Overnight glucose control in people with type 1 diabetes
Publication: Research - peer-review › Journal article – Annual report year: 2017

Evaluation of pharmacokinetic model designs for subcutaneous infusion of insulin aspart
Publication: Research - peer-review › Journal article – Annual report year: 2017

Adaptive control in an artificial pancreas for people with type 1 diabetes
Publication: Research - peer-review › Journal article – Annual report year: 2016

A least squares approach for efficient and reliable short-term versus long-term optimization
Christiansen, L. H., Capolei, A. & Jørgensen, J. B. 2017 In : Computational Geosciences. p. 1–16
Publication: Research - peer-review › Journal article – Annual report year: 2017

An Adaptive Nonlinear Basal-Bolus Calculator for Patients With Type 1 Diabetes
Publication: Research - peer-review › Journal article – Annual report year: 2016

An experimentally validated simulation model for a four-stage spray dryer
Publication: Research - peer-review › Journal article – Annual report year: 2017

C code generation applied to nonlinear model predictive control for an artificial pancreas
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Comparison of three control strategies for optimization of spray dryer operation
Publication: Research - peer-review › Journal article – Annual report year: 2017

Cross-Validation of a Glucose-Insulin-Glucagon Pharmacodynamics Model for Simulation using Data from Patients with Type 1 Diabetes
Design, economics and parameter uncertainty in dynamic operation of post-combustion CO$_2$ capture using piperazine (PZ) and MEA
Publication: Research - peer-review › Conference article – Annual report year: 2016

Dynamic Optimization of UV Flash Processes
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Economic MPC based on LPV model for thermostatically controlled loads
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Fault and meal detection by redundant continuous glucose monitors and the unscented Kalman filter
Publication: Research - peer-review › Journal article – Annual report year: 2017

Helbredstjek af dansk sundhedsteknologi: Sektorudviklingsrapport
Publication: Commissioned › Report – Annual report year: 2017

Implementation of advanced process control on the four tank pilot plant
Publication: Research › Report – Annual report year: 2017

Modeling Pharmacokinetics and Pharmacodynamics of Glucagon for Simulation of the Glucoregulatory System in Patients with Type 1 Diabetes.
Publication: Research › Ph.D. thesis – Annual report year: 2017

Multiple shooting applied to robust reservoir control optimization including output constraints on coherent risk measures
Publication: Research - peer-review › Journal article – Annual report year: 2017

Simulating clinical studies of the glucoregulatory system: in vivo meets in silico
Publication: Research › Report – Annual report year: 2017

Validation of a Simulation Model Describing the Glucose-Insulin-Glucagon Pharmacodynamics in Patients with Type 1 Diabetes
Publication: Research › Poster – Annual report year: 2017
Distributed Model Predictive Control for Smart Energy Systems
Publication: Research - peer-review › Journal article – Annual report year: 2016

Dynamic Operation and Simulation of Post-Combustion CO2 Capture
Publication: Research - peer-review › Conference article – Annual report year: 2016

Dynamic simulation and analysis of a pilot-scale CO₂ post-combustion capture unit using piperazine and MEA
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Economic Model Predictive Control for Spray Drying Plants
Publication: Research › Ph.D. thesis – Annual report year: 2016

Economic MPC for a linear stochastic system of energy units
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Industrial application of model predictive control to a milk powder spray drying plant
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Methods and Algorithms for Economic MPC In Power Production Planning
Publication: Research › Ph.D. thesis – Annual report year: 2016

Model Identification using Continuous Glucose Monitoring Data for Type 1 Diabetes
Publication: Research - peer-review › Conference article – Annual report year: 2016

Modeling and Control for Price Responsive Electricity Loads
Publication: Research › Ph.D. thesis – Annual report year: 2016

Modeling and Prediction Using Stochastic Differential Equations
Publication: Research - peer-review › Book chapter – Annual report year: 2016

Modelling of glucose-insulin-glucagon pharmacodynamics in man
Publication: Research - peer-review › Paper – Annual report year: 2016
A Homogeneous and Self-Dual Interior-Point Linear Programming Algorithm for Economic Model Predictive Control
Publication: Research - peer-review › Journal article – Annual report year: 2015

An artificial pancreas for automated blood glucose control in patients with Type 1 diabetes
Schmidt, S., Boiroux, D., Ranjan, A., Jørgensen, J. B., Madsen, H. & Nærgaard, K. 2015 In : Therapeutic Delivery. 6, 5, p. 211-221
Publication: Research - peer-review › Journal article – Annual report year: 2015

A novel tuning approach for offset-free MPC
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Bihormonal Closed-loop Control of Blood Glucose for People With Type 1 Diabetes - the Diacon Project
Publication: Research - peer-review › Conference abstract in journal – Annual report year: 2015

Bihormonal control of blood glucose in people with type 1 diabetes
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Comparison of Linear and Nonlinear Model Predictive Control for Optimization of Spray Dryer Operation
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Comparison of Prediction Models for a Dual-Hormone Artificial Pancreas
Publication: Research - peer-review › Conference article – Annual report year: 2015

Contingency-Constrained Unit Commitment in Meshed Isolated Power Systems
Publication: Research - peer-review › Journal article – Annual report year: 2015

Control of a post-combustion CO2 capture plant during process start-up and load variations
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Control of Electricity Load in Future Smart Cities
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2015
Control of Electricity Loads in Future Electric Energy Systems
Publication: Research - peer-review › Book chapter – Annual report year: 2015

Economic Model Predictive Control for Large-Scale and Distributed Energy Systems
Publication: Research › Ph.D. thesis – Annual report year: 2015

Economic Optimization of Spray Dryer Operation using Nonlinear Model Predictive Control with State Estimation
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Efficient solvers for soft-constrained MPC
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2015

High-Performance Small-Scale Solvers for Moving Horizon Estimation
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Modeling and Simulation of a Modified Quadruple Tank System
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Model predictive control for wind power gradients
Publication: Research - peer-review › Journal article – Annual report year: 2014

MPC Related Computational Capabilities of ARMv7A Processors
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Pharmacokinetics Modeling of Glucagon and a Novel Glucagon Analogue after Subcutaneous Administration in Dogs
Publication: Research › Poster – Annual report year: 2015

Real-time nonlinear MPC and MHE for a large-scale mechatronic application
Publication: Research - peer-review › Journal article – Annual report year: 2015

Remarks on models for estimating the carbohydrate to insulin ratio and insulin sensitivity in T1DM
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

The contribution of glucagon in an Artificial Pancreas for people with type 1 diabetes
A Dantzig-Wolfe decomposition algorithm for linear economic model predictive control of dynamically decoupled subsystems
Publication: Research - peer-review › Article in proceedings – 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 Family of High-Performance Solvers for Linear Model Predictive Control
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

A mean–variance objective for robust production optimization in uncertain geological scenarios
Publication: Research - peer-review › Journal article – Annual report year: 2014

Application of Constrained Linear MPC to a Spray Dryer
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

A Realistic Process Example for MIMO MPC based on Autoregressive Models
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

A Reduced Dantzig-Wolfe Decomposition for a Suboptimal Linear MPC
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Assessment of Model Predictive and Adaptive Glucose Control Strategies for People with Type 1 Diabetes
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

A tuning approach for offset-free MPC with conditional reference adaptation
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

A Tuning Approach for Offset-free MPC with Conditional Reference Adaptation.
Electric vehicle charge planning using Economic Model Predictive Control
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Fast Nonconvex Model Predictive Control for Commercial Refrigeration
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

High Order Adjoint Derivatives using ESDIRK Methods for Oil Reservoir Production Optimization
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

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

Model Predictive Control Algorithms for Pen and Pump Insulin Administration
Publication: Research › Ph.D. thesis – Annual report year: 2013

Model Predictive Control for an Industrial SAG Mill
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2012

Model predictive control for a smart solar tank based on weather and consumption forecasts
Publication: Research - peer-review › Conference article – Annual report year: 2012

Model predictive control technologies for efficient and flexible power consumption in refrigeration systems
Publication: Research - peer-review › Journal article – 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
Oil Reservoir Production Optimization using Single Shooting and ESDIRK Methods
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Optimal Energy Consumption in Refrigeration Systems - Modelling and Non-Convex Optimisation
Publication: Research - peer-review › Journal article – Annual report year: 2012

Optimisation of Oil Production in Two – Phase Flow Reservoir Using Simultaneous Method and Interior Point Optimiser
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2012

Optimization based tuning approach for offset free MPC
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Overnight Control of Blood Glucose in People with Type 1 Diabetes
Boiroux, D., Duun-Henriksen, A. K., Schmidt, S., Nørgaard, K., Madsbad, S., Skyggebjerg, O., Jensen, P. R., Poulsen, N. K., Madsen, H. & Jørgensen, J. B. 2012 *Biological and Medical Systems*. Vol. 8, p. 73-78 (IFAC Proceedings Volumes (IFAC-PapersOnline)).
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Proceedings of the 17th Nordic Process Control Workshop
Publication: Research - peer-review › Book – Annual report year: 2012

Production Optimization for Two-Phase Flow in an Oil Reservoir
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2012

Real-Time Optimization for Economic Model Predictive Control
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Sequential Convex Programming for Power Set-point Optimization in a Wind Farm using Black-box Models, Simple Turbine Interactions, and Integer Variables
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Simulation, Control and Optimization of Single Cell Protein Production in a U-Loop Reactor
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2012
Single Shooting and ESDIRK Methods for adjoint-based optimization of an oil reservoir
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Solution of Constrained Optimal Control Problems Using Multiple Shooting and ESDIRK Methods
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

State Estimation for the Automotive SCR Process
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2012

State Estimation in the Automotive SCR DeNOx Process
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Stochastic Model Predictive Control with Applications in Smart Energy Systems
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2012

Tuning of Controller for Type 1 Diabetes Treatment with Stochastic Differential Equations
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Tuning SISO offset-free Model Predictive Control based on ARX models
Publication: Research - peer-review › Journal article – Annual report year: 2012

Adaptive Disturbance Estimation for Offset-Free SISO Model Predictive Control
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Closed-Loop and Semi Closed-Loop Strategies for Control of Blood Glucose in People with Type 1 Diabetes
Publication: Research › Poster – Annual report year: 2011

Economic MPC for Power Management in the Smart Grid
Energy Efficient Refrigeration and Flexible Power Consumption in a Smart Grid

Exploiting Microorganisms for Animal Feed Production
Jørgensen, J. B. 2011

Finite Horizon MPC for Systems in Innovation Form

Flexible and Cost Efficient Power Consumption using Economic MPC: A Supermarket Refrigeration Benchmark

Hierarchical model-based predictive control of a power plant portfolio
Edlund, K., Bendtsen, J. D. & Jørgensen, J. B. 2011 In : Control Engineering Practice. 19, 10, p. 1126-1136

Insulin Administration for People with Type 1 diabetes

Model predictive control for plant-wide control of a reactor-separation-recycle system
Bialas, D. J., Huusom, J. K., Jørgensen, J. B. & Sin, G. 2011

NMPC for Oil Reservoir Production Optimization

Noise Modelling and MPC Tuning for Systems with Infrequent Step Disturbances

Noise Modelling and MPC Tuning for Systems with Infrequent Step Disturbances
Huusom, J. K., Poulsen, N. K., Jørgensen, S. B. & Jørgensen, J. B. 2011

Oil Reservoir Production Optimization using Optimal Control
On Implementing a Homogeneous Interior-Point Algorithm for Nonsymmetric Conic Optimization
Publication: Research › Report – Annual report year: 2011

Power Consumption in Refrigeration Systems - Modeling for Optimization
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Production Optimization of Oil Reservoirs
Publication: Research › Ph.D. thesis – Annual report year: 2012

Strategies for glucose control in people with type 1 diabetes
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Systematic identification and robust control design for uncertain time delay processes
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Towards benchmarking of multivariable controllers in chemical/biochemical industries: Plantwide control for ethylene glycol production
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

A Dantzig-Wolfe MPC Algorithm for Power Plant Portfolio Control
Publication: Research - peer-review › Journal article – Annual report year: 2010

Adaptive Step Size Control in Implicit Runge-Kutta Methods for Reservoir Simulation
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Application of Soft Constrained MPC to a Cement Mill Circuit
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

ARX-based Model Predictive Control of Systems with Time Delays
Huusom, J. K., Poulsen, N. K., Jørgensen, S. B. & Jørgensen, J. B. 2010
ARX-Model based Model Predictive Control with Offset-Free Tracking
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

ARX-Based Model Predictive Control with Offset-Free Tracking
Huusom, J. K., Poulsen, N. K., Jørgensen, S. B. & Jørgensen, J. B. 2010
Publication: Research › Sound/Visual production (digital) – Annual report year: 2010

ARX MPC for people with type 1 diabetes
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2010

DISTRIBUTED ELECTRICAL POWER PRODUCTION SYSTEM AND METHOD OF CONTROL THEREOF
Børresen, S., Edlund, K., Hilger, K. B., Jørgensen, J. B., Mølbak, T. & Mortensen, J. H. 2010
Publication: Research › Patent – Annual report year: 2010

Explicit Singly Diagonally Implicit Runge-Kutta Methods and Adaptive Stepsize Control for Reservoir Simulation
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Implications and Limitations of Ideal Insulin Administration for People with Type 1 Diabetes
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Meal Estimation in Nonlinear Model Predictive Control for Type 1 Diabetes
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Modeling and Simulation of Single Cell Protein Production
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Modeling and Simulation of Single Cell Protein Production
Publication: Research › Sound/Visual production (digital) – Annual report year: 2010

Model predictive control for plant-wide control of a reactor-separator-recycle system
Publication: Research › Article in proceedings – Annual report year: 2010

Model predictive control for reactor-separator-recycle system
Bialas, D. J., Huusom, J. K., Jørgensen, J. B. & Sin, G. 2010
Publication: Research › Poster – Annual report year: 2010
Model Predictive Control for Smart Energy Systems
Jørgensen, J. B., Edlund, K., Hovgaard, T. G. & Sokoler, L. E. 2010
Publication: Communication › Sound/Visual production (digital) – Annual report year: 2010

Nonlinear Model Predictive Control for an Artificial Beta-Cell
Publication: Research - peer-review › Book chapter – Annual report year: 2010

Optimal Insulin Administration for People with Type 1 Diabetes
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Optimal Operating Points for SCP Production in the U-Loop Reactor
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Optimal Operating Points for SCP Production in the U-Loop Reactor
Publication: Research › Sound/Visual production (digital) – Annual report year: 2010

Potential of Economic Model Predictive Control for Management of Multiple Power Producers and Consumers
Hovgaard, T. G., Jørgensen, J. B. & Edlund, K. 2010
Publication: Research › Sound/Visual production (digital) – Annual report year: 2010

Production Optimization for Two-Phase Flow in an Oil Reservoir
Völcker, C., Jørgensen, J. B., Thomsen, P. G. & Stenby, E. H. 2010
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2010

Robust model identification applied to type 1diabetes
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Single-Cell Protein Production in a U-Loop Reactor
Publication: Research › Sound/Visual production (digital) – Annual report year: 2010

Single-Cell Protein Production in a U-Loop Reactor
Publication: Research › Article in proceedings – Annual report year: 2010

Systematic Model Analysis for Single Cell Protein (SCP) Production in a U-Loop Reactor
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Systematic Model Analysis for Single Cell Protein (SCP) Production in a U-Loop Reactor
Publication: Research › Sound/Visual production (digital) – Annual report year: 2010
The Potential of Economic MPC for Power Management
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Tuning of ARX-based Model Predictive Control for Offset-free Tracking
Huusom, J. K., Poulsen, N. K., Jørgensen, S. B. & Jørgensen, J. B. 2010
Publication: Research › Sound/Visual production (digital) – Annual report year: 2010

Tuning of ARX-based Model Predictive Control for Offset-free Tracking
Huusom, J. K., Poulsen, N. K., Jørgensen, S. B. & Jørgensen, J. B. 2010
Publication: Research › Sound/Visual production (digital) – Annual report year: 2010

Tuning of ARX-based Model Predictive Control for Offset-free Tracking
Publication: Research › Article in proceedings – Annual report year: 2010

Tuning of ARX-based Model Predictive Control for Offset-free Tracking
Huusom, J. K., Poulsen, N. K., Jørgensen, S. B. & Jørgensen, J. B. 2010
Publication: Research › peer-review › Poster – Annual report year: 2010

Tuning of methods for offset free MPC based on ARX model representations
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Tuning of Offset-Free ARX-based SISO Model Predictive Control
Huusom, J. K., Poulsen, N. K., Jørgensen, S. B. & Jørgensen, J. B. 2010 CDC49.
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Adaptive Disturbance Estimation for Offset-Free Model Predictive Control
Huusom, J. K., Poulsen, N. K., Jørgensen, S. B. & Jørgensen, J. B. 2009 Technical University of Denmark (DTU).
Publication: Research - peer-review › Report – Annual report year: 2009

A Primal-Dual Interior Point-Linear Programming Algorithm for MPC
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Convex Optimization for System Identification and Control
Jørgensen, J. B. 2009 14th Belgian-French-German Conference on Optimization.
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2009

DiaCon: an interdisciplinary approach to diabetes control
Publication: Research - peer-review › Poster – Annual report year: 2009

Efficient Computational Methods for Model Predictive Control
Jørgensen, J. B. 2009
Publication: Research › Sound/Visual production (digital) – Annual report year: 2009
Glucose modeling and prediction using physical activity variables
Publication: Research - peer-review › Poster – Annual report year: 2009

Improvements to least-squares model identification: an application to diabetes modeling
Publication: Research › Sound/Visual production (digital) – Annual report year: 2009

Modelling, Simulation and Optimization of Single-Cell Protein Production in a U-Loop Reactor
Publication: Research › Sound/Visual production (digital) – Annual report year: 2009

Moving Horizon Estimation based on Finite Impulse Response Models
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Simulation of Subsurface Two-Phase Flow in an Oil Reservoir
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Simulation of Two-Phase Flow in an Oil Reservoir using Adaptive High-Order Runge-Kutta based Time-Integration
Völcker, C., Jørgensen, J. B., Thomsen, P. G. & Stenby, E. H. 2009
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2009

Soft Constraints for Robust MPC of Uncertain Systems
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

A Dynamic Model for a Cupola Furnace
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2008

A Generalized Autocovariance Least-Squares Method for Kalman Filter Tuning
Publication: Research - peer-review › Journal article – Annual report year: 2008

A Runge-Kutta Based Software Package for Nonlinear Model Predictive Control
Jørgensen, J. B. 2008 International Workshop on Assessment and Future Directions of NMPC. 
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

DIACON, Control Algorithms for Semi- and Fully-Automated Pen and Pump Insulin Administration
Jørgensen, J. B. 2008
Publication: Research › Sound/Visual production (digital) – Annual report year: 2008

Model Predictive Control based on Finite Impulse Response Models
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

Model Predictive Control for Uncertain Systems
Muralidharan, G. & Jørgensen, J. B. 2008
Publication: Research › Sound/Visual production (digital) – Annual report year: 2008
Model Predictive Control for Uncertain Systems
Muralidharan, G. & Jørgensen, J. B. 2008
Publication: Research › Sound/Visual production (digital) – Annual report year: 2008

Moving Horizon Control and Estimation of Livestock Ventilation Systems and Indoor Climate
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

Prevent Refrigerated Foodstuff in the Supermarket from Discard
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

Software for Large-Scale Nonlinear Model Predictive Control
Jørgensen, J. B. 2008
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2008

Unreachable Setpoints in Model Predictive Control
Publication: Research - peer-review › Journal article – Annual report year: 2008

A Computational Efficient and Robust Implementation of the Continuous-Discrete Extended Kalman Filter
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

A Computationally Efficient and Robust Implementation of the Continuous-Discrete Extended Kalman Filter
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

A Critical Discussion of the Continuous-Discrete Extended Kalman Filter
Jørgensen, J. B. 2007
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2007

Adjoint Sensitivity Results for Predictive Control, State- and Parameter-Estimation with Nonlinear Models
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

A Dynamic Model for in vivo Glucose-Insulin Metabolism
Hrafinkelsson, V. & Jørgensen, J. B. 2007
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2007

A Generalized Autocovariance Least-Squares Method for Covariance Estimation
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

An ESDIRK Software Package for DAE Systems
Jørgensen, J. B., Kristensen, M. R. & Thomsen, P. G. 2007
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2007

A Numerically Robust ESDIRK-Based Implementation of the Continuous-Discrete Extended Kalman Filter
A Tool for Kalman Filter Tuning
Publication: Research › Sound/Visual production (digital) – Annual report year: 2007

Comparison of Prediction-Error Modeling Criteria
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

Comparison of Prediction-Error-Modelling Criteria
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

Continuous-Discrete Time Prediction-Error Identification Relevant for Linear Model Predictive Control
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

Continuous-Discrete Time Prediction-Error Modelling Relevant for Linear Model Predictive Control
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

Estimation of noise covariances and identification of disturbance structure using the autocovariance least-squares method
Publication: Research › Article in proceedings – Annual report year: 2007

Experimental Design for Input/Output Constrained Closed-Loop Systems
Publication: Research - peer-review › Journal article – Annual report year: 2007

Improving Model Predictive Control Performance Using Disturbance Estimation
Publication: Research › Sound/Visual production (digital) – Annual report year: 2007

Improving Model Predictive Control Performance using Disturbance Estimation and Systematic Kalman Filter Tuning
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2007

Improving Model Predictive Control Performance Using Systematic Kalman Filter Tuning
Publication: Research › Sound/Visual production (digital) – Annual report year: 2007
Keeping Experiments in Control with Interval Methods
Publication: Research - peer-review › Journal article – Annual report year: 2007

MPC-Relevant Prediction-Error Identification
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

New Extended Kalman Filter Algorithms for Stochastic Differential Algebraic Equations
Publication: Research - peer-review › Book chapter – Annual report year: 2007

Nonlinear Model Predictive Control Start-Up of a Plate Reactor
Haugwitz, S., Jørgensen, J. B. & Hagander, P. 2007
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2007

Numerical Methods for Model Predictive Control
Jørgensen, J. B. 2007
Publication: Research › Sound/Visual production (digital) – Annual report year: 2007

Sensitivity Computation for Dynamic Optimization
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2007

A Continuous-Discrete Extended Kalman Filter Algorithm for Prediction-Error-Modelling
Jørgensen, J. B., Kristensen, M. R., Thomsen, P. G. & Madsen, H. 2006
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2006

A Family of ESDIRK Solvers for DAE Systems
Kristensen, M. R., Jørgensen, J. B. & Thomsen, P. G. 2006
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2006

A Generalized Autocovariance Least-Squares Method for Kalman Filter Tuning
Publication: Research › Sound/Visual production (digital) – Annual report year: 2006

Continuous-Time Prediction-Error Identification for MPC
Jørgensen, J. B. 2006
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2006

Development of Systematic Tuning Procedures for Extended Kalman Filtering
Publication: Research › Conference abstract for conference – Annual report year: 2006

Dynamic Optimization and Predictive Control
Jørgensen, J. B. 2006
Publication: Research › Sound/Visual production (digital) – Annual report year: 2006

Dynamic Optimization Based on Adjoint Sensitivity Computation
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2006

Implementation Issues for High-Level Control
Jørgensen, J. B. & Recke, B. 2006
Model Predictive Control - Why, Where, and How?
Jørgensen, J. B. 2006
Publication: Research › Sound/Visual production (digital) – Annual report year: 2006

Numerical Methods for Model Predictive Control
Jørgensen, J. B. 2006
Publication: Research › Sound/Visual production (digital) – Annual report year: 2006

Planned Work in CMBC on Extended Kalman Filtering
Publication: Research › Article in proceedings – Annual report year: 2006

Start-Up Predictive Control and Estimation. A Numerical Approach
Jørgensen, J. B. 2006
Publication: Research › Sound/Visual production (digital) – Annual report year: 2006

A procedure for guaranteed in Control experimental design
Bonné, D., Jørgensen, J. B. & Jørgensen, S. B. 2005
Publication: Research - peer-review › Report – Annual report year: 2005

Efficient Filtering and Prediction in Stochastic Differential Equations
Publication: Research - peer-review › Article in proceedings – Annual report year: 2005

Modeling for Predictive Control of Cement Grinding Circuits
Publication: Research - peer-review › Article in proceedings – Annual report year: 2005

Modelling of Cement Grinding Circuits for Predictive Control
Publication: Research - peer-review › Article in proceedings – Annual report year: 2005

Numerically Efficient Filtering and Prediction in Stochastic Differential Algebraic Equations
Publication: Research - peer-review › Article in proceedings – Annual report year: 2005

Sensitivity Analysis In Index-1 Differential Algebraic Equations by ESDIRK Methods
Publication: Research - peer-review › Article in proceedings – Annual report year: 2005

Structured Quadratic Programming Algorithms for Optimization of Dynamic Systems
Jørgensen, J. B. 2005
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2005
An ESDIRK Method with Sensitivity Analysis Capabilities
Publication: Research - peer-review › Journal article – Annual report year: 2004

Efficient Sensitivity Computation for Nonlinear Model Predictive Control
Publication: Research - peer-review › Article in proceedings – Annual report year: 2004

Model Predictive Control - From Real-Time Optimization of Cement Plants to Construction of an Artificial Pancreas
Jørgensen, J. B. 2004
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2004

Moving Horizon Estimation and Control
Publication: Research › Ph.D. thesis – Annual report year: 2004

Numerical Methods for Large Scale Moving Horizon Estimation and Control
Publication: Research - peer-review › Article in proceedings – Annual report year: 2004

Numerical Methods for Model Predictive Control
Jørgensen, J. B. & Jørgensen, S. B. 2004
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2004

Application of Knowledge for Monitoring and Control
Jørgensen, S. B., Jørgensen, J. B., Bonné, D. & Gregersen, L. 2001
Publication: Research › Conference abstract for conference – Annual report year: 2001

Model Predictive Control of a Flow Swing Reactor
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2001

Plantwide Control Structure Selection
Publication: Research › Sound/Visual production (digital) – Annual report year: 2001

Towards Automated Selection of Decentralized Control Structures
Publication: Research › Sound/Visual production (digital) – Annual report year: 2001

Towards Automatic Decentralized Control Structure Selection
Publication: Research › Article in proceedings – Annual report year: 2001

Towards Automatic Decentralized Control Structure Selection
Publication: Research › Sound/Visual production (digital) – Annual report year: 2001

Automatic Selection of Decentralized Control Structures
Publication: Research › Article in proceedings – Annual report year: 2000
Towards Automatic Decentralized Control Structure Selection
Publication: Research - peer-review › Journal article – Annual report year: 2000

Model Predictive Control Design for an Alternating Nutrient Removal Process
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 1998

Model Predictive Control of a Flow Swing Reactor
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 1998

Operational Implications of Optimality
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 1998

Operational Implications of Optimality
Publication: Research - peer-review › Article in proceedings – Annual report year: 1998

An Output Multiplicity in Binary Distillation: Experimental Verification
Publication: Research - peer-review › Journal article – Annual report year: 1996

Projects:

Stochastic Dynamic Optimization and Control Theory
Brok, N. L., Madsen, H., Jørgensen, J. B. & Poulsen, N. K.
01/09/2017 → 31/08/2020
Project: PhD

Learning-based Model Predictive Control of Spray Dryers
Miklos, R., Niemann, H. H., Jørgensen, J. B., Petersen, L. N., Poulsen, N. K. & Utzen, C.
01/01/2017 → 31/12/2019
Project: PhD

SDE-modelling in CITIES
15/07/2016 → 13/11/2019
Project: PhD

SDE-modelling in CITIES
15/07/2016 → 13/11/2019
Project: PhD

Simulation and Optimization of Oil Reservoirs in the Danish North Sea
Hershoff, S., Jørgensen, J. B., Capolei, A. & Nick, H.
01/12/2015 → 30/11/2018
Project: PhD
Optimal Control of PDE-Constrained Systems
Christiansen, L. H., Jørgensen, J. B., Engsig-Karup, A. P. & Pedersen, M.
15/09/2015 → 25/01/2019
Project: PhD

Nonlinear Model Predictive Control for Oil Reservoirs
Ritschel, T. K. S., Jørgensen, J. B., Capolei, A. & Poulsen, N. K.
15/08/2015 → 14/08/2018
Project: PhD

Model Predictive Control based on Stochastic Differential Equations - An Artificial Pancreas with Fast Insulin, Glucagon and Multiple Sensors
Hagdrup, M., Jørgensen, J. B., Madsen, H., Poulsen, B. & Poulsen, N. K.
01/09/2014 → 01/12/2017
Project: PhD

Model Predictive Control based on Stochastic Differential Equations - An Artificial Pancreas with Fast Insulin, Glucagon and Multiple Sensors
Hagdrup, M., Jørgensen, J. B., Madsen, H., Poulsen, B. & Poulsen, N. K.
01/09/2014 → 01/12/2017
Project: PhD

Model Predictive Control for Commercial Refrigeration in the Smart Grid
Mohd. Azam, S. N., Jørgensen, J. B. & Izadi-Zamanabadi, R.
15/11/2013 → 14/05/2017
Project: PhD

Generic interface development and benchmarking of carbon dioxide reduction processes
01/12/2012 → 20/09/2016
Project: PhD

Economic Model Predictive Control for Spray Drying Plants
01/10/2012 → 22/06/2016
Project: PhD

Optimization Algorithms for Experiments Design, Parameter Estimation, and Control of Dynamic Systems
Frison, G., Jørgensen, J. B., Poulsen, N. K., Engsig-Karup, A. P., Axehill, D. & Ferreau, H. J.
01/10/2012 → 20/04/2016
Project: PhD

Stochastic Model Predictive Control with Applications in Smart Energy Systems
01/07/2012 → 31/03/2016
Project: PhD

Stochastic Differential Equations in PK/PD Modelling
Juhl, R., Madsen, H. & Jørgensen, J. B.
15/01/2012 → 16/07/2015
Project: PhD
Economic MPC for Large and Distributed Energy Systems
01/11/2011 → 04/03/2015
Project: PhD

Protein structure refinement by optimization
Carlsen, M., Regen, P., Stolpe, M., Jørgensen, J. B., Hamelryck, T. & Keasar, C.
01/08/2011 → 30/09/2015
Project: PhD

Scientific GPU Computing for Dynamical Optimization
15/11/2010 → 25/09/2014
Project: PhD

Model Predictive Control for Smart Energy Systems
Halvgaard, R. F., Jørgensen, J. B., Madsen, H., Poulsen, N. K., Bindner, H. W., Chmielewski, D. J. & Jones, C. N.
01/11/2010 → 25/04/2014
Project: PhD

Incremental refinement of process design
Quaglia, A., Sin, G., Gani, R., Sarup, B., Jørgensen, J. B., Bode, A. & Pistikopoulos, E. N.
01/06/2010 → 30/09/2013
Project: PhD

Numerical Methods for Reservoir Simulation and Optimization
Capolei, A., Jørgensen, J. B., Poulsen, N. K., Jansen, J. D. & Knudsen, J. K. H.
01/05/2010 → 25/04/2014
Project: PhD

Power Management for Refrigeration Systems
01/04/2010 → 24/05/2013
Project: PhD

Large-Scale Algorithms for Non-Smooth Convex Optimization
01/02/2010 → 22/11/2013
Project: PhD

Model Predictive Control algorithms for pen and pump insulin administration
Boiroux, D., Jørgensen, J. B., Madsen, H., Poulsen, N. K., Sørensen, M. P., Knudsen, J. K. H. & del Re, L.
01/09/2009 → 22/11/2012
Project: PhD

Concurrent Aero-Servo-Elastic analysis and Design of wind turbines
Mirzaei, M., Poulsen, N. K., Niemann, H. H., Jørgensen, J. B., Bottasso, C. L. & Stoustrup, J.
15/08/2009 → 07/03/2013
Project: PhD

Control of Process Operations and Monitoring of Product Qualities through Hybrid Multi-Scale Model-Based Analysis
01/01/2009 → 21/11/2012
Project: PhD
Numerical Methods for Simulation and Optimization of Enhanced Oil Recovery Methods
Völcker, C., Jørgensen, J. B., Thomsen, P. G., Engsig-Karup, A. P., Foss, B. A. & Kristensen, M. R.
01/01/2008 → 24/08/2012
Project: PhD

In Silico Models of Blood Coagulation
Andersen, N. M., Sørensen, M. P., Ingwersen, S. H., Olsen, O. H., Jørgensen, J. B., Monroe, D. M. & Sosnovtseva, O.
01/08/2007 → 20/04/2011
Project: PhD

Model-based predictive control of wind turbines
Henriksen, L. C., Poulsen, N. K., Hansen, M. H., Jørgensen, J. B., Engelen, T. G. V. & Per, B.
15/05/2007 → 02/03/2011
Project: PhD

Ulineær optimal robust styring og vindmølle regulering
Thomsen, S. C., Poulsen, N. K., Niemann, H. H., Jørgensen, J. B. & Stoustrup, J.
15/10/2006 → 29/09/2010
Project: PhD

Predictive Tools for Designing new Insulins and Treatment Regimes
Klim, S., Madsen, H., Ingwersen, S. H., Kristensen, N. R., Jørgensen, J. B., Gabrielsson, J. & Lavielle, M.
01/07/2006 → 16/12/2009
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.
01/01/2006 → 30/06/2010
Project: PhD

Model Identification for Predictive Control and Optimization
Huusom, J. K., Poulsen, N. K., Jørgensen, J. B., Poulsen, N. K., Andersen, H. W. & Bombois, X.
01/02/2005 → 24/11/2008
Project: PhD

Optimizing control of integrated processes
Jørgensen, J. B., Jørgensen, S. B., Poulsen, N. K., Marquardt, W. & Strand, S.
01/08/1997 → 03/06/2005
Project: PhD

D.2 Real-time optimising control
Jørgensen, S. B., Pedersen, K. & Jørgensen, J. B.
01/05/1997 → ...
Project

D.3 Operational Implications of optimality
Jørgensen, S. B. & Jørgensen, J. B.
01/05/1997 → ...
Project

D.6 Implementation of control into ICAS
Jørgensen, S. B. & Jørgensen, J. B.
01/05/1997 → ...
Project
D.7 Development of toolbox for linear and non-linear MPC  
Jørgensen, S. B. & Jørgensen, J. B.  
01/05/1997 → …  
Project

E.2 System (Tools) Integration  
01/05/1997 → …  
Project