

# 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	Quantifying Joint Congruence with an Elastic Foundation. Journal of Biomechanical Engineering, 2022, , .	0.6	1
2	Key considerations for finite element modelling of the residuumâ€“prosthetic socket interface. Prosthetics and Orthotics International, 2021, 45, 138-146.	0.5	7
3	Decreased stress shielding with a PEEK femoral total knee prosthesis measured in validated computational models. Journal of Biomechanics, 2021, 118, 110270.	0.9	25
4	Predictive prosthetic socket design: part 1â€“population-based evaluation of transtibial prosthetic sockets by FEA-driven surrogate modelling. Biomechanics and Modeling in Mechanobiology, 2020, 19, 1331-1346.	1.4	29
5	Predictive prosthetic socket design: part 2â€“generating person-specific candidate designs using multi-objective genetic algorithms. Biomechanics and Modeling in Mechanobiology, 2020, 19, 1347-1360.	1.4	20
6	Measurement of Internal Implantation Strains in Analogue Bone Using DVC. Materials, 2020, 13, 4050.	1.3	3
7	Developing an Analogue Residual Limb for Comparative DVC Analysis of Transtibial Prosthetic Socket Designs. Materials, 2020, 13, 3955.	1.3	10
8	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
9	Wearable Electrical Stimulation to Improve Lymphatic Function. , 2019, 3, 1-4.		11
10	The role of microconstituents on the fatigue failure of bone cement. Procedia Engineering, 2018, 213, 98-103.	1.2	4
11	A Practical Procedure for Measuring the Stiffness of Foam like Materials. Experimental Techniques, 2018, 42, 439-452.	0.9	12
12	Damage mechanisms at the cement-implant interface of polished cemented femoral stems. , 2017, 105, 2027-2033.		9
13	The potential of statistical shape modelling for geometric morphometric analysis of human teeth in archaeological research. PLoS ONE, 2017, 12, e0186754.	1.1	11
14	Digital Image Correlation for Strain Analysis of Whole Bones and Implants. , 2017, , 65-83.		6
15	Does a PEEK Femoral TKA Implant Preserve Intact Femoral Surface Strains Compared With CoCr? A Preliminary Laboratory Study. Clinical Orthopaedics and Related Research, 2016, 474, 2405-2413.	0.7	33
16	Full-field in vitro measurements and in silico predictions of strain shielding in the implanted femur after total hip arthroplasty. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2015, 229, 549-559.	1.0	21
17	Exploring inter-subject anatomic variability using a population of patient-specific femurs and a statistical shape and intensity model. Medical Engineering and Physics, 2015, 37, 995-1007.	0.8	22
18	Inter-subject variability effects on the primary stability of a short cementless femoral stem. Journal of Biomechanics, 2015, 48, 1032-1042.	0.9	23

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19	A fatigue assessment technique for modular and pre-stressed orthopaedic implants. <i>Medical Engineering and Physics</i> , 2014, 36, 72-80.	0.8	4
20	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
21	Sensitivity analysis of a cemented hip stem to implant position and cement mantle thickness. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2014, 17, 1671-1684.	0.9	6
22	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
23	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
24	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
25	Multi-pelvis characterisation of articular cartilage geometry. <i>Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine</i> , 2013, 227, 1255-1264.	1.0	2
26	A numerically validated probabilistic model of a simplified total hip replacement construct. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2012, 15, 845-858.	0.9	8
27	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
28	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
29	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
30	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
31	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
32	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
33	Targeted computational probabilistic corroboration of experimental knee wear simulator: The importance of accounting for variability. <i>Medical Engineering and Physics</i> , 2011, 33, 295-301.	0.8	8
34	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
35	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
36	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

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37	Effects of implant positioning in cementless total hip replacements. Computer Methods in Biomechanics and Biomedical Engineering, 2011, 14, 275-276.	0.9	3
38	Does cyclical loading affect the elution of antibiotics from articulating cement knee spacers?. Journal of Bone and Joint Surgery: British Volume, 2011, 93-B, 914-920.	3.4	14
39	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
40	Site specific increase in heterogeneity of trabecular bone tissue mineral during oestrogen deficiency. , 2011, 21, 396-406.		28
41	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
42	Probabilistic finite element analysis of the uncemented hip replacementâ€™effect of femur characteristics and implant design geometry. Journal of Biomechanics, 2010, 43, 512-520.	0.9	86
43	Strain and micromotion in intact and resurfaced composite femurs: Experimental and numerical investigations. Journal of Biomechanics, 2010, 43, 1923-1930.	0.9	25
44	A review of probabilistic analysis in orthopaedic biomechanics. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2010, 224, 927-943.	1.0	79
45	A computational tool for the probabilistic finite element analysis of an uncemented total hip replacement considering variability in boneâ€™implant version angle. Computer Methods in Biomechanics and Biomedical Engineering, 2010, 13, 1-9.	0.9	19
46	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
47	Performance of the resurfaced hip. Part 1: The influence of the prosthesis size and positioning on the remodelling and fracture of the femoral neck. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2010, 224, 427-439.	1.0	9
48	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
49	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
50	Effect of Geometrical Uncertainty on Cemented Hip Implant Structural Integrity. Journal of Biomechanical Engineering, 2009, 131, 054501.	0.6	12
51	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
52	Crack initiation processes in acrylic bone cement. Journal of Biomedical Materials Research - Part A, 2009, 89A, 1088-1097.	2.1	25
53	Probabilistic analysis of an uncemented total hip replacement. Medical Engineering and Physics, 2009, 31, 470-476.	0.8	31
54	Mesh morphing for finite element analysis of implant positioning in cementless total hip replacements. Medical Engineering and Physics, 2009, 31, 1235-1243.	0.8	35

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55	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
56	Smooth surface micro finite element modelling of a cancellous bone analogue material. <i>Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine</i> , 2008, 222, 145-149.	1.0	4
57	Modular Ceramic Bearings on a CFRP Total Hip Replacement Femoral Stem. <i>Key Engineering Materials</i> , 2007, 361-363, 799-802.	0.4	0
58	Cement mantle fatigue failure in total hip replacement: Experimental and computational testing. <i>Journal of Biomechanics</i> , 2007, 40, 1525-1533.	0.9	62
59	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
60	Microtomography assessment of failure in acrylic bone cement. <i>Biomaterials</i> , 2005, 26, 6460-6466.	5.7	30
61	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
62	Damage accumulation, fatigue and creep behaviour of vacuum mixed bone cement. <i>Biomaterials</i> , 2005, 26, 5532-5541.	5.7	45
63	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
64	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
65	Investigation of fatigue crack growth in acrylic bone cement using the acoustic emission technique. <i>Biomaterials</i> , 2004, 25, 769-778.	5.7	43
66	Quantitative measurement of the stresses induced during polymerisation of bone cement. <i>Biomaterials</i> , 2004, 25, 4415-4424.	5.7	37
67	Effect of different Ti-6Al-4V surface treatments on osteoblasts behaviour. <i>Biomaterials</i> , 2002, 23, 1447-1454.	5.7	125
68	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
69	Lifetime Predictions for Orthopaedic Implants. <i>Key Engineering Materials</i> , 2001, 204-205, 383-394.	0.4	1
70	Effect of mechanical surface pretreatment on metal ion release. <i>Biomaterials</i> , 2000, 21, 385-392.	5.7	151
71	Electrostatic monitoring of oil lubricated sliding point contacts for early detection of scuffing. <i>Wear</i> , 1999, 230, 86-97.	1.5	62
72	Reliability theory for load bearing biomedical implants. <i>Biomaterials</i> , 1999, 20, 1285-1292.	5.7	35

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73	Characterization of titanium alloy implant surfaces with improved dissolution resistance. Journal of Materials Science: Materials in Medicine, 1996, 7, 323-329.	1.7	40
74	Metal ion release from wear particles produced by Ti-6Al-4V and Co-Cr alloy surfaces articulating against bone. Materials Letters, 1995, 24, 1-6.	1.3	12
75	Surface modification of titanium alloy implants. Biomaterials, 1994, 15, 894-898.	5.7	146
76	Cost-effective high performance composites. Composites, 1994, 25, 273-280.	0.9	10
77	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