## **Charles J Werth**

List of Publications by Year in descending order

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Chadles I M/edth

#	Article	IF	CITATIONS
1	Factors Impeding Replacement of Ion Exchange with (Electro)Catalytic Treatment for Nitrate Removal from Drinking Water. ACS ES&T Engineering, 2021, 1, 6-20.	7.6	32
2	Scalable Reactor Design for Electrocatalytic Nitrite Reduction with Minimal Mass Transfer Limitations. ACS ES&T Engineering, 2021, 1, 204-215.	7.6	8
3	The role of chemotaxis and efflux pumps on nitrate reduction in the toxic regions of a ciprofloxacin concentration gradient. ISME Journal, 2021, 15, 2920-2932.	9.8	7
4	Towards predicting DNAPL source zone formation to improve plume assessment: Using robust laboratory and numerical experiments to evaluate the relevance of retention curve characteristics. Journal of Hazardous Materials, 2021, 407, 124741.	12.4	10
5	Using MODFLOW and RT3D to simulate diffusion and reaction without discretizing low permeability zones. Journal of Contaminant Hydrology, 2021, 239, 103777.	3.3	8
6	Impact of antibiotic concentration gradients on nitrate reduction and antibiotic resistance in a microfluidic gradient chamber. Science of the Total Environment, 2021, 779, 146503.	8.0	7
7	Abiotic dechlorination in the presence of ferrous minerals. Journal of Contaminant Hydrology, 2021, 241, 103839.	3.3	4
8	Contamination Assessment and Siteâ€Management Tool (CAST): A Browserâ€Based Tool for Site Assessment. Ground Water, 2021, , .	1.3	4
9	Surfactant inhibition mechanisms of carbonate mineral dissolution in shale. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2021, 625, 126857.	4.7	3
10	Geochemically induced shear slip in artificially fractured dolomite- and clay-cemented sandstone. International Journal of Greenhouse Gas Control, 2021, 111, 103448.	4.6	2
11	Advanced Geomechanical Model to Predict the Impact of CO2-Induced Microstructural Alterations on the Cohesive-Frictional Behavior of Mt. Simon Sandstone. Minerals (Basel, Switzerland), 2021, 11, 38.	2.0	1
12	Reactive alteration of a Mt. Simon Sandstone due to CO2-rich brine displacement. Geochimica Et Cosmochimica Acta, 2020, 271, 227-247.	3.9	19
13	CO2 induced changes in Mount Simon sandstone: Understanding links to post CO2 injection monitoring, seismicity, and reservoir integrity. International Journal of Greenhouse Gas Control, 2020, 100, 103109.	4.6	11
14	PdAg Alloy Nanocatalysts: Toward Economically Viable Nitrite Reduction in Drinking Water. ACS Catalysis, 2020, 10, 7979-7989.	11.2	64
15	Cu <i><sub>x</sub></i> Ir <sub>1–<i>x</i></sub> Nanoalloy Catalysts Achieve Near 100% Selectivity for Aqueous Nitrite Reduction to NH <sub>3</sub> . ACS Catalysis, 2020, 10, 7915-7921.	11.2	69
16	Surfactant Adsorption on Shale Samples: Experiments and an Additive Model. Energy & Fuels, 2020, 34, 5436-5443.	5.1	19
17	Geochemical and geomechanical alteration of siliciclastic reservoir rock by supercritical CO2-saturated brine formed during geological carbon sequestration. International Journal of Greenhouse Gas Control, 2019, 88, 251-260.	4.6	29
18	Motility of <i>Shewanella oneidensis</i> MR-1 Allows for Nitrate Reduction in the Toxic Region of a Ciprofloxacin Concentration Gradient in a Microfluidic Reactor. Environmental Science & Technology, 2019, 53, 2778-2787.	10.0	16

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19	Adaptive Evolution of <i>Escherichia coli</i> to Ciprofloxacin in Controlled Stress Environments: Contrasting Patterns of Resistance in Spatially Varying versus Uniformly Mixed Concentration Conditions. Environmental Science & Technology, 2019, 53, 7996-8005.	10.0	11
20	Contributions of biotic and abiotic pathways to anaerobic trichloroethene transformation in low permeability source zones. Journal of Contaminant Hydrology, 2019, 224, 103480.	3.3	17
21	A review of geochemical–mechanical impacts in geological carbon storage reservoirs. , 2019, 9, 474-504.		32
22	Diffusion-Based Recycling of Flavins Allows <i>Shewanella oneidensis</i> MR-1 To Yield Energy from Metal Reduction Across Physical Separations. Environmental Science & Technology, 2019, 53, 3480-3487.	10.0	26
23	Quantification of Uncertainties from Image Processing and Analysis in Laboratory-Scale DNAPL Release Studies Evaluated by Reflective Optical Imaging. Water (Switzerland), 2019, 11, 2274.	2.7	7
24	Modeling \$\$hbox {CO}_2\$\$-Induced Alterations in Mt. Simon Sandstone via Nanomechanics. Rock Mechanics and Rock Engineering, 2019, 52, 1353-1375.	5.4	20
25	Mixing-Limited Reactions in Porous Media. Transport in Porous Media, 2019, 130, 157-182.	2.6	61
26	Mechanisms for Abiotic Dechlorination of Trichloroethene by Ferrous Minerals under Oxic and Anoxic Conditions in Natural Sediments. Environmental Science & Technology, 2018, 52, 13747-13755.	10.0	64
27	Geobiology reveals how human kidney stones dissolve in vivo. Scientific Reports, 2018, 8, 13731.	3.3	50
28	Intracellular versus extracellular accumulation of Hexavalent chromium reduction products by Geobacter sulfurreducens PCA. Environmental Pollution, 2018, 240, 485-492.	7.5	50
29	Critical Review: DNA Aptasensors, Are They Ready for Monitoring Organic Pollutants in Natural and Treated Water Sources?. Environmental Science & Technology, 2018, 52, 8989-9007.	10.0	53
30	Environmental Impacts of Replacing Slickwater with Low/No-Water Fracturing Fluids for Shale Gas Recovery. ACS Sustainable Chemistry and Engineering, 2018, 6, 7515-7524.	6.7	18
31	Ligand Design for Isomer-Selective Oxorhenium(V) Complex Synthesis. Inorganic Chemistry, 2017, 56, 1757-1769.	4.0	12
32	PdAu Alloy Nanoparticle Catalysts: Effective Candidates for Nitrite Reduction in Water. ACS Catalysis, 2017, 7, 3268-3276.	11.2	89
33	Effects of Mineral Surface Properties on Supercritical CO <sub>2</sub> Wettability in a Siliciclastic Reservoir. Energy & Fuels, 2017, 31, 5275-5285.	5.1	41
34	Abiotic dechlorination of chlorinated ethenes in natural clayey soils: Impacts of mineralogy and temperature. Journal of Contaminant Hydrology, 2017, 206, 10-17.	3.3	13
35	Nanowires of <i>Geobacter sulfurreducens</i> Require Redox Cofactors to Reduce Metals in Pore Spaces Too Small for Cell Passage. Environmental Science & Technology, 2017, 51, 11660-11668.	10.0	34
36	Real rock-microfluidic flow cell: A test bed for real-time in situ analysis of flow, transport, and reaction in a subsurface reactive transport environment. Journal of Contaminant Hydrology, 2017, 204, 28-39.	3.3	36

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37	Catalytic Nitrate Removal in a Trickle Bed Reactor: Direct Drinking Water Treatment. Journal - American Water Works Association, 2017, 109, .	0.3	14
38	Catalytic Denitrification in a Trickle Bed Reactor: Ion Exchange Waste Brine Treatment. Journal - American Water Works Association, 2017, 109, E129.	0.3	15
39	Evaluation of a hybrid ion exchange-catalyst treatment technology for nitrate removal from drinking water. Water Research, 2016, 96, 177-187.	11.3	84
40	A New Bioinspired Perchlorate Reduction Catalyst with Significantly Enhanced Stability via Rational Tuning of Rhenium Coordination Chemistry and Heterogeneous Reaction Pathway. Environmental Science & Technology, 2016, 50, 5874-5881.	10.0	21
41	Scalable subsurface inverse modeling of huge data sets with an application to tracer concentration breakthrough data from magnetic resonance imaging. Water Resources Research, 2016, 52, 5213-5231.	4.2	30
42	Configuration Control in the Synthesis of Homo- and Heteroleptic Bis(oxazolinylphenolato/thiazolinylphenolato) Chelate Ligand Complexes of Oxorhenium(V): Isomer Effect on Ancillary Ligand Exchange Dynamics and Implications for Perchlorate Reduction Catalysis. Inorganic Chemistry, 2016, 55, 2597-2611.	4.0	26
43	A hybrid poreâ€scale and continuumâ€scale model for solute diffusion, reaction, and biofilm development in porous media. Water Resources Research, 2015, 51, 1846-1859.	4.2	33
44	An Incompressible, Depth-Averaged Lattice Boltzmann Method for Liquid Flow in Microfluidic Devices with Variable Aperture. Computation, 2015, 3, 600-615.	2.0	10
45	Performance and life cycle environmental benefits of recycling spent ion exchange brines by catalytic treatment of nitrate. Water Research, 2015, 80, 267-280.	11.3	71
46	Metabolism-Induced CaCO <sub>3</sub> Biomineralization During Reactive Transport in a Micromodel: Implications for Porosity Alteration. Environmental Science & Technology, 2015, 49, 12094-12104.	10.0	36
47	Highly active Pd–In/mesoporous alumina catalyst for nitrate reduction. Journal of Hazardous Materials, 2015, 286, 425-431.	12.4	57
48	Selective Aptamers for Detection of Estradiol and Ethynylestradiol in Natural Waters. Environmental Science & Technology, 2015, 49, 9905-9913.	10.0	48
49	Immobilization of Selenite via Two Parallel Pathways during In Situ Bioremediation. Environmental Science & Technology, 2015, 49, 4543-4550.	10.0	19
50	Mechanism and Mitigation of the Decomposition of an Oxorhenium Complex-Based Heterogeneous Catalyst for Perchlorate Reduction in Water. Environmental Science & Technology, 2015, 49, 12932-12940.	10.0	22
51	Bioinspired Complex-Nanoparticle Hybrid Catalyst System for Aqueous Perchlorate Reduction: Rhenium Speciation and Its Influence on Catalyst Activity. ACS Catalysis, 2015, 5, 511-522.	11.2	45
52	Heterogeneous Catalytic Reduction for Water Purification. , 2014, , 339-349.		0
53	Adaptation of Delftia acidovorans for degradation of 2,4-dichlorophenoxyacetate in a microfluidic porous medium. Biodegradation, 2014, 25, 595-604.	3.0	11
54	Environmental risk analysis of hazardous material rail transportation. Journal of Hazardous Materials, 2014, 264, 560-569.	12.4	82

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55	Palladium Nanoparticles Encapsulated in Core–Shell Silica: A Structured Hydrogenation Catalyst with Enhanced Activity for Reduction of Oxyanion Water Pollutants. ACS Catalysis, 2014, 4, 3551-3559.	11.2	79
56	Influence of Mg2+ on CaCO3 precipitation during subsurface reactive transport in a homogeneous silicon-etched pore network. Geochimica Et Cosmochimica Acta, 2014, 135, 321-335.	3.9	35
5 <b>7</b>	Pore-Scale Simulations of Gas Displacing Liquid in a Homogeneous Pore Network Using the Lattice Boltzmann Method. Transport in Porous Media, 2013, 99, 555-580.	2.6	101
58	Structure Sensitivity Study of Waterborne Contaminant Hydrogenation Using Shape- and Size-Controlled Pd Nanoparticles. ACS Catalysis, 2013, 3, 453-463.	11.2	74
59	Comparative Assessment of the Environmental Sustainability of Existing and Emerging Perchlorate Treatment Technologies for Drinking Water. Environmental Science & Technology, 2013, 47, 4644-4652.	10.0	67
60	Application of a Re–Pd bimetallic catalyst for treatment of perchlorate in waste ion-exchange regenerant brine. Water Research, 2013, 47, 91-101.	11.3	62
61	Elucidation of Nitrate Reduction Mechanisms on a Pdâ€In Bimetallic Catalyst using Isotope Labeled Nitrogen Species. ChemCatChem, 2013, 5, 313-321.	3.7	83
62	An improved pore-scale biofilm model and comparison with a microfluidic flow cell experiment. Water Resources Research, 2013, 49, 8370-8382.	4.2	57
63	Impacts of Geochemical Reactions on Geologic Carbon Sequestration. Environmental Science & Technology, 2013, 47, 3-8.	10.0	133
64	Poreâ€scale evaluation of uranyl phosphate precipitation in a model groundwater system. Water Resources Research, 2013, 49, 874-890.	4.2	38
65	Enhanced Activity and Selectivity of Carbon Nanofiber Supported Pd Catalysts for Nitrite Reduction. Environmental Science & Technology, 2012, 46, 2847-2855.	10.0	98
66	Poreâ€scale simulation of mixingâ€induced calcium carbonate precipitation and dissolution in a microfluidic pore network. Water Resources Research, 2012, 48, .	4.2	126
67	Critical Review of Pd-Based Catalytic Treatment of Priority Contaminants in Water. Environmental Science & Technology, 2012, 46, 3655-3670.	10.0	373
68	Aqueous N2O Reduction with H2 Over Pd-Based Catalyst: Mechanistic Insights From Experiment and Simulation. Topics in Catalysis, 2012, 55, 300-312.	2.8	11
69	NAPL Source Zone Depletion Model and Its Application to Railroadâ€Tankâ€Car Spills. Ground Water, 2012, 50, 627-632.	1.3	4
70	A New Geometric Method Based on Two-Dimensional Transmission Electron Microscopy for Analysis of Interior versus Exterior Pd Loading on Hollow Carbon Nanofibers. Journal of Physical Chemistry Letters, 2011, 2, 1082-1087.	4.6	3
71	A review of non-invasive imaging methods and applications in contaminant hydrogeology research. Journal of Contaminant Hydrology, 2010, 113, 1-24.	3.3	174
72	Using dispersivity values to quantify the effects of pore-scale flow focusing on enhanced reaction along a transverse mixing zone. Advances in Water Resources, 2010, 33, 525-535.	3.8	33

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73	Effects of Pore-Scale Heterogeneity and Transverse Mixing on Bacterial Growth in Porous Media. Environmental Science & Technology, 2010, 44, 3085-3092.	10.0	67
74	Pore-Scale Study of Transverse Mixing Induced CaCO <sub>3</sub> Precipitation and Permeability Reduction in a Model Subsurface Sedimentary System. Environmental Science & Technology, 2010, 44, 7833-7838.	10.0	123
75	Potential contributions of asphalt and coal tar to black carbon quantification in urban dust, soils, and sediments. Geochimica Et Cosmochimica Acta, 2010, 74, 6830-6840.	3.9	17
76	Enhancement of Oxyanion and Diatrizoate Reduction Kinetics Using Selected Azo Dyes on Pd-Based Catalysts. Environmental Science & Technology, 2010, 44, 1773-1779.	10.0	33
77	Surface and Interfacial Properties of Nonaqueousâ€Phase Liquid Mixtures Released to the Subsurface at the Hanford Site. Vadose Zone Journal, 2009, 8, 343-351.	2.2	10
78	Numerical and experimental investigation of DNAPL removal mechanisms in a layered porous medium by means of soil vapor extraction. Journal of Contaminant Hydrology, 2009, 109, 1-13.	3.3	18
79	Oxidative Regeneration of Sulfide-fouled Catalysts for Water Treatment. Catalysis Letters, 2009, 132, 174-181.	2.6	5
80	The Selectivity and Sustainability of a Pd–In/γ-Al2O3 Catalyst in a Packed-Bed Reactor: The Effect of Solution Composition. Catalysis Letters, 2009, 130, 56-62.	2.6	49
81	An environmental screening model to assess the consequences to soil and groundwater from railroad-tank-car spills of light non-aqueous phase liquids. Journal of Hazardous Materials, 2009, 165, 332-344.	12.4	28
82	Catalytic Nitrate and Nitrite Reduction with Pdâ^'Cu/PVP Colloids in Water: Composition, Structure, and Reactivity Correlations. Journal of Physical Chemistry C, 2009, 113, 8177-8185.	3.1	88
83	Estimation of Interfacial Tension between Organic Liquid Mixtures and Water. Environmental Science & Technology, 2009, 43, 7754-7761.	10.0	33
84	Heterogeneous Catalytic Reduction for Water Purification: Nanoscale Effects on Catalytic Activity, Selectivity, and Sustainability. , 2009, , 269-279.		3
85	Impact of nonaqueous phase liquid (NAPL) source zone architecture on mass removal mechanisms in strongly layered heterogeneous porous media during soil vapor extraction. Journal of Contaminant Hydrology, 2008, 100, 58-71.	3.3	18
86	Evaluation of simplified mass transfer models to simulate the impacts of source zone architecture on nonaqueous phase liquid dissolution in heterogeneous porous media. Journal of Contaminant Hydrology, 2008, 102, 49-60.	3.3	52
87	Evaluation of the Effects of Porous Media Structure on Mixing-Controlled Reactions Using Pore-Scale Modeling and Micromodel Experiments. Environmental Science & Technology, 2008, 42, 3185-3193.	10.0	192
88	Numerical simulation of water flow in three dimensional heterogeneous porous media observed in a magnetic resonance imaging experiment. Water Resources Research, 2008, 44, .	4.2	23
89	The Role of Condensed Carbonaceous Materials on the Sorption of Hydrophobic Organic Contaminants in Subsurface Sediments. Environmental Science & Technology, 2008, 42, 1458-1464.	10.0	37
90	Poreâ€scale simulation of dispersion and reaction along a transverse mixing zone in twoâ€dimensional porous media. Water Resources Research, 2007, 43, .	4.2	73

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91	Regeneration of Sulfur-Fouled Bimetallic Pd-Based Catalysts. Environmental Science & Technology, 2007, 41, 5491-5497.	10.0	82
92	Characterization of NAPL Source Zone Architecture and Dissolution Kinetics in Heterogeneous Porous Media Using Magnetic Resonance Imaging. Environmental Science & Technology, 2007, 41, 3672-3678.	10.0	49
93	Comparison of continuum and pore-scale models of nutrient biodegradation under transverse mixing conditions. Advances in Water Resources, 2007, 30, 1421-1431.	3.8	63
94	Effect of soil moisture dynamics on dense nonaqueous phase liquid (DNAPL) spill zone architecture in heterogeneous porous media. Journal of Contaminant Hydrology, 2007, 90, 159-183.	3.3	12
95	Effects of Natural Water Ions and Humic Acid on Catalytic Nitrate Reduction Kinetics Using an Alumina Supported Pdâ^'Cu Catalyst. Environmental Science & Technology, 2006, 40, 3075-3081.	10.0	153
96	Enhanced mixing and reaction through flow focusing in heterogeneous porous media. Water Resources Research, 2006, 42, .	4.2	137
97	Chitin and corncobs as electron donor sources for the reductive dechlorination of tetrachloroethene. Water Research, 2006, 40, 2125-2134.	11.3	27
98	Visualization of colloid transport through heterogeneous porous media using magnetic resonance imaging. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2005, 265, 2-10.	4.7	39
99	Structural Changes of Bimetallic PdX/Cu (1-X) Nanocatalysts Developed for Nitrate Reduction of Drinking Water. Materials Research Society Symposia Proceedings, 2005, 876, 1.	0.1	2
100	Evaluation of Methods To Obtain Geosorbent Fractions Enriched in Carbonaceous Materials That Affect Hydrophobic Organic Chemical Sorption. Environmental Science & Technology, 2005, 39, 3279-3288.	10.0	21
101	Visualization and Modeling of Polystyrol Colloid Transport in a Silicon Micromodel. Vadose Zone Journal, 2004, 3, 434-443.	2.2	47
102	Web-based interactive simulation of groundwater pollutant fate and transport. Computer Applications in Engineering Education, 2004, 12, 75-83.	3.4	14
103	Slow Desorption Mechanisms of Volatile Organic Chemical Mixtures in Soil and Sediment Micropores. Environmental Science & Technology, 2004, 38, 440-448.	10.0	33
104	Visualization and Modeling of Polystyrol Colloid Transport in a Silicon Micromodel. Vadose Zone Journal, 2004, 3, 434-443.	2.2	6
105	Analysis of pore-scale nonaqueous phase liquid dissolution in etched silicon pore networks. Water Resources Research, 2003, 39, .	4.2	98
106	Pore-Scale Analysis of Anaerobic Halorespiring Bacterial Growth along the Transverse Mixing Zone of an Etched Silicon Pore Network. Environmental Science & Technology, 2003, 37, 5617-5624.	10.0	50
107	Modeling the Influence of Water Content on Soil Vapor Extraction. Vadose Zone Journal, 2003, 2, 368-381.	2.2	23
108	Modeling the Influence of Water Content on Soil Vapor Extraction. Vadose Zone Journal, 2003, 2, 368.	2.2	0

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109	Modeling the Influence of Water Content on Soil Vapor Extraction. Vadose Zone Journal, 2003, 2, 368-381.	2.2	5
110	A Magnetic Resonance Imaging Study of Dense Nonaqueous Phase Liquid Dissolution from Angular Porous Media. Environmental Science & Technology, 2002, 36, 3310-3317.	10.0	76
111	Modeling the effects of concentration history on the slow desorption of trichloroethene from a soil at 100% relative humidity. Journal of Contaminant Hydrology, 2002, 54, 307-327.	3.3	20
112	Modeling sorption isotherms of volatile organic chemical mixtures in model and natural solids. Environmental Toxicology and Chemistry, 2002, 21, 1377-1383.	4.3	40
113	Pore-scale modeling of dissolution from variably distributed nonaqueous phase liquid blobs. Water Resources Research, 2001, 37, 2951-2963.	4.2	54
114	Evaluating Competitive Sorption Mechanisms of Volatile Organic Compounds in Soils and Sediments Using Polymers and Zeolites. Environmental Science & Technology, 2001, 35, 568-574.	10.0	83
115	Evaluation of Different Polymeric Organic Materials for Creating Conditions That Favor Reductive Processes in Groundwater. Bioremediation Journal, 2001, 5, 169-181.	2.0	17
116	Structural Evaluation of Slow Desorbing Sites in Model and Natural Solids Using Temperature Stepped Desorption Profiles. 1. Model Development. Environmental Science & Technology, 2000, 34, 2959-2965.	10.0	21
117	Structural Evaluation of Slow Desorbing Sites in Model and Natural Solids Using Temperature Stepped Desorption Profiles. 2. Column Results. Environmental Science & Technology, 2000, 34, 2966-2972.	10.0	13
118	Binary Desorption Isotherms of TCE and PCE from Silica Gel and Natural Solids. Environmental Science & Technology, 2000, 34, 4341-4347.	10.0	19
119	Counter-Diffusion of Isotopically Labeled Trichloroethylene in Silica Gel and Geosorbent Micropores: Column Results. Environmental Science & Technology, 1999, 33, 730-736.	10.0	12
120	Counter-Diffusion of Isotopically Labeled Trichloroethylene in Silica Gel and Geosorbent Micropores:Â Model Development. Environmental Science & Technology, 1999, 33, 2178-2185.	10.0	9
121	Effects of Temperature on Trichloroethylene Desorption from Silica Gel and Natural Sediments. 1. Isotherms. Environmental Science & Technology, 1997, 31, 689-696.	10.0	62
122	Effects of Temperature on Trichloroethylene Desorption from Silica Gel and Natural Sediments. 2. Kinetics. Environmental Science & Technology, 1997, 31, 697-703.	10.0	101
123	Effects of grain-scale mass transfer on the transport of volatile organics through sediments: 1. Model development. Water Resources Research, 1997, 33, 2713-2726.	4.2	83
124	Effects of grain-scale mass transfer on the transport of volatile organics through sediments: 2. Column results. Water Resources Research, 1997, 33, 2727-2740.	4.2	70