

Thomas Borch

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/4431259/publications.pdf>

Version: 2024-02-01

101
papers

6,326
citations

81743

39
h-index

69108

77
g-index

104
all docs

104
docs citations

104
times ranked

7153
citing authors

#	ARTICLE	IF	CITATIONS
1	High Spatial Resolution Fluorescence Imagery for Optimized Pest Management in a Huanglongbing-Infected Citrus Grove. <i>Phytopathology</i> , 2022, 112, 173-179.	1.1	3
2	Humidity induces the formation of radicals and enhances photodegradation of chlorinated-PAHs on Fe(III)-montmorillonite. <i>Journal of Hazardous Materials</i> , 2022, 423, 127210.	6.5	13
3	Opportunities for Treatment and Reuse of Agricultural Drainage in the United States. <i>ACS ES&T Engineering</i> , 2022, 2, 292-305.	3.7	7
4	Mitigating membrane wetting in the treatment of unconventional oil and gas wastewater by membrane distillation: A comparison of pretreatment with omniphobic membrane. <i>Journal of Membrane Science</i> , 2022, 645, 120198.	4.1	19
5	Oil and Gas Produced Water Reuse: Opportunities, Treatment Needs, and Challenges. <i>ACS ES&T Engineering</i> , 2022, 2, 347-366.	3.7	31
6	PFAS Analysis with Ultrahigh Resolution 21T FT-ICR MS: Suspect and Nontargeted Screening with Unrivaled Mass Resolving Power and Accuracy. <i>Environmental Science & Technology</i> , 2022, 56, 2455-2465.	4.6	34
7	Enhanced Speciation of Pyrogenic Organic Matter from Wildfires Enabled by 21 T FT-ICR Mass Spectrometry. <i>Analytical Chemistry</i> , 2022, 94, 2973-2980.	3.2	22
8	Nitrogen Enrichment during Soil Organic Matter Burning and Molecular Evidence of Maillard Reactions. <i>Environmental Science & Technology</i> , 2022, 56, 4597-4609.	4.6	20
9	Colorimetric Paper-Based Analytical Device for Perfluorooctanesulfonate Detection. <i>ACS ES&T Water</i> , 2022, 2, 565-572.	2.3	11
10	Microbial iron cycling during palsa hillslope collapse promotes greenhouse gas emissions before complete permafrost thaw. <i>Communications Earth & Environment</i> , 2022, 3, .	2.6	11
11	Quantification of insecticide spatial distribution within individual citrus trees and efficacy through Asian citrus psyllid reductions under different application methods. <i>Pest Management Science</i> , 2021, 77, 1748-1756.	1.7	6
12	Oil & gas produced water retention ponds as potential passive treatment for radium removal and beneficial reuse. <i>Environmental Sciences: Processes and Impacts</i> , 2021, 23, 501-518.	1.7	5
13	Irrigation of wheat with select hydraulic fracturing chemicals: Evaluating plant uptake and growth impacts. <i>Environmental Pollution</i> , 2021, 273, 116402.	3.7	10
14	Nano-MoO ₂ activates peroxymonosulfate for the degradation of PAH derivatives. <i>Water Research</i> , 2021, 192, 116834.	5.3	56
15	Soil Organic Matter Characterization by Fourier Transform Ion Cyclotron Resonance Mass Spectrometry (FTICR MS): A Critical Review of Sample Preparation, Analysis, and Data Interpretation. <i>Environmental Science & Technology</i> , 2021, 55, 9637-9656.	4.6	88
16	Sensors for detecting per- and polyfluoroalkyl substances (PFAS): A critical review of development challenges, current sensors, and commercialization obstacles. <i>Chemical Engineering Journal</i> , 2021, 417, 129133.	6.6	50
17	Constructed wetlands for polishing oil and gas produced water releases. <i>Environmental Sciences: Processes and Impacts</i> , 2021, 23, 1961-1976.	1.7	1
18	Discovery of Oxygenated Hydrocarbon Biodegradation Products at a Late-Stage Petroleum Release Site. <i>Energy & Fuels</i> , 2021, 35, 16713-16723.	2.5	3

#	ARTICLE	IF	CITATIONS
19	Expanding the Analytical Window for Biochar Speciation: Molecular Comparison of Solvent Extraction and Water-Soluble Fractions of Biochar by FT-ICR Mass Spectrometry. <i>Analytical Chemistry</i> , 2021, 93, 15365-15372.	3.2	13
20	Fungicide azoxystrobin induced changes on the soil microbiome. <i>Applied Soil Ecology</i> , 2020, 145, 103343.	2.1	22
21	Fluorescent Dye Paper-Based Method for Assessment of Pesticide Coverage on Leaves and Trees: A Citrus Grove Case Study. <i>Journal of Agricultural and Food Chemistry</i> , 2020, 68, 14009-14014.	2.4	9
22	Iron mineral dissolution releases iron and associated organic carbon during permafrost thaw. <i>Nature Communications</i> , 2020, 11, 6329.	5.8	96
23	Reusing oil and gas produced water for agricultural irrigation: Effects on soil health and the soil microbiome. <i>Science of the Total Environment</i> , 2020, 722, 137888.	3.9	41
24	Isotopic and element ratios fingerprint salinization impact from beneficial use of oil and gas produced water in the Western U.S.. <i>Science of the Total Environment</i> , 2020, 716, 137006.	3.9	16
25	Water quality assessment downstream of oil and gas produced water discharges intended for beneficial reuse in arid regions. <i>Science of the Total Environment</i> , 2020, 713, 136607.	3.9	49
26	Temperature-induced iron (III) reduction results in decreased dissolved organic carbon export in subalpine wetland soils, Colorado, USA. <i>Geochimica Et Cosmochimica Acta</i> , 2020, 280, 148-160.	1.6	13
27	Mutagenicity assessment downstream of oil and gas produced water discharges intended for agricultural beneficial reuse. <i>Science of the Total Environment</i> , 2020, 715, 136944.	3.9	33
28	The generation and redistribution of soil cations in high elevation catenas in the Fraser Experimental Forest, Colorado, U.S.. <i>Geoderma</i> , 2019, 333, 135-144.	2.3	4
29	Assessing the efficacy of nitrogen isotopes to distinguish Colorado Front Range ammonia sources affecting Rocky Mountain National Park. <i>Atmospheric Environment</i> , 2019, 215, 116881.	1.9	9
30	Food Crop Irrigation with Oilfield-Produced Water Suppresses Plant Immune Response. <i>Environmental Science and Technology Letters</i> , 2019, 6, 656-661.	3.9	24
31	Hydrogeomorphic controls on soil carbon composition in two classes of subalpine wetlands. <i>Biogeochemistry</i> , 2019, 145, 161-175.	1.7	12
32	Emerging investigator series: radium accumulation in carbonate river sediments at oil and gas produced water discharges: implications for beneficial use as disposal management. <i>Environmental Sciences: Processes and Impacts</i> , 2019, 21, 324-338.	1.7	30
33	Potential for Beneficial Reuse of Oil and Gas-Derived Produced Water in Agriculture: Physiological and Morphological Responses in Spring Wheat (<i>Triticum aestivum</i>). <i>Environmental Toxicology and Chemistry</i> , 2019, 38, 1756-1769.	2.2	29
34	Temperature sensitivity of microbial Fe(III) reduction kinetics in subalpine wetland soils. <i>Biogeochemistry</i> , 2019, 142, 19-35.	1.7	15
35	Organic Matter Complexation Promotes Fe(II) Oxidation by the Photoautotrophic Fe(II)-Oxidizer <i>Rhodospseudomonas palustris</i> TIE-1. <i>ACS Earth and Space Chemistry</i> , 2019, 3, 531-536.	1.2	22
36	<i>In situ</i> transformation of hydraulic fracturing surfactants from well injection to produced water. <i>Environmental Sciences: Processes and Impacts</i> , 2019, 21, 1777-1786.	1.7	16

#	ARTICLE	IF	CITATIONS
37	Oxidation of Fe(II)â€“Organic Matter Complexes in the Presence of the Mixotrophic Nitrate-Reducing Fe(II)-Oxidizing Bacterium <i>Acidovorax</i> sp. BoFeN1. <i>Environmental Science & Technology</i> , 2018, 52, 5753-5763.	4.6	45
38	Reductive defluorination of perfluorooctanoic acid by zero-valent iron and zinc: A DFT-based kinetic model. <i>Chemical Engineering Journal</i> , 2018, 335, 248-254.	6.6	26
39	Characterization and spatial distribution of particulate and soluble carbon and nitrogen from wildfire-impacted sediments. <i>Journal of Soils and Sediments</i> , 2018, 18, 1314-1326.	1.5	12
40	Temporal characterization and statistical analysis of flowback and produced waters and their potential for reuse. <i>Science of the Total Environment</i> , 2018, 619-620, 654-664.	3.9	69
41	Ammonia Emissions from Subalpine Forest and Mountain Grassland Soils in Rocky Mountain National Park. <i>Journal of Environmental Quality</i> , 2018, 47, 778-785.	1.0	5
42	Fe(II)-Catalyzed Transformation of Organic Matterâ€“Ferrihydrite Coprecipitates: A Closer Look Using Fe Isotopes. <i>Environmental Science & Technology</i> , 2018, 52, 11142-11150.	4.6	80
43	Composition-Dependent Sorptive Fractionation of Anthropogenic Dissolved Organic Matter by Fe(III)-Montmorillonite. <i>Soil Systems</i> , 2018, 2, 14.	1.0	25
44	Simulation of a hydraulic fracturing wastewater surface spill on agricultural soil. <i>Science of the Total Environment</i> , 2018, 645, 229-234.	3.9	12
45	The Mechanism of Câ€“H Bond Oxidation by Aqueous Permanganate. <i>Environmental Science & Technology</i> , 2018, 52, 9845-9850.	4.6	11
46	Microbial acceleration of aerobic pyrite oxidation at circumneutral <sc>pH</sc>. <i>Geobiology</i> , 2017, 15, 690-703.	1.1	53
47	Biogenic non-crystalline U(IV) revealed as major component in uranium ore deposits. <i>Nature Communications</i> , 2017, 8, 15538.	5.8	57
48	Rainfall-runoff of anthropogenic waste indicators from agricultural fields applied with municipal biosolids. <i>Science of the Total Environment</i> , 2017, 580, 83-89.	3.9	31
49	Synergistic Treatment of Mixed 1,4-Dioxane and Chlorinated Solvent Contaminations by Coupling Electrochemical Oxidation with Aerobic Biodegradation. <i>Environmental Science & Technology</i> , 2017, 51, 12619-12629.	4.6	36
50	Organic coating on biochar explains its nutrient retention and stimulation of soil fertility. <i>Nature Communications</i> , 2017, 8, 1089.	5.8	371
51	Complexation and Redox Buffering of Iron(II) by Dissolved Organic Matter. <i>Environmental Science & Technology</i> , 2017, 51, 11096-11104.	4.6	157
52	Natural Attenuation of Nonionic Surfactants Used in Hydraulic Fracturing Fluids: Degradation Rates, Pathways, and Mechanisms. <i>Environmental Science & Technology</i> , 2017, 51, 13985-13994.	4.6	39
53	Watershed-Scale Impacts from Surface Water Disposal of Oil and Gas Wastewater in Western Pennsylvania. <i>Environmental Science & Technology</i> , 2017, 51, 8851-8860.	4.6	65
54	Adsorptive fractionation of dissolved organic matter (DOM) by mineral soil: Macroscale approach and molecular insight. <i>Organic Geochemistry</i> , 2017, 103, 113-124.	0.9	102

#	ARTICLE	IF	CITATIONS
55	Technical note: An improved approach to determining background aerosol concentrations with PILS sampling on aircraft. <i>Atmospheric Environment</i> , 2016, 136, 16-20.	1.9	2
56	An integrated spectroscopic and wet chemical approach to investigate grass litter decomposition chemistry. <i>Biogeochemistry</i> , 2016, 128, 107-123.	1.7	40
57	Spills of Hydraulic Fracturing Chemicals on Agricultural Topsoil: Biodegradation, Sorption, and Co-contaminant Interactions. <i>Environmental Science & Technology</i> , 2016, 50, 6071-6078.	4.6	86
58	Downhole Transformation of the Hydraulic Fracturing Fluid Biocide Glutaraldehyde: Implications for Flowback and Produced Water Quality. <i>Environmental Science & Technology</i> , 2016, 50, 11414-11423.	4.6	91
59	Advanced Electrochemical Oxidation of 1,4-Dioxane via Dark Catalysis by Novel Titanium Dioxide (TiO ₂) Pellets. <i>Environmental Science & Technology</i> , 2016, 50, 8817-8826.	4.6	45
60	Fate of carbamazepine, its metabolites, and lamotrigine in soils irrigated with reclaimed wastewater: Sorption, leaching and plant uptake. <i>Chemosphere</i> , 2016, 160, 22-29.	4.2	95
61	Biocides in Hydraulic Fracturing Fluids: A Critical Review of Their Usage, Mobility, Degradation, and Toxicity. <i>Environmental Science & Technology</i> , 2015, 49, 16-32.	4.6	317
62	Effect of biogeochemical redox processes on the fate and transport of As and U at an abandoned uranium mine site: an X-ray absorption spectroscopy study. <i>Environmental Chemistry</i> , 2014, 11, 18.	0.7	11
63	Simultaneous Reduction of Arsenic(V) and Uranium(VI) by Mackinawite: Role of Uranyl Arsenate Precipitate Formation. <i>Environmental Science & Technology</i> , 2014, 48, 14326-14334.	4.6	28
64	Biodegradability of pharmaceutical compounds in agricultural soils irrigated with treated wastewater. <i>Environmental Pollution</i> , 2014, 185, 168-177.	3.7	174
65	Impact of organic carbon and iron bioavailability on the magnetic susceptibility of soils. <i>Geochimica Et Cosmochimica Acta</i> , 2014, 128, 44-57.	1.6	27
66	Analysis of Hydraulic Fracturing Flowback and Produced Waters Using Accurate Mass: Identification of Ethoxylated Surfactants. <i>Analytical Chemistry</i> , 2014, 86, 9653-9661.	3.2	135
67	Direct photodegradation of lamotrigine (an antiepileptic) in simulated sunlight – pH influenced rates and products. <i>Environmental Sciences: Processes and Impacts</i> , 2014, 16, 848-857.	1.7	19
68	Long-term potential of in situ chemical reduction for treatment of polychlorinated biphenyls in soils. <i>Chemosphere</i> , 2014, 114, 144-149.	4.2	17
69	Impact of Hormones in Runoff from the Land Application of Biosolids. <i>Proceedings of the Water Environment Federation</i> , 2014, 2014, 6145-6157.	0.0	0
70	Dissimilatory Reduction and Transformation of Ferrihydrite-Humic Acid Coprecipitates. <i>Environmental Science & Technology</i> , 2013, 47, 13375-13384.	4.6	180
71	Direct Photodegradation of Androstenedione and Testosterone in Natural Sunlight: Inhibition by Dissolved Organic Matter and Reduction of Endocrine Disrupting Potential. <i>Environmental Science & Technology</i> , 2013, 47, 130710075816008.	4.6	12
72	Determination of contaminant levels and remediation efficacy in groundwater at a former in situ recovery uranium mine. <i>Journal of Environmental Monitoring</i> , 2012, 14, 1814.	2.1	25

#	ARTICLE	IF	CITATIONS
73	Schwertmannite and Fe oxides formed by biological low-pH Fe(II) oxidation versus abiotic neutralization: Impact on trace metal sequestration. <i>Geochimica Et Cosmochimica Acta</i> , 2012, 76, 29-44.	1.6	100
74	Influence of humic acid imposed changes of ferrihydrite aggregation on microbial Fe(III) reduction. <i>Geochimica Et Cosmochimica Acta</i> , 2012, 85, 326-341.	1.6	167
75	Steroid Hormone Runoff from Agricultural Test Plots Applied with Municipal Biosolids. <i>Environmental Science & Technology</i> , 2012, 46, 2746-2754.	4.6	62
76	Microbial Iron Cycling in Acidic Geothermal Springs of Yellowstone National Park: Integrating Molecular Surveys, Geochemical Processes, and Isolation of Novel Fe-Active Microorganisms. <i>Frontiers in Microbiology</i> , 2012, 3, 109.	1.5	82
77	Testosterone-Mineralizing Culture Enriched from Swine Manure: Characterization of Degradation Pathways and Microbial Community Composition. <i>Environmental Science & Technology</i> , 2011, 45, 6879-6886.	4.6	44
78	Artificial Sweetener Sucralose in U.S. Drinking Water Systems. <i>Environmental Science & Technology</i> , 2011, 45, 8716-8722.	4.6	166
79	Prediction of Contaminant Persistence in Aqueous Phase: A Quantum Chemical Approach. <i>Environmental Science & Technology</i> , 2011, 45, 2236-2242.	4.6	25
80	Arsenic redox transformation by humic substances and Fe minerals. <i>Applied Geochemistry</i> , 2011, 26, S317.	1.4	10
81	Determination of hexamethylphosphoramide and other highly polar phosphoramides in water samples using reversed-phase liquid chromatography/electrospray ionization time-of-flight mass spectrometry. <i>Journal of Chromatography A</i> , 2011, 1218, 6426-6432.	1.8	4
82	Multiple mechanisms of uranium immobilization by <i>Cellulomonas</i> sp. strain ES6. <i>Biotechnology and Bioengineering</i> , 2011, 108, 264-276.	1.7	88
83	Quantum Chemical Prediction of Redox Reactivity and Degradation Pathways for Aqueous Phase Contaminants: An Example with HMPA. <i>Environmental Science & Technology</i> , 2010, 44, 5868-5874.	4.6	21
84	Degradation Kinetics of Testosterone by Manure-Borne Bacteria: Influence of Temperature, pH, Glucose Amendments, and Dissolved Oxygen. <i>Journal of Environmental Quality</i> , 2010, 39, 1153-1160.	1.0	41
85	Biogeochemical Redox Processes and their Impact on Contaminant Dynamics. <i>Environmental Science & Technology</i> , 2010, 44, 15-23.	4.6	1,037
86	How electron flow controls contaminant dynamics. <i>Environmental Science & Technology</i> , 2010, 44, 3-6.	4.6	10
87	Arsenic repartitioning during biogenic sulfidization and transformation of ferrihydrite. <i>Geochimica Et Cosmochimica Acta</i> , 2010, 74, 980-994.	1.6	183
88	Redox Transformation of Arsenic by Fe(II)-Activated Goethite ($\hat{\pm}$ -FeOOH). <i>Environmental Science & Technology</i> , 2010, 44, 102-108.	4.6	266
89	Heavy Metal-Mineral Associations in Coeur d'Alene River Sediments: A Synchrotron-Based Analysis. <i>Water, Air, and Soil Pollution</i> , 2009, 201, 195-208.	1.1	23
90	Resolving biogeochemical phenomena at high spatial resolution through electron microscopy. <i>Geobiology</i> , 2008, 6, 263-269.	1.1	12

#	ARTICLE	IF	CITATIONS
91	Evaluation of Characterization Techniques for Iron Pipe Corrosion Products and Iron Oxide Thin Films. <i>Journal of Environmental Engineering, ASCE</i> , 2008, 134, 835-844.	0.7	19
92	Production of Eight Different Hydride Complexes and Nitrite Release from 2,4,6-Trinitrotoluene by <i>Yarrowia lipolytica</i> . <i>Applied and Environmental Microbiology</i> , 2007, 73, 7898-7905.	1.4	34
93	Phosphate Imposed Limitations on Biological Reduction and Alteration of Ferrihydrite. <i>Environmental Science & Technology</i> , 2007, 41, 166-172.	4.6	160
94	Chapter 12 Phosphate Interactions with Iron (Hydr)oxides: Mineralization Pathways and Phosphorus Retention upon Bioreduction. <i>Developments in Earth and Environmental Sciences</i> , 2007, , 321-348.	0.1	18
95	Chromate Reduction and Retention Processes within Arid Subsurface Environments. <i>Environmental Science & Technology</i> , 2005, 39, 7833-7839.	4.6	41
96	Impact of Ferrihydrite and Anthraquinone-2,6-Disulfonate on the Reductive Transformation of 2,4,6-Trinitrotoluene by a Gram-Positive Fermenting Bacterium. <i>Environmental Science & Technology</i> , 2005, 39, 7126-7133.	4.6	78
97	Use of reversed-phase high-performance liquid chromatography with diode array detection for complete separation of 2,4,6-trinitrotoluene metabolites and EPA Method 8330 explosives: influence of temperature and an ion-pair reagent. <i>Journal of Chromatography A</i> , 2004, 1022, 83-94.	1.8	56
98	Biodegradation of chlorinated solvents in a water unsaturated topsoil. <i>Chemosphere</i> , 2003, 51, 143-152.	4.2	20
99	Catalysis of PAH Biodegradation by Humic Acid Shown in Synchrotron Infrared Studies. <i>Environmental Science & Technology</i> , 2002, 36, 1276-1280.	4.6	103
100	Terrestrial natural sources of trichloromethane (chloroform, CHCl ₃) – An overview. <i>Biogeochemistry</i> , 2002, 60, 121-139.	1.7	93
101	Temperature effects on sorption of dissolved organic matter on ferrihydrite under dynamic flow and batch conditions. <i>Soil Science Society of America Journal</i> , 0, , .	1.2	3