Kim McKelvey

List of Publications by Year
in descending order

61 papers	3,378 citations	172457 29 h-index	138484 58 g-index
67 all docs	67 docs citations	67 times ranked	3925 citing authors

#	Article	IF	Citations
1	High-Performance Boron Nitride-Based Membranes for Water Purification. Nanomaterials, 2022, 12, 473.	4.1	16
2	Electrochemical Detection of Isolated Nanoscale Defects in 2D Transition Metal Dichalcogenides. Journal of Physical Chemistry C, 2022, 126, 11636-11641.	3.1	8
3	Electrochemical kinetics as a function of transition metal dichalcogenide thickness. Electrochimica Acta, 2021, 393, 139027.	5.2	12
4	Continuum simulations for microscale 3D batteries. Current Opinion in Electrochemistry, 2020, 21, 76-83.	4.8	10
5	Microscale Electrochemical Cell on a Custom CMOS Transimpedance Amplifier for High Temporal Resolution Single Entity Electrochemistry**. ChemElectroChem, 2020, 7, 4724-4729.	3.4	6
6	A High-Pressure System for Studying Oxygen Reduction During Pt Nanoparticle Collisions. Journal of the Electrochemical Society, 2020, 167, 166507.	2.9	9
7	Enhancing Lithium Insertion with Electrostatic Nanoconfinement in a Lithography Patterned Precision Cell. ACS Nano, 2019, 13, 8481-8489.	14.6	3
8	Single Ag nanoparticle collisions within a dual-electrode micro-gap cell. Faraday Discussions, 2018, 210, 189-200.	3.2	13
9	Redox cycling in nanogap electrochemical cells. Current Opinion in Electrochemistry, 2018, 7, 48-53.	4.8	32
10	Processes at nanoelectrodes: general discussion. Faraday Discussions, 2018, 210, 235-265.	3.2	1
11	Dynamics of nanointerfaces: general discussion. Faraday Discussions, 2018, 210, 451-479.	3.2	4
12	Processes at nanopores and bio-nanointerfaces: general discussion. Faraday Discussions, 2018, 210, 145-171.	3.2	3
13	Energy conversion at nanointerfaces: general discussion. Faraday Discussions, 2018, 210, 333-351.	3.2	0
14	Method for Dynamically Detecting Secretions from Single Cells Using a Nanopore. Nano Letters, 2018, 18, 4263-4272.	9.1	10
15	Nanopipettes as a tool for single nanoparticle electrochemistry. Current Opinion in Electrochemistry, 2017, 6, 4-9.	4.8	30
16	Three-Dimensional Super-resolution Imaging of Single Nanoparticles Delivered by Pipettes. ACS Nano, 2017, 11, 10529-10538.	14.6	30
17	Microscale 2.5D Batteries. Journal of the Electrochemical Society, 2017, 164, A2500-A2503.	2.9	12
18	Selective increase in CO ₂ electroreduction activity at grain-boundary surface terminations. Science, 2017, 358, 1187-1192.	12.6	596

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19	Impact of Interconnections, Dynamic Conductivity, Pore Size on the Performance of V2O5 Cathode for Lithium Ion Batteries. ECS Meeting Abstracts, 2017, , .	0.0	0
20	Intermittentâ€contact Scanning Electrochemical Microscopy (ICâ€SECM) as a Quantitative Probe of Defects in Single Crystal Boron Doped Diamond Electrodes. Electroanalysis, 2016, 28, 2297-2302.	2.9	13
21	Combinatorial localized dissolution analysis: Application to acid-induced dissolution of dental enamel and the effect of surface treatments. Journal of Colloid and Interface Science, 2016, 476, 94-102.	9.4	10
22	Resistive Pulse Delivery of Single Nanoparticles to Electrochemical Interfaces. Journal of Physical Chemistry Letters, 2016, 7, 3920-3924.	4.6	23
23	Redox Cycling in Nanogap Electrochemical Cells. The Role of Electrostatics in Determining the Cell Response. Journal of Physical Chemistry C, 2016, 120, 17251-17260.	3.1	42
24	Fabrication, Testing, and Simulation of All-Solid-State Three-Dimensional Li-Ion Batteries. ACS Applied Materials & Interfaces, 2016, 8, 32385-32391.	8.0	99
25	Simultaneous Interfacial Reactivity and Topography Mapping with Scanning Ion Conductance Microscopy. Analytical Chemistry, 2016, 88, 2838-2846.	6.5	58
26	Ionic Transport in Non-Uniform 3D Solid-State Li Ion Batteries. ECS Meeting Abstracts, 2016, , .	0.0	0
27	Quad-Barrel Multifunctional Electrochemical and Ion Conductance Probe for Voltammetric Analysis and Imaging. Analytical Chemistry, 2015, 87, 3566-3573.	6.5	51
28	Hopping intermittent contact-scanning electrochemical microscopy (HIC-SECM) as a new local dissolution kinetic probe: application to salicylic acid dissolution in aqueous solution. CrystEngComm, 2015, 17, 7835-7843.	2.6	9
29	Fingerprinting Single Living Cells with Molecular Precision. Biophysical Journal, 2015, 108, 186a.	0.5	0
30	Nucleation and Aggregative Growth of Palladium Nanoparticles on Carbon Electrodes: Experiment and Kinetic Model. Journal of Physical Chemistry C, 2015, 119, 17389-17397.	3.1	43
31	Scanning Electrochemical Cell Microscopy Platform for Ultrasensitive Photoelectrochemical Imaging. Analytical Chemistry, 2015, 87, 4129-4133.	6.5	40
32	Single Molecule Electrochemical Detection in Aqueous Solutions and Ionic Liquids. Analytical Chemistry, 2015, 87, 10450-10456.	6.5	46
33	High-Speed Electrochemical Imaging. ACS Nano, 2015, 9, 8942-8952.	14.6	91
34	Voltammetric Scanning Electrochemical Cell Microscopy: Dynamic Imaging of Hydrazine Electro-oxidation on Platinum Electrodes. Analytical Chemistry, 2015, 87, 5782-5789.	6.5	109
35	Think Small: Nanopores for Sensing and Synthesis. IEEE Access, 2014, 2, 1396-1408.	4.2	18
36	Molecular Functionalization of Graphite Surfaces: Basal Plane versus Step Edge Electrochemical Activity. Journal of the American Chemical Society, 2014, 136, 11444-11451.	13.7	71

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37	Surface Charge Mapping with a Nanopipette. Journal of the American Chemical Society, 2014, 136, 13735-13744.	13.7	103
38	Positionable Vertical Microfluidic Cell Based on Electromigration in a Theta Pipet. Langmuir, 2014, 30, 10011-10018.	3.5	14
39	Bias Modulated Scanning Ion Conductance Microscopy. Analytical Chemistry, 2014, 86, 3639-3646.	6.5	64
40	Measurement of the efficacy of calcium silicate for the protection and repair of dental enamel. Journal of Dentistry, 2014, 42, S21-S29.	4.1	45
41	Coarse-grained simulation of transmembrane peptides in the gel phase. Journal of Computational Physics, 2013, 238, 97-105.	3.8	1
42	Nanoscale intermittent contact-scanning electrochemical microscopy. Journal of Solid State Electrochemistry, 2013, 17, 2979-2987.	2.5	23
43	Dual-Barrel Conductance Micropipet as a New Approach to the Study of Ionic Crystal Dissolution Kinetics. Langmuir, 2013, 29, 15565-15572.	3.5	18
44	Meniscus confined fabrication of multidimensional conducting polymer nanostructures with scanning electrochemical cell microscopy (SECCM). Chemical Communications, 2013, 49, 2986.	4.1	64
45	Hopping Intermittent Contact-Scanning Electrochemical Microscopy (HIC-SECM): Visualizing Interfacial Reactions and Fluxes from Surfaces to Bulk Solution. Analytical Chemistry, 2013, 85, 2937-2944.	6.5	38
46	Scanning Electrochemical Cell Microscopy: A Versatile Technique for Nanoscale Electrochemistry and Functional Imaging. Annual Review of Analytical Chemistry, 2013, 6, 329-351.	5.4	252
47	Quantitative Local Photosynthetic Flux Measurements at Isolated Chloroplasts and Thylakoid Membranes Using Scanning Electrochemical Microscopy (SECM). Journal of Physical Chemistry B, 2013, 117, 7878-7888.	2.6	11
48	Fabrication, Characterization, and Functionalization of Dual Carbon Electrodes as Probes for Scanning Electrochemical Microscopy (SECM). Analytical Chemistry, 2013, 85, 7519-7526.	6.5	57
49	Fabrication and Characterization of Dual Function Nanoscale pH-Scanning Ion Conductance Microscopy (SICM) Probes for High Resolution pH Mapping. Analytical Chemistry, 2013, 85, 8070-8074.	6.5	107
50	Quantitative nanoscale visualization of heterogeneous electron transfer rates in 2D carbon nanotube networks. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 11487-11492.	7.1	93
51	Nanoscale Electrochemical Patterning Reveals the Active Sites for Catechol Oxidation at Graphite Surfaces. Journal of the American Chemical Society, 2012, 134, 20246-20249.	13.7	55
52	A New View of Electrochemistry at Highly Oriented Pyrolytic Graphite. Journal of the American Chemical Society, 2012, 134, 20117-20130.	13.7	228
53	Quantitative Localized Proton-Promoted Dissolution Kinetics of Calcite Using Scanning Electrochemical Microscopy (SECM). Journal of Physical Chemistry C, 2012, 116, 14892-14899.	3.1	27
54	MSK1 Regulates Homeostatic and Experience-Dependent Synaptic Plasticity. Journal of Neuroscience, 2012, 32, 13039-13051.	3.6	67

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55	Scanning Electrochemical Cell Microscopy: Theory and Experiment for Quantitative High Resolution Spatially-Resolved Voltammetry and Simultaneous Ion-Conductance Measurements. Analytical Chemistry, 2012, 84, 2483-2491.	6.5	211
56	InnenrÃ¼cktitelbild: Electrochemical Mapping Reveals Direct Correlation between Heterogeneous Electron-Transfer Kinetics and Local Density of States in Diamond ElectrodesZ203057 (Angew. Chem.) Tj ETQq0 0 0 rgBT /Overlock 10 T	2.0	1
57	Definitive Evidence for Fast Electron Transfer at Pristine Basal Plane Graphite from Highâ€Resolution Electrochemical Imaging. Angewandte Chemie - International Edition, 2012, 51, 5405-5408.	13.8	143
58	Inside Cover: Definitive Evidence for Fast Electron Transfer at Pristine Basal Plane Graphite from High-Resolution Electrochemical Imaging (Angew. Chem. Int. Ed. 22/2012). Angewandte Chemie - International Edition, 2012, 51, 5260-5260.	13.8	3
59	Electrochemical Mapping Reveals Direct Correlation between Heterogeneous Electronâ€Transfer Kinetics and Local Density of States in Diamond Electrodes. Angewandte Chemie - International Edition, 2012, 51, 7002-7006.	13.8	104
60	Quantitative Visualization of Molecular Transport through Porous Membranes: Enhanced Resolution and Contrast Using Intermittent Contact-Scanning Electrochemical Microscopy. Analytical Chemistry, 2011, 83, 6447-6454.	6.5	24
61	Intermittent Contactâ”Scanning Electrochemical Microscopy (ICâ”SECM): A New Approach for Tip Positioning and Simultaneous Imaging of Interfacial Topography and Activity. Analytical Chemistry, 2010, 82, 6334-6337.	6.5	71