David W Mccomb

List of Publications by Year
in descending order

116 papers	2,182 citations	279798 23 h-index	233421 45 g-index
118 all docs	118 docs citations	118 times ranked	3981 citing authors

#	Article	IF	Citations
1	Room Temperature Intrinsic Ferromagnetism in Epitaxial Manganese Selenide Films in the Monolayer Limit. Nano Letters, 2018, 18, 3125-3131.	9.1	567
2	An Orthogonal Array Optimization of Lipid-like Nanoparticles for mRNA Delivery in Vivo. Nano Letters, 2015, 15, 8099-8107.	9.1	182
3	Vitamin lipid nanoparticles enable adoptive macrophage transfer for the treatment of multidrug-resistant bacterial sepsis. Nature Nanotechnology, 2020, 15, 41-46.	31.5	159
4	Observation of Nanoscale Skyrmions in SrIrO₃/SrRuO₃ Bilayers. Nano Letters, 2019, 19, 3169-3175.	9.1	112
5	Semiconductor Nanowire Lightâ€Emitting Diodes Grown on Metal: A Direction Toward Largeâ€Scale Fabrication of Nanowire Devices. Small, 2015, 11, 5402-5408.	10.0	99
6	Functionalized lipid-like nanoparticles for in vivo mRNA delivery and base editing. Science Advances, 2020, 6, .	10.3	88
7	Metallic ferromagnetic films with magnetic damping under 1.4â€‰Ã—â€‰10â^'3. Nature Communications, 2017, 8, 234.	12.8	74
8	Intratumoral delivery of IL-12 and IL-27 mRNA using lipid nanoparticles for cancer immunotherapy. Journal of Controlled Release, 2022, 345, 306-313.	9.9	70
9	Biomimetic nanoparticles deliver mRNAs encoding costimulatory receptors and enhance T cell mediated cancer immunotherapy. Nature Communications, 2021, 12, 7264.	12.8	55
10	Chiral bobbers and skyrmions in epitaxial FeGe/Si(111) films. Physical Review Materials, 2018, 2, .	2.4	52
11	Decomposition-Induced Room-Temperature Magnetism of the Na-Intercalated Layered Ferromagnet Fe_{3â€"<i>x</i>}GeTe₂. Nano Letters, 2019, 19, 5031-5035.	9.1	46
12	Anomalous Hall effect in noncollinear antiferromagnetic <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Mn</mml:mi><mml:mn…</mml:…n></mml thin films. Physical Review Materials, 2019, 3, .	2.3	44
13	Chemotherapy drugs derived nanoparticles encapsulating mRNA encoding tumor suppressor proteins to treat triple-negative breast cancer. Nano Research, 2019, 12, 855-861.	10.4	39
14	Probing the Source of the Interfacial Dzyaloshinskii-Moriya Interaction Responsible for the Topological Hall Effect in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mtext>Metal</mml:mtext><mml:mo>/</mml:mo><mml:msub><mml:mrow><mml:mi>Tm</mml:mi mathvariant="normal">O</mml:mi></m. Physical Review Letters, 2020, 124, 107201.	7.8	39
15	Effects of local structural transformation of lipid-like compounds on delivery of messenger RNA. Scientific Reports, 2016, 6, 22137.	3.3	37
16	Applications of Electron Channeling Contrast Imaging for the Rapid Characterization of Extended Defects in IIIâ€"V/Si Heterostructures. IEEE Journal of Photovoltaics, 2015, 5, 676-682.	2.5	35
17	Thickness dependence of spin Hall angle of Au grown on<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi mathvariant="normal">Y</mml:mi><mml:mn>3</mml:mn></mml:msub><mml:mi mathvariant="normal">F</mml:mi><mml:msub><mml:mi mathvariant="normal">e</mml:mi><mml:mn>5</mml:mn></mml:msub><mml:msub><mml:mi … l:mn>12</mml:mn></mml:msub></mml:mrow></mml:math>epitaxial	3.2	33
18	Magnetic proximity effect in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Pt</mml:mi><mml:mo>/</mml:mo><mml:msub><mml:m mathvariant="normal">O</mml:mi><mml:mn>4</mml:mn></mml:msub></mml:mrow></mml:math> bilayers. Physical Review Materials, 2018, 2, .	2.4	33

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19	Observation of spin Seebeck contribution to the transverse thermopower in Ni-Pt and MnBi-Au bulk nanocomposites. Nature Communications, 2016, 7, 13714.	12.8	32
20	Towards quantitative electrostatic potential mapping of working semiconductor devices using off-axis electron holography. Ultramicroscopy, 2015, 152, 10-20.	1.9	31
21	Novel Bacterial Diversity and Fragmented eDNA Identified in Hyperbiofilm-Forming Pseudomonas aeruginosa Rugose Small Colony Variant. IScience, 2020, 23, 100827.	4.1	31
22	Regional variation of bone tissue properties at the human mandibular condyle. Bone, 2015, 77, 98-106.	2.9	28
23	Probing carbonate in bone forming minerals on the nanometre scale. Acta Biomaterialia, 2015, 20, 129-139.	8.3	28
24	Antibiotic-Derived Lipid Nanoparticles to Treat Intracellular <i>Staphylococcus aureus</i>. ACS Applied Bio Materials, 2019, 2, 1270-1277.	4.6	22
25	Investigation of the Role of Rare-Earth Elements in Spin-Hall Topological Hall Effect in Pt/Ferrimagnetic-Garnet Bilayers. Nano Letters, 2020, 20, 4667-4672.	9.1	18
26	Direct Nanoscale Characterization of Deep Levels in AgCuInGaSe₂ Using Electron Energyâ€Loss Spectroscopy in the Scanning Transmission Electron Microscope. Advanced Energy Materials, 2019, 9, 1901612.	19.5	16
27	Measurement of optical properties in organic photovoltaic materials using monochromated electron energy-loss spectroscopy. Journal of Materials Chemistry A, 2016, 4, 13636-13645.	10.3	15
28	Bandgap profiling in CIGS solar cells via valence electron energy-loss spectroscopy. Journal of Applied Physics, 2018, 123, .	2.5	11
29	MMP20-generated amelogenin cleavage products prevent formation of fan-shaped enamel malformations. Scientific Reports, 2021, 11, 10570.	3.3	11
30	Stimulated Nucleation of Skyrmions in a Centrosymmetric Magnet. ACS Nano, 2021, 15, 13495-13503.	14.6	11
31	Co-delivery of mRNA and SPIONs through amino-ester nanomaterials. Nano Research, 2018, 11, 5596-5603.	10.4	10
32	Electron Microscopy Reveals Structural and Chemical Changes at the Nanometer Scale in the <i>Osteogenesis Imperfecta Murine</i> Pathology. ACS Biomaterials Science and Engineering, 2017, 3, 2788-2797.	5.2	9
33	High-resolution monochromated electron energy-loss spectroscopy of organic photovoltaic materials. Ultramicroscopy, 2017, 180, 125-132.	1.9	8
34	Nano-Cathodoluminescence Measurement of Asymmetric Carrier Trapping and Radiative Recombination in GaN and InGaN Quantum Disks. Microscopy and Microanalysis, 2018, 24, 93-98.	0.4	7
35	Identification of Ge vacancies as electronic defects in methyl- and hydrogen-terminated germanane. Applied Physics Letters, 2018, 113, 061110.	3.3	7
36	Enhanced uniformity of III-nitride nanowire arrays on bulk metallic glass and nanocrystalline substrates. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2019, 37, .	1.2	7

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37	Epitaxial Co50Fe50(110)/Pt(111) films on MgAl2O4(001) and its enhancement of perpendicular magnetic anisotropy. Journal of Applied Physics, 2019, 125, 183903.	2.5	7
38	Cryo-electron microscopy instrumentation and techniques for life sciences and materials science. MRS Bulletin, 2019, 44, 929-934.	3.5	7
39	Extracting weak magnetic contrast from complex background contrast in plan-view FeGe thin films. Ultramicroscopy, 2022, 232, 113395.	1.9	7
40	STO/BTO Modulated Superlattice Multilayer Structures with Atomically Sharp Interfaces. Advanced Materials Interfaces, 2014, 1, 1300116.	3.7	6
41	Multimodal Evidence of Mesostructured Calcium Fatty Acid Deposits in Human Hair and Their Role on Hair Properties. ACS Applied Bio Materials, 2018, 1, 1174-1183.	4.6	6
42	Manipulating acoustic and plasmonic modes in gold nanostars. Nanoscale Advances, 2019, 1, 2690-2698.	4.6	6
43	Construction of Messenger RNA (mRNA) Probes Delivered By Lipid Nanoparticles to Visualize Intracellular Protein Expression and Localization at Organelles. Advanced Materials, 2021, 33, 2103131.	21.0	6
44	Designer Extracellular Vesicles Modulate Proâ€Neuronal Cell Responses and Improve Intracranial Retention. Advanced Healthcare Materials, 2022, , 2100805.	7.6	6
45	Measuring optical properties of individual SnO2 nanowires via valence electron energy-loss spectroscopy. Journal of Materials Research, 2017, 32, 2479-2486.	2.6	5
46	Nanoanalytical electron microscopy of events predisposing to mineralisation of turkey tendon. Scientific Reports, 2018, 8, 3024.	3.3	5
47	Ferromagnetic Epitaxial Î¼-Fe2O3 on Î²-Ga2O3: A New Monoclinic Form of Fe2O3. Crystal Growth and Design, 2019, 19, 4205-4211.	3.0	5
48	Atomic layer epitaxy of kagome magnet Fe3Sn2 and Sn-modulated heterostructures. APL Materials, 2022, 10, .	5.1	5
49	Super-X EDS Characterization of Chemical Segregation within a Superlattice Extrinsic Stacking Fault of a Ni- based Superalloy. Microscopy and Microanalysis, 2015, 21, 493-494.	0.4	4
50	Remote Operation: The Future of Education and Research in Electron Microscopy. Microscopy Today, 2018, 26, 26-33.	0.3	4
51	Identification of turbostratic twisting in germanane. Journal of Materials Chemistry C, 2019, 7, 10092-10097.	5.5	4
52	Probing the electronic structure at the heterovalent GaP/Si interface using electron energy-loss spectroscopy. , 2016, , .		3
53	FIB/SEM Tomography of Wound Biofilm. Microscopy and Microanalysis, 2015, 21, 205-206.	0.4	2
54	Room-Temperature Routes Toward the Creation of Zinc Oxide Films from Molecular Precursors. ACS Omega, 2017, 2, 98-104.	3.5	2

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55	STEM Observation of eDNA as a Dominant Component of EPS in Pseudomonas aeruginosa Biofilm. Microscopy and Microanalysis, 2018, 24, 1334-1335.	0.4	2
56	Heterodimeric Plasmonic Nanogaps for Biosensing. Micromachines, 2018, 9, 664.	2.9	2
57	Electron Energy Loss Spectroscopy and Localized Cathodoluminescence Characterization of GaN Quantum Discs. Microscopy and Microanalysis, 2014, 20, 578-579.	0.4	1
58	3D Visualization of Motor-Neurons in Mice Spinal Cord Using FIBSEM Tomography. Microscopy and Microanalysis, 2014, 20, 1400-1401.	0.4	1
59	Correlative STEM-Cathodoluminescence and Low-Loss EELS of Semiconducting Oxide Nano-Heterostructures for Resistive Gas-Sensing Applications. Microscopy and Microanalysis, 2015, 21, 1255-1256.	0.4	1
60	Characterization of Stannous Fluoride Uptake in Human Dentine by Super-X XEDS and Dual-EELS analysis. Microscopy and Microanalysis, 2015, 21, 1231-1232.	0.4	1
61	Site-Specific TEM Specimen Preparation of Samples with Sub-Surface Features. Microscopy and Microanalysis, 2015, 21, 2157-2158.	0.4	1
62	Practical Considerations for High-Resolution Transmission Kikuchi Diffraction Mapping and Analysis in Titanium Alloys. Microscopy and Microanalysis, 2016, 22, 636-637.	0.4	1
63	Accessing High Spatial Resolution Low-Loss EELS Information without Cerenkov Radiation. Microscopy and Microanalysis, 2016, 22, 976-977.	0.4	1
64	Electron Diffraction of Germanane. Microscopy and Microanalysis, 2017, 23, 1744-1745.	0.4	1
65	Correlative 3D Imaging and Characterization of Human Dentine. Microscopy and Microanalysis, 2017, 23, 330-331.	0.4	1
66	An Electron Microscopy Collaboratory for Correlative Imaging Sciences. Microscopy and Microanalysis, 2019, 25, 2294-2295.	0.4	1
67	Investigation of Antiphase Domain Boundaries in Cobalt Ferrite Thin Films via High Resolution Scanning Transmission Electron Microscopy. Microscopy and Microanalysis, 2020, 26, 972-974.	0.4	1
68	Spatial Frequency Selection in Lorentz 4D-Scanning Transmission Electron Microscopy Reconstruction. Microscopy and Microanalysis, 2020, 26, 1902-1905.	0.4	1
69	On the shape and structure of the murine pulmonary heart valve. Scientific Reports, 2021, 11, 14078.	3.3	1
70	Direct imaging of skyrmion in plan-view of a polycrystalline FeGe thin film. Microscopy and Microanalysis, 2021, 27, 232-233.	0.4	1
71	Quantifying Jahn-Teller distortion at the nanoscale with picometer accuracy using position averaged convergent beam electron diffraction. Physical Review Research, 2019, 1, .	3.6	1
72	Interface-induced ferromagnetism in Î¼-Fe2O3/Î²-Ga2O3 superlattices. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2020, 38, .	2.1	1

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73	Understanding B-Site Disorder in HAADF-STEM Images of Double Perovskite Thin Films Using the Quantum Excitation of Phonons Model. Microscopy and Microanalysis, 2014, 20, 184-185.	0.4	0
74	Monochromated Electron Energy-Loss Spectroscopy Spectrum Imaging of Organic Photovoltaic Devices. Microscopy and Microanalysis, 2014, 20, 400-401.	0.4	0
75	Investigation of the Use of Stereo-Pair Data Sets in Electron Tomography Characterization of Organic-Based Solar Cells. Microscopy and Microanalysis, 2014, 20, 550-551.	0.4	0
76	Using Electron Channeling Contrast Imaging for Misfit Dislocation Characterization in Heteroepitaxial III-V/Si Thin Films. Microscopy and Microanalysis, 2014, 20, 552-553.	0.4	0
77	Performance of an Improved TEM SDD Detector. Microscopy and Microanalysis, 2014, 20, 608-609.	0.4	0
78	Characterizing Atomic Ordering of High Entropy Alloys Using Super-X EDS Characterization. Microscopy and Microanalysis, 2015, 21, 1225-1226.	0.4	0
79	Probing Bonding Environments in Osmium-Based Double Perovskites Using Monochromated Dual Electron-Energy Loss Spectroscopy. Microscopy and Microanalysis, 2015, 21, 2365-2366.	0.4	0
80	Variable Angle Spectroscopic Ellipsometry and Electron Energy-Loss Spectroscopy. Microscopy and Microanalysis, 2015, 21, 1471-1472.	0.4	0
81	Electron Energy-Loss Spectroscopy of Organic Photovoltaics. Microscopy and Microanalysis, 2015, 21, 1467-1468.	0.4	0
82	Novel Applications of Electron Channeling Contrast Imaging. Microscopy and Microanalysis, 2015, 21, 1897-1898.	0.4	0
83	Considerations for Physical Facility Design and Management of a State-of-the-Art Electron Microscopy and Analysis Laboratory. Microscopy and Microanalysis, 2015, 21, 525-526.	0.4	0
84	EELS Investigations of Aging Mechanisms in LiFePO4 Cathodes Resulting From Prolonged Electrochemical Cycling. Microscopy and Microanalysis, 2015, 21, 323-324.	0.4	0
85	Advancement of Heteroepitaxial III-V/Si Thin Films through Defect Characterization. Microscopy and Microanalysis, 2016, 22, 1538-1539.	0.4	0
86	Novel Investigative Preparation of Human Hair. Microscopy and Microanalysis, 2016, 22, 188-189.	0.4	0
87	Ferritin Mineral Core Composition in Health and Disease. Microscopy and Microanalysis, 2016, 22, 1156-1157.	0.4	0
88	Electronic Structure Analysis Of Aged Commercial LiFePO 4 Battery Cathodes Using Low Loss Electron Energy Loss Spectroscopy. Microscopy and Microanalysis, 2016, 22, 1330-1331.	0.4	0
89	Mapping Trends in Electronic Structure Variation With Aging in LiFePO 4 Cathodes: A Lorentz Oscillator Model Approach. Microscopy and Microanalysis, 2016, 22, 1354-1355.	0.4	0
90	Initial Results From a CdTe High-Energy X-ray Detector on a TEM. Microscopy and Microanalysis, 2016, 22, 312-313.	0.4	0

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91	Characterizing Atomic Ordering in Intermetallic Compounds Using X-ray Energy Dispersive Spectroscopy in an Aberration-Corrected (S)TEM. Microscopy and Microanalysis, 2016, 22, 1266-1267.	0.4	0
92	Composition of Epitaxial ZrO 2 :Y2O3/SrTiO 3 Heterostructures. Microscopy and Microanalysis, 2016, 22, 1356-1357.	0.4	0
93	Monochromated Electron Energy-Loss Spectroscopy of Organic Photovoltaics. Microscopy and Microanalysis, 2016, 22, 958-959.	0.4	0
94	Optimized Damage-Reduction 60 keV Monochromated Electron Energy-Loss Spectroscopy Measurements of Optical Properties at the Donor/Acceptor Interface in Organic Photovoltaic Devices. Microscopy and Microanalysis, 2016, 22, 984-985.	0.4	0
95	Correlative Microscopy Application in Spinal Cord Injury Research. Microscopy and Microanalysis, 2016, 22, 204-205.	0.4	0
96	Monochromated Electron Energy-Loss Spectroscopy of Lead-Free Halide Perovskite Semiconductors. Microscopy and Microanalysis, 2017, 23, 2098-2099.	0.4	0
97	Cell interactions in Wound Biofilm and in vitro Biofilm Revealed by Electron Microscopy. Microscopy and Microanalysis, 2017, 23, 1286-1287.	0.4	0
98	Detecting Sub Bandgap Energies in CIGS with Electron Energy-Loss Spectroscopy. Microscopy and Microanalysis, 2017, 23, 1546-1547.	0.4	0
99	Determining Optical Absorption Coefficients in Beam Sensitive Materials using Monochromated Electron Energy-Loss Spectroscopy. Microscopy and Microanalysis, 2017, 23, 1810-1811.	0.4	0
100	Â£ Factor and k-Factor Determination Using Needle Samples. Microscopy and Microanalysis, 2017, 23, 506-507.	0.4	0
101	Nanoscale Detection of Deep Levels in CIGS using Electron Energy Loss Spectroscopy. , 2017, , .		0
102	Correlative Imaging of Murine Pulmonary Valve Extracellular Matrix. Microscopy and Microanalysis, 2017, 23, 358-359.	0.4	0
103	Workflow for Correlatively Imaging Mouse Pulmonary Valve Extracellular Matrix. Microscopy and Microanalysis, 2018, 24, 1436-1437.	0.4	0
104	High Resolution Scanning Transmission Electron Microscopy of Normal and Inverse Spinel Regions in Epitaxially Grown CoFe2O4. Microscopy and Microanalysis, 2018, 24, 70-71.	0.4	0
105	Monochromated Electron Energy-Loss Spectroscopy of Interfaces in Beam Sensitive Materials. Microscopy and Microanalysis, 2018, 24, 1986-1987.	0.4	0
106	Characterization of Sub-Bandgap Energy States in CuInxGa(i-x)Se2 and Transparent Conducting Oxides with Electron Energy-Loss Spectroscopy. Microscopy and Microanalysis, 2018, 24, 456-457.	0.4	0
107	The Effect of Nonuniform Pixel Responses in CCD on Quantitative Analysis. Microscopy and Microanalysis, 2019, 25, 230-231.	0.4	0
108	Investigation of Spin Manipulation in Pt/CoFe2O4 via Scanning Transmission Electron Microscopy. Microscopy and Microanalysis, 2019, 25, 958-959.	0.4	0

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109	A Correlative Imaging Approach for Extracellular Matrix Characterization in Mice. Microscopy and Microanalysis, 2019, 25, 1134-1135.	0.4	0
110	Nanoscale Quantification of Jahn-Teller Distortion in LaMnO3. Microscopy and Microanalysis, 2019, 25, 80-81.	0.4	0
111	Characterization of Sub-Bandgap Plasmon Excitations in Transparent Conducting Oxides with Electron Energy-Loss Spectroscopy. Microscopy and Microanalysis, 2019, 25, 600-601.	0.4	0
112	Imaging and analysis of low atomic number materials in the STEM. Microscopy and Microanalysis, 2019, 25, 1734-1735.	0.4	0
113	Microcrystal electron diffraction of the peptide Gramicidin D. Microscopy and Microanalysis, 2021, 27, 1522-1523.	0.4	0
114	In-situ observation of the in-plane field induced nucleation of skyrmion using Lorentz-TEM. Microscopy and Microanalysis, 2021, 27, 380-381.	0.4	0
115	Vibrational Spectroscopy of Beam-Sensitive Materials in the Transmission Electron Microscope. Microscopy and Microanalysis, 2021, 27, 592-594.	0.4	0
116	Lorentz Transmission Electron Microscopy Imaging of Magnetic Textures in MnBi. Microscopy and Microanalysis, 2021, 27, 2178-2179.	0.4	0