Predictive Control
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Interior Point Methods on GPU with application to Model Predictive Control
Publication: Research › Ph.D. thesis – Annual report year: 2014

Reflector antenna analysis using physical optics on Graphics Processing Units
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Atomic scattering from an adsorbed monolayer solid with a helium beam that penetrates to the substrate
Publication: Research - peer-review › Journal article – Annual report year: 2013

Designing Scientific Software for Heterogeneous Computing: With application to large-scale water wave simulations
Publication: Research › Ph.D. thesis – Annual report year: 2014

Development of software components for heterogeneous many-core architectures
Publication: Research - peer-review › Book chapter – Annual report year: 2013

A High-Order WENO Finite Difference Water Wave Model for Interactive Ship-Wave Simulation
Publication: Research - peer-review › Paper – Annual report year: 2012
High Resolution Orientation Distribution Function
Publication: Research - peer-review › Conference article – Annual report year: 2011

Iterative Methods for MPC on Graphical Processing Units
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2012

MPC Toolbox with GPU Accelerated Optimization Algorithms
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Numerical Methods for Solution of the Extended Linear Quadratic Control Problem
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Parallel Programming using OpenCL on Modern Architectures
Publication: Research › Report – Annual report year: 2012

Parallel Sparse Matrix-Vector Product: Pure MPI and hybrid MPI-OpenMP implementation
Publication: Research › Report – Annual report year: 2012

Development of an efficient GPU-accelerated model for fully nonlinear water waves
Publication: Research › Conference abstract for conference – Annual report year: 2010

Matematikken i computerens verden - computeren i matematikkens tjeneste
Publication: Education › Book chapter – Annual report year: 2009

Toward a scalable flexible-order model for 3D nonlinear water waves
Publication: Research › Conference abstract for conference – Annual report year: 2009

An Introduction to Programming using MATLAB
Publication: Education › Compendium/lecture notes – Annual report year: 2008

Estimation of non-linear continuous time models for the heat exchange dynamics of building integrated photovoltaic modules
Publication: Research - peer-review › Journal article – Annual report year: 2008

A matlab framework for estimation of NLME models using stochastic differential equations
Publication: Research - peer-review › Journal article – Annual report year: 2007

3D Topology optimization of Stokes flow problems
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2006

Parallel solution of systems of linear equations generated by COMSOL 3.2 using the Sun Performance Library
Publication: Research › Report – Annual report year: 2006

Topology optimization of mass distribution problems in Stokes flow
Publication: Research - peer-review › Poster – Annual report year: 2005

An Ensemble of Vesicles in Two Dimensions
Publication: Research - peer-review › Journal article – Annual report year: 1997

Effect of Vacancies and Surfactants on the Dynamics of Ordering Processes in Multi-component Systems
Publication: Research - peer-review › Journal article – Annual report year: 1996
Projects:

High Performance Computational Methods for Low-Noise Supercontinuum Lasers for Optical Coherence Tomography Systems
Project: PhD

Large-Scale Algorithms for Nano-Scale atomistic Simulations
Project: PhD

Scientific GPU Computing for Dynamical Optimization
Project: PhD

Scientific GPU Computing for PDE Solvers
Project: PhD

Model studies of random surfaces, interfaces, and microemulsions
Project: PhD

MEMPHYS -- Membrane and Statistical Physics Group
Project