

Martin Browne

List of Publications by Year in descending order

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77
papers

2,248
citations

201385

27
h-index

233125

45
g-index

81
all docs

81
docs citations

81
times ranked

2237
citing authors

#	ARTICLE	IF	CITATIONS
1	Effect of mechanical surface pretreatment on metal ion release. <i>Biomaterials</i> , 2000, 21, 385-392.	5.7	151
2	Surface modification of titanium alloy implants. <i>Biomaterials</i> , 1994, 15, 894-898.	5.7	146
3	The application of digital volume correlation (DVC) to study the microstructural behaviour of trabecular bone during compression. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2014, 29, 480-499.	1.5	127
4	Effect of different Ti-6Al-4V surface treatments on osteoblasts behaviour. <i>Biomaterials</i> , 2002, 23, 1447-1454.	5.7	125
5	Long-term biocompatibility and osseointegration of electron beam melted, free-form fabricated solid and porous titanium alloy: Experimental studies in sheep. <i>Journal of Biomaterials Applications</i> , 2013, 27, 1003-1016.	1.2	103
6	Probabilistic finite element analysis of the uncemented hip replacement effect of femur characteristics and implant design geometry. <i>Journal of Biomechanics</i> , 2010, 43, 512-520.	0.9	86
7	A review of probabilistic analysis in orthopaedic biomechanics. <i>Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine</i> , 2010, 224, 927-943.	1.0	79
8	Experimental Validation of a Finite Element Model of the Proximal Femur Using Digital Image Correlation and a Composite Bone Model. <i>Journal of Biomechanical Engineering</i> , 2011, 133, 014504.	0.6	76
9	Long-term biocompatibility and osseointegration of electron beam melted, free-form fabricated solid and porous titanium alloy: Experimental studies in sheep. <i>Journal of Biomaterials Applications</i> , 2013, 27, 1003-1016.	1.2	64
10	Electrostatic monitoring of oil lubricated sliding point contacts for early detection of scuffing. <i>Wear</i> , 1999, 230, 86-97.	1.5	62
11	Cement mantle fatigue failure in total hip replacement: Experimental and computational testing. <i>Journal of Biomechanics</i> , 2007, 40, 1525-1533.	0.9	62
12	Experimental Validation of Finite Element Models of Intact and Implanted Composite Hemipelvises Using Digital Image Correlation. <i>Journal of Biomechanical Engineering</i> , 2012, 134, 081003.	0.6	51
13	The influence of acetabular cup material on pelvis cortex surface strains, measured using digital image correlation. <i>Journal of Biomechanics</i> , 2012, 45, 719-723.	0.9	49
14	Efficient computational method for assessing the effects of implant positioning in cementless total hip replacements. <i>Journal of Biomechanics</i> , 2011, 44, 1417-1422.	0.9	48
15	Damage accumulation, fatigue and creep behaviour of vacuum mixed bone cement. <i>Biomaterials</i> , 2005, 26, 5532-5541.	5.7	45
16	Investigation of fatigue crack growth in acrylic bone cement using the acoustic emission technique. <i>Biomaterials</i> , 2004, 25, 769-778.	5.7	43
17	Characterization of titanium alloy implant surfaces with improved dissolution resistance. <i>Journal of Materials Science: Materials in Medicine</i> , 1996, 7, 323-329.	1.7	40
18	Quantitative measurement of the stresses induced during polymerisation of bone cement. <i>Biomaterials</i> , 2004, 25, 4415-4424.	5.7	37

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19	Reliability theory for load bearing biomedical implants. <i>Biomaterials</i> , 1999, 20, 1285-1292.	5.7	35
20	Mesh morphing for finite element analysis of implant positioning in cementless total hip replacements. <i>Medical Engineering and Physics</i> , 2009, 31, 1235-1243.	0.8	35
21	Does a PEEK Femoral TKA Implant Preserve Intact Femoral Surface Strains Compared With CoCr? A Preliminary Laboratory Study. <i>Clinical Orthopaedics and Related Research</i> , 2016, 474, 2405-2413.	0.7	33
22	Probabilistic analysis of an uncemented total hip replacement. <i>Medical Engineering and Physics</i> , 2009, 31, 470-476.	0.8	31
23	Microtomography assessment of failure in acrylic bone cement. <i>Biomaterials</i> , 2005, 26, 6460-6466.	5.7	30
24	Real time monitoring of progressive damage during loading of a simplified total hip stem construct using embedded acoustic emission sensors. <i>Medical Engineering and Physics</i> , 2011, 33, 395-406.	0.8	29
25	Implant-bone interface healing and adaptation in resurfacing hip replacement. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2012, 15, 935-947.	0.9	29
26	Predictive prosthetic socket design: part 1-population-based evaluation of transtibial prosthetic sockets by FEA-driven surrogate modelling. <i>Biomechanics and Modeling in Mechanobiology</i> , 2020, 19, 1331-1346.	1.4	29
27	Experimental validation of numerically predicted strain and micromotion in intact and implanted composite hemi-pelvises. <i>Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine</i> , 2013, 227, 162-174.	1.0	28
28	Site specific increase in heterogeneity of trabecular bone tissue mineral during oestrogen deficiency. , 2011, 21, 396-406.		28
29	Fatigue characterization of a polymer foam to use as a cancellous bone analog material in the assessment of orthopaedic devices. <i>Journal of Materials Science: Materials in Medicine</i> , 2004, 15, 61-67.	1.7	26
30	Crack initiation processes in acrylic bone cement. <i>Journal of Biomedical Materials Research - Part A</i> , 2009, 89A, 1088-1097.	2.1	25
31	Strain and micromotion in intact and resurfaced composite femurs: Experimental and numerical investigations. <i>Journal of Biomechanics</i> , 2010, 43, 1923-1930.	0.9	25
32	Decreased stress shielding with a PEEK femoral total knee prosthesis measured in validated computational models. <i>Journal of Biomechanics</i> , 2021, 118, 110270.	0.9	25
33	Large-scale gene expression analysis of osteoblasts cultured on three different Ti-6Al-4V surface treatments. <i>Biomaterials</i> , 2002, 23, 4193-4202.	5.7	24
34	Inter-subject variability effects on the primary stability of a short cementless femoral stem. <i>Journal of Biomechanics</i> , 2015, 48, 1032-1042.	0.9	23
35	Exploring inter-subject anatomic variability using a population of patient-specific femurs and a statistical shape and intensity model. <i>Medical Engineering and Physics</i> , 2015, 37, 995-1007.	0.8	22
36	Full-field in vitro measurements and in silico predictions of strain shielding in the implanted femur after total hip arthroplasty. <i>Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine</i> , 2015, 229, 549-559.	1.0	21

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37	Predictive prosthetic socket design: part 2“generating person-specific candidate designs using multi-objective genetic algorithms. <i>Biomechanics and Modeling in Mechanobiology</i> , 2020, 19, 1347-1360.	1.4	20
38	A computational tool for the probabilistic finite element analysis of an uncemented total hip replacement considering variability in bone“implant version angle. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2010, 13, 1-9.	0.9	19
39	On the Importance of Considering Porosity When Simulating the Fatigue of Bone Cement. <i>Journal of Biomechanical Engineering</i> , 2005, 127, 563-570.	0.6	18
40	Tissue differentiation around a short stemmed metaphyseal loading implant employing a modified mechanoregulatory algorithm: A finite element study. <i>Journal of Orthopaedic Research</i> , 2011, 29, 787-794.	1.2	17
41	Does cyclical loading affect the elution of antibiotics from articulating cement knee spacers?. <i>Journal of Bone and Joint Surgery: British Volume</i> , 2011, 93-B, 914-920.	3.4	14
42	Metal ion release from wear particles produced by Ti-6Al-4V and Co-Cr alloy surfaces articulating against bone. <i>Materials Letters</i> , 1995, 24, 1-6.	1.3	12
43	Application of an interface failure model to predict fatigue crack growth in an implanted metallic femoral stem. <i>Computer Methods and Programs in Biomedicine</i> , 2004, 73, 249-256.	2.6	12
44	Effect of Geometrical Uncertainty on Cemented Hip Implant Structural Integrity. <i>Journal of Biomechanical Engineering</i> , 2009, 131, 054501.	0.6	12
45	Pre-clinical evaluation of ceramic femoral head resurfacing prostheses using computational models and mechanical testing. <i>Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine</i> , 2011, 225, 866-876.	1.0	12
46	A Practical Procedure for Measuring the Stiffness of Foam like Materials. <i>Experimental Techniques</i> , 2018, 42, 439-452.	0.9	12
47	The potential of statistical shape modelling for geometric morphometric analysis of human teeth in archaeological research. <i>PLoS ONE</i> , 2017, 12, e0186754.	1.1	11
48	Wearable Electrical Stimulation to Improve Lymphatic Function. , 2019, 3, 1-4.		11
49	Cost-effective high performance composites. <i>Composites</i> , 1994, 25, 273-280.	0.9	10
50	Determination of the fatigue fracture planes of Co-Cr-Mo biomedical alloys using electron backscatter diffraction. <i>Journal of Microscopy</i> , 2005, 217, 118-121.	0.8	10
51	Micromechanical characterisation of failure in acrylic bone cement: The effect of barium sulphate agglomerates. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2012, 13, 85-92.	1.5	10
52	Developing an Analogue Residual Limb for Comparative DVC Analysis of Transtibial Prosthetic Socket Designs. <i>Materials</i> , 2020, 13, 3955.	1.3	10
53	Could passive knee laxity be related to active gait mechanics? An exploratory computational biomechanical study using probabilistic methods. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2009, 12, 709-720.	0.9	9
54	Performance of the resurfaced hip. Part 1: The influence of the prosthesis size and positioning on the remodelling and fracture of the femoral neck. <i>Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine</i> , 2010, 224, 427-439.	1.0	9

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55	Damage mechanisms at the cement-implant interface of polished cemented femoral stems. , 2017, 105, 2027-2033.		9
56	Targeted computational probabilistic corroboration of experimental knee wear simulator: The importance of accounting for variability. Medical Engineering and Physics, 2011, 33, 295-301.	0.8	8
57	A numerically validated probabilistic model of a simplified total hip replacement construct. Computer Methods in Biomechanics and Biomedical Engineering, 2012, 15, 845-858.	0.9	8
58	Performance of the resurfaced hip. Part 2: The influence of prosthesis stem design on remodelling and fracture of the femoral neck. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2010, 224, 841-851.	1.0	7
59	Key considerations for finite element modelling of the residuumâ€“prosthetic socket interface. Prosthetics and Orthotics International, 2021, 45, 138-146.	0.5	7
60	Sensitivity analysis of a cemented hip stem to implant position and cement mantle thickness. Computer Methods in Biomechanics and Biomedical Engineering, 2014, 17, 1671-1684.	0.9	6
61	Digital Image Correlation for Strain Analysis of Whole Bones and Implants. , 2017, , 65-83.		6
62	Characterising the compressive anisotropic properties of analogue bone using optical strain measurement. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2019, 233, 954-960.	1.0	6
63	Acoustic emission monitoring and 3D visualization of polymerizationâ€“induced damage of acrylic polymer materials. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2009, 90B, 223-228.	1.6	5
64	Smooth surface micro finite element modelling of a cancellous bone analogue material. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2008, 222, 145-149.	1.0	4
65	The use of complementary non-destructive evaluation methods to evaluate the integrity of the cementâ€“bone interface. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2009, 223, 75-86.	1.0	4
66	A fatigue assessment technique for modular and pre-stressed orthopaedic implants. Medical Engineering and Physics, 2014, 36, 72-80.	0.8	4
67	The role of microconstituents on the fatigue failure of bone cement. Procedia Engineering, 2018, 213, 98-103.	1.2	4
68	Nondestructive evaluation of bone cement and bone cement/metal interface failure. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2010, 92B, 420-429.	1.6	3
69	Effects of implant positioning in cementless total hip replacements. Computer Methods in Biomechanics and Biomedical Engineering, 2011, 14, 275-276.	0.9	3
70	Measurement of Internal Implantation Strains in Analogue Bone Using DVC. Materials, 2020, 13, 4050.	1.3	3
71	Multi-pelvis characterisation of articular cartilage geometry. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2013, 227, 1255-1264.	1.0	2
72	Lifetime Predictions for Orthopaedic Implants. Key Engineering Materials, 2001, 204-205, 383-394.	0.4	1

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73	Accounting for Inclusions and Voids Allows the Prediction of Tensile Fatigue Life of Bone Cement. Journal of Biomechanical Engineering, 2009, 131, 051007.	0.6	1
74	Quantifying Joint Congruence with an Elastic Foundation. Journal of Biomechanical Engineering, 2022, , .	0.6	1
75	Modular Ceramic Bearings on a CFRP Total Hip Replacement Femoral Stem. Key Engineering Materials, 2007, 361-363, 799-802.	0.4	0
76	Pre-Clinical Analysis of an Acetabular Cup with Improved <i>In Vivo</i> Stability and Integrity. Key Engineering Materials, 0, 396-398, 31-34.	0.4	0
77	Computational assessment of the coefficient of friction on cementless hip replacement stability. Computer Methods in Biomechanics and Biomedical Engineering, 2011, 14, 209-210.	0.9	0