

# Fikile R Brushett

## List of Publications by Citations

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103  
papers

4,896  
citations

39  
h-index

69  
g-index

134  
ext. papers

6,173  
ext. citations

8.5  
avg, IF

6.17  
L-index

#	Paper	IF	Citations
103	Transition of lithium growth mechanisms in liquid electrolytes. <i>Energy and Environmental Science</i> , <b>2016</b> , 9, 3221-3229	35.4	704
102	Pathways to low-cost electrochemical energy storage: a comparison of aqueous and nonaqueous flow batteries. <i>Energy and Environmental Science</i> , <b>2014</b> , 7, 3459-3477	35.4	415
101	An All-Organic Non-aqueous Lithium-Ion Redox Flow Battery. <i>Advanced Energy Materials</i> , <b>2012</b> , 2, 1390-1396	21.8	294
100	The Effects of Catalyst Layer Deposition Methodology on Electrode Performance. <i>Advanced Energy Materials</i> , <b>2013</b> , 3, 589-599	21.8	148
99	High current density, long duration cycling of soluble organic active species for non-aqueous redox flow batteries. <i>Energy and Environmental Science</i> , <b>2016</b> , 9, 3531-3543	35.4	138
98	A symmetric organic-based nonaqueous redox flow battery and its state of charge diagnostics by FTIR. <i>Journal of Materials Chemistry A</i> , <b>2016</b> , 4, 5448-5456	13	130
97	On the performance of membraneless laminar flow-based fuel cells. <i>Journal of Power Sources</i> , <b>2010</b> , 195, 3569-3578	8.9	126
96	Wine-Dark Sea In an Organic Flow Battery: Storing Negative Charge in 2,1,3-Benzothiadiazole Radicals Leads to Improved Cyclability. <i>ACS Energy Letters</i> , <b>2017</b> , 2, 1156-1161	20.1	121
95	Interactions between Lithium Growths and Nanoporous Ceramic Separators. <i>Joule</i> , <b>2018</b> , 2, 2434-2449	27.8	112
94	Energy storage emerging: A perspective from the Joint Center for Energy Storage Research. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2020</b> , 117, 12550-12557	11.5	103
93	Air-Breathing Aqueous Sulfur Flow Battery for Ultralow-Cost Long-Duration Electrical Storage. <i>Joule</i> , <b>2017</b> , 1, 306-327	27.8	101
92	Investigating Electrode Flooding in a Flowing Electrolyte, Gas-Fed Carbon Dioxide Electrolyzer. <i>ChemSusChem</i> , <b>2020</b> , 13, 400-411	8.3	100
91	Cost-driven materials selection criteria for redox flow battery electrolytes. <i>Journal of Power Sources</i> , <b>2016</b> , 330, 261-272	8.9	82
90	RNA interference of sialidase improves glycoprotein sialic acid content consistency. <i>Biotechnology and Bioengineering</i> , <b>2006</b> , 95, 106-19	4.9	81
89	Concentration-Dependent Dimerization of Anthraquinone Disulfonic Acid and Its Impact on Charge Storage. <i>Chemistry of Materials</i> , <b>2017</b> , 29, 4801-4810	9.6	77
88	Transport Property Requirements for Flow Battery Separators. <i>Journal of the Electrochemical Society</i> , <b>2016</b> , 163, A5029-A5040	3.9	75
87	Investigation of fuel and media flexible laminar flow-based fuel cells. <i>Electrochimica Acta</i> , <b>2009</b> , 54, 7099-7105	7.1	75

86	4-acetamido-2,2,6,6-tetramethylpiperidine-1-oxyl as a model organic redox active compound for nonaqueous flow batteries. <i>Journal of Power Sources</i> , <b>2016</b> , 327, 151-159	8.9	74
85	Carbonate resilience of flowing electrolyte-based alkaline fuel cells. <i>Journal of Power Sources</i> , <b>2011</b> , 196, 1762-1768	8.9	74
84	Recent advances in molecular engineering of redox active organic molecules for nonaqueous flow batteries. <i>Current Opinion in Chemical Engineering</i> , <b>2016</b> , 13, 45-52	5.4	74
83	A carbon-supported copper complex of 3,5-diamino-1,2,4-triazole as a cathode catalyst for alkaline fuel cell applications. <i>Journal of the American Chemical Society</i> , <b>2010</b> , 132, 12185-7	16.4	73
82	A subtractive approach to molecular engineering of dimethoxybenzene-based redox materials for non-aqueous flow batteries. <i>Journal of Materials Chemistry A</i> , <b>2015</b> , 3, 14971-14976	13	72
81	A stable two-electron-donating phenothiazine for application in nonaqueous redox flow batteries. <i>Journal of Materials Chemistry A</i> , <b>2017</b> , 5, 24371-24379	13	62
80	Quantifying Mass Transfer Rates in Redox Flow Batteries. <i>Journal of the Electrochemical Society</i> , <b>2017</b> , 164, E3265-E3275	3.9	62
79	Tailoring Two-Electron-Donating Phenothiazines To Enable High-Concentration Redox Electrolytes for Use in Nonaqueous Redox Flow Batteries. <i>Chemistry of Materials</i> , <b>2019</b> , 31, 4353-4363	9.6	59
78	Engineering radical polymer electrodes for electrochemical energy storage. <i>Journal of Power Sources</i> , <b>2017</b> , 352, 226-244	8.9	58
77	Alkaline Microfluidic Hydrogen-Oxygen Fuel Cell as a Cathode Characterization Platform. <i>Journal of the Electrochemical Society</i> , <b>2009</b> , 156, B565	3.9	57
76	On Lifetime and Cost of Redox-Active Organics for Aqueous Flow Batteries. <i>ACS Energy Letters</i> , <b>2020</b> , 5, 879-884	20.1	55
75	An Investigation of the Ionic Conductivity and Species Crossover of Lithiated Nafion 117 in Nonaqueous Electrolytes. <i>Journal of the Electrochemical Society</i> , <b>2016</b> , 163, A5253-A5262	3.9	52
74	Exploring the Role of Electrode Microstructure on the Performance of Non-Aqueous Redox Flow Batteries. <i>Journal of the Electrochemical Society</i> , <b>2019</b> , 166, A2230-A2241	3.9	52
73	Elucidating the Nuanced Effects of Thermal Pretreatment on Carbon Paper Electrodes for Vanadium Redox Flow Batteries. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2018</b> , 10, 44430-44442	9.5	52
72	Performance and cost characteristics of multi-electron transfer, common ion exchange non-aqueous redox flow batteries. <i>Journal of Power Sources</i> , <b>2016</b> , 327, 681-692	8.9	46
71	Reduction potential predictions of some aromatic nitrogen-containing molecules. <i>RSC Advances</i> , <b>2014</b> , 4, 57442-57451	3.7	44
70	Evaluation of Electrospun Fibrous Mats Targeted for Use as Flow Battery Electrodes. <i>Journal of the Electrochemical Society</i> , <b>2017</b> , 164, A2038-A2048	3.9	42
69	Voltammetry study of quinoxaline in aqueous electrolytes. <i>Electrochimica Acta</i> , <b>2015</b> , 180, 695-704	6.7	40

68	The lightest organic radical cation for charge storage in redox flow batteries. <i>Scientific Reports</i> , <b>2016</b> , 6, 32102	4.9	40
67	Analysis of Pt/C electrode performance in a flowing-electrolyte alkaline fuel cell. <i>International Journal of Hydrogen Energy</i> , <b>2012</b> , 37, 2559-2570	6.7	40
66	Emerging opportunities for electrochemical processing to enable sustainable chemical manufacturing. <i>Current Opinion in Chemical Engineering</i> , <b>2018</b> , 20, 159-167	5.4	39
65	Towards Low Resistance Nonaqueous Redox Flow Batteries. <i>Journal of the Electrochemical Society</i> , <b>2017</b> , 164, A2487-A2499	3.9	39
64	Electrolyte Development for Non-Aqueous Redox Flow Batteries Using a High-Throughput Screening Platform. <i>Journal of the Electrochemical Society</i> , <b>2014</b> , 161, A1905-A1914	3.9	38
63	Design rules for electrode arrangement in an air-breathing alkaline direct methanol laminar flow fuel cell. <i>Journal of Power Sources</i> , <b>2012</b> , 218, 28-33	8.9	38
62	Combining Structural and Electrochemical Analysis of Electrodes Using Micro-Computed Tomography and a Microfluidic Fuel Cell. <i>Journal of the Electrochemical Society</i> , <b>2012</b> , 159, B292-B298	3.9	36
61	A Membrane-Free Neutral pH Formate Fuel Cell Enabled by a Selective Nickel Sulfide Oxygen Reduction Catalyst. <i>Angewandte Chemie - International Edition</i> , <b>2017</b> , 56, 7496-7499	16.4	33
60	Toward an Inexpensive Aqueous Polysulfide/Polyiodide Redox Flow Battery. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>2017</b> , 56, 9783-9792	3.9	33
59	Understanding the role of the porous electrode microstructure in redox flow battery performance using an experimentally validated 3D pore-scale lattice Boltzmann model. <i>Journal of Power Sources</i> , <b>2020</b> , 447, 227249	8.9	33
58	Quantifying the impact of viscosity on mass-transfer coefficients in redox flow batteries. <i>Journal of Power Sources</i> , <b>2018</b> , 399, 133-143	8.9	32
57	Estimating the cost of organic battery active materials: a case study on anthraquinone disulfonic acid. <i>Translational Materials Research</i> , <b>2018</b> , 5, 034001		32
56	Dimerization of 9,10-anthraquinone-2,7-Disulfonic acid (AQDS). <i>Electrochimica Acta</i> , <b>2019</b> , 317, 478-485	6.7	28
55	Electrocatalytic Hydrogenation of Oxygenates using Earth-Abundant Transition-Metal Nanoparticles under Mild Conditions. <i>ChemSusChem</i> , <b>2016</b> , 9, 1904-10	8.3	27
54	BF <sub>3</sub> -promoted electrochemical properties of quinoxaline in propylene carbonate. <i>RSC Advances</i> , <b>2015</b> , 5, 18822-18831	3.7	25
53	Electroreduction of carbon dioxide to formate at high current densities using tin and tin oxide gas diffusion electrodes. <i>Journal of Applied Electrochemistry</i> , <b>2019</b> , 49, 917-928	2.6	25
52	The Critical Role of Supporting Electrolyte Selection on Flow Battery Cost. <i>Journal of the Electrochemical Society</i> , <b>2017</b> , 164, A3883-A3895	3.9	24
51	Tuning the Stability of Organic Active Materials for Nonaqueous Redox Flow Batteries via Reversible, Electrochemically Mediated Li <sup>+</sup> Coordination. <i>Chemistry of Materials</i> , <b>2016</b> , 28, 2529-2539	9.6	24

50	Investigation of Pt, Pt[sub 3]Co, and Pt[sub 3]Co/Mo Cathodes for the ORR in a Microfluidic H[sub 2]/O[sub 2] Fuel Cell. <i>Journal of the Electrochemical Society</i> , <b>2010</b> , 157, B837	3.9	22
49	Assessing the levelized cost of vanadium redox flow batteries with capacity fade and rebalancing. <i>Journal of Power Sources</i> , <b>2020</b> , 460, 227958	8.9	22
48	A General Technoeconomic Model for Evaluating Emerging Electrolytic Processes. <i>Energy Technology</i> , <b>2020</b> , 8, 1900994	3.5	20
47	Engineering porous electrodes for next-generation redox flow batteries: recent progress and opportunities. <i>Current Opinion in Electrochemistry</i> , <b>2019</b> , 18, 113-122	7.2	20
46	Modelling of redox flow battery electrode processes at a range of length scales: a review. <i>Sustainable Energy and Fuels</i> , <b>2020</b> , 4, 5433-5468	5.8	18
45	Synthesis of Pyridine and PyrazineBF <sub>3</sub> Complexes and Their Characterization in Solution and Solid State. <i>Journal of Physical Chemistry C</i> , <b>2016</b> , 120, 8461-8471	3.8	18
44	Pulsed Electrodeposition of Tin Electrocatalysts onto Gas Diffusion Layers for Carbon Dioxide Reduction to Formate. <i>MRS Advances</i> , <b>2017</b> , 2, 451-458	0.7	17
43	Lignin-KMC: A Toolkit for Simulating Lignin Biosynthesis. <i>ACS Sustainable Chemistry and Engineering</i> , <b>2019</b> , 7, 18313-18322	8.3	17
42	Editors' Choice Flooded by Success: On the Role of Electrode Wettability in CO <sub>2</sub> Electrolyzers that Generate Liquid Products. <i>Journal of the Electrochemical Society</i> , <b>2020</b> , 167, 124521	3.9	17
41	Feasibility of a Supporting-Salt-Free Nonaqueous Redox Flow Battery Utilizing Ionic Active Materials. <i>ChemSusChem</i> , <b>2017</b> , 10, 2080-2088	8.3	15
40	A One-Dimensional Stack Model for Redox Flow Battery Analysis and Operation. <i>Batteries</i> , <b>2019</b> , 5, 25	5.7	15
39	Full-field synchrotron tomography of nongraphitic foam and laminate anodes for lithium-ion batteries. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2014</b> , 6, 4524-34	9.5	14
38	Ultrathin Conformal oCVD PEDOT Coatings on Carbon Electrodes Enable Improved Performance of Redox Flow Batteries. <i>Advanced Materials Interfaces</i> , <b>2020</b> , 7, 2000855	4.6	13
37	Recent Developments and Trends in Redox Flow Batteries. <i>Green Energy and Technology</i> , <b>2015</b> , 673-712	0.6	12
36	Perfunctionalized Dodecaborate Clusters as Stable Metal-Free Active Materials for Charge Storage. <i>ACS Applied Energy Materials</i> , <b>2019</b> , 2, 4907-4913	6.1	11
35	Molecular Dynamics Modeling of the Conductivity of Lithiated Nafion Containing Nonaqueous Solvents. <i>Journal of the Electrochemical Society</i> , <b>2016</b> , 163, A2232-A2239	3.9	11
34	An investigation of 2,5-di-tertbutyl-1,4-bis(methoxyethoxy)benzene in ether-based electrolytes. <i>Electrochimica Acta</i> , <b>2017</b> , 246, 251-258	6.7	10
33	Exploration of Biomass-Derived Activated Carbons for Use in Vanadium Redox Flow Batteries. <i>ACS Sustainable Chemistry and Engineering</i> , <b>2020</b> , 8, 9472-9482	8.3	9

32	Computational Evidence for Kinetically Controlled Radical Coupling during Lignification. <i>ACS Sustainable Chemistry and Engineering</i> , <b>2019</b> , 7, 13270-13277	8.3	9
31	The impact of bulk electrolysis cycling conditions on the perceived stability of redox active materials. <i>Electrochemistry Communications</i> , <b>2020</b> , 111, 106625	5.1	9
30	Comparing Physical and Electrochemical Properties of Different Weave Patterns for Carbon Cloth Electrodes in Redox Flow Batteries. <i>Journal of Electrochemical Energy Conversion and Storage</i> , <b>2020</b> , 17,	2	8
29	Data-driven electrode parameter identification for vanadium redox flow batteries through experimental and numerical methods. <i>Applied Energy</i> , <b>2020</b> , 279, 115530	10.7	8
28	Investigating the factors that influence resistance rise of PIM-1 membranes in nonaqueous electrolytes. <i>Electrochemistry Communications</i> , <b>2019</b> , 107, 106530	5.1	6
27	A Method for Evaluating Soluble Redox Couple Stability Using Microelectrode Voltammetry. <i>Journal of the Electrochemical Society</i> , <b>2020</b> , 167, 160513	3.9	6
26	Fabrication of high surface area ribbon electrodes for use in redox flow batteries via coaxial electrospinning. <i>Journal of Energy Storage</i> , <b>2021</b> , 33, 102079	7.8	6
25	In-situ measurement of ethanol tolerance in an operating fuel cell. <i>International Journal of Hydrogen Energy</i> , <b>2013</b> , 38, 8980-8991	6.7	5
24	Non-Solvent Induced Phase Separation Enables Designer Redox Flow Battery Electrodes. <i>Advanced Materials</i> , <b>2021</b> , 33, e2006716	24	5
23	Comparison of Separators vs Membranes in Nonaqueous Redox Flow Battery Electrolytes Containing Small Molecule Active Materials. <i>ACS Applied Energy Materials</i> , <b>2021</b> , 4, 5443-5451	6.1	5
22	Pulse Plating of Copper onto Gas Diffusion Layers for the Electroreduction of Carbon Dioxide. <i>MRS Advances</i> , <b>2018</b> , 3, 1277-1284	0.7	4
21	Early Stage Anodic Instability of Glassy Carbon Electrodes in Propylene Carbonate Solvent Containing Lithium Hexafluorophosphate. <i>Langmuir</i> , <b>2017</b> , 33, 11911-11918	4	3
20	Assessing capacity loss remediation methods for asymmetric redox flow battery chemistries using leveled cost of storage. <i>Journal of Power Sources</i> , <b>2021</b> , 506, 230085	8.9	3
19	How a cofactor-free protein environment lowers the barrier to O reactivity. <i>Journal of Biological Chemistry</i> , <b>2019</b> , 294, 3661-3669	5.4	2
18	Vapor Feed Direct Methanol Fuel Cell with Flowing Electrolyte. <i>ECS Transactions</i> , <b>2007</b> , 11, 1419-1424	1	2
17	Using voltammetry augmented with physics-based modeling and Bayesian hypothesis testing to identify analytes in electrolyte solutions. <i>Journal of Electroanalytical Chemistry</i> , <b>2021</b> , 115751	4.1	2
16	An investigation on the impact of halidization on substituted dimethoxybenzenes. <i>Electrochimica Acta</i> , <b>2020</b> , 335, 135580	6.7	2
15	Too Much of a Good Thing? Assessing Performance Tradeoffs of Two-Electron Compounds for Redox Flow Batteries. <i>Journal of the Electrochemical Society</i> , <b>2021</b> , 168, 050501	3.9	2

14	A generalized reduced fluid dynamic model for flow fields and electrodes in redox flow batteries. <i>AICHE Journal</i> ,	3.6	1
13	Untapped Potential: The Need and Opportunity for High-Voltage Aqueous Redox Flow Batteries. <i>ACS Energy Letters</i> , <b>2022</b> , 7, 659-667	20.1	1
12	Synthesis and Characterization of Lithium-Conducting Composite Polymer-Ceramic Membranes for Use in Nonaqueous Redox Flow Batteries. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2021</b> , 13, 53746-53757	9.5	1
11	Understanding the Impact of Convective Transport on Intercalation Batteries Through Dimensional Analysis. <i>Journal of the Electrochemical Society</i> , <b>2020</b> , 167, 140551	3.9	1
10	Combining electrochemical and imaging analyses to understand the effect of electrode microstructure and electrolyte properties on redox flow batteries. <i>Applied Energy</i> , <b>2022</b> , 306, 117678	10.7	0
9	Leveraging Neural Networks and Genetic Algorithms to Refine Electrode Properties in Redox Flow Batteries. <i>Journal of the Electrochemical Society</i> , <b>2021</b> , 168, 050547	3.9	0
8	Exploration of reduced graphene oxide microparticles as electrocatalytic materials in vanadium redox flow batteries. <i>Journal of Energy Storage</i> , <b>2022</b> , 50, 104192	7.8	0
7	Innentitelbild: A Membrane-Free Neutral pH Formate Fuel Cell Enabled by a Selective Nickel Sulfide Oxygen Reduction Catalyst (Angew. Chem. 26/2017). <i>Angewandte Chemie</i> , <b>2017</b> , 129, 7428-7428	3.6	
6	New Concepts in the Chemistry and Engineering of Low-Temperature Fuel Cells <b>2010</b> , 565-610		
5	Small-Scale, Low-Cost Flow Cell Platform for Rapid Characterization of Redox Flow Battery Materials. <i>ECS Meeting Abstracts</i> , <b>2020</b> , MA2020-02, 2674-2674	0	
4	Redox Flow Batteries: Non-Solvent Induced Phase Separation Enables Designer Redox Flow Battery Electrodes (Adv. Mater. 16/2021). <i>Advanced Materials</i> , <b>2021</b> , 33, 2170126	24	
3	Assessing the Design and Operation of Redox Flow Batteries through Levelized Cost Analysis. <i>ECS Meeting Abstracts</i> , <b>2021</b> , MA2021-01, 223-223	0	
2	(Student Battery Slam Best Presentation Award Winner) Combining Experimentation and Computation for Accelerated Understanding of Electrode Morphology in Redox Flow Batteries. <i>ECS Meeting Abstracts</i> , <b>2021</b> , MA2021-01, 266-266	0	
1	The Joint Center for Energy Storage Research: A New Paradigm of Research, Development, and Demonstration. <i>Advances in Electrochemical Science and Engineering</i> , <b>2018</b> , 7-40		