

# John M Zachara

## List of Publications by Year in descending order

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85  
papers

8,567  
citations

66234

42  
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54797

84  
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88  
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88  
docs citations

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times ranked

6053  
citing authors

#	ARTICLE	IF	CITATIONS
1	Using Ensemble Data Assimilation to Estimate Transient Hydrologic Exchange Flow Under Highly Dynamic Flow Conditions. <i>Water Resources Research</i> , 2022, 58, .	1.7	10
2	River Dynamics Control Transit Time Distributions and Biogeochemical Reactions in a Dam-Regulated River Corridor. <i>Water Resources Research</i> , 2020, 56, e2019WR026470.	1.7	12
3	Kilometer-Scale Hydrologic Exchange Flows in a Gravel Bed River Corridor and Their Implications to Solute Migration. <i>Water Resources Research</i> , 2020, 56, e2019WR025258.	1.7	19
4	Understanding Contaminant Migration Within a Dynamic River Corridor Through Field Experiments and Reactive Transport Modeling. <i>Frontiers in Water</i> , 2020, 2, .	1.0	2
5	Delineating Facies Spatial Distribution by Integrating Ensemble Data Assimilation and Indicator Geostatistics With Level-Set Transformation. <i>Water Resources Research</i> , 2019, 55, 2652-2671.	1.7	22
6	Using Bayesian Networks for Sensitivity Analysis of Complex Biogeochemical Models. <i>Water Resources Research</i> , 2019, 55, 3541-3555.	1.7	23
7	Dam Operations and Subsurface Hydrogeology Control Dynamics of Hydrologic Exchange Flows in a Regulated River Reach. <i>Water Resources Research</i> , 2019, 55, 2593-2612.	1.7	39
8	Riverbed Hydrologic Exchange Dynamics in a Large Regulated River Reach. <i>Water Resources Research</i> , 2018, 54, 2715-2730.	1.7	17
9	Influences of organic carbon speciation on hyporheic corridor biogeochemistry and microbial ecology. <i>Nature Communications</i> , 2018, 9, 585.	5.8	110
10	Drought Conditions Maximize the Impact of High-Frequency Flow Variations on Thermal Regimes and Biogeochemical Function in the Hyporheic Zone. <i>Water Resources Research</i> , 2018, 54, 7361-7382.	1.7	63
11	Characterizing Technetium in Subsurface Sediments for Contaminant Remediation. <i>ACS Earth and Space Chemistry</i> , 2018, 2, 1145-1160.	1.2	8
12	Modulating factors of hydrologic exchanges in a large-scale river reach: Insights from three-dimensional computational fluid dynamics simulations. <i>Hydrological Processes</i> , 2018, 32, 3446-3463.	1.1	11
13	Effect of Water Chemistry and Hydrodynamics on Nitrogen Transformation Activity and Microbial Community Functional Potential in Hyporheic Zone Sediment Columns. <i>Environmental Science &amp; Technology</i> , 2017, 51, 4877-4886.	4.6	79
14	A geostatistics-informed hierarchical sensitivity analysis method for complex groundwater flow and transport modeling. <i>Water Resources Research</i> , 2017, 53, 4327-4343.	1.7	30
15	Targeted quantification of functional enzyme dynamics in environmental samples for microbially mediated biogeochemical processes. <i>Environmental Microbiology Reports</i> , 2017, 9, 512-521.	1.0	16
16	Redox transformation and reductive immobilization of Cr(VI) in the Columbia River hyporheic zone sediments. <i>Journal of Hydrology</i> , 2017, 555, 278-287.	2.3	18
17	Expanding the role of reactive transport models in critical zone processes. <i>Earth-Science Reviews</i> , 2017, 165, 280-301.	4.0	207
18	A New Approach to Quantify Shallow Water Hydrologic Exchanges in a Large Regulated River Reach. <i>Water (Switzerland)</i> , 2017, 9, 703.	1.2	12

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19	Regulation-Structured Dynamic Metabolic Model Provides a Potential Mechanism for Delayed Enzyme Response in Denitrification Process. <i>Frontiers in Microbiology</i> , 2017, 8, 1866.	1.5	40
20	Coupling a three-dimensional subsurface flow and transport model with a land surface model to simulate stream-aquifer-land interactions (CPAV1.0). <i>Geoscientific Model Development</i> , 2017, 10, 4539-4562.	1.3	25
21	River stage influences on uranium transport in a hydrologically dynamic groundwater-surface water transition zone. <i>Water Resources Research</i> , 2016, 52, 1568-1590.	1.7	42
22	Internal Domains of Natural Porous Media Revealed: Critical Locations for Transport, Storage, and Chemical Reaction. <i>Environmental Science &amp; Technology</i> , 2016, 50, 2811-2829.	4.6	76
23	Nitrate bioreduction in redox-variable low permeability sediments. <i>Science of the Total Environment</i> , 2016, 539, 185-195.	3.9	32
24	Four-dimensional electrical conductivity monitoring of stage-driven river water intrusion: Accounting for water table effects using a transient mesh boundary and conditional inversion constraints. <i>Water Resources Research</i> , 2015, 51, 6177-6196.	1.7	33
25	Microbial Redox Proteins and Protein Complexes for Extracellular Respiration. , 2015, , 187-216.		2
26	Effects of soluble flavin on heterogeneous electron transfer between surface-exposed bacterial cytochromes and iron oxides. <i>Geochimica Et Cosmochimica Acta</i> , 2015, 163, 299-310.	1.6	41
27	Pore-scale and multiscale numerical simulation of flow and transport in a laboratory-scale column. <i>Water Resources Research</i> , 2015, 51, 1023-1035.	1.7	79
28	<sup>99</sup> Tc(VII) Retardation, Reduction, and Redox Rate Scaling in Naturally Reduced Sediments. <i>Environmental Science &amp; Technology</i> , 2015, 49, 13403-13412.	4.6	15
29	A transmembrane porin-cytochrome protein complex for extracellular electron transfer by <i>Geobacter sulfurreducens</i> ...PCA. <i>Environmental Microbiology Reports</i> , 2014, 6, 776-785.	1.0	178
30	Long-term kinetics of uranyl desorption from sediments under advective conditions. <i>Water Resources Research</i> , 2014, 50, 855-870.	1.7	14
31	Investigation of U(VI) Adsorption in Quartz-Chlorite Mineral Mixtures. <i>Environmental Science &amp; Technology</i> , 2014, 48, 7766-7773.	4.6	16
32	Fe(II)- and sulfide-facilitated reduction of <sup>99</sup> Tc(VII)O <sub>4</sub> in microbially reduced hyporheic zone sediments. <i>Geochimica Et Cosmochimica Acta</i> , 2014, 136, 247-264.	1.6	39
33	Influence of calcite on uranium(VI) reactive transport in the groundwater-river mixing zone. <i>Journal of Contaminant Hydrology</i> , 2014, 156, 27-37.	1.6	29
34	Assessment of controlling processes for field-scale uranium reactive transport under highly transient flow conditions. <i>Water Resources Research</i> , 2014, 50, 1006-1024.	1.7	22
35	Persistence of uranium groundwater plumes: Contrasting mechanisms at two DOE sites in the groundwater-river interaction zone. <i>Journal of Contaminant Hydrology</i> , 2013, 147, 45-72.	1.6	136
36	Rapid electron exchange between surface-exposed bacterial cytochromes and Fe(III) minerals. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 6346-6351.	3.3	179

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37	Establishing a geochemical heterogeneity model for a contaminated vadose zone " Aquifer system. <i>Journal of Contaminant Hydrology</i> , 2013, 153, 122-140.	1.6	15
38	Reductive dissolution of goethite and hematite by reduced flavins. <i>Geochimica Et Cosmochimica Acta</i> , 2013, 121, 139-154.	1.6	41
39	Scale-dependent rates of uranyl surface complexation reaction in sediments. <i>Geochimica Et Cosmochimica Acta</i> , 2013, 105, 326-341.	1.6	54
40	Application of ensemble-based data assimilation techniques for aquifer characterization using tracer data at Hanford 300 area. <i>Water Resources Research</i> , 2013, 49, 7064-7076.	1.7	37
41	Characterizing particle-scale equilibrium adsorption and kinetics of uranium(VI) desorption from U-contaminated sediments. <i>Water Resources Research</i> , 2013, 49, 1163-1177.	1.7	27
42	Characterization of a contaminated wellfield using 3D electrical resistivity tomography implemented with geostatistical, discontinuous boundary, and known conductivity constraints. <i>Geophysics</i> , 2012, 77, EN85-EN96.	1.4	36
43	Pore-Scale Characterization of Biogeochemical Controls on Iron and Uranium Speciation under Flow Conditions. <i>Environmental Science &amp; Technology</i> , 2012, 46, 7992-8000.	4.6	12
44	Development of a proteoliposome model to probe transmembrane electron-transfer reactions. <i>Biochemical Society Transactions</i> , 2012, 40, 1257-1260.	1.6	20
45	Redox Reactions of Reduced Flavin Mononucleotide (FMN), Riboflavin (RBF), and Anthraquinone-2,6-disulfonate (AQDS) with Ferrihydrite and Lepidocrocite. <i>Environmental Science &amp; Technology</i> , 2012, 46, 11644-11652.	4.6	98
46	Mtr extracellular electron-transfer pathways in Fe(III)-reducing or Fe(II)-oxidizing bacteria: a genomic perspective. <i>Biochemical Society Transactions</i> , 2012, 40, 1261-1267.	1.6	150
47	Three-dimensional Bayesian geostatistical aquifer characterization at the Hanford 300 Area using tracer test data. <i>Water Resources Research</i> , 2012, 48, .	1.7	40
48	Utility of bromide and heat tracers for aquifer characterization affected by highly transient flow conditions. <i>Water Resources Research</i> , 2012, 48, .	1.7	51
49	Molecular Underpinnings of Fe(III) Oxide Reduction by <i>Shewanella Oneidensis</i> MR-1. <i>Frontiers in Microbiology</i> , 2012, 3, 50.	1.5	186
50	The "porin" cytochrome™ model for microbe-to-mineral electron transfer. <i>Molecular Microbiology</i> , 2012, 85, 201-212.	1.2	222
51	Competitive Reduction of Pertechnetate ( <sup>99</sup> TcO <sub>4</sub> <sup>-</sup> ) by Dissimilatory Metal Reducing Bacteria and Biogenic Fe(II). <i>Environmental Science &amp; Technology</i> , 2011, 45, 951-957.	4.6	48
52	Effect of Grain Size on Uranium(VI) Surface Complexation Kinetics and Adsorption Additivity. <i>Environmental Science &amp; Technology</i> , 2011, 45, 6025-6031.	4.6	60
53	Transient groundwater chemistry near a river: Effects on U(VI) transport in laboratory column experiments. <i>Water Resources Research</i> , 2011, 47, .	1.7	26
54	Multispecies diffusion models: A study of uranyl species diffusion. <i>Water Resources Research</i> , 2011, 47, .	1.7	43

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55	Quantifying Differences in the Impact of Variable Chemistry on Equilibrium Uranium(VI) Adsorption Properties of Aquifer Sediments. <i>Environmental Science &amp; Technology</i> , 2011, 45, 8733-8740.	4.6	42
56	Determining individual mineral contributions to U(VI) adsorption in a contaminated aquifer sediment: A fluorescence spectroscopy study. <i>Geochimica Et Cosmochimica Acta</i> , 2011, 75, 2965-2979.	1.6	35
57	The mineralogic transformation of ferrihydrite induced by heterogeneous reaction with bio-reduced anthraquinone disulfonate (AQDS) and the role of phosphate. <i>Geochimica Et Cosmochimica Acta</i> , 2011, 75, 6330-6349.	1.6	33
58	Importance of considering intraborehole flow in solute transport modeling under highly dynamic flow conditions. <i>Journal of Contaminant Hydrology</i> , 2011, 123, 11-19.	1.6	23
59	Structure of a bacterial cell surface decaheme electron conduit. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, 9384-9389.	3.3	301
60	Resupply mechanism to a contaminated aquifer: A laboratory study of U(VI) desorption from capillary fringe sediments. <i>Geochimica Et Cosmochimica Acta</i> , 2010, 74, 5155-5170.	1.6	24
61	Uranium Speciation As a Function of Depth in Contaminated Hanford Sediments - A Micro-XRF, Micro-XRD, and Micro- And Bulk-XAFS Study. <i>Environmental Science &amp; Technology</i> , 2009, 43, 630-636.	4.6	90
62	Newly recognized hosts for uranium in the Hanford Site vadose zone. <i>Geochimica Et Cosmochimica Acta</i> , 2009, 73, 1563-1576.	1.6	80
63	Oxidative dissolution potential of biogenic and abiogenic TcO <sub>2</sub> in subsurface sediments. <i>Geochimica Et Cosmochimica Acta</i> , 2009, 73, 2299-2313.	1.6	54
64	Kinetics of Uranium(VI) Desorption from Contaminated Sediments: Effect of Geochemical Conditions and Model Evaluation. <i>Environmental Science &amp; Technology</i> , 2009, 43, 6560-6566.	4.6	89
65	Characterization of an electron conduit between bacteria and the extracellular environment. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 22169-22174.	3.3	410
66	Hydrogenase and outer membrane cytochrome facilitated reduction of technetium(VII) by <i>Shewanella oneidensis</i> MR-1. <i>Environmental Microbiology</i> , 2008, 10, 125-136.	1.8	74
67	Scale-dependent desorption of uranium from contaminated subsurface sediments. <i>Water Resources Research</i> , 2008, 44, .	1.7	123
68	Kinetics of Reduction of Fe(III) Complexes by Outer Membrane Cytochromes MtrC and OmcA of <i>Shewanella oneidensis</i> MR-1. <i>Applied and Environmental Microbiology</i> , 2008, 74, 6746-6755.	1.4	89
69	Reduction of pertechnetate [Tc(VII)] by aqueous Fe(II) and the nature of solid phase redox products. <i>Geochimica Et Cosmochimica Acta</i> , 2007, 71, 2137-2157.	1.6	154
70	Kinetics of Reductive Dissolution of Hematite by Bio-reduced Anthraquinone-2,6-disulfonate. <i>Environmental Science &amp; Technology</i> , 2007, 41, 7730-7735.	4.6	80
71	Geochemical Controls on Contaminant Uranium in Vadose Hanford Formation Sediments at the 200 Area and 300 Area, Hanford Site, Washington. <i>Vadose Zone Journal</i> , 2007, 6, 1004-1017.	1.3	50
72	Geochemical Processes Controlling Migration of Tank Wastes in Hanford's Vadose Zone. <i>Vadose Zone Journal</i> , 2007, 6, 985-1003.	1.3	109

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73	Respiration of metal (hydr)oxides by <i>Shewanella</i> and <i>Geobacter</i> : a key role for multihaemc-type cytochromes. <i>Molecular Microbiology</i> , 2007, 65, 12-20.	1.2	592
74	Changes in Uranium Speciation through a Depth Sequence of Contaminated Hanford Sediments. <i>Environmental Science &amp; Technology</i> , 2006, 40, 2517-2524.	4.6	135
75	The effect of calcium on aqueous uranium(VI) speciation and adsorption to ferrihydrite and quartz. <i>Geochimica Et Cosmochimica Acta</i> , 2006, 70, 1379-1387.	1.6	246
76	Kinetic Desorption and Sorption of U(VI) during Reactive Transport in a Contaminated Hanford Sediment. <i>Environmental Science &amp; Technology</i> , 2005, 39, 3157-3165.	4.6	137
77	Cryogenic Laser Induced U(VI) Fluorescence Studies of a U(VI) Substituted Natural Calcite: Implications to U(VI) Speciation in Contaminated Hanford Sediments. <i>Environmental Science &amp; Technology</i> , 2005, 39, 2651-2659.	4.6	73
78	Reduction of $TcO_4^{2-}$ by sediment-associated biogenic Fe(II). <i>Geochimica Et Cosmochimica Acta</i> , 2004, 68, 3171-3187.	1.6	184
79	Dissolution of uranyl microprecipitates in subsurface sediments at Hanford Site, USA. <i>Geochimica Et Cosmochimica Acta</i> , 2004, 68, 4519-4537.	1.6	110
80	Solubilization of Fe(III) oxide-bound trace metals by a dissimilatory Fe(III) reducing bacterium. <i>Geochimica Et Cosmochimica Acta</i> , 2001, 65, 75-93.	1.6	223
81	Reduction of U(VI) in goethite ( $\alpha$ -FeOOH) suspensions by a dissimilatory metal-reducing bacterium. <i>Geochimica Et Cosmochimica Acta</i> , 2000, 64, 3085-3098.	1.6	309
82	The effect of biogenic Fe(II) on the stability and sorption of $Co(II)EDTA^{2-}$ to goethite and a subsurface sediment. <i>Geochimica Et Cosmochimica Acta</i> , 2000, 64, 1345-1362.	1.6	34
83	Biogenic iron mineralization accompanying the dissimilatory reduction of hydrous ferric oxide by a groundwater bacterium. <i>Geochimica Et Cosmochimica Acta</i> , 1998, 62, 3239-3257.	1.6	712
84	Bacterial reduction of crystalline Fe (super 3+) oxides in single phase suspensions and subsurface materials. <i>American Mineralogist</i> , 1998, 83, 1426-1443.	0.9	324
85	Microbial Reduction of Crystalline Iron(III) Oxides: Influence of Oxide Surface Area and Potential for Cell Growth. <i>Environmental Science &amp; Technology</i> , 1996, 30, 1618-1628.	4.6	711