Barth F. Smets - Publications - DTU Orbit (13/09/2018)

Application of the NDHA model to describe N2O dynamics in activated sludge mixed culture biomass
Domingo-Felez, C. & Smets, B. F. 2018
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2018

Comammox Nitrospira are abundant ammonia oxidizers in diverse groundwater-fed rapid sand filter communities
Publication: Research - peer-review › Journal article – Annual report year: 2018

Comparative genomics sheds light on niche differentiation and the evolutionary history of comammox Nitrospira
Publication: Research - peer-review › Journal article – Annual report year: 2018

Corrigendum to “Decay Experiments of Effective N-Removing Microbial Communities in Sequencing Batch Reactors”
Lv, C., Ming, L., Zhong, S., Wang, J., Lei, W., Mutlu, A. G. & Smets, B. F. 2018 In : Journal of Chemistry. 2018
Publication: Research - peer-review › Comment/debate – Annual report year: 2018

Diagnostics, Monitoring and Mitigation of N2O Emissions from Wastewater Treatment Operations – Outcomes of the LAGAS project
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2018

Does universal 16S rRNA gene amplicon sequencing of environmental communities provide an accurate description of nitrifying guilds?
Publication: Research - peer-review › Journal article – Annual report year: 2018

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

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

Metagenomic analysis to elucidate the metabolic potential of microbial communities in Danish waterworks
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2018

Model-based optimization biofilm based systems performing autotrophic nitrogen removal using the comprehensive NDHA model
Valverde Pérez, B., Ma, Y., Morset, M., Domingo-Felez, C., Mauricio-Iglesias, M. & Smets, B. F. 2018
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2018

Monitoring and modeling of nitrogen conversions in membrane-aerated biofilm reactors: Effects of intermittent aeration
Publication: Research › Ph.D. thesis – Annual report year: 2018
Nitrous oxide production in intermittently aerated Partial Nitritation-Anammox reactor: oxic N₂O production dominates and relates with ammonia removal rate
Publication: Research - peer-review › Journal article – Annual report year: 2018

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

Reactor staging influences microbial community composition and diversity of denitrifying MBBRs- Implications on pharmaceutical removal
Publication: 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?
Publication: 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
Publication: Research - peer-review › Review – Annual report year: 2018

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

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

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

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

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

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

Calibration of the NDHA N₂O model via respirometric assays
Domingo-Felez, C., Calderó-Pascual, M., Sin, G., Plósz, B. G. & Smets, B. F. 2017
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2017

Challenges in using allylthiourea and chlorate as specific nitrification inhibitors
Publication: Research: Research - peer-review › Conference abstract for conference – Annual report year: 2017

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

Comammox Nitrospira are key nitrifiers in diverse groundwater-fed drinking water filters
Fowler, J., Palomo, A. & Smets, B. F. 2017
Publication: Research: Research - peer-review › Conference abstract for conference – Annual report year: 2017

Copper dosing enhances nitrification in biofilters treating groundwater
Publication: Research: Research - peer-review › Conference abstract for conference – Annual report year: 2017

Counter-diffusion biofilms have lower N₂O emissions than co-diffusion biofilms during simultaneous nitrification and denitrification: Insights from depth-profile analysis
Publication: Research: Research - peer-review › Journal article – Annual report year: 2017

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

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

Discovery and description of complete ammonium oxidizers in groundwater-fed rapid sand filters
Publication: Research: Research - Ph.D. thesis – Annual report year: 2017

Diversity, structure, and novel physiologies in microbial communities in rapid sand filters
Publication: Research: Research - peer-review › Conference abstract for conference – Annual report year: 2017
Dramatic loss of comammox Nitrospira associated with long-term nitrite feeding
Kinnunen, M., Palomo, A., Dechesne, A. & Smets, B. F. 2017
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2017

Dynamics of $N_2O$ production pathways analyzed by $^{15}N^{18}O$ isotope labeling
Jensen, M. M., Ma, C., Lavik, G., Smets, B. F. & Thamdrup, B. 2017
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2017

Establishment and calibration of consensus process model for nitrous oxide dynamics in water quality engineering
Domingo-Felez, C., Smets, B. F., Plósz, B. G. & Sin, G. 2017
Lyngby: Department of Environmental Engineering, Technical University of Denmark (DTU). 72 p.
Publication: Research › Ph.D. thesis – Annual report year: 2017

From biofilm ecology to reactors: a focused review
In : Water Science and Technology. 75, 8, p. 1753-1760 8 p.
Publication: Research - peer-review › Journal article – Annual report year: 2017

Heterotrophs are key contributors to nitrous oxide production in mixed liquor under low C-to-N ratios during nitrification - batch experiments and modelling
Domingo Felez, C., Pellicer i Nàcher, C., Petersen, M. S., Jensen, M. M., Plósz, B. G. & Smets, B. F. 2017
In : Biotechnology and Bioengineering. 114, 1, p. 132-140 9 p.
Publication: Research - peer-review › Journal article – Annual report year: 2017

Intermittent Aeration Suppresses Nitrite-Oxidizing Bacteria in Membrane-Aerated Biofilms: A Model-Based Explanation
Ma, Y., Domingo Felez, C., Plósz, B. G. & Smets, B. F. 2017
Publication: Research - peer-review › Journal article – Annual report year: 2017

Invasion in microbial communities: Role of community composition and assembly processes
Kinnunen, M., Smets, B. F., Dechesne, A. & Albrechtsen, H-J. 2017
Lyngby: Department of Environmental Engineering, Technical University of Denmark (DTU). 46 p.
Publication: Research - peer-review › Ph.D. thesis – Annual report year: 2017

Invasion of nitrite oxidizer dominated communities: interactions between propagule pressure and community composition
Kinnunen, M., Dechesne, A., Albrechtsen, H-J. & Smets, B. F. 2017
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2017

Low nitrous oxide production in intermittent-feed high performance nitrifying reactors
Su, Q., Jensen, M. M. & Smets, B. F. 2017
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2017

Low nitrous oxide production through nitrifier-denitrification in intermittent-feed high-rate nitrification reactors
Publication: Research - peer-review › Journal article – Annual report year: 2017

Membrane-aerated Nitrifying Biofilms: Continuous versus Intermittent Aeration
Ma, Y., Piscedda, A. & Smets, B. F. 2017
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2017

Metal stressors consistently modulate bacterial conjugal plasmid uptake potential in a phylogenetically conserved manner
Publication: Research - peer-review › Journal article – Annual report year: 2016
Microbial biotechnologies for potable water production
Publication: Research - peer-review › Journal article – Annual report year: 2017

Moving bed biofilm reactors (MBBRs) for removal of pharmaceuticals in biological wastewater treatment
Torresi, E., Polesel, F., Smets, B. F., Andersen, H. R., Plösz, B. G. & Christensson, M. 2017
Publication: Research - peer-review › Poster – Annual report year: 2017

N2O and NO dynamics in AOB-enriched and mixed-culture biomass: experimental observations and model calibration
Domingo-Felez, C., Plösz, B. G., Sin, G. & Smets, B. F. 2017
Publication: Research - peer-review › Poster – Annual report year: 2017

N2O and NO dynamics in AOB-enriched and mixed-culture biomass: Experimental Observations and Model Calibration
Domingo-Felez, C., Plösz, B. G., Sin, G. & Smets, B. F. 2017
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2017

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

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

Nitrous oxide Production in Membrane-aerated Nitrifying Biofilms: Experimentation and Modelling
Ma, Y., Domingo-Felez, C. & Smets, B. F. 2017
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2017

Nitrous oxide Production in Membrane-aerated Nitrifying Biofilms: Experimentation and Modelling
Ma, Y., Domingo-Felez, C. & Smets, B. F. 2017
Publication: 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
Publication: Research - peer-review › Poster – Annual report year: 2017

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

Pathways and Controls of N2O Production in Nitritation-Anammox Biomass
Publication: Research - peer-review › Journal article – Annual report year: 2017
Plasmid host range (permisiveness) in communities of activated sludge in wastewater treatment plant
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2017

Removal of micropollutants in Moving Bed Biofilm reactors (MBBRs): Microbial-diversity-and-functional-relationships
Publication: Research › Ph.D. thesis – Annual report year: 2017

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

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

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

Sorption and diffusion of micropollutants on/in biofilms: experimental observations and a model-based interpretation
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2017

The competitive edge: competition and biofilm composition, an individual-based modelling approach
Cockx, B., Clegg, R. J., Lang, S., Kreft, J. & Smets, B. F. 2017
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2017

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

Tracking and understanding AMR dynamics across European urban water systems
Smets, B. F., Dechesne, A., Li, L., Madsen, J. S., Nesme, J., Sørensen, S. J., Quintela-Baluja, M. & Graham, D. 2017
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2017

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

A conceptual framework for invasion in microbial communities
A consilience model to describe N$_2$O production during biological N removal

Assessing motility in environmental communities - a novel method

Biodiversity positively associates with biofilm thickness in Moving Bed Biofilm Reactors (MBBRs) – Implications on micropollutant removal and nitrification

Biofilm Thickness Influences Biodiversity in Nitrifying MBBRs-Implications on Micropollutant Removal

Can we enhance the biotransformation of pharmaceutical micropollutants by controlling biofilm thickness in MBBR?

Challenges in microbial ecology: Building predictive understanding of community function and dynamics

De novo biofilm community assembly from tap water source communities favors Nitrotoga over Nitrospira under elevated nitrite surface loading

Depth investigation of rapid sand filters for drinking water production reveals strong stratification in nitrification biokinetic behavior

Does reactor staging influence microbial structure and functions in biofilm systems? The case of pre-denitrifying MBBRs

Dynamics of N$_2$O production pathways in a full-scale activated sludge system analysed by $^{15}$N/$^{18}$O 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

Ecological patterns, diversity and core taxa of microbial communities in groundwater-fed rapid gravity filters
Ecological patterns of nitrifiers in the urban water cycle

Enhancing the removal of pharmaceuticals in biological wastewater treatment: Is MBBR the answer?

Establishing drinking water biofilms with varying alpha-diversity?

Evaluating robustness of a diesel-degrading bacterial consortium isolated from contaminated soil

Harvesting microalgae using activated sludge can decrease polymer dosing and enhance methane production via co-digestion in a bacterial-microalgal process

Identifying novel nitrifying bacteria in rapid gravity sand filters using stable isotope probing

Investigating comammox Nitrospira in rapid sand filters via metagenomics and single-cell genomics

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

Measuring community-wide conjugative plasmid permissiveness
Metagenomic analysis of rapid gravity sand filter microbial communities suggests novel physiology of Nitrospira spp
Publication: Research - peer-review › Journal article – Annual report year: 2016

Metagenomics and single-cell genomics reveal high abundance of comammox Nitrospira in a rapid gravity sand filter treating groundwater
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2016

Microbes in biological processes for municipal landfill leachate treatment: Community, function and interaction
Publication: Research - peer-review › Journal article – Annual report year: 2016

Microbial and biochemical process characterization of a low-sludge age EBPR process for resource recovery
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2016

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

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

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

Short-sludge age EBPR process – Microbial and biochemical process characterisation during reactor start-up and operation
Publication: Research › Journal article – Annual report year: 2016

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

Spatial distribution of microbial community and N₂O depth profiles in counter- and co- diffusion biofilms functioning simultaneous nitrification and denitrification
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2017

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

Structural and functional robustness of an environmental bacterial community degrading diesel fuel
Publication: Research - peer-review › Conference abstract in journal – Annual report year: 2017
Suppression of nitrite-oxidizing bacteria in intermittently aerated biofilm reactors: a model-based explanation
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2017

The formation dynamics of microbial aggregates
Publication: Research - peer-review › Poster – Annual report year: 2016

The impact of backwashing on nitrification in biological rapid sand filters under different ammonium loading conditions
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2016

The influence of reactor staging on microbial structure and functions in pre-denitrifying MBBRs
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2017

The perks of agent-based modelling with iDynoMiCS 2
Cockx, B., Clegg, R. J., Lang, S., Smets, B. F. & Kreft, J. U. 2016
Publication: Research - peer-review › Poster – Annual report year: 2016

Towards a consensus-based biokinetic model for green microalgae – The ASM-A
Publication: Research - peer-review › Journal article – Annual report year: 2016

Towards an optimal experimental design for N2O model calibration during biological nitrogen removal
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2016

Underestimation of ammonia-oxidizing bacteria abundance by amplification bias in amoA-targeted qPCR
Publication: Research - peer-review › Journal article – Annual report year: 2016

Used water resource recovery using green microalgae
Publication: Research › Ph.D. thesis – Annual report year: 2016
A comprehensive 454 survey provides insights into microbial diversity and community structure in rapid sand filters
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

An improved method to set significance thresholds for β-diversity testing in microbial community comparisons: Setting significance threshold for β-diversity
Publication: Research - peer-review › Journal article – Annual report year: 2015

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

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

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

Challenges encountered calibrating N2O dynamics from mixed cultures
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2015

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

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

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

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

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

Management of microbial community composition, architecture and performance in autotrophic nitrogen removing bioreactors through aeration regimes
Publication: Research › Ph.D. thesis – Annual report year: 2015
Measuring biogeochemical heterogeneity at the micro scale in soils and sediments
Publication: Research - peer-review › Journal article – Annual report year: 2015

Metagenomic analysis of microbial communities in rapid sand filter treating groundwater. Community diversity and metabolic potential
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2015

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

Metal stress modulates the immediate plasmid uptake potential of soil microbes
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2015

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

Modulation of microbial community permissiveness towards broad host range conjugative plasmid under metal stress
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2015

Permissiveness of soil microbial communities towards broad host range plasmids
Publication: Research › Ph.D. thesis – Annual report year: 2015

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

Reducing Diffusion Limitation Shifts the Dominant Nitrate Reduction Metabolism from Incomplete Denitrification to Dissimilatory Nitrate Reduction to Ammonium
Pedersen, L., Dechesne, A. & Smets, B. F. 2015
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2015

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

The effect of spatial heterogeneity on nitrate reduction in soil systems
Publication: Research › Ph.D. thesis – Annual report year: 2015
Wastewater resource recovery via the Enhanced Biological Phosphorus Removal and Recovery (EBP2R) process
coupled with green microalgae cultivation
75 p.
Publication: 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
Publication: Research - peer-review › Poster – Annual report year: 2015

Aeration Strategies To Mitigate Nitrous Oxide Emissions from Single-Stage Nitritation/Anammox Reactors
48, 15, p. 8679-8687 9 p.
Publication: Research - peer-review › Journal article – Annual report year: 2014

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

A model framework to describe growth-linked biodegradation of trace-level pesticides in the presence of coincidental  
carbon substrates and microbes
48, 22, p. 13358-13366
Publication: Research - peer-review › Journal article – Annual report year: 2014

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

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

Colony morphology and transcriptome profiling of Pseudomonas putida KT2440 and its mutants deficient in alginate or all  
EPS synthesis under controlled matric potentials
3, 4, p. 457-469
Publication: Research - peer-review › Journal article – Annual report year: 2014

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

Diagnostics in biological rapid sand filters treating groundwater – governing factors for nitrification
Albrechtsen, H-J., Gülay, A., Smets, B. F., Lee, C. O., Wagner, F. B., Tatari, K., Borch Nielsen, P., Binning, P. J., Boe-  
Hansen, R. & Musovic, S. 2014
Publication: Research - peer-review › Paper – Annual report year: 2014
Does microbial cm-scale heterogeneity impact pesticide degradation in and leaching from loamy agricultural soils?  
Publication: Research - peer-review › Journal article – Annual report year: 2014

Effects of dynamic operating conditions on nitrification in biological rapid sand filters for drinking water treatment  
Publication: Research - peer-review › Journal article – Annual report year: 2014

Effects of Filamentous Bulking on Activated Sludge Rheology and Compression Settling Velocity  
Publication: Research - peer-review › Paper – Annual report year: 2014

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

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

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

Metal stress alters a bacterial community's permissiveness towards plasmids  
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2014

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

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

Methanotrophs assisted bentazone degradation  
Publication: Research - peer-review › Poster – Annual report year: 2014

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

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

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

Modelling N2O dynamics in the engineered N cycle: Evaluation of alternate model structures
Proceedings. 4th IWA/WEF Wastewater treatment modelling seminar. Water Environment Federation, p. 343-346
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Modelling the Impact of Filamentous Bacteria Abundance in a Secondary Settling Tank: CFD Sub-models Optimization Using Long-term Experimental Data
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Nitrification biokinetics in rapid sand filters for drinking water treatment
Publication: Research › Ph.D. thesis – Annual report year: 2014

Nitrification in biological rapid sand filters treating drinking water: monitoring governing factors
Publication: Research › Ph.D. thesis – Annual report year: 2014

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

Processes effecting nitrification performance in biological rapid sand filters
Publication: Research › Ph.D. thesis – Annual report year: 2014

Protocol for Evaluating the Permissiveness of Bacterial Communities Toward Conjugal Plasmids by Quantification and Isolation of Transconjugants
Publication: Research - peer-review › Book chapter – Annual report year: 2014

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

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

Seasonal Arsenic Accumulation in Stream Sediments at a Groundwater Discharge Zone
Sequentially aerated membrane biofilm reactors for autotrophic nitrogen removal: microbial community composition and dynamics
Publication: Research - peer-review › Journal article – Annual report year: 2013

Structure, composition, and strength of nitrifying membrane-aerated biofilms
Publication: Research - peer-review › Journal article – Annual report year: 2014

Taxonomic and functional diversity of microbial communities in rapid sand filters for groundwater treatment
Publication: Research › Ph.D. thesis – Annual report year: 2014

The Effect Of Light On Mixed Green Micro-Algal Growth: Experimental Assessment And Modelling
Publication: 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
Publication: Research - peer-review › Paper – Annual report year: 2013

An operational protocol for facilitating start-up of single-stage autotrophic nitrogen-removing reactors based on process stoichiometry
Publication: Research - peer-review › Journal article – Annual report year: 2013

A novel bench-scale column assay to investigate site-specific nitrification biokinetics in biological rapid sand filters
Publication: Research - peer-review › Journal article – Annual report year: 2013

Assessing the permissiveness of complex bacterial communities towards conjugal plasmids - A novel method
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2013

Assessing the permissiveness of complex bacterial communities towards conjugal plasmids - A novel method
Publication: Research - peer-review › Poster – Annual report year: 2013

Assessing the permissiveness of complex bacterial communities towards conjugal plasmids – Development of a novel method
Publication: Research - peer-review › Poster – Annual report year: 2013

Assessing the permissiveness of complex bacterial communities towards conjugal plasmids – Development of a novel method
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2013
Autotrophic Nitrogen Removal in a Membrane-Aerated Biofilm Reactor Under Continuous Aeration: A Demonstration
Publication: Research - peer-review › Journal article – Annual report year: 2013

Barriers to bacterial motility on unsaturated surfaces
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2013

Calibration and validation of a model describing complete autotrophic nitrogen removal in a granular SBR system
Publication: Research - peer-review › Journal article – Annual report year: 2013

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

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

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

Crystal ball - 2013.
Publication: Research - peer-review › Journal article – Annual report year: 2013

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

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

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

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

Impact of wormholes and cm-scale distribution of biodegradation potential on simulated pesticide leaching through loamy agricultural soil
Innovative Two-stage Engineering Solutions for Resource Recovery via Downstream Cultivation of Green Microalgae

Interactions between microbial activity and distribution and mineral coatings on sand grains from rapid sand filters treating groundwater

Microalgae Biorefinery - Industrial Symbiosis

Microbial activity catalyzes oxygen transfer in membrane-aerated nitrifying biofilm reactors

Microbial community structure and a core microbiome in biological rapid sand filters at Danish waterworks
Gülay, A., Musovic, S., Albrechtsen, H-J. & Smets, B. F. 2013

Model-based evaluation of the role of Anammox on nitric oxide and nitrous oxide productions in membrane aerated biofilm reactor

Modeling, Experimentation, and Control of Autotrophic Nitrogen Removal in Granular Sludge Systems

Modelling N$\textsubscript{2}$O dynamics in the engineered N cycle: Observations, assumptions, knowns, and unknowns

Neutrophilic iron-oxidizing bacteria: occurrence and relevance in biological drinking water treatment

Nitrification activity stratifies in a rapid sand filter for drinking water treatment - A study in two Danish waterworks

Nitrous Oxide and Nitric Oxide Emissions From Single-Stage Nitrification/Anammox Reactors Under Varying Aeration Regimes
N₂O production dynamics in nitrifying/denitrifying activated sludge under defined environmental conditions
Pellicer i Nàcher, C., Jensen, M. M., Petersen, M. S. & Smets, B. F. 2013
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2013

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

Phosphate limitation in biological rapid sand filters used to remove ammonium from drinking water
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2013

P₂M²: Physical and physiological properties of membrane-aerated and membrane-supported biofilms
Publication: Research › Ph.D. thesis – Annual report year: 2013

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

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

Stratification of nitrification activity in rapid sand filters for drinking water treatment
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2013

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

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

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

Biological Removal of Manganese and Iron in Rapid Sand Filters
Publication: Research - peer-review › Paper – Annual report year: 2012
Calibration and validation of a model describing complete autotrophic nitrogen removal in granular sludge
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Effect of surface loading fluctuations in rapid sand-filters used to remove ammonium from drinking water
Tatari, K., Smets, B. F. & Albrechtsen, H-J. 2012
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2012

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

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

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

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

Increased insight in microbial processes in rapid sandfilters in drinking water treatment (DW BIOFILTERS)
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2012

In-situ microbial activity in membrane-aerated biofilms for autotrophic nitrogen conversion
Pellicer i Nàcher, C., Domingo Felez, C. & Smets, B. F. 2012
Publication: Research - peer-review › Poster – Annual report year: 2012

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

Microbial Abundance, Distribution and Diversity in Rapid Sand Filters
Musovic, S., Gülay, A., Albrechtsen, H-J. & Smets, B. F. 2012
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2012
Micro-scale spatial expansion of microbial cells and mobile genetic elements.
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2012

Modeling the Performance of Biological Rapid Sand Filters Used to Remove Ammonium, Iron, and Manganese From Drilling Water
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2012

Neutrophilic iron oxidizers adapted to highly oxic environments
Gülay, A., Musovic, S., Albrechtsen, H-J. & Smets, B. F. 2012
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2012

Neutrophilic Iron Oxidizing Bacteria: Occurrence and Relevance in Biological Drinking Water Treatment
Gülay, A., Musovic, S., Albrechtsen, H-J. & Smets, B. F. 2012
Publication: Research - peer-review › Paper – Annual report year: 2012

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

Pseudomonad Swarming Motility Is Restricted to a Narrow Range of High Matric Water Potentials
Dechesne, A. & Smets, B. F. 2012 In : Applied and Environmental Microbiology. 78, 8, p. 2936-2940
Publication: Research - peer-review › Journal article – Annual report year: 2012

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

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

Redox stratified biofilms to support completely autotrophic nitrogen removal: Principles and results
Pellicer i Nàcher, C. & Smets, B. F. 2012
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2012

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

Sensitivity analysis of autotrophic N removal by a granule based bioreactor: Influence of mass transfer versus microbial kinetics
Publication: Research - peer-review › Journal article – Annual report year: 2012

The Role of Microbial Heterogeneity in Pesticide Degradation in Agricultural Soils
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2012
Transcriptome Dynamics of Pseudomonas putida KT2440 under Water Stress
Publication: Research - peer-review › Journal article – Annual report year: 2012

An individual-based approach to explain plasmid invasion in bacterial populations
Publication: Research - peer-review › Journal article – Annual report year: 2011

Assessing the impact of physical and physiological factors on the oxygen mass transfer process in membrane-aerated biofilm reactors
Pellicer i Nàcher, C., Syron, E., Gaval, G., Ochoa, J. & Smets, B. F. 2011
Publication: Research - peer-review › Poster – Annual report year: 2011

Biological Nitrogen Removal from Domestic Wastewater
Ruscalleda Beylier, M., Balaguer, M. D., Pellicer i Nàcher, C., Smets, B. F., Sun, S-P. & Wang, R-C. 2011
Publication: Research - peer-review › Book chapter – Annual report year: 2011

Cm-scale Heterogeneity In Degradation - Potential Impact on Leaching of MCPA through a Variably-Saturated Macroporous Clayey Till
Rosenbom, A. E., Johnsen, A. R., Aamand, J., Binning, P. J., Dechesne, A. & Smets, B. F. 2011
Publication: Research - peer-review › Poster – Annual report year: 2011

Design of microbial communities in membrane bioreactors: the next generation of environmental biotechnologies (EcoDesgin-MBR)
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2011

Effects of PAH-Contaminated Soil on Rhizosphere Microbial Communities
Publication: Research - peer-review › Journal article – Annual report year: 2011

Framework for Construction of Multi-scale Models for Biological Wastewater Treatment Processes
Publication: Research › Poster – Annual report year: 2011

Framework for Construction of Multi-scale Models for Biological Wastewater Treatment Processes - Case Study: Autotrophic Nitrogen Conversion
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Growth dependence of conjugation explains limited plasmid invasion in biofilms: an individual-based modelling study
Publication: Research - peer-review › Journal article – Annual report year: 2011

iDynoMiCS: next-generation individual-based modelling of biofilms
Publication: Research - peer-review › Journal article – Annual report year: 2011
Isolation of herbercide-degrading bacteria from a groundwater aquifer using novel enrichment and isolation techniques
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2011

Micro2-Managed Microbial Communities: Next Generation Environmental Bio/Technologies
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2011

Modeling Nitrous Oxide Production during Biological Nitrogen Removal via Nitrification and Denitrification: Extensions to the General ASM Models
Publication: Research - peer-review › Journal article – Annual report year: 2011

Production and mitigation of N2O in sequentially membrane-aerated redox-stratified nitritation/anammox biofilms
Smets, B. F., Pellicer i Nàcher, C., Thamdrup, B. & Schreiber, F. 2011
Publication: Research › Conference abstract for conference – Annual report year: 2011

Simultaneous removals of azo dye and nitrogenous compounds by a membrane-aerated biofilm
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2011

Structure and activity of lacustrine sediment bacteria involved in nutrient and iron cycles.
Publication: Research - peer-review › Journal article – Annual report year: 2011

Swarming motility is restricted to a narrow range of water matric potential
Dechesne, A. & Smets, B. F. 2011
Publication: Research › Poster – Annual report year: 2011

Udvidelser til ASM Process Modeller til at bestemme lattergas emission fra renseanlæg
Smets, B. F. 2011
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2011

Who is who?: Assessing the microbial diversity in wastewater treatment biofilms for completely autotrophic nitrogen removal
Pellicer i Nàcher, C., Franck, S., Ruscalleda, M., Terada, A. & Smets, B. F. 2011
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2011

Individual-based analysis and prediction of the fate of plasmids in spatially structured bacterial populations
Publication: Research › Ph.D. thesis – Annual report year: 2010

Transfer of conjugative plasmids among bacteria under environmentally relevant conditions
Publication: Research › Ph.D. thesis – Annual report year: 2010

Aggregate size and architecture determine biomass activity for one-stage partial nitritation and anammox
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2010
Inoculum effects on community composition and nitritation performance of autotrophic nitrifying biofilm reactors with counter-diffusion geometry
Terada, A., Lackner, S., Kristensen, K. & Smets, B. F. 2010 In : Environmental Microbiology. 12, 10, p. 2858-2872
Publication: Research - peer-review › Journal article – Annual report year: 2010

Inoculum Effects on Community Composition and Nitrification Success of Nitrifying Biofilm Grown on a Gas-Permeable Membrane
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Microbial community stratification In Membrane-Aerated Biofilm Reactors for Completely Autotrophic Nitrogen Removal
Pellicer i Nàcher, C., Ruscalleda, M., Terada, A. & Smets, B. F. 2010
Publication: Research - peer-review › Poster – Annual report year: 2010

Modelling bioaugmentation in unsaturated porous media: The linuron herbicide example
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2010

Novel assay to assess permissiveness of a soil microbial community toward receipt of mobile genetic elements
Musovic, S., Dechesne, A., Sørensen, J. & Smets, B. F. 2010 In : Applied and Environmental Microbiology. 76, 14, p. 4813-4818
Publication: Research - peer-review › Journal article – Annual report year: 2010

Phylogeny and activity of Proteobacteria in sediments from Lake Furnas
Publication: Research - peer-review › Book chapter – Annual report year: 2010

Presence, distribution, and diversity of iron-oxidizing bacteria at a landfill leachate-impacted groundwater surface water interface
Publication: Research - peer-review › Journal article – Annual report year: 2010

Sequential Aeration of Membrane-Aerated Biofilm Reactors for High-Rate Autotrophic Nitrogen Removal: Experimental Demonstration
Publication: Research - peer-review › Journal article – Annual report year: 2010

Sequential Aeration of Membrane-Aerated Biofilm Reactors (MABRs) Yields for High-Rate Autotrophic Nitrogen Removal: Experimental Demonstration
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2010

Shifts between Nitrospira- and Nitrobacter-like nitrite oxidizers underlie the response of soil potential nitrite oxidation to changes in tillage practices
Publication: Research - peer-review › Journal article – Annual report year: 2010

Surface roughness and limited hydration constrain motility-driven surface colonization by pseudomonads
The Pressurized Porous Surface Model: An improved tool to study bacterial behavior under a wide range of environmentally relevant matric potentials
Gulez, G., Dechesne, A. & Smets, B. F. 2010 In : Journal of Microbiological Methods. 82, 3, p. 324-326

TOL plasmid carriage enhances biofilm formation and increases extracellular DNA content in Pseudomonas Putida KT2440

TOL plasmid carriage enhances biofilm formation and increases extracellular DNA content in Pseudomonas putida KT2440

TOL Plasmid Carriage Enhances Biofilm Formation and Increases Extracellular DNA Content in Pseudomonas Putida KT2440
Smets, B. F., D'Alvise, P., Yankelovich, T., Sjøholm, O., Jin, Y. & Wuertz, S. 2010

TOL plasmid invasion is contingent on cell growth and temporary conjugation depression

Towards successful bioaugmentation with entrapped cells as a soil remediation technology: Effects of the water content and cell dispersal.

Validation of Structured Model of Complete Autotrophic Nitrogen Removal

Towards rational design of redox-stratified biofilms: A novel approach for developing robust biotechnologies for nutrient removal from wastewaters

Abundance and diversity of microbial communities in long-term aporated anammox biofilm reactors initiated with different inocula

An Individual-based model to describe horizontal gene transfer in biofilms
Enhancing the formation and shear resistance of nitrifying biofilms on membranes by surface modification
Publication: Research - peer-review › Journal article – Annual report year: 2009

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

Initial population of ammonia- and nitrite-oxidizing bacteria compromises successful nitrification in a counter-diffusion biofilm geometry
Terada, A., Lackner, S., Kristensen, K. & Smets, B. F. 2009
Publication: Research - peer-review › Poster – Annual report year: 2009

Mass Action Models Describing Extant Horizontal Transfer of Plasmids: Inferences and Parameter Sensitivities
Publication: Research - peer-review › Book chapter – Annual report year: 2009

Midrobial community analysis in an autotrophic hollow-fiber membrane-aerated biofilm reactor (HFMBR) treating a high-strength nitrogen wastewater
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2009

Modelling of consortial linuron mineralization in an unsaturated porous media
Publication: Research › Conference abstract in proceedings – Annual report year: 2009

Nitrification performance and biofilm development of co- and counter-diffusion biofilm reactors: Modeling and experimental comparison
Publication: Research - peer-review › Journal article – Annual report year: 2009

Nitrogen removal from digested black water by one-stage partial nitritation and anammox
Publication: Research - peer-review › Journal article – Annual report year: 2009

Oxygen Transfer Model for a Flow-Through Hollow-Fiber Membrane Biofilm Reactor
Publication: Research - peer-review › Journal article – Annual report year: 2009

Plasmid invasion and plasmid persistence in pseudomonas putida biofilm
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2009

Start-up strategies of membrane-aerated biofilm reactor (MABR) for completely autotrophic nitrogen removal
The effect of hydroxylamine on the activity and aggregate structure of autotrophic nitrifying bioreactor cultures

TOL PWW0 transfer dynamics in Pseudomonas putida KT2440

Treatment trains for the remediation of aquifers polluted with MTBE and other xenobiotic compounds

A critical comparison of extant batch respirometric and substrate depletion assays for estimation of nitrification biokinetics

Ammonium removal performance and spatial distribution of nitrifying bacterial populations in autotrophic co- and counter-diffusion biofilms under oxygen limited conditions

Analysis of an individual-based model describing plasmid transfer in biofilms

An improved cell recovery method for iron oxidizing bacterial (IOB) enrichments

Antecedent growth conditions alter retention of environmental Escherichia coli isolates in transiently wetted porous media

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
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2008

Ecological role of flagellar motility under unsaturated conditions
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2008

Ecological value of swimming motility on variably-saturated surfaces
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2008

Effect of membrane surface functionalization on formation and shear resistance of nitrifying biofilms
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2008

Effects of heat-activated persulfate oxidation on soil microorganisms
Publication: Research - peer-review › Journal article – Annual report year: 2008

Heterotrophic activity compromises autotrophic nitrogen removal in membrane-aerated biofilms: Results of a modeling study
Publication: Research - peer-review › Journal article – Annual report year: 2008

Impact of plasmid harboring on biofilm formation and invasion
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2008

In situ chemical oxidation as the first part of a sequential remediation for groundwater contamination
Publication: Research › Article in proceedings – Annual report year: 2008

Limited diffusive fluxes of substrate facilitate coexistence of two competing bacterial strains
Dechesne, A., Or, D. & Smets, B. F. 2008 In : FEMS Microbiology Ecology. 64, 1, p. 1-8
Publication: Research - peer-review › Journal article – Annual report year: 2008

Microbial population dynamics in redox-stratified biofilms during start-up of autotrophic nitrogen removal reactors
Publication: Research › Conference abstract in proceedings – Annual report year: 2008

Parameter estimation procedures for an individual-based model describing horizontal gene transfer in biofilms
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2008
Redox stratification controlled biofilm reactors for completely autotrophic nitrogen removal
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2008

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

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

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

The potential for bioremediation after in situ chemical oxidation for the remediation of contaminated soil and groundwater
Publication: Research › Conference abstract in proceedings – Annual report year: 2008

Horizontal gene transfer in pseudomonas putida biofilms
Publication: Research › Poster – Annual report year: 2007

Idynomics: A software platform for modeling microbial communities
Publication: Research › Poster – Annual report year: 2007

Physical constraints affecting bacterial habitats and activity in unsaturated porous media – a review
Publication: Research - peer-review › Journal article – Annual report year: 2007

Proteinaceous surface appendage contribution to Pseudomonas aeruginosa PAO1 surface properties and adhesive ability: Abstract 00193
Publication: Research › Journal article – Annual report year: 2007

Redox-stratification controlled biofilm (ReSCoBi) for completely autotrophic nitrogen removal: The effect of co-versus-diffusion on reactor performance
Publication: Research - peer-review › Journal article – Annual report year: 2007

TNT biotransformation: When chemistry confronts mineralization
Publication: Research - peer-review › Journal article – Annual report year: 2007

Cultivation-dependent and independent examination of conjugative plasmid transfer kinetics
Musovic, S. & Smets, B. F. 2006
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2006
Flow cytometric determination of biomass fractions in activated sludge: nitrification case study
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2006

Intestinal versus external growth conditions change the surficial properties in a collection of environmental Escherichia coli isolates
Publication: Research - peer-review › Journal article – Annual report year: 2006

Mathematical modeling of start-up scenarios for nitrogen removal via a nitritation: anaerobic ammonium oxidation-coupled biofilm in a hollow fiber membrane bioreactor
Publication: Research - peer-review › Journal article – Annual report year: 2006

Observation and mathematical description of the acceleration phenomenon in batch respirograms associated with ammonium oxidation
Publication: Research - peer-review › Journal article – Annual report year: 2006

Oxidation of aminonitrotoluenes by 2,4-DNT dioxygenase of Burkholderia sp. strain DNT
Publication: Research - peer-review › Journal article – Annual report year: 2006

Redox-stratification controlled biofilm for completely autotrophic nitrogen removal: Modeling the effect of substrate co- versus counter-diffusion on performance
Publication: Research - peer-review › Article in proceedings – Annual report year: 2006

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

Slow substrate diffusion attenuates bacterial competition and allows bacterial coexistence
Dechesne, A. & Smets, B. F. 2006
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2006

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

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

Biomass characteristics in three sequencing batch reactors treating a wastewater containing synthetic organic chemicals
Publication: Research - peer-review › Journal article – Annual report year: 2005
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
Publication: Research - peer-review › Journal article – Annual report year: 2005

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

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

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

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

Optimizing experimental design to estimate ammonia and nitrite oxidation biokinetic parameters from batch respirometers
Publication: Research - peer-review › Journal article – Annual report year: 2005

Protein engineering of the archetypal nitroarene dioxygenase of Ralstonia sp strain U2 for activity on aminonitrotoluenes and dinitrotoluenes through alpha-subunit residues leucine 225, phenylalanine 350, and glycine 407
Publication: Research - peer-review › Journal article – Annual report year: 2005

Reductive transformation of TNT by Escherichia coli: pathway description
Publication: Research - peer-review › Journal article – Annual report year: 2005

Substrate diffusion heterogeneity controls bacterial competition and coexistence
Publication: Research › Journal article – Annual report year: 2005

TNT and nitroaromatic compounds are chemoattractants for Burkholderia cepacia R34 and Burkholderia sp. strain DNT