Axel Schippers

List of Publications by Year
in descending order

136 papers	8,595 citations	57752 44 h-index	48312 88 g-index
144 all docs	144 docs citations	144 times ranked	6959 citing authors

#	Article	IF	Citations
1	Distributions of Microbial Activities in Deep Subseafloor Sediments. Science, 2004, 306, 2216-2221.	12.6	681
2	Bacterial Leaching of Metal Sulfides Proceeds by Two Indirect Mechanisms via Thiosulfate or via Polysulfides and Sulfur. Applied and Environmental Microbiology, 1999, 65, 319-321.	3.1	678
3	(Bio)chemistry of bacterial leachingâ€"direct vs. indirect bioleaching. Hydrometallurgy, 2001, 59, 159-175.	4.3	631
4	Progress in bioleaching: fundamentals and mechanisms of bacterial metal sulfide oxidationâ€"part A. Applied Microbiology and Biotechnology, 2013, 97, 7529-7541.	3.6	509
5	Prokaryotic cells of the deep sub-seafloor biosphere identified as living bacteria. Nature, 2005, 433, 861-864.	27.8	413
6	Sulfur chemistry in bacterial leaching of pyrite. Applied and Environmental Microbiology, 1996, 62, 3424-3431.	3.1	318
7	Sulfur chemistry, biofilm, and the (in)direct attack mechanism ? a critical evaluation of bacterial leaching. Applied Microbiology and Biotechnology, 1995, 43, 961-966.	3.6	296
8	Biogeochemistry of pyrite and iron sulfide oxidation in marine sediments. Geochimica Et Cosmochimica Acta, 2002, 66, 85-92.	3.9	285
9	Oxidation of pyrite and iron sulfide by manganese dioxide in marine sediments. Geochimica Et Cosmochimica Acta, 2001, 65, 915-922.	3.9	182
10	Soil microbial community changes as a result of long-term exposure to a natural CO2 vent. Geochimica Et Cosmochimica Acta, 2010, 74, 2697-2716.	3.9	156
11	The biogeochemistry and microbiology of sulfidic mine waste and bioleaching dumps and heaps, and novel Fe(II)-oxidizing bacteria. Hydrometallurgy, 2010, 104, 342-350.	4.3	147
12	Quantification of microbial communities in near-surface and deeply buried marine sediments on the Peru continental margin using real-time PCR. Environmental Microbiology, 2006, 8, 1251-1260.	3.8	144
13	Microbial diversity in uranium mine waste heaps. Applied and Environmental Microbiology, 1995, 61, 2930-2935.	3.1	135
14	Manganese-Cycling Microbial Communities Inside Deep-Sea Manganese Nodules. Environmental Science & Technology, 2015, 49, 7692-7700.	10.0	129
15	Aerobic and anaerobic methanotrophs in the Black Sea water column. Environmental Microbiology, 2006, 8, 1844-1856.	3.8	115
16	Microbacterium oleivorans sp. nov. and Microbacterium hydrocarbonoxydans sp. nov., novel crude-oil-degrading Gram-positive bacteria. International Journal of Systematic and Evolutionary Microbiology, 2005, 55, 655-660.	1.7	112
17	Microbial Community Analysis of Opalinus Clay Drill Core Samples from the Mont Terri Underground Research Laboratory, Switzerland. Geomicrobiology Journal, 2007, 24, 1-17.	2.0	103
18	Biomining: Metal Recovery from Ores with Microorganisms. Advances in Biochemical Engineering/Biotechnology, 2013, 141, 1-47.	1.1	97

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19	Extracellular Polymeric Substances from <i>Bacillus subtilis</i> Associated with Minerals Modify the Extent and Rate of Heavy Metal Sorption. Environmental Science & Technology, 2012, 46, 3866-3873.	10.0	96
20	High abundance of JS-1- and<i>Chloroflexi</i>-related<i>Bacteria</i>in deeply buried marine sediments revealed by quantitative, real-time PCR. FEMS Microbiology Ecology, 2010, 72, 198-207.	2.7	95
21	Conventional and electrochemical bioleaching of chalcopyrite concentrates by moderately thermophilic bacteria at high pulp density. Hydrometallurgy, 2011, 106, 84-92.	4.3	94
22	Bacterial and chemical oxidation of pyritic mine tailings at low temperatures. Journal of Contaminant Hydrology, 2000, 41, 225-238.	3.3	92
23	Quantitative Microbial Community Analysis of Three Different Sulfidic Mine Tailing Dumps Generating Acid Mine Drainage. Applied and Environmental Microbiology, 2008, 74, 5211-5219.	3.1	92
24	Intermediary sulfur compounds in pyrite oxidation: implications for bioleaching and biodepyritization of coal. Applied Microbiology and Biotechnology, 1999, 52, 104-110.	3.6	90
25	Microorganisms persist at record depths in the subseafloor of the Canterbury Basin. ISME Journal, 2014, 8, 1370-1380.	9.8	90
26	Recovery of Nickel and Cobalt from Laterite Tailings by Reductive Dissolution under Aerobic Conditions Using <i>Acidithiobacillus</i> Species. Environmental Science & Technology, 2015, 49, 6674-6682.	10.0	88
27	Microbial and abiotic controls on mineral-associated organic matter in soil profiles along an ecosystem gradient. Scientific Reports, 2019, 9, 10294.	3.3	81
28	Microbial Methane Formation from Hard Coal and Timber in an Abandoned Coal Mine. Geomicrobiology Journal, 2008, 25, 315-321.	2.0	77
29	Formation of sequences of cemented layers and hardpans within sulfide-bearing mine tailings (mine) Tj ETQq1 1 0.784314 rgBT /Overlo	3.0	75
30	Microorganisms Involved in Bioleaching and Nucleic Acid-Based Molecular Methods for Their Identification and Quantification. , 2007, , 3-33.		75
31	Quantification of microbial communities in subsurface marine sediments of the Black Sea and off Namibia. Frontiers in Microbiology, 2012, 3, 16.	3.5	73
32	Microbial diversity at the moderate acidic stage in three different sulfidic mine tailings dumps generating acid mine drainage. Research in Microbiology, 2014, 165, 713-718.	2.1	73
33	Quantitative Monitoring of Microbial Species during Bioleaching of a Copper Concentrate. Frontiers in Microbiology, 2016, 07, 2044.	3.5	73
34	Subsurface microbiology and biogeochemistry of a deep, coldâ€water carbonate mound from the Porcupine Seabight (IODP Expedition 307). Environmental Microbiology, 2009, 11, 239-257.	3.8	68
35	Nocardioides oleivorans sp. nov., a novel crude-oil-degrading bacterium. International Journal of Systematic and Evolutionary Microbiology, 2005, 55, 1501-1504.	1.7	66
36	Metal Mobilization by Iron- and Sulfur-Oxidizing Bacteria in a Multiple Extreme Mine Tailings in the Atacama Desert, Chile. Environmental Science & Technology, 2013, 47, 2189-2196.	10.0	66

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37	Manganese(II) oxidation driven by lateral oxygen intrusions in the western Black Sea. Geochimica Et Cosmochimica Acta, 2005, 69, 2241-2252.	3.9	61
38	Coalbed methane in the Ruhr Basin, Germany: a renewable energy resource?. Organic Geochemistry, 2004, 35, 1537-1549.	1.8	60
39	Subseafloor microbial communities associated with rapid turbidite deposition in the Gulf of Mexico continental slope (IODP Expedition 308). FEMS Microbiology Ecology, 2009, 69, 410-424.	2.7	55
40	Impact of natural organic matter coatings on the microbial reduction of iron oxides. Geochimica Et Cosmochimica Acta, 2018, 224, 223-248.	3.9	54
41	Biogeochemistry of metal sulfide oxidation in mining environments, sediments, and soils. , 2004, , .		52
42	Microbiological Pyrite Oxidation in a Mine Tailings Heap and Its Relevance to the Death of Vegetation. Geomicrobiology Journal, 2000, 17, 151-162.	2.0	51
43	Enhanced chalcopyrite dissolution in stirred tank reactors by temperature increase during bioleaching. Hydrometallurgy, 2018, 179, 125-131.	4.3	51
44	Nocardiopsis metallicus sp. nov., a metal-leaching actinomycete isolated from an alkaline slag dump. International Journal of Systematic and Evolutionary Microbiology, 2002, 52, 2291-2295.	1.7	47
45	Quantification of dissimilatory (bi)sulphite reductase gene expression in <i>Desulfobacterium autotrophicum</i> using realâ€time RTâ€PCR. Environmental Microbiology, 2003, 5, 660-671.	3.8	47
46	Real-Time PCR Quantification and Diversity Analysis of the Functional Genes aprA and dsrA of Sulfate-Reducing Prokaryotes in Marine Sediments of the Peru Continental Margin and the Black Sea. Frontiers in Microbiology, 2011, 2, 253.	3.5	47
47	The Deep Biosphere in Terrestrial Sediments in the Chesapeake Bay Area, Virginia, USA. Frontiers in Microbiology, 2011, 2, 156.	3.5	46
48	Bioleaching of cobalt from Cu/Co-rich sulfidic mine tailings from the polymetallic Rammelsberg mine, Germany. Hydrometallurgy, 2020, 197, 105443.	4.3	46
49	Microbial reduction of ferrihydrite-organic matter coprecipitates by Shewanella putrefaciens and Geobacter metallireducens in comparison to mediated electrochemical reduction. Chemical Geology, 2016, 447, 133-147.	3.3	43
50	Microbial community analysis of deeply buried marine sediments of the New Jersey shallow shelf (IODP) Tj ETQq0 0 0 rgBT /Overlock 10	2.7	41
51	Depth-related variability in viral communities in highly stratified sulfidic mine tailings. Microbiome, 2020, 8, 89.	11.1	41
52	Geomicrobiological investigation of two different mine waste tailings generating acid mine drainage. Hydrometallurgy, 2006, 83, 167-175.	4.3	40
53	Microbial Community Dynamics in Soil Depth Profiles Over 120,000 Years of Ecosystem Development. Frontiers in Microbiology, 2017, 8, 874.	3.5	40
54	Nocardiopsis metallicus sp. nov., a metal-leaching actinomycete isolated from an alkaline slag dump.. International Journal of Systematic and Evolutionary Microbiology, 2002, 52, 2291-2295.	1.7	40

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55	Biogeochemical processes in a clay formation in situ experiment: Part D â€“ Microbial analyses â€“ Synthesis of results. Applied Geochemistry, 2011, 26, 980-989.	3.0	38
56	Quantification of Microbial Communities in Forearc Sediment Basins off Sumatra. Geomicrobiology Journal, 2010, 27, 170-182.	2.0	35
57	Long-term evaluation of acid rock drainage mitigation measures in large lysimeters. Journal of Geochemical Exploration, 2007, 92, 205-211.	3.2	34
58	Impact of microbial diversity and sulfur chemistry on safeguarding sulfudic mine waste. Minerals Engineering, 1996, 9, 1069-1079.	4.3	33
59	Determination of reaction energy values for biological pyrite oxidation by calorimetry. Thermochimica Acta, 1998, 309, 79-85.	2.7	33
60	Bioleaching of Kupferschiefer blackshale â€“ A review including perspectives of the Ecometals project. Minerals Engineering, 2015, 75, 116-125.	4.3	33
61	Distribution of Acidophilic Microorganisms in Natural and Man-made Acidic Environments. Current Issues in Molecular Biology, 2021, 40, 25-48.	2.4	31
62	Geomicrobiological and geochemical investigation of a pyrrhotite-containing mine waste tailings dam near Selebi-Phikwe in Botswana. Journal of Geochemical Exploration, 2007, 92, 151-158.	3.2	30
63	Lignite ash: Waste material or potential resource - Investigation of metal recovery and utilization options. Hydrometallurgy, 2017, 168, 141-152.	4.3	30
64	Microbial utilization of mineral-associated nitrogen in soils. Soil Biology and Biochemistry, 2017, 104, 185-196.	8.8	30
65	Hydrothermal chimneys host habitat-specific microbial communities: analogues for studying the possible impact of mining seafloor massive sulfide deposits. Scientific Reports, 2018, 8, 10386.	3.3	30
66	Microbial Community Stratification Controlled by the Subseafloor Fluid Flow and Geothermal Gradient at the Iheya North Hydrothermal Field in the Mid-Okinawa Trough (Integrated Ocean Drilling) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	3.1	29
67	Mineralogical impact on long-term patterns of soil nitrogen and phosphorus enzyme activities. Soil Biology and Biochemistry, 2014, 68, 31-43.	8.8	29
68	Inorganic carbon fixation by sulfate-reducing bacteria in the Black Sea water column. Environmental Microbiology, 2007, 9, 3019-3024.	3.8	28
69	Insight Into Interactions of Thermoacidophilic Archaea With Elemental Sulfur: Biofilm Dynamics and EPS Analysis. Frontiers in Microbiology, 2019, 10, 896.	3.5	28
70	Anaerobic and aerobic reductive dissolutions of iron-rich nickel laterite overburden by Acidithiobacillus. Hydrometallurgy, 2017, 168, 49-55.	4.3	27
71	Anaerobic Oxidation of Methane at a Marine Methane Seep in a Forearc Sediment Basin off Sumatra, Indian Ocean. Frontiers in Microbiology, 2011, 2, 249.	3.5	26
72	Fractionation of Fe and Cu isotopes in acid mine tailings: Modification and application of a sequential extraction method. Chemical Geology, 2018, 493, 67-79.	3.3	25

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73	Making sticky cells: effect of galactose and ferrous iron on the attachment of Leptospirillum ferrooxidans to mineral surfaces. Research in Microbiology, 2018, 169, 569-575.	2.1	24
74	Electrochemical investigation of chalcopyrite (bio)leaching residues. Hydrometallurgy, 2019, 187, 8-17.	4.3	24
75	The use of FISH and real-time PCR to monitor the biooxidation and cyanidation for gold and silver recovery from a mine tailings concentrate (Ticapampa, Peru). Hydrometallurgy, 2008, 94, 77-81.	4.3	23
76	Iron Isotope Fractionation by Biogeochemical Processes in Mine Tailings. Environmental Science & Technology, 2008, 42, 1117-1122.	10.0	23
77	Coalbed methane in the Ruhr Basin, Germany: a renewable energy resource?. Organic Geochemistry, 2004, 35, 1537-1549.	1.8	22
78	Evaluation of the efficiency of measures for sulphidic mine waste mitigation. Applied Microbiology and Biotechnology, 1998, 49, 698-701.	3.6	21
79	Diversity of Iron Oxidizing Bacteria from Various Sulfidic Mine Waste Dumps. Advanced Materials Research, 0, 71-73, 47-50.	0.3	20
80	Implementation of biological and chemical techniques to recover metals from copper-rich leach solutions. Hydrometallurgy, 2018, 179, 274-281.	4.3	20
81	A novel electrically enhanced biosynthesis of copper sulfide Nanoparticles. Materials Science in Semiconductor Processing, 2013, 16, 250-255.	4.0	18
82	Inter-laboratory quantification of Bacteria and Archaea in deeply buried sediments of the Baltic Sea (IODP Expedition 347). FEMS Microbiology Ecology, 2017, 93, fix007.	2.7	18
83	Defining boundaries for the distribution of microbial communities beneath the sediment-buried, hydrothermally active seafloor. ISME Journal, 2017, 11, 529-542.	9.8	18
84	Sphalerite bioleaching comparison in shake flasks and percolators. Minerals Engineering, 2019, 132, 251-257.	4.3	18
85	Distribution of scandium in red mud and extraction using Gluconobacter oxydans. Hydrometallurgy, 2021, 202, 105621.	4.3	17
86	Experimental Microbial Alteration and Fe Mobilization From Basaltic Rocks of the ICDP HSDP2 Drill Core, Hilo, Hawaii. Frontiers in Microbiology, 2018, 9, 1252.	3.5	15
87	Biosorption of Rare Earth Elements by Different Microorganisms in Acidic Solutions. Metals, 2020, 10, 954.	2.3	15
88	An Integrated Process for Innovative Extraction of Metals from Kupferschiefer Mine Dumps, Germany. Chemie-Ingenieur-Technik, 2012, 84, 1694-1703.	0.8	14
89	Effect of elevated pressure on ferric iron reduction coupled to sulfur oxidation by biomining microorganisms. Hydrometallurgy, 2018, 178, 215-223.	4.3	14
90	Large-scale experiments for microbiological evaluation of measures for safeguarding sulfidic mine waste. Waste Management, 2001, 21, 139-146.	7.4	13

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91	Editorial: Recent Advances in Acidophile Microbiology: Fundamentals and Applications. Frontiers in Microbiology, 2017, 8, 428.	3.5	13
92	Stirred-tank bioleaching of copper and cobalt from mine tailings in Chile. Minerals Engineering, 2022, 180, 107514.	4.3	13
93	Approaches for Eliminating Bacteria Introduced during <i>In Situ</i> Bioleaching of Fractured Sulfidic Ores in Deep Subsurface. Solid State Phenomena, 0, 262, 70-74.	0.3	12
94	Distinct pattern of nitrogen functional gene abundances in top- and subsoils along a 120,000-year ecosystem development gradient. Soil Biology and Biochemistry, 2019, 132, 111-119.	8.8	12
95	Bioprocessing of oxidized platinum group element (PGE) ores as pre-treatment for efficient chemical extraction of PGE. Hydrometallurgy, 2020, 196, 105419.	4.3	12
96	Effect of mineralogy on Co and Ni extraction from Brazilian limonitic laterites via bioleaching and chemical leaching. Minerals Engineering, 2022, 184, 107604.	4.3	12
97	Microbial Community Compositions and Geochemistry of Sediments with Increasing Distance to the Hydrothermal Vent Outlet in the Kairei Field. Geomicrobiology Journal, 2020, 37, 242-254.	2.0	11
98	Metallgewinnung mittels Geobiotechnologie. Chemie-Ingenieur-Technik, 2017, 89, 29-39.	0.8	10
99	Mineralogical distribution of base metal sulfides in processing products of black shale-hosted Kupferschiefer-type ore. Minerals Engineering, 2018, 119, 23-30.	4.3	10
100	Sulfobacillus harzensis sp. nov., an acidophilic bacterium inhabiting mine tailings from a polymetallic mine. International Journal of Systematic and Evolutionary Microbiology, 2021, 71, .	1.7	10
101	Red mud regulates arsenic fate at acidic pH via regulating arsenopyrite bio-oxidation and S, Fe, Al, Si speciation transformation. Water Research, 2021, 203, 117539.	11.3	10
102	Deep subsurface microbiology: a guide to the research topic papers. Frontiers in Microbiology, 2013, 4, 122.	3.5	10
103	Electrochemical Applications in Metal Bioleaching. Advances in Biochemical Engineering/Biotechnology, 2017, 167, 327-359.	1.1	9
104	Bioleaching. , 2005, , 405-412.		7
105	Complexity of clay mineral formation during 120,000 years of soil development along the Franz Josef chronosequence, New Zealand. New Zealand Journal of Geology, and Geophysics, 2017, 60, 23-35.	1.8	7
106	SEM study of the early stages of Fe-bentonite corrosionâ€"The role of naturally present reactive silica. Corrosion Science, 2020, 171, 108716.	6.6	7
107	Bioleaching of Copper Slag Material. Solid State Phenomena, 2017, 262, 61-64.	0.3	5
108	Far from equilibrium basaltic glass alteration: The influence of Fe redox state and thermal history on element mobilization. Geochimica Et Cosmochimica Acta, 2020, 273, 85-98.	3.9	5

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109	Extraction of REEs from Blast Furnace Slag by Gluconobacter oxydans. Minerals (Basel, Switzerland), 2022, 12, 701.	2.0	5
110	Quantification of Microorganisms Involved in Cemented Layer Formation in Sulfidic Mine Waste Tailings (Freiberg, Saxony, Germany). Advanced Materials Research, 2007, 20-21, 481-484.	0.3	4
111	Reduction of Iron(III) Ions at Elevated Pressure by Acidophilic Microorganisms. Solid State Phenomena, 2017, 262, 88-92.	0.3	4
112	Potential mobilizable Fe from secondary phases of differentially altered subsurface basaltic rockâ€“ a sequential extraction study on ICDP site Hawaii. Applied Geochemistry, 2020, 121, 104705.	3.0	4
113	Deltaproteobacterium Strain KaireiS1, a Mesophilic, Hydrogen-Oxidizing and Sulfate-Reducing Bacterium From an Inactive Deep-Sea Hydrothermal Chimney. Frontiers in Microbiology, 2021, 12, 686276.	3.5	4
114	Biooxidation and Cyanidation for Gold and Silver Recovery from Acid Mine Drainage Generating Tailings (Ticapampa, Peru). Advanced Materials Research, 2007, 20-21, 91-94.	0.3	3
115	Geomicrobiology of Sulfidic Mine Dumps: A Short Review. Advanced Materials Research, 2009, 71-73, 37-41.	0.3	3
116	Effect of Galactose on EPS Production and Attachment of <i>Acidithiobacillus thiooxidans </i>to Mineral Surfaces. Solid State Phenomena, 0, 262, 476-481.	0.3	3
117	Microbial Community Analysis inside a Biooxidation Heap for Gold Recovery in Equador. Solid State Phenomena, 2017, 262, 135-138.	0.3	3
118	Effect of Temperature Ramping on Stirred Tank Bioleaching of a Copper Concentrate. Solid State Phenomena, 0, 262, 3-6.	0.3	3
119	Options for Hydrometallurgical Treatment of Ni-Co Lateritic Ores for Sustainable Supply of Nickel and Cobalt for European Battery Industry from South-Eastern Europe and Turkey. Metals, 2022, 12, 807.	2.3	3
120	Large-scale experiments for safe-guarding mine waste and preventing acid rock drainage. Process Metallurgy, 1999, , 749-758.	0.1	2
121	Copper Recovery by Bioleaching of Chalcopyrite: A Microcalorimetric Approach for the Fast Determination of Bioleaching Activity. Advanced Materials Research, 0, 825, 322-325.	0.3	2
122	Selective Chemical and Biological Metal Recovery from Cu-Rich Bioleaching Solutions. Solid State Phenomena, 2017, 262, 107-112.	0.3	2
123	Electrochemical Process Engineering in Biohydrometallurgical Metal Recovery from Mineral Sulfides. Solid State Phenomena, 2017, 262, 118-121.	0.3	2
124	Pilot experiments to reduce environmental pollution caused by acid rock drainage. Process Metallurgy, 1999, 9, 741-747.	0.1	1
125	17th International Biohydrometallurgy Symposium, IBS2007, Frankfurt a. M., Germany, 2â€“5 September 2007. Hydrometallurgy, 2008, 94, 1.	4.3	1
126	Biogenesis of Nanoparticles with Potential Applications as Semiconductor from Chalcopyrite Concentrate. Advanced Materials Research, 2013, 825, 92-95.	0.3	1

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127	Quantification of the Microbial Community in Lateritic Deposits. Advanced Materials Research, 2013, 825, 33-36.	0.3	1
128	Development of a Strategy for Selective Metal Recovery from Pregnant Leach Solutions of Kupferschiefer Bioleaching. Advanced Materials Research, 0, 1130, 255-258.	0.3	1
129	Deep Biosphere. Encyclopedia of Earth Sciences Series, 2016, , 144-155.	0.1	1
130	Iron Isotope Fractionation by Biogeochemical Processes in Mine Tailings. Advanced Materials Research, 2007, 20-21, 237-237.	0.3	0
131	Bioleaching of a Marine Hydrothermal Sulfide Ore with Mesophiles, Moderate Thermophiles and Thermophiles. Advanced Materials Research, 2013, 825, 229-232.	0.3	0
132	Comparative Bioleaching and Mineralogical Characterization of Black Shale-Hosted Ores and Corresponding Flotation Concentrates. Solid State Phenomena, 0, 262, 139-142.	0.3	0
133	Using Flexible Gold-Titanium Reaction Cells to Simulate Pressure-Dependent Microbial Activity in the Context of Subsurface Biomining. Journal of Visualized Experiments, 2019, , .	0.3	0
134	Deep Biosphere. , 2014, , 1-20.		0
135	Deep Biosphere. , 2015, , 1-19.		0
136	CO2BioPermâ€"Influence of Bio-geochemical CO2-Transformation Processes on the Long-Term Permeability. Advanced Technologies in Earth Sciences, 2015, , 73-96.	0.9	0