Eveline Volcke

List of Publications by Year
in descending order

126 papers	4,332 citations	94381 37 h-index	123376 61 g-index
128 all docs	128 docs citations	128 times ranked	3704 citing authors

#	Article	IF	Citations
1	Methane emission during municipal wastewater treatment. Water Research, 2012, 46, 3657-3670.	5.3	263
2	Methane and nitrous oxide emissions from municipal wastewater treatment â€“ results from a long-term study. Water Science and Technology, 2013, 67, 2350-2355.	1.2	180
3	Influence of temperature and pH on the kinetics of the Sharon nitritation process. Journal of Chemical Technology and Biotechnology, 2007, 82, 471-480.	1.6	174
4	Microaeration for hydrogen sulfide removal during anaerobic treatment: a review. Reviews in Environmental Science and Biotechnology, 2015, 14, 703-725.	3.9	152
5	Mitigating emissions from pig and poultry housingÂfacilities through air scrubbers and biofilters: State-of-the-art andÂperspectives. Biosystems Engineering, 2015, 134, 74-93.	1.9	122
6	Effect of aeration regime on N2O emission from partial nitritation-anammox in a full-scale granular sludge reactor. Water Research, 2015, 68, 793-803.	5.3	114
7	Evaluating the potential for dissimilatory nitrate reduction by anammox bacteria for municipal wastewater treatment. Bioresource Technology, 2017, 233, 363-372.	4.8	113
8	Seasonal and diurnal variability of N 2 O emissions from a full-scale municipal wastewater treatment plant. Science of the Total Environment, 2015, 536, 1-11.	3.9	112
9	Modeling and simulation of oxygen-limited partial nitritation in a membrane-assisted bioreactor (MBR). Biotechnology and Bioengineering, 2004, 86, 531-542.	1.7	105
10	Effect of granule size on autotrophic nitrogen removal in a granular sludge reactor. Environmental Technology (United Kingdom), 2010, 31, 1271-1280.	1.2	103
11	The granule size distribution in an anammoxâ€based granular sludge reactor affects the conversionâ€"Implications for modeling. Biotechnology and Bioengineering, 2012, 109, 1629-1636.	1.7	94
12	Effect of heterotrophic growth on autotrophic nitrogen removal in a granular sludge reactor. Environmental Technology (United Kingdom), 2014, 35, 1027-1037.	1.2	90
13	Modelling anaerobic, aerobic and partial nitritation-anammox granular sludge reactors - A review. Water Research, 2019, 149, 322-341.	5.3	90
14	Improved nitrogen removal by application of new nitrogen-cycle bacteria. Reviews in Environmental Science and Biotechnology, 2002, 1, 51-63.	3.9	88
15	An ASM/ADM model interface for dynamic plant-wide simulation. Water Research, 2009, 43, 1913-1923.	5.3	86
16	Plant-wide modelling of phosphorus transformations in wastewater treatment systems: Impacts of control and operational strategies. Water Research, 2017, 113, 97-110.	5.3	82
17	Inoculum selection influences the biochemical methane potential of agroâ€industrial substrates. Microbial Biotechnology, 2015, 8, 776-786.	2.0	81
18	Sustainable autotrophic production of polyhydroxybutyrate (PHB) from CO 2 using a two-stage cultivation system. Catalysis Today, 2015, 257, 237-245.	2.2	77

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19	A robust fed-batch feeding strategy independent of the carbon source for optimal polyhydroxybutyrate production. Process Biochemistry, 2014, 49, 365-373.	1.8	76
20	Modelling nitrous and nitric oxide emissions by autotrophic ammonia-oxidizing bacteria. Environmental Technology (United Kingdom), 2013, 34, 1555-1566.	1.2	74
21	Influence of sampling strategies on the estimated nitrous oxide emission from wastewater treatment plants. Water Research, 2013, 47, 3120-3130.	5.3	70
22	Modeling microbial diversity in anaerobic digestion through an extended ADM1 model. Water Research, 2009, 43, 2787-2800.	5.3	68
23	Modelling simultaneous anaerobic methane and ammonium removal in a granular sludge reactor. Water Research, 2015, 73, 323-331.	5.3	68
24	Towards a generalized physicochemical framework. Water Science and Technology, 2012, 66, 1147-1161.	1.2	65
25	Poly(3-hydroxybutyrate) (PHB) production from CO2: Model development and process optimization. Biochemical Engineering Journal, 2015, 98, 107-116.	1.8	64
26	Impact of influent characteristics on a partial nitritation SBR treating high nitrogen loaded wastewater. Bioresource Technology, 2012, 111, 62-69.	4.8	60
27	Effects of ionic strength and ion pairing on (plant-wide) modelling of anaerobic digestion. Water Research, 2015, 70, 235-245.	5.3	59
28	Resource recovery and wastewater treatment modelling. Environmental Science: Water Research and Technology, 2019, 5, 631-642.	1.2	57
29	Influence of Partial Denitrification and Mixotrophic Growth of NOB on Microbial Distribution in Aerobic Granular Sludge. Environmental Science & Technology, 2015, 49, 11003-11010.	4.6	55
30	Continuity-based model interfacing for plant-wide simulation: A general approach. Water Research, 2006, 40, 2817-2828.	5.3	51
31	Benchmark simulation models, quo vadis?. Water Science and Technology, 2013, 68, 1-15.	1.2	49
32	Identifying N 2 O formation and emissions from a full-scale partial nitritation reactor. Water Research, 2016, 88, 575-585.	5.3	43
33	Targeted poly(3-hydroxybutyrate-co-3-hydroxyvalerate) bioplastic production from carbon dioxide. Bioresource Technology, 2018, 249, 858-868.	4.8	43
34	Effect of nitrite on the N2O and NO production on the nitrification of low-strength ammonium wastewater. Chemical Engineering Journal, 2016, 287, 269-276.	6.6	42
35	Modelling aerobic granular sludge reactors through apparent half-saturation coefficients. Water Research, 2018, 146, 134-145.	5.3	42
36	Life cycle assessment of biological pig manure treatment versus direct land application â˘ a trade-off story. Resources, Conservation and Recycling, 2018, 131, 86-98.	5.3	41

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37	Controlling the nitrite:ammonium ratio in a SHARON reactor in view of its coupling with an Anammox process. Water Science and Technology, 2006, 53, 45-54.	1.2	39
38	Modeling pure culture heterotrophic production of polyhydroxybutyrate (PHB). Bioresource Technology, 2014, 155, 272-280.	4.8	39
39	Relating N2O emissions during biological nitrogen removal with operating conditions using multivariate statistical techniques. Water Research, 2018, 140, 387-402.	5.3	38
40	Trickling filters following anaerobic sewage treatment: state of the art and perspectives. Environmental Science: Water Research and Technology, 2018, 4, 1721-1738.	1.2	35
41	Effect of process design and operating parameters on aerobic methane oxidation in municipal WWTPs. Water Research, 2014, 66, 308-319.	5.3	32
42	The impact of influent total ammonium nitrogen concentration on nitrite-oxidizing bacteria inhibition in moving bed biofilm reactor. Water Science and Technology, 2014, 69, 1227-1233.	1.2	32
43	Effect of operating conditions on N2O emissions from one-stage partial nitritation-anammox reactors. Biochemical Engineering Journal, 2019, 143, 24-33.	1.8	32
44	The future of WRRF modelling â€" outlook and challenges. Water Science and Technology, 2019, 79, 3-14.	1.2	31
45	Model-based evaluation of an integrated high-rate activated sludge and mainstream anammox system. Chemical Engineering Journal, 2020, 382, 122878.	6.6	31
46	Effect of the dilution rate on microbial competition: r-strategist can win over k-strategist at low substrate concentration. PLoS ONE, 2017, 12, e0172785.	1.1	31
47	Greenhouse gas emissions from landfill leachate treatment plants: A comparison of young and aged landfill. Waste Management, 2014, 34, 1156-1164.	3.7	30
48	Elucidating the Competition between Heterotrophic Denitrification and DNRA Using the Resource-Ratio Theory. Environmental Science & Technology, 2020, 54, 13953-13962.	4.6	30
49	Model-based optimization of microaeration for biogas desulfurization in UASB reactors. Biochemical Engineering Journal, 2017, 125, 171-179.	1.8	27
50	N₂O and NO emissions during autotrophic nitrogen removal in a granular sludge reactor â€" a simulation study. Environmental Technology (United Kingdom), 2012, 33, 2281-2290.	1.2	25
51	Modelling microbial competition in nitrifying biofilm reactors. Biotechnology and Bioengineering, 2015, 112, 2550-2561.	1.7	25
52	Effect of organic matter on the performance and N₂O emission of a granular sludge anammox reactor. Environmental Science: Water Research and Technology, 2018, 4, 1035-1046.	1.2	25
53	Steady state multiplicity of two-step biological conversion systems with general kinetics. Mathematical Biosciences, 2010, 228, 160-170.	0.9	23
54	Continuous measurements of ammonia, nitrous oxide and methane from air scrubbers at pig housing facilities. Journal of Environmental Management, 2016, 181, 163-171.	3.8	22

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55	Coupling the SHARON process with Anammox: Model-based scenario analysis with focus on operating costs. Water Science and Technology, 2005, 52, 107-115.	1.2	21
56	Combined anaerobic digestion and biological nitrogen removal for piggery wastewater treatment: a modelling approach. Water Science and Technology, 2008, 58, 133-141.	1.2	21
57	Effect of sodium accumulation on heterotrophic growth and polyhydroxybutyrate (PHB) production by Cupriavidus necator. Bioresource Technology, 2015, 191, 213-218.	4.8	21
58	Microbial population dynamics in nitrifying reactors: Experimental evidence explained by a simple model including interspecies competition. Process Biochemistry, 2008, 43, 1398-1406.	1.8	20
59	Novel method for online monitoring of dissolved N₂O concentrations through a gas stripping device. Environmental Technology (United Kingdom), 2015, 36, 1680-1690.	1.2	20
60	Monitoring methane and nitrous oxide emissions from digestate storage following manure mono-digestion. Biosystems Engineering, 2020, 196, 159-171.	1.9	18
61	Plant-wide (BSM2) evaluation of reject water treatment with a SHARON-Anammox process. Water Science and Technology, 2006, 54, 93-100.	1.2	17
62	Influence of microbial growth kinetics on steady state multiplicity and stability of a two-step nitrification (SHARON) model. Biotechnology and Bioengineering, 2007, 98, 882-893.	1.7	17
63	Continuous aerobic granular sludge plants: Better settling versus diffusion limitation. Chemical Engineering Journal, 2022, 428, 131427.	6.6	17
64	Experimental design for evaluating WWTP data by linear mass balances. Water Research, 2018, 142, 415-425.	5.3	16
65	Interaction between control and design of a SHARON reactor: economic considerations in a plant-wide (BSM2) context. Water Science and Technology, 2007, 56, 117-125.	1.2	16
66	Evaluation of the 5 and 8 pH point titration methods for monitoring anaerobic digesters treating solid waste. Environmental Technology (United Kingdom), 2015, 36, 861-869.	1.2	15
67	Process schemes for future energy-positive water resource recovery facilities. Water Science and Technology, 2019, 79, 1808-1820.	1.2	15
68	Effect of foam on temperature prediction and heat recovery potential from biological wastewater treatment. Water Research, 2016, 95, 340-347.	5.3	14
69	When and why do gradients of the gas phase composition and pressure affect liquid-gas transfer?. Water Research, 2020, 178, 115844.	5.3	14
70	Life Cycle Environmental Impacts of Wastewater-Derived Phosphorus Products: An Agricultural End-User Perspective. Environmental Science & Technology, 2022, 56, 10289-10298.	4.6	14
71	Systematic model development for partial nitrification of landfill leachate in a SBR. Water Science and Technology, 2010, 61, 2199-2210.	1.2	13
72	Integration of methane removal in aerobic anammox-based granular sludge reactors. Environmental Technology (United Kingdom), 2018, 39, 1615-1625.	1.2	13

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73	Model-based analysis of greenhouse gas emission reduction potential through farm-scale digestion. Biosystems Engineering, 2019, 181, 157-172.	1.9	13
74	Sulfur transformations during two-stage anaerobic digestion and intermediate thermal hydrolysis. Science of the Total Environment, 2022, 810, 151247.	3.9	13
75	Existence, uniqueness and stability of the equilibrium points of a SHARON bioreactor model. Journal of Process Control, 2006, 16, 1003-1012.	1.7	12
76	Dynamic simulation of N2O emissions from a full-scale partial nitritation reactor. Biochemical Engineering Journal, 2019, 152, 107356.	1.8	12
77	Inorganic carbon limitation during nitrogen conversions in sponge-bed trickling filters for mainstream treatment of anaerobic effluent. Water Research, 2021, 201, 117337.	5.3	12
78	Longâ€term microbial community dynamics at two fullâ€scale biotrickling filters treating pig house exhaust air. Microbial Biotechnology, 2019, 12, 775-786.	2.0	11
79	Comparative 1-year performance study of two full-scale biotrickling filters for ammonia removal including nitrous oxide emission monitoring. Biosystems Engineering, 2019, 188, 178-189.	1.9	11
80	Key parameters influencing hydrogen sulfide removal in microaerobic sequencing batch reactor. Biochemical Engineering Journal, 2021, 168, 107951.	1.8	11
81	Calculating pH in pig manure taking into account ionic strength. Water Science and Technology, 2008, 57, 1785-1790.	1.2	10
82	Potential of sulfide-based denitrification for municipal wastewater treatment. Journal of Water Process Engineering, 2020, 35, 101206.	2.6	10
83	Model-based evaluation of ammonia removal in biological air scrubbers. Biosystems Engineering, 2020, 191, 85-95.	1.9	10
84	Potential of off-gas analyses for sequentially operated reactors demonstrated on full-scale aerobic granular sludge technology. Science of the Total Environment, 2021, 787, 147651.	3.9	10
85	The use of a silicone-based biomembrane for microaerobic H2S removal from biogas. Separation and Purification Technology, 2017, 189, 145-152.	3.9	9
86	Autotrophic nitrogen removal for decentralized treatment of ammonia-rich industrial textile wastewater: process assessment, stabilization and modelling. Environmental Science and Pollution Research, 2021, 28, 46643-46654.	2.7	9
87	Stability of Thermophilic Pig Manure Mono-digestion: Effect of Thermal Pre-treatment and Separation. Frontiers in Energy Research, 2020, 8, .	1.2	9
88	Ammonium-based aeration control improves nitrogen removal efficiency and reduces N2O emissions for partial nitritation-anammox reactors. Chemosphere, 2021, 274, 129720.	4.2	9
89	Impact of organics, aeration and flocs on N2O emissions during granular-based partial nitritation-anammox. Science of the Total Environment, 2021, 797, 149092.	3.9	9
90	Construction, start-up and operation of a continuously aerated laboratory-scale SHARON reactor in view of coupling with an Anammox reactor. Water S A, 2007, 31, .	0.2	9

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91	Improving the accuracy of granular sludge and biofilm reactor simulations in Aquasim through artificial diffusion. Biotechnology and Bioengineering, 2017, 114, 2131-2136.	1.7	8
92	Final products and kinetics of biochemical and chemical sulfide oxidation under microaerobic conditions. Water Science and Technology, 2018, 78, 1916-1924.	1.2	8
93	Plant-wide investigation of sulfur flows in a water resource recovery facility (WRRF). Science of the Total Environment, 2021, 801, 149530.	3.9	8
94	Considering microbial and aggregate heterogeneity in biofilm reactor models: how far do we need to go?. Water Science and Technology, 2015, 72, 1692-1699.	1.2	7
95	Evaluation of sampling strategies for estimating ammonia emission factors for pig fattening facilities. Biosystems Engineering, 2015, 140, 79-90.	1.9	7
96	Feasibility of hydraulic separation in a novel anaerobicâ€“anoxic upflow reactor for biological nutrient removal. Bioprocess and Biosystems Engineering, 2015, 38, 93-103.	1.7	7
97	Mechanistic Modeling of Pollutant Removal, Temperature, and Evaporation in Chemical Air Scrubbers. Chemical Engineering and Technology, 2016, 39, 1785-1796.	0.9	7
98	Influence of process dynamics on the microbial diversity in a nitrifying biofilm reactor: Correlation analysis and simulation study. Biotechnology and Bioengineering, 2016, 113, 1962-1974.	1.7	7
99	Model-based process analysis of heterotrophic-autotrophic poly(3-hydroxybutyrate) (PHB) production. Biochemical Engineering Journal, 2016, 114, 202-208.	1.8	7
100	Heat recovery during treatment of highly concentrated wastewater: economic evaluation and influencing factors. Water Science and Technology, 2018, 78, 2270-2278.	1.2	6
101	Microaeration through a biomembrane for biogas desulfurization: lab-scale and pilot-scale experiences. Environmental Science: Water Research and Technology, 2018, 4, 1190-1200.	1.2	6
102	High-Frequency Field Measurement of Nitrous oxide (N₂O) Gas Emissions and Influencing Factors at WWTPs under Dry and Wet Weather Conditions. Proceedings of the Water Environment Federation, 2013, 2013, 621-629.	0.0	5
103	Modelling ammonium-oxidizing population shifts in a biofilm reactor. Water Science and Technology, 2014, 69, 208-216.	1.2	5
104	Stability and control of a partial nitritation reactor with biomass retention. Chemical Engineering Research and Design, 2019, 144, 318-333.	2.7	5
105	Model-Based Analysis of Feedback Control Strategies in Aerobic Biotrickling Filters for Biogas Desulfurization. Processes, 2021, 9, 208.	1.3	5
106	Model-based analysis of sulfur-based denitrification in a moving bed biofilm reactor. Environmental Technology (United Kingdom), 2022, 43, 2948-2955.	1.2	5
107	Dynamic modelling of N₂O emissions from a fullâ€scale granular sludge partial nitritationâ€anammox reactor. Biotechnology and Bioengineering, 2022, 119, 1426-1438.	1.7	5
108	Mainstream short-cut N removal modelling: current status and perspectives. Water Science and Technology, 2022, 85, 2539-2564.	1.2	5

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109	Specific growth rate observer for the growing phase of a Polyhydroxybutyrate production process. Bioprocess and Biosystems Engineering, 2015, 38, 557-567.	1.7	4
110	Operation of a SHARON nitritation reactor: practical implications from a theoretical study. Water Science and Technology, 2007, 56, 145-154.	1.2	3
111	EPSAC for wastewater treatment process (BSM1). , 2015, , .		3
112	Non-Linear Data Reconciliation for a Partial Nitritation (SHARON) Reactor. IFAC-PapersOnLine, 2016, 49, 1139-1144.	0.5	3
113	Combination of cascade and feed-forward constrained control for stable partial nitritation with biomass retention. Journal of Process Control, 2020, 95, 55-66.	1.7	3
114	Unaerated feeding alters the fate of dissolved methane during aerobic wastewater treatment. Water Research, 2021, 204, 117619.	5.3	3
115	MULTI-CRITERIA EVALUATION OF CONTROL STRATEGIES FOR WASTEWATER TREATMENT PROCESSES. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2002, 35, 417-422.	0.4	2
116	Coupling the SHARON process with anammox: model-based scenario analysis with focus on operating costs. Water Science and Technology, 2005, 52, 107-15.	1.2	2
117	Calculating pH in pig manure taking into account ionic strength. Water Science and Technology, 2008, 58, 2067-2067.	1.2	1
118	Application of data reconciliation to a dynamically operated wastewater treatment process with off-gas measurements. Environmental Science: Water Research and Technology, 2022, 8, 2114-2125.	1.2	1
119	Towards a Generalized Physicochemical Framework: WWTmod Workshop Position Paper. Proceedings of the Water Environment Federation, 2010, 2010, 1054-1071.	0.0	0
120	Operating conditions analysis for a partial nitritation process with biomass retention.. IFAC-PapersOnLine, 2019, 52, 643-648.	0.5	0
121	Mass and heat balances for biological nitrogen removal in an activated sludge process: to couple or not to couple?. Environmental Technology (United Kingdom), 2020, 42, 1-10.	1.2	0
122	Modelling of simultaneous methane and ammonium removal in a one-stage aerobic granular sludge reactor. Proceedings of the Water Environment Federation, 2015, 2015, 6320-6323.	0.0	0
123	The effect of temperature and pH on the kinetics of a partial nitritation process. Communications in Agricultural and Applied Biological Sciences, 2004, 69, 11-4.	0.0	0
124	Biomethane potential of agro-industrial substrates depends on the inoculum type. Communications in Agricultural and Applied Biological Sciences, 2013, 78, 185-90.	0.0	0
125	Effect of nitrite pulses on N20 production during nitrification. Communications in Agricultural and Applied Biological Sciences, 2014, 79, 87-90.	0.0	0
126	Modelling of methane production and emissions. , 2022, , 197-212.		0