Research outputs:

On-line Fault Diagnosis of Produced Water Treatment with Multilevel Flow Modeling
Research output: Research - peer-review › Journal article – Annual report year: 2018

A Water Treatment Case Study for Quantifying Model Performance with Multilevel Flow Modeling
Nielsen, E. K., Bram, M. V., Frutiger, J., Sin, G. & Lind, M. 2018 In : Nuclear Engineering and Technology. 50, 4, p. 532-541
Research output: Research - peer-review › Journal article – Annual report year: 2018

Extending MFM Function Ontology for Representing Separation and Conversion in Process Plant
Research output: Research - peer-review › Article in proceedings – Annual report year: 2018

Functional Modeling for Monitoring of Robotic System
Research output: Research - peer-review › Journal article – Annual report year: 2018

Management of System Complexity in HAZOP for the Oil & Gas Industry
Wu, J. & Lind, M. 2018 In : IFAC-PapersOnLine. 51, 8, p. 211-216
Research output: Research - peer-review › Journal article – Annual report year: 2018

Identifying Causality from Alarm Observations
Research output: Research - peer-review › Paper – Annual report year: 2017

Modelling and Validating a Deoiling Hydrocyclone for Fault Diagnosis using Multilevel Flow Modeling
Research output: Research - peer-review › Paper – Annual report year: 2017

Reasoning about Cause-effect through Control Functions in Multilevel Flow Modelling
Research output: Research - peer-review › Article in proceedings – Annual report year: 2018

Representing Operational Modes for Situation Awareness
Research output: Research - peer-review › Conference article – Annual report year: 2017

Using MFM methodology to generate and define major accident scenarios for quantitative risk assessment studies
Research output: Research - peer-review › Article in proceedings – Annual report year: 2017
Electric vehicle fleet management in smart grids: A review of services, optimization and control aspects
Research output: Research - peer-review › Journal article – Annual report year: 2016

Multi-agent based modeling for electric vehicle integration in a distribution network operation
Research output: Research - peer-review › Journal article – Annual report year: 2016

Preventing Distribution Grid Congestion by Integrating Indirect Control in a Hierarchical Electric Vehicles Management System
Research output: Research - peer-review › Journal article – Annual report year: 2016

A multi-agent system for distribution grid congestion management with electric vehicles
Research output: Research - peer-review › Journal article – Annual report year: 2015

Assessing Operational Situations.
Research output: Research › Ph.D. thesis – Annual report year: 2015

Design of multilevel flow modelling-based decision support system by using multiagent platform
Research output: Research - peer-review › Journal article – Annual report year: 2015

Validation of a functional model for integration of safety into process system design
Research output: Research - peer-review › Article in proceedings – Annual report year: 2015

An integrated qualitative and quantitative modeling framework for computer-assisted HAZOP studies
Research output: Research - peer-review › Journal article – Annual report year: 2014

Applying Functional Modeling for Accident Management of Nuclear Power Plant
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

Applying Functional Modeling for Accident Management of Nuclear Power Plant
Research output: Research - peer-review › Journal article – Annual report year: 2014

Control strategies for power distribution networks with electric vehicles integration.
Research output: Research › Ph.D. thesis – Annual report year: 2014

Coordinated Charging of Electric Vehicles for Congestion Prevention in the Distribution Grid
Research output: Research - peer-review › Journal article – Annual report year: 2013
Functional Modeling of Complex Systems
Research output: Research - peer-review › Book chapter – Annual report year: 2014

Functional Modelling for Fault Diagnosis and its application for NPP.
Lind, M. & Zhang, X. 2014 In : Nuclear Engineering and Technology. 46, 6, 30 p.
Research output: Research - peer-review › Journal article – Annual report year: 2014

Hazard identification by extended multilevel flow modelling with function roles.
Research output: Research - peer-review › Journal article – Annual report year: 2014

Practical Application of the MFM Suite on a PWR System: Modelling and Reasoning on Causes and Consequences of Process Anomalies
Research output: Research - peer-review › Journal article – Annual report year: 2014

Representing Operational Knowledge of PWR Plant by Using Multilevel Flow Modelling
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

Research output: Research - peer-review › Journal article – Annual report year: 2014

Apply Functional Modelling to Consequence Analysis in Supervision Systems
Research output: Research - peer-review › Article in proceedings – Annual report year: 2013

Consequence Reasoning in Multilevel Flow Modelling
Research output: Research - peer-review › Article in proceedings – Annual report year: 2013

Hazard Identification of the Offshore Three-phase Separation Process Based on Multilevel Flow Modeling and HAZOP
Research output: Research - peer-review › Article in proceedings – Annual report year: 2013

Multilevel Coordination in Smart Grids for Congestion Management of Distribution Grid
Research output: Research - peer-review › Article in proceedings – Annual report year: 2013

Multilevel Flow Modeling Based Decision Support System and Its Task Organization
Research output: Research - peer-review › Book chapter – Annual report year: 2013
Optimization and control method for smart charging of EVs facilitated by Fleet operator: Review and classification
Research output: Research - peer-review › Journal article – Annual report year: 2013

Supervision functions - Secure operation of sustainable power systems
Research output: Research - peer-review › Article in proceedings – Annual report year: 2013

Addressing the security of a future sustainable power system: The Danish SOSPO project
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012

Agent Based Reasoning In Multilevel Flow Modeling
Research output: Research - peer-review › Article in proceedings – Annual report year: 2013

Configuration of Risk Monitor System by PLant Defense-In.Depth Monitor and Reliability Monitor
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012

Model-Based approaches to Human-Automation Systems Design
Research output: Research - peer-review › Article in proceedings – Annual report year: 2013

Modeling Operating Modes during Plant Life Cycle
Research output: Research › Conference abstract in proceedings – Annual report year: 2012

Modeling Operating Modes during Plant Life Cycle
Research output: Research › Conference abstract in proceedings – Annual report year: 2012

Modeling Operating Modes for the Monju Nuclear Power Plant
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012

Modeling Operating Modes for the Monju Nuclear Power Plant
Research output: Research - peer-review › Journal article – Annual report year: 2013

Modeling Safety Barriers and Defense in Depth with Multilevel Flow Modeling
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012

Multilevel Flow Modeling for Nuclear Power Plant Diagnosis
Multilevel flow modeling of Monju Nuclear Power Plant
Research output: Research - peer-review › Journal article – Annual report year: 2011

Optimal charging schedule of an electric vehicle fleet
Research output: Research - peer-review › Article in proceedings – Annual report year: 2011

Using an Agent-oriented Framework for Supervision, Diagnosis and Prognosis Applications in Advanced Automation Environments
Research output: Research - peer-review › Article in proceedings – Annual report year: 2011

A Goal based methodology for HAZOP analysis
Research output: Research - peer-review › Journal article – Annual report year: 2010

A Functional HAZOP Methodology
Research output: Research - peer-review › Journal article – Annual report year: 2010

Agent Based Control of Electric Power Systems with Distributed Generation
Research output: Research › Ph.D. thesis – Annual report year: 2010

A Goal-Function Approach to Analysis of Control Situations
Research output: Research - peer-review › Article in proceedings – Annual report year: 2010

Knowledge representation for integrated plant operation and maintenance
Research output: Research - peer-review › Article in proceedings – Annual report year: 2011

Modeling Control Situations in Power System Operations
Research output: Research - peer-review › Article in proceedings – Annual report year: 2010

Multiagent based protection and control in decentralized electric power systems
Research output: Research - peer-review › Article in proceedings – Annual report year: 2010

Representing Causality and Reasoning about Controllability of Multi-level Flow-Systems
Research output: Research - peer-review › Article in proceedings – Annual report year: 2010
Requirement analysis for autonomous systems and intelligent agents in future Danish electric power systems
Research output: Research - peer-review › Journal article – Annual report year: 2010

System-Awareness for Agent-based Power System Control
Research output: Research › Article in proceedings – Annual report year: 2010

Agent Services for Situation Aware Control of Power Systems With Distributed Generation
Research output: Research - peer-review › Article in proceedings – Annual report year: 2009

A Goal Based HAZOP Assistant
Research output: Research - peer-review › Poster – Annual report year: 2009

A Goal Based HAZOP Assistant
Research output: Research - peer-review › Article in proceedings – Annual report year: 2009

Challenges to Cognitive Systems Engineering: Understanding Qualitative Aspects of Control Actions
Research output: Research - peer-review › Article in proceedings – Annual report year: 2009

Control architecture of power systems: Modeling of purpose and function
Research output: Research › Article in proceedings – Annual report year: 2009

Decomposing Objectives and Functions in Power System Operation and Control
Research output: Research - peer-review › Article in proceedings – Annual report year: 2009

Future Challenges of the Danish Power System: Results of Ecogrid.dk - Phase 1
Research output: Research › Article in proceedings – Annual report year: 2009

Reasoning about Control Situations in Power Systems
Research output: Research - peer-review › Article in proceedings – Annual report year: 2009

Towards a Danish power system with 50% wind: — Smart grids activities in Denmark
Research output: Research › Article in proceedings – Annual report year: 2009

A Goal Based Methodology for HAZOP Analysis
Research output: Research › Sound/Visual production (digital) – Annual report year: 2008
A Goal Based Methodology for HAZOP Analysis
Research output: Research - peer-review › Article in proceedings – Annual report year: 2008

EcoGrid.dk Phase 1: WP 2 System architecture
Research output: Research › Report – Annual report year: 2008

Fundamental Principles of Alarm Design
Research output: Research › Sound/Visual production (digital) – Annual report year: 2008

Fundamental Principles of Alarm Design
Research output: Research - peer-review › Article in proceedings – Annual report year: 2008

Future steps toward a Danish power system with 50% wind power
Research output: Research › Report – Annual report year: 2008

IMPLEMENTATION OF MULTIAGENT REINFORCEMENT LEARNING MECHANISM FOR OPTIMAL ISLANDING OPERATION OF DISTRIBUTION NETWORK
Research output: Research - peer-review › Conference abstract in proceedings – Annual report year: 2008

Perspectives on multilevel flow modeling
Research output: Research › Article in proceedings – Annual report year: 2008

Functional HAZOP
Research output: Research › Sound/Visual production (digital) – Annual report year: 2007

Means-end based functional modeling for intelligent control: Modeling and experiments with an industrial heat pump
Research output: Research › Article in proceedings – Annual report year: 2007

The function of functional modelling in (bio-)chemical engineering
Research output: Research › Article in proceedings – Annual report year: 2007

The function of functional modelling in (bio-)chemical engineering
Research output: Research › Sound/Visual production (digital) – Annual report year: 2007

The what, why and how of functional modeling
Research output: Research › Article in proceedings – Annual report year: 2007
A Functional approach to HAZOP studies
Research output: Research › Sound/Visual production (digital) – Annual report year: 2006

A Functional approach to HAZOP studies
Research output: Research - peer-review › Article in proceedings – Annual report year: 2006

A systematic approach to HAZOP studies based on functional models
Research output: Research › Poster – Annual report year: 2006

Context-aware mobile interfaces for process automation
Research output: Research › Article in proceedings – Annual report year: 2006

Functional modelling assisted HAZOP studies
Research output: Research › Article in proceedings – Annual report year: 2006

Towards understanding the role and function of regulatory networks in microorganisms
Research output: Research - peer-review › Book chapter – Annual report year: 2006

Design of Process Displays based on Risk Analysis Techniques
Paulsen, J. L. & Lind, M. Feb 2005 Risø National Laboratory. 144 p. (Risø-PhD; No. 8(EN)).
Research output: Research › Ph.D. thesis – Annual report year: 2005

Alarm reduction and root cause analysis for nuclear power plant control rooms
Research output: Research › Article in proceedings – Annual report year: 2005

Modeling Goals and Functions of Control and Safety Systems in (MFM
Research output: Research › Article in proceedings – Annual report year: 2005

Understanding role and function of regulatory networks in microorganisms
Research output: Research - peer-review › Conference abstract in journal – Annual report year: 2005

Understanding role and function of regulatory networks in microorganisms
Research output: Research › Sound/Visual production (digital) – Annual report year: 2005

Activated sludge wastewater treatment plant modelling and simulation: state of the art
Research output: Research - peer-review › Journal article – Annual report year: 2004
Description of composite actions - Towards a formalization of safety functions
Research output: Research › Report – Annual report year: 2004

Evaluering af grænseflader til klimastyring i svinestalde
Research output: Research › Report – Annual report year: 2004

Means and ends of control
Research output: Research - peer-review › Article in proceedings – Annual report year: 2004

Making Sense of the Abstraction Hierarchy in the Power Plant Domain
Research output: Research - peer-review › Journal article – Annual report year: 2003

Making Sense of the Abstractions Hierarchy in the Power Plant Domain
Research output: Research - peer-review › Journal article – Annual report year: 2003

A review of barrier concepts
Research output: Research › Report – Annual report year: 2002

Promoting and Opposing
Research output: Research › Report – Annual report year: 2002

Semiotics and Intelligent Control
Research output: Research - peer-review › Book chapter – Annual report year: 2002

Research output: Research - peer-review › Article in proceedings – Annual report year: 2001

Collision avoidance at sea - practice and problems
Research output: Research - peer-review › Article in proceedings – Annual report year: 2001

Proceedings of EAM 2001
Research output: Research - peer-review › Book – Annual report year: 2001

Semiotics and Intelligent Control
Research output: Research - peer-review › Article in proceedings – Annual report year: 2001

Knowledge Based Support for Situation Assessment in Human Supervisory Control
A Systematic Approach to Design of Process Displays
Petersen, C. R. & Lind, M. Mar 1999
Research output: Research › Ph.D. thesis – Annual report year: 1999

Conceptual Design of Industrial Process Displays
Research output: Research - peer-review › Journal article – Annual report year: 1999

Plant Modeling for Human Supervisory Control
Lind, M. 1999 In : Transactions of the Institute of Measurement and Control. 21, 4-5, p. 171-180
Research output: Research - peer-review › Journal article – Annual report year: 1999

Considerations on agents and objects in multilevel flow modelling
Research output: Research - peer-review › Article in proceedings – Annual report year: 1998

Representing the Behaviours of Real-Time Systems: A Goal-Oriented Approach
Research output: Research - peer-review › Article in proceedings – Annual report year: 1998

The Emergence of Levels of Abstraction in Complex Systems
Lind, M. 1997 In : Culture & History. 15, p. 96-107
Research output: Research - peer-review › Journal article – Annual report year: 1997

Interpretation Problems in Modelling Complex Artifacts for Diagnosis
Research output: Research - peer-review › Article in proceedings – Annual report year: 1996

Status and Challenges of Intelligent Plant Control
Lind, M. 1996 Annual Reviews in Control. 20, p. 23-41
Research output: Research - peer-review › Journal article – Annual report year: 1996

Towards Classification of Supervisory Control Goals
Research output: Research - peer-review › Report – Annual report year: 1996

Information Interfaces for Process Plant Diagnosis
Research output: Research - peer-review › Report – Annual report year: 1984

The GNP Testbed for Operator Support Evaluation
Research output: Research - peer-review › Report – Annual report year: 1984

Research output: Research - Report – Annual report year: 1983
Some Experiences in Application of the Multilevel Flow Modelling Method
Research output: Research › Article in proceedings – Annual report year: 1983

The GNP Testbed for Operator Support Evaluation
Research output: Research › Article in proceedings – Annual report year: 1983

A Model of Human Decision Making in Complex Systems and its Use for Design of System Control Strategies
Research output: Research › Article in proceedings – Annual report year: 1982

A Model of Human Decision Making in Complex Systems and its Use for Design of System Control Strategies
Research output: Research › Report – Annual report year: 1982

Generic Control Tasks in Process Plant Operation
Research output: Research › Article in proceedings – Annual report year: 1982

Multilevel Flow Modelling of Process Plant for Diagnosis and Control
Research output: Research › Report – Annual report year: 1982

Self-Reference as a Problem in the Control of Complex Systems
Research output: Research › Journal article – Annual report year: 1982

The use of flow models for design of plant operating procedures
Research output: Research › Report – Annual report year: 1982

Coping with complexity
Research output: Research › Report – Annual report year: 1981

The Use of Flow Models for Automated Plant Diagnosis
Research output: Research › peer-review › Book chapter – Annual report year: 1981

The use of mass and energy balances for observation in process plant diagnosis
Research output: Research › Report – Annual report year: 1980

Notes on Failure Analysis of Process Plants with Feedback Loops
Research output: Research › Article in proceedings – Annual report year: 1978
Analysis of the self-organizing properties of a stochastic controller
Research output: Research › Report – Annual report year: 1977

Investigation of a class of self-organizing control systems
Research output: Research › Report – Annual report year: 1976

Dynamics and control of a simplified once-through boiler
Research output: Research › Report – Annual report year: 1975

Elements of automata theory and the theory of markov chains
Research output: Research › Report – Annual report year: 1975

Projects:

An Analysis of Barrons Selv-organizing Controller
Lind, M. & Jacobsen, K. W.
01/07/1970 → 04/10/1977
Project: PhD

Counteraction planning based on Multilevel Flow Modelling
Reinartz, C. C., Ravn, O. & Lind, M.
Eksternt finansieret virksomhed
01/07/2018 → 30/06/2021
Project: PhD

Detection and evaluation of abnormal events in complex industrial processes
Hallgrimsson, A. D., Niemann, H. H. & Lind, M.
Eksternt finansieret virksomhed
15/08/2017 → 14/08/2020
Project: PhD

Functional Modeling of water treatment system
Nielsen, E. K., Ravn, O., Lind, M. & Sin, G.
Eksternt finansieret virksomhed
01/10/2016 → 30/09/2019
Project: PhD

Planlægning i procesanlæg
Larsen, M. N. & Lind, M.
Gammel ordning u/skema-SU
01/08/1990 → 02/08/1995
Project: PhD

Formulering af generiske MFM-modeller for skibssystemer med henblik på brug i diagnosesystemer
Jørgensen, S. S. & Lind, M.
ATV- Gammel ordning
01/09/1989 → 04/10/1993
Project: PhD
Combining functional modeling and reasoning with on-line event analytics
Kirchhübel, D., Ravn, O. & Lind, M.
Eksternt finansieret virksomhed
01/09/2016 → 19/12/2019
Project: PhD

Maintenance Free and Sustainable High-Level Control in Cement and Mining Industry
Hansen, O. F., Andersen, N. A., Ravn, O., Recke, B., Lind, M., Andersen, K. H. & Gustavsson, R.
ErhvervsPhD-ordningen VTU
01/10/2005 → 26/08/2009
Project: PhD

Fejlanalyse af proceskontrolsystemer
Jalashgar, A., Lind, M., Jørgensen, S. B. & Larsson, J. E.
Forskerakademiets Samfinansier
01/02/1994 → 27/05/1997
Project: PhD

Self-Organising Distributed Control of a Distributed Energy System with a High Penetration of Renewable Energy
Gehrke, O., Poulsen, N. K., Bindner, H. W., Madsen, H., Nielsen, A. H., Lind, M., Degner, T. & MCarthur, S.
Riso (Løn)
01/04/2005 → 17/02/2010
Project: PhD

Task Oriented Display Design Based on Invariants and Physical Laws
Riso (Løn)
01/06/2000 → 12/02/2005
Project: PhD

Investigation of System Protection Schemes for the Transmission Network in Eastern Denmark
Erhvervsforskerordningen
01/01/2002 → 20/03/2006
Project: PhD

Udformning af procesdisplays
Erhvervsforskerordningen
01/03/1996 → 08/12/2000
Project: PhD

Modelanvendelse i integreret design af transportsystemer
Andersen, G. L., Lind, M. & Holm, H.
Forskningsrådsstipendium
01/10/1992 → 27/11/1996
Project: PhD

Grafgrammatiker og grafiske editorer til modelbygning
Duschek, J. & Lind, M.
DTU-stipendium
01/08/1992 → 09/05/1996
Project: PhD

Graphical Control Environment (GRACE)
Osman, A., Lind, M. & Andersen, P. B.
Gammel ordning u/skema-SU
01/02/1989 → 15/06/1994
Project: PhD

Modular Supervisory Controller for Hybrid Power systems
Pereira, A. D. L., Jannerup, O. E., Henningsen, A. & Lind, M.
Selvfinansierende (privatist)
01/11/1996 → 07/09/2000
Project: PhD

Object Based Large Scale Reuse in Industrial Systems Design
Sørensen, M., Lind, M. & Jannerup, O. E.
Samarbejdsaftale-Finan-SU
01/03/1994 → 09/09/1997
Project: PhD

Intelligente og autonome produktionsystemer
Forskningsrådsstip.-SU, Eksp
01/01/1996 → 17/06/1999
Project: PhD

Navigation
Larsen, M. B., Andersen, N. A., Lind, M., Blanke, M., Holst, J. & Pascoal, A. M.
Forskningsrådsstip.-SU, Eksp
01/03/1997 → 04/12/2002
Project: PhD

Real-Time 'Plant-Wide' Diagnosis
Petersen, J., Lind, M. & Blanke, M.
Forskningsrådsstip.-SU, Eksp
01/05/1997 → 27/03/2000
Project: PhD

Handlingsstruktur i robot og proceskontrolsystemer
Poulsen, H., Lind, M., Andersen, P. B. & Sørensen, P. H.
DTU-Su Stipendium, Eksperiment
01/02/1994 → 23/01/1998
Project: PhD

Menneske-maskine samarbejde i distribuerede automatiseringssystemer
Olsen, M. H., Lind, M., Ravn, O., Rose, M., Blanke, M., Andersen, P. B., Johnsen, T. & Andersen, P. B.
DTU, Samfinansiering
01/07/2003 → 30/03/2007
Project: PhD

Fault-tolerant Guidance for Precision Farming using 2D/3D Vision and Computer-Based Learning
Blas, M. R., Blanke, M., Madsen, T. E., Lind, M., Christensen, H. I. & Schilling, K.
ErhvervsPhD-ordningen VTU
01/09/2006 → 30/09/2010
Project: PhD

Control Architecture for Future Power Systems
Heussen, K., Niemann, H. H., Lind, M., Østergaard, J., Jiang, J. & Rehtanz, C.
DTU-lønnnet stipendie
01/04/2008 → 21/02/2012
Project: PhD
Agent Based Control of Electric Power Systems with Distributed Energy Resources
DTU, Samfinansiering
15/03/2007 → 21/12/2010
Project: PhD

Network and control of future intelligent power system
Hu, J., Østergaard, J., Lind, M., Træholt, C., Kok, J. K. & Lehnhoff, S.
Privatist
01/02/2011 → 20/08/2014
Project: PhD

Consequence Reasoning in Multilevel Flow Modeling and its Application
Zhang, X., Ravn, O., Lind, M., Niemann, H. H., Cameron, I., Gofuku, A. & Gofuku, A.
Institut stipendie (DTU) Samf.
01/03/2012 → 18/06/2015
Project: PhD

AlarmTracker: Use of Multilevel Flow Modelling for on-line supervision in the oil and gas industry
Ravn, O., Lind, M. & Zhang, X.
01/05/2015 → 01/09/2015
Project: Research

SOSPO: Secure Operation of Sustainable Power Systems
01/01/2012 → 31/03/2016
Project: Research

Agentbaserede styringsstrukturer i elsystemer med betydelig decentral produktion : PSO-projekt
Lind, M., Nielsen, A. H., Saleem, A., Bindner, H. W., Andreasen, J. & Nielsen, L. B.
Forskningsprojekter - Andre ministerier og styrelser
01/03/2007 → 31/03/2010
Project: Research

PIESCAN
Lind, M., Larsen, M. B. & Andersen, N. A.
Ukendt
01/01/1996 → 31/12/1998
Project: Research

PowerLabDK : An Experimental Research Platform for Electric Power and Energy
Østergaard, J., Nielsen, A. H., Lind, M., Holbøll, J., Træholt, C., Sørensen, P. E., Bindner, H. W., Friesel, A. & Sjøberg, P.
Forskningsrådene - Andre
01/08/2007 → 01/12/2008
Project: Research

Robust Human Machine Interaction ‘ROHMI’
Lind, M., Passen, R. M. M. V. & Poulsen, H.
Ukendt
01/01/1994 → 31/12/1996
Project: Research

EcoGrid: EcoGrid DK: 50% wind power in the Danish Electric Power System
01/05/2007 → 01/07/2008
Project: Research