Henrik Madsen - DTU Orbit (07/09/2017)

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Department of Applied Mathematics and Computer Science - Professor, Head of section

Dynamical Systems

Publications:

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

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

Cross-Validation of a Glucose-Insulin-Glucagon Pharmacodynamics Model for Simulation using Data from Patients with Type 1 Diabetes
Publication: Research - peer-review › Journal article – 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

Harnessing Flexibility from Hot and Cold
Publication: Research - peer-review › Journal article – Annual report year: 2017

Heating of indoor swimming pools by solar thermal collectors in summerhouses in Denmark
Publication: Research › Report – Annual report year: 2017

Leveraging stochastic differential equations for probabilistic forecasting of wind power using a dynamic power curve
Publication: Research - peer-review › Journal article – 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

Multi-site solar power forecasting using gradient boosted regression trees
Publication: Research - peer-review › Journal article – Annual report year: 2017

On site characterisation of the overall heat loss coefficient: comparison of different assessment methods by a blind validation exercise on a round robin test box
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

Stochastic model of wind-fuel cell for a semi-dispatchable power generation
Publication: Research - peer-review › Journal article – Annual report year: 2016

Validation of a Simulation Model Describing the Glucose-Insulin-Glucagon Pharmacodynamics in Patients with Type 1 Diabetes
Publication: Research › Poster – Annual report year: 2017

Validation of the dynamic wake meander model with focus on tower loads: Paper
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

A Data-Driven Bidding Model for a Cluster of Price-Responsive Consumers of Electricity
Publication: Research - peer-review › Journal article – Annual report year: 2016

An Efficient UD-Based Algorithm for the Computation of Maximum Likelihood Sensitivity of Continuous-Discrete Systems
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

An Ensemble Nonlinear Model Predictive Control Algorithm in an Artificial Pancreas for People with Type 1 Diabetes
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Application of the Continuous-Discrete Extended Kalman Filter for Fault Detection in Continuous Glucose Monitors for Type 1 Diabetes
Approaches for Accommodating Demand Response in Operational Problems and Assessing its Value

Commitment and dispatch of heat and power units via affinely adjustable robust optimization

Comparison of Three Nonlinear Filters for Fault Detection in Continuous Glucose Monitors

Detecting change points in VIX and S&P 500: A new approach to dynamic asset allocation

Distributed Model Predictive Control for Smart Energy Systems

Economic MPC for a linear stochastic system of energy units

Economic valuation of heat pumps and electric boilers in the Danish energy system

Hidden Markov Models for indirect classification of occupant behaviour

Impacts of urban development and climate change in exposing cities to pluvial flooding

Inverse Optimization and Forecasting Techniques Applied to Decision-making in Electricity Markets

Learning from nature: Nature-inspired algorithms


**Load forecasting of supermarket refrigeration**
Publication: Research - peer-review › Journal article – Annual report year: 2015

**Long Memory of Financial Time Series and Hidden Markov Models with Time-Varying Parameters**
Publication: Research - peer-review › Journal article – Annual report year: 2016

**Methodologies for managing the Energy-Water-Food nexus at different scales**
Publication: Commissioned - peer-review › Report chapter – Annual report year: 2016

**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-glucacont pharmacodynamics in man**
Publication: Research - peer-review › Paper – Annual report year: 2016

**Modelling the glucose-insulin-glucacont dynamics after subcutaneous administration of native glucagon and a novel glucacont analogue in dogs**
Publication: Research - peer-review › Poster – Annual report year: 2016

**Modelling the glucose-insulin-glucacont dynamics after subcutaneous administration of native glucagon and a novel glucacont analogue in dogs**
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2016

**Model of the Glucose-Insulin-Glucagon Dynamics after Subcutaneous Administration of a Glucagon Rescue Bolus in Healthy Humans**
Publication: Research › Poster – Annual report year: 2016
Decision Support Tools for Electricity Retailers, Wind Power and CHP Plants Using Probabilistic Forecasts

Economic Dispatch of Demand Response Balancing through Asymmetric Block Offers

Integrated energy systems; aggregation, forecasting, and control

Integrated energy systems modelling

Limited area forecasting for wind energy scheduling

Long memory of financial time series and hidden Markov models with time-varying parameters
Nystrup, P., Madsen, H. & Lindström, E. 2015

Methodology and forecast products for the optimal offering of ancillary services from wind in a market environment

Pharmacokinetics Modeling of Glucagon and a Novel Glucagon Analogue after Subcutaneous Administration in Dogs

Regime-Based Versus Static Asset Allocation: Letting the Data Speak

Space-time trajectories of wind power generation: Parameterized precision matrices under a Gaussian copula approach

Statistics for Finance
Stochastic Greybox Modeling of an Alternating Activated Sludge Process
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2015

Stylised facts of financial time series and hidden Markov models in continuous time
Nystrup, P., Madsen, H. & Lindström, E. 2015 In : Quantitative Finance. 15, 9, p. 1531-1541
Publication: Research - peer-review › Journal article – Annual report year: 2015

Temporal knowledge discovery in big BAS data for building energy management
Publication: Research - peer-review › Journal article – Annual report year: 2015

The contribution of glucagon in an Artificial Pancreas for people with type 1 diabetes
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Thermal Performance Characterization using Time Series Data - IEA EBC Annex 58 Guidelines
Publication: Research › Report – Annual report year: 2015

A Dantzig-Wolfe decomposition algorithm for linear economic model predictive control of dynamically decoupled subsystems
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

A model predictive control strategy for the space heating of a smart building including cogeneration of a fuel cell-electrolyzer system
Publication: Research - peer-review › Journal article – Annual report year: 2014

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

Automatic Classification of Offshore Wind Regimes With Weather Radar Observations
Publication: Research - peer-review › Journal article – Annual report year: 2014

Benefits and challenges of electrical demand response: A critical review
Bihormonal model predictive control of blood glucose in people with type 1 diabetes
Publication: Research - peer-review ▶ Article in proceedings – Annual report year: 2014

Bio Inspired Algorithms in Single and Multiobjective Reliability Optimization
Publication: Research - peer-review ▶ Article in proceedings – Annual report year: 2015

Characterization of heat dynamics of an arctic low-energy house with floor heating
Publication: Research - peer-review ▶ Journal article – Annual report year: 2014

CITIES: Centre for IT-Intelligent Energy Systems in Cities
Publication: Research - peer-review ▶ Conference abstract in proceedings – Annual report year: 2014

Determining reserve requirements in DK1 area of Nord Pool using a probabilistic approach
Publication: Research - peer-review ▶ Conference abstract in proceedings – Annual report year: 2014

Dynamic modeling of presence of occupants using inhomogeneous Markov chains
Publication: Research - peer-review ▶ Journal article – Annual report year: 2014

Evaluation of Dynamical Downscaling Resolution Effect on Wind Energy Forecast Value for a Wind Farm in Central Sweden
Publication: Research - peer-review ▶ Conference abstract in proceedings – Annual report year: 2015

Exponential smoothing approaches for prediction in real-time electricity markets
Jönsson, T., Pinson, P., Nielsen, H. A. & Madsen, H. 2014 In : Energies. 7, 6, p. 3710-3732
Publication: Research - peer-review ▶ Journal article – Annual report year: 2014
Probabilistic online runoff forecasting for urban catchments using inputs from rain gauges as well as statically and dynamically adjusted weather radar
Publication: Research - peer-review › Journal article – Annual report year: 2014

Regulating Power from Supermarket Refrigeration
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Risk-Based Model Predictive Control of Urban Drainage Networks: When Uncertainty matters
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Robust Management of Combined Heat and Power Systems via Linear Decision Rules
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Setting up and validating a complex model for a simple homogeneous wall
Publication: Research - peer-review › Journal article – Annual report year: 2014

Stochastic rainfall-runoff forecasting: parameter estimation, multi-step prediction, and evaluation of overflow risk
Publication: Research - peer-review › Journal article – Annual report year: 2013

Waste Water Treatment Plants and the Smart Grid
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2014

Weather radars – the new eyes for offshore wind farms?
Publication: Research - peer-review › Journal article – Annual report year: 2014

Wind resource assessment and wind power forecasting
Publication: Research - peer-review › Book chapter – Annual report year: 2014

A bilevel model for electricity retailers' participation in a demand response market environment
Publication: Research - peer-review › Journal article – Annual report year: 2013

A Coordination Scheme for Distributed Model Predictive Control: Integration of Flexible DERs
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013
An arctic low-energy house as experimental setup for studies of heat dynamics of buildings
Andersen, P. H. D., Rode, C. & Madsen, H. 2013 In : Frontiers of Architectural Research. 2, 4, p. 488-499
Publication: Research - peer-review › Journal article – Annual report year: 2013

A non-parametric method for correction of global radiation observations
Publication: Research - peer-review › Journal article – Annual report year: 2013

Chance-constrained optimization of demand response to price signals
Dorini, G. F., Pinson, P. & Madsen, H. 2013 In : IEEE Transactions on Smart Grid. 4, 4, p. 2072-2080
Publication: Research - peer-review › Journal article – Annual report year: 2014

Clinical Data for Advanced Glucose Modeling
Publication: Research › Report – Annual report year: 2013

Controlling Electricity Consumption by Forecasting its Response to Varying Prices
Publication: Research - peer-review › Journal article – Annual report year: 2012

Decentralized Large-Scale Power Balancing
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Energy Comes Together in Denmark: The Key to a Future Fossil-Free Danish Power System
Publication: Research - peer-review › Journal article – Annual report year: 2013

Exercise effects in a virtual type 1 diabetes patient: Using stochastic differential equations for model extension
Publication: Research - peer-review › Conference abstract in journal – Annual report year: 2013

Following a drop of water from the cloud, throughout the sewer system, into the receiving water - Model predictive control of integrated sewer-wastewater treatment systems
Publication: Research - peer-review › Paper – Annual report year: 2013

Forecasting Electricity Spot Prices Accounting for Wind Power Predictions
Publication: Research - peer-review › Journal article – Annual report year: 2014

Forecasting the conditional dynamic elasticity of electricity consumers
Pinson, P. & Madsen, H. 2013 In : ERCIM News. p. 11-12
Publication: Research - peer-review › Journal article – Annual report year: 2013

Grey-box Modeling for System Identification of Household Refrigerators: a Step Toward Smart Appliances
Impact of Wind Power Generation on European Cross-Border Power Flows

Informal uncertainty analysis (GLUE) of continuous flow simulation in a hybrid sewer system with infiltration inflow - Consistency of containment ratios in calibration and validation?

Inhomogeneous Markov Models for Describing Driving Patterns

Investigating the use of stochastic forecast for RTC of urban drainage systems

Load forecasting for supermarket refrigeration

Low-energy house in Sisimiut - Data overview

Low-energy house in Sisimiut - Measurement equipment

Model-Identifcation Using Stochastic Differential Equation Grey-Box Models in Diabetes

Model-Based Closed-Loop Glucose Control in Type 1 Diabetes: The DiaCon Experience

Modeling and forecasting of wind power generation - Regime-switching approaches
Modelling the Effect of Exercise on Insulin Pharmacokinetics in "Continuous Subcutaneous Insulin Infusion" Treated Type 1 Diabetes Patients
Publication: Research › Report – Annual report year: 2013

Models for the energy performance of low-energy houses
Publication: Research › Ph.D. thesis – Annual report year: 2013

Online load forecasting for supermarket refrigeration
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Online short-term heat load forecasting for single family houses
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

On the best learning algorithm for web services response time prediction
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Optimization Under Uncertainty for Management of Renewables in Electricity Markets
Publication: Research › Ph.D. thesis – Annual report year: 2013

Pool Strategy of a Price-Maker Wind Power Producer
Publication: Research - peer-review › Journal article – Annual report year: 2013

Reliability in the utility computing era: Towards reliable Fog computing
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Short-term heat load forecasting for single family houses
Publication: Research - peer-review › Journal article – Annual report year: 2013

Short-term wind power forecasting: probabilistic and space-time aspects
Publication: Research › Ph.D. thesis – Annual report year: 2013

Solar/electric heating systems for the future energy system
Publication: Research - peer-review › Report – Annual report year: 2013
Space-time scenarios of wind power generation produced using a Gaussian copula with parametrized precision matrix
Publication: Research › Report – Annual report year: 2013

State-space adjustment of radar rainfall and skill score evaluation of stochastic volume forecasts in urban drainage systems
Publication: Research - peer-review › Journal article – Annual report year: 2012

Statistical aspects of fish stock assessment
Publication: Research › Ph.D. thesis – Annual report year: 2014

Stochastic Differential Equations in Artificial Pancreas Modelling
Publication: Research › Ph.D. thesis – Annual report year: 2013

Stochastic runoff forecasting and real time control of urban drainage systems
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2013

Stochastic runoff forecasting and real time control of urban drainage systems
Publication: Research - peer-review › 2D/3D (physical products) – Annual report year: 2013

Stokastiske prognoser for afløb og real tids styring
Publication: Research › Journal article – Annual report year: 2013

Stokastiske prognoser for afløb og real tids styring
Publication: Research › Journal article – Annual report year: 2013

Thermal Storage Power Balancing with Model Predictive Control
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

The smart grid research network: Road map for Smart Grid research, development and demonstration up to 2020
Publication: Research - peer-review › Report – Annual report year: 2013

Weather radars for wind energy applications
Publication: Research › Poster – Annual report year: 2013

Wind Power Forecasting with a Focus on Risk and Uncertainties
Publication: Research › Sound/Visual production (digital) – Annual report year: 2013
A convex programming framework for optimal and bounded suboptimal well field management
Publication: Research - peer-review › Journal article – Annual report year: 2012

Adaptive modelling and forecasting of offshore wind power fluctuations with Markov-switching autoregressive models
Publication: Research - peer-review › Journal article – Annual report year: 2011

A formal statistical approach to representing uncertainty in rainfall-runoff modelling with focus on residual analysis and probabilistic output evaluation - Distinguishing simulation and prediction
Publication: Research - peer-review › Journal article – Annual report year: 2013

A General Probabilistic Forecasting Framework for Offshore Wind Power Fluctuations
Publication: Research - peer-review › Journal article – Annual report year: 2012

A new ensemble model for short term wind power prediction
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

An Intuitionistic Fuzzy Methodology for Component-Based Software Reliability Optimization
Publication: Research - peer-review › Journal article – Annual report year: 2012

A Transmission-Cost-Based Model to Estimate the Amount of Market-Integrable Wind Resources
Publication: Research - peer-review › Journal article – Annual report year: 2012

Control of Blood Glucose for People with Type 1 Diabetes: an in Vivo Study
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Control of Blood Glucose for People with Type 1 Diabetes: an In Vivo Study
Publication: Research › Sound/Visual production (digital) – Annual report year: 2012

Descriptive and predictive evaluation of high resolution Markov chain precipitation models
Publication: Research - peer-review › Journal article – Annual report year: 2012

Designing a reliable protocol for web services based robots interconnection
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Development of a restricted state space stochastic differential equation model for bacterial growth in rich media
Economic Model Predictive Control for Building Climate Control in a Smart Grid
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Efficient Iterated Filtering
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2012

Electric vehicle charge planning using Economic Model Predictive Control
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

ESO2 Optimization of Supermarket Refrigeration Systems: Mixed Integer MPC and System Performance
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2012

Evaluation of Energy Storage System to Support Danish Island of Bornholm Power Grid
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Evaluation of probabilistic flow predictions in sewer systems using grey box models and a skill score criterion
Publication: Research - peer-review › Journal article – Annual report year: 2012

Forecast generation for real-time control of urban drainage systems using greybox modelling and radar rainfall
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Integrated Wind Power Planning Tool
Rosgaard, M. H., Hahmann, A. N., Nielsen, T. S., Madsen, H., Giebel, G. & Sørensen, P. E. 2012
Publication: Research - peer-review › Conference abstract in journal – Annual report year: 2012

Integrated Wind Power Planning Tool
Rosgaard, M. H., Hahmann, A. N., Nielsen, T. S., Madsen, H., Giebel, G. & Sørensen, P. E. 2012
Publication: Research - peer-review › Conference abstract in journal – Annual report year: 2013

Integrated Wind Power Planning Tool
Publication: Research - peer-review › Conference abstract in journal – Annual report year: 2013

Load Forecasting for Households
Publication: Research - peer-review › Report – Annual report year: 2012

Model Based Analysis of Ethnic Differences in Type 2 Diabetes
Stochastic flow forecasting with calibrated radar rainfall input
Publication: Research › Report – 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

Studies of Heat Dynamics in an Arctic Low-energy House
Publication: Research - peer-review › Article 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

Uncertainty in prediction and simulation of flow in sewer systems
Publication: Research › Ph.D. thesis – Annual report year: 2012

Weather radars - A new pair of eyes for offshore wind farms?
Publication: Research - peer-review › Poster – Annual report year: 2012

Web server's reliability improvements using recurrent neural networks
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Analysis and treatment of the Søndersø time series: Grey Box Well Field Modelling
Publication: Research - peer-review › Report – Annual report year: 2011

Can Weather Radars Help Monitoring and Forecasting Wind Power Fluctuations at Large Offshore Wind Farms?
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

Estimating animal behaviour and residency from movement data
Pedersen, M. W., Patterson, T. A., Thygesen, U. H. & Madsen, H. 2011 In : Oikos. 120, p. 1281-1290
Publication: Research - peer-review › Journal article – Annual report year: 2011

Estimation methods for nonlinear state-space models in ecology
Models of the heat dynamics of solar collectors for performance testing
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Nonlinear tracking in a diffusion process with a Bayesian filter and the finite element method
Publication: Research - peer-review › Journal article – Annual report year: 2011

Online Short-term Solar Power Forecasting
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Online Short-term Solar Power Forecasting
Bacher, P., Madsen, H. & Nielsen, H. A. 2011
Publication: Research - peer-review › Poster – Annual report year: 2011

Parameter estimation in a simple stochastic differential equation for phytoplankton modelling
Møller, J. K., Madsen, H. & Carstensen, J. 2011 In : Ecological Modelling. 222, 11, p. 1793-1799
Publication: Research - peer-review › Journal article – Annual report year: 2011

Radar@Sea - Towards improving short-term wind power forecasts
Publication: Research › Report – Annual report year: 2011

Scenario generation: A review
Publication: Research › Report – Annual report year: 2011

Short-Term Solar Collector Power Forecasting
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Spatio-temporal analysis and modeling of short-term wind power forecast errors
Publication: Research - peer-review › Journal article – Annual report year: 2011

Spatio-temporal correction of DONG forecast errors
Publication: Research › Report – Annual report year: 2011

Spatio-temporal correction targeting Nysted Offshore. Probabilistic forecasts
Publication: Research › Report – Annual report year: 2011

Statistical Modeling of Long Historical Rain Series
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2011

Stochastic State Space Modelling of Nonlinear systems - With application to Marine Ecosystems
Strategies for glucose control in people with type 1 diabetes

Structural Identification and Validation in Stochastic Differential Equation based Models: With application to a Marine Ecosystem NP-model

The Universal Primer - An open source solution for archiving, organizing and streaming live lectures

Nonlinear Stochastic Modelling of Antimicrobial resistance in Bacterial Populations

Markov and mixed models with applications

Self-Organising Distributed Control of a Distributed Energy System with a High Penetration of Renewable Energy

Analysis of energy consumption in single family houses

ARX MPC for people with type 1 diabetes

Calibration of Local Area Weather Radar-Identifying significant factors affecting the calibration

Characterization and optimized control by means of multiparameter controllers

Conditional Weighted Combination of Wind Power Forecasts
Data for Energy Performance Analysis: Financed by The Danish Electricity Saving Trust
Publication: Research › Report – Annual report year: 2010

Dynamic testing, analysis and modelling
Bloem, J. J., Baker, P. H., Strachen, P., Madsen, H. & Vandaele, L. 2010 Stimulating increased energy efficiency and better building ventilation: Leading actions coordinated by INIVE EEIG and sources of other relevant information on EU level and IEA ECBCS projects. p. 473-500
Publication: Research - peer-review › Book chapter – Annual report year: 2010

Experiments and Data for Building Energy Performance Analysis: Financed by The Danish Electricity Saving Trust
Publication: Research › Report – Annual report year: 2010

Feedback, competition and stochasticity in a day ahead electricity market
Publication: Research - peer-review › Journal article – Annual report year: 2010

From State Dependent Diffusion to Constant Diffusion in Stochastic Differential Equations by the Lamperti Transform
Publication: Research › Report – Annual report year: 2010

Hidden Markov modelling of movement data from fish
Publication: Research › Ph.D. thesis – Annual report year: 2010

Identification of ecosystem parameters by SDE-modelling
Møller, J. K., Madsen, H. & Carstensen, J. 2010 Publication: Research › Sound/Visual production (digital) – 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

Individual based population inference using tagging data
Publication: Research › Report – Annual report year: 2010

Mathematical and Statistical Models and Methods for Describing the Thermal Characteristics of Buildings
Publication: Research › 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

Modelling conjugation with stochastic differential equations
Publication: Research - peer-review › Journal article – Annual report year: 2010
Models for Energy Performance Analysis: Financed by The Danish Electricity Saving Trust
Publication: Research › Report – Annual report year: 2010

Multivariate conditional parametric models for a spatio-temporal analysis of short-term wind power forecast errors
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

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

Non-linear phenomena in greybox-modeling of heat dynamics in buildings
Publication: Research › Article in proceedings – Annual report year: 2010

On the market Impact of wind energy forecasts
Publication: Research - peer-review › Journal article – Annual report year: 2010

On the Market Impact of Wind Power (Forecasts) - An Overview of the Effects of Large-scale Integration of Wind Power on the Electricity Market
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

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

Predictive performance for population models using stochastic differential equations applied on data from an oral glucose tolerance test
Publication: Research - peer-review › Journal article – Annual report year: 2010

Procedure for identifying models for the heat dynamics of buildings: Financed by The Danish Electricity Saving Trust and Vind i Øresund - Interreg 4A
Publication: Research - peer-review › Report – Annual report year: 2010

Quantification of the spatial variability of rainfall based on a dense network of rain gauges
Pedersen, L., Jensen, N. E., Christiansen, L. E. & Madsen, H. 2010 In : Atmospheric Research. 95, 4, p. 441-454
Publication: Research - peer-review › Journal article – Annual report year: 2010

Reliability diagrams for non-parametric density forecasts of continuous variables: Accounting for serial correlation
Publication: Research - peer-review › Journal article – Annual report year: 2010
Resolving Nonstationary Spectral Information in Wind Speed Time Series Using the Hilbert-Huang Transform
Publication: Research - peer-review > Journal article – Annual report year: 2010

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

Service-oriented Reliability Analysis for Collaborative Mechatronic Laboratories Involved in Virtual Training
Publication: Research - peer-review > Article in proceedings – Annual report year: 2010

Statistical models describing the energy signature of buildings
Publication: Research > Article in proceedings – Annual report year: 2010

Predictive tools for designing new insulins and treatment regimens
Publication: Research > Ph.D. thesis – Annual report year: 2009

Data Assimilation in Marine Models
Publication: Research > Ph.D. thesis – Annual report year: 2009

Identification and Quantification of Uncertainties Related to Using Distributed X-band Radar Estimated Precipitation as input in Urban Drainage Models
Pedersen, L., Madsen, H. & Jensen, N. E. Aug 2009 Kgs. Lyngby, Denmark: Technical University of Denmark (DTU). (The PhD is an Industrial PhD and the work has been conducted in a cooperation between DHI Weather Radar Systems, (Chief Engineer, Niels Einar Jensen), and DTU Informatics, the Technical University of Denmark.).
Publication: Research > Ph.D. thesis – Annual report year: 2009

Adaptive modelling and forecasting of offshore wind power fluctuations with Markov-switching autoregressive models
Publication: Research > Report – Annual report year: 2009

Communication of wind power forecast uncertainty: towards a standard
Publication: Research > Report – Annual report year: 2009

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

Dynamic two state stochastic models for ecological regime shifts
Møller, J. K., Carstensen, N. J., Madsen, H. & Andersen, T. 2009 In : Environmetrics. 20, 9, p. 912-927
Publication: Research - peer-review > Journal article – Annual report year: 2009
Population stochastic modelling (PSM)-An R package for mixed-effects models based on stochastic differential equations
Publication: Research - peer-review › Journal article – Annual report year: 2009

Power fluctuations from large wind farms - Final report
Publication: Research › Report – Annual report year: 2009

Skill forecasting from ensemble predictions of wind power
Publication: Research - peer-review › Journal article – Annual report year: 2009

Temperature prediction at critical points in district heating systems
Publication: Research - peer-review › Journal article – Annual report year: 2009

Optimal Experimental Design for Grey Box Models
Publication: Research › Ph.D. thesis – Annual report year: 2008

Application of CUSUM charts to detect lameness in a milking robot
Publication: Research - peer-review › Journal article – Annual report year: 2008

A review on the young history of the wind power short-term prediction
Publication: Research - peer-review › Journal article – Annual report year: 2008

Combined Forecast and Quantile Regression for Wind Power Prediction
Publication: Research › Report – Annual report year: 2008

Ecogrid.dk Phase 1 WP4 report: New measures for integration of large scale renewable energy
Publication: Research › Report – Annual report year: 2008

Estimating the parameters of a stochastic differential equation model of bacterial growth
Publication: Research › Journal article – 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

Forecasting of wind generation: recent advances and future challenges
Forecasting of wind generation - The wind power of tomorrow on your screen today!
Publication: Communication › Journal article – Annual report year: 2008

Forecasting the potential magnitude of power fluctuations at large offshore wind farms with an adaptive Markov-switching approach
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

From meteorological ensembles to reliable probabilistic forecasts of wind generation
Publication: Research › Article in proceedings – Annual report year: 2008

Geolocation of North Sea cod (Gadus morhua) using Hidden Markov Models and behavioural switching
Publication: Research - peer-review › Journal article – Annual report year: 2008

HRensembleHR project progress in applying short-range ensemble forecasts for offshore wind power
Publication: Research › Article in proceedings – Annual report year: 2008

Identification of the main thermal characteristics of building components using MATLAB
Publication: Research - peer-review › Journal article – Annual report year: 2008

Introduction to PK/PD modelling - with focus on PK and stochastic differential equations
Publication: Research - peer-review › Report – Annual report year: 2008

Local linear regression with adaptive orthogonal fitting for the wind power application
Publication: Research - peer-review › Journal article – Annual report year: 2008

Mathematical model for the growth of P. aeruginosa and four mutator strains in sub-MIC concentration of Ciprofloxacin
Publication: Research - peer-review › Poster – Annual report year: 2008

Maximum Likelihood based comparison of the specific growth rates for P. aeruginosa and four mutator strains
Publication: Research - peer-review › Journal article – Annual report year: 2008

Modelling of power fluctuations from large offshore wind farms
Publication: Research - peer-review › Journal article – Annual report year: 2008

Modelling the nonlinear temperature response of district heating systems for model predictive control applications
Models for describing the thermal characteristics of building components
Publication: Research - peer-review › Journal article – Annual report year: 2008

Probabilistic forecasting of wind power at the minute time-scale with Markov-switching autoregressive models
IEEE, p. 1-8
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

Regime-switching modelling of the fluctuations of offshore wind generation
Pinson, P., Christensen, L., Madsen, H., Sørensen, P. E., Donovan, M. H. & Jensen, L. E. 2008 In : Journal of Wind Engineering & Industrial Aerodynamics. 96, 12, p. 2327-2347
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

Simulation Study for Transfer of Antibiotic Resistance via Mutator Subpopulation
Publication: Research › Poster – Annual report year: 2008

Spatio-temporal modeling of wind power prediction errors
Publication: Research › Article in proceedings – Annual report year: 2008

The effects of wind power forecasts on electricity spot prices in Denmark
Publication: Research › Article in proceedings – Annual report year: 2008

Time-adaptive quantile regression
Møller, J. K., Nielsen, H. A. & Madsen, H. 2008 In : Computational Statistics & Data Analysis. 52, 3, p. 1292-1303
Publication: Research - peer-review › Journal article – Annual report year: 2008

Using random walk in models specified by stochastic differential equations to determine the best expression for the bacterial growth rate
Publication: Research › Sound/Visual production (digital) – Annual report year: 2008

Stochastic Modelling of Hydrologic Systems
Publication: Research › Ph.D. thesis – Annual report year: 2007

Application of Parameter Estimation for Diffusions and Mixture Models
Publication: Research › Ph.D. thesis – Annual report year: 2007

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
IEEE
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007
Adaptive Markov-switching modelling for offshore wind power fluctuations
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

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

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

Automatic selection of tuning parameters in wind power prediction
Christiansen, L. E., Nielsen, H. A., Nielsen, T. S. & Madsen, H. 2007 Informatics and Mathematical Modelling, Technical University of Denmark, DTU.
Publication: Research › Report – Annual report year: 2007

Comparative uncertainty analysis of copper loads in stormwater systems using GLUE and grey-box modelling
Publication: Research - peer-review › Journal article – Annual report year: 2007

Conditional parametric models for storm sewer runoff
Publication: Research - peer-review › Journal article – Annual report year: 2007

Ensemble predictions: Understanding uncertainties
Publication: Research › Article in proceedings – Annual report year: 2007

Evaluation of Nonparametric Probabilistic Forecasts of Wind Power
Pinson, P., Møller, J. K., Nielsen, H. A. O., Madsen, H. & Kariniotakis, G. N. 2007 Informatics and Mathematical Modelling, Technical University of Denmark, DTU.
Publication: Research - peer-review › Report – Annual report year: 2007

Fluctuations of offshore wind generation: Statistical modelling
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

HRensembleHR - High Resolution Ensemble for Horns Rev
Publication: Research › Article in proceedings – Annual report year: 2007

Improvement and automation of tools for short term wind power forecasting
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007
Robust estimation of time-varying coefficient functions - Application to the modeling of wind power production
Pinson, P., Nielsen, H. A. & Madsen, H. 2007 Informatics and Mathematical Modelling, Technical University of Denmark, DTU.
Publication: Research - peer-review › Report – Annual report year: 2007

Skill forecasting from different wind power ensemble prediction methods
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

Spatial scan statistics using elliptic windows
Christiansen, L. E., Andersen, J. S., Wegener, H. C. & Madsen, H. 2007
Publication: Research › Conference abstract for conference – Annual report year: 2007

Spatio-temporal modelling of short-term wind power prediction errors: 02004/FU5766 - Improved wind power prediction
Publication: Research › Report – Annual report year: 2007

Systematic qualitative experimental design based upon identifiability analysis
Davidescu, F. P., Madsen, H. & Jørgensen, S. B. 2007
Publication: Research › Sound/Visual production (digital) – Annual report year: 2007

Temperature prediction in district heating systems with cFIR models
Publication: Research - peer-review › Report – Annual report year: 2007

The Effect of Wind Power on Electricity Prices in Denmark
Publication: Research › Report – Annual report year: 2007

Time series analysis
Publication: Research - peer-review › Book – Annual report year: 2007

Pharmacokinetic/Pharmacodynamic modelling with a stochastic perspective. Insulin secretion and Interleukin-21 development as case studies
Publication: Research › Ph.D. thesis – Annual report year: 2006

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

Advanced statistical modeling and uncertainty assessment for wind power forecasting
Publication: Research › Article in proceedings – Annual report year: 2006
Algorithms for Adaptive Quantile Regression - and a Matlab Implementation
Møller, J. K., Nielsen, H. A. O. & Madsen, H. 2006
Publication: Research - peer-review › Report – Annual report year: 2006

An Introduction to Generalized Linear Models.
Publication: Education › Book – Annual report year: 2006

Application of Local Area Weather Radar (LAWR) in relation to hydrological modelling – Identification of the pitfalls in using high resolution radar rainfall data
Publication: Research - peer-review › Article in proceedings – Annual report year: 2006

Data assimilation on atmospheric dispersion of radioactive materials
Publication: Research › Ph.D. thesis – Annual report year: 2005

From wind ensembles to probabilistic information about future wind power production - results from an actual application
Publication: Research - peer-review › Article in proceedings – Annual report year: 2006

Grey-box stochastic modelling of industrial fed-batch cultivation
Rasmussen, J. K., Madsen, H. & Jørgensen, S. B. 2006 In : Computer - Aided Chemical Engineering. 21, p. 421-426
Publication: Research - peer-review › Journal article – Annual report year: 2006

Introduction to Wind Technology
Publication: Research - peer-review › Book chapter – Annual report year: 2006

Mathematical Beta Cell Model for Insulin Secretion following IVGTT and OGTT
Publication: Research - peer-review › Journal article – Annual report year: 2006

Modelling the Heat Consumption in District Heating Systems using a Grey-box approach
Nielsen, H. A. & Madsen, H. 2006 In : Energy and Buildings. 38, 1, p. 63-71
Publication: Research - peer-review › Journal article – Annual report year: 2006

On using soft computing techniques in software reliability engineering
Publication: Research - peer-review › Journal article – Annual report year: 2006

Parameter estimation in stochastic rainfall-runoff models
Publication: Research - peer-review › Journal article – Annual report year: 2006

Parameter sensitivity of three Kalman Filter Schemes for the assimilation of tide guage data in coastal and self sea models
Srøensen, J. V. T., Madsen, H. & Madsen, H. 2006 In : Ocean Modelling. 11, 3-4, p. 441-463
Publication: Research - peer-review › Journal article – Annual report year: 2006
Population PK/PD modelling of the hypothalamic-pituitary-gonadal axis following treatment with GnRH analogues
Publication: Research - peer-review › Journal article – Annual report year: 2006

Properties of Quantile and Interval Forecasts of Wind Generation and their Evaluation
Publication: Research - peer-review › Article in proceedings – Annual report year: 2006

Regime Shift Models for Simulation of the Interaction between Benthic and Pelagic Production
Møller, J. K., Carstensen, N. J. & Madsen, H. 2006 Informatics and Mathematical Modelling, Technical University of Denmark, DTU.
Publication: Research - peer-review › Report – Annual report year: 2006

Return Period for Radar Rainfall - Spatial Validity of Return Period
Publication: Research › Article in proceedings – Annual report year: 2006

Spatial scan statistics using elliptic windows
Christiansen, L. E., Andersen, J. S., Wegener, H. C. & Madsen, H. 2006 In : Journal of Agricultural Biological & Environmental Statistics. 11, 4, p. 411-424
Publication: Research - peer-review › Journal article – Annual report year: 2006

Stochastic Grey Box Modelling of the Enzymatic Biochemical Reaction Network E-coli Mutants
Publication: Research - peer-review › Journal article – Annual report year: 2006

Stochastic modeling of kHz quasi-periodic oscillation light curves
Publication: Research - peer-review › Journal article – Annual report year: 2006

Using Quantile Regression to Extend an Existing Wind Power Forecasting System with Probabilistic Forecasts
Publication: Research - peer-review › Conference article – Annual report year: 2006

Population pharmacokinetic/pharmacodynamic modelling of the hypothalamic-pituitary-gonadal axis
Tornøe, C. W., Madsen, H. & Nielsen, H. A. Oct 2005
Publication: Research › Ph.D. thesis – Annual report year: 2005

Analysis of a Kalman filter based method for on-line estimation of atmospheric dispersion parameters using radiation monitoring data
Drews, M., Lauritzen, B. & Madsen, H. 2005 In : Radiation Protection Dosimetry. 113, 1, p. 75-89
Publication: Research - peer-review › Journal article – Annual report year: 2005

Analysis of the Results of an On-line Wind Power Quantile Forecasting System
Publication: Research - peer-review › Report – Annual report year: 2005

A Probabilistic-Fuzzy Approach for TQSEM
Albeanu, G., Popentiu-Vladicescu, F., Thyregod, P. & Madsen, H. 2005 Fifth Annual Meeting of ENBIS.
Publication: Research - peer-review › Article in proceedings – Annual report year: 2005
Assessment of serious water shortage in the Icelandic water resource system
Publication: Research › peer-review › Journal article – Annual report year: 2005

A tool for predicting the wind power production of off-shore wind plants
Publication: Research › Article in proceedings – Annual report year: 2005

Bayesian conformational analysis of ring molecules through reversible jump MCMC
Publication: Research › peer-review › Journal article – Annual report year: 2005

Candidate Prediction Models and Methods
Nielsen, H. A., Nielsen, T. S., Madsen, H. & Giebel, G. 2005
Publication: Research › peer-review › Report – Annual report year: 2005

Computer Aided Statistical Modelling fights Pollution
Madsen, H., Thyregod, P., Popentiu, F. & Grigore, A. 2005
Publication: Research › peer-review › Report – Annual report year: 2005

Considerations Concerning a Fuzzy-Genetic Algorithm with Application to CEM I Type Cements Quality Optimization
Publication: Research › peer-review › Article in proceedings – Annual report year: 2005

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

Insights to the minimal model of insulin secretion through a mean-field beta cell model
Publication: Research › peer-review › Journal article – Annual report year: 2005

Non-linear mixed-effects models with stochastic differential equations: implementation of an estimation algorithm
Publication: Research › peer-review › Journal article – Annual report year: 2005

On Using Soft Computing Techniques in Software Reliability Engineering
Publication: Research › peer-review › Article in proceedings – Annual report year: 2005

Standardizing the performance evaluation of short-term wind prediction models
Publication: Research › Journal article – Annual report year: 2005

Stochastic differential equations in NONMEM: implementation, application, and comparison with ordinary differential equations
Publication: Research › peer-review › Journal article – Annual report year: 2005
Effects of Climate on Incidence of Campylobacter spp. in Humans and Prevalence in Broiler Flocks in Denmark
Patrick, M. E., Christiansen, L. E., Wainø, M., Ethelberg, S., Madsen, H. & Wegener, H. C. 2004 In : Applied and Environmental Microbiology. 70, 12, p. 7474-7480
Publication: Research - peer-review › Journal article – Annual report year: 2004

Efficient Kalman filter techniques for the assimilation of tide gauge data in three-dimensional modeling of the North Sea and Baltic Sea system
Publication: Research - peer-review › Journal article – Annual report year: 2004

Forecasting wind speeds on the minute time-scale using up-stream information
Nielsen, H. A. & Madsen, H. 2004
Publication: Research › Report – Annual report year: 2004

Grey-Box Modelling of Pharmacokinetic/Pharmacodynamic Systems
Publication: Research - peer-review › Journal article – Annual report year: 2004

Grey-box pharmacokinetic/pharmacodynamic modelling of a euglycaemic clamp study
Publication: Research - peer-review › Journal article – Annual report year: 2004

Modelling the Heat Consumption in District Heating Systems using a Grey-box approach
Publication: Research - peer-review › Article in proceedings – Annual report year: 2004

Non-linear mixed-effects pharmacokinetic/pharmacodynamic modelling in NLME using differential equations
Tornøe, C. W., Agersø, H., Madsen, H., Jonsson, E. N. & Nielsen, H. A. 2004 In : Computer Methods and Programs in Biomedicine. 76, 1, p. 31-40
Publication: Research - peer-review › Journal article – Annual report year: 2004

Nonlinear time series analysis of zoonoses
Christiansen, L. E. & Madsen, H. 2004
Publication: Research › Ph.D. thesis – Annual report year: 2004

Parameter estimation in a hydrodynamic model of the North Sea and Baltic Sea
Sørensen, J. V. T., Madsen, H. & Madsen, H. 2004
Publication: Research › Report – Annual report year: 2004

Parameter Estimation in Stochastic Grey-Box Models
Publication: Research - peer-review › Journal article – Annual report year: 2004

Pharmacokinetic/Pharmacodynamic Modelling of GnRH Antagonist Degarelix: A Comparison of the Non-linear Mixed-Effects Programs NONMEM and NLME
Publication: Research - peer-review › Journal article – Annual report year: 2004

Population Pharmacokinetic Modeling of a Subcutaneous Depot for GnRH Antagonist Degarelix
Publication: Research - peer-review › Journal article – Annual report year: 2004
Population PK/PD modelling framework for systematic model improvement
Publication: Research - peer-review › Article in proceedings – Annual report year: 2004

Simulation and optimization of wind farm controller
Publication: Research - peer-review › Article in proceedings – Annual report year: 2004

Statistics in Finance
Publication: Education › Book – Annual report year: 2004

Stochastic Differential Equation in NONMEM
Publication: Research - peer-review › Article in proceedings – Annual report year: 2004

Stochastic Differential Equation in NONMEM: A diagnostic tool for pinpointing model deficiencies
Publication: Research - peer-review › Article in proceedings – Annual report year: 2004

Ultra-short term wind speed forecasting
Publication: Research - peer-review › Article in proceedings – Annual report year: 2004

Using quantile regression to extend an existing wind power forecasting system with probabilistic forecasts
Publication: Research - peer-review › Article in proceedings – Annual report year: 2004

Wind Power Ensemble Forecasting
Publication: Research - peer-review › Article in proceedings – Annual report year: 2004

Wind Power Forecasting Using Ensembles
Publication: Research - peer-review › Article in proceedings – Annual report year: 2004

Short-term wind power prediction
Joensen, A. K., Madsen, H. & Landberg, L. Apr 2003
Publication: Research › Ph.D. thesis – Annual report year: 2003

Adaptiv kalibrering af COD-sensor baseret på fluorescens-spektre
Nielsen, H. A. & Madsen, H. 2003
Publication: Research › Report – Annual report year: 2003

An investigation of some tools for process model identification for prediction
Publication: Research - peer-review › Book chapter – Annual report year: 2003
A unified framework for systematic model improvement
Publication: Research - peer-review › Journal article – Annual report year: 2003

Climate as a predictor of prevalence of campylobacter spp. in humans and broilers in Denmark
Publication: Research - peer-review › Article in proceedings – Annual report year: 2003

Data assimilation in an operational forecast system of the North Sea-Baltic Sea system
Publication: Research - peer-review › Article in proceedings – Annual report year: 2003

Estimating Functions with Prior Knowledge, (EFPK) for diffusions
Publication: Research - peer-review › Report – Annual report year: 2003

Flavor release measurement by atmospheric pressure chemical ionization ion trap mass spectrometry, construction of interface and mathematical modeling of release profiles
Publication: Research - peer-review › Journal article – Annual report year: 2003

Fluorescens-spektre målt vha. BioView i indløbet på rensningsanlæg
Nielsen, H. A. & Madsen, H. 2003
Publication: Research - peer-review › Report – Annual report year: 2003

How to get physical parameters using MATLAB
Publication: Research - peer-review › Article in proceedings – Annual report year: 2003

Identification of Continuous Time Models Using Discrete Time Data
Publication: Research › Article in proceedings – Annual report year: 2004

Kalibrering af COD-sensor (BioView) placeret i indløb til rensesælæg
Nielsen, H. A. & Madsen, H. 2003
Publication: Research - peer-review › Report – Annual report year: 2003

Model Validation in Non-Linear Continuous-Discrete Grey-Box Models
Publication: Research - peer-review › Article in proceedings – Annual report year: 2003

Non-Linear Mixed-Effects Models in NLME with Differential Equations
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2003

Population pharmacokinetic modeling of a subcutaneous depot for GnRH antagonist degarelix
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2003
Population pharmacokinetic modelling of a subcutaneous depot for GnRH antagonist degarelix
Publication: Research › Article in proceedings – Annual report year: 2003

Short-term Prediction - An Overview
Publication: Research - peer-review › Review – Annual report year: 2003

Stochastic Grey-Box Modelling as a Tool for Improving the Quality of First Engineering Principles Models
Publication: Research › Article in proceedings – Annual report year: 2003

Teksturdata til beregning af friktionsværdier - anvendelse på vejoverflader?
Nielsen, H. A. & Madsen, H. 2003
Publication: Research › Report – Annual report year: 2003

Analyse og simulering af prædiktionsfejl for vindenergiproduktion ved indmelding til NordPool
Nielsen, H. A. & Madsen, H. 2002
Publication: Research - peer-review › Report – Annual report year: 2002

Anvendelse af teksturdata til beregning af friktionsværdier for vejbeleegninger
Nielsen, H. A. & Madsen, H. 2002
Publication: Research - peer-review › Report – Annual report year: 2002

Calibration with empirically weighted mean subset
Publication: Research - peer-review › Journal article – Annual report year: 2002

Control of Supply Temperature in District Heating Systems
Publication: Research - peer-review › Article in proceedings – Annual report year: 2002

Grey-box modelling of aeration tank settling
Publication: Research - peer-review › Journal article – Annual report year: 2002

Grey-box modelling of insulin clamp study
Tornøe, C. W., Jacobsen, J. L. & Madsen, H. 2002
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2002

Improving Prediction Models in Complex Terrain
Publication: Research - peer-review › Article in proceedings – Annual report year: 2002

Modeling of a thermostatic valve with hysteresis effects
Publication: Research - peer-review › Article in proceedings – Annual report year: 2002

On On-line Systems for Short-term Forecasting for Energy Systems
Publication: Research - peer-review › Article in proceedings – Annual report year: 2002
Optimal control of micro CHP
Andersen, K. K., Madsen, H. & Nielsen, H. A. 2002 System and Simulations in Buildings, Liege, Belgium.  
Publication: Research - peer-review › Article in proceedings – Annual report year: 2002

Prediction based on mean subset
Øjelund, H., Brown, P. J., Madsen, H. & Thyregod, P. 2002 In : Technometrics. 44, 4, p. 369-378  
Publication: Research - peer-review › Journal article – Annual report year: 2002

Prediction of Regional Wind Power
Publication: Research - peer-review › Article in proceedings – Annual report year: 2002

Prediction of Wind Power Using Time-varying Coefficient-functions
Publication: Research - peer-review › Article in proceedings – Annual report year: 2002

Predictive control of supply temperature in district heating systems
Nielsen, T. S., Madsen, H., Holst, J. & Søgaard, H. T. 2002  
Publication: Research - peer-review › Report – Annual report year: 2002

Towards an operational data assimilation system for a three-dimensional hydrodynamic model
Publication: Research › Article in proceedings – Annual report year: 2002

Using continuous time stochastic modelling and nonparametric statistics to improve the quality of first principles models
Publication: Research - peer-review › Journal article – Annual report year: 2002

Using meteorological forecasts for short term wind power forecasting
Publication: Research › Article in proceedings – Annual report year: 2002

Zephyr - The Next Generation Prediction System
Publication: Research › Article in proceedings – Annual report year: 2002

Calibration with Absolute Shrinkage
Øjelund, H., Madsen, H. & Thyregod, P. Jul 2001 In : Journal of Chemometrics. 15, 6, p. 497-510  
Publication: Research - peer-review › Journal article – Annual report year: 2001

Modelling and monitoring in injection molding
Thyregod, P., Spliid, H., Melgaard, H. & Madsen, H. Apr 2001  
Publication: Research › Ph.D. thesis – Annual report year: 2001

A Generalization of Some Classical Time Series Tools
Nielsen, H. A. & Madsen, H. 2001 In : Computational Statistics & Data Analysis. 37, 1, p. 13-31  
Publication: Research - peer-review › Journal article – Annual report year: 2001

A grey box model describing the hydraulics in a creek
Publication: Research - peer-review › Journal article – Annual report year: 2001
Applying the EKF to stochastic differential equations with level effects
Nielsen, J. N. & Madsen, H. 2001 In : Automatica. 37, 1, p. 107-112
Publication: Research - peer-review › Journal article – Annual report year: 2001

Calibration with near-continuous spectral measurements
Publication: Research › Article in proceedings – Annual report year: 2001

Computer Aided Continuous Time Stochastic Process Modelling
Publication: Research - peer-review › Article in proceedings – Annual report year: 2001

Data Assimilation of tidal gauge data in a three-dimensional coastal model
Publication: Research › Article in proceedings – Annual report year: 2001

Intelligent Control
Publication: Research › Journal article – Annual report year: 2001

Måling af COD i indløbet på rensningsanlæg på basis af fluorescens-spektre fra BioView
Nielsen, H. A. & Madsen, H. 2001
Publication: Research - peer-review › Report – Annual report year: 2001

Modellering og analyse af kvælstof i Randers Fjord
Le, T. T. D., Madsen, H., Rasmussen, B. & Sømod, B. 2001
Publication: Research › Report – Annual report year: 2001

Prediction models in complex terrain.
Publication: Research › Article in proceedings – Annual report year: 2001

Spectral transformation and range-selection in multivariate calibration
Publication: Research › Poster – Annual report year: 2001

Stochastic Modelling of Energy Systems
Publication: Research › Ph.D. thesis – Annual report year: 2001

Zephyr - the next generation prediction.
Publication: Research › Article in proceedings – Annual report year: 2001

Zephyr - the prediction models.
Publication: Research › Article in proceedings – Annual report year: 2001
Estimating Multivariate Exponential-Affine Term Structure Models from Coupon Bound Prices using Nonlinear Filtering
Publication: Research › Other contribution – Annual report year: 2000

Estimation in continuous-time stochastic volatility models using nonlinear filters
Publication: Research - peer-review › Journal article – Annual report year: 2000

Experimental design and setup for heat exchanger modelling
Andersen, K. K., Madsen, H., Palsson, O. P. & Knudsen, L. 2000 In : International Journal of Heat Exchangers. 1, 2
Publication: Research - peer-review › Journal article – Annual report year: 2000

Grey Box Modelling of First Flush and Incoming Wastewater at a Wastewater Treatment Plant
Publication: Research › Journal article – Annual report year: 2000

Load scheduling for decentralized CHP plants
Nielsen, H. A. O., Madsen, H. & Nielsen, T. S. 2000 Informatics and Mathematical Modelling, Technical University of Denmark, DTU.
Publication: Research - peer-review › Report – Annual report year: 2000

Modelling the heat dynamics of a building using stochastic differential equations
Publication: Research - peer-review › Journal article – Annual report year: 2000

Modelling the heat dynamics of buildings using stochastic
Publication: Research - peer-review › Journal article – Annual report year: 2000

Parameter Estimation in Stochastic Differential Equations; An Overview
Publication: Research › Journal article – Annual report year: 2000

Predicting the Heat Consumption in District Heating Systems using Meteorological Forecasts
Nielsen, H. A. O. & Madsen, H. 2000 Informatics and Mathematical Modelling, Technical University of Denmark, DTU.
Publication: Research - peer-review › Report – Annual report year: 2000

Short-term prediction towards the 21st century
Publication: Research - peer-review › Article in proceedings – Annual report year: 2000

The Zephyr-Project - The Next Generation Prediction System
Publication: Research - peer-review › Article in proceedings – Annual report year: 2000

Tracking time-varying coefficient-functions
Publication: Research - peer-review › Journal article – Annual report year: 2000
Tracking time-varying parameters with local regression

WPPT - A Tool for Wind Power Prediction

Zephyr and short-term wind power prediction models

A Semi-parametric Approach for Decomposition of Absorption Spectra in the Presence of Unknown Components
Sadegh, P., Nielsen, H. A. O. & Madsen, H. 1999 Department of Mathematical Modelling, Technical University of Denmark.

Estimating parameters in discretely, partially observed stochastic differential equations
Nielsen, J. N., Madsen, H. & Melgaard, H. 1999

Experiences with Statistical Methods for Wind Power Prediction

Fiction and Reality in The Modelling World

Goodness of fit of stochastic differential equations

Grey-box Modelling of Pollutant Loads From a Sewer System

Implementation of Short-term Prediction

Implementing short-term prediction at utilities
Integer Valued Autoregressive Models for Tipping Bucket Rainfall Measurements
Publication: Research - peer-review › Journal article – Annual report year: 1999

Model output statistics applied to wind power prediction
Publication: Research - peer-review › Article in proceedings – Annual report year: 1999

Parameter Estimation in Nonlinear Stochastic Differential Equations: An Overview
Publication: Research - peer-review › Article in proceedings – Annual report year: 1999

Subset Selection by Local Convex Approximation
Publication: Research - peer-review › Article in proceedings – Annual report year: 1999

Tracking Time-Varying Coefficient-Functions
Publication: Research - peer-review › Report – Annual report year: 1999

Using meteorological forecasts in on-line predictions of wind power
Publication: Research - peer-review › Report – Annual report year: 1999

A Grey Box Model for the Hydraulics in a Creek
Publication: Research - peer-review › Article in proceedings – Annual report year: 1998

Publication: Research - peer-review › Report – Annual report year: 1998

A New Reference for Wind Power Forecasting
Publication: Research - peer-review › Journal article – Annual report year: 1998

An Introduction to CUSUM Charts for COn trolling Measurement Systems
Publication: Research - peer-review › Report – Annual report year: 1998

Control of Sewer systems and Wastewater treatment plants using pollutant concentration profiles
Bechmann, H., Nielsen, M. K., Madsen, H. & Poulsen, N. K. 1998 In : Water Science and Technology. 37, 12, p. 87-93
Publication: Research - peer-review › Journal article – Annual report year: 1998

Design Values for the CUSUM-MS Chart
Publication: Research - peer-review › Report – Annual report year: 1998

Empirisk bestemt model for elforbruget i Østdanmark
Estimation in Continuous-time Stochastic Volatility Models using Nonlinear Filters

Estimation of embedded parameters in stochastic differential equations using discret-time measurements: Part 2: Nonlinear systems


Formulating and testing a rain series generator based on tipping bucket gauges

Grey-Box Modelling of pollutant Loads from the Sewer System for Control of Equalisation Basins

Identification of a Linear Continuous Time Stochastic Model of the Heat Dynamics of a Greenhouse

Modelling the dynamical effect of solar radiation on the oxygen content of a small creek
Jacobsen, J. L., Madsen, H. & Harremoës, P. 1998 In : Environmetrics. 9, p. 3-14

Modelling the embedded rainfall process using tipping bucket data

Nonlinear Filtering of Univariate Stochastic Volatility Models

Online data validation: Outlier detection and accommodation

On the Mathematics behind the CUSUM Control Charts
SAS-makroer til estimation og prædiktion i elforbrugsmodel
(Technical Reports).
Publication: Research - peer-review › Report – Annual report year: 1998

Some Tools for Identification of Nonlinear Time Series
Nielsen, H. A. & Madsen, H. 1998 Department of Mathematical Modelling, Technical University of Denmark. 27 p.
Publication: Research - peer-review › Report – Annual report year: 1998

Stratistics in Finance
Publication: Education › Book – Annual report year: 1998

WPPT, A Tool for On-Line Wind Power Prediction
Publication: Research - peer-review › Report – Annual report year: 1998

A Method for Automatic Calibration of Parameters of an Integrated Model
Jacobsen, J. L., Madsen, H., Rauch, W. & Harremoes, P. 1997
Publication: Research - peer-review › Report – Annual report year: 1997

ARX-models with parameter variations estimated by local fitting
Publication: Research - peer-review › Article in proceedings – Annual report year: 1997

A Stochastic model for two-station hydraulics exhibiting transient impact
Publication: Research - peer-review › Journal article – Annual report year: 1997

Conditionally Parametric ARX-models for Modelling time delays in district heating systems
Publication: Research - peer-review › Article in proceedings – Annual report year: 1997

Control of Supply Temperature in District Heating Systems - An Application.
Publication: Research - peer-review › Article in proceedings – Annual report year: 1997

Design of CUSUM Control Charts for Emission Data: CEN/TC 264/WG9, No. 41
Madsen, H. & Iwersen, J. 1997
Publication: Research - peer-review › Report – Annual report year: 1997

Nielsen, H. A. O. & Madsen, H. 1997 Department of Mathematical Modelling, Technical University of Denmark, DK-2800 Lyngby, Denmark in collaboration with NESA A/S.
Publication: Research - peer-review › Report – Annual report year: 1997

Nielsen, H. A. O. & Madsen, H. 1997 Department of Mathematical Modelling, Technical University of Denmark, DK-2800 Lyngby, Denmark in collaboration with NESA A/S.
Publication: Research - peer-review › Report – Annual report year: 1997
Estimation in Stochastic Differential Equations with a State Dependent Diffusion Term: 11th IFAC Symposium on System Identification, Vol. 3
Publication: Research - peer-review › Article in proceedings – Annual report year: 1997

Estimation of a low pass filter for solar radiation data
Publication: Research - peer-review › Article in proceedings – Annual report year: 1997

Identification of Physical Parameters for A Hydraulic Robot
Publication: Research › Article in proceedings – Annual report year: 1997

Implementation of mini CHP
Espensen, A. M., Bergstrøm, W., Nielsen, H. A. O. & Madsen, H. 1997 *7th International Symposium on district Heating and Simulation.*
Publication: Research - peer-review › Article in proceedings – Annual report year: 1997

Integer valued autoregressive models for rainfall measurement processes
Publication: Research - peer-review › Article in proceedings – Annual report year: 1997

Lecture notes for Advanced Time Series Analysis
Madsen, H. & Holst, J. 1997
Publication: Research - peer-review › Book – Annual report year: 1997

Local fitting of autoregressive models with external input
Publication: Research › Article in proceedings – Annual report year: 1997

Maxmin Input Design for Linear Dynamic Systems
Publication: Research - peer-review › Article in proceedings – Annual report year: 1997

Modelling of Hydraulic Robot
Publication: Research - peer-review › Report – Annual report year: 1997

Modelling the Embedded Rainfall Process using Tipping Bucket Data
Publication: Research - peer-review › Article in proceedings – Annual report year: 1997

On Optical Flow Estimation in Radar Images for Precipitation Forecasting
Publication: Research - peer-review › Book chapter – Annual report year: 1997
Using meteorological forecasts in on-line predictions of wind power.
Publication: Research - peer-review › Report – Annual report year: 1997

Publication: Research - peer-review › Article in proceedings – Annual report year: 1996

Application of a Thermal Network Model on Case 3. System Identification Competition
Publication: Research - peer-review › Article in proceedings – Annual report year: 1996

Publication: Research › Article in proceedings – Annual report year: 1996

Control of Supply Temperature: EFP 1323/93-07
Publication: Research - peer-review › Report – Annual report year: 1996

En Statistisk Bearbejdning af Slaggeanalyser og Forslag til Godkendelse af Slagger
Madsen, H. 1996
Publication: Research - peer-review › Report – Annual report year: 1996

Grey Box Modelling of Oxygen Levels in a Small Stream
Publication: Research - peer-review › Journal article – Annual report year: 1996

Interpretation of a pumping station as an on-line flow measurement
Publication: Research - peer-review › Article in proceedings – Annual report year: 1996

Modelling heat dynamics using thermal networks: Chapter 13 in System Identification Competition
Publication: Research › Article in proceedings – Annual report year: 1996

Modelling of Heat Dynamics using Thermal Networks: System Identification Competition
Publication: Research - peer-review › Article in proceedings – Annual report year: 1996

Modelling the transient impact of rain events on the oxygen content of a small creek
Jacobsen, J. L., Madsen, H. & Harremoes, P. 1996 In : Water Science and Technology. 33, 2, p. 177-185
Publication: Research - peer-review › Journal article – Annual report year: 1996

Models and Methods for Predicting Wind Power
Nielsen, H. A. & Madsen, H. 1996
Publication: Research - peer-review › Report – Annual report year: 1996

Madsen, H. 1996
Predictive Control of Air Temperature in Greenhouses: 13th World Congress of IFAC, San Francisco, California, July 1996
Madsen, H. & Nielsen, B. 1996 Predictive Control of Air Temperature in Greenhouses. San Francisco: International Federation of Automatic Control

Sampling Techniques in stochastic differential equations: Conference on Mathematical Finance

Wind Power Prediction using ARX Models and Neural Networks: Proceedings of the Fifteenth IASTED International Conference on Modelling, Identification and Control

Estimation of Continuous-Time Models for the Heat Dynamics of a Building

Experiment Design for Grey Box Identification

Identification of Transfer Functions for Control of Greenhouse Air Temperature

Methodologies for the Analysis of Data From Sewersm and Wastewater Treatment Plants

Model for brændselsforbrug og elproduktion på Korsør kraftvarmeværk


Optimal input design for fault detection and diagnosis
Statistical Identification of Monod-Kinetic Parameters from On-line Measurements
Publication: Research - peer-review › Journal article – Annual report year: 1995

Identification of wastewater processes
Publication: Research › Ph.D. thesis – Annual report year: 1994

Emission of Dioxins from Danish Wood-Stoves
Publication: Research - peer-review › Journal article – Annual report year: 1994

Generalized Predictive Control for Non-Stationary Systems
Publication: Research - peer-review › Journal article – Annual report year: 1994

Identification and Control of Nutrient Removing Processes in Wastewater Treatment Plants
Publication: Research - peer-review › Conference article – Annual report year: 1994

Identification of wastewater treatment processes for nutrient removal on a full-scale WWTP by statistical methods
Publication: Research - peer-review › Journal article – Annual report year: 1994

Methods for Robust Estimation of AR-parameters
Publication: Research - peer-review › Journal article – Annual report year: 1994

On Flow and Supply Temperture Control in District Heating Systems
Madsen, H. 1994 In : Heat Recovery Systems and CHP. 14, 6, p. 613-620
Publication: Research - peer-review › Journal article – Annual report year: 1994

Optimal experiment design for identification of grey-box models
Publication: Research - peer-review › Article in proceedings – Annual report year: 1994

Application of Predictive Control in District Heating Systems
Publication: Research - peer-review › Journal article – Annual report year: 1993

Grey box modelling in two time domains of a wastewater pilot scale plant
Publication: Research - peer-review › Journal article – Annual report year: 1993

Identification of wastewater processes using nonlinear grey box models
Publication: Research - peer-review › Report – Annual report year: 1992
Projects:

Tools for Reliable Energy Performance Characterisation of Buildings
Rasmussen, C., Madsen, H. & Rode, C.
01/01/2017 → 31/12/2019
Project: PhD

Models for real time warning and control strategies in urban drainage and wastewater systems
Pedersen, J. W., Mikkelsen, P. S., Madsen, H. & Vezzaro, L.
01/10/2016 → 30/09/2019
Project: PhD

Statistics and Data Analytics on Smart Zero
Wolf, S. & Madsen, H.
15/09/2016 → 14/09/2019
Project: PhD

Statistics and Data Analytics on Smart Zero
Wolf, S., Madsen, H. & Krogstie, J.
15/09/2016 → 14/09/2019
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

Datadriven models for energy advising leading to behavioural changes in SMEs and residences
Liisberg, J. A. R., Møller, J. K., Bacher, P. & Madsen, H.
15/05/2016 → 14/05/2019
Project: PhD

Classification and aggregation of energy components
Richert, T. P., Bindner, H. W., Gehrke, O. & Madsen, H.
01/04/2016 → 31/03/2019
Project: PhD

Market Mechanisms for the integration of Distributed Energy Resources
De Zotti, G., Morales González, J. M. & Madsen, H.
01/04/2016 → 31/03/2019
Project: PhD

Sensor Based Process Monitoring of Large Scale Vacuum Casting Process
Nauheimer, M., Madsen, H., Kirkeby, K. & Olesen, B.
01/01/2016 → 31/12/2018
Project: PhD

Decision-making for the Management and Planning of Integrated Energy Systems
Blanco, I., Madsen, H., Morales González, J. M. & Kitzing, L.
01/11/2015 → 31/10/2018
Project: PhD
Analysis of high frequency ("smart meter") energy consumption data
Tureczek, A. M., Nielsen, P. S. & Madsen, H.
01/08/2015 → 31/07/2018
Project: PhD

Dynamics asset allocation with regime shifts: Identifying regime shifts in financial time series using models with time-varying parameters
Nystrup, P., Madsen, H., Hansen, B. W., Larsen, H. O. & Lindstrøm, K. J. E. L.
15/11/2014 → 14/11/2017
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

Innovationsnetwork Smart Energy (CLEAN)
Heller, A. & Madsen, H.
15/08/2014 → 31/12/2017
Project

IEA EBC Annex 67 - Energy Flexible Buildings
Heller, A., Madsen, H., Gianniou, P. & Foteinaki, K.
01/06/2014 → 01/06/2019
Project

Waste-2-Energy Smart Grid Upgrade
Halvgaard, R. F. & Madsen, H.
02/04/2014 → 02/04/2016
Project

Modeling of Pharmacokinetics and Pharmacodynamics of Novel Glucagon Analogues for Closed-Loop Dual Hormone Blood Glucose Control
15/03/2014 → 16/08/2017
Project: PhD

Center for IT-Intelligent Energy Systems for Cities
01/01/2014 → 31/12/2019
Project

Stochastic Dynamics of Demand Response and the Impact on Power Systems Service Provision
O’Connell, N., Madsen, H., O’Malley, M. J., Pinson, P., Bindner, H. W., Botterud, A. & Meibom, P.
01/01/2013 → 20/04/2016
Project: PhD

Stochastic energy systems
15/12/2012 → 12/12/2016
Project: PhD

Adaptive Load Forecasting
Parvizi, J., Madsen, H., Sørensen, M. P., Petersen, S. & Sartori, I.
15/09/2012 → 31/07/2016
Project: PhD

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

**Methodologies for the economic and societal valuation of wind, energy storage and demand-side management in the electricity supply**
Simonsen Nielsen, M. P., Pinson, P. & Madsen, H.
01/05/2012 → 30/04/2015
Project: PhD

**Stochastic Differential Equations in PK/PD Modelling**
Juhl, R., Madsen, H. & Jørgensen, J. B.
15/01/2012 → 16/07/2015
Project: PhD

**Integrated Wind Power Planning Tool**
Rosgaard, M. H., Hahmann, A. N., Madsen, H., Pinson, P., Nissen, J. N. & Wilson, C.
01/10/2011 → 24/08/2015
Project: PhD

**Multivariate Probabilistic Forecasting for Energy Systems**
01/10/2011 → 21/09/2015
Project: PhD

**Adaptive Load Forecasting**
de Saint-Aubain, P. A. & Madsen, H.
15/09/2011 → 30/06/2012
Project: PhD

**Scenario modeling for optimized integrated real-time control of sewer - wastewater treatment plant systems**
Löwe, R., Madsen, H., Mikkelsen, P. S., Bauer-Gottwein, P., Heemink, A. W. & Muschalla, D.
01/01/2011 → 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

**Models for the energy performance of low-energy houses**
Andersen, P. H. D., Madsen, H., Rode, C., Hattel, J. H., Heiselberg, P. & Roels, S.
01/05/2010 → 24/01/2014
Project: PhD

**Impact of Stochastic Generation on Electricity Market Dynamics**
01/01/2010 → 30/08/2013
Project: PhD
Statistical modelling of marine ecosystems
Berg, C. W., Madsen, H., Nielsen, A., Thygesen, U. H., Andersen, K. H., Cadigan, N. G. & Nielsen, S. F.
01/11/2009 → 30/08/2013
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

Stochastic dynamical modelling to short-term regulation of glucose/insulin metabolism
Duun-Henriksen, A. K., Madsen, H., Jensen, P. R., Christiansen, L. E., Andreassen, S. & Gabrielsson, J.
01/06/2009 → 12/12/2013
Project: PhD

NonLinear modelling for energy systems
Trombe, P., Madsen, H., Pinson, P., Larsen, R. W., Greiner, M. O. W. & Thorarinsdottir, T. L.
01/01/2009 → 22/03/2013
Project: PhD

Model based analysis of ethnic differences in Type 2 diabetes
01/10/2008 → 24/08/2012
Project: PhD

Models for efficient integration of solar energy
Bacher, P., Madsen, H., Nielsen, H. A., Christiansen, L. E., Palsson, O. P. & Taboada, M. J. J.
01/10/2008 → 24/08/2012
Project: PhD

Grey box Modelling of Hydraulic Systems
Thordarson, F. Ò., Madsen, H., Madsen, H., Poulsen, N. K., Rasmussen, M. R. & Willems, P.
01/10/2007 → 23/02/2012
Project: PhD

Framework for Real Time Control of Integrated Urban Wastewater Systems
Breinholt, A., Mikkelsen, P. S., Grum, M., Madsen, H., Bauer-Gottwein, P., Madsen, H. & Vanrolleghem, P.
01/09/2007 → 27/06/2012
Project: PhD

Estimation of Conditional densities for predictions in nonlinear stochastic processes - with applications to wind power systems
Tastu, J., Madsen, H., Pinson, P., Poulsen, N. K., Kariniotakis, G. & Lindström, E.
01/08/2007 → 12/12/2013
Project: PhD

Statistical modelling of tagging data from marine animals
Pedersen, M. W., Madsen, H., Thygesen, U. H., Poulsen, N. K., Huse, G. & Zucchini, W.
01/07/2007 → 02/02/2011
Project: PhD

Nonlinear Stochastic Modelling of Antimicrobial resistance in Bacterial Populations
Philipsen, K. R., Madsen, H., Christiansen, L. E., Molin, S., Diekmann, O. & Erbsøll, A. K.
01/10/2006 → 30/06/2010
Project: PhD
Identification of Ecological Thresholds of Sustainability in Marine Ecosystems
Møller, J. K., Madsen, H., Carstensen, N. J., Nielsen, B. F., Ditlevsen, S. & Guttorp, P.
01/08/2006 → 25/05/2011
Project: PhD

Improved Statistical Analysis of Sleep EEG Data in Relation to Pharmacokinetics
01/07/2006 → 10/02/2010
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

Methods for Investigation of QT Prolongations
Jónsdóttir, A. H. & Madsen, H.
01/04/2006 → 31/05/2010
Project: PhD

Data Assimilation in Marine Modelling
Frydendall, J., Madsen, H., Sørensen, J. V. T., Poulsen, N. K., Carstensen, N. J. & Heemink, A. W.
01/03/2006 → 25/11/2009
Project: PhD

Automatisk kalibrering og attenuation korrektion i netværk af små vejrradar
Pedersen, L., Madsen, H., Jensen, N. E., Mikkelsen, P. S., Overgaard, S. & Sempere-Torres, D.
01/02/2006 → 26/08/2009
Project: PhD

Self-Organising Distributed Control of a Distributed Energy System with a High Penetration of Renewable Energy
01/04/2005 → 17/02/2010
Project: PhD

Power Fluctuations from Large Offshore Wind Farms
Sørensen, P. E., Cutululis, N. A., Madsen, H. & Pinson, P.
01/10/2004 → 30/09/2008
Project

Conflict-based Method for Economical, Subsustainable, Safe and Environmentally Clean Process (Retrofit) Design and Operation
Davidsvecu, F. P., Jørgensen, S. B., Madsen, H., Gernaey, K. V., Kristensen, N. R. & Marquardt, W.
01/02/2004 → 25/09/2008
Project: PhD

Modelling for Monitoring, Control and Optimization of Fed-Batch
Rasmussen, J. K., Jørgensen, S. B., Jørgensen, H. S., Madsen, H., Gernaey, K. V., Lei, F. & Lübbert, A.
01/09/2003 → 02/06/2008
Project: PhD

Computer Supported Drug Development
01/10/2002 → 20/10/2005
Project: PhD
Estimationsteori for stokastiske differentiалligninger
Nolsøe, K., Madsen, H., Kessler, M., Nielsen, B. F., Jørgensen, B. & Rydén, T.
01/10/2002 → 15/01/2007
Project: PhD

Stokastisk dynamik i kompekse systemer
01/07/2002 → 25/10/2006
Project: PhD

Antigiotika anvendelse og tidssig og rumelig spredning af antibiotikaresistens
Christiansen, L. E., Madsen, H., Andersen, J. S., Wegener, H. C., Thyregod, P., Agger, J. & Guttrop, P.
15/08/2001 → 27/04/2005
Project: PhD

Minimizing antibiotic resistance development MINIRESIST
11/01/2001 → 14/12/2013
Project

Data assimilation in atmospheric dispersion of radioactive material
Drews, M., Madsen, H., Lauritzen, B., Poulsen, N. K., Finck, R. R. & Holst, J.
01/10/2000 → 18/03/2005
Project: PhD

Data assimilering og autokalibrering i 2D/3D hydrodynamisk numerisk modellering af det marine miljø
Sørensen, J. V. T., Madsen, H., Madsen, H., Poulsen, N. K., Cañizares, R. & Heemink, A. W.
01/04/2000 → ...
Project: PhD

Nonlinear identification and optimal control of fed-batch processes
01/08/1999 → 24/03/2003
Project: PhD

Vindmøllepark-produktionsprediktor
Joensen, A. K., Madsen, H. & Nielsen, T. S.
01/04/1999 → 31/03/2002
Project

Non- and semiparametric methods with applications in engineering
01/01/1999 → ...
Project

PRESS installation hos Sonderborg Fjernvarme
Madsen, H. & Nielsen, T. S.
01/01/1999 → 31/12/2000
Project

IT based optimization of District Heating Networks
Nielsen, H. A., Madsen, H. & Laursen, P.
01/02/1998 → 31/12/2002
Project
IT-baseret driftoptimering af fjernvarmedistribution
Madsen, H., Nielsen, H. A. & Nielsen, T. S.
01/02/1998 → 30/10/2000
Project

Dynamic modelling of Energy Systems
Andersen, K. K., Madsen, H., Spliid, H., Bidstrup, N. & Lebrun, J.
01/01/1998 → 03/12/2001
Project: PhD

Multivariat kalibrering af kemiske sensorer
Øjelund, H., Madsen, H., Steen-Pedersen, J., Thyregod, P., Hansen, L. K., Olsen, E. V. & Sundberg, R.
01/01/1998 → …
Project: PhD

Elforbrugsmodeller for ELKRAFT-omraadet
Madsen, H. & Nielsen, H. A.
01/12/1997 → 01/03/1998
Project

Grey-box identification
Madsen, H. & Sadegh, P.
01/10/1997 → 01/11/1998
Project

Center for IT-tools in the Energy Sector
Madsen, H. & Andersen, K. K.
01/09/1997 → 31/08/2001
Project

Modellering og styring af sprøjetstøbproces
Madsen, H., Spliid, H. & Thyregod, P.
01/08/1997 → 01/07/2000
Project

Modellering og styring af sprøjetstøbproces
Thyregod, P., Madsen, H., Melgaard, H., Spliid, H., Rootzén, H., Bisgaard, S. & Olsen, K. J.
01/08/1997 → …
Project: PhD

Combined physical and statistical on-line prediction of wind power from wind farms.
Madsen, H., Joensen, A. K. & Nielsen, T. S.
01/04/1997 → 31/03/2000
Project

Kombineret fysisk og statistisk on-line forudsigelse af produktion fra vindmølleparker
Joensen, A. K., Madsen, H., Landberg, L., Spliid, H., Knudsen, T. & Larsen, S. E.
01/04/1997 → 20/05/2003
Project: PhD

Multivariate Calibration in Optical Sensors
Madsen, H., Thyregod, P. & Øjelund, H.
01/04/1997 → 31/05/2001
Project
**Stochastic Dynamic modelling of Oxygen**  
Jonsdottir, H., Madsen, H., Eliasson, J., Palsson, O. P., Poulsen, N. K., Madsen, H. & Olsson, G.  
01/04/1997 → 08/02/2007  
Project: PhD

**Estimation in Stochastic Differential Equations**  
Madsen, H. & Baadsgaard, M.  
01/09/1996 → 31/08/1999  
Project

**Estimation Techniques in Stochastic**  
Baadsgaard, M. & Madsen, H.  
01/09/1996 → 01/09/1999  
Project: PhD

**Identifikation og regulering af rensningsanlæg**  
Madsen, H., Poulsen, N. K., Bechmann, H. & Nielsen, M.  
01/05/1996 → 30/04/1999  
Project

**Modellering og Prædiktiv Styring af Spildevandssystemer**  
Bechmann, H., Madsen, H. & Poulsen, N. K.  
01/05/1996 → 28/04/2000  
Project: PhD

**Stochastic modelling of nonlinear systems**  
Nielsen, J. N., Madsen, H., Poulsen, N. K. & Ljung, L.  
01/03/1996 → 29/03/2001  
Project: PhD

**Prædiktorer i komplekse stokastiske systemer**  
Nielsen, H. A., Madsen, H. & Holst, J. J.  
01/02/1996 → 25/09/2000  
Project: PhD

**Stokastisk Prædiktiv Kontrol i Komplekse Systemer**  
Nielsen, T. S., Madsen, H., Holst, J., Poulsen, N. K., Bidstrup, N. & Egardt, B.  
01/02/1996 → 14/11/2002  
Project: PhD

**Dynamisk kvalitetskontrol**  
Madsen, H., Thyregod, P. & Iwersen, J.  
01/01/1996 → …  
Project

**Prediction models for wind energy production**  
Madsen, H., Nielsen, T. S., Søgaard, H. & Sejling, K.  
01/01/1996 → 31/12/1998  
Project

**Center for informationsteknologi i miljøsektoren**  
Madsen, H., Øjelund, H. & Sadegh, P.  
01/06/1995 → 01/04/1999  
Project
Development of methods for evaluation of electricity saving and load levelling measures
Madsen, H., Nielsen, H. A. & Bergstrøm, W.
01/03/1995 → 31/12/1997
Project

Implementing Short Term Predictions at Utilities
Madsen, H., Nielsen, T. S. & Nielsen, H. A.
01/01/1995 → 31/12/1998
Project

Prognosemodeller for gasforbrug
Madsen, H. & Nielsen, T. S.
17/06/1994 → 30/06/1996
Project

Identification af modeller for kedel og varmeanlæg
Madsen, H., Hansen, L. H., Holst, J., Bidstrup, N. & Vadstrup, P.
01/06/1994 → 31/05/1997
Project

Identification af modeller for kedel- og varmeanlæg
Hansen, L. H., Madsen, H., Hansen, P. E. & Poulsen, N. K.
01/06/1994 → ...
Project: PhD

Tidsrækkeanalyse og Danamisk Modellering af Regnvands påvirkede Recipienter
Jacobsen, J. L. & Madsen, H.
01/04/1994 → ...
Project: PhD

Time series analysis and dynamic modelling of processes in rivers affected by precipitation runoff
Madsen, H., Jacobsen, J. L., Harremoes, P. & Linde Jensen, J. J.
01/04/1994 → 31/05/1997
Project

Forsøgsplanlægning for identifikation af delvis kendte systemer (grey-box modeller)
Madsen, H., Sadegh, P. & Holst, J.
01/01/1994 → 31/12/1996
Project

Statistik finansieringsteori
Madsen, H., Nielsen, J. N. & Baadsgaard, M.
01/01/1994 → ...
Project

Identification af Grey-Modeler
Sadegh, P., Madsen, H. & Ljung, L.
01/08/1993 → 21/03/1997
Project: PhD

Optimering af fjernvarmestytemer
Madsen, H., Nielsen, T. S. & Nielsen, H. A.
01/07/1993 → 30/06/1996
Project
Udvikling, afprøvning og implementering af GPC-regulatorer i fjernvarmesystemer
Madsen, H. & Nielsen, T. S.
01/07/1993 → 30/06/1996
Project

Identifikation og styring af spildevandsprocesser
Carstensen, N. J., Madsen, H. & Harremoës, P.
01/01/1991 → …
Project: PhD

Undersøgelser af kontrolstrategier for regulering af fjernvarmesystemer
Palsson, O. P., Madsen, H. & Ravn, H. V.
01/07/1990 → 16/06/1994
Project: PhD

Identifikation af dynamiske systemer i kontinuert tid
Melgaard, H., Madsen, H., Hendricks, E. & Holst, J.
01/03/1990 → 17/03/1995
Project: PhD

Identifikation af varmedynamikken for bygningskomponenter
Madsen, H. & Melgaard, H.
01/01/1990 → …
Project

Identifikation og estimation af underliggende parametervariationer i stokastiske modeller
Søgaard, H. T., Madsen, H. & Holst, J.
15/02/1989 → 30/05/1994
Project: PhD

Modelling and prediction of load in district heating systems
Sejling, K. & Madsen, H.
01/02/1989 → 01/02/1994
Project: PhD

System til optimal regulering af fjernvarme-produktion
Madsen, H., Nielsen, T. S. & Nielsen, H. A.
01/01/1988 → …
Project

Activities:

Cities research for District Heating Innovation
Heller, A. (Speaker), Madsen, H. (Speaker)
6 Mar 2017
Activity: Talks and presentations › Conference presentations

5-års seminar om Lavenerghuset i Sisimiut
Madsen, H. (Speaker)
2 Jun 2010
Activity: Other