A CFD based automatic method for compartment model development
Research output: Research - peer-review › Journal article – Annual report year: 2019

An Industrial Perspective on Scale-Down Challenges Using Miniaturized Bioreactors
Research output: Research - peer-review › Journal article – Annual report year: 2019

Economic Risk Analysis and Critical Comparison of Biodiesel Production Systems
Research output: Research - peer-review › Book chapter – Annual report year: 2019

Investigation of the cleaning of egg yolk deposits from tank surfaces using continuous and pulsed flows
Research output: Research - peer-review › Journal article – Annual report year: 2019

Model-Based Cost Optimization of Double-Effect Water-Lithium Bromide Absorption Refrigeration Systems
Research output: Research - peer-review › Journal article – Annual report year: 2019

Resource recovery from bio-based production processes in developing Asia
Research output: Research - peer-review › Journal article – Annual report year: 2019

5 år og fuld fart frem "BIOPRO World Talent Campus byder endnu en gruppe talenter fra hele verden velkommen til Danmark."
Research output: Communication › Journal article – Annual report year: 2018

A fast and simple method to estimate relative, hyphal tensile-strength of filamentous fungi used to assess the effect of autophagy
Research output: Research - peer-review › Journal article – Annual report year: 2018

A Genome-Scale Metabolic Model for Methylococcus capsulatus (Bath) Suggests Reduced Efficiency Electron Transfer to the Particulate Methane Monoxygenase
Research output: Research - peer-review › Journal article – Annual report year: 2018

A Methodology for Development of a Pedagogical Simulation Tool used in Fermentation Applications
Research output: Research - peer-review › Article in proceedings – Annual report year: 2018

Anomaly Analysis in Cleaning-in-Place Operations of an Industrial Brewery Fermenter
Research output: Research - peer-review › Journal article – Annual report year: 2018
A probabilistic model-based soft sensor to monitor lactic acid bacteria fermentations
Research output: Research - peer-review › Journal article – Annual report year: 2018

A shortcut approach for decision-making and operational analysis of an integrated end-to-end continuous pharmaceutical process
Research output: Research - peer-review › Article in proceedings – Annual report year: 2018

A Systematic Methodology for Comprehensive Economic Assessment of Process Control Structures
Research output: Research - peer-review › Journal article – Annual report year: 2018

Better together or single by choice: Challenges and opportunities in engineering microbial consortia for industrial biomanufacturing applications
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2018

Biocatalyst Screening with a Twist: Application of Oxygen Sensors Integrated in Microchannels for Screening Whole Cell Biocatalyst Variants
Research output: Research - peer-review › Journal article – Annual report year: 2018

BIOPRO World Talent Campus: A week of real world challenge for biotechnology post-graduate students
Research output: Research - peer-review › Journal article – Annual report year: 2018

Butanol for sustainable aviation
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2018

Caught in-between: System for in-flow inactivation of enzymes as an intermediary step in "plug-and-play" microfluidic platforms
Research output: Research - peer-review › Journal article – Annual report year: 2018

CFD modelling of axial mixing in the intermediate and final rinses of cleaning-in-place procedures of straight pipes
Research output: Research - peer-review › Journal article – Annual report year: 2018

CFD predicted pH gradients in lactic acid bacteria cultivations
Research output: Research - peer-review › Journal article – Annual report year: 2018

Configuration optimization of series flow double-effect water-lithium bromide absorption refrigeration systems by cost minimization
Research output: Research - peer-review › Journal article – Annual report year: 2018

"Connecting worlds – a view on microfluidics for a wider application"
Research output: Research - peer-review › Journal article – Annual report year: 2018

Continuous enrichment strategies for biobutanol production
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2018

Control of Non-Key Compositional Bulges in Industrial Distillation Unit Operations
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2018

Developing a framework to model the primary drying step of a continuous freeze-drying process based on infrared radiation
Research output: Research - peer-review › Journal article – Annual report year: 2018
Dynamic plantwide modeling, uncertainty and sensitivity analysis of a pharmaceutical upstream synthesis: Ibuprofen case study
Research output: Research - peer-review › Journal article – Annual report year: 2018

Efficient Computational Design of a Scaffold for Cartilage Cell Regeneration
Research output: Research - peer-review › Journal article – Annual report year: 2018

Enzymatic keratin hydrolysis: Dynamic modelling, parameter estimation and validation
Research output: Research - peer-review › Article in proceedings – Annual report year: 2018

Exploring the effects of ZVI addition on resource recovery in the anaerobic digestion process
Research output: Research - peer-review › Journal article – Annual report year: 2018

Exploring the potential of electroless and electroplated noble metal-semiconductor hybrids within bio- and environmental sensing
Research output: Research - peer-review › Journal article – Annual report year: 2018

From waste to value: Green chemical production in mixed microbial cultures
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2018

Global Sensitivity Analysis as Good Modelling Practices tool for the identification of the most influential process parameters of the primary drying step during freeze-drying
Research output: Research - peer-review › Journal article – Annual report year: 2018

Gradients of pressure in anaerobic digesters
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2018

Gradients of pressure in anaerobic digesters
Research output: Research - peer-review › Poster – Annual report year: 2018

Hypothesis-driven compartment model for stirred bioreactors utilizing computational fluid dynamics and multiple pH sensors
Research output: Research - peer-review › Journal article – Annual report year: 2018

Image Analysis and IR Spectroscopy for integral fermentation understanding and control
Research output: Research - peer-review › Poster – Annual report year: 2018

Improved Prediction of Phosphorus Dynamics in Biotechnological Processes by Considering Precipitation and Polyphosphate Formation: A Case Study on Antibiotic Production with Streptomyces coelicolor
Research output: Research - peer-review › Journal article – Annual report year: 2018

Improving Speed and Efficiency of Global Sensitivity Analysis Using Metamodeling-Based Approach: A Case Study on Wastewater Treatment Plant Modeling
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2018

Integrated Process Design and Control of Cyclic Distillation Columns
Research output: Research - peer-review › Conference article – Annual report year: 2018

Investigation of the effect of uncertain growth kinetics on a CFD based model for the growth of S. cerevisiae in an industrial bioreactor
Research output: Research - peer-review › Journal article – Annual report year: 2018
IR-spectroscopy and PLS modelling for advanced bio-process monitoring: simultaneous and rapid sensing of various components
Research output: Research - peer-review › Poster – Annual report year: 2018

Key control handles in integrated urban wastewater systems for improving receiving water quality
Research output: Research - peer-review › Journal article – Annual report year: 2018

Liquid-to-solid ratio control as an advanced process control solution for continuous twin-screw wet granulation
Research output: Research - peer-review › Journal article – Annual report year: 2018

Mathematical models to improve wastewater treatment system within industrial context
Research output: Research - peer-review › Conference abstract in proceedings – Annual report year: 2018

Mechanistic modeling of cyclic voltammetry: A helpful tool for understanding biosensor principles and supporting design optimization
Research output: Research - peer-review › Journal article – Annual report year: 2018

Methodology on scaling-down of membrane separation process into microfluidic platform
Research output: Research - peer-review › Article in proceedings – Annual report year: 2018

Model-based analysis and optimization of a full-scale industrial high-rate anaerobic bioreactor
Research output: Research - peer-review › Journal article – Annual report year: 2018

Model-based process development for a continuous lactic acid bacteria fermentation
Research output: Research - peer-review › Article in proceedings – Annual report year: 2018

Modeling for Process Risk Assessment in Industrial Bioprocesses
Research output: Research - peer-review › Book chapter – Annual report year: 2018

Modelling continuous pharmaceutical and bio-based processes at plant-wide level: A roadmap towards efficient decision-making
Research output: Research - peer-review › Journal article – Annual report year: 2018

Multi-function microfluidic platform for sensor integration
Research output: Research - peer-review › Journal article – Annual report year: 2018

New Strategies for Green Butanol Production
Research output: Research - peer-review › Poster – Annual report year: 2018

Occurrence, characterisation and fate of (nano)particulate Ti and Ag in two Norwegian wastewater treatment plant
Research output: Research - peer-review › Journal article – Annual report year: 2018

Occurrence, characterisation and fate of (nano)particulate Ti and Ag in two Norwegian wastewater treatment plants
Research output: Research - peer-review › Journal article – Annual report year: 2018

On-line monitoring of fermentation of 2G bioethanol
Research output: Research - peer-review › Poster – Annual report year: 2018

On-line monitoring of fermentation processes for 2G bioethanol production
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2018
Optimization of Wastewater Treatment Plant Design Using an Early-Stage Techno-Economic Analysis Under Uncertainty
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2018

Organic carbon recovery modeling for a rotating belt filter and its impact assessment on a plant-wide scale
Research output: Research - peer-review › Journal article – Annual report year: 2018

Rapid and Efficient Development of Downstream Bio-Pharmaceutical Processing Alternatives
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2018

Resource recovery from organic solid waste using hydrothermal processing: Opportunities and challenges
Research output: Research - peer-review › Review – Annual report year: 2018

Screening of organic solvents for bioprocesses using aqueous-organic two-phase systems
Research output: Research - peer-review › Journal article – Annual report year: 2018

Se verden i realtid
Research output: Communication › Journal article – Annual report year: 2018

Sustainable downstream routes for bio-manufacturing processes
Research output: Research - peer-review › Conference abstract in proceedings – Annual report year: 2018

Systematic Decision-Support Methodology for Resource Recovery
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2018

Udfordringer med "nedarvede stoffer": En tilgang til ugiftige materialecyklusser
Research output: Communication › Journal article – Annual report year: 2018

A Consistent Methodology Based Parameter Estimation for a Lactic Acid Bacteria Fermentation Model
Research output: Research - peer-review › Article in proceedings – Annual report year: 2017

Adding Value to Bioethanol through a Purification Process Revamp
Research output: Research - peer-review › Journal article – Annual report year: 2017

A model library for simulation and benchmarking of integrated urban wastewater systems
Research output: Research - peer-review › Journal article – Annual report year: 2017

An Efficient Experimental Design Strategy for Modelling and Characterization of Processes
Research output: Research - peer-review › Article in proceedings – Annual report year: 2017

An Empirical Model for Carbon Recovery in a Rotating Belt Filter and Its Application in the Frame of Plantwide Evaluation
Research output: Research - peer-review › Article in proceedings – Annual report year: 2017

A novel fuzzy-logic control strategy minimizing N2O emissions
Research output: Research - peer-review › Journal article – Annual report year: 2017

A novel in situ measurement method of bubble sizes in bioreactors using a high speed camera
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2017

A novel model-based control strategy for aerobic filamentous fungal fed-batch fermentation processes
Research output: Research - peer-review › Journal article – Annual report year: 2017
Application of a Mechanistic Model as a Tool for On-line Monitoring of Pilot Scale Filamentous Fungal Fermentation Processes - The Importance of Evaporation Effects: Mechanistic model for pilot scale monitoring
Research output: Research - peer-review › Journal article – Annual report year: 2016

Application of Iterative Robust Model-based Optimal Experimental Design for the Calibration of Bio catalytic Models
Research output: Research - peer-review › Journal article – Annual report year: 2017

A review of control strategies for manipulating the feed rate in fed-batch fermentation processes
Research output: Research - peer-review › Review – Annual report year: 2017

Biorefinery Sustainability Analysis
Research output: Research - peer-review › Book chapter – Annual report year: 2017

CFD application as a tool for designing industrial fermenters
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2018

CFD Modeling of Flow and Ion Exchange Kinetics in a Rotating Bed Reactor System
Research output: Research - peer-review › Journal article – Annual report year: 2017

Computational Fluid Dynamics - en genvej til procesindsigt
Research output: Communication › Journal article – Annual report year: 2017

Control of n2o-emissions by aeration
Research output: Research › Patent – Annual report year: 2018

Design of a gas-inducing impeller using Computational Fluid Dynamics
Research output: Research - peer-review › Poster – Annual report year: 2017

Development of in-situ product removal strategies in biocatalysis applying scaled-down unit operations
Research output: Research - peer-review › Journal article – Annual report year: 2016

Dynamic modelling of pectin extraction describing yield and functional characteristics
Research output: Research - peer-review › Journal article – Annual report year: 2016

Evaluation of mixing and mass transfer in a stirred pilot scale bioreactor utilizing CFD
Research output: Research - peer-review › Journal article – Annual report year: 2017

Experimental and computational evaluation of area selectively immobilized horseradish peroxidase in a microfluidic device
Research output: Research - peer-review › Journal article – Annual report year: 2017

Flow characterization of aerated bubble column reactor using electrical resistance tomography and computational fluid dynamic methods
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2018

Imaging for monitoring downstream processing of fermentation broths
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2017

Implementation of the resource recovery concept in the biotech industry
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2017
Large scale simulations of Trichoderma reesei fermentation using computational fluid dynamics: Approach and early successes
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2018

Mechanistic Fermentation Models for Process Design, Monitoring, and Control
Research output: Research - peer-review › Journal article – Annual report year: 2017

Mixing and mass transfer in a pilot scale U-loop bioreactor
Research output: Research - peer-review › Journal article – Annual report year: 2016

Model-based identification of chemicals transformation pathways combined with reaction kinetics models– the case of heroin biomarkers in wastewater
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2017

Modelling an industrial anaerobic granular reactor using a multi-scale approach
Research output: Research - peer-review › Journal article – Annual report year: 2017

Modelling biotransformation of drug biomarkers by sewer biofilms
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2017

Optimal design and planning of glycerol-based biorefinery supply chains under uncertainty
Research output: Research - peer-review › Journal article – Annual report year: 2017

Optimization-based design of waste heat recovery systems
Research output: Research › Ph.D. thesis – Annual report year: 2018

Perspectives on Resource Recovery from Bio-Based Production Processes: From Concept to Implementation
Research output: Research - peer-review › Journal article – Annual report year: 2017

Plant-wide modelling of phosphorus transformations in wastewater treatment systems: Impacts of control and operational strategies
Research output: Research - peer-review › Journal article – Annual report year: 2017

Quantitative risk assessment via uncertainty analysis in combination with error propagation for the determination of the dynamic Design Space of the primary drying step during freeze-drying
Research output: Research - peer-review › Journal article – Annual report year: 2017

Removal of benzaldehyde from a water/ethanol mixture by applying scavenging techniques
Research output: Research - peer-review › Journal article – Annual report year: 2017

Resource recovery from bio-based production processes: a future necessity?
Research output: Communication › Journal article – Annual report year: 2017

Ressourcegenvinding – vejen til øget bæredygtighed i biobaserede produktionsprocesser
Research output: Communication › Journal article – Annual report year: 2017

Reverse osmosis for water purification and reuse in the biotechnological industry: Process design, operation and economic guidelines
Research output: Research - peer-review › Article in proceedings – Annual report year: 2017
Shape optimization as a tool to design biocatalytic microreactors
Research output: Research - peer-review › Journal article – Annual report year: 2017

Strategy for characterizing microbial physiology across scales in fermentation processes
Research output: Research - peer-review › Poster – Annual report year: 2018

Superstructure-based optimization tool for plant design and retrofitting
Research output: Research - peer-review › Book chapter – Annual report year: 2018

Supply Chain Optimization of Integrated Glycerol Biorefinery: GlyThink Model Development and Application
Research output: Research - peer-review › Journal article – Annual report year: 2017

The effect of design and scale on the mixing and mass transfer in U-loop bioreactors
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2017

Topology optimization as a tool for designing microbioreactors
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2018

Uncertainty & sensitivity analysis of economic assessment of lactic acid production from crude glycerol - impact of price correlations
Research output: Research - peer-review › Article in proceedings – Annual report year: 2017

Uncertainty and Sensitivity Analysis for an Ibuprofen Synthesis Model Based on Hoechst Path
Research output: Research - peer-review › Article in proceedings – Annual report year: 2017

Understanding N₂O formation mechanisms through sensitivity analyses using a plant-wide benchmark simulation model
Research output: Research - peer-review › Article in proceedings – Annual report year: 2017

Untargeted GC-MS Metabolomics Reveals Changes in the Metabolite Dynamics of Industrial Scale Batch Fermentations of Streptococcus thermophilus Broth
Research output: Research - peer-review › Journal article – Annual report year: 2017

ZVI Addition in Continuous Anaerobic Digestion Systems Dramatically Decreases P Recovery Potential: Dynamic Modelling
Research output: Research › Article in proceedings – Annual report year: 2018

A case study on robust optimal experimental design for model calibration of ω-Transaminase
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2016

Acceleration of Anti-Markovnikov Hydroamination in the Synthesis of an Active Pharmaceutical Ingredient
Research output: Research - peer-review › Journal article – Annual report year: 2016

A CFD model for determining mixing and mass transfer in a high power agitated bioreactor
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2017

A Dynamic Design Space for Primary Drying During Batch Freeze-Drying
Research output: Research - peer-review › Journal article – Annual report year: 2016

A flexible well-mixed milliliter-scale reactor with high oxygen transfer rate for microbial cultivations
Research output: Research - peer-review › Journal article – Annual report year: 2016
A framework for techno-economic & environmental sustainability analysis by risk assessment for conceptual process evaluation
Research output: Research - peer-review › Journal article – Annual report year: 2016

A generic model-based methodology for quantification of mass transfer limitations in microreactors
Research output: Research - peer-review › Journal article – Annual report year: 2016

A microfluidic toolbox for the development of in-situ product removal strategies in biocatalysis
Research output: Research - peer-review › Review – Annual report year: 2016

Assessing the environmental sustainability of early stage design for bioprocesses under uncertainties: An analysis of glycerol bioconversion
Research output: Research - peer-review › Journal article – Annual report year: 2016

Catchment & sewer network simulation model to benchmark control strategies within urban wastewater systems
Research output: Research - peer-review › Journal article – Annual report year: 2016

Control of wastewater N2O emissions by balancing the microbial communities using a fuzzy-logic approach
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

Control structure design for resource recovery using the enhanced biological phosphorus removal and recovery (EBP2R) activated sludge process
Research output: Research - peer-review › Journal article – Annual report year: 2016

Data Handling and Parameter Estimation
Research output: Research - peer-review › Book chapter – Annual report year: 2016

Development of a process map: A step towards a regime map for steady-state high shear wet twin screw granulation
Research output: Research - peer-review › Journal article – Annual report year: 2016

Early-Stage Design and Analysis of Biorefinery Networks
Research output: Research - peer-review › Book chapter – Annual report year: 2015

Economic risk analysis and critical comparison of optimal biorefinery concepts
Research output: Research - peer-review › Journal article – Annual report year: 2016

Economic Risk Assessment of Early Stage Designs for Glycerol2Valorization in Biorefinery Concepts
Research output: Research - peer-review › Journal article – Annual report year: 2016

Economic risk-based analysis: Effect of technical and market price uncertainties on the production of glycerol-based isobutanol
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

Functional Unfold Principal Component Regression Methodology for Analysis of Industrial Batch Process Data
Research output: Research - peer-review › Journal article – Annual report year: 2016

Generation of synthetic influent data to perform (micro)pollutant wastewater treatment modelling studies
Research output: Research - peer-review › Journal article – Annual report year: 2016

Geometry optimization of a fibrous scaffold based on mathematical modelling and CFD simulation of a dynamic cell culture
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016
Implementation of Near-Infrared Spectroscopy for In-Line Monitoring of a Dehydration Reaction in a Tubular Laminar Reactor
Research output: Research - peer-review › Journal article – Annual report year: 2015

Linking granulation performance with residence time and granulation liquid distributions in twin-screw granulation: An experimental investigation
Research output: Research - peer-review › Journal article – Annual report year: 2015

Mechanistic Models for Process Development and Optimization of Fed-batch Fermentation Systems
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

Model-based analysis of a twin-screw wet granulation system for continuous solid dosage manufacturing
Research output: Research - peer-review › Journal article – Annual report year: 2016

Modelling and sensitivity analysis of urinary platinum excretion in anticancer chemotherapy for the recovery of platinum
Research output: Research - peer-review › Journal article – Annual report year: 2016

Modelling and simulation of a U-loop Reactor for Single Cell Protein Production
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

Modelling phosphorus (P), sulfur (S) and iron (Fe) interactions for dynamic simulations of anaerobic digestion processes
Research output: Research - peer-review › Journal article – Annual report year: 2016

NLP modeling for the optimization of LiBr-H₂O absorption refrigeration systems with exergy loss rate, heat transfer area, and cost as single objective functions
Research output: Research - peer-review › Journal article – Annual report year: 2016

Novel strategies for control of fermentation processes

Optimal algal cultivation for used water resource recovery
Research output: Research - peer-review › Poster – Annual report year: 2016

Plant-wide modelling and control of nitrous oxide emissions from wastewater treatment plants

Process Evaluation Tools for Enzymatic Cascades Welcome Message

Quantifying the importance of flow maldistribution in numbered-up microreactors
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

Reaction invariant-based reduction of the activated sludge model ASM1 for batch applications
Research output: Research - peer-review › Journal article – Annual report year: 2016

Systematic design of membership functions for fuzzy-logic control: A case study on one-stage partial nitritation/anammox treatment systems
Research output: Research - peer-review › Journal article – Annual report year: 2016

Uncertainty analysis as essential step in the establishment of the dynamic Design Space of primary drying during freeze-drying
A benchmark simulation model to describe plant-wide phosphorus transformations in WWTPs
Research output: Research - peer-review › Journal article – Annual report year: 2016

Aeration control by monitoring the microbiological activity using fuzzy logic diagnosis and control. Application to a complete autotrophic nitrogen removal reactor
Research output: Research - peer-review › Journal article – Annual report year: 2015

A Framework for Sustainable Design of Algal Biorefineries: Economic Aspects and Life Cycle Analysis
Research output: Research - peer-review › Book chapter – Annual report year: 2015

A mathematical programming framework for early stage design of wastewater treatment plants
Research output: Research - peer-review › Journal article – Annual report year: 2015

A novel control strategy for single-stage autotrophic nitrogen removal in SBR
Research output: Research - peer-review › Journal article – Annual report year: 2015

A Numerical Procedure for Model Identifiability Analysis Applied to Enzyme Kinetics
Research output: Research - peer-review › Article in proceedings – Annual report year: 2015

A Perspective on PSE in Fermentation Process Development and Operation
Research output: Research - peer-review › Article in proceedings – Annual report year: 2015

A plant wide aqueous phase chemistry model describing pH variations and ion speciation/pairing in wastewater treatment process models
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2015

A plant-wide aqueous phase chemistry module describing pH variations and ion speciation/pairing in wastewater treatment process models
Research output: Research - peer-review › Journal article – Annual report year: 2015

Application of A Microfluidic Tool for the Determination of Enzyme Kinetics
Research output: Research › Ph.D. thesis – Annual report year: 2015

Application of microfluidics for the development of intensified aminotransferase (ATA) processes
Research output: Research › Ph.D. thesis – Annual report year: 2015

Application of Multivariate Analysis Tools to Industrial Scale Fermentation Data
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2015

Assessment of Recent Process Analytical Technology (PAT) Trends: A Multiauthor Review
Research output: Research - peer-review › Journal article – Annual report year: 2015

Calibration and evaluation of predictive accuracy of a (micro)pollutant influent generator
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2015

Computer-aided Framework for Synthesis, Design and Retrofit of Wastewater Treatment Plants
Research output: Research › Ph.D. thesis – Annual report year: 2015

Computer-aided tool for solvent selection in pharmaceutical processes: Solvent swap
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2015
Conceptual framework for model-based analysis of residence time distribution in twin-screw granulation
Research output: Research - peer-review › Journal article – Annual report year: 2015

Control Structure Design for an EBP2R Process Operated as a Sequencing Batch Reactor
Research output: Research - peer-review › Poster – Annual report year: 2015

Control Structure Design of an Innovative Enhanced Biological Nutrient Recovery Activated Sludge System Coupled with a Photobioreactor
Research output: Research - peer-review › Conference article – Annual report year: 2015

Design of a process template for amine synthesis
Research output: Research - peer-review › Report – Annual report year: 2014

Development of an on-line state estimator for fed-batch filamentous fungal fermentations
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2015

Dynamic Modeling of Pectin Extraction for Monitoring and Optimisation
Research output: Research - peer-review › Poster – Annual report year: 2015

Effects of influent fractionation, kinetics, stoichiometry and mass transfer on CH₄, H₂ and CO₂ production for (plant-wide) modeling of anaerobic digesters
Research output: Research - peer-review › Journal article – Annual report year: 2015

Effects of ionic strength and ion pairing on (plant-wide) modelling of anaerobic digestion
Research output: Research - peer-review › Journal article – Annual report year: 2015

Evaluation of an in-line particle imaging tool for monitoring twin-screw granulation performance
Research output: Research - peer-review › Journal article – Annual report year: 2015

Experimental and in-silico investigation of population heterogeneity in continuous Sachharomyces cerevisiae scale-down fermentation in a novel two-compartment setup.
Research output: Research - peer-review › Journal article – Annual report year: 2014

Extending the benchmark simulation model nO2 with processes for nitrous oxide production and side-stream nitrogen removal
Research output: Research - peer-review › Article in proceedings – Annual report year: 2015

Fungal Morphology in Industrial Enzyme Production - Modelling and Monitoring
Research output: Research - peer-review › Book chapter – Annual report year: 2015

Generation of synthetic influent data for performing (micro) pollutant wastewater treatment modelling studies
Research output: Research - peer-review › Article in proceedings – Annual report year: 2015

Hydrodynamic Characterization of Substrate Gradients in a Pilot Scale Fermenter Using CFD and Spatially Distributed Sensors
Research output: Research - peer-review › Poster – Annual report year: 2015

Microscale technology and biocatalytic processes: Opportunities and challenges for synthesis
Research output: Research - peer-review › Journal article – Annual report year: 2015
Model-Based Analysis and Efficient Operation of a Glucose Isomerization Reactor Plant
Research output: Research - peer-review › Article in proceedings – Annual report year: 2015

Model-based characterisation of twin-screw granulation system for continuous solid dosage manufacturing
Research output: Research - peer-review › Article in proceedings – Annual report year: 2015

Model-based optimization of the primary drying step during freeze-drying
Research output: Research - peer-review › Article in proceedings – Annual report year: 2015

Modeling Mass Transfer in Small Scale Reactors Using Computational Fluid Dynamics
Research output: Research - peer-review › Poster – Annual report year: 2015

Modelling of Mass Transfer Phenomena in Chemical and Biochemical Reactor Systems using Computational Fluid Dynamics

Modelling phosphorus (P), sulphur (S) and iron (Fe) interactions during the simulation of anaerobic digestion processes
Research output: Research - peer-review › Article in proceedings – Annual report year: 2015

Multivariate analysis of industrial scale fermentation data
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2015

Multivariate Analysis of Industrial Scale Fermentation Data
Research output: Research - peer-review › Article in proceedings – Annual report year: 2015

Novel strategies for control of fermentation processes
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2015

Optimal Design of Algae Biorefinery Processing Networks for the production of Protein, Ethanol and Biodiesel
Research output: Research - peer-review › Article in proceedings – Annual report year: 2015

Optimal WWTP process selection for treatment of domestic wastewater - A realistic full-scale retrofitting study
Research output: Research - peer-review › Journal article – Annual report year: 2015

Optimization-based methodology for wastewater treatment plant synthesis – a full scale retrofitting case study
Research output: Research - peer-review › Article in proceedings – Annual report year: 2015

Population balance models: a useful complementary modelling framework for future WWTP modelling
Research output: Research - peer-review › Journal article – Annual report year: 2015

Preface
Research output: Research - peer-review › Article in proceedings – Annual report year: 2015

Process Analytical Technologies in Biopharmaceutical Process Development
Research output: Research - peer-review › Journal article – Annual report year: 2015

Process Intensification Tools in the Small-Scale Pharmaceutical Manufacturing of Small Molecules
Research output: Research - peer-review › Review – Annual report year: 2015

Shape and topology optimization of enzymatic microreactors
Research output: Research › Ph.D. thesis – Annual report year: 2015
State Estimation in Fermentation of Lignocellulosic Ethanol. Focus on the Use of pH Measurements.
Research output: Research › peer-review › Article in proceedings – Annual report year: 2015

Synthesis and design of optimal biorefinery
Research output: Research › Ph.D. thesis – Annual report year: 2015

System-wide Benchmark Simulation Model for integrated analysis of urban wastewater systems
Research output: Research › peer-review › Conference abstract for conference – Annual report year: 2015

Techno-economic risk analysis of glycerol biorefinery concepts against market price fluctuation
Research output: Research › peer-review › Conference abstract for conference – Annual report year: 2015

Topology optimization for biocatalytic microreactor configurations
Research output: Research › Article in proceedings – Annual report year: 2015

Uncertainties in early-stage capital cost estimation of process design – a case study on biorefinery design
Research output: Research › peer-review › Journal article – Annual report year: 2015

Upgrading of lignocellulosic biorefinery to value-added chemicals: Sustainability and economics of bioethanol-derivatives
Research output: Research › peer-review › Journal article – Annual report year: 2015

Upgrading the Benchmark Simulation Model Framework with emerging challenges - A study of N₂O emissions and the fate of pharmaceuticals in urban wastewater systems
Research output: Research › Ph.D. thesis – Annual report year: 2015

Use of operating windows for assessment of continuous plug flow slurry reactor
Research output: Research › Report – Annual report year: 2014

Analysing drying unit performance in a continuous pharmaceutical manufacturing line by means of mass – Energy balances
Research output: Research › peer-review › Journal article – Annual report year: 2014

An Integrated Systematic Framework to Assist the Development of Pharmaceutical Processes
Research output: Research › peer-review › Conference abstract for conference – Annual report year: 2014

An optimization based framework for design and retrofit of municipal wastewater treatment plants: Case study on side-stream nitrogen removal technologies
Research output: Research › peer-review › Article in proceedings – Annual report year: 2014

Applying Enzymatic Cascades for ISCP in ω-transaminase Systems
Research output: Research › Ph.D. thesis – Annual report year: 2014

A systematic methodology for design of tailor-made blended products
Research output: Research › peer-review › Journal article – Annual report year: 2014

Balancing effluent quality, economic cost and greenhouse gas emissions during the evaluation of (plant-wide) control/operational strategies in WWTPs
Research output: Research › peer-review › Journal article – Annual report year: 2013

Benchmarking of Control Strategies for Wastewater Treatment Plants
Research output: Research › peer-review › Book – Annual report year: 2014
Biocatalytic process development using microfluidic miniaturized systems
Research output: Research - peer-review › Journal article – Annual report year: 2014

Calibration and validation of a phenomenological influent pollutant disturbance scenario generator using full-scale data
Research output: Research - peer-review › Journal article – Annual report year: 2014

Challenges encountered when expanding activated sludge models: a case study based on N2O production.
Research output: Research - peer-review › Journal article – Annual report year: 2014

Challenges in industrial fermentation technology research
Research output: Research - peer-review › Journal article – Annual report year: 2014

Comparison of techniques for reconstruction of a distribution from moments in the context of a pharmaceutical drying process
Research output: Research - peer-review › Journal article – Annual report year: 2014

Cost Estimation for Early-Stage Synthesis and Design of Biorefinery Networks
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2014

Crystallization Kinetics within a Generic Modeling Framework
Research output: Research - peer-review › Journal article – Annual report year: 2014

Development of novel control strategies for single-stage autotrophic nitrogen removal: A process oriented approach
Research output: Research - peer-review › Journal article – Annual report year: 2014

Early-stage design of municipal wastewater treatment plants – presentation and discussion of an optimisation based concept
Research output: Research - peer-review › Poster – Annual report year: 2014

Early-stage design of municipal wastewater treatment plants – presentation and discussion of an optimisation based concept
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

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

Effects of ion strength and ion pairing on (plant-wide) modelling of anaerobic digestion processes
Research output: Research - peer-review › Article in proceedings – Annual report year: 2015

Experimental investigation of granule size and shape dynamics in twin-screw granulation
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2014

Experimental investigation of residence time distribution in twin-screw granulation
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2014

Filamentous Fungi Fermentation
Research output: Research - peer-review › Book chapter – Annual report year: 2014

Generation of (synthetic) influent data for performing wastewater treatment modelling studies
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014
Global sensitivity analysis applied to drying models for one or a population of granules
Research output: Research - peer-review › Journal article – Annual report year: 2014

Implementation of a Process Intensification Approach in the Production of an API Intermediate
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2014

Influence of selecting secondary settling tank sub-models on the calibration of WWTP models – A global sensitivity analysis using BSM2
Research output: Research - peer-review › Journal article – Annual report year: 2014

Instrumentation, control and automation in wastewater - from London 1973 to Narbonne 2013
Research output: Research - peer-review › Journal article – Annual report year: 2014

Mixing and transport during pharmaceutical twin-screw wet granulation: Experimental analysis via chemical imaging
Research output: Research - peer-review › Journal article – Annual report year: 2014

Modeling and optimizing oxygen transfer in small scale reactors using computational fluid dynamics
Research output: Research - peer-review › Poster – Annual report year: 2015

Modelling across bioreactor scales: methods, challenges and limitations
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2014

Modelling and optimization of C5 and C6 fermentation: focus on pH impact and inhibitors effect
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2014

Modelling N2O dynamics in the engineered N cycle: Evaluation of alternate model structures
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

Modelling the occurrence, transport and fate of pharmaceuticals in wastewater systems
Research output: Research - peer-review › Journal article – Annual report year: 2014

Moisture and drug solid-state monitoring during a continuous drying process using empirical and mass balance models
Research output: Research - peer-review › Journal article – Annual report year: 2014

Monitoring and modelling of a continuous from-powder-to-tablet process line
Research output: Research - peer-review › Journal article – Annual report year: 2014

Multi-dimensional population balance models of crystallization processes
Research output: Research › Ph.D. thesis – Annual report year: 2014

Ontology for pharmaceutical processes with focus on batch to continuous manufacturing
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2014

Operational Aspects of Continuous Pharmaceutical Production
Research output: Research › Ph.D. thesis – Annual report year: 2014

Research output: Research - peer-review › Article in proceedings – Annual report year: 2014
Population heterogeneity in Saccharomyces cerevisiae and Escherichia coli lab scale cultivations simulating industrial scale bioprocesses
Research output: Research › Ph.D. thesis – Annual report year: 2014

Pressure Control in Distillation Columns: A Model-Based Analysis
Research output: Research › peer-review › Journal article – Annual report year: 2014

Process monitoring and modeling of a continuous pharmaceutical from powder to tablet process Line using a mass & energy balance
Research output: Research › peer-review › Conference abstract for conference – Annual report year: 2014

Sensor equipment for quantification of spatial heterogeneity in large bioreactor
Research output: Research › peer-review › Poster – Annual report year: 2014

Shape optimisation of a microreactor for biocatalytic synthesis of optically pure chiral amines
Research output: Research › peer-review › Conference abstract for conference – Annual report year: 2014

Superstructure Development and Optimization under Uncertainty for Design & Retrofit of Municipal Wastewater Treatment Plants.
Research output: Research › peer-review › Conference article – Annual report year: 2014

Superstructure development and optimization under uncertainty for design and retrofit of municipal wastewater treatment plants
Research output: Research › peer-review › Article in proceedings – Annual report year: 2014

Synthesis and design of hybrid biorefinery systems a structural optimisation approach and uncertainty analysis
Research output: Research › peer-review › Conference abstract for conference – Annual report year: 2014

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

Systematic Methodology for Design of Tailor-Made Blended Products: Fuels and Other Blended Products
Research output: Research › Ph.D. thesis – Annual report year: 2014

Test design of particles for immobilization of ω-transaminase in a packed bed microreactor
Research output: Research › peer-review › Conference abstract for conference – Annual report year: 2014

The Electrical Breakdown of Thin Dielectric Elastomers: Thermal Effects
Research output: Research › peer-review › Article in proceedings – Annual report year: 2014

The Virtual Product-Process Design Laboratory for Structured Chemical Product Design and Analysis
Research output: Research › peer-review › Article in proceedings – Annual report year: 2014

Toward a Computer-Aided Synthesis and Design of Biorefinery Networks: Data Collection and Management Using a Generic Modeling Approach
Research output: Research › peer-review › Journal article – Annual report year: 2014

Towards a single empirical correlation to predict kLa across scales and processes
Research output: Research › peer-review › Conference abstract for conference – Annual report year: 2014

Towards BSM2-GPS-X: A plant-wide benchmark simulation model not only for carbon and nitrogen, but also for greenhouse gases (G), phosphorus (P), sulphur (S) and micropollutants (X), all within the fence of WWTPs/WRRFs
Research output: Research › peer-review › Article in proceedings – Annual report year: 2014
Cell mass and cell cycle dynamics of an asynchronous budding yeast population: Experimental observations, flow cytometry data analysis, and multi-scale modeling
Research output: Research - peer-review › Journal article – Annual report year: 2012

Considerations for a methodology for selection of cascades for co-product removal in ω-transaminase systems
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2013

Control of a Biological Nitrogen Removal Process in an Intensified Single Reactor Configuration
Research output: Research - peer-review › Article in proceedings – Annual report year: 2013

Control of a Biological Nitrogen Removal Process in an Intensified Single Reactor Configuration
Research output: Research - peer-review › Article in proceedings – Annual report year: 2013

Control of a Biological Nitrogen Removal Process in an Intensified Single Reactor Configuration
Research output: Research - peer-review › Sound/Visual production (digital) – Annual report year: 2013

Control of a Novel Energy Efficient Biological Nitrogen Removal Process
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2013

Crystallization Kinetics within a Generic Modelling Framework
Research output: Research - peer-review › Article in proceedings – Annual report year: 2013

Design of future municipal wastewater treatment plants: A mathematical approach to manage complexity and identify optimal solutions
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2013

Design of sustainable blended products using an integrated methodology
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2013

Design of Sustainable Blended Products using an Integrated Methodology
Research output: Research - peer-review › Article in proceedings – Annual report year: 2013

Design of Sustainable Blended Products using an Integrated Methodology
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2013

Development of a Population Balance Model of a pharmaceutical drying process and testing of solution methods
Research output: Research - peer-review › Journal article – Annual report year: 2013

Effect of nitrite, limited reactive settler and plant design configuration on the predicted performance of simultaneous C/N/P removal WWTPs
Research output: Research - peer-review › Journal article – Annual report year: 2013

Enzymatic process intensification across scales
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2013

Generic Modelling Framework for Design and Analysis of Crystallization Operations
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2013

Introducing uncertainty analysis of nucleation and crystal growth models in Process Analytical Technology (PAT) system design of crystallization processes
Research output: Research - peer-review › Journal article – Annual report year: 2012
Microreactors and CFD as Tools for Biocatalysis Reactor Design: A case study
Research output: Research - peer-review › Journal article – Annual report year: 2013

Miniaturized experimental toolbox for ω-transaminase technology (BIOINTENSE)
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2013

Miniaturized Experimental Toolbox for ω-Transaminase Technology (BIOINTENSE)
Research output: Research - peer-review › Poster – Annual report year: 2014

Model-based analysis of high shear wet granulation from batch to continuous processes in pharmaceutical production - A critical review
Research output: Research - peer-review › Journal article – Annual report year: 2014

Model-Based Blend Design: Application to Lubricant Oils
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2013

Modeling Approaches for Describing Microbial Population Heterogeneity
Research output: Research › Ph.D. thesis – Annual report year: 2012

Performance of an autotrophic nitrogen removing reactor: Diagnosis through fuzzy logic
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2013

pH variation and influence in an autotrophic nitrogen removing biofilm system using an efficient numerical solution strategy
Research output: Research - peer-review › Journal article – Annual report year: 2013

Reduction of a single granule drying model: An essential step in preparation of a population balance model with a continuous growth term
Research output: Research - peer-review › Journal article – Annual report year: 2013

Simulation study of microbioreactor configurations for production of optically pure chiral amines
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2013

Study of Crystallization Kinetics Within a Generic Modelling Framework
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2013

Superstructure development and optimization for design/retrofit of municipal wastewater treatment plants
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2013

Synthesis and Design of Biorefinery Processing Networks with Uncertainty and Sustainability analysis
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2013

Synthesis and design of optimal biorefinery using an expanded network with thermochemical and biochemical biomass conversion platforms
Research output: Research - peer-review › Article in proceedings – Annual report year: 2013

Synthesis and design of optimal biorefinery using an expanded network with thermochemical and biochemical biomass conversion platforms
Research output: Research - peer-review › Poster – Annual report year: 2013

Synthesis and Design of Thermochemical and Biochemical Biomass Processing Networks under Uncertainty
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2013
Systematic design of tailor-made blended products
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2013

Systematic Design of Tailor-Made Blended Products
Research output: Research - peer-review › Poster – Annual report year: 2013

Systematic Design of Tailor-Made Blended Products
Research output: Research - peer-review › Poster – Annual report year: 2013

Systematic substrate adoption methodology (SAM) for future flexible, generic pharmaceutical production processes
Research output: Research - peer-review › Journal article – Annual report year: 2013

Towards an integrated μ-factory: Integrated micro membrane packed bed reactor
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2013

Towards an integrated μ-factory: Design and development of a microfluidic system to include fermentation and biocatalysis
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2013

Towards an integrated μ-factory: Integrated micro membrane packed bed reactor
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2013

Towards effective biocatalytic process development using microreactor technology
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2013

Uncertainty and Sensitivity Analysis on PAT System Performance for Crystallization Processes
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2013

Using micro technology in process screening for improved ω-transaminases
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2013

Using micro technology in process screening for improved ω-transaminases
Research output: Research - peer-review › Poster – Annual report year: 2013

Acceleration of pharmaceutical production by using micro-reactor technology in a continuous mode
Research output: Research - peer-review › Paper – Annual report year: 2012

Active pharmaceutical ingredient (API) production involving continuous processes – A process system engineering (PSE)-assisted design framework
Research output: Research - peer-review › Journal article – Annual report year: 2012

Adaptive Continuous Template-Based Novel Manufacturing Technique for Faster Manufacturing of New APIs for Clinical Trials
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2012

A dynamic modelling approach to evaluate GHG emissions from wastewater treatment plants
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012

A framework for model-based optimization of bioprocesses under uncertainty: Lignocellulosic ethanol production case
Research output: Research - peer-review › Journal article – Annual report year: 2011
Research output: Research › Peer-review › Article in proceedings – Annual report year: 2012

Research output: Research › Conference abstract for conference – Annual report year: 2012

A generic process template for continuous pharmaceutical production
Research output: Research › Poster – Annual report year: 2012

All-Fiber Raman Probe
Research output: Research › Ph.D. thesis – Annual report year: 2012

A methodology for cascade selection for co-product removal in the ω-transaminase system
Research output: Research › Peer-review › Poster – Annual report year: 2012

A methodology for cascade selection for co-product removal in the ω-transaminase system
Research output: Research › Peer-review › Poster – Annual report year: 2012

A methodology for cascade selection for co-product removal in the ω-transaminase system
Research output: Research › Peer-review › Poster – Annual report year: 2012

An Integrated Methodology for Design of Tailor-Made Blended Products
Research output: Research › Peer-review › Article in proceedings – Annual report year: 2012

An Integrated Methodology for Design of Tailor-Made Blended Products
Research output: Research › Conference abstract for conference – Annual report year: 2012

An Integrated Methodology for Design of Tailor-Made Blended Products
Research output: Research › Poster – Annual report year: 2012

An Integrated Methodology for Design of Tailor-Made Blended Products: Biofuels and Bio-Based Lubricants
Research output: Research › Conference abstract for conference – Annual report year: 2012

A perspective on PSE in pharmaceutical process development and innovation
Research output: Research › Peer-review › Journal article – Annual report year: 2012

Application of Global Sensitivity Analysis As Preparatory Step for Reduction of a Drying Model of Pharmaceutical Granules
Research output: Research › Peer-review › Conference abstract for conference – Annual report year: 2012

Application of model uncertainty analysis on the modelling of the drying behaviour of single pharmaceutical granules
Research output: Research › Peer-review › Conference abstract for conference – Annual report year: 2012

Ask the experts: The challenges and benefits of flow chemistry to optimize drug development.
Research output: Communication › Comment/debate – Annual report year: 2012
Benchmarking biological nutrient removal in wastewater treatment plants: influence of mathematical model assumptions
Research output: Research - peer-review › Journal article – Annual report year: 2012

Calibration and validation of a model describing complete autotrophic nitrogen removal in granular sludge
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012

Calibration and validation of model describing complete autotrophic nitrogen removal in granular sludge
Research output: Research › Sound/Visual production (digital) – Annual report year: 2012

Comparison of laser diffraction and image analysis for measurement of Streptomyces coelicolor cell clumps and pellets.
Research output: Research - peer-review › Journal article – Annual report year: 2012

Computational Fluid Dynamics at work - Design and Optimization of Microfluidic Applications
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012

Computational Fluid Dynamics at work - Design and Optimization of Microfluidic Applications
Research output: Research › Poster – Annual report year: 2012

Computer-aided approach for design of tailor-made blended products
Research output: Research › Conference abstract for conference – Annual report year: 2012

Computer-aided approach for design of tailor-made blended products
Research output: Research - peer-review › Conference article – Annual report year: 2012

Continuous Hydrolysis and Liquid–Liquid Phase Separation of an Active Pharmaceutical Ingredient Intermediate Using a Miniscale Hydrophobic Membrane Separator
Research output: Research - peer-review › Journal article – Annual report year: 2012

Continuous hydrolysis and L-L phase separation of an active pharmaceutical ingredient using a miniscale PTFE membrane separator
Research output: Research › Conference abstract for conference – Annual report year: 2012

Control of Process Operations and Monitoring of Product Qualities through Generic Model-based Framework in Crystallization Processes
Research output: Research › Ph.D. thesis – Annual report year: 2012

Crystallization Kinetics Identification within a Generic Modeling Framework
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2012

Design of microfluidic reactors for biocatalytic reactions
Research output: Research › Conference abstract for conference – Annual report year: 2012

Development of continuous pharmaceutical production processes supported by process systems engineering methods and tools
Research output: Research - peer-review › Editorial – Annual report year: 2012

Dynamics in population heterogeneity during batch and continuous fermentation of Saccharomyces cerevisiae
Research output: Research - peer-review › Conference abstract in journal – Annual report year: 2012

Energibesparende biologisk proces til kvalstof fjernelse i spildevand
Research output: Research - peer-review › Journal article – Annual report year: 2012
Establishment of a gaseous pH control concept in microbioreactors
Research output: Research › Book chapter – Annual report year: 2012

Evaluating the impact of plant-wide WWTP control strategies on energy consumption and greenhouse gas emissions
Research output: Research - peer-review › Paper – Annual report year: 2012

Evaluation of the efficiency of alternative enzyme production technologies
Research output: Research › Ph.D. thesis – Annual report year: 2012

Evaluation of the energy efficiency of enzyme fermentation by mechanistic modeling
Research output: Research - peer-review › Journal article – Annual report year: 2012

Extending the BSM platform with occurrence, transport and fate of micro-pollutants using the ASM-X framework
Research output: Research - peer-review › Paper – Annual report year: 2012

Framework for the analysis of crystallization operations
Research output: Research › Conference abstract for conference – Annual report year: 2012

Research output: Research › Sound/Visual production (digital) – Annual report year: 2012

Global sensitivity analysis of the BSM2 dynamic influent disturbance scenario generator
Research output: Research - peer-review › Journal article – Annual report year: 2012

Lab on a chip automates in vitro cell culturing
Research output: Research - peer-review › Journal article – Annual report year: 2012

Mechanistic modelling of the drying behaviour of single pharmaceutical granules
Research output: Research - peer-review › Journal article – Annual report year: 2012

Modelbaseret valg og optimering af industrielle bioreaktorer
Research output: Communication › Journal article – Annual report year: 2012

Modelling Fungal Fermentations for Enzyme Production
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2012

Monitoring and Control of a Continuous Grignard Reaction for the Synthesis of an Active Pharmaceutical Ingredient Intermediate Using Inline NIR spectroscopy
Research output: Research - peer-review › Journal article – Annual report year: 2012

Monitoring and control of microbioreactors: An expert opinion on development needs
Research output: Research - peer-review › Journal article – Annual report year: 2012

Multi-enzyme Process Modeling
Research output: Research › Ph.D. thesis – Annual report year: 2012

Multi-scale modeling for prediction of distributed cellular properties in response to substrate spatial gradients in a continuously run microreactor
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012
Multi-scale modeling for prediction of distributed cellular properties in response to substrate spatial gradients in a continuously run microreactor
Research output: Research › Poster – Annual report year: 2012

One-millilitre microbioreactor with impeller for improved mixing
Research output: Research › Poster – Annual report year: 2012

PAT tools for fermentation processes
Research output: Research - peer-review › Journal article – Annual report year: 2012

PAT tools for fermentation processes
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2012

pH variation and influence in an autotrophic nitrogen removing biofilm system: An efficient numerical solution strategy
Research output: Research - peer-review › Poster – Annual report year: 2012

pH variation and influence in a nitrogen converting biofilm
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012

Physiological heterogeneities in microbial populations and implications for physical stress tolerance
Research output: Research - peer-review › Journal article – Annual report year: 2012

Process Systems Engineering, 1. Introduction
Research output: Research - peer-review › Book chapter – Annual report year: 2012

Process Systems Engineering, 5. Process Dynamics, Control, Monitoring, and Identification
Research output: Research - peer-review › Book chapter – Annual report year: 2012

Process Systems Engineering, 9. Domain Engineering
Research output: Research - peer-review › Book chapter – Annual report year: 2012

PSE opportunities in biocatalytic process design and development
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012

Quantifying uncertainties of nucleation and crystal growth models on PAT system performance for crystallization processes
Research output: Research › Conference abstract for conference – Annual report year: 2012

Recent trends in modelling and simulation of biological nutrient removal systems
Research output: Research - peer-review › Poster – Annual report year: 2012

Recent trends in modelling and simulation of nutrient removal systems
Research output: Research - peer-review › Book chapter – Annual report year: 2012

Reduction of a Mechanistic Drying Model of Pharmaceutical Granules for Inclusion in a Population Balance Model with Continuous Growth Term
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2012

Relative importance of secondary settling tank models in WWTP simulations: A global sensitivity analysis using BSM2
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012
Sensitivity analysis of autotrophic N removal by a granule based bioreactor: Influence of mass transfer versus microbial kinetics
Research output: Research - peer-review › Journal article – Annual report year: 2012

Soft sensors in bioprocessing: A status report and recommendations
Research output: Research - peer-review › Journal article – Annual report year: 2012

Systematic identification of crystallization kinetics within a generic modelling framework
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012

Topology Optimized Bioreactors — A Design Example with Immobilized Yeast
Research output: Research › Sound/Visual production (digital) – Annual report year: 2012

Towards a plant-wide Benchmark Simulation Model with simultaneous nitrogen and phosphorus removal wastewater treatment processes.
Research output: Research - peer-review › Paper – Annual report year: 2012

Towards improved bioprocess operation: monitoring, modeling and control
Research output: Research › Conference abstract for conference – Annual report year: 2012

Uncertainty and sensitivity analysis: Mathematical model of coupled heat and mass transfer for a contact baking process
Research output: Research - peer-review › Journal article – Annual report year: 2012

Continuous Membrane Microbioreactor for Development of Integrated Pectin Modification and Separation Processes
Research output: Research › Ph.D. thesis – Annual report year: 2011

A continuous membrane microbioreactor system for development of integrated pectin modification and separation processes
Research output: Research - peer-review › Journal article – Annual report year: 2011

A framework for model-based optimization of bioprocesses under uncertainty: Identifying critical parameters and operating variables
Research output: Research - peer-review › Article in proceedings – Annual report year: 2011

A framework for model-based optimization of bioprocesses under uncertainty: Identifying critical parameters and operating variables
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2011

A Framework for Optimization of Bioprocess Operation under Uncertainties: A lignocellulosic Ethanol Production Case Study
Research output: Research - peer-review › Poster – Annual report year: 2011

A generic multi-dimensional model-based system for batch cooling crystallization processes
Research output: Research - peer-review › Journal article – Annual report year: 2011

A Mathematical Model for Simultaneous Saccharification and Co-fermentation (SSCF) of C6 and C5 Sugars
Research output: Research - peer-review › Journal article – Annual report year: 2011

Research output: Research - peer-review › Journal article – Annual report year: 2011

An integral analysis for second generation bioethanol production via a dynamic model-based simulation approach: stochastic nonlinear optimisation
Generic Model and Data Based Framework for Analysis and Development of Crystallization Processes
Research output: Research - peer-review » Conference abstract for conference – Annual report year: 2011

Global sensitivity analysis in wastewater treatment plant model applications: Prioritizing sources of uncertainty
Research output: Research - peer-review » Journal article – Annual report year: 2011

Global sensitivity analysis of a phenomenological wastewater treatment plant influent generator. 8th IWA Symposium on Systems Analysis and Integrated Assessment
Research output: Research - peer-review » Article in proceedings – Annual report year: 2011

Gradient simulation experiments for targeting population heterogeneity in continuous Saccharomyces cerevisiae fermentation
Research output: Research - peer-review » Conference abstract for conference – Annual report year: 2011

Graduate Schools Yearbook 2010
Research output: Communication » Report – Annual report year: 2011

Graduate Schools Yearbook 2011
Research output: Communication » Report – Annual report year: 2012

Heterogeneous Microbial Populations: using flow cytometric data for building dynamic distributed models
Research output: Research - peer-review » Conference abstract for conference – Annual report year: 2011

Heterogeneous Microbial Populations: Using Flow Cytometric Data for Building Dynamic Distributed Models
Research output: Research - peer-review » Conference abstract for conference – Annual report year: 2011

Integration of Generic Multi-dimensional Model and Operational Policies for Batch Cooling Crystallization
Research output: Research » Sound/Visual production (digital) – Annual report year: 2011

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Research output: Research » Article in proceedings – Annual report year: 2011

Integration of Generic Multi-dimensional Model and Operational Policies for Batch Cooling Crystallization
Research output: Research » Conference abstract for conference – Annual report year: 2011

Introducing process analytical technology (PAT) in filamentous cultivation process development: comparison of advanced online sensors for biomass measurement
Research output: Research - peer-review » Journal article – Annual report year: 2011

Investigations of the efficiency of enzyme production technologies using modelling tools
Research output: Research - peer-review » Conference abstract for conference – Annual report year: 2011

Kontinuerlig lægemiddelproduktion af små molekyler via organisk syntese
Research output: Research - peer-review » Journal article – Annual report year: 2011

Lab on a chip automates in vitro cell culturing
Research output: Research - peer-review » Poster – Annual report year: 2011

Mechanistic modelling of fluidized bed drying processes of wet porous granules: A review
Research output: Research - peer-review » Journal article – Annual report year: 2011
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<tr>
<th>Title</th>
<th>Type</th>
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<tr>
<td>Methodological Approach for Modeling of Multienzyme in-pot Processes</td>
<td>Research output: Research - peer-review</td>
<td>2011</td>
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<tr>
<td>Micro2-Managed Microbial Communities: Next Generation Environmental</td>
<td>Research output: Research - peer-review</td>
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<td>Microfluidic enzymatic reactors using ω-transaminases</td>
<td>Research output: Research - peer-review</td>
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<td>Model based bioreactor comparison for cellulase production</td>
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<td>Modeling enzyme production with Aspergillus oryzae in pilot scale</td>
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<td>Modeling framework for multi-enzyme in-pot processes applied in amine</td>
<td>Research output: Research - peer-review</td>
<td>2011</td>
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<tr>
<td>Modelling the Residence Time Distribution In a Batch Fermentor:</td>
<td>Research output: Research - peer-review</td>
<td>2011</td>
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<tr>
<td>Modelling Framework for the Identification of Critical Variables and</td>
<td>Research output: Research - peer-review</td>
<td>2011</td>
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<td>Modelling of coupled heat and mass transfer during a contact baking</td>
<td>Research output: Research - peer-review</td>
<td>2011</td>
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<td>Modelling of drying processes of pharmaceutical granules.</td>
<td>Research output: Research - peer-review</td>
<td>2011</td>
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<td>Moving from batch towards continuous organic-chemical pharmaceutical</td>
<td>Research output: Research - peer-review</td>
<td>2012</td>
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<tr>
<td>Multi-enzyme catalyzed processes: Next generation biocatalysis</td>
<td>Research output: Research - peer-review</td>
<td>2011</td>
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<tr>
<td>Process analytical technology (PAT) for biopharmaceuticals</td>
<td>Research output: Research - peer-review</td>
<td>2011</td>
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<td>PSE in pharmaceutical process development</td>
<td>Research output: Research - Sound/Visual</td>
<td>2011</td>
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PSE in Pharmaceutical Process Development
Research output: Research › peer-review › Article in proceedings – Annual report year: 2011

Quo Vadis Benchmark Simulation Models? 8th IWA Symposium on Systems Analysis and Integrated Assessment
Research output: Research › peer-review › Article in proceedings – Annual report year: 2011

Robust Modelling of Heat and Mass Transfer in Processing of Solid Foods
Research output: Research › Ph.D. thesis – Annual report year: 2011

Substrates adoption methodology (SAM) to achieve "Fast, Flexible, Future (F3)" pharmaceutical production processes
Research output: Research › peer-review › Conference abstract for conference – Annual report year: 2011

Systematic Modelling and Crystal Size Distribution Control for Batch Crystallization Processes
Research output: Research › peer-review › Conference abstract for conference – Annual report year: 2011

Systematic procedure for generating operational policies to achieve target crystal size distribution (CSD) in batch cooling crystallization
Research output: Research › peer-review › Article in proceedings – Annual report year: 2011

Systematic Procedure for Generating Operational Policies to Achieve Target Crystal Size Distribution (CSD) in Batch Cooling Crystallization
Research output: Research › peer-review › Conference abstract for conference – Annual report year: 2011

Tailor-made Design of Chemical Blends using Decomposition-based Computer-aided Approach
Research output: Research › Conference abstract for conference – Annual report year: 2011

Targeting population heterogeneity for optimal cell factories
Research output: Research › peer-review › Conference abstract for conference – Annual report year: 2011

Targeting population heterogeneity in Saccharomyces cerevisiae batch fermentation for optimal cell factories
Research output: Research › peer-review › Conference abstract for conference – Annual report year: 2011

Technology Evaluation of Process Configurations for Second Generation Bioethanol Production using Dynamic Model-based Simulations
Research output: Research › peer-review › Article in proceedings – Annual report year: 2011

Technology Evaluation of Process Configurations for Second Generation Bioethanol Production using Dynamic Model-based Simulations
Research output: Research › peer-review › Poster – Annual report year: 2011

Topology optimized microbioreactors
Research output: Research › peer-review › Journal article – Annual report year: 2011

Uniform and reproducible stirring in a microbioreactor
Research output: Research › peer-review › Conference abstract for conference – Annual report year: 2011

Validation of Inhibition Effect in the Cellulose Hydrolysis: a Dynamic Modelling Approach
Research output: Research › peer-review › Article in proceedings – Annual report year: 2011

Validation of Inhibition Effect in the Cellulose Hydrolysis: a Dynamic Modelling Approach
Research output: Research › peer-review › Poster – Annual report year: 2011
A Dynamic Model for Cellulosic Biomass Hydrolysis: Validation of Hydrolysis and Product Inhibition Mechanism
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

A Generic Model-Based Framework for Batch Cooling Crystallization Processes
Research output: Research › Poster – Annual report year: 2010

A Generic Multi-Dimensional Model-Based Framework for Batch Cooling Crystallization Process
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

A Model-Based Methodology for Simultaneous Design and Control of a Bioethanol Production Process
Research output: Research › Journal article – Annual report year: 2010

A model-based systems approach to pharmaceutical product-process design and analysis
Research output: Research › Journal article – Annual report year: 2010

A New Extant Respirometric Assay to Estimate Intrinsic Growth Parameters Applied to Study Plasmid Metabolic Burden
Research output: Research › Journal article – Annual report year: 2010

An Ontological Knowledge-Based System for Identification of Efficient Chemical Production Routes
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

An ontological knowledge based system for selection of process monitoring and analysis tools
Research output: Research › Journal article – Annual report year: 2010

A Population Balance Model for Microbial Populations In Fermentors
Research output: Research › Article in proceedings – Annual report year: 2010

A Population Balance Model for Microbial Populations in Fermentors
Research output: Research › Poster – Annual report year: 2010

Application of mechanistic models to fermentation and biocatalysis for next-generation processes
Research output: Research › Journal article – Annual report year: 2010

Approaches to Robust Modelling of Frying Processes
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

Approaches to Robust Modelling of Frying Processes
Research output: Research › Article in proceedings – Annual report year: 2010

Assessing Reliability of Cellulose Hydrolysis Models to Support Biofuel Process Design – Identifiability and Uncertainty Analysis
Research output: Research › Journal article – Annual report year: 2010
Benchmark Simulation Model No 2 – finalisation of plant layout and default control strategy
Research output: Research - peer-review › Journal article – Annual report year: 2010

Biocatalytic process technology
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

Biomass Measurements in Filamentous Fermentations: Comparison of Advanced On-Line Sensors
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

Comparison of advanced online sensors for biomass measurements in filamentous fermentations
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2010

Comparison of Traditional Rushton Disc Turbines with Up-pumping Hydrofoil B2 Impellers in 550 L Pilot Scale Aerobic Submerged Fermentations
Research output: Research › Article in proceedings – Annual report year: 2010

Comparison of Traditional Rushton Disc Turbines with Up-pumping Hydrofoil B2 Impellers in 550 L Pilot Scale Aerobic Submerged Fermentations
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

Concepts in multi-step biocatalysis
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

Continuous membrane microbioreactor for integrated pectin degradation and separation
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2010

Control of Process Operations and Monitoring of Product Qualities through Generic Model-based in Batch Cooling Crystallization
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

Control of Process Operations and Monitoring of Product Qualities through Generic Model-based in Batch Cooling Crystallization
Research output: Research - peer-review › Article in proceedings – Annual report year: 2010

Design of Continuous Processes for Organic-Synthesis Based Production of Active Pharmaceutical Ingredients - a Methodology
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

Development of a mathematical model describing hydrolysis and co-fermentation of C6 and C5 sugars
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

Development of a mathematical model describing hydrolysis and co-fermentation of C6 and C5 sugars
Research output: Research - peer-review › Article in proceedings – Annual report year: 2011

Development of a single-use microbioreactor for cultivation of microorganisms
Research output: Research - peer-review › Journal article – Annual report year: 2010

Dynamic plant-wide modelling for bioethanol production from lignocellulosic biomass (2G)
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

Embedded resistance wire as a heating element for temperature control in microbioreactors
Research output: Research - peer-review › Journal article – Annual report year: 2010
F3 process design for fine chemical and Pharmaceutical transformations
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

From lab experiments to plant operation and design: Bioethanol production from lignocellulose using different enzyme technologies
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

ICAS-PAT: A Software for Design, Analysis and Validation of PAT Systems
Research output: Research - peer-review › Journal article – Annual report year: 2010

In Situ Near Infrared Spectroscopy for Analyte-Specific Monitoring of Glucose and Ammonium in Streptomyces coelicolor Fermentations
Research output: Research - peer-review › Journal article – Annual report year: 2010

Integrated Dynamic Plant-Wide Model-Based Simulation of Bioethanol Production from Lignocellulose
Research output: Research › Article in proceedings – Annual report year: 2010

Integrated Dynamic Plant-Wide Model-Based Simulation of Bioethanol Production from Lignocellulose
Research output: Research › Poster – Annual report year: 2010

Integrated Dynamic Plant-Wide Model-Based Simulation of Bioethanol Production from Lignocellulose
Research output: Research › Poster – Annual report year: 2010

Mechanistic modeling for systematic design and analysis of PAT systems (Invited Lecture)
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

Membrane Microbioreactor for Enzyme-Catalyzed Degradation of Pectin
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

Membrane microbioreactor prototype for enzyme-catalyzed degradation of pectin
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2010

Microbioreactors for bioprocess development - practical aspects and limitations
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2010

Microreactors for Application in biotech Process Development
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

Microreactors for Application in biotech Process Development
Research output: Research › Article in proceedings – Annual report year: 2010

Moving from batch toward continuous organic-chemical pharmaceutical production
Research output: Research › Article in proceedings – Annual report year: 2010

Moving from batch toward continuous organic-chemical pharmaceutical production
Research output: Research › Poster – Annual report year: 2010

New concepts for multi-enzymatic synthetic processes
Research output: Research › Article in proceedings – Annual report year: 2010
New concepts for multi-enzymatic synthetic processes
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

New concepts for multi-enzymatic synthetic processes
Research output: Research › Poster – Annual report year: 2010

New framework for standardized notation in wastewater treatment modelling
Research output: Research - peer-review › Journal article – Annual report year: 2010

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Research output: Research - peer-review › Article in proceedings – Annual report year: 2010

New framework for standardized notation in wastewater treatment modelling
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2010

On-line monitoring of fermentation processes in lignocellulose-to-bioalcohol production
Research output: Research - peer-review › Book chapter – Annual report year: 2010

Perspectives on the use of global uncertainty and sensitivity analysis methods in a PAT context
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

Population balance models for microbial populations: describing heterogeneity in fermentors
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2010

Process Development and Design for Greener Pharmaceutical Processes
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

Process Technology Evaluation for Lignocellulosic Bioethanol Production: Plantwide Configurations Using a Dynamic Modeling Approach
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

Report and recommendation of a workshop on education and training for measurement, monitoring, modelling and control ((MC)-C-3) in biochemical engineering
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

Sammenligning af avancerede online sensorer til måling af biomassekoncentrationen i filamentøse fermenteringer
Research output: Research › Poster – Annual report year: 2010

Sensitivity analysis in the WWTP modelling community – new opportunities and applications
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

Sensitivity analysis in the WWTP modelling community – new opportunities and applications
Research output: Research - peer-review › Article in proceedings – Annual report year: 2011

Sensitivity Analysis of a Kinetic Model Describing the Bi-enzymatic Synthesis of Lactobionic Acid
Research output: Research - peer-review › Article in proceedings – Annual report year: 2010

Sensitivity Analysis of a Kinetic Model Describing the Bi-enzymatic Synthesis of Lactobionic Acid
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010
Sensor combination and chemometric variable selection for online monitoring of Streptomyces coelicolor fed-batch cultivations
Research output: Research - peer-review › Journal article – Annual report year: 2010

Structurally Optimized Microbioreactors: A Design Example for Immobilized Yeast Cultivations
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

Structurally optimized microbioreactors for immobilized yeast cultivations
Research output: Research › Article in proceedings – Annual report year: 2010

Structurally optimized microbioreactors for immobilized yeast cultivations
Research output: Research › Poster – Annual report year: 2010

Structurally optimized microbioreactors for immobilized yeast cultivations
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2010

Synthesis, Design and Analysis of Downstream Separation in Bio-refinery Processes through a Group-Contribution Approach
Research output: Research - peer-review › Article in proceedings – Annual report year: 2010

Synthesis, Design and Analysis of Downstream Separation in Bio-refinery Processes through a Group-Contribution Approach
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

Systematic computer-aided method and tool (ICAS-PAT) for design, analysis &/or validation of process monitoring and analysis systems (PAT systems)
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

Systematic Framework for Design and Adaption of Fast, Flexible, Continuous Modular Plants
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

Systematic method and tool for design, analysis &/or validation of PAT systems
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

Uncertainty and Sensitivity Analysis of Heat and Mass Transfer in Food Processing
Research output: Research › Poster – Annual report year: 2010

Validation of Structured Model of Complete Autotrophic Nitrogen Removal
Research output: Research › Sound/Visual production (digital) – Annual report year: 2010

Wastewater treatment plant influent disturbance models
Research output: Research - peer-review › Article in proceedings – Annual report year: 2010

A Model-Based Methodology for Simultaneous Design and Control of a Bioethanol Production Process
Research output: Research › Sound/Visual production (digital) – Annual report year: 2009

A Model-Based Methodology for Simultaneous Design and Control of a Bioethanol Production Process
Research output: Research - peer-review › Article in proceedings – Annual report year: 2009

Analyse af NIR data fra Streptomyces coelicolor fermenteringer
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2009
Application of ICAS-PAT On Design of Process Monitoring and Control System for a Batch Cooling Crystallization Process through Hybrid Multiscale Model-Based Analysis
Research output: Research › Sound/Visual production (digital) – Annual report year: 2009

Application of microbioreactors in fermentation process development: a review
Research output: Research - peer-review › Journal article – Annual report year: 2009

Application of modeling and simulation tools for the evaluation of biocatalytic processes: a future perspective
Research output: Research - peer-review › Journal article – Annual report year: 2009

Application of near-infrared spectroscopy for monitoring and control of cell culture and fermentation
Research output: Research - peer-review › Journal article – Annual report year: 2009

Applying spectroscopic methods and chemometrics to get a snap-shot of physiology in fermentation processes
Research output: Research - peer-review › Poster – Annual report year: 2009

A priori regression analysis for the calibration of complex dynamic models: application to an integrated biological, chemical and physical model of antibiotic production with S. coelicolor
Research output: Research - peer-review › Article in proceedings – Annual report year: 2009

Research output: Research › Sound/Visual production (digital) – Annual report year: 2009

Research output: Research - peer-review › Article in proceedings – Annual report year: 2009

A software tool for design of process monitoring and analysis systems
Research output: Research › Sound/Visual production (digital) – Annual report year: 2009

A software tool for design of process monitoring and analysis systems
Research output: Research - peer-review › Article in proceedings – Annual report year: 2009

A systematic computer aided framework for design and analysis of PAT systems
Research output: Research › Sound/Visual production (digital) – Annual report year: 2009

Benchmark Simulation Model No 2 – Finalisation of plant layout and default control strategy
Research output: Research › Sound/Visual production (digital) – Annual report year: 2009

Biorefining: Computer aided tools for sustainable design and analysis of bioethanol production
Research output: Research - peer-review › Journal article – Annual report year: 2009

Continuous culture microbioreactors
Research output: Research › Sound/Visual production (digital) – Annual report year: 2009

Development of An Integrated Dynamic Model for Bioethanol Production From Lignocellulosic Biomass
Research output: Research › Sound/Visual production (digital) – Annual report year: 2009

Development of continuous culture microbioreactors
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2009
Development of continuous culture microbioreactors
Research output: Research › Sound/Visual production (digital) – Annual report year: 2009

Disposable continuous culture microbioreactor with yeast for screening and process development applications
Research output: Research › Sound/Visual production (digital) – Annual report year: 2009

Evaluation of plant-wide WWTP control strategies including the effects of filamentous bulking sludge
Research output: Research - peer-review › Article in proceedings – Annual report year: 2009

Evaluation of plant-wide WWTP control strategies including the effects of filamentous bulking sludge
Research output: Research - peer-review › Review – Annual report year: 2009

Good Modeling Practice for PAT Applications: Propagation of Input Uncertainty and Sensitivity Analysis
Research output: Research - peer-review › Journal article – Annual report year: 2009

ICAS-PAT: A new software tool for systematic design/validation of process monitoring and analysis systems (PAT systems)
Research output: Research › Sound/Visual production (digital) – Annual report year: 2009

Improving the Morris method for sensitivity analysis by scaling the elementary effects
Research output: Research › Sound/Visual production (digital) – Annual report year: 2009

Improving the Morris method for sensitivity analysis by scaling the elementary effects
Research output: Research - peer-review › Article in proceedings – Annual report year: 2009

Including the effects of filamentous bulking sludge during the simulation of wastewater treatment plants using a risk assessment model
Research output: Research - peer-review › Journal article – Annual report year: 2009

Inhibition and toxicity modelling within the long-term control benchmark model (BSM1_LT) framework
Research output: Research › Sound/Visual production (digital) – Annual report year: 2009

Introducing mechanistic models in Process Analytical Technology education
Research output: Research - peer-review › Journal article – Annual report year: 2009

Lægemiddelproduktion - brugen af modellering og PAT
Research output: Communication › Journal article – Annual report year: 2009

Mechanism of water transport in meat during the roasting process
Research output: Research › Article in proceedings – Annual report year: 2009

Mechanistic models and advanced model analysis within a PAT framework
Research output: Research - peer-review › Poster – Annual report year: 2009

Model-based Computer Aided Framework for Design of Process Monitoring and Analysis Systems
Research output: Research - peer-review › Journal article – Annual report year: 2009

Modelling of an industrial enzyme fermentation by mass transfer estimation
Research output: Research › Sound/Visual production (digital) – Annual report year: 2009
Model of heat and mass transfer with moving boundary during roasting of meat in convection-oven
Research output: Research › Sound/Visual production (digital) – Annual report year: 2009

Model of Heat and Mass Transfer with Moving Boundary During Roasting of Meat in Convection-Oven
Research output: Research - peer-review › Article in proceedings – Annual report year: 2009

Monitoring of S. coelicolor fermentations using in-situ NIR
Research output: Research - peer-review › Poster – Annual report year: 2009

Moving From Batch towards Continuous Organic-Chemical Pharmaceutical Production
Research output: Research › Sound/Visual production (digital) – Annual report year: 2009

On-line estimation of biomass, glucose and ethanol in Saccharomyces cerevisiae cultivations using in-situ multi-wavelength fluorescence and software sensors
Research output: Research - peer-review › Journal article – Annual report year: 2009

Process design and development issues for pharmaceutical processes
Research output: Research › Sound/Visual production (digital) – Annual report year: 2009

Sensitivity Analysis of a Two-Enzyme One-Pot System for Production of Lactobionic Acid
Research output: Research - peer-review › Poster – Annual report year: 2009

Sensitivity analysis of non-linear dynamic models: Prioritizing experimental research
Research output: Research › Sound/Visual production (digital) – Annual report year: 2009

Sensitivity Analysis of Non-Linear Dynamic Models: Prioritizing Experimental Research
Research output: Research - peer-review › Article in proceedings – Annual report year: 2009

Synthesis, Design and Analysis of Downstream Separation in Chemical and Bio-Processes
Research output: Research › Sound/Visual production (digital) – Annual report year: 2009

Systematic framework for modeling multi-enzymatic synthetic processes
Research output: Research - peer-review › Poster – Annual report year: 2009

Uncertainty analysis in WWTP model applications: a critical discussion using an example from design
Research output: Research - peer-review › Journal article – Annual report year: 2009

Uncertainty and sensitivity analysis of control strategies using the benchmark simulation model No1 (BSM1)
Research output: Research - peer-review › Journal article – Annual report year: 2009

Wastewater treatment modelling: dealing with uncertainties
Research output: Research - peer-review › Journal article – Annual report year: 2009

A model-based framework for design and analysis of PAT systems
Research output: Research › Sound/Visual production (digital) – Annual report year: 2008

A Model-Based Framework for Systematic Product Quality Monitoring and Control
Research output: Research › Sound/Visual production (digital) – Annual report year: 2008

Application of mechanistic models within a PAT framework
Research output: Research › Sound/Visual production (digital) – Annual report year: 2008
A Software Tool for Design of Process Monitoring and Analysis Systems
Research output: Research - peer-review › Poster – Annual report year: 2008

Benchmark Simulation Model No 2 – General Protocol and Advances in Modelling Application
Research output: Research - peer-review › Article in proceedings – Annual report year: 2008

Bioprocess Synthesis, Design and Analysis through a Group-Contribuition Approach
Research output: Research › Sound/Visual production (digital) – Annual report year: 2008

CAPE methods and tools for systematic analysis of new chemical product design and development
Research output: Research - peer-review › Article in proceedings – Annual report year: 2008

Classification and Diagnostic Output Prediction of Cancer Using Gene Expression Profiling and Supervised Machine Learning Algorithms
Research output: Research - peer-review › Journal article – Annual report year: 2008

Development of continuous culture microbioreactors
Research output: Research › Sound/Visual production (digital) – Annual report year: 2008

Evaluating prediction uncertainty of fermentation models
Research output: Research › Sound/Visual production (digital) – Annual report year: 2008

Gassed and ungassed power draw in a pilot scale 550 litre fermentor retrofitted with up-pumping hydrofoil B2 impellers in media of different viscosity and with very high power draw
Research output: Research - peer-review › Journal article – Annual report year: 2008

Matrix Notation for Efficient Development of First-Principles Models Within PAT Applications: Integrated Modeling of Antibiotic Production With Streptomyces coelicolor
Research output: Research - peer-review › Journal article – Annual report year: 2008

Mechanistic models for evaluation of alternative fermentation control strategies within a PAT framework
Research output: Research › Sound/Visual production (digital) – Annual report year: 2008

Mixing by rotary jet heads: Indications of the benefits of head rotation under turbulent and transitional flow conditions
Research output: Research - peer-review › Conference article – Annual report year: 2008

Modelling nitrite in wastewater treatment systems: A discussion of different modelling concepts
Research output: Research - peer-review › Journal article – Annual report year: 2008

Multi-criteria evaluation of wastewater treatment plant control strategies under uncertainty
Research output: Research - peer-review › Journal article – Annual report year: 2008

Multivariate models for prediction of rheological characteristics of filamentous fermentation broth from the size distribution
Research output: Research - peer-review › Journal article – Annual report year: 2008

Off-line design of PAT systems for on-line applications
Research output: Research › Sound/Visual production (digital) – Annual report year: 2008

Off-line design of PAT systems for on-line applications
Research output: Research - peer-review › Article in proceedings – Annual report year: 2008
Practical identifiability of complex fermentation models: a systematic approach
Research output: Research › Sound/Visual production (digital) – Annual report year: 2008

Risk assessment modelling of microbiology-related solids separation problems in activated sludge systems
Research output: Research › peer-review › Journal article – Annual report year: 2008

Scale-up of biocatalytic processes
Research output: Research › Sound/Visual production (digital) – Annual report year: 2008

Sensitivity analysis of the Benchmark Simulation Model no 1
Research output: Research › peer-review › Article in proceedings – Annual report year: 2009

Special issue - ECCE-6
Research output: Research › peer-review › Editorial – Annual report year: 2008

Udvikling af mikrobioreaktorer til kontinuerlig kultuvering af gær
Research output: Communication › Journal article – Annual report year: 2008

Uncertainty analysis in WWTP model applications: a critical discussion of issues using a design example
Research output: Research › Sound/Visual production (digital) – Annual report year: 2008

Uncertainty and sensitivity analysis of control strategies using the benchmark simulation model no 1 (BSM1)
Research output: Research › peer-review › Article in proceedings – Annual report year: 2008

Wastewater Treatment Models
Research output: Research › peer-review › Book chapter – Annual report year: 2008

A hybrid modelling approach in the simulation of integrated urban wastewater systems
Research output: Research › Article in proceedings – Annual report year: 2007

Application of Multivariable Statistical Techniques in Plant-wide WWTP Control Strategies Analysis
Research output: Research › Conference article – Annual report year: 2007

Artificial neural networks for rapid WWTP performance evaluation: Methodology and case study
Research output: Research › Journal article – Annual report year: 2007

Benchmark simulation model no 2: general protocol and exploratory case studies
Research output: Research › Journal article – Annual report year: 2007

BSM1 versus BSM1_LT: Is the Control Strategy Performance Ranking Maintained?
Research output: Research › Conference article – Annual report year: 2007

Chemometric modeling of filamentous broth rheology using size distributions from industrial fermentations
Research output: Research › Conference abstract for conference – Annual report year: 2007

Design of Process Monitoring and Analysis Systems
Research output: Research › Sound/Visual production (digital) – Annual report year: 2007
Design of Process Monitoring and Analysis Systems, using a Model-based Computer Aided Framework
Research output: Research › Article in proceedings – Annual report year: 2007

Development of continuous culture microbioreactors
Research output: Research › Sound/Visual production (digital) – Annual report year: 2007

Model-based Computer Aided Framework for Design of Process Monitoring and Analysis Systems
Research output: Research › Conference abstract for conference – Annual report year: 2007

Model-based generation of continuous influent data from daily mean measurements available at industrial scale
Research output: Research - peer-review › Article in proceedings – Annual report year: 2007

Supporting Tools for Design and Validation of Process Analytical Technology System
Research output: Research - peer-review › Poster – Annual report year: 2007

Benchmark Simulation Model No 2 in Matlab-Simulink: Towards plant-wide WWTP control strategy evaluation
Research output: Research - peer-review › Journal article – Annual report year: 2006

Efficient modelling necessitates standards for model documentation and exchange
Research output: Research - peer-review › Journal article – Annual report year: 2006
Implementing ADM1 for plant-wide benchmark simulations in Matlab/Simulink
Research output: Research - peer-review › Journal article – Annual report year: 2006

Online monitoring and modeling of Streptomyces coelicolor cultivations
Research output: Research › Poster – Annual report year: 2006

On-line monitoring and modelling of Streptomyces coelicolor cultivations
Research output: Research › Poster – Annual report year: 2006

On-Line Monitoring of Fermentation Processes Using Near Infrared Spectroscopy and Multiwavelength Fluorescence
Research output: Research - peer-review › Poster – Annual report year: 2006

Plant-wide (BSM2) evaluation of reject water treatment with a SHARON-Anammox process
Research output: Research - peer-review › Journal article – Annual report year: 2006

Towards a benchmark simulation model for plant-wide control strategy performance evaluation of WWTPs
Research output: Research - peer-review › Journal article – 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

A particle model for UASB reactors using the Takács clarifier model
Research output: Research - peer-review › Article in proceedings – Annual report year: 2005

Modelling for control: Understanding role and function of regulatory networks in microorganisms
Research output: Research - peer-review › 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

Benchmarking Combined Biological Phosphorus and Nitrogen Removal Wastewater Treatment Processes
Research output: Research - peer-review › Journal article – Annual report year: 2004

Activated sludge wastewater treatment plant modelling and simulation: state of the art
Research output: Research - peer-review › Journal article – Annual report year: 2004

Application of recursive principal component analysis to a continuous biological phosphorous removal process
Research output: Research › Sound/Visual production (digital) – Annual report year: 2004

Conservation principles suspended solids distribution modeling to support ATS introduction on a recirculating WWTP
Research output: Research - peer-review › Journal article – Annual report year: 2004

Conservation Principles Suspended Solids Distribution Modelling to Support ATS Introduction on a Recirculating WWTP
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Efficient modeling necessitates standards for model documentation and exchange
Research output: Research › peer-review › Article in proceedings – Annual report year: 2004

Impact of reactive settler models on simulated WWTP performance
Research output: Research › peer-review › Article in proceedings – Annual report year: 2004

Instrumentation and control in anaerobic digestion
Research output: Research › peer-review › Conference abstract in proceedings – Annual report year: 2004

Instrumentation and Control in Anaerobic Digestion
Research output: Research › peer-review › Conference abstract in proceedings – Annual report year: 2004

SMAC – SMArt Control of wastewater system, Deliverable 12: External WWTP flow rate control functions, Algorithm, Design
Research output: Research › peer-review › Report – Annual report year: 2004

SMAC – SMArt Control of wastewater system, Deliverable 1: Generic wastewater system configuration
Research output: Research › peer-review › Report – Annual report year: 2004

SMAC – SMArt Control of wastewater system, Deliverable 2: Working Report on Data Acquisition and Processing
Research output: Research › peer-review › Report – Annual report year: 2004

SMAC – SMArt Control of wastewater system, Deliverable 3: Specification of Wastewater System Goals
Research output: Research › peer-review › Report – Annual report year: 2004

SMAC – SMArt Control of wastewater system, Deliverable 5: Definition of System Performance Assessment Criteria, and Selection of Models for Monitoring and Control
Research output: Research › peer-review › Report – Annual report year: 2004

Towards a benchmark simulation model for plant-wide control strategy performance evaluation of WWTPs
Research output: Research › peer-review › Article in proceedings – Annual report year: 2004

Transient Response of Aerobic and Anoxic Activated Sludge Activities to Sudden Substrate Concentration Changes
Research output: Research › peer-review › Journal article – Annual report year: 2004

Understanding control mechanisms in microorganisms: representation of regulatory networks
Research output: Research › Sound/Visual production (digital) – Annual report year: 2004

A Combined N and P Removal Wastewater Treatment Plant Simulation Benchmark for Control Strategy Evaluation
Research output: Research › Sound/Visual production (digital) – Annual report year: 2003

A Comprehensive Model Calibration Procedure for Activated Sludge Models
Research output: Research › Article in proceedings – Annual report year: 2003

Application of Recursive Principal Component Analysis to a Continuous Biological Phosphorus Removal Process
Research output: Research › Article in proceedings – Annual report year: 2004

Effective Integration of Data from Practice and Theory for Efficient Effluent Quality Control
Research output: Research › Sound/Visual production (digital) – Annual report year: 2003

Influence of Sedimentation Tank Model Assumptions on Bio-P Model Performance
Research output: Research › Article in proceedings – Annual report year: 2003
Reconsidering Wastewater Treatment Plant Model Assumptions for Simulating Full-Scale Plant Control
Research output: Research › Sound/Visual production (digital) – Annual report year: 2003

Anoxic Activated Sludge Monitoring with Combined Nitrate and Titrimetric Measurements
Research output: Research - peer-review › Journal article – Annual report year: 2002

A Simplified Method to Assess Structurally Identifiable Parameters in Monod-base Activated Sludge Models
Research output: Research - peer-review › Journal article – Annual report year: 2002

Computer Aided Model Analysis and Dynamic Simulation of Wastewater Treatment Plant
Research output: Research - peer-review › Journal article – Annual report year: 2002

Control Strategy Evaluation for Combined N and P Removal Using A Benchmark Wastewater Treatment Plant
Research output: Research › Article in proceedings – Annual report year: 2002

Evaluation of an ASM1 Model Calibration Procedure on a Municipal-Industrial Wastewater Treatment Plant
Research output: Research - peer-review › Journal article – Annual report year: 2002

Modeling Aerobic Carbon Source Degradation Processes using Titrimetric Data and Combined Respirometric-Titrimetric Data: Experimental Data and Model Structure
Research output: Research - peer-review › Journal article – Annual report year: 2002

Modeling Aerobic Carbon Source Degradation Processes using Titrimetric Data and Combined Respirometric-Titrimetric Data: Structural and Practical Identifiability
Research output: Research - peer-review › Journal article – Annual report year: 2002

Multivariable Control to Optimize Biological Phosphorous Removal on Wastewater Treatment Plants
Research output: Research › Sound/Visual production (digital) – Annual report year: 2002

Multivariable Control to Optimize Phosphorus Removal on Biological Wastewater Treatment Plants
Research output: Research › Sound/Visual production (digital) – Annual report year: 2002

Performance Analysis of Denitrifying Wastewater Treatment Plants
Research output: Research - peer-review › Journal article – Annual report year: 2002

The SMAC An integrated approach to control of wastewater systems
Research output: Research › Sound/Visual production (digital) – Annual report year: 2002

Simulation and Optimization of a Pre-denitrification Plant for Biological Nitrogen Removal
Research output: Research - peer-review › Paper – Annual report year: 2001

Projects:

Scalable cell factories in membrane-based bioreactors
Project: PhD

Development of electrochemical metabolite sensors to monitor stress responses in-situ in large bioreactors
Project: PhD
Process design, optimization and supply chain analysis for biotechnological production of xylitol
Project: PhD

Novel strategies for control and monitoring of bio-processes using advanced image-analysis
Project: PhD

Developing Novel Systematic Strategies for Downstream Bioprocess Design
Project: PhD

Optimization of industrial anaerobic pre-treatment processes
Project: PhD

Ecological Control Strategies for Biobutanol Production
Project: PhD

Development and Application of Novel Free-floating Sensor Device for Bioprocess Optimization
Project: PhD

Advancing Modelling for Process-Product Innovation, Optimization, Monitoring and Control in Life Science Industries
Project: Research

Sustainable Process Synthesis and Design
Project: PhD

Physiological characterization of the impact of gradients on fermentation processes
Project: PhD

Conceptual design of yeast propagation strategies for improved bioethanol production
Project: PhD

Advanced Modelling, Simulation and Optimization for In Silico Process Design
Project: PhD

Development of a Raman spectroscopy based control system for the U-Loop fermentor
Project: PhD

A Decision Support Tool for Screening Novel WWT Processes
Project: PhD

Produktion af lægemidler
Project: PhD

Undersøgelse af effekten af alternative enzymproduktionsteknologier
Project: PhD

A Decision Support Tool for Screening Novel WWT Processes
Project: PhD

In-silico Process Design and Evaluation Tool for Pharmaceutical Manufacturing
Project: PhD
Design and optimization of selected oleochemical processes  
Project: PhD

Autosamling and monitoring of bioprocesses  
Project: PhD

Development of Strategies for More Efficient CIP Cleaning  
Project: PhD

Engineered yeast strains for the production of bulk chemicals from algal biomass  
Project: PhD

Consistent Scale-up of the Freeze-drying Process  
Project: PhD

Bioprocess risk assessment using a mechanistic modelling framework  
Project: PhD

Automating Experimentation in miniaturized reactors  
Project: PhD

Genome-Scale Modeling of Protein Biosynthesis in Methylo trophic Bacteria involved in Animal Feed Production from Natural Gas  
Project: PhD

The implementation of anammox in a full-scale industrial waste-water treatment plant  
Project: PhD

Modeling of gradients in large scale bioreactors  
Project: PhD

Characterization of Microbial consortia for keratin degradation processes  
Project: PhD

Computer-aided Mixture and Blend Design  
Project: PhD

Continuous crystallization and filtration of Ective Pharmaceutical Ingredients and Intermediates for pharmaceutical production  
Project: PhD

Model-based interpretation of microbireactor data  
Project: PhD

Micro Scale Reactor System development with integrated advanced sensor technology  
Project: PhD

Conflict-based Method for Economical, Subtainable, Safe and Environmentally Clean Process (Retrofit)Design and Operation  
Project: PhD
Exploring biochemical process performance limits through topology optimization
Project: PhD

All-fiber Raman Probe
Project: PhD

Modelling of Enzymatic Hydrolysis of Lignocellulosic Material
Project: PhD

Modelling for Monitoring, Control and Optimization of Fed-Batch
Project: PhD

Novel Modelling Concepts for Description of Processes in Living Cells - Moving Towards Systems Biology
Project: PhD

Design of continuous reactor systems for API production
Project: PhD

Optimizing control of the integrated urban wastewater system
Project: PhD

Control of Process Operations and Monitoring of Product Qualities through Hybrid Multi-Scale Model-Based Analysis
Project: PhD

Continuous Membrane Microbioreactors for Development of Integrated Pectin Modification and Separation Processes
Project: PhD

Integration of Modelling, Design and Control for Efficient Operation of chemical Processes
Project: PhD

Development of Optimal Operating Conditions for Producing Single Cell Protein
Project: PhD

Continuous Culture Microbioreactors
Project: PhD

Computer-Aided Multiscale Modelling for Chemical Product-Process Design
Project: PhD

Upscaling of Particulate Processes in Fluidised Beds
Project: PhD

Bridging Flows: Microfluidic End-User Solutions
Project: PhD

Physiological Characterization of Trichoderma
Project: PhD

Model-Based Computer Aided Framework for Design of Process Monitoring and Analysis Systems
Project: PhD
Multi-enzyme process modelling
Project: PhD

Moving from batch towards continuous organic-chemical pharmaceutical production
Project: PhD

Novel Analytical Technologies
Project: PhD

Systematic methodology for design of emulsion based chemical products
Project: PhD

Systematic Methods and Tools for Computer Aided Modelling
Project: PhD

Membrane Assisted Enzyme Fractionation
Project: PhD

Linking strain morphology to rheology and mass transfer as a means to improve fermentation processes
Project: PhD

Systematic Modelling, Simulation and Design of Intensified Bio-Chemical Processes
Project: PhD

Sustainable design of biorefinery systems for biorenewables
Project: PhD

Synthesis and Evaluation of Structures Lipids based Polyurethanes for Sensors, Actuators and Generators through Monte Carlo Simulation
Project: PhD

Tailor-made design of chemical products: Bio-fuels and other blended products
Project: PhD

Scale-up of biocatalytic cascade reactions for the synthesis of chiral amines
Project: PhD

Operational aspects of continuous pharmaceutical production
Project: PhD

Integrated framework for synthesis and design of multi-product biorefinery networks
Project: PhD

Experimental Implementation and model-based optimization for multi-enzyme processes
Project: PhD

Measurement and Chemometric Modelling of streptomyces Cultivations
Project: PhD

Population heterogeneity of yeast cultivations
Project: PhD
Mastering bioprocess Integration and Intensification across scales  
Project: PhD

Process intensification in biocatalytic reactions  
Project: PhD

Multi-dimensional population balance models of crystallization processes  
Project: PhD

Green Chemistry based innovative process-operation synthesis and design  
Project: PhD

Computer-aided modelling for efficient and innovative product-process engineering  
Project: PhD

Topology optimization in biocatalytic reactions using miniaturized reactors  
Project: PhD

Validation of Structures Model for Autotrophic Nitrogen Removal in High Strength Wastewater  
Project: PhD

Plantwide modelling and control for N2O emissions from WWTP  
Project: PhD

Monitoring Continuous fermentation processes in microboreactors  
Project: PhD

Guiding biocatalytic process improvements using engineering evaluation tools  
Project: PhD

Control of Enzymatic Biodiesel Production  
Project: PhD

Population balance models and computational fluid dynamics: a model framework to describe heterogeneity in fermentors  
Project: PhD

Monitoring and Control of Fermentation Processes using In-Situ Microscopy and On-Line Multi-Wavelength Fluorescence in Combination  
Project: PhD

Computer-aided framework for synthesis, design and retrofit of water networks in processing industries  
Project: PhD

Investigation of Aspergillus niger aggregation behaviour and its relationship to industrial fermentation  
Project: PhD

Process-Product Synthesis, Design and Analysis through the Group-Contribution Approach  
Project: PhD
Robust Modelling of Mass and Heat Transfer in Food Processing  
Project: PhD

Data-driven Modelling for Monitoring and Control of Streptomyces Cultivations  
Project: PhD

Integrated microfactories for enzyme production  
Project: PhD

Establishment and calibration of consensus process models of N2O dynamics  
Project: PhD

Novel Strategies for Fermentation Control  
Project: PhD

Modelling and Simulation of Wastewater Treatment Plants  
Project: PhD

reactor and process design for chem.-enzymatic synthesis of FDA  
Project: PhD

Separation of Chiral Active Pharmaceutical Ingredients: A First Step Towards Continuous Preferential Crystallization in the Pharmaceutical Industry  
Project: PhD

Polymer Dynamics in Microfluidic Devices  
Project: PhD

Engineered yeast strains for the production of bulk chemicals from algae biomass  
Project: Research

Novel greener and lean processes using integrated microfactories  
Project: Research

Activities:

Butanol for sustainable aviation  
Activity: Talks and presentations › Conference presentations

Gradients of pressure in anaerobic digesters: Modelling and sampling campaign  
Activity: Talks and presentations › Talks and presentations in private or public companies and organisations

Control of Non-Key Compositional Bulges In Industrial Distillation Unit Operations  
Activity: Talks and presentations › Conference presentations

Better together or single by choice: Challenges and opportunities in engineering microbial consortia for industrial biomanufacturing applications  
Activity: Talks and presentations › Conference presentations

Novozymes PhD Workshop: Gradients of pressure in anaerobic digesters  
Activity: Talks and presentations › Talks and presentations in private or public companies and organisations
6th International Conference on Population Balance Modeling
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.

Model-based optimization of a full-scale industrial anaerobic reactor producing biogas
Activity: Talks and presentations › Conference presentations

CFD application as a tool for designing industrial fermenters
Activity: Talks and presentations › Conference presentations

Dynamics of physiological adaptation of Saccharomyces cerevisiae to biomass hydrolysates: a single cell analysis approach.
Activity: Talks and presentations › Conference presentations

Strategy for characterizing microbial physiology across scales in fermentation processes
Activity: Talks and presentations › Conference presentations

Calibration and Validation of an Anaerobic Digestion Model for Process Optimization of an Industrial Granular Sludge Reactor
Activity: Talks and presentations › Conference presentations

Design of a gas-inducing impeller using Computational Fluid Dynamics
Activity: Talks and presentations › Conference presentations

Feasibility-test of a complete autotrophic nitrogen removal process treating the effluent of an industrial anaerobic digester
Activity: Talks and presentations › Conference presentations

Modelling Methane, Sulphide and Multiple Mineral Precipitation in a Full-Scale Industrial Granular Anaerobic Digester
Activity: Talks and presentations › Conference presentations

Model Based Optimization of an Industrial Wastewater Treatment Plant Combining a Full-scale Granular Sludge Reactor and Autotrophic Nitrogen Removal
Activity: Talks and presentations › Conference presentations

Design of future municipal wastewater treatment plants: A mathematical approach to manage complexity and identify optimal solutions
Activity: Talks and presentations › Conference presentations

Biorefinery Öresund Conference 'Biorefining from raw material to high value products'
Activity: Talks and presentations › Conference presentations

Recent Advances in Fermentation Technology
Activity: Attending an event › Participating in or organising a conference

Prizes:

Best Contributed Paper Award
Prize: Prizes, scholarships, distinctions

Press clippings:
Modeling for production of bacterial cultures
Press/Media: Press / Media