

# Ian A Ashcroft

## List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

81  
papers

4,125  
citations

27  
h-index

63  
g-index

83  
ext. papers

5,013  
ext. citations

4.4  
avg, IF

5.96  
L-index

#	Paper	IF	Citations
81	Reducing porosity in AlSi10Mg parts processed by selective laser melting. <i>Additive Manufacturing</i> , <b>2014</b> , 1-4, 77-86	6.1	512
80	3D printing of Aluminium alloys: Additive Manufacturing of Aluminium alloys using selective laser melting. <i>Progress in Materials Science</i> , <b>2019</b> , 106, 100578	42.2	423
79	The microstructure and mechanical properties of selectively laser melted AlSi10Mg: The effect of a conventional T6-like heat treatment. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2016</b> , 667, 139-146	5.3	323
78	Understanding the effect of laser scan strategy on residual stress in selective laser melting through thermo-mechanical simulation. <i>Additive Manufacturing</i> , <b>2016</b> , 12, 1-15	6.1	304
77	A Study on the Laser Spatter and the Oxidation Reactions During Selective Laser Melting of 316L Stainless Steel, Al-Si10-Mg, and Ti-6Al-4V. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2015</b> , 46, 3842-3851	2.3	190
76	On the formation of AlSi10Mg single tracks and layers in selective laser melting: Microstructure and nano-mechanical properties. <i>Journal of Materials Processing Technology</i> , <b>2016</b> , 230, 88-98	5.3	179
75	Improving the fatigue behaviour of a selectively laser melted aluminium alloy: Influence of heat treatment and surface quality. <i>Materials and Design</i> , <b>2016</b> , 104, 174-182	8.1	170
74	Metallurgy of high-silicon steel parts produced using Selective Laser Melting. <i>Acta Materialia</i> , <b>2016</b> , 110, 207-216	8.4	166
73	On the Precipitation Hardening of Selective Laser Melted AlSi10Mg. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2015</b> , 46, 3337-3341	2.3	164
72	3D inkjet printing of tablets exploiting bespoke complex geometries for controlled and tuneable drug release. <i>Journal of Controlled Release</i> , <b>2017</b> , 261, 207-215	11.7	163
71	Damage modelling of adhesively bonded joints. <i>International Journal of Fracture</i> , <b>2006</b> , 141, 147-161	2.3	116
70	Transparency Built-in. <i>Journal of Industrial Ecology</i> , <b>2013</b> , 17, 418-431	7.2	96
69	Prediction of fatigue thresholds in adhesively bonded joints using damage mechanics and fracture mechanics. <i>Journal of Adhesion Science and Technology</i> , <b>2001</b> , 15, 763-781	2	75
68	Investigating Fatigue Damage Evolution In Adhesively Bonded Structures Using Backface Strain Measurement <b>2002</b> , 78, 745-776		68
67	Selective laser melting of aluminum alloys. <i>MRS Bulletin</i> , <b>2017</b> , 42, 311-319	3.2	62
66	Effect of Temperature on the Quasi-static Strength and Fatigue Resistance of Bonded Composite Double Lap Joints <b>2001</b> , 75, 61-88		62
65	Modelling the Environmental Degradation of the Interface in Adhesively Bonded Joints using a Cohesive Zone Approach <b>2006</b> , 82, 1061-1089		48

64	Powder Bed Fusion of nickel-based superalloys: A review. <i>International Journal of Machine Tools and Manufacture</i> , <b>2021</b> , 165, 103729	9.4	48
63	Electrical resistivity of additively manufactured AlSi10Mg for use in electric motors. <i>Additive Manufacturing</i> , <b>2018</b> , 21, 395-403	6.1	43
62	Modelling Environmental Degradation in EA9321-Bonded Joints using a Progressive Damage Failure Model <b>2006</b> , 82, 135-160		43
61	Drilling in cortical bone: a finite element model and experimental investigations. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , <b>2015</b> , 42, 32-42	4.1	42
60	Diffusion of Moisture in Adhesively Bonded Joints <b>2001</b> , 77, 43-80		41
59	Modelling Cyclic Moisture Uptake in an Epoxy Adhesive <b>2009</b> , 85, 711-735		40
58	Modelling interfacial degradation using interfacial rupture elements <b>2003</b> , 79, 1135-1160		40
57	Modelling Damage and Failure in Adhesive Joints Using A Combined XFEM-Cohesive Element Methodology <b>2014</b> , 90, 682-697		36
56	Electrical resistivity of pure copper processed by medium-powered laser powder bed fusion additive manufacturing for use in electromagnetic applications. <i>Additive Manufacturing</i> , <b>2019</b> , 29, 100831	6.1	35
55	3D reactive inkjet printing of polydimethylsiloxane. <i>Journal of Materials Chemistry C</i> , <b>2017</b> , 5, 9733-9743	7.1	32
54	Fatigue initiation in adhesively-bonded single-lap joints. <i>Journal of Adhesion Science and Technology</i> , <b>2007</b> , 21, 1343-1357	2	27
53	Additive manufacturing of glass with laser powder bed fusion. <i>Journal of the American Ceramic Society</i> , <b>2019</b> , 102, 4410-4414	3.8	26
52	Load Ratio Effect on the Fatigue Behaviour of Adhesively Bonded Joints: An Enhanced Damage Model <b>2010</b> , 86, 257-272		25
51	Experimental and Numerical Investigation of Mechanical and Thermal Residual Strains in Adhesively Bonded Joints. <i>Strain</i> , <b>2007</b> , 43, 319-331	1.7	25
50	The effects of bidirectional evolutionary structural optimization parameters on an industrial designed component for additive manufacture. <i>Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture</i> , <b>2013</b> , 227, 794-807	2.4	24
49	Crack growth in adhesively bonded joints subjected to variable frequency fatigue loading <b>2003</b> , 79, 1161-1182		24
48	Simulations of delamination in CFRP laminates: Effect of microstructural randomness. <i>Computational Materials Science</i> , <b>2009</b> , 46, 607-613	3.2	23
47	Topology optimization of geometrically nonlinear structures using an evolutionary optimization method. <i>Engineering Optimization</i> , <b>2018</b> , 50, 1850-1870	2	22

46	Hierarchical remeshing strategies with mesh mapping for topology optimisation. <i>International Journal for Numerical Methods in Engineering</i> , <b>2017</b> , 111, 676-700	2.4	21
45	Comparison of cohesive zone elements and smoothed particle hydrodynamics for failure prediction of single lap adhesive joints <b>2017</b> , 93, 444-460		20
44	Surface microstructuring to modify wettability for 3D printing of nano-filled inks. <i>Chemical Engineering Research and Design</i> , <b>2016</b> , 109, 414-420	5.5	19
43	A Comparison of Laboratory-conditioned and Naturally-weathered Bonded Joints <b>2001</b> , 75, 175-201		19
42	Evolutionary topology optimization using the extended finite element method and isolines. <i>Engineering Optimization</i> , <b>2014</b> , 46, 628-647	2	18
41	Numerical and experimental investigation of three-dimensional strains in adhesively bonded joints. <i>Journal of Strain Analysis for Engineering Design</i> , <b>2006</b> , 41, 583-596	1.3	18
40	Continuum damage modelling of environmental degradation in joints bonded with E32 epoxy adhesive. <i>Journal of Adhesion Science and Technology</i> , <b>2007</b> , 21, 179-195	2	18
39	The Static Failure of Adhesively Bonded Metal Laminate Structures: A Cohesive Zone Approach. <i>Journal of Adhesion Science and Technology</i> , <b>2011</b> , 25, 1131-1157	2	17
38	Mixed-mode crack growth in bonded composite joints under standard and impact-fatigue loading. <i>Journal of Materials Science</i> , <b>2008</b> , 43, 6704-6713	4.3	17
37	A combined inverse finite element elastoplastic modelling method to simulate the size-effect in nanoindentation and characterise materials from the nano to micro-scale. <i>International Journal of Solids and Structures</i> , <b>2017</b> , 104-105, 25-34	3.1	16
36	A Comparison of the Prediction of Fatigue Damage and Crack Growth in Adhesively Bonded Joints Using Fracture Mechanics and Damage Mechanics Progressive Damage Methods <b>2010</b> , 86, 1203-1230		16
35	Predicting Degradation in Bonded Composite Joints Using a Semi-Coupled Finite-Element Method. <i>Mechanics of Advanced Materials and Structures</i> , <b>2003</b> , 10, 227-248	1.8	16
34	A hybrid approach to determining cornea mechanical properties in vivo using a combination of nano-indentation and inverse finite element analysis. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , <b>2013</b> , 27, 239-48	4.1	15
33	On the thermal conductivity of AlSi10Mg and lattice structures made by laser powder bed fusion. <i>Additive Manufacturing</i> , <b>2020</b> , 34, 101214	6.1	14
32	A comparison of failure prediction methods for an adhesively bonded composite beam. <i>Journal of Strain Analysis for Engineering Design</i> , <b>2004</b> , 39, 173-185	1.3	13
31	Optimal orientation of fibre composites for strength based on Hashin's criteria optimality conditions. <i>Structural and Multidisciplinary Optimization</i> , <b>2020</b> , 61, 2155-2176	3.6	10
30	A Method of Predicting the Stresses in Adhesive Joints after Cyclic Moisture Conditioning <b>2011</b> , 87, 926-950		10
29	A Model to Predict the Anomalous Fatigue Crack Growth Behaviour Seen in Mixed Mechanism Fracture <b>2010</b> , 86, 522-538		10

28	An investigation into the depth and time dependent behavior of UV cured 3D ink jet printed objects. <i>Journal of Materials Research</i> , <b>2017</b> , 32, 1407-1420	2.5	9
27	Impact fatigue in adhesive joints. <i>Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science</i> , <b>2008</b> , 222, 1981-1994	1.3	9
26	Nanoindentation Shows Uniform Local Mechanical Properties Across Melt Pools And Layers Produced By Selective Laser Melting Of AlSi 10Mg Alloy. <i>Advanced Materials Letters</i> , <b>2016</b> , 7, 13-16	2.4	9
25	Multi-physics optimisation of Brass Instruments' new method to include structural and acoustical interactions. <i>Structural and Multidisciplinary Optimization</i> , <b>2010</b> , 40, 611-624	3.6	8
24	Finite element analysis of the high strain rate testing of polymeric materials. <i>Journal of Physics: Conference Series</i> , <b>2012</b> , 382, 012043	0.3	7
23	An experimental analysis of deepest bottom-left-fill packing methods for additive manufacturing. <i>International Journal of Production Research</i> , <b>2020</b> , 58, 6917-6933	7.8	7
22	Additive Manufacturing and Testing of a Soft Magnetic Rotor for a Switched Reluctance Motor. <i>IEEE Access</i> , <b>2020</b> , 8, 206982-206991	3.5	7
21	A Fourier-series-based virtual fields method for the identification of three-dimensional stiffness distributions and its application to incompressible materials. <i>Strain</i> , <b>2017</b> , 53, e12229	1.7	6
20	A numerical study of the effect of ply-layup on the strength and stiffness of a composite T-joint under three point bending. <i>Journal of Adhesion Science and Technology</i> , <b>2017</b> , 31, 2124-2138	2	5
19	An inverse method for determining the spatially resolved properties of viscoelastic-viscoplastic three-dimensional printed materials. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , <b>2015</b> , 471, 20150477	2.4	5
18	Understanding mechanical properties in fused filament fabrication of polyether ether ketone. <i>Additive Manufacturing</i> , <b>2021</b> , 37, 101673	6.1	5
17	A multiscale optimisation method for bone growth scaffolds based on triply periodic minimal surfaces. <i>Biomechanics and Modeling in Mechanobiology</i> , <b>2021</b> , 20, 2085-2096	3.8	5
16	Nano-hardness and microstructure of selective laser melted AlSi10Mg scan tracks <b>2015</b> ,		4
15	Three-Dimensional Analysis of the Effect of Material Randomness on the Damage Behaviour of CFRP Laminates with Stochastic Cohesive-Zone Elements. <i>Applied Composite Materials</i> , <b>2014</b> , 21, 71-89	2	4
14	Experimental investigation and numerical modelling of the effect of the environment on the mechanical properties of polyurethane lacquer films. <i>Journal of Materials Science</i> , <b>2012</b> , 47, 5222-5231	4.3	4
13	Phase-field modelling of brittle fracture in thin shell elements based on the MITC4+ approach. <i>Computational Mechanics</i> , <b>2020</b> , 65, 1413-1432	4	3
12	A Survey of Fitness-for-Service Trends in Industry. <i>Journal of Pressure Vessel Technology, Transactions of the ASME</i> , <b>2011</b> , 133,	1.2	3
11	Development of Delamination in Cross-Ply Laminates: Effect of Microstructure. <i>Key Engineering Materials</i> , <b>2009</b> , 413-414, 229-236	0.4	3

10	3D Printing as a Technology Enabler for Electrical Machines: Manufacturing and Testing of a Salient Pole Rotor for SRM <b>2020</b> ,		3
9	Damage Analysis of CFRP under Impact Fatigue. <i>Shock and Vibration</i> , <b>2012</b> , 19, 573-584	1.1	3
8	Exploiting Generative Design for 3D Printing of Bacterial Biofilm Resistant Composite Devices. <i>Advanced Science</i> , <b>2021</b> , 8, e2100249	13.6	3
7	An X-FEM Based Approach for Topology Optimization of Continuum Structures. <i>Advances in Intelligent Systems and Computing</i> , <b>2014</b> , 277-289	0.4	2
6	Investigation of the effect of relative humidity on polymers by depth sensing indentation. <i>Journal of Materials Science</i> , <b>2011</b> , 46, 7551-7557	4.3	2
5	Laser transformation hardening using customised laser beam intensity profiles <b>2004</b> ,		2
4	Numerical Approach: Finite Element Analysis <b>2018</b> , 701-739		1
3	Modelling the mechanical response of urushi lacquer subject to a change in relative humidity. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , <b>2012</b> , 468, 3533-3551 <sup>2.4</sup>		1
2	Reactive Jetting of High Viscosity Nanocomposites for Dielectric Elastomer Actuation. <i>Advanced Materials Technologies</i> , 2101111	6.8	0
1	Numerical Approach: Finite Element Analysis <b>2017</b> , 1-39		