Abiotic Nitrous Oxide (\textit{N}_2\textit{O}) Production Is Strongly pH Dependent, but Contributes Little to Overall \textit{N}_2\textit{O} Emissions in Biological Nitrogen Removal Systems
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review

Guild Composition of Root-Associated Bacteria Changes with Increased Soil Contamination
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review

Methanotrophic contribution to biodegradation of phenoxy acids in cultures enriched from a groundwater-fed rapid sand filter
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review

Modelling carbofuran biotransformation by: Novosphingobium sp. KN65.2 in the presence of coincidental carbon and indigenous microbes
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review

National innovative capacity in the water sector: A comparison between China and Europe
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review

Regulation of key \textit{N}_2\textit{O} production mechanisms during biological water treatment
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review

Removal of micropollutants during biological phosphorus removal: Impact of redox conditions in MBBR
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review

The effect of pH on \textit{N}_2\textit{O} production in intermittently-fed nitritation reactors
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review

Application of the NDHA model to describe \textit{N}_2\textit{O} dynamics in activated sludge mixed culture biomass
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2018 › Research › peer-review
Dynamics of nitrous oxide production pathways analysed by $^{15}$N$/^{18}$O dual isotope labelling – data from a full-scale wastewater treatment plant
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2015 › Research › peer-review

Estimating the Transfer Range of Plasmids Encoding Antimicrobial Resistance in a Wastewater Treatment Plant Microbial Community
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

Evidence of co-metabolic bentazone transformation by methanotrophic enrichment from a groundwater-fed rapid sand filter
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

Genomic and ecological variation in comammox Nitrospira populations
Research output: Contribution to conference › Poster – Annual report year: 2018 › Research › peer-review

HEPWAT - Higher Environmental Performance in Wastewater Systems
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2018 › Research › peer-review

Linking structure and function of microbial communities in rapid sand filters using molecular tools and bioenergetics
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2018 › Research › peer-review

Metagenomic analysis to elucidate the metabolic potential of microbial communities in Danish waterworks
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2018 › Research › peer-review

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

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

Model-based optimization biofilm based systems performing autotrophic nitrogen removal using the comprehensive NDHA model
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2018 › Research › peer-review
Nitrous oxide emissions from biofilm processes for wastewater treatment
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

Nitrous oxide production in intermittently aerated Partial Nitritation-Anammox reactor: oxic N₂O production dominates and relates with ammonia removal rate
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

Novel method reveals a narrow phylogenetic distribution of bacterial dispersers in environmental communities exposed to low hydration conditions
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

Patterns of permissiveness towards broad host range plasmids in microbial communities across the urban water cycle in Europe
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2018 › Research › peer-review

Reactor staging influences microbial community composition and diversity of denitrifying MBBRs- Implications on pharmaceutical removal
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

Research in organic waste as resources: How to implement circular bio-economy in the urban context?
Valverde Pérez, B., Boldrin, A., Smets, B. F., Astrup, T. F. & Angelidaki, I., 2018
Research output: Non-textual form › Sound/Visual production (digital) – Annual report year: 2018 › Research

Stochastic processes govern invasion success in microbial communities when the invader is phylogenetically close to resident bacteria
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

The industrial dynamics of water innovation: A comparison between China and Europe
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

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

Transfer and long-term persistence of plasmids encoding antimicrobial resistance in wastewater treatment plant microbial communities
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2018 › Research › peer-review

Use of Forward Osmosis to Harvest Methane Oxidizing Bacteria Producing Single Cell Protein
Valorisation of Effluents from Anaerobic Digestion as Single Cell Protein – Focus on Safe Gas Supply
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2018 › Research › peer-review

Water & Sanitation: An Essential Battlefront in the War on Antimicrobial Resistance
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

Where does N2O from Partial Nitritation-Anammox processes come from? – A high temporal resolution study of a lab-scale system gives answers
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2018 › Research › peer-review

Bacteria from Wheat and Cucurbit Plant Roots Metabolize PAHs and Aromatic Root Exudates: Implications for Rhizodegradation
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review

Calibration of the comprehensive NDHA-N2O dynamics model for nitrifier-enriched biomass using targeted respirometric assays
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review

Calibration of the NDHA N2O model via respirometric assays
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2017 › Research › peer-review

Challenges in using allylthiourea and chlorate as specific nitrification inhibitors
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review

Changes in intermittent aeration regimes are effective tools to manage bio-granule size and microbial communities in partial nitritation-anammox SBRs
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2017 › Research › peer-review

Comammox Nitrospira are key nitrifiers in diverse groundwater-fed drinking water filters
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2017 › Research › peer-review

Copper dosing enhances nitrification in biofilters treating groundwater
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2017 › Research › peer-review
Counter-diffusion biofilms have lower N₂O emissions than co-diffusion biofilms during simultaneous nitrification and denitrification: Insights from depth-profile analysis
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review

Density and distribution of nitrifying guilds in rapid sand filters for drinking water production: Dominance of Nitrospira spp.
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review

Diffusion and sorption of organic micropollutants in biofilms with varying thicknesses
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review

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Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review

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Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review

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Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review

Density and distribution of nitrifying guilds in rapid sand filters for drinking water production: Dominance of Nitrospira spp.
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review
Low nitrous oxide production through nitrifier-denitrification in intermittent-feed high-rate nitritation reactors
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review

Membrane-aerated Nitrifying Biofilms: Continuous versus Intermittent Aeration
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2017 › Research › peer-review

Metal stressors consistently modulate bacterial conjugal plasmid uptake potential in a phylogenetically conserved manner
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review

Microbial biotechnologies for potable water production
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review

Moving bed biofilm reactors (MBBRs) for removal of pharmaceuticals in biological wastewater treatment
Research output: Contribution to conference › Poster – Annual report year: 2017 › Research › peer-review

N2O and NO dynamics in AOB-enriched and mixed-culture biomass: experimental observations and model calibration
Research output: Contribution to conference › Poster – Annual report year: 2017 › Research › peer-review

N2O and NO dynamics in AOB-enriched and mixed-culture biomass: Experimental Observations and Model Calibration
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2017 › Research › peer-review

Niche differentiation and evolution of comammox Nitrospira through a comparative genomics analysis
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2017 › Research › peer-review

Niche partitioning within genus Nitrospira is affected by environmental copper concentration
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2017 › Research › peer-review

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

Nitrotoga is selected over Nitrospira in newly assembled biofilm communities from a tap water source community at increased nitrite loading
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review
Nitrous oxide Production in Membrane-aerated Nitrifying Biofilms: Experimentation and Modelling
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2017 › Research › peer-review

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

Operational strategies for mitigation of nitrous oxide emissions from a phase isolated fullscale WWTP
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2017 › Research › peer-review

Pathways and Controls of N2O Production in Nitritation-Anammox Biomass
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review

Permissiveness of Microbial Community from Wastewater Treatment Plant towards IncP-1 Plasmid
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2018 › Research › peer-review

Plasmid host range (permissiveness) in communities of activated sludge in wastewater treatment plant
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2017 › Research › peer-review

Plasmid host range (permissiveness) in microbial communities of activated sludge in wastewater treatment plant.
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2017 › Research › peer-review

Removal of pharmaceuticals in Moving Bed Biofilm Reactors – The impact of design and operating conditions
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2017 › Research › peer-review

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

Simple control strategy for mitigating N2O emissions in phase isolated full-scale WWTPs
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2017 › Research › peer-review
Sorption and diffusion of micropollutants on/in biofilms: experimental observations and a model-based interpretation
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2017 › Research › peer-review

The competitive edge: competition and biofilm composition, an individual-based modelling approach
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2017 › Research › peer-review

The Europe - China Water Innovation Balance – Findings from the PIANO project's mapping
Research output: Contribution in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2017 › Research › peer-review

Tracking and understanding AMR dynamics across European urban water systems
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2017 › Research › peer-review

A conceptual framework for invasion in microbial communities
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review

A conceptual framework for invasion in microbial communities
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2017 › Research › peer-review

A consilience model to describe N₂O production during biological N removal
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review

Assessing motility in environmental communities - a novel method
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2016 › Research › peer-review

Biodiversity positively associates with biofilm thickness in Moving Bed Biofilm Reactors (MBBRs) – implications on micropollutant removal and nitrification
Research output: Contribution in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2017 › Research › peer-review

Biofilm Thickness Influences Biodiversity in Nitrifying MBBRs-Implications on Micropollutant Removal
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review
Can we enhance the biotransformation of pharmaceutical micropollutants by controlling biofilm thickness in MBBR?
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2017 › Research › peer-review

Challenges in microbial ecology: Building predictive understanding of community function and dynamics
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review

De novo biofilm community assembly from tap water source communities favors Nitrotoga over Nitrospira under elevated nitrite surface loading
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2016 › Research › peer-review

Depth investigation of rapid sand filters for drinking water production reveals strong stratification in nitrification biokinetic behavior
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review

Does reactor staging influence microbial structure and functions in biofilm systems? The case of pre-denitrifying MBBRs
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2016 › Research › peer-review

Dynamics of N2O production pathways in a full-scale activated sludge system analysed by 15N/18O dual isotope labelling
Ma, C., Jensen, M. M., Smets, B. F., Lavik, G. & Thamdrup, B., 2016, Microbial ecology and water engineering & biofilms specialist groups (MEWE2016). Copenhagen, Denmark : IWA, p. 82-83
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2016 › Research › peer-review

Ecological patterns, diversity and core taxa of microbial communities in groundwater-fed rapid gravity filters
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review

Ecological patterns of nitrifiers in the urban water cycle
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2016 › Research › peer-review

Enhancing the removal of pharmaceuticals in biological wastewater treatment: Is MBBR the answer?
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2016 › Research › peer-review

Establishing drinking water biofilms with varying alpha-diversity?
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2016 › Research › peer-review
Evaluating robustness of a diesel-degrading bacterial consortium isolated from contaminated soil
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review

Harvesting microalgae using activated sludge can decrease polymer dosing and enhance methane production via co-digestion in a bacterial-microalgal process
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review

Identifying novel nitrifying bacteria in rapid gravity sand filters using stable isotope probing
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2016 › Research › peer-review

Identifying novel nitrifying bacteria in rapid gravity sand filters using stable isotope probing
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2016 › Research › peer-review

Investigating comammox Nitrospira in rapid sand filters via metagenomics and single-cell genomics
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2017 › Research › peer-review

Linking nitrifiers diversity to the flux of their key resources
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2017 › Research › peer-review

Low-sludge age EBPR process for resource recovery – microbial and biochemical process characterization
Research output: Contribution to conference › Poster – Annual report year: 2016 › Research › peer-review

Low-sludge age EBPR process for resource recovery – microbial and biochemical process characterization
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2017 › Research › peer-review

Measuring community-wide conjugative plasmid permissiveness
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2016 › Research › peer-review

Metagenomic analysis of rapid gravity sand filter microbial communities suggests novel physiology of Nitrospira spp
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review

Metagenomics and single-cell genomics reveal high abundance of comammox Nitrospira in a rapid gravity sand filter treating groundwater
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2016 › Research › peer-review
Microbes in biological processes for municipal landfill leachate treatment: Community, function and interaction
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review

Microbial and biochemical process characterization of a low-sludge age EBPR process for resource recovery
Research output: Contribution to conference › Poster – Annual report year: 2016 › Research › peer-review

Microbial biodiversity enhances micropollutants biotransformation in Moving Bed Biofilm Reactors (MBBR) with controlled biofilm thickness
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2016 › Research › peer-review

Optimizing nitrification in biological rapid sand filters for drinking water production
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2016 › Research › peer-review

Sammenhæng mellem aktivitet af metanoksiderende bakterier, opformeret fra sandfiltre på danske vandværker, og nedbrydningen af pesticidet bentazon
Research output: Non-textual form › Sound/Visual production (digital) – Annual report year: 2016 › Research

Short-sludge age EBPR process – Microbial and biochemical process characterisation during reactor start-up and operation
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review

Sources and propagation of uncertainty in N2O model predictions
Research output: Contribution to conference › Poster – Annual report year: 2016 › Research › peer-review

Stable isotope probing and dynamic loading experiments provide insight into the ecophysiology of novel ammonia oxidizers in rapid gravity sand filters
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2016 › Research › peer-review

Structural and functional robustness of an environmental bacterial community degrading diesel fuel
Research output: Contribution to journal › Conference abstract in journal – Annual report year: 2017 › Research › peer-review

Suppression of nitrite-oxidizing bacteria in intermittently aerated biofilm reactors: a model-based explanation
Ma, Y., Domingo Felez, C., Plósz, B. G. & Smets, B. F., 2016, Microbial ecology and water engineering & biofilms specialist groups (MEWE2016). Copenhagen, Denmark : IWA, p. 158-159
An improved method to set significance thresholds for β-diversity testing in microbial community comparisons: Setting significance threshold for β-diversity
Research output: Contribution to journal › Journal article – Annual report year: 2015 › Research › peer-review

A nitrate sensitive planar optode; performance and interferences
Research output: Contribution to journal › Journal article – Annual report year: 2015 › Research › peer-review

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

A novel high-throughput drip-flow system to grow autotrophic biofilms of contrasting diversities
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2015 › Research › peer-review

Challenges encountered calibrating N2O dynamics from mixed cultures
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2015 › Research › peer-review

EBP2R – An innovative enhanced biological nutrient recovery activated sludge system to produce growth medium for green microalgae cultivation
Research output: Contribution to journal › Journal article – Annual report year: 2015 › Research › peer-review

Evaluating Alternate Biokinetic Models for Trace Pollutant Cometabolism
Research output: Contribution to journal › Journal article – Annual report year: 2015 › Research › peer-review

Impact of operational conditions and reactor configuration on process performance and microbial community in short solid retention time EBPR systems
Research output: Contribution to conference › Poster – Annual report year: 2015 › Research › peer-review

Influence of biofilm thickness on micropollutants removal in nitrifying MBBRs
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2015 › Research › peer-review

Magnitude and determinants of plasmid transfer from exogenous donor strains to complex microbial communities
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2015 › Research › peer-review

Measuring biogeochemical heterogeneity at the micro scale in soils and sediments
Research output: Contribution to journal › Journal article – Annual report year: 2015 › Research › peer-review
Metagenomic analysis of microbial communities in rapid sand filter treating groundwater. Community diversity and metabolic potential
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2015 › Research › peer-review

Metal specific modulation of community permissiveness towards broad host range plasmids through stress
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2015 › Research › peer-review

Metal stress modulates the immediate plasmid uptake potential of soil microbes
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2015 › Research › peer-review

Modeling green microalgal growth, nutrient uptake and storage in the ASM framework
Research output: Non-textual form › Sound/Visual production (digital) – Annual report year: 2015 › Research

Phosphorus addition can increase nitrification in biological rapid sand filters for drinking water treatment
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2015 › Research › peer-review

Reducing Diffusion Limitation Shifts the Dominant Nitrate Reduction Metabolism from Incomplete Denitrification to Dissimilatory Nitrate Reduction to Ammonium
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2015 › Research › peer-review

Taxonomic and metagenomic profiling of rapid sand filter microbiome reveals a high Nitrospira incidence
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2015 › Research › peer-review

Wastewater resource recovery with green microalgae – modelling the microalgal growth, nutrient uptake and storage using ASM-A
Research output: Contribution to conference › Poster – Annual report year: 2015 › Research › peer-review
Aeration Strategies To Mitigate Nitrous Oxide Emissions from Single-Stage Nitritation/Anammox Reactors
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review

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

A model framework to describe growth-linked biodegradation of trace-level pesticides in the presence of coincidental carbon substrates and microbes
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review

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

An Innovative Activated Sludge System for Enhanced Nutrient Recovery via Downstream Cultivation of Green Microalgae
Research output: Contribution to conference › Poster – Annual report year: 2014 › Research › peer-review

Broad host range plasmids can invade an unexpectedly diverse fraction of a soil bacterial community
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review

Colony morphology and transcriptome profiling of Pseudomonas putida KT2440 and its mutants deficient in alginate or all EPS synthesis under controlled matric potentials
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review

Deep sequencing of soil transconjugal pools reveals unexpected phylogenetic diversity of bacteria receiving broad host range plasmids
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2014 › Research › peer-review

Diagnostics in biological rapid sand filters treating groundwater – governing factors for nitrification
Research output: Contribution to conference › Paper – Annual report year: 2014 › Research › peer-review

Does microbial cm-scale heterogeneity impact pesticide degradation in and leaching from loamy agricultural soils?
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review

Effects of dynamic operating conditions on nitrification in biological rapid sand filters for drinking water treatment
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review
Effects of Filamentous Bulking on Activated Sludge Rheology and Compression Settling Velocity
Research output: Contribution to conference › Paper – Annual report year: 2014 › Research › peer-review

Fine scale spatial variability of microbial pesticide degradation in soil: scales, controlling factors, and implications
Research output: Contribution to journal › Review – Annual report year: 2014 › Research › peer-review

Internal Porosity of Mineral Coating Supports Microbial Activity in Rapid Sand Filters for Groundwater Treatment
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review

Long-term manure exposure increases soil bacterial community potential for plasmid uptake
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review

Metal stress alters a bacterial community's permissiveness towards plasmid
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2014 › Research › peer-review

Metal stress alters a bacterial community's permissiveness towards plasmids
Research output: Contribution to conference › Poster – Annual report year: 2014 › Research › peer-review

Metal stress response influences a soil bacterial community's permissiveness towards a broad-host-range plasmid
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2014 › Research › peer-review

Methanotrophs assisted bentazone degradation
Research output: Contribution to conference › Poster – Annual report year: 2014 › Research › peer-review

Microbial diversity and identification of core taxa in rapid sand filters treating groundwaters
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2014 › Research › peer-review

Mineral coating creates internal porosity and supports microbial activity in rapid sand filters treating groundwaters
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2014 › Research › peer-review

Mineral coating supports microbial activity in rapid sand filters for drinking water production
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2014 › Research › peer-review

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

**Modelling N2O dynamics in the engineered N cycle: Evaluation of alternate model structures**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2014 › Research › peer-review

**Modelling the Impact of Filamentous Bacteria Abundance in a Secondary Settling Tank: CFD Sub-models Optimization Using Long - term Experimental Data**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2014 › Research › peer-review

**Nitrification in biological rapid sand filters treating drinking water: monitoring governing factors**
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review

**Novel assay to measure the plasmid mobilizing potential of mixed microbial communities**
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review

**Protocol for Evaluating the Permissiveness of Bacterial Communities Toward Conjugal Plasmids by Quantification and Isolation of Transconjugants**
Research output: Chapter in Book/Report/Conference proceeding › Book chapter – Annual report year: 2014 › Research › peer-review

**QPCR quantification of ammonia oxidizing bacteria: What should the target be?**
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2014 › Research › peer-review

**Seasonal and spatial variations in microbial activity at various phylogenetic resolutions at a groundwater – surface water interface**
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review

**Seasonal Arsenic Accumulation in Stream Sediments at a Groundwater Discharge Zone**
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review

**Sequentially aerated membrane biofilm reactors for autotrophic nitrogen removal: microbial community composition and dynamics**
Research output: Contribution to journal › Journal article – Annual report year: 2013 › Research › peer-review

**Structure, composition, and strength of nitrifying membrane-aerated biofilms**
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review
Control of a Biological Nitrogen Removal Process in an Intensified Single Reactor Configuration
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2013 › Research › peer-review

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

Critical assessment of extracellular polymeric substances extraction methods from mixed culture biomass
Research output: Contribution to journal › Journal article – Annual report year: 2013 › Research › peer-review

Crystal ball - 2013.
Research output: Contribution to journal › Journal article – Annual report year: 2013 › Research › peer-review

Development of an algal wastewater treatment concept, based on the selection of microalgal strains with optimal bioextraction characteristics
Research output: Contribution to conference › Poster – Annual report year: 2013 › Research › peer-review

Diversity of total and functional microbiome of anammox reactors fed with complex and synthetic nitrogen-rich wastewaters
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2013 › Research › peer-review

Driving towards stratified aggregation in single-stage nitritation/anammox reactors by varying aeration regimes
Research output: Contribution to conference › Poster – Annual report year: 2013 › Research › peer-review

Examining biological sand filters for drinking water treatment as biofilm reactors: experimental and modeling approach
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2013 › Research › peer-review

Impact of wormholes and cm-scale distribution of biodegradation potential on simulated pesticide leaching through loamy agricultural soil
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2014 › Research › peer-review

Innovative Two-stage Engineering Solutions for Resource Recovery via Downstream Cultivation of Green Microalgae
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2013 › Research › peer-review
Interactions between microbial activity and distribution and mineral coatings on sand grains from rapid sand filters treating groundwater
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2013 › Research › peer-review

Microalgae Biorefinery - Industrial Symbiosis
Research output: Contribution to conference › Poster – Annual report year: 2014 › Research › peer-review

Microbial activity catalyzes oxygen transfer in membrane-aerated nitrifying biofilm reactors
Research output: Contribution to journal › Journal article – Annual report year: 2013 › Research › peer-review

Microbial community structure and a core microbiome in biological rapid sand filters at Danish waterworks
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2013 › Research › peer-review

Model-based evaluation of the role of Anammox on nitric oxide and nitrous oxide productions in membrane aerated biofilm reactor
Research output: Contribution to journal › Journal article – Annual report year: 2013 › Research › peer-review

Modelling N2O dynamics in the engineered N cycle: Observations, assumptions, knowns, and unknowns
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2013 › Research › peer-review

Neutrophilic iron-oxidizing bacteria: occurrence and relevance in biological drinking water treatment
Research output: Contribution to journal › Journal article – Annual report year: 2013 › Research › peer-review

Nitrification activity stratifies in a rapid sand filter for drinking water treatment - A study in two Danish waterworks
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2013 › Research › peer-review

Nitrous Oxide and Nitric Oxide Emissions From Single-Stage Nitritation/Anammox Reactors Under Varying Aeration Regimes
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2014 › Research › peer-review

N2O production dynamics in nitrifying/denitrifying activated sludge under defined environmental conditions
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2013 › Research › peer-review
Performance of an autotrophic nitrogen removing reactor: Diagnosis through fuzzy logic
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2013 › Research › peer-review

Phosphate limitation in biological rapid sand filters used to remove ammonium from drinking water
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2013 › Research › peer-review

Relating dynamic conditions to the performance of biological rapid sand filters used to remove ammonium, iron, and manganese from drinking water
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2013 › Research › peer-review

Reply to Comment on "Modeling Nitrous Oxide Production during Biological Nitrogen Removal via Nitrification and Denitrification: Extensions to the General ASM Models"
Research output: Contribution to journal › Comment/debate – Annual report year: 2013 › Research › peer-review

Stratification of nitrification activity in rapid sand filters for drinking water treatment
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2013 › Research › peer-review

An operation protocol for facilitating start-up of single-stage autotrophic nitrogen removing reactors based on process stoichiometry
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2012 › Research › peer-review

An operation protocol for facilitating start-up of single-stage autotrophic nitrogen removing reactors based on process stoichiometry
Research output: Non-textual form › Sound/Visual production (digital) – Annual report year: 2012 › Research

Architecture evolution of biomass aggregates in single stage nitritation/anammox reactors
Research output: Contribution to conference › Poster – Annual report year: 2012 › Research › peer-review

Biological Removal of Manganese and Iron in Rapid Sand Filters
Research output: Contribution to conference › Paper – Annual report year: 2012 › Research › peer-review

Calibration and validation of a model describing complete autotrophic nitrogen removal in granular sludge
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2012 › Research › peer-review
Calibration and validation of model describing complete autotrophic nitrogen removal in granular sludge
Research output: Non-textual form › Sound/Visual production (digital) – Annual report year: 2012 › Research

Effect of surface loading fluctuations in rapid sand-filters used to remove ammonium from drinking water
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2012 › Research › peer-review

Effect of surface loading fluctuations on ammonium removal during rapid sand filtration
Research output: Contribution to conference › Poster – Annual report year: 2012 › Research › peer-review

Effect of the kinetics of ammonium and nitrite oxidation on nitritation success or failure for different biofilm reactor geometries
Research output: Contribution to journal › Journal article – Annual report year: 2012 › Research › peer-review

Efficient Total Nitrogen Removal in an Ammonia Gas Biofilter through High-Rate OLAND
Research output: Contribution to journal › Journal article – Annual report year: 2012 › Research › peer-review

Energibesparende biologisk proces til kvælstoffjernelse i spildevand
Research output: Contribution to journal › Journal article – Annual report year: 2012 › Research › peer-review

Evaluation on the microbial interactions of anaerobic ammonium oxidizers and heterotrophs in Anammox biofilm
Research output: Contribution to journal › Journal article – Annual report year: 2012 › Research › peer-review

Increased Insight in microbial processes in rapid sandfilters in drinking water treatment (DW BIOFILTERS)
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2012 › Research › peer-review

In-situ microbial activity in membrane-aerated biofilms for autotrophic nitrogen conversion
Research output: Contribution to conference › Poster – Annual report year: 2012 › Research › peer-review

Isolation of 2-methyl-4-chlorophenoxyacetic acid degrading bacteria from groundwater sediments using a novel low substrate flux approach
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2012 › Research › peer-review

Microbial Abundance, Distribution and Diversity In Rapid Sand Filters
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2012 › Research › peer-review

Micro-scale spatial expansion of microbial cells and mobile genetic elements.
Modeling the Performance of Biological Rapid Sand Filters Used to Remove Ammonium, Iron, and Manganese From Drinking Water
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2012 › Research › peer-review

Neutrophilic iron oxidizers adapted to highly oxic environments
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2012 › Research › peer-review

Neutrophilic Iron Oxidizing Bacteria: Occurrence and Relevance in Biological Drinking Water Treatment
Research output: Contribution to conference › Paper – Annual report year: 2012 › Research › peer-review

Permissiveness of soil microbial communities toward receipt of mobile genetic elements
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2012 › Research › peer-review

Pseudomonad Swarming Motility Is Restricted to a Narrow Range of High Matric Water Potentials
Research output: Contribution to journal › Journal article – Annual report year: 2012 › Research › peer-review

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

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

Redox stratified biofilms to support completely autotrophic nitrogen removal: Principles and results
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2012 › Research › peer-review

Relating dynamic conditions to the performance of biological rapid sand filters used to remove ammonium, iron, and manganese from drinking water
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2012 › Research › peer-review

Sensitivity analysis of autotrophic N removal by a granule based bioreactor: Influence of mass transfer versus microbial kinetics
Research output: Contribution to journal › Journal article – Annual report year: 2012 › Research › peer-review
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<thead>
<tr>
<th>Title</th>
<th>Authors</th>
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<th>Journal/Publication Details</th>
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<tr>
<td>The Role of Microbial Heterogeneity in Pesticide Degradation in Agricultural Soils</td>
<td>Rosenbom, A. E., Johnsen, A. R., Aamand, J., Dechesne, A., Smets, B. F., Badawi, N. &amp; Binning, P. J.</td>
<td>2012</td>
<td>Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2012 › Research › peer-review</td>
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Aggregate Size and Architecture Determine Microbial Activity Balance for One-Stage Partial Nitritation and Anammox

A New Extant Respirometric Assay to Estimate Intrinsic Growth Parameters Applied to Study Plasmid Metabolic Burden

Biodegradation in a Partially Saturated Sand Matrix: Compounding Effects of Water Content, Bacterial Spatial Distribution, and Motility

Ecophysiology and diversity of chloroflexi in an anammox biofilm grown in an anaerobic fixed-bed upflow reactor

Effective Biological Nitrogen Removal Treatment Processes for Domestic Wastewaters with Low C/N Ratios: A Review

Evaluation of Bioaugmentation with Entrapped Degrading Cells as a Soil Remediation Technology

Flagellar motility and differential gene expression of Pseudomonas putida KT2440 under partially hydrated conditions: a study with the novel Pressurized Porous Surface Model (PPSM)

Flagellar Motility and Gene Expression in Unsaturated Zones

Gene expression dynamics of pseudomonas putida KT2440 biofilms under water deprivation

High-rate autotrophic nitrogen removal with novel biofilm reactor technology
Shifts between Nitrospira- and Nitrobacter-like nitrite oxidizers underlie the response of soil potential nitrite oxidation to changes in tillage practices
Research output: Contribution to journal › Journal article – Annual report year: 2010 › Research › peer-review

Surface roughness and limited hydration constrain motility-driven surface colonization by pseudomonads
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2010 › Research › peer-review

The Pressurized Porous Surface Model: An improved tool to study bacterial behavior under a wide range of environmentally relevant matric potentials
Research output: Contribution to journal › Journal article – Annual report year: 2010 › Research › peer-review

TOL plasmid carriage enhances biofilm formation and increases extracellular DNA content in Pseudomonas Putida KT2440
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2010 › Research › peer-review

Towards successful bioaugmentation with entrapped cells as a soil remediation technology: Effects of the water content and cell dispersal.
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2010 › Research › peer-review

Abundance and diversity of microbial communities in long-term aerated anammox biofilm reactors initiated with different inocula
An Individual-based model to describe horizontal gene transfer in biofilms
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2009 › Research › peer-review

Enhancing the formation and shear resistance of nitrifying biofilms on membranes by surface modification
Research output: Contribution to journal › Journal article – Annual report year: 2009 › Research › peer-review

Individual- and population-scale swimming motility on unsaturated surfaces: Experimental quantification and biophysical modeling
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2009 › Research › peer-review

Initial population of ammonia- and nitrite-oxidizing bacteria compromises successful nitrification in a counter-diffusion biofilm geometry
Research output: Contribution to conference › Poster – Annual report year: 2009 › Research › peer-review

Mass Action Models Describing Extant Horizontal Transfer of Plasmids: Inferences and Parameter Sensitivities
Research output: Chapter in Book/Report/Conference proceeding › Book chapter – Annual report year: 2009 › Research › peer-review

Microbial community analysis in an autotrophic hollow-fiber membrane-aerated biofilm reactor (HFMBR) treating a high-strength nitrogen wastewater
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2009 › Research › peer-review

Modelling of consortial linuron mineralization in unsaturated porous media
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2009 › Research

Nitritation performance and biofilm development of co- and counter-diffusion biofilm reactors: Modeling and experimental comparison
Research output: Contribution to journal › Journal article – Annual report year: 2009 › Research › peer-review

Nitrogen Removal from Digested Black Water by One-stage Partial Nitritation and Anammox
Research output: Contribution to journal › Journal article – Annual report year: 2009 › Research › peer-review
Oxygen Transfer Model for a Flow-Through Hollow-Fiber Membrane Biofilm Reactor
Research output: Contribution to journal › Journal article – Annual report year: 2009 › Research › peer-review

Plasmid invasion and plasmid persistence in pseudomonas putida biofilm
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2009 › Research › peer-review

Start-up strategies of membrane-aerated biofilm reactor (MABR) for completely autotrophic nitrogen removal
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2009 › Research › peer-review

The effect of hydroxylamine on the activity and aggregate structure of autotrophic nitrifying bioreactor cultures
Research output: Contribution to journal › Journal article – Annual report year: 2009 › Research › peer-review

TOL PWW0 transfer dynamics in Pseudomonas putida KT2440
Research output: Contribution to conference › Poster – Annual report year: 2009 › Research › peer-review

A critical comparison of extant batch respirometric and substrate depletion assays for estimation of nitrification biokinetics
Research output: Contribution to journal › Journal article – Annual report year: 2008 › Research › peer-review

Ammonium removal performance and spatial distribution of nitrifying bacterial populations in autotrophic co- and counter-diffusion biofilms under oxygen limited conditions
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2008 › Research › peer-review

Analysis of an individual-based model describing plasmid transfer in biofilms
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2008 › Research › peer-review

An improved cell recovery method for iron oxidizing bacterial (IOB) enrichments
Research output: Contribution to journal › Journal article – Annual report year: 2008 › Research › peer-review

Antecedent growth conditions alter retention of environmental Escherichia coli isolates in transiently wetted porous media
Research output: Contribution to journal › Journal article – Annual report year: 2008 › Research › peer-review

Assessing the permissivity of soil microbial communities towards receipt of exogenous mobile elements
Biokinetic characterization of the acceleration phase in autotrophic ammonia oxidation

Do different initial microbial communities converge in identically operated anammox biofilm reactors?

Dynamics of spatial distribution and microbial activity of nitrifying populations in redox-stratified biofilms: Modeling and experimental investigations

Ecological role of flagellar motility under unsaturated conditions

Ecological value of swimming motility on variably-saturated surfaces

Effect of membrane surface functionalization on formation and shear resistance of nitrifying biofilms

Effects of heat-activated persulfate oxidation on soil microorganisms

Heterotrophic activity compromises autotrophic nitrogen removal in membrane-aerated biofilms: Results of a modeling study

Impact of plasmid harboring on biofilm formation and invasion
In situ chemical oxidation as the first part of a sequential remediation for groundwater contamination
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2008 › Research

Limited diffusive fluxes of substrate facilitate coexistence of two competing bacterial strains
Research output: Contribution to journal › Journal article – Annual report year: 2008 › Research › peer-review

Microbial population dynamics in redox-stratified biofilms during start-up of autotrophic nitrogen removal reactors
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2008 › Research

Parameter estimation procedures for an individual-based model describing horizontal gene transfer in biofilms
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2008 › Research › peer-review

Redox stratification controlled biofilm reactors for completely autotrophic nitrogen removal
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2008 › Research › peer-review

Redox Stratified Controlled Biofilm Reactor for Completely Autotrophic Nitrogen Removal
Research output: Contribution to conference › Poster – Annual report year: 2008 › Research › peer-review

Start-up strategies for stable autotrophic nitrogen removal in redox-stratification controlled biofilm reactor (ReSCoBiR)
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2008 › Research › peer-review

The porous surface model, a novel experimental system for online quantitative observation of microbial processes under unsaturated conditions
Research output: Contribution to journal › Journal article – Annual report year: 2008 › Research › peer-review

The potential for bioremediation after in situ chemical oxidation for the remediation of contaminated soil and groundwater
Research output: Chapter in Book/Report/Conference proceeding › Conference abstract in proceedings – Annual report year: 2008 › Research

Horizontal gene transfer in pseudomonas putida biofilms
Research output: Contribution to conference › Poster – Annual report year: 2007 › Research

Idynomics: A software platform for modeling microbial communities
Physical constraints affecting bacterial habitats and activity in unsaturated porous media – a review

Proteinaceous surface appendage contribution to Pseudomonas aeruginosa PAO1 surface properties and adhesive ability: Abstract 00193

Redox-stratification controlled biofilm (ReSCoBi) for completely autotrophic nitrogen removal: The effect of co-versus-diffusion on reactor performance

TNT biotransformation: When chemistry confronts mineralization

Cultivation-dependent and independent examination of conjugative plasmid transfer kinetics

Flow cytometric determination of biomass fractions in activated sludge: nitrification case study

Intestinal versus external growth conditions change the surficial properties in a collection of environmental Escherichia coli isolates

Mathematial modeling of start-up scenarios for nitrogen removal via a nitritation: anaerobic ammonium oxidation-coupled biofilm in a hollow fiber membrane bioreactor

Observation and mathematical description of the acceleration phenomenon in batch respirograms associated with ammonium oxidation

Oxidation of aminonitrotoluenes by 2,4-DNT dioxygenase of Burkholderia sp. strain DNT
Redox-stratification controlled biofilm for completely autotrophic nitrogen removal: Modeling the effect of substrate co-versus counter-diffusion on performance
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2006 › Research › peer-review

Sampling Methods to Determine the Spatial Gradients and Flux of Arsenic at a Groundwater Seepage Zone
Research output: Contribution to journal › Journal article – Annual report year: 2006 › Research › peer-review

Slow substrate diffusion attenuates bacterial competition and allows bacterial coexistence
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2006 › Research › peer-review

Antecedent growth conditions cause large changes in adhesion and transport in periodically wetted porous media within a collection of environmental Escherichia coli isolates
Research output: Contribution to journal › Journal article – Annual report year: 2005 › Research

Attenuation of As transport by iron oxides at the groundwater surface water interface and possible microbial contribution
Research output: Contribution to journal › Journal article – Annual report year: 2005 › Research

Biomass characteristics in three sequencing batch reactors treating a wastewater containing synthetic organic chemicals
Research output: Contribution to journal › Journal article – Annual report year: 2005 › Research

Conjugal TOL transfer from Pseudomonas putida to Pseudomonas aeruginosa: Effects of restriction proficiency, toxicant exposure, cell density ratios, and conjugation detection method on observed transfer efficiencies
Research output: Contribution to journal › Journal article – Annual report year: 2005 › Research › peer-review

Effect of long-term exposure, biogenic substrate presence, and electron acceptor conditions on the biodegradation of multiple substituted benzoates and phenolates
Research output: Contribution to journal › Journal article – Annual report year: 2005 › Research › peer-review

Horizontal gene flow in microbial communities: The dynamic microbial gene pool compensates for microbial species clonality, presenting us with both threats and promises
Research output: Contribution to journal › Journal article – Annual report year: 2005 › Research › peer-review

Horizontal gene transfer: Perspectives at a crossroads of scientific disciplines
Research output: Contribution to journal › Journal article – Annual report year: 2005 › Research › peer-review

Macro- and nanoscale observations of adhesive behavior for several E. coli strains (O157:H7 and environmental isolates) on mineral surfaces
Research output: Contribution to journal › Journal article – Annual report year: 2005 › Research › peer-review
Projects:

Ecology of antibiotic resistance genes and mobile genetic elements in microbial communities of the urban water system
Parchen, C., Smets, B. F. & Dechesne, A.
Samfinansieret - Andet
01/12/2017 → 31/12/2020
Project: PhD

Ecology of intibiotic resistance genes and mobile genetic elements in microbial communities of the urban water system
Parchen, C., Smets, B. F. & Dechesne, A.
Samfinansieret - Andet
01/12/2017 → 30/11/2020
Project: PhD

Realizing autotrophic nitrogen removal in membrane-aerated biofilms
Ma, Y., Smets, B. F., Plosz, B. G., Andersen, H. R., Nerenberg, R. & Lackner, S.
Stipendie fra udlandet
01/10/2014 → 14/03/2018
Project: PhD

Undersøgelse af Pseudomonas Biofilmddannelse
Allesen-Holm, M., Tolker-Nielsen, T., Smets, B. F., Christensen, B. B. & Neu, T. R.
DTU-lønnet stipendie
15/04/2002 → 22/12/2005
Mechanisms and regulation of nitrous oxide (N2O) production during biological wastewater treatment
Stipendie fra udlandet
01/10/2015 → 15/01/2019
Project: PhD

Engineering microbial communities in granular autotrophic nitrogen removal systems by steering metabolic networks
Blum, J., Smets, B. F., Jensen, M. M., Thamdrup, B., Andersen, H. R., Vlaeminck, S. E. & Wilén, B.
01/03/2015 → 15/08/2018
Project: PhD

Contrasting the Water Innovation Systems in Europe and China
Moro, M. A., Smets, B. F., Andersen, M. M., McKnight, U. S., Yang, M., Mikkelsen, P. S., Gerstlberger, W. & Walz, R.
Samfinansieret - Andet
01/12/2014 → 20/06/2018
Project: PhD

Biofilm architecture vs composition attenuates pathogen invasion
Kinnunen, M., Smets, B. F., Albrechtsen, H., Dechesne, A., Trapp, S., Burmelle, M. & Curtis, T. P.
Marie Curie (EU-stipendium)
01/06/2014 → 05/12/2017
Project: PhD

Effect of niche dimensionality on nitrifier community diversity
15/01/2014 → 14/01/2017
Project: PhD

Functionality Increase in MBBRs due to metabolic expansion vs community expansion
Torresi, E., Smets, B. F., Andersen, H. R., Plósz, B. G., Rolle, M., Patureau, D., Wilén, B. & Christensson, M.
Stipendie fra udlandet
15/01/2014 → 26/04/2017
Project: PhD

The structure and functional role of microbial communities in rapid sand filters
Palomo, A., Sicheritz-Pontén, T., Rasmussen, S., Smets, B. F., Petersen, T. N., Daims, H. & Thamdrup, B.
Marie Curie (EU-stipendium)
01/01/2014 → 30/09/2017
Project: PhD

The Microbial Gene Pool and Gene Transfer in Agricultural Soils: Effects on Pesticide Biodegradation
Musovic, S., Smets, B. F., Albrechtsen, H., Simonet, P., Smalla, K. & Sørensen, J.
Offentlig finansiering
01/01/2007 → 21/04/2010
Project: PhD

Thermodynamics of Transient and Steady-State Sub-Oxic Redox Processes Relevant to Groundwater Contamination
Heimann, A. C., Jakobsen, R., Blodau, C., Smets, B. F., Sanford, R. A. & Thamdrup, B.
Forskningsrådsfinansiering
01/02/2004 → 18/06/2007
Project: PhD

The Connection between Residence Time and Water Quality in Water Distribution Networks - Effects of Small animals
1/3 DTU-stip, 2/3 FUR/andet
Towards Rational Design of Redox-Stratified Biofilms: A Novel Approach for Developing Robust Biotechnologies for Nutrient Removal from Wastewaters
Lackner, S., Smets, B. F., Henze, M., Arvin, E., Casey, E. & Nogueira, R.
DTU-lønnet stipendie
01/10/2005 → 01/07/2009
Project: PhD

Treatment Trains for the Remediation of Aquifers Polluted MTBE and other Xenobiotic Compounds
DTU-lønnet stipendie
01/02/2005 → 01/09/2008
Project: PhD

Resistance to gene flow in soil microbial communities
Technical University of Denmark
15/12/2011 → 02/09/2015
Project: PhD

P2M2: Physical and physiological properties of membrane-aerated and membrane-supported biofilms
Pellicer i Nàcher, C., Smets, B. F., Plósz, B. G., Galceran, J. C. & Halkjær Nielsen, P.
Eksternt finansieret virksomhed
01/10/2009 → 24/04/2013
Project: PhD

Biological Removal of MTBE in Anaerobic Reactors
DTU-lønnet stipendie
01/10/2003 → 21/12/2007
Project: PhD

Wastewater resource recovery using green micro-algae
Wágner, D. S., Plósz, B. G., Smets, B. F., Hartmann, N. B., Ellegaard, M. & Steyer, J.
Samfinansieret - Andet
01/09/2013 → 08/02/2017
Project: PhD

Validation of Structures Model for Autotrophic Nitrogen Removal in High Strength Wastewater
1/3 FUU, 1/3 inst 1/3 Andet
01/09/2010 → 12/11/2013
Project: PhD

Validation and Identification Methods for Individual-based Models in Microbial Ecology
DTU, Samfinansiering
01/09/2007 → 02/03/2011
Project: PhD

Establishment and calibration of consensus process models of N2O dynamics
Domingo-Fepez, C., Smets, B. F., Plósz, B. G., Sin, G., Gernaey, K. V., Plaza, E. & Sperandio, M.
Samfinansieret - Andet
15/12/2013 → 30/08/2017
Project: PhD
Molecular and Microbial Analysis of Nitritation/Anammox Aggregates towards Optimization of Autotrophic Nitrogen Removal in Membrane Bioreactors
Mutlu, A. G., Smets, B. F., Sin, G., Plósz, B. G., Joss, A. & Wilén, B.
Technical University of Denmark
01/01/2011 → 27/05/2015
Project: PhD

Microbial Ecological Investigation of Rapid Sand Filtration
Technical University of Denmark
01/01/2011 → 05/11/2014
Project: PhD

Model-based analysis and optimazation of biological rapid sand filters at pilot and full scale
Technical University of Denmark
01/01/2011 → 05/11/2014
Project: PhD

Nitrification in rapid sand filters-process understanding and removal of organic micropollutants
Tatari, K., Albrechtsen, H., Nielsen, P. B., Smets, B. F., Andersen, H. R., Pettersson, T. & Uhl, W.
Technical University of Denmark
01/09/2010 → 02/04/2014
Project: PhD

Role of Water Connectivity On Bacterial Growth & Pollutant Removal In Unsaturated Conditions
Gülez, G., Smets, B. F., Dechesne, A., Jakobsen, R., Nunan, N. & Tolker-Nielsen, T.
1/3 DTU-stip, 2/3 FUR/andet
01/07/2008 → 30/11/2011
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

The role of micro-niches and chemical gradients for the degradation of contaminants in groundwater
Pedersen, L., Smets, B. F., Dechesne, A., Jakobsen, R., Binning, P. J., Brandt, K. K. & Tebbe, C.
Technical University of Denmark
01/12/2011 → 02/09/2015
Project: PhD

CREAM2: CenteR for Environmental and Agricultural Microbiology
Smets, B. F. & Dechesne, A.
Ukendt
01/06/2011 → 31/05/2014
Project: Research

SET 5 PhD: Sustainable Environmental Technology. Application for 5 fellowships
Ukendt
01/10/2009 → 30/09/2013
Project: Research
ProSoil: Model-driven process research in soil systems – minerals, organic matter, water, fluxes and biota
Smets, B. F. & Dechesne, A.
Ukendt
01/09/2010 → 01/09/2013
Project: Research

NEWTT: NEEWTT - Network for Energy Efficient Wastewater Treatment Technologies
Ledin, A., Smets, B. F. & Andersen, H. R.
Ukendt
01/07/2010 → 01/07/2014
Project: Research

BIOTREAT: BIOTREATMENT OF DRINKING WATER POLLUTED BY PESTICIDES AND OTHER MICROPOLLUTANTS
Smets, B. F.
Ukendt
01/09/2010 → 31/08/2013
Project: Research

BIOMBR: Design of microbial communities in membrane bioreactors: The next generation of environmental biotechnologies
Smets, B. F.
Ukendt
01/01/2010 → 31/12/2015
Project: Research

946: Flow cytometer and UV-laser for Confocal Laser Scanning Microscope
Albrechtsen, H., Henze, M., Jakobsen, R., Angelidaki, I., Smets, B. F. & Dechesne, A.
Ukendt
02/03/2009 → 31/12/2009
Project: Research

DW BIOFILTERS: Sustainable drinking water treatment biological filters
Arvin, E., Albrechtsen, H. & Smets, B. F.
Ukendt
01/01/2010 → 31/12/2013
Project: Research

MIPAS: How microniches control the diversity of microbe-mediated redox processes in aquatic systems
Jakobsen, R., Smets, B. F. & Dechesne, A.
Ukendt
07/08/2009 → 31/12/2013
Project: Research

Micro2Man: Micro2-Managed Biofilms: Towards a New Generation of Robust Environmental Bio/Technologies
Smets, B. F.
Ukendt
01/09/2009 → 31/08/2012
Project: Research

892: Research Collaboration within wastewater treatment - phase 1. CONFIDENTIAL!!
Smets, B. F.
Ukendt
12/09/2008 → 01/05/2009
Project: Research

MiMeRePaSym: Microbially mediated redox processes in aquatic systems with micro-niches
Jakobsen, R. & Smets, B. F.
Ukendt
MiReSoWa: Microbial Remediation of Contaminated Soil and Water Resources
Albrechtsen, H., Smets, B. F. & Dechesne, A.
Ukendt
01/01/2009 → 31/12/2013
Project: Research

761: Optimization of Microbial Fuel Cells via Directed Bio-Electricigenesis
Angelidaki, I. & Smets, B. F.
Ukendt
01/09/2007 → 31/08/2009
Project: Research

SWI: Storm- and Wastewater Informatics
Albrechtsen, H., Henze, M., Mikkelsen, P. S., Mikkelsen, P. S. & Smets, B. F.
Ukendt
01/01/2008 → 31/12/2012
Project: Research

RISKPOINT: RISKPOINT-Assessing the risks posed by point source contamination to groundwater and surface water resources
Bjerg, P. L., Binning, P. J., Binning, P. J., Smets, B. F. & Bauer-Gottwein, P.
Ukendt
01/01/2008 → 01/01/2012
Project: Research

718: Centre for biotechnological wastewater research
Arvin, E., Schmidt, J. E., Henze, M. & Smets, B. F.
Ukendt
01/06/2007 → 31/05/2011
Project: Research

729: The Biofilm Matrix – A Target for Control of Biofilm Formation
Smets, B. F.
Ukendt
01/07/2007 → 30/06/2010
Project: Research

CREAM: CenteR for Environmental and Agricultural Microbiology.
Smets, B. F. & Dechesne, A.
Ukendt
01/06/2006 → 31/05/2011
Project: Research

MERTRAN: MERTRAN. Importance of mobile genetic elements and conjugal gene transfer for subsurface microbial community adaptation to biotransformation of metals.
Smets, B. F.
Sam.arb.aftaler - Udenlandske offentlige og private
14/01/2005 → 14/01/2007
Project: Research

Smets, B. F. & Musovic, S.
Ukendt
01/03/2006 → 31/08/2007
Project: Research
ReSCObiR: Redox Stratification Controlled Biofilm Reactor: A novel bioreactor concept for environmental and biochemical engineering applications.
Smets, B. F. & Terada, A.
Forskningsrådene - STVF
01/08/2006 → 31/07/2009

Smets, B. F., Smets, B. F., Lardon, L. & Bazire, A.
Ukendt
01/01/2006 → 31/12/2009

Activities:

Tracking and understanding AMR dynamics across European urban water systems
Barth F. Smets (Guest lecturer), Arnaud Dechesne (Other), Liguan Li (Other), Jonas Stenløkke Madsen (Other), Joseph Nesme (Other), Søren J. Sørensen (Other), Marcos Quintela-Baluja (Other), David Graham (Other)
30 Nov 2017 → 3 Dec 2017
Activity: Talks and presentations › Conference presentations

DNA and RNA SIP reveal ammonium and nitrite oxidizers in groundwater fed biofilters
Arda Gülay (Speaker), Barth F. Smets (Other), Jane Fowler (Other), Hans-Jørgen Albrechtsen (Other), Karolina Tatari (Other)
13 Nov 2017 → 15 Nov 2017
Activity: Talks and presentations › Conference presentations

DNA and RNA SIP reveal nitrifiers in groundwater fed biofilters
Arda Gülay (Other), Jane Fowler (Other), Barth F. Smets (Other), Hans-Jørgen Albrechtsen (Other)
13 Nov 2017
Activity: Talks and presentations › Conference presentations

Permissiveness of Microbial Community from Wastewater Treatment Plant towards IncP-1 Plasmid
Liguan Li (Other), Arnaud Dechesne (Other), Barth F. Smets (Other), Jonas Stenløkke Madsen (Other), Søren J. Sørensen (Other)
13 Nov 2017
Activity: Talks and presentations › Conference presentations

The microbiome of potable water producing biofilters: taxonomic insights and anomalies, metabolic potentials, biotechnological opportunities?
Barth F. Smets (Keynote speaker)
7 Sep 2017 → 8 Sep 2017
Activity: Talks and presentations › Conference presentations

Plasmid Host Range (Permissiveness) in Microbial Communities across Urban Water Systems
Barth F. Smets (Invited speaker), Arnaud Dechesne (Other), Liguan Li (Other), Søren Sørensen (Other), Jonas S. Madsen (Other)
13 Aug 2017 → 17 Aug 2017
Activity: Talks and presentations › Conference presentations

N2O dynamics of N-transforming microbial communities: from mechanistic insights to full-scale process control
Barth F. Smets (Invited speaker)
23 Jul 2017 → 27 Jul 2017
Activity: Talks and presentations › Conference presentations
Diversity, structure, and novel physiologies in microbial communities in rapid sand filters
Barth F. Smets (Invited speaker), Arda Gülay (Other), Alejandro Palomo (Other), Jane Fowler (Other), Thomas Sicheritz-Pontén (Other)
9 Jul 2017 → 13 Jul 2017
Activity: Talks and presentations › Conference presentations

Differential adhesion and the spatial positioning effect on early stage microbial aggregation
Bastiaan Cockx (Other), Jan-Ulrich Kreft (Other), Barth F. Smets (Other)
9 May 2017 → 12 May 2017
Activity: Talks and presentations › Conference presentations

Feasibility-test of a complete autotrophic nitrogen removal process treating the effluent of an industrial anaerobic digester
Hannah Feldman (Other), Xavier Flores Alsina (Other), Kasper Kjellberg (Other), Jan-Michael Blum (Other), Borja Valverde Pérez (Other), Gürkan Sin (Other), Barth F. Smets (Other), Krist V. Gernaey (Other)
9 May 2017 → 12 May 2017
Activity: Talks and presentations › Conference presentations

EU-US Environmental Biotechnology Working Group Workshop
Barth F. Smets (Invited speaker)
6 Nov 2012
Activity: Talks and presentations › Conference presentations

Nordic Environmental Nucleotide Network 2011 (NENUN)
Barth F. Smets (Participant)
7 Sep 2011 → 10 Sep 2011
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.