

# Alan C West

## List of Publications by Year in descending order

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81  
papers

3,056  
citations

201674

27  
h-index

168389

53  
g-index

83  
all docs

83  
docs citations

83  
times ranked

2454  
citing authors

#	ARTICLE	IF	CITATIONS
1	Copper Deposition in the Presence of Polyethylene Glycol: I. Quartz Crystal Microbalance Study. Journal of the Electrochemical Society, 1998, 145, 3472-3476.	2.9	321
2	Advancements in the treatment and processing of electronic waste with sustainability: a review of metal extraction and recovery technologies. Green Chemistry, 2019, 21, 919-936.	9.0	248
3	Effect of Electrolyte Composition on Lithium Dendrite Growth. Journal of the Electrochemical Society, 2008, 155, A806.	2.9	240
4	Leveling and Microstructural Effects of Additives for Copper Electrodeposition. Journal of the Electrochemical Society, 1999, 146, 2540-2545.	2.9	222
5	Copper Deposition in the Presence of Polyethylene Glycol: II. Electrochemical Impedance Spectroscopy. Journal of the Electrochemical Society, 1998, 145, 3477-3481.	2.9	218
6	Theory of Filling of High-Aspect Ratio Trenches and Vias in Presence of Additives. Journal of the Electrochemical Society, 2000, 147, 227.	2.9	133
7	From Fundamental Understanding to Engineering Design of High-Performance Thick Electrodes for Scalable Energy-Storage Systems. Advanced Materials, 2021, 33, e2101275.	21.0	89
8	Pulse Reverse Copper Electrodeposition in High Aspect Ratio Trenches and Vias. Journal of the Electrochemical Society, 1998, 145, 3070-3074.	2.9	83
9	Copper Electropolishing in Concentrated Phosphoric Acid: I . Experimental Findings. Journal of the Electrochemical Society, 1995, 142, 2682-2689.	2.9	72
10	Tunable Porous Electrode Architectures for Enhanced Li-Ion Storage Kinetics in Thick Electrodes. Nano Letters, 2021, 21, 5896-5904.	9.1	66
11	Microfluidic Studies of Adsorption and Desorption of Polyethylene Glycol during Copper Electrodeposition. Journal of the Electrochemical Society, 2006, 153, C728.	2.9	59
12	Size dependent behavior of Fe <sub>3</sub> O <sub>4</sub> crystals during electrochemical (de)lithiation: an in situ X-ray diffraction, ex situ X-ray absorption spectroscopy, transmission electron microscopy and theoretical investigation. Physical Chemistry Chemical Physics, 2017, 19, 20867-20880.	2.8	54
13	Effect of additives and pulse plating on copper nucleation onto Ru. Electrochimica Acta, 2009, 54, 1177-1183.	5.2	48
14	Engineering the iron-oxidizing chemolithoautotroph <i>Acidithiobacillus ferrooxidans</i> for biochemical production. Biotechnology and Bioengineering, 2016, 113, 189-197.	3.3	46
15	Dispersion of Nanocrystalline Fe <sub>3</sub> O <sub>4</sub> within Composite Electrodes: Insights on Battery-Related Electrochemistry. ACS Applied Materials & Interfaces, 2016, 8, 11418-11430.	8.0	45
16	Modeling the Mesoscale Transport of Lithium-Magnetite Electrodes Using Insight from Discharge and Voltage Recovery Experiments. Journal of the Electrochemical Society, 2015, 162, A2817-A2826.	2.9	44
17	Direct Numerical Simulation of Nucleation and Three-Dimensional, Diffusion-Controlled Growth. Journal of the Electrochemical Society, 2001, 148, C376.	2.9	43
18	Copper Electropolishing in Concentrated Phosphoric Acid: II . Theoretical Interpretation. Journal of the Electrochemical Society, 1995, 142, 2689-2694.	2.9	42

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19	Electrochemical Impedance Spectroscopy Study of Nickel-Iron Deposition: II. Theoretical Interpretation. <i>Journal of the Electrochemical Society</i> , 1997, 144, 169-175.	2.9	42
20	Investigating the Complex Chemistry of Functional Energy Storage Systems: The Need for an Integrative, Multiscale (Molecular to Mesoscale) Perspective. <i>ACS Central Science</i> , 2016, 2, 380-387.	11.3	39
21	Electrochemical Impedance Spectroscopy Study of Nickel-Iron Deposition: I. Experimental Results. <i>Journal of the Electrochemical Society</i> , 1997, 144, 164-169.	2.9	38
22	Nickel Deposition in the Presence of Coumarin: An Electrochemical Impedance Spectroscopy Study. <i>Journal of the Electrochemical Society</i> , 1997, 144, 3050-3056.	2.9	38
23	Square wave voltammetric detection of 2,4,6-trinitrotoluene and 2,4-dinitrotoluene on a gold electrode modified with self-assembled monolayers. <i>Sensors and Actuators B: Chemical</i> , 2008, 133, 509-515.	7.8	38
24	Quantifying Losses in Photoelectrode Performance Due to Single Hydrogen Bubbles. <i>Journal of Physical Chemistry C</i> , 2017, 121, 26587-26597.	3.1	38
25	Drug delivery device for the inner ear: ultra-sharp fully metallic microneedles. <i>Drug Delivery and Translational Research</i> , 2021, 11, 214-226.	5.8	37
26	Gradient Architecture Design in Scalable Porous Battery Electrodes. <i>Nano Letters</i> , 2022, 22, 2521-2528.	9.1	37
27	Metals and minerals as a biotechnology feedstock: engineering biomining microbiology for bioenergy applications. <i>Current Opinion in Biotechnology</i> , 2017, 45, 144-155.	6.6	33
28	Epitaxial metals for interconnects beyond Cu. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2020, 38, .	2.1	29
29	Energetics of Lithium Insertion into Magnetite, Defective Magnetite, and Maghemite. <i>Chemistry of Materials</i> , 2018, 30, 7922-7937.	6.7	26
30	Supervised Learning of Synthetic Big Data for Li-Iron Battery Degradation Diagnosis. <i>Batteries and Supercaps</i> , 2022, 5, .	4.7	25
31	Effect of Morphology and Hydrogen Evolution on Porosity of Electroplated Cobalt Hard Gold. <i>Journal of the Electrochemical Society</i> , 2010, 157, D411.	2.9	23
32	Thick Electrode Design for Facile Electron and Ion Transport: Architectures, Advanced Characterization, and Modeling. <i>Accounts of Materials Research</i> , 2022, 3, 472-483.	11.7	23
33	Addition of citrate to <i>Acidithiobacillus ferrooxidans</i> cultures enables precipitate-free growth at elevated pH and reduces ferric inhibition. <i>Biotechnology and Bioengineering</i> , 2014, 111, 1940-1948.	3.3	21
34	Development of reactor configurations for an electrofuels platform utilizing genetically modified iron oxidizing bacteria for the reduction of CO <sub>2</sub> to biochemicals. <i>Journal of Biotechnology</i> , 2017, 245, 21-27.	3.8	21
35	Characterization of endogenous promoters for control of recombinant gene expression in <i>Acidithiobacillus ferrooxidans</i> . <i>Biotechnology and Applied Biochemistry</i> , 2017, 64, 793-802.	3.1	21
36	Parallel finite element computation of unsteady incompressible flows. <i>International Journal for Numerical Methods in Fluids</i> , 1998, 26, 17-37.	1.6	20

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37	Quantitative Parameter Estimation, Model Selection, and Variable Selection in Battery Science. Journal of the Electrochemical Society, 2020, 167, 013501.	2.9	19
38	Hydration Effects on the Permselectivity-Conductivity Trade-Off in Polymer Electrolytes. Macromolecules, 2020, 53, 1014-1023.	4.8	19
39	Enhanced microbial corrosion of stainless steel by <i>Acidithiobacillus ferrooxidans</i> through the manipulation of substrate oxidation and overexpression of <i>rus</i> . Biotechnology and Bioengineering, 2020, 117, 3475-3485.	3.3	18
40	Discharge, Relaxation, and Charge Model for the Lithium Trivanadate Electrode: Reactions, Phase Change, and Transport. Journal of the Electrochemical Society, 2016, 163, A2890-A2898.	2.9	17
41	Discrete-time modeling of Li-ion batteries with electrochemical overpotentials including diffusion. Journal of Power Sources, 2021, 500, 229991.	7.8	17
42	Flow Modulation as a Means of Studying Leveling Agents. Journal of the Electrochemical Society, 1998, 145, 560-564.	2.9	16
43	Enhancing isobutyric acid production from engineered <i>Acidithiobacillus ferrooxidans</i> cells via media optimization. Biotechnology and Bioengineering, 2016, 113, 790-796.	3.3	16
44	Operando Study of $\text{LiV}_3\text{O}_8$ Cathode: Coupling EDXRD Measurements to Simulations. Journal of the Electrochemical Society, 2018, 165, A371-A379.	2.9	16
45	Optimal electrode-scale design of Li-ion electrodes: A general correlation. Energy Storage Materials, 2021, 39, 176-185.	18.0	16
46	Current-Driven Vanadium Crossover as a Function of SOC and SOD in the Vanadium Redox Flow Battery. Journal of the Electrochemical Society, 2020, 167, 080512.	2.9	15
47	Equilibria and Rate Phenomena from Atomistic to Mesoscale: Simulation Studies of Magnetite. Accounts of Chemical Research, 2018, 51, 583-590.	15.6	14
48	Microbially Influenced Corrosion of Stainless Steel by <i>Acidithiobacillus ferrooxidans</i> Supplemented with Pyrite: Importance of Thiosulfate. Applied and Environmental Microbiology, 2019, 85, .	3.1	14
49	Impact of Electrostatic Interactions on the Self-Assembly of Charge-Neutral Block Copolyelectrolytes. Macromolecules, 2020, 53, 548-557.	4.8	14
50	Dispersion of sulfur creates a valuable new growth medium formulation that enables earlier sulfur oxidation in relation to iron oxidation in <i>Acidithiobacillus ferrooxidans</i> cultures. Biotechnology and Bioengineering, 2021, 118, 3225-3238.	3.3	14
51	Stabilization of Silicon Carbide (SiC) micro- and nanoparticle dispersions in the presence of concentrated electrolyte. Journal of Colloid and Interface Science, 2014, 423, 48-53.	9.4	12
52	Current distributions governed by coupled concentration and potential fields. AIChE Journal, 1997, 43, 811-817.	3.6	11
53	Engineering <i>Acidithiobacillus ferrooxidans</i> growth media for enhanced electrochemical processing. AIChE Journal, 2014, 60, 4008-4013.	3.6	11
54	Measurement of $\text{VO}_2^+$ Transference Number in Nafion with Varying Concentrations of Sulfuric Acid. Journal of the Electrochemical Society, 2019, 166, A848-A855.	2.9	11

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55	Determining the Length Scale of Transport Impedances in Li-Ion Electrodes: Li(Ni <sub>0.33</sub> Mn <sub>0.33</sub> Co <sub>0.33</sub> )O <sub>2</sub> . Journal of the Electrochemical Society, 2020, 167, 100542.	2.9	11
56	Galvanostatic interruption of lithium insertion into magnetite: Evidence of surface layer formation. Journal of Power Sources, 2016, 321, 106-111.	7.8	10
57	Method of Measuring Salt Transference Numbers in Ion-Selective Membranes. Journal of the Electrochemical Society, 2017, 164, A2940-A2947.	2.9	10
58	Temporally and Spatially Resolved Visualization of Electrochemical Conversion: Monitoring Phase Distribution During Lithiation of Magnetite (Fe <sub>3</sub> O <sub>4</sub> ) Electrodes. ACS Applied Energy Materials, 2019, 2, 2561-2569.	5.1	10
59	Design Principles to Govern Electrode Fabrication for the Lithium Trivanadate Cathode. Journal of the Electrochemical Society, 2020, 167, 100503.	2.9	10
60	Lithium vanadium oxide (Li <sub>1.1</sub> V <sub>3</sub> O <sub>8</sub> ) thick porous electrodes with high rate capacity: utilization and evolution upon extended cycling elucidated via operando energy dispersive X-ray diffraction and continuum simulation. Physical Chemistry Chemical Physics, 2021, 23, 139-150.	2.8	10
61	Glutathione Synthetase Overexpression in Acidithiobacillus ferrooxidans Improves Halotolerance of Iron Oxidation. Applied and Environmental Microbiology, 2021, 87, e0151821.	3.1	10
62	Simulations of Lithium-Magnetite Electrodes Incorporating Phase Change. Electrochimica Acta, 2017, 238, 384-396.	5.2	9
63	Quantifying Uncertainty in Tortuosity Estimates for Porous Electrodes. Journal of the Electrochemical Society, 2021, 168, 070537.	2.9	9
64	Electrodeposition of Epitaxial Co on Ru(0001)/Al <sub>2</sub> O <sub>3</sub> (0001). Journal of the Electrochemical Society, 2019, 166, D875-D881.	2.9	8
65	The Systematic Refinement for the Phase Change and Conversion Reactions Arising from the Lithiation of Magnetite Nanocrystals. Advanced Functional Materials, 2020, 30, 1907337.	14.9	8
66	Ohmic Interactions within Electrode Ensembles. Journal of the Electrochemical Society, 1993, 140, 134-139.	2.9	7
67	Influence of the Seed Layer and Electrolyte on the Epitaxial Electrodeposition of Co(0001) for the Fabrication of Single Crystal Interconnects. Journal of the Electrochemical Society, 2020, 167, 162503.	2.9	7
68	An investigation of phosphate based ECMP electrolyte performance on feature scale planarization. Journal of Applied Electrochemistry, 2009, 39, 1719-1724.	2.9	5
69	Simulation assisted design for microneedle manufacturing: Computational modeling of two-photon templated electrodeposition. Journal of Manufacturing Processes, 2021, 66, 211-219.	5.9	5
70	Engineering Polyhistidine Tags on Surface Proteins of Acidithiobacillus ferrooxidans: Impact of Localization on the Binding and Recovery of Divalent Metal Cations. ACS Applied Materials & Interfaces, 2022, 14, 10125-10133.	8.0	5
71	Application of Concentrated Solution Theory to the Measurement of Salt Transference Numbers in Ion-Selective Membranes. Journal of the Electrochemical Society, 2020, 167, 020546.	2.9	4
72	Transport In and Optimization of Aligned-Channel Li-Ion Electrode Architectures. Journal of the Electrochemical Society, 2021, 168, 100536.	2.9	4

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73	Parameter Estimation for Electrode Degradation: Learning in the Face of Model-Experiment Discrepancies. Journal of the Electrochemical Society, 2022, 169, 050517.	2.9	4
74	Copper plating on titanium alloy 6-2-4-2 using an in situ high voltage pulse followed by plate-up. Journal of Applied Electrochemistry, 2008, 38, 531-536.	2.9	3
75	Electrochemical detection of 14 common munitions constituents. Journal of Applied Electrochemistry, 2014, 44, 293-300.	2.9	3
76	A shielded rotating disk setup with improved current distribution. Journal of Applied Electrochemistry, 2014, 44, 945-952.	2.9	3
77	Impact of Anode on Product Formation During the Electrochemical Reduction of Chalcopyrite. Jom, 2020, 72, 3818-3825.	1.9	3
78	Electrodeposition of Ru onto Ru and Au Seed Layers from Solutions of Ruthenium Nitrosyl Sulfate and Ruthenium Chloride. Journal of the Electrochemical Society, 2021, 168, 052504.	2.9	3
79	Probing the Speed Limits of Scanning Electrochemical Microscopy with In situ Colorimetric Imaging. ChemElectroChem, 2020, 7, 2424-2432.	3.4	1
80	Electrodeposition of Cu(111) onto a Ru(0001) seed layer for epitaxial Cu interconnects. Journal of Applied Physics, 2021, 130, 135301.	2.5	1
81	Effect of Current Distribution on Quartz Crystal Microbalance Measurements. Materials Research Society Symposia Proceedings, 1997, 502, 145.	0.1	0