

# Shen J Dillon

## List of Publications by Citations

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114  
papers

4,440<sup>0</sup>  
citations

32  
h-index

64  
g-index

120  
ext. papers

5,003  
ext. citations

6  
avg, IF

5.81  
L-index

#	Paper	IF	Citations
114	3D printing of interdigitated Li-ion microbattery architectures. <i>Advanced Materials</i> , <b>2013</b> , 25, 4539-43	24	879
113	Grain boundary complexions. <i>Acta Materialia</i> , <b>2014</b> , 62, 1-48	8.4	497
112	Complexion: A new concept for kinetic engineering in materials science. <i>Acta Materialia</i> , <b>2007</b> , 55, 6208-6218	8.4	412
111	Relative grain boundary area and energy distributions in nickel. <i>Acta Materialia</i> , <b>2009</b> , 57, 4304-4311	8.4	129
110	Multiple grain boundary transitions in ceramics: A case study of alumina. <i>Acta Materialia</i> , <b>2007</b> , 55, 5247-5254	8.4	123
109	Mechanically and chemically robust sandwich-structured C@Si@C nanotube array Li-ion battery anodes. <i>ACS Nano</i> , <b>2015</b> , 9, 1985-94	16.7	103
108	Demystifying the role of sintering additives with "complexion". <i>Journal of the European Ceramic Society</i> , <b>2008</b> , 28, 1485-1493	6	79
107	Characterization of the Grain-Boundary Character and Energy Distributions of Yttria Using Automated Serial Sectioning and EBSD in the FIB. <i>Journal of the American Ceramic Society</i> , <b>2009</b> , 92, 1580-1585	8.4	78
106	Mechanism for the development of anisotropic grain boundary character distributions during normal grain growth. <i>Acta Materialia</i> , <b>2009</b> , 57, 1-7	8.4	73
105	Challenges associated with in-situ TEM in environmental systems: The case of silver in aqueous solutions. <i>Ultramicroscopy</i> , <b>2012</b> , 116, 34-38	3.1	71
104	Grain boundary complexions in ceramics and metals: An overview. <i>Jom</i> , <b>2009</b> , 61, 38-44	2.1	71
103	Three dimensional studies of particle failure in silicon based composite electrodes for lithium ion batteries. <i>Journal of Power Sources</i> , <b>2014</b> , 269, 334-343	8.9	66
102	Growth Kinetics and Morphological Evolution of ZnO Precipitated from Solution. <i>Chemistry of Materials</i> , <b>2013</b> , 25, 2927-2933	9.6	61
101	Relating Grain-Boundary Complexion to Grain-Boundary Kinetics I: Calcia-Doped Alumina. <i>Journal of the American Ceramic Society</i> , <b>2008</b> , 91, 2304-2313	3.8	61
100	Microstructural design considerations for Li-ion battery systems. <i>Current Opinion in Solid State and Materials Science</i> , <b>2012</b> , 16, 153-162	12	55
99	In situ electrochemical wet cell transmission electron microscopy characterization of solid-liquid interactions between Ni and aqueous NiCl <sub>2</sub> . <i>Acta Materialia</i> , <b>2012</b> , 60, 192-198	8.4	55
98	Compression-induced deformation of individual metal-organic framework microcrystals. <i>Journal of the American Chemical Society</i> , <b>2015</b> , 137, 1750-3	16.4	53

97	The Relative Energies of Normally and Abnormally Growing Grain Boundaries in Alumina Displaying Different Complexions. <i>Journal of the American Ceramic Society</i> , <b>2010</b> , 93, 1796	3.8	51
96	Quantitative comparison of sink efficiency of Cu-Nb, Cu-V and Cu-Ni interfaces for point defects. <i>Acta Materialia</i> , <b>2015</b> , 82, 328-335	8.4	50
95	The importance of grain boundary complexions in affecting physical properties of polycrystals. <i>Current Opinion in Solid State and Materials Science</i> , <b>2016</b> , 20, 324-335	12	47
94	Relating Grain Boundary Complexion to Grain Boundary Kinetics II: Silica-Doped Alumina. <i>Journal of the American Ceramic Society</i> , <b>2008</b> , 91, 2314-2320	3.8	47
93	In Situ Scanning Electron Microscopy Characterization of the Mechanism for Li Dendrite Growth. <i>Journal of the Electrochemical Society</i> , <b>2016</b> , 163, A1660-A1665	3.9	45
92	Mechanical Properties of Molybdenum Disulfide and the Effect of Doping: An in Situ TEM Study. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2015</b> , 7, 20829-34	9.5	41
91	Intrinsic Grain Boundary Mobility in Alumina. <i>Journal of the American Ceramic Society</i> , <b>2006</b> , 89, 3885-3887	3.8	41
90	Chemical mixing and self-organization of Nb precipitates in Cu during severe plastic deformation. <i>Acta Materialia</i> , <b>2014</b> , 62, 276-285	8.4	40
89	Large-deformation and high-strength amorphous porous carbon nanospheres. <i>Scientific Reports</i> , <b>2016</b> , 6, 24187	4.9	39
88	A mechanism for the improved rate capability of cathodes by lithium phosphate surficial films. <i>Electrochemistry Communications</i> , <b>2011</b> , 13, 200-202	5.1	39
87	Improved Performance in FeF <sub>2</sub> Conversion Cathodes through Use of a Conductive 3D Scaffold and Al <sub>2</sub> O <sub>3</sub> ALD Coating. <i>Advanced Functional Materials</i> , <b>2017</b> , 27, 1702783	15.6	38
86	Mechanism of Solid-State Single-Crystal Conversion in Alumina. <i>Journal of the American Ceramic Society</i> , <b>2007</b> , 90, 993-995	3.8	35
85	Construction of CdSe polymorphic junctions with coherent interface for enhanced photoelectrocatalytic hydrogen generation. <i>Applied Catalysis B: Environmental</i> , <b>2021</b> , 282, 119552	21.8	34
84	Influence of interface energies on solute partitioning mechanisms in doped aluminas. <i>Acta Materialia</i> , <b>2010</b> , 58, 5097-5108	8.4	32
83	Mechano-Electrochemical Interaction Gives Rise to Strain Relaxation in Sn Electrodes. <i>Journal of the Electrochemical Society</i> , <b>2016</b> , 163, A3022-A3035	3.9	32
82	Comparative Study of Li and Na Electrochemical Reactions with Iron Oxide Nanowires. <i>Electrochimica Acta</i> , <b>2014</b> , 118, 143-149	6.7	31
81	Dependence of shear-induced mixing on length scale. <i>Scripta Materialia</i> , <b>2013</b> , 68, 215-218	5.6	31
80	In situ observation of electrolytic H <sub>2</sub> evolution adjacent to gold cathodes. <i>Chemical Communications</i> , <b>2014</b> , 50, 1761-3	5.8	29

79	Electron beam induced deposition of silicon nanostructures from a liquid phase precursor. <i>Nanotechnology</i> , <b>2012</b> , 23, 385302	3.4	29
78	Effect of porosity on electrochemical and mechanical properties of composite Li-ion anodes. <i>Journal of Composite Materials</i> , <b>2015</b> , 49, 1849-1862	2.7	28
77	Unimolecular Polypeptide Micelles via Ultrafast Polymerization of $\alpha$ -Carboxyanhydrides. <i>Journal of the American Chemical Society</i> , <b>2020</b> , 142, 8570-8574	16.4	26
76	LiMnO Surface Chemistry Evolution during Cycling Revealed by in Situ Auger Electron Spectroscopy and X-ray Photoelectron Spectroscopy. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2017</b> , 9, 33968-33978	9.5	26
75	Misorientation dependence of Al <sub>2</sub> O <sub>3</sub> grain boundary thermal resistance. <i>Applied Physics Letters</i> , <b>2013</b> , 102, 034101	3.4	26
74	Crystallographic Characteristics of Grain Boundaries in Dense Yttria-Stabilized Zirconia. <i>International Journal of Applied Ceramic Technology</i> , <b>2011</b> , 8, 1218-1228	2	26
73	An experimentally quantifiable solute drag factor. <i>Acta Materialia</i> , <b>2008</b> , 56, 1374-1379	8.4	26
72	In situ transmission electron microscopy observation of silver oxidation in ionized/atomic gas. <i>Langmuir</i> , <b>2011</b> , 27, 14201-6	4	24
71	Aqueous lithium ion batteries on paper substrates. <i>Journal of Power Sources</i> , <b>2014</b> , 248, 582-587	8.9	23
70	In situ cryogenic transmission electron microscopy for characterizing the evolution of solidifying water ice in colloidal systems. <i>Microscopy and Microanalysis</i> , <b>2014</b> , 20, 330-7	0.5	23
69	Grain boundary plane distributions in aluminas evolving by normal and abnormal grain growth and displaying different complexions. <i>International Journal of Materials Research</i> , <b>2010</b> , 101, 50-56	0.5	23
68	Morphological changes in and around Sn electrodes during Li ion cycling characterized by in situ environmental TEM. <i>Scripta Materialia</i> , <b>2013</b> , 69, 658-661	5.6	22
67	The Effect of Yttrium on Oxygen Grain-Boundary Transport in Polycrystalline Alumina Measured Using Ni Marker Particles. <i>Journal of the American Ceramic Society</i> , <b>2008</b> , 91, 2002-2008	3.8	21
66	Diffusion Controlled Abnormal Grain Growth in Ceramics. <i>Materials Science Forum</i> , <b>2007</b> , 558-559, 1227-1236	12.6	21
65	The influence of dopants and complexion transitions on grain boundary fracture in alumina. <i>Acta Materialia</i> , <b>2018</b> , 142, 121-130	8.4	20
64	Direct Observation of Multilayer Adsorption on Alumina Grain Boundaries. <i>Journal of the American Ceramic Society</i> , <b>2007</b> , 90, 996-998	3.8	20
63	X-ray microtomography characterization of Sn particle evolution during lithiation/delithiation in lithium ion batteries. <i>Journal of Power Sources</i> , <b>2015</b> , 285, 205-209	8.9	19
62	In situ X-ray photoelectron and Auger electron spectroscopic characterization of reaction mechanisms during Li-ion cycling. <i>Chemical Communications</i> , <b>2016</b> , 52, 13257-13260	5.8	19

61	The Orientation Distributions of Lines, Surfaces, and Interfaces around Three-Phase Boundaries in Solid Oxide Fuel Cell Cathodes. <i>Journal of the American Ceramic Society</i> , <b>2011</b> , 94, 4045-4051	3.8	19
60	High temperature irradiation induced creep in Ag nanopillars measured via in situ transmission electron microscopy. <i>Scripta Materialia</i> , <b>2018</b> , 148, 1-4	5.6	18
59	Energetic design of grain boundary networks for toughening of nanocrystalline oxides. <i>Journal of the European Ceramic Society</i> , <b>2018</b> , 38, 4260-4267	6	18
58	Effect of irradiation damage on the shear strength of Cu/Nb interfaces. <i>Scripta Materialia</i> , <b>2014</b> , 90-91, 29-32	5.6	18
57	The role of ceramic and glass science research in meeting societal challenges: Report from an NSF-sponsored workshop. <i>Journal of the American Ceramic Society</i> , <b>2017</b> , 100, 1777-1803	3.8	17
56	Integration of microplasma with transmission electron microscopy: Real-time observation of gold sputtering and island formation. <i>Scientific Reports</i> , <b>2013</b> , 3, 1325	4.9	17
55	Forced atomic mixing during severe plastic deformation: Chemical interactions and kinetically driven segregation. <i>Acta Materialia</i> , <b>2014</b> , 66, 1-11	8.4	16
54	Irradiation-induced creep in metallic nanolaminates characterized by In situ TEM pillar nanocompression. <i>Journal of Nuclear Materials</i> , <b>2017</b> , 490, 59-65	3.3	15
53	Insights into Solid-Electrolyte Interphase Induced Li-Ion Degradation from in Situ Auger Electron Spectroscopy. <i>Journal of Physical Chemistry Letters</i> , <b>2017</b> , 8, 6226-6230	6.4	14
52	Irradiation induced creep in nanocrystalline high entropy alloys. <i>Acta Materialia</i> , <b>2020</b> , 182, 68-76	8.4	14
51	The influence of Cu/Nb interfaces on local vacancy concentrations in Cu. <i>Scripta Materialia</i> , <b>2013</b> , 69, 21-24	5.6	13
50	Self-organized, size-selection of precipitates during severe plastic deformation of dilute Cu-Nb alloys at low temperatures. <i>Acta Materialia</i> , <b>2017</b> , 140, 217-223	8.4	13
49	High-strength all-solid lithium ion electrodes based on Li <sub>4</sub> Ti <sub>5</sub> O <sub>12</sub> . <i>Journal of Power Sources</i> , <b>2011</b> , 196, 6507-6511	8.9	13
48	Probing buckling and post-buckling deformation of hollow amorphous carbon nanospheres: In-situ experiment and theoretical analysis. <i>Carbon</i> , <b>2018</b> , 137, 411-418	10.4	13
47	Catalyzed oxidation for nanowire growth. <i>Nanotechnology</i> , <b>2014</b> , 25, 145603	3.4	12
46	Structural evolution of Fe <sub>2</sub> O <sub>3</sub> nanowires during lithiation and delithiation. <i>Journal of Power Sources</i> , <b>2014</b> , 245, 308-314	8.9	11
45	Property Self-Optimization During Wear of MoS <sub>2</sub> . <i>ACS Applied Materials &amp; Interfaces</i> , <b>2017</b> , 9, 1953-1958	9.5	10
44	Effects of ternary alloy additions on the microstructure of highly immiscible Cu alloys subjected to severe plastic deformation: An evaluation of the effective temperature model. <i>Acta Materialia</i> , <b>2019</b> , 170, 218-230	8.4	10

43	Sintering of translucent and single-phase nanostructured scandia-stabilized zirconia. <i>Materials Letters</i> , <b>2019</b> , 253, 246-249	3.3	9
42	In situ X-ray micro-CT characterization of chemo-mechanical relaxations during Sn lithiation. <i>Journal of Power Sources</i> , <b>2018</b> , 381, 181-189	8.9	9
41	Surface redox on Li[Ni <sub>1/3</sub> Mn <sub>1/3</sub> Co <sub>1/3</sub> ]O <sub>2</sub> characterized by in situ X-ray photoelectron spectroscopy and in situ Auger electron spectroscopy. <i>Electrochimica Acta</i> , <b>2018</b> , 277, 197-204	6.7	9
40	A pseudo-solid-state cell for multiplatform in situ and operando characterization of Li-ion electrodes. <i>Journal of Power Sources</i> , <b>2018</b> , 400, 198-203	8.9	9
39	Self-organization of Cu <sub>2</sub> Ag during controlled severe plastic deformation at high temperatures. <i>Journal of Materials Research</i> , <b>2015</b> , 30, 1943-1956	2.5	9
38	In Situ Transmission Electron Microscopy for Ultrahigh Temperature Mechanical Testing of ZrO <sub>2</sub> . <i>Nano Letters</i> , <b>2020</b> , 20, 1041-1046	11.5	9
37	Interface Stabilized Nanoscale Quasi-Liquid Films. <i>Microscopy Today</i> , <b>2009</b> , 17, 22-27	0.4	8
36	Metallographic Preparation for Electron Backscattered Diffraction. <i>Microscopy and Microanalysis</i> , <b>2006</b> , 12, 1610-1611	0.5	8
35	Effects of Commonly Evolved Solid-Electrolyte-Interphase (SEI) Reaction Product Gases on the Cycle Life of Li-Ion Full Cells. <i>Journal of the Electrochemical Society</i> , <b>2018</b> , 165, A3084-A3094	3.9	8
34	Shear strengths of FCC-FCC cube-on-cube interfaces. <i>Scripta Materialia</i> , <b>2017</b> , 130, 178-181	5.6	7
33	Grain boundary curvatures in polycrystalline SrTiO <sub>3</sub> : Dependence on grain size, topology, and crystallography. <i>Journal of the American Ceramic Society</i> , <b>2019</b> , 102, 7003-7014	3.8	7
32	The effect of electrochemical cycling on the strength of LiCoO <sub>2</sub> . <i>Journal of the American Ceramic Society</i> , <b>2019</b> , 102, 372-381	3.8	7
31	Scaling effects on grain boundary diffusivity; Au in Cu. <i>Acta Materialia</i> , <b>2013</b> , 61, 1851-1861	8.4	7
30	Orientation relationship formed during irradiation induced precipitation of W in Cu. <i>Journal of Nuclear Materials</i> , <b>2014</b> , 454, 126-129	3.3	7
29	Kinetics and thermodynamics associated with Bi adsorption transitions at Cu and Ni grain boundaries. <i>Journal of Applied Physics</i> , <b>2013</b> , 113, 193507	2.5	7
28	Comment on Effect of Interface Structure on the Microstructural Evolution of Ceramics. <i>Journal of the American Ceramic Society</i> , <b>2007</b> , 90, 2291-2292	3.8	7
27	Hardening mechanisms in irradiated Cu-W alloys. <i>Journal of Materials Research</i> , <b>2017</b> , 32, 3156-3164	2.5	6
26	Measuring the Five Parameter Grain Boundary Character Distribution From Three-Dimensional Orientation Maps. <i>Microscopy and Microanalysis</i> , <b>2008</b> , 14, 978-979	0.5	6

25	Measuring size dependent electrical properties from nanoneedle structures: Pt/ZnO Schottky diodes. <i>Applied Physics Letters</i> , <b>2014</b> , 104, 153105	3.4	5
24	Local chemo-mechanical insights into the efficacy of ZDDP additives from in situ single asperity growth and mechanical testing. <i>Tribology International</i> , <b>2017</b> , 112, 103-107	4.9	4
23	The Oxygen Reduction Reaction Rate of Metallic Nanoparticles during Catalyzed Oxidation. <i>Scientific Reports</i> , <b>2017</b> , 7, 7017	4.9	4
22	In-situ microcantilever deflection to evaluate the interfacial fracture properties of binary Al <sub>2</sub> O <sub>3</sub> /SmAlO <sub>3</sub> eutectic. <i>Journal of the European Ceramic Society</i> , <b>2019</b> , 39, 3277-3282	6	3
21	Nanofibrillar Si Helices for Low-Stress, High-Capacity Li Anodes with Large Affine Deformations. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2019</b> , 11, 11715-11721	9.5	3
20	Microstructural toughening mechanisms in nanostructured Al <sub>2</sub> O <sub>3</sub> /GdAlO <sub>3</sub> eutectic composite studied using in situ microscale fracture experiments. <i>Journal of the European Ceramic Society</i> , <b>2020</b> , 40, 3148-3157	6	3
19	In-situ EM Characterization of Li-ion Battery through Multiple Cycles. <i>Microscopy and Microanalysis</i> , <b>2014</b> , 20, 968-969	0.5	3
18	Cation grain-boundary diffusivity in SiO <sub>2</sub> - and MgO-doped Al <sub>2</sub> O <sub>3</sub> . <i>Journal of the American Ceramic Society</i> , <b>2017</b> , 100, 5379-5384	3.8	3
17	Ultrahigh temperature in situ transmission electron microscopy based bicrystal coble creep in zirconia I: Nanowire growth and interfacial diffusivity. <i>Acta Materialia</i> , <b>2020</b> , 199, 530-541	8.4	3
16	Ultrahigh temperature in situ transmission electron microscopy based bicrystal coble creep in Zirconia II: Interfacial thermodynamics and transport mechanisms. <i>Acta Materialia</i> , <b>2020</b> , 200, 1008-1021	8.4	2
15	Variation in zinc dialkyldithiophosphate yield strength measured by nanopillar compression. <i>Tribology International</i> , <b>2018</b> , 123, 325-328	4.9	2
14	Cr <sup>3+</sup> chemical diffusivity in aliovalent doped aluminas. <i>Journal of the European Ceramic Society</i> , <b>2017</b> , 37, 4025-4032	6	2
13	Temperature Control in Liquid Cells for TEM		1
12	Grain Boundary Parting Limit during Dealloying. <i>Advanced Engineering Materials</i> , <b>2015</b> , 17, 157-161	3.5	1
11	Grain Boundary and Lattice Fracture Toughness of UO <sub>2</sub> Measured Using Small-Scale Mechanics. <i>Jom</i> , <b>2020</b> , 72, 2075-2081	2.1	1
10	Size-induced room temperature softening of nanocrystalline yttria stabilized zirconia. <i>Journal of the European Ceramic Society</i> , <b>2020</b> , 40, 2050-2055	6	1
9	Environmental Electron Microscopy: Electron Beam Effects in Electrochemistry. <i>Microscopy and Microanalysis</i> , <b>2014</b> , 20, 1616-1617	0.5	1
8	Approximating the Metastable Defect Concentration in Supersaturated Materials: A Case Study of the SrTiO <sub>3</sub> /TiO <sub>2</sub> System. <i>Journal of the American Ceramic Society</i> , <b>2012</b> , 95, 788-792	3.8	1

7	Measuring the Grain Boundary Character and Energy Distributions of Ceramics From Serial Sections of Orientation Maps. <i>Microscopy and Microanalysis</i> , <b>2009</b> , 15, 608-609	0.5	1
6	Lithium lanthanum titanate as an electrolyte for novel lithium ion battery systems <b>2011</b> ,		1
5	Unraveling the Role of Grain Boundary Anisotropy in Sintering: Implications for Nanoscale Manufacturing. <i>ACS Applied Nano Materials</i> , <b>2021</b> , 4, 8039-8049	5.6	1
4	Three-Dimensional FIB-OIM of Ceramic Materials. <i>Ceramic Transactions</i> , 117-124	0.1	1
3	Grain boundary energies in yttria-stabilized zirconia. <i>Journal of the American Ceramic Society</i> , <b>2022</b> , 105, 2925-2931	3.8	0
2	Measuring Interfacial Shear Strength of Cu x Ni-Nb Alloys. <i>Microscopy and Microanalysis</i> , <b>2016</b> , 22, 1480-1481	1.4	0
1	In situ TEM Measurements of Ion Irradiation Induced Creep. <i>Microscopy and Microanalysis</i> , <b>2019</b> , 25, 1566-1567	0.1	0