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Energy Analytics and Markets

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Research outputs:

Peer-to-peer and community-based markets: A comprehensive review
Research output: Research - peer-review › Review – Annual report year: 2019

Online adaptive clustering algorithm for load profiling
Research output: Research - peer-review › Journal article – Annual report year: 2019

A DSO-level contract market for conditional demand response
Research output: Research - peer-review › Article in proceedings – Annual report year: 2019

An Integrated Market for Electricity and Natural Gas Systems with Stochastic Power Producers
Research output: Research - peer-review › Journal article – Annual report year: 2018

Coordination of Power and Natural Gas Systems: Convexification Approaches for Linepack Modeling
Research output: Research - peer-review › Article in proceedings – Annual report year: 2019

Do unit commitment constraints affect generation expansion planning? A scalable stochastic model
Research output: Research - peer-review › Journal article – Annual report year: 2019

Exogenous Cost Allocation in Peer-to-Peer Electricity Markets
Research output: Research - peer-review › Journal article – Annual report year: 2019

Incentive-Compatibility in a Two-Stage Stochastic Electricity Market with High Wind Power Penetration
Research output: Research - peer-review › Journal article – Annual report year: 2019

A consensus-ADMM approach for strategic generation investment in electricity markets
Research output: Research - peer-review › Article in proceedings – Annual report year: 2018

Active Distribution Grid Management based on Robust AC Optimal Power Flow
Research output: Research - peer-review › Journal article – Annual report year: 2018

A local energy market for electricity and hydrogen
Research output: Research - peer-review › Journal article – Annual report year: 2018
RE-Europe, a large-scale dataset for modeling a highly renewable European electricity system
Research output: Research - peer-review › Journal article – Annual report year: 2017

Spatial models for probabilistic prediction of wind power with application to annual-average and high temporal resolution data
Research output: Research - peer-review › Journal article – Annual report year: 2016

Statistical modelling of space-time processes with application to wind power.
Research output: Research › Ph.D. thesis – Annual report year: 2017

Towards fully renewable energy systems - Experience and trends in Denmark
Research output: Research - peer-review › Journal article – Annual report year: 2016

以用户为中心的新兴电力市场模式
Research output: Research - peer-review › Journal article – Annual report year: 2017

Accountability for Uncertainty in Electricity Markets
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2016

Adaptive robust polynomial regression for power curve modeling with application to wind power forecasting
Research output: Research - peer-review › Journal article – Annual report year: 2016

Research output: Research - peer-review › Report – Annual report year: 2016

A Robust Optimisation Approach using CVaR for Unit Commitment in a Market with Probabilistic Offers
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

Demand Forecasting at Low Aggregation Levels using Factored Conditional Restricted Boltzmann Machine.
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

Effects of Risk Aversion on Market Outcomes: A Stochastic Two-Stage Equilibrium Model
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

Evaluating price-based demand response in practice – with application to the EcoGrid EU Experiment
Research output: Research - peer-review › Journal article – Annual report year: 2017

Generation and evaluation of space-Time trajectories of photovoltaic power
Research output: Research - peer-review › Journal article – Annual report year: 2016

Generation Expansion Planning with Large Amounts of Wind Power via Decision-Dependent Stochastic Programming
Research output: Research - peer-review › Journal article – Annual report year: 2017

Generation of scenarios from calibrated ensemble forecasts with a dual ensemble copula coupling approach
Research output: Research - peer-review › Journal article – Annual report year: 2017

Identifying and characterizing the impact of turbine icing on wind farm power generation: Impact of turbine icing on wind farm production
Research output: Research - peer-review › Journal article – Annual report year: 2016
Impact of Inter- and Intra-Regional Coordination in Markets With a Large Renewable Component
Research output: Research - peer-review › Journal article – Annual report year: 2016

Impact of Renewable Energy Forecast Imperfections on Market-Clearing Outcomes
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

Information Uncertainty in Electricity Markets: Introducing Probabilistic Offers
Research output: Research - peer-review › Journal article – Annual report year: 2016

Integrated Bidding and Operating Strategies for Wind-Storage Systems
Research output: Research - peer-review › Journal article – Annual report year: 2016

Introducing distributed learning approaches in wind power forecasting
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

Optimal bidding strategy of battery storage in power markets considering performance based regulation and battery cycle life
Research output: Research - peer-review › Journal article – Annual report year: 2015

Optimal coupling of heat and electricity systems: A stochastic hierarchical approach
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

Optimal offering and operating strategies for wind-storage systems with linear decision rules
Research output: Research - peer-review › Journal article – Annual report year: 2016

Optimal Offering Strategies for Wind Power in Energy and Primary Reserve Markets
Research output: Research - peer-review › Journal article – Annual report year: 2016

Population Dynamics for Renewables in Electricity Markets: A Minority Game View
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

Probabilistic energy forecasting: Global Energy Forecasting Competition 2014 and beyond
Research output: Research - peer-review › Journal article – Annual report year: 2016

Ranking Method for Peak-Load Shifting Considering Different Types of Data
Research output: Research - peer-review › Journal article – Annual report year: 2017

Real-Time Procurement Strategies of a Proactive Distribution Company with Aggregator-Based Demand Response
Research output: Research - peer-review › Journal article – Annual report year: 2017

RESGen: Renewable Energy Scenario Generation Platform
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

Sharing wind power forecasts in electricity markets: A numerical analysis
Research output: Research - peer-review › Journal article – Annual report year: 2016

Stochastic Integrated Market for Electric Power and Natural Gas Systems
Research output: Research › Poster – Annual report year: 2016

Strategic wind power trading considering rival wind power production
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016
Trading Strategies for Distribution Company with Stochastic Distributed Energy Resources.
Research output: Research - peer-review › Journal article – Annual report year: 2016

Research output: Research - peer-review › Journal article – Annual report year: 2016

Very-short-term wind power probabilistic forecasts by sparse vector autoregression.
Research output: Research - peer-review › Journal article – Annual report year: 2016

Wind offering in energy and reserve markets
Research output: Research - peer-review › Conference article – Annual report year: 2016

Wind power forecasting: IEA Wind Task 36 & future research issues
Research output: Research - peer-review › Conference article – Annual report year: 2016

Analysis of Strategic Wind Power Participation in Energy Market using MASCEM simulator
Research output: Research - peer-review › Article in proceedings – Annual report year: 2015

An Integrated Multiperiod OPF Model with Demand Response and Renewable Generation Uncertainty
Research output: Research - peer-review › Journal article – Annual report year: 2016

A Spatial Model for the Instantaneous Estimation of Wind Power at a Large Number of Unobserved Sites
Research output: Research - peer-review › Journal article – Annual report year: 2015

Demonstration of Market-Based Real-Time Electricity Pricing on a Congested Feeder
Research output: Research - peer-review › Article in proceedings – Annual report year: 2015

Economic Dispatch of Demand Response Balancing through Asymmetric Block Offers
Research output: Research - peer-review › Journal article – Annual report year: 2015

Forecasting for dynamic line rating
Research output: Research - peer-review › Journal article – Annual report year: 2015

Foreword for the special section on wind and solar energy: uncovering and accommodating their impacts on electricity markets
Research output: Research - peer-review › Editorial – Annual report year: 2015

From responsibility to accountability: Electricity market mechanisms accommodating probabilistic offers
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2015

Generation of scenarios from calibrated ensemble forecasts with a dynamic ensemble copula coupling approach
Research output: Research - peer-review › Journal article – Annual report year: 2015

Improving offering strategies for wind farms enhanced with storage capability
Research output: Research - peer-review › Article in proceedings – Annual report year: 2015

Methodology and forecast products for the optimal offering of ancillary services from wind in a market environment
Research output: Research › Report – Annual report year: 2015
On Quantification of Flexibility in Power Systems
Research output: Research - peer-review › Article in proceedings – Annual report year: 2015

Optimal dynamic capacity allocation of HVDC interconnections for cross-border exchange of balancing services in presence of uncertainty.
Research output: Research - peer-review › Journal article – Annual report year: 2015

Price-Maker Wind Power Producer Participating in a Joint Day-Ahead and Real-Time Market
Research output: Research - peer-review › Article in proceedings – Annual report year: 2015

Probabilistic maximum-value wind prediction for offshore environments
Research output: Research - peer-review › Journal article – Annual report year: 2015

Quantile forecast discrimination ability and value
Research output: Research - peer-review › Journal article – Annual report year: 2015

Robust optimisation for self-scheduling and bidding strategies of hybrid CSP-fossil power plants
Research output: Research - peer-review › Journal article – Annual report year: 2015

Stochastic Unit Commitment via Progressive Hedging - Extensive Analysis of Solution Methods
Research output: Research - peer-review › Article in proceedings – Annual report year: 2015

The Cobweb Effect in Balancing Markets with Demand Response
Research output: Research - peer-review › Article in proceedings – Annual report year: 2015

The new IEA Wind Task 36 on Wind Power Forecasting
Research output: Research - peer-review › Poster – Annual report year: 2015

The "Weather Intelligence for Renewable Energies" Benchmarking Exercise on Short-Term Forecasting of Wind and Solar Power Generation.
Research output: Research - peer-review › Journal article – Annual report year: 2015

Analysis of the Impact of Wind Power Participating in Both Energy and Ancillary Services Markets – The Danish Case
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

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

Benefits and challenges of electrical demand response: A critical review
Research output: Research - peer-review › Journal article – Annual report year: 2014

Comments on: Space-time wind speed forecasting for improved power system dispatch.
Research output: Research - peer-review › Comment/debate – Annual report year: 2014

Discussion of "Prediction intervals for short-term wind farm generation forecasts" and "Combined nonparametric prediction intervals for wind power generation"
Research output: Research - peer-review › Journal article – Annual report year: 2014

Early warnings of extreme winds using the ECMWF Extreme Forecast Index
Research output: Research - peer-review › Journal article – Annual report year: 2012
Regulating Power from Supermarket Refrigeration
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

Renewables in Electricity Markets
Research output: Research - peer-review › Conference abstract in proceedings – Annual report year: 2014

Towards electricity markets accommodating uncertain offers
Research output: Research - peer-review › Article in proceedings – Annual report year: 2015

Weather radars – the new eyes for offshore wind farms?
Research output: Research - peer-review › Journal article – Annual report year: 2013

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

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

A comparison between the ECMWF and COSMO Ensemble Prediction Systems applied to short-term wind power forecasting on real data
Research output: Research - peer-review › Journal article – Annual report year: 2013

Chance-constrained optimization of demand response to price signals
Research output: Research - peer-review › Journal article – Annual report year: 2014

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

Direct Interval Forecasting of Wind Power
Research output: Research - peer-review › Journal article – Annual report year: 2013

Discrimination ability of the Energy score
Research output: Research › Report – Annual report year: 2013

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

Forecasting Production Losses at a Swedish Wind Farm
Research output: Research › Sound/Visual production (digital) – Annual report year: 2013

Forecasting the conditional dynamic elasticity of electricity consumers
Research output: Research - peer-review › Journal article – Annual report year: 2013

Impact of Wind Power Generation on European Cross-Border Power Flows
Research output: Research - peer-review › Journal article – Annual report year: 2013

Modeling and forecasting of wind power generation - Regime-switching approaches
Research output: Research › Ph.D. thesis – Annual report year: 2014
Monitoring and characterizing offshore wind variability with weather radars for wind energy applications
Research output: Research › Sound/Visual production (digital) – Annual report year: 2013

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

Regime-based supervisory control to reduce power fluctuations from offshore wind power plants
Research output: Research › peer-review › Article in proceedings – Annual report year: 2013

Renewable Energy Resources — Onshore/Offshore Wind Energy
Research output: Research › peer-review › Book chapter – Annual report year: 2013

Space-time scenarios of wind power generation produced using a Gaussian copula with parametrized precision matrix
Research output: Research › Report – Annual report year: 2013

Statistical Modelling of Wind Proles - Data Analysis and Modelling
Research output: Research › Report – Annual report year: 2013

Stochastic power generation
Research output: Research › peer-review › Report chapter – Annual report year: 2013

Trading wind energy on the basis of probabilistic forecasts both of wind generation and of market quantities
Research output: Research › peer-review › Journal article – Annual report year: 2012

Using forecast information for storm ride-through control
Research output: Research › Sound/Visual production (digital) – Annual report year: 2013

Using forecast information for storm ride-through control
Research output: Research › peer-review › Article in proceedings – Annual report year: 2013

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

Wind Energy: Forecasting Challenges for its Operational Management
Research output: Research › peer-review › Journal article – Annual report year: 2013

Wind Power Forecasting with a Focus on Risk and Uncertainties
Research output: Research › Sound/Visual production (digital) – Annual report year: 2013

Adaptive calibration of (u,v)-wind ensemble forecasts
Research output: Research › peer-review › Journal article – Annual report year: 2012

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

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

A Transmission-Cost-Based Model to Estimate the Amount of Market-Integrable Wind Resources
Research output: Research › peer-review › Journal article – Annual report year: 2012
Early indication of extreme winds utilizing the Extreme Forecast Index
Research output: Research - peer-review › Journal article – Annual report year: 2012

Evaluating the quality of scenarios of short-term wind power generation
Research output: Research - peer-review › Journal article – Annual report year: 2011

High-resolution forecasting of wind power generation with regime switching models and off-site observations
Research output: Research › Report – Annual report year: 2012

Modeling Demand Response in Electricity Retail Markets as a Stackelberg Game
Research output: Research - peer-review › Paper – Annual report year: 2012

New statistical approaches with consideration for extremes
Research output: Research › Sound/Visual production (digital) – Annual report year: 2013

Probabilistic Forecasting of the Wave Energy Flux
Research output: Research - peer-review › Journal article – Annual report year: 2012

Risk Averse Bidding of Wind Power - Formulation and Properties
Research output: Research › Report – Annual report year: 2012

Research output: Research - peer-review › Article in proceedings – Annual report year: 2012

The use of different ensemble forecasting systems for wind power prediction on a real case in the South of Italy
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012

The use of different ensemble forecasting systems for wind power prediction on a real case in the South of Italy
Research output: Research - peer-review › Poster – Annual report year: 2012

Verification of the ECMWF ensemble forecasts of wind speed against analyses and observations
Research output: Research - peer-review › Journal article – Annual report year: 2011

Very short-term probabilistic forecasting of wind power with generalized logit-Normal distributions
Research output: Research - peer-review › Journal article – Annual report year: 2012

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

WIRE - Weather Intelligence for Renewable Energies
Research output: Research - peer-review › Conference abstract in proceedings – Annual report year: 2012

WIRE - Weather Intelligence for Renewable Energies
Research output: Research - peer-review › Poster – Annual report year: 2012

Benefits from the increased contribution of the European weather forecasting community to wind power prediction
Research output: Research › Article in proceedings – Annual report year: 2011

Can Weather Radars Help Monitoring and Forecasting Wind Power Fluctuations at Large Offshore Wind Farms?
Research output: Research - peer-review › Article in proceedings – Annual report year: 2011
Ensemble and probabilistic forecasting of (u,v)-wind for the energy application
Research output: Research - peer-review ➔ Conference abstract in proceedings – Annual report year: 2011

Forecasting ocean wave energy: A Comparison of the ECMWF wave model with time series methods
Research output: Research - peer-review ➔ Journal article – Annual report year: 2011

Forecasting uncertainty around the timing of large variation of wind power
Research output: Research - peer-review ➔ Poster – Annual report year: 2011

Influence of local wind speed and direction on wind power dynamics – Application to offshore very short-term forecasting
Research output: Research - peer-review ➔ Journal article – Annual report year: 2011

Meso-scale Wind Variability. Final Report
Research output: Research ➔ Report – Annual report year: 2011

Radar@Sea - Towards improving short-term wind power forecasts
Research output: Research ➔ Poster – Annual report year: 2011

Scenario generation: A review
Research output: Research ➔ Report – Annual report year: 2011

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

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

The influence of the new ECMWF Ensemble Prediction System resolution on wind power forecast accuracy and uncertainty estimation
Research output: Research - peer-review ➔ Conference abstract in proceedings – Annual report year: 2011

Wind fluctuations over the North Sea
Research output: Research - peer-review ➔ Journal article – Annual report year: 2010

An application of ensemble/multi model approach for wind power production forecast
Research output: Research ➔ Article in proceedings – Annual report year: 2010

Conditional prediction intervals of wind power generation
Research output: Research - peer-review ➔ Journal article – Annual report year: 2010

Conditional Weighted Combination of Wind Power Forecasts
Research output: Research - peer-review ➔ Journal article – Annual report year: 2010

Decision making strategies for trading wind power in deregulated energy markets
Research output: Research - peer-review ➔ Article in proceedings – Annual report year: 2010

Defining a catalogue of extreme events
Research output: Research ➔ Article in proceedings – Annual report year: 2010

Feedback, competition and stochasticity in a day ahead electricity market
Research output: Research - peer-review ➔ Journal article – Annual report year: 2010
Idealised simulations of open cellular convection and horizontal wind fluctuations over the North Sea
Research output: Research - peer-review › Conference article – Annual report year: 2010

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

On probabilistic forecasting of wind power time-series
Research output: Research › Report – Annual report year: 2010

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

Prediction of extreme wind events by utilisation of a weather-type Extreme Forecast Index - Part I: Early warnings of extreme wind events utilizing DWD objective weather type classification & ECMWF Ensemble Prediction System Extreme Forecast Index
Research output: Research › Article in proceedings – Annual report year: 2010

Reliability diagrams for non-parametric density forecasts of continuous variables: Accounting for serial correlation
Research output: Research - peer-review › Journal article – Annual report year: 2010

Resolving Nonstationary Spectral Information in Wind Speed Time Series Using the Hilbert-Huang Transform
Research output: Research - peer-review › Journal article – Annual report year: 2010

Trading wind energy in a liberalized electricity market: a real-world test case in Eastern Denmark
Research output: Research › Article in proceedings – Annual report year: 2010

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

Catalogue of complex to extreme situations
Research output: Research › Report – Annual report year: 2009

Characterisation of wind variability at the Horns Reef wind farm
Research output: Research - peer-review › Article in proceedings – Annual report year: 2009

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

Dynamic sizing of energy storage for hedging wind power forecast uncertainty
Research output: Research - peer-review › Article in proceedings – Annual report year: 2009

Effects of increasing wind power penetration on the physical operation of large electricity market systems
Research output: Research - peer-review › Article in proceedings – Annual report year: 2009

Ensemble-based forecasting at Horns Rev: Ensemble conversion and kernel dressing
Research output: Research › Report – Annual report year: 2009
Ensemble-based Probabilistic Forecasting at Horns Rev
Research output: Research - peer-review › Journal article – Annual report year: 2009

Forecasting day-ahead electricity prices and regulation costs in markets with significant wind power penetration
Research output: Research › Article in proceedings – Annual report year: 2009

From probabilistic forecasts to statistical scenarios of short-term wind power production
Research output: Research - peer-review › Journal article – Annual report year: 2009

Modelling and Forecasting of wind power fluctuations at large offshore wind farms.
Research output: Research › Sound/Visual production (digital) – Annual report year: 2009

Modelling and Forecasting of wind power fluctuations using Markov-Switching AR-GARCH models.
Research output: Research › Sound/Visual production (digital) – Annual report year: 2009

On the reliability assessment of density forecasts of continuous variables with reliability diagrams
Research output: Research › Article in proceedings – Annual report year: 2009

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

Prediction of waves, wakes and offshore wind - the results of the POWWOW project
Research output: Research › Article in proceedings – Annual report year: 2009

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

Spectral verification of a mesoscale ensemble
Research output: Research › Article in proceedings – Annual report year: 2009

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

Variability forecasts for wind farms using high resolution initial conditions
Research output: Research › Article in proceedings – Annual report year: 2009

Best practice in the use of short-term forecasting - Results from 2 workshops organized by the POWWOW Coordination Action
Research output: Research › Article in proceedings – Annual report year: 2008

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

Forecasting of wind generation: recent advances and future challenges
Research output: Research › Article in proceedings – Annual report year: 2008

Forecasting of wind generation - The wind power of tomorrow on your screen today!
Research output: 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
Research output: Research - peer-review › Article in proceedings – Annual report year: 2008

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

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

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

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

Modeling of spatial dependence in wind power forecast uncertainty
Research output: Research - peer-review › Article in proceedings – Annual report year: 2008

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

Modelling the nonlinear temperature response of district heating systems for model predictive control applications
Research output: Research - peer-review › Article in proceedings – Annual report year: 2008

POW'WOW - Workshops and virtual laboratories supporting wind research
Research output: Research › Article in proceedings – Annual report year: 2008

Probabilistic forecasting of wind power at the minute time-scale with Markov-switching autoregressive models
Research output: Research - peer-review › Article in proceedings – Annual report year: 2008

Probabilistic tools for planning and operating power systems with distributed energy storage
Research output: Research - peer-review › Article in proceedings – Annual report year: 2008

Probabilistic tools for planning and operating power systems with distributed energy storage
Research output: Research - peer-review › Journal article – Annual report year: 2008

Regime-switching modelling of the fluctuations of offshore wind generation
Research output: Research - peer-review › Journal article – Annual report year: 2008

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

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

Virtual laboratories for short-term forecasting and other benchmarks of the POW
Research output: Research › Article in proceedings – Annual report year: 2008

Adaptive Markov-switching modelling for offshore wind power fluctuations
Research output: Research - peer-review › Article in proceedings – Annual report year: 2007
Ensemble predictions: Understanding uncertainties
Research output: Research › Article in proceedings – Annual report year: 2007

Evaluation of Nonparametric Probabilistic Forecasts of Wind Power
Research output: Research › peer-review › Report – Annual report year: 2007

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

Generation of statistical scenarios of short-term wind power production
Research output: Research › peer-review › Article in proceedings – Annual report year: 2007

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

Improvement and automation of tools for short term wind power forecasting
Research output: Research › peer-review › Article in proceedings – Annual report year: 2007

Intelligent wind power prediction systems: Final report
Research output: Research › Report – Annual report year: 2007

Methods for the estimation of the uncertainty of wind power forecasts
Research output: Research › peer-review › Report – Annual report year: 2007

Non-parametric probabilistic forecasts of wind power: required properties and evaluation
Research output: Research › peer-review › Journal article – Annual report year: 2007

POW'WOW virtual laboratories for wind resource assessment and forecasting
Research output: Research › Article in proceedings – Annual report year: 2007

Robust estimation of time-varying coefficient functions - Application to the modelling of wind power production
Research output: Research › peer-review › Report – Annual report year: 2007

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

Statistical models and methods for wind power forecasting
Research output: Research › peer-review › Report – Annual report year: 2007

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

Towards smart integration of wind generation
Research output: Research › Article in proceedings – Annual report year: 2007

Trading wind generation from short-term probabilistic forecasts of wind power
Research output: Research › peer-review › Journal article – Annual report year: 2007

ViLab: a Virtual Laboratory for Collaborative Research on Wind Power Forecasting
Research output: Research › peer-review › Journal article – Annual report year: 2007
Advanced statistical modeling and uncertainty assessment for wind power forecasting
Research output: Research › Article in proceedings – Annual report year: 2006

On the quality and value of probabilistic forecasts of wind generation
Research output: Research › peer-review › Article in proceedings – Annual report year: 2006

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

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

Projects:

Market Design for Future Highly Interconnected Multi-Carrier Energy Systems
Project: PhD

Optimization and Market Integration of Multi-Area AC/HVDC Grids under Uncertainty
Project: PhD

Efficient and Scalable Market Design for Renewable-based Integrated Energy Systems
Project: PhD

Advanced Game-Theoretical Aspects in Electricity Markets
Project: PhD

Optimization, Control, and Stability of AC-DC Grids under Uncertainty
Project: PhD

Market design and operations for Energy Collectives
Project: PhD

Predicting and mobilizing energy flexibility in intelligent buildings
Project: PhD

Optimal Voltage Control of Distribution Networks with High Penetration of Distributed Energy Resources (DERs)
Project: PhD

Market Mechanisms for Integrated Energy Systems
Project: PhD

Smart end user data analysis and pattern recognition
Project: PhD

Market Mechanisms for Integrated Energy Systems
Project: PhD
Statistical modelling of space-time processes with
Project: PhD

Project: PhD

A Diagnostic and Predictive Framework for Wind Turbine Drive Train Monitoring
Project: PhD

Integrated Wind Power Planning Tool
Project: PhD

Methods for enabling utilisation of the potential flexibility in power production and consumption of entities connected in the low voltage network in a Virtual Power Plants framework
Project: PhD

Estimation of Conditional densities for predictions in nonlinear stochastic processes - with applications to wind power systems
Project: PhD

Multivariate Probabilistic Forecasting for Energy Systems
Project: PhD

Modeling and Forecasting for Optimal Participation of Renewable Energy in Deregulated Energy Markets
Project: PhD

Mesoscale Atmospheric Variability and the Variation of wind and Production for Off-shore Wind Farms
Project: PhD

Impact of Stochastic Generation on Electricity Market Dynamics
Project: PhD

Exploring Market Models for a European Electricity Grid With a High Penetration of Renewable Energy Sources
Project: PhD

Control Strategies for price based control of demand side units
Project: PhD

Static Security Assessment and PMU Data Validation
Project: PhD

System-wide socio-economic and reliability impact of active management of distribution grids and distributed energy resources
Project: PhD

Electricity market design for distributed energy resources and flexible demand
Project: PhD

Market Design and Network Planning for distribution Grid
Project: PhD
On-line Dynamic Security Assessment in Power Systems
Project: PhD

Energy and Ancillary Services in Future Electricity Markets
Project: PhD

NonLinear modelling for energy systems
Project: PhD

Modelling Of Market-Based Cross-Border Exchange Of Balancing Power
Project: PhD

Stochastic Dynamics of Demand Response and the Impact on Power Systems Service Provision
Project: PhD

Impact assessment of HVDC Systems at the European level
Project: PhD

Best Paths
Project: Research

Market Mechanisms for Integrated Energy Systems
Project: Research

5s - Future Electricity Markets
Project: Research

GenScen - Variable generation production scenario generation for planning and integration studies
Project: Research

Computational methods for wind-energy forecasting
Project: Research

Power Fluctuations from Large Offshore Wind Farms
Project: Research

EcoGrid EU - Large scale Smart Grids demonstration of real time market-based integration of DER and DR
Project: Research

Activities:

Integrated bidding and operating strategies for wind farm-energy storage systems
Activity: Talks and presentations › Conference presentations

Modelling of high-dimensional space-time dynamics of renewables
Activity: Talks and presentations › Conference presentations

Renewable energy forecasting
Activity: Talks and presentations › Conference presentations
Towards future electricity markets with large penetration of renewable generation
Activity: Talks and presentations › Conference presentations

Towards the usage of new large datasets for renewable energy applications
Activity: Talks and presentations › Conference presentations

Global Energy Forecasting Competition 2014
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.

International Journal of Forecasting (Journal)
Activity: Research › Journal editor

Discrimination ability of the Energy score(s)
Activity: Talks and presentations › Conference presentations

Prevoir l'électricité produite par nos énergies renouvelables
Activity: Other

Rendre la consommation d'électricité plus flexible et contrôlable
Activity: Other

Renewable energy forecasts ought to be probabilistic!
Activity: Talks and presentations › Conference presentations

Renewables in electricity markets: Stochastic modelling and optimization
Activity: Talks and presentations › Conference presentations

Stochastic power generation from renewables: forecasting and optimization challenges for its optimal integration.
Activity: Talks and presentations › Conference presentations

The value of probabilistic information for energy applications - from theory to reality.
Activity: Talks and presentations › Conference presentations

Web-based wind power forecasting competition 2012 - Wind Forecasting
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.

IEEE Transactions on Power Systems (Journal)
Activity: Research › Journal editor

Wind Energy (Journal)
Activity: Research › Journal editor

Prizes:

IDA Elektropris
Prize: Prizes, scholarships, distinctions

Press clippings:
Spotlight on Denmark
Press/Media: Press / Media

La France sans nucléaire, c'est possible!
Press/Media: Press / Media