Research outputs:

Microalgae and cyanobacteria modeling in water resource recovery facilities: A critical review
Research output: Research - peer-review › Review – Annual report year: 2019

Control of anaerobic digestion for maximal biogas production under dynamic conditions
Research output: Research - peer-review › Conference abstract in proceedings – Annual report year: 2019

Monitoring of primary treatment: Estimation of the bioavailable organic carbon in wastewater by measuring the total organic solids (TSS) and turbidity
Research output: Research - peer-review › Conference abstract in proceedings – Annual report year: 2019

Control of anaerobic reactor treating cattle manure for maximal biogas production under dynamic conditions
Research output: Research - peer-review › Conference abstract in proceedings – Annual report year: 2018

Light attenuation in photobioreactors and algal pigmentation under different growth conditions – Model identification and complexity assessment
Research output: Research - peer-review › Journal article – Annual report year: 2018

Microalgae modeling in water resource recovery facilities - Toward a consensus
Research output: Research - peer-review › Poster – Annual report year: 2018

Microbial protein as an alternative protein source enabling circular bioeconomy
Research output: Research - peer-review › Conference abstract in proceedings – Annual report year: 2018

Microbial protein production using a novel bubble-free membrane bioreactor
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2018

Model-based optimization biofilm based systems performing autotrophic nitrogen removal using the comprehensive NDHA model
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2018
Model identification for hindered-compression settling velocity
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2018

Nutrient recovery from industrial wastewater as single cell protein by a co-culture of green microalgae and methanotrophs
Research output: Research - peer-review › Journal article – Annual report year: 2018

Research in organic waste as resources: How to implement circular bio-economy in the urban context?
Research output: Research › Sound/Visual production (digital) – Annual report year: 2018

The pH dependency of N-converting enzymatic processes, pathways and microbes: effect on net N2O production
Research output: Research - peer-review › Review – Annual report year: 2018

Use of Forward Osmosis to Harvest Methane Oxidizing Bacteria Producing Single Cell Protein
Research output: Research - peer-review › Conference abstract in proceedings – Annual report year: 2018

Valorisation of Effluents from Anaerobic Digestion as Single Cell Protein – Focus on Safe Gas Supply
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2018

A systematic model identification method for chemical transformation pathways – the case of heroin biomarkers in wastewater
Research output: Research - peer-review › Journal article – Annual report year: 2017

Co-cultivation of Green Microalgae and Methanotrophic Bacteria for Single Cell Protein Production from Wastewater
Research output: Research - peer-review › Conference abstract in proceedings – Annual report year: 2017

Development and validation of a novel monitoring system for batch flocculant solids settling process
Research output: Research - peer-review › Conference abstract in proceedings – Annual report year: 2017

In-situ UV-Vis Probe to Monitor Algal Photobioreactors Treating Municipal Wastewater
Research output: Research - peer-review › Poster – Annual report year: 2017

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

Modelling of green microalgal growth and algal storage processes using wastewater resources
Research output: Research - peer-review › Book chapter – Annual report year: 2017

Nitrogen recovery from wastewater to produce microbial protein using methane oxidizing bacteria
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2017

N₂O emissions from a single-stage partial nitritation/anammox granule-based reactor – a model based assessment
Research output: Research - peer-review › Poster – Annual report year: 2017

Simple control rules for mitigating N₂O emissions in phase isolated fullscale WWTPs
Research output: Research - peer-review › Conference abstract in proceedings – Annual report year: 2017

Simple control strategy for mitigating N₂O emissions in phase isolated full-scale WWTPs
Research output: Research - peer-review › Conference abstract in proceedings – Annual report year: 2017

Transformation and sorption of illicit drug biomarkers in sewer biofilms
Research output: Research - peer-review › Journal article – Annual report year: 2017

UV-Vis spectrophotometry for Wastewater Resource Recovery with Algae Photobioreactors
Research output: Research › Sound/Visual production (digital) – Annual report year: 2017

A novel bioflocculation method to separate microalgal biomass cultivated on wastewater resources
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2016

Bioflocculation of green microalgae using activated sludge and potential for biogas production
Research output: Research - peer-review › Poster – Annual report year: 2016

Co-digestion of microalgae and activated sludge following a novel bioflocculation method
Research output: Research - peer-review › Poster – 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
Harvesting microalgae using activated sludge can decrease polymer dosing and enhance methane production via co-digestion in a bacterial-microalgal process

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

Impact of influent quality on green microalgal cultivation with used water resources – experimental assessment combined with image analysis

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

Life cycle assessment as development and decision support tool for wastewater resource recovery technology

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

Low-sludge age EBPR process for resource recovery – microbial and biochemical process characterization

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

Low-sludge age EBPR process for resource recovery – microbial and biochemical process characterization

Research output: Research - peer-review › Conference abstract in proceedings – Annual report year: 2017

Microbial and biochemical process characterization of a low-sludge age EBPR process for resource recovery

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

Modelling and control of nitrogen and phosphorus removing systems

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

Modelling of two-stage WWT systems: a faster road towards resource recovery

Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2016

Optimal algal cultivation for used water resource recovery

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

Protocol for settling velocity model calibration using an innovative batch settling test– focus on identifiability analysis of the hindered-transient-compression model

Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2016

Secondary settling sensor setup development – testing prototypes and compression models via practical model parameter identifiability assessment

Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2016
Modeling green microalgal growth, nutrient uptake and storage in the ASM framework
Research output: Research › Conference abstract in proceedings – Annual report year: 2015

Wastewater resource recovery via the Enhanced Biological Phosphorus Removal and Recovery (EBP2R) process coupled with green microalgae cultivation
Research output: Research › Ph.D. thesis – Annual report year: 2015

Wastewater resource recovery with green microalgae – modelling the microalgal growth, nutrient uptake and storage using ASM-A
Research output: Research - peer-review › Poster – Annual report year: 2015

A Green Micro-Algal Growth Model developed in the Activated Sludge Modeling Framework
Research output: Research - peer-review › Poster – Annual report year: 2014

An Activated Sludge Model for Mixed Green Microalgae (ASM-A): model identification and calibration
Research output: Research - peer-review › Paper – Annual report year: 2014

An Innovative Activated Sludge System for Enhanced Nutrient Recovery via Downstream Cultivation of Green Microalgae
Valverde Perez, B., Ramin, E., Smets, B. F. & Plósz, B. G. 2014
Research output: Research - peer-review › Poster – Annual report year: 2014

Microplate-based method for high-throughput screening of microalgal growth potential
Research output: Research - peer-review › Journal article – Annual report year: 2014

Modelling and assessment of the storage of nutrients in a mixed green microalgae culture
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2014

The Effect Of Light On Mixed Green Micro-Algal Growth: Experimental Assessment And Modelling
Research output: Research - peer-review › Poster – Annual report year: 2014

A Mixed Green Micro-Algal Model (MAMO) – Model Identification And Calibration Using Synthetic Medium And Nutrient Rich Carbon Depleted Wastewater
Research output: Research - peer-review › Paper – Annual report year: 2013

Innovative Two-stage Engineering Solutions for Resource Recovery via Downstream Cultivation of Green Microalgae
Research output: Research - peer-review › Conference abstract in proceedings – Annual report year: 2013
Microalgae Biorefinery - Industrial Symbiosis
Research output: Research - peer-review › Poster – Annual report year: 2014

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

Selection of controlled variables in bioprocesses. Application to a SHARON-Anammox process for autotrophic nitrogen removal
Research output: Research - peer-review › Poster – Annual report year: 2013

Control of SHARON reactor for autotrophic nitrogen removal in two-reactor configuration
Research output: Research › Article in proceedings – Annual report year: 2012

Control of SHARON reactor for autotrophic nitrogen removal in two-reactor configuration
Valverde Perez, B., Mauricio Iglesias, M. & Sin, G. 2012
Research output: Research › Poster – Annual report year: 2012

Incremental design of control system of SHARON-Anammox process for autotrophic nitrogen removal
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012

Incremental design of control system of SHARON-Anammox process for autotrophic nitrogen removal
Mauricio Iglesias, M., Valverde Perez, B. & Sin, G. 2012
Research output: Research › Sound/Visual production (digital) – Annual report year: 2012

Modelling and control design for SHARON/Anammox reactor sequence
Research output: Research - peer-review › Article in proceedings – 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

Projects:

Microalga-based bio-electro-remediation technology for antibiotic-dominated wastewater treatment and microalgae resource utilization study
Pan, M., Angelidaki, I., Valverde Pérez, B. & Pan, G.
01/12/2018 → 30/11/2021
Project: PhD
Wastewater resource recovery via the Enhanced Biological Phosphorus Removal and Recovery (EBP2R) process coupled with green microalgae cultivation
Valverde Pérez, B., Plósz, B. G., Smets, B. F., Trapp, S., Oehmen, A. & Villez, K.
Technical University of Denmark
01/10/2012 → 27/01/2016
Project: PhD

Activities:

Feasibility-test of a complete autotrophic nitrogen removal process treating the effluent of an industrial anaerobic digester
Feldman, H. (Other), Flores Alsina, X. (Other), Kasper Kjellberg (Other), Blum, J. (Other), Valverde Pérez, B. (Other), Sin, G. (Other), Smets, B. F. (Other), Gernaey, K. V. (Other)
9 May 2017 → 12 May 2017
Activity: Talks and presentations › Conference presentations

Where to direct modelling efforts for a faster road towards resource recovery?
Valverde Pérez, B. (Invited speaker)
31 Mar 2016
Activity: Talks and presentations › Guest lectures, external teaching and course activities at other universities