Paul Midgley

List of Publications by Citations

382 papers	15,963 citations	62 h-index	115 g-index
410 ext. papers	17,687 ext. citations	6.6 avg, IF	6.73 L-index

#	Paper	IF	Citations
382	3D electron microscopy in the physical sciences: the development of Z-contrast and EFTEM tomography. *Ultramicroscopy*, **2003**, 96, 413-31	3.1	863
381	Electron tomography and holography in materials science. *Nature Materials*, **2009**, 8, 271-80	27	669
380	Double conical beam-rocking system for measurement of integrated electron diffraction intensities. *Ultramicroscopy*, **1994**, 53, 271-282	3.1	558
379	High-performance nanocatalysts for single-step hydrogenations. *Accounts of Chemical Research*, **2003**, 36, 20-30	24.3	515
378	Direct imaging of single-walled carbon nanotubes in cells. *Nature Nanotechnology*, **2007**, 2, 713-7	28.7	476
377	Electron tomography. *Materials Today*, **2004**, 7, 32-40	21.8	386
376	Three-dimensional imaging of localized surface plasmon resonances of metal nanoparticles. *Nature*, **2013**, 502, 80-4	50.4	370
375	Learning from nature to improve the heat generation of iron-oxide nanoparticles for magnetic hyperthermia applications. *Scientific Reports*, **2013**, 3, 1652	4.9	369
374	A heterogeneous single-atom palladium catalyst surpassing homogeneous systems for Suzuki coupling. *Nature Nanotechnology*, **2018**, 13, 702-707	28.7	316
373	Structure–Activity Relationship in Nanostructured Copper/Ceria-Based Preferential CO Oxidation Catalysts. *Journal of Physical Chemistry C*, **2007**, 111, 11026-11038	3.8	266
372	Charge-ordered ferromagnetic phase in La(0.5)Ca(0.5)MnO3. *Nature*, **2002**, 420, 797-800	50.4	260
371	A sol-gel monolithic metal-organic framework with enhanced methane uptake. *Nature Materials*, **2018**, 17, 174-179	27	257
370	3D imaging of nanomaterials by discrete tomography. *Ultramicroscopy*, **2009**, 109, 730-40	3.1	230
369	Compressed sensing electron tomography. *Ultramicroscopy*, **2013**, 131, 70-91	3.1	209
368	Z-Contrast tomography: a technique inthree-dimensional nanostructural analysis based on Rutherfordscattering. *Chemical Communications*, **2001**, 907-908	5.8	207
367	Structural and morphological characterization of cerium oxide nanocrystals prepared by hydrothermal synthesis. *Nano Letters*, **2007**, 7, 421-5	11.5	203
366	Encapsulation for long-term stability enhancement of perovskite solar cells. *Nano Energy*, **2016**, 30, 162-172	17.1	200

365	Microfluidization of Graphite and Formulation of Graphene-Based Conductive Inks. *ACS Nano*, **2017**, 11, 2742-2755	16.7	192
364	Nanotomography in the chemical, biological and materials sciences. *Chemical Society Reviews*, **2007**, 36, 1477-94	58.5	181
363	Toxicity and imaging of multi-walled carbon nanotubes in human macrophage cells. *Biomaterials*, **2009**, 30, 4152-60	15.6	174
362	Stabilization of Single Metal Atoms on Graphitic Carbon Nitride. *Advanced Functional Materials*, **2017**, 27, 1605785	15.6	172
361	Performance-limiting nanoscale trap clusters at grain junctions in halide perovskites. *Nature*, **2020**, 580, 360-366	50.4	155
360	Embedded nanostructures revealed in three dimensions. *Science*, **2005**, 309, 2195-8	33.3	151
359	Quantitative electron holography of biased semiconductor devices. *Physical Review Letters*, **2002**, 88, 238302	7.4	141
358	Single-step conversion of dimethyl terephthalate into cyclohexanedimethanol with Ru5PtSn, a trimetallic nanoparticle catalyst. *Angewandte Chemie - International Edition*, **2006**, 45, 4782-5	16.4	138
357	Uptake of C60 by human monocyte macrophages, its localization and implications for toxicity: studied by high resolution electron microscopy and electron tomography. *Acta Biomaterialia*, **2006**, 2, 409-19	10.8	137
356	Formation of M23C6-type precipitates and chromium-depleted zones in austenite stainless steel. *Scripta Materialia*, **2011**, 65, 509-512	5.6	135
355	Three-dimensional morphology of iron oxide nanoparticles with reactive concave surfaces. A compressed sensing-electron tomography (CS-ET) approach. *Nano Letters*, **2011**, 11, 4666-73	11.5	133
354	Reducing the missing wedge: High-resolution dual axis tomography of inorganic materials. *Ultramicroscopy*, **2006**, 106, 994-1000	3.1	133
353	Magnetite morphology and life on Mars. *Proceedings of the National Academy of Sciences of the United States of America*, **2001**, 98, 13490-5	11.5	133
352	Uptake of noncytotoxic acid-treated single-walled carbon nanotubes into the cytoplasm of human macrophage cells. *ACS Nano*, **2009**, 3, 1485-92	16.7	121
351	High-resolution three-dimensional imaging of dislocations. *Science*, **2006**, 313, 319	33.3	121
350	Surface plasmon modes of a single silver nanorod: an electron energy loss study. *Optics Express*, **2011**, 19, 15371-9	3.3	116
349	Impedance spectroscopy of epitaxial multiferroic thin films. *Physical Review B*, **2007**, 75,	3.3	110
348	Single-step process to prepare CeO2 nanotubes with improved catalytic activity. *Nano Letters*, **2009** , 9, 1395-400	11.5	108

347	Room temperature ferromagnetism in bulk Mn-Doped Cu2O. *Applied Physics Letters*, **2005**, 86, 072514	3.4	108
346	Weak charge-lattice coupling requires reinterpretation of stripes of charge order in La1-xCaxMnO3. *Physical Review Letters*, **2005**, 94, 097202	7.4	108
345	Electron Tomography of Nanoparticle Catalysts on Porous Supports:A New Technique Based on Rutherford Scattering. *Journal of Physical Chemistry B*, **2001**, 105, 7882-7886	3.4	107
344	Four-dimensional spectral tomography of carbonaceous nanocomposites. *Nano Letters*, **2006**, 6, 376-9	11.5	104
343	Gold and iodine diffusion in large area perovskite solar cells under illumination. *Nanoscale*, **2017**, 9, 4700-4706	7.7	103
342	Visualizing the uptake of C60 to the cytoplasm and nucleus of human monocyte-derived macrophage cells using energy-filtered transmission electron microscopy and electron tomography. *Environmental Science & Technology*, **2007**, 41, 3012-7	10.3	101
341	Surface Structure, Hydration, and Cationic Sites of Nanohydroxyapatite: UHR-TEM, IR, and Microgravimetric Studies. *Journal of Physical Chemistry C*, **2007**, 111, 4027-4035	3.8	99
340	An introduction to off-axis electron holography. *Micron*, **2001**, 32, 167-84	2.3	90
339	Precession electron diffraction - a topical review. *IUCrJ*, **2015**, 2, 126-36	4.7	89
338	Large-scale ordering of nanoparticles using viscoelastic shear processing. *Nature Communications*, **2016**, 7, 11661	17.4	88
337	Single-atom heterogeneous catalysts based on distinct carbon nitride scaffolds. *National Science Review*, **2018**, 5, 642-652	10.8	82
336	Bimetallic Ru-Sn nanoparticle catalysts for the solvent-free selective hydrogenation of 1,5,9-cyclododecatriene to cyclododecene. *Angewandte Chemie - International Edition*, **2007**, 46, 8182-5	16.4	76
335	Measurement of molecular motion in organic semiconductors by thermal diffuse electron scattering. *Nature Materials*, **2013**, 12, 1045-9	27	75
334	Superconductivity and the incommensurate structural modulation in the heavy fermion UPt3. *Physical Review Letters*, **1993**, 70, 678-681	7.4	74
333	3 D characterization of gold nanoparticles supported on heavy metal oxide catalysts by HAADF-STEM electron tomography. *Angewandte Chemie - International Edition*, **2009**, 48, 5313-5	16.4	70
332	Characteristics of mixed phase superconductivity in oxygenated La2CuO4+ *Physica C: Superconductivity and Its Applications*, **1991**, 173, 9-24	1.3	70
331	Wave-front phase retrieval in transmission electron microscopy via ptychography. *Physical Review B* , **2010**, 82,	3.3	69
330	Morphological study of nanoparticle-polymer solar cells using high-angle annular dark-field electron tomography. *Nano Letters*, **2011**, 11, 904-9	11.5	66

329	High-Resolution Three-Dimensional Mapping of Semiconductor Dopant Potentials. *Nano Letters*, **2007**, 7, 2020-2023	11.5	65
328	Transition-Metal Decorated Aluminum Nanocrystals. *ACS Nano*, **2017**, 11, 10281-10288	16.7	64
327	Atom-by-Atom Resolution of Structure-Function Relations over Low-Nuclearity Metal Catalysts. *Angewandte Chemie - International Edition*, **2019**, 58, 8724-8729	16.4	64
326	Recent advances in the application of electron tomography to materials chemistry. *Accounts of Chemical Research*, **2012**, 45, 1782-91	24.3	64
325	High-resolution transmission electron microscopy: the ultimate nanoanalytical technique. *Chemical Communications*, **2004**, 1253-67	5.8	64
324	Improved CO oxidation activity in the presence and absence of hydrogen over cluster-derived PtFe/SiO2 catalysts. *Langmuir*, **2006**, 22, 5160-7	4	63
323	An endogenous nanomineral chaperones luminal antigen and peptidoglycan to intestinal immune cells. *Nature Nanotechnology*, **2015**, 10, 361-9	28.7	62
322	Scanning precession electron tomography for three-dimensional nanoscale orientation imaging and crystallographic analysis. *Nature Communications*, **2015**, 6, 7267	17.4	62
321	Electron Tomography in the (S)TEM: From Nanoscale Morphological Analysis to 3D Atomic Imaging. *Annual Review of Materials Research*, **2012**, 42, 59-79	12.8	62
320	Three-Dimensional Nanoparticle Distribution and Local Curvature of Heterogeneous Catalysts Revealed by Electron Tomography. *Journal of Physical Chemistry C*, **2007**, 111, 11501-11505	3.8	60
319	A novel dual-axis iterative algorithm for electron tomography. *Journal of Structural Biology*, **2006**, 153, 55-63	3.4	60
318	Differentiation of tin oxides using electron energy-loss spectroscopy. *Physical Review B*, **2004**, 69,	3.3	60
317	Nanoscale analysis of three-dimensional structures by electron tomography. *Scripta Materialia*, **2006**, 55, 29-33	5.6	59
316	Extending energy-filtered transmission electron microscopy (EFTEM) into three dimensions using electron tomography. *Microscopy and Microanalysis*, **2003**, 9, 542-55	0.5	59
315	High-angle triple-axis specimen holder for three-dimensional diffraction contrast imaging in transmission electron microscopy. *Ultramicroscopy*, **2011**, 111, 1168-75	3.1	58
314	Toward three-dimensional nanoengineering of heterogeneous catalysts. *Journal of the American Chemical Society*, **2008**, 130, 5716-9	16.4	58
313	The chemical application of high-resolution electron tomography: bright field or dark field?. *Angewandte Chemie - International Edition*, **2004**, 43, 6745-7	16.4	57
312	Improvement in electron holographic phase images of focused-ion-beam-milled GaAs and Si p-n junctions by in situ annealing. *Applied Physics Letters*, **2006**, 88, 063510	3.4	56

311	Coarsening behaviour and interfacial structure of γ′ precipitates in Co-Al-W based superalloys. *Acta Materialia*, **2016**, 120, 14-23	8.4	55
310	Image-spectroscopy--I. The advantages of increased spectral information for compositional EFTEM analysis. *Ultramicroscopy*, **2001**, 88, 179-86	3.1	55
309	High-Resolution Scanning Transmission Electron Tomography and Elemental Analysis of Zeptogram Quantities of Heterogeneous Catalyst. *Journal of Physical Chemistry B*, **2004**, 108, 4590-4592	3.4	53
308	Using highly accurate 3D nanometrology to model the optical properties of highly irregular nanoparticles: a powerful tool for rational design of plasmonic devices. *Nano Letters*, **2010**, 10, 2097-104	11.5	50
307	Metal-organic framework crystal-glass composites. *Nature Communications*, **2019**, 10, 2580	17.4	49
306	Liquid phase blending of metal-organic frameworks. *Nature Communications*, **2018**, 9, 2135	17.4	49
305	Controlling the speciation and reactivity of carbon-supported gold nanostructures for catalysed acetylene hydrochlorination. *Chemical Science*, **2019**, 10, 359-369	9.4	48
304	High-resolution imaging of nanoparticle bimetallic catalysts supported on mesoporous silica. *Catalysis Letters*, **1999**, 60, 113-120	2.8	48
303	On the precipitation of delta phase in ALLVAC® 718Plus. *Philosophical Magazine*, **2014**, 94, 1132-1152	1.6	47
302	TEM characterization of Ge precipitates in an Al-1.6at% Ge alloy. *Ultramicroscopy*, **2008**, 108, 210-20	3.1	47
301	3D Visualization of the Iron Oxidation State in FeO/Fe3O4 Core-Shell Nanocubes from Electron Energy Loss Tomography. *Nano Letters*, **2016**, 16, 5068-73	11.5	47
300	Three-dimensional real-space crystallography of MCM-48 mesoporous silica revealed by scanning transmission electron tomography. *Chemical Physics Letters*, **2006**, 418, 540-543	2.5	46
299	On the crystallography and composition of topologically close-packed phases in ATI 718Plus® . *Acta Materialia*, **2017**, 130, 271-280	8.4	45
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297	Mechanical Properties and Processing Techniques of Bulk Metal-Organic Framework Glasses. *Journal of the American Chemical Society*, **2019**, 141, 1027-1034	16.4	45
296	Three-dimensional analysis of dislocation networks in GaN using weak-beam dark-field electron tomography. *Philosophical Magazine*, **2006**, 86, 4901-4922	1.6	44
295	Sol–Gel Synthesis of Robust Metal–Organic Frameworks for Nanoparticle Encapsulation. *Advanced Functional Materials*, **2018**, 28, 1705588	15.6	43
294	Microstructure and Solidification Sequence of the Interdendritic Region in a Third Generation Single-Crystal Nickel-Base Superalloy. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2009**, 40, 1660-1669	2.3	43

293	Crystallographic order in multi-walled carbon nanotubes synthesized in the presence of nitrogen. *Small*, **2006**, 2, 774-84	11	43
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291	Laser treatment of Ag@ZnO nanorods as long-life-span SERS surfaces. *ACS Applied Materials & Interfaces*, **2015**, 7, 2331-9	9.5	41
290	Quantitative electron holographic tomography for the 3D characterisation of semiconductor device structures. *Ultramicroscopy*, **2008**, 108, 1401-7	3.1	40
289	Multicomponent signal unmixing from nanoheterostructures: overcoming the traditional challenges of nanoscale X-ray analysis via machine learning. *Nano Letters*, **2015**, 15, 2716-20	11.5	39
288	Compressed sensing electron tomography of needle-shaped biological specimens--Potential for improved reconstruction fidelity with reduced dose. *Ultramicroscopy*, **2016**, 160, 230-238	3.1	39
287	Nanoscale scanning transmission electron tomography. *Journal of Microscopy*, **2006**, 223, 185-90	1.9	39
286	Off-axis electron holography of electrostatic potentials in unbiased and reverse biased focused ion beam milled semiconductor devices. *Journal of Microscopy*, **2004**, 214, 287-96	1.9	39
285	Conventional and back-side focused ion beam milling for off-axis electron holography of electrostatic potentials in transistors. *Ultramicroscopy*, **2005**, 103, 67-81	3.1	39
284	Extended ptychography in the transmission electron microscope: possibilities and limitations. *Ultramicroscopy*, **2011**, 111, 1117-23	3.1	38
283	Three-dimensional electron backscattered diffraction analysis of deformation in MgO micropillars. *Acta Materialia*, **2011**, 59, 7241-7254	8.4	38
282	3-D characterization of CdSe nanoparticles attached to carbon nanotubes. *Nano Research*, **2008**, 1, 89-97	10	37
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279	Measurement of three-dimensional intensity data in electron diffraction by the precession technique. *Ultramicroscopy*, **1998**, 74, 147-157	3.1	36
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275	Reduced-dose and high-speed acquisition strategies for multi-dimensional electron microscopy. *Advanced Structural and Chemical Imaging*, **2015**, 1,	3.9	34
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271	Morphology of SBA-15-directed by association processes and surface energies. *Physical Chemistry Chemical Physics*, **2009**, 11, 10973-82	3.6	34
270	Electronic structure of tin oxides by electron energy loss spectroscopy and real-space multiple scattering calculations. *Physical Review B*, **2005**, 71,	3.3	34
269	Magnetic domain-wall width in La0.7Ca0.3MnO3 thin films measured using Fresnel imaging. *Physical Review B*, **2001**, 64,	3.3	34
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267	Structural Surface Investigations of Cerium Zirconium Mixed Oxide Nanocrystals with Enhanced Reducibility. *Journal of Physical Chemistry C*, **2007**, 111, 9001-9004	3.8	33
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265	Is precession electron diffraction kinematical? Part I: "Phase-scrambling" multislice simulations. *Ultramicroscopy*, **2010**, 110, 763-70	3.1	32
264	Dislocation tomography made easy: a reconstruction from ADF STEM images obtained using automated image shift correction. *Journal of Physics: Conference Series*, **2008**, 126, 012013	0.3	32
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262	Refining structures against reflection rank: an alternative metric for electron crystallography. *Acta Crystallographica Section A: Foundations and Advances*, **2012**, 68, 352-8		31
261	Incorporation of platinum nanoparticles in ordered mesoporous carbon. *Journal of Colloid and Interface Science*, **2007**, 305, 204-8	9.3	31
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259	Off-axis electron holography of unbiased and reverse-biased focused ion beam milled Si p-n junctions. *Microscopy and Microanalysis*, **2005**, 11, 66-78	0.5	31
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247	Strain control of superlattice implies weak charge-lattice coupling in La0.5Ca0.5MnO3. *Physical Review B*, **2006**, 73,	3.3	26
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244	Excitation dependent Fano-like interference effects in plasmonic silver nanorods. *Physical Review B*, **2014**, 90,	3.3	25
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214	Direct visualisation, by aberration-corrected electron microscopy, of the crystallisation of bimetallic nanoparticle catalysts. *Chemical Communications*, **2005**, 5805-7	5.8	18
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