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	Selective increase in CO ₂ electroreduction activity at grain-boundary surface terminations. Science, 2017, 358, 1187-1192.	12.6	596
2	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
3	A New View of Electrochemistry at Highly Oriented Pyrolytic Graphite. Journal of the American Chemical Society, 2012, 134, 20117-20130.	13.7	228
4	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
5	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
6	Voltammetric Scanning Electrochemical Cell Microscopy: Dynamic Imaging of Hydrazine Electro-oxidation on Platinum Electrodes. Analytical Chemistry, 2015, 87, 5782-5789.	6.5	109
7	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
8	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
9	Surface Charge Mapping with a Nanopipette. Journal of the American Chemical Society, 2014, 136, 13735-13744.	13.7	103
10	Fabrication, Testing, and Simulation of All-Solid-State Three-Dimensional Li-Ion Batteries. ACS Applied Materials & Interfaces, 2016, 8, 32385-32391.	8.0	99
11	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
12	High-Speed Electrochemical Imaging. ACS Nano, 2015, 9, 8942-8952.	14.6	91
13	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
14	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
15	MSK1 Regulates Homeostatic and Experience-Dependent Synaptic Plasticity. Journal of Neuroscience, 2012, 32, 13039-13051.	3.6	67
16	Meniscus confined fabrication of multidimensional conducting polymer nanostructures with scanning electrochemical cell microscopy (SECCM). Chemical Communications, 2013, 49, 2986.	4.1	64
17	Bias Modulated Scanning Ion Conductance Microscopy. Analytical Chemistry, 2014, 86, 3639-3646.	6.5	64
18	Simultaneous Interfacial Reactivity and Topography Mapping with Scanning Ion Conductance Microscopy. Analytical Chemistry, 2016, 88, 2838-2846.	6.5	58

#	Article	IF	Citations
19	Fabrication, Characterization, and Functionalization of Dual Carbon Electrodes as Probes for Scanning Electrochemical Microscopy (SECM). Analytical Chemistry, 2013, 85, 7519-7526.	6.5	57
20	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
21	Quad-Barrel Multifunctional Electrochemical and Ion Conductance Probe for Voltammetric Analysis and Imaging. Analytical Chemistry, 2015, 87, 3566-3573.	6.5	51
22	Single Molecule Electrochemical Detection in Aqueous Solutions and Ionic Liquids. Analytical Chemistry, 2015, 87, 10450-10456.	6.5	46
23	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
24	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
25	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
26	Scanning Electrochemical Cell Microscopy Platform for Ultrasensitive Photoelectrochemical Imaging. Analytical Chemistry, 2015, 87, 4129-4133.	6.5	40
27	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
28	Redox cycling in nanogap electrochemical cells. Current Opinion in Electrochemistry, 2018, 7, 48-53.	4.8	32
29	Nanopipettes as a tool for single nanoparticle electrochemistry. Current Opinion in Electrochemistry, 2017, 6, 4-9.	4.8	30
30	Three-Dimensional Super-resolution Imaging of Single Nanoparticles Delivered by Pipettes. ACS Nano, 2017, 11, 10529-10538.	14.6	30
31	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
32	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
33	Nanoscale intermittent contact-scanning electrochemical microscopy. Journal of Solid State Electrochemistry, 2013, 17, 2979-2987.	2.5	23
34	Resistive Pulse Delivery of Single Nanoparticles to Electrochemical Interfaces. Journal of Physical Chemistry Letters, 2016, 7, 3920-3924.	4.6	23
35	Dual-Barrel Conductance Micropipet as a New Approach to the Study of Ionic Crystal Dissolution Kinetics. Langmuir, 2013, 29, 15565-15572.	3.5	18
36	Think Small: Nanopores for Sensing and Synthesis. IEEE Access, 2014, 2, 1396-1408.	4.2	18

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37	High-Performance Boron Nitride-Based Membranes for Water Purification. Nanomaterials, 2022, 12, 473.	4.1	16
38	Positionable Vertical Microfluidic Cell Based on Electromigration in a Theta Pipet. Langmuir, 2014, 30, 10011-10018.	3.5	14
39	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
40	Single Ag nanoparticle collisions within a dual-electrode micro-gap cell. Faraday Discussions, 2018, 210, 189-200.	3.2	13
41	Microscale 2.5D Batteries. Journal of the Electrochemical Society, 2017, 164, A2500-A2503.	2.9	12
42	Electrochemical kinetics as a function of transition metal dichalcogenide thickness. Electrochimica Acta, 2021, 393, 139027.	5.2	12
43	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
44	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
45	Method for Dynamically Detecting Secretions from Single Cells Using a Nanopore. Nano Letters, 2018, 18, 4263-4272.	9.1	10
46	Continuum simulations for microscale 3D batteries. Current Opinion in Electrochemistry, 2020, 21, 76-83.	4.8	10
47	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
48	A High-Pressure System for Studying Oxygen Reduction During Pt Nanoparticle Collisions. Journal of the Electrochemical Society, 2020, 167, 166507.	2.9	9
49	Electrochemical Detection of Isolated Nanoscale Defects in 2D Transition Metal Dichalcogenides. Journal of Physical Chemistry C, 2022, 126, 11636-11641.	3.1	8
50	Microscale Electrochemical Cell on a Custom CMOS Transimpedance Amplifier for High Temporal Resolution Single Entity Electrochemistry**. ChemElectroChem, 2020, 7, 4724-4729.	3.4	6
51	Dynamics of nanointerfaces: general discussion. Faraday Discussions, 2018, 210, 451-479.	3.2	4
52	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
53	Processes at nanopores and bio-nanointerfaces: general discussion. Faraday Discussions, 2018, 210, 145-171.	3.2	3
54	Enhancing Lithium Insertion with Electrostatic Nanoconfinement in a Lithography Patterned Precision Cell. ACS Nano, 2019, 13, 8481-8489.	14.6	3

#	Article	IF	Citations
55	InnenrÃ¼cktitelbild: Electrochemical Mapping Reveals Direct Correlation between Heterogeneous Electron-Transfer Kinetics and Local Density of States in Diamond ElectrodesZ203057 (Angew. Chem.) Tj ETQq1 1 0.784314 rgBT /Overl	0.0	0
56	Coarse-grained simulation of transmembrane peptides in the gel phase. Journal of Computational Physics, 2013, 238, 97-105.	3.8	1
57	Processes at nanoelectrodes: general discussion. Faraday Discussions, 2018, 210, 235-265.	3.2	1
58	Fingerprinting Single Living Cells with Molecular Precision. Biophysical Journal, 2015, 108, 186a.	0.5	0
59	Energy conversion at nanointerfaces: general discussion. Faraday Discussions, 2018, 210, 333-351.	3.2	0
60	Ionic Transport in Non-Uniform 3D Solid-State Li Ion Batteries. ECS Meeting Abstracts, 2016, , .	0.0	0
61	Impact of Interconnections, Dynamic Conductivity, Pore Size on the Performance of V2O5 Cathode for Lithium Ion Batteries. ECS Meeting Abstracts, 2017, , .	0.0	0