

Ryan Willing

List of Publications by Year in descending order

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78
papers

1,006
citations

430442

18
h-index

500791

28
g-index

79
all docs

79
docs citations

79
times ranked

825
citing authors

#	ARTICLE	IF	CITATIONS
1	Structural analysis of hollow versus solid stemmed shoulder implants of proximal humeri with different bone qualities. <i>Journal of Orthopaedic Research</i> , 2022, 40, 674-684.	1.2	3
2	Analysis of Intramedullary Beam Designs Using Customized Finite Element Models for Medial Column Arthrodesis of the Foot. <i>Journal of Foot and Ankle Surgery</i> , 2022, 61, 508-519.	0.5	1
3	Biomechanical Assessment of Knee Laxity After a Novel Posterolateral Corner Reconstruction Technique. <i>American Journal of Sports Medicine</i> , 2022, 50, 962-967.	1.9	2
4	Influence of the posterior cruciate ligament on kinematics of the knee during experimentally simulated clinical tests and activities of daily living. <i>Journal of Biomechanics</i> , 2021, 115, 110133.	0.9	1
5	Development of customized finite element models of medial column fixation using an intramedullary beam: A computational sensitivity analysis. <i>Medical Engineering and Physics</i> , 2021, 88, 32-40.	0.8	1
6	Parametric study of a triboelectric transducer in total knee replacement application. <i>Journal of Intelligent Material Systems and Structures</i> , 2021, 32, 16-28.	1.4	13
7	Characterization of a Packaged Triboelectric Harvester Under Simulated Gait Loading for Total Knee Replacement. <i>IEEE/ASME Transactions on Mechatronics</i> , 2021, 26, 2967-2976.	3.7	12
8	Design and analysis of a compliant 3D printed energy harvester housing for knee implants. <i>Medical Engineering and Physics</i> , 2021, 88, 59-68.	0.8	13
9	The Medial structures of the knee have a significant contribution to posteromedial rotational laxity control in the PCL-deficient knee. <i>Knee Surgery, Sports Traumatology, Arthroscopy</i> , 2021, 29, 4172-4181.	2.3	6
10	Embedded sensing package for temporary bone cement spacers in infected total knee arthroplasty. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2021, 115, 104301.	1.5	3
11	Characterizing the trade-off between range of motion and stability of reverse total shoulder arthroplasty. <i>Journal of Shoulder and Elbow Surgery</i> , 2021, 30, 2804-2813.	1.2	5
12	Trial Tibial Inserts May Result in Different Knee Kinematics from Final Poly Inserts in Total Knee Arthroplasty. <i>Orthopedic Research and Reviews</i> , 2021, Volume 13, 81-88.	0.7	0
13	Effect of Dielectric Material and Package Stiffness on the Power Generation in a Packaged Triboelectric Energy Harvesting System for Total Knee Replacement. <i>Journal of Biomechanical Engineering</i> , 2021, 143, .	0.6	5
14	Maximizing range of motion of reverse total shoulder arthroplasty using design optimization techniques. <i>Journal of Biomechanics</i> , 2021, 125, 110602.	0.9	6
15	Load to Failure of the Ankle Joint Complex After Fusion of the Subtalar and Talonavicular Joints: A Cadaveric Study. <i>Journal of Foot and Ankle Surgery</i> , 2021, 60, 876-880.	0.5	0
16	Does surgical approach affect patient outcomes of total knee arthroplasty?. <i>Canadian Journal of Surgery</i> , 2021, 64, E521-E526.	0.5	1
17	Self-Powered Load Sensing Circuitry for Total Knee Replacement. <i>IEEE Sensors Journal</i> , 2021, 21, 22967-22975.	2.4	4
18	Development and Application of a Novel Metric to Characterize Comprehensive Range of Motion of Reverse Total Shoulder Arthroplasty. <i>Journal of Orthopaedic Research</i> , 2020, 38, 880-887.	1.2	4

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19	Lateral subvastus lateralis versus medial parapatellar approach for total knee arthroplasty: A cadaveric biomechanical study. <i>Knee</i> , 2020, 27, 1735-1745.	0.8	4
20	Revision total knee arthroplasty using a novel 3D printed titanium augment: A biomechanical cadaveric study. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2020, 110, 103944.	1.5	9
21	Rotational Anatomy of the Radius and Ulna: Surgical Implications. <i>Journal of Hand Surgery</i> , 2020, 45, 1082.e1-1082.e9.	0.7	6
22	Sensitivities of lumbar segmental kinematics and functional tissue loads in sagittal bending to design parameters of a ball-in-socket total disc arthroplasty prosthesis. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2020, 23, 536-547.	0.9	8
23	Multiobjective Design Optimization of a Biconcave Mobile-Bearing Lumbar Total Artificial Disk Considering Spinal Kinematics, Facet Joint Loading, and Metal-on-Polyethylene Contact Mechanics. <i>Journal of Biomechanical Engineering</i> , 2020, 142, .	0.6	7
24	Alterations in the Geometry, Fiber Orientation, and Mechanical Behavior of the Lumbar Intervertebral Disc by Nucleus Swelling. <i>Journal of Biomechanical Engineering</i> , 2020, 142, .	0.6	10
25	Investigating the Effects of Demographics on Shoulder Morphology and Density Using Statistical Shape and Density Modeling. <i>Journal of Biomechanical Engineering</i> , 2020, 142, .	0.6	8
26	Condylarâ€Stabilized TKR May Not Fully Compensate for PCLâ€Deficiency: An In Vitro Cadaver Study. <i>Journal of Orthopaedic Research</i> , 2019, 37, 2172-2181.	1.2	13
27	Development of a Biconcave Mobileâ€Bearing Lumbar Total Disc Arthroplasty Concept Using Finite Element Analysis and Design Optimization. <i>Journal of Orthopaedic Research</i> , 2019, 37, 1805-1816.	1.2	3
28	Frontend Electronic System for Triboelectric Harvester in a Smart Knee Implant. , 2019, , .		4
29	Apparent Proximal Ulna Dorsal Angulation Variation Due to Ulnar Rotation. <i>Journal of Orthopaedic Trauma</i> , 2019, 33, e120-e123.	0.7	2
30	The Effect of Dorsal Angulation on Distal Radioulnar Joint Arthrokinematics Measured Using Intercartilage Distance. <i>Journal of Wrist Surgery</i> , 2019, 08, 010-017.	0.3	2
31	A smart knee implant using triboelectric energy harvesters. <i>Smart Materials and Structures</i> , 2019, 28, 025040.	1.8	35
32	Design optimisation improves the performance of custom distal humeral hemiarthroplasty implants. <i>Computer Methods in Biomechanics and Biomedical Engineering: Imaging and Visualization</i> , 2019, 7, 108-115.	1.3	4
33	Analysis of a triboelectric energy harvester for total knee replacements under gait loading. , 2019, , .		2
34	Development of a hybrid computational/experimental framework for evaluation of damage mechanisms of a linked semiconstrained total elbow system. <i>Journal of Shoulder and Elbow Surgery</i> , 2018, 27, 614-623.	1.2	6
35	Comparing damage on retrieved total elbow replacement bushings with lab worn specimens subjected to varied loading conditions. <i>Journal of Orthopaedic Research</i> , 2018, 36, 1998-2006.	1.2	5
36	Applying a Hybrid Experimental-Computational Technique to Study Elbow Joint Ligamentous Stabilizers. <i>Journal of Biomechanical Engineering</i> , 2018, 140, .	0.6	4

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37	Arthrokinematics of the Distal Radioulnar Joint Measured Using Intercartilage Distance in an InÂVitro Model. <i>Journal of Hand Surgery</i> , 2018, 43, 283.e1-283.e9.	0.7	10
38	Feasibility of Triboelectric Energy Harvesting and Load Sensing in Total Knee Replacement. , 2018, , .		2
39	Biomechanical Comparison of Intramedullary Beaming and Plantar Plating Methods for Stabilizing the Medial Column of the Foot: An In Vitro Study. <i>Journal of Foot and Ankle Surgery</i> , 2018, 57, 1073-1079.	0.5	5
40	Measuring the sensitivity of total knee replacement kinematics and laxity to soft tissue imbalances. <i>Journal of Biomechanics</i> , 2018, 77, 62-68.	0.9	15
41	Development and validation of a muscle wrapping model applied to intact and reverse total shoulder arthroplasty shoulders. <i>Journal of Orthopaedic Research</i> , 2018, 36, 3308-3317.	1.2	12
42	An InÂVitro Study of the Role of Implant Positioning on Ulnohumeral Articular Contact in Distal Humeral Hemiarthroplasty. <i>Journal of Hand Surgery</i> , 2017, 42, 602-609.	0.7	5
43	Quantifying the competing relationship between adduction range of motion and baseplate micromotion with lateralization of reverse total shoulder arthroplasty. <i>Journal of Biomechanics</i> , 2017, 52, 24-30.	0.9	19
44	A Three-dimensional Analysis of Zygomatic Symmetry in Normal, Uninjured Faces. <i>Journal of Craniofacial Surgery</i> , 2016, 27, 504-508.	0.3	22
45	Simulation of extracellular matrix remodeling by fibroblast cells in soft three-dimensional bioresorbable scaffolds. <i>Biomechanics and Modeling in Mechanobiology</i> , 2016, 15, 1685-1698.	1.4	8
46	Osseous Anatomy of the Distal Radioulnar Joint: An Assessment Using 3-Dimensional Modeling and Clinical Implications. <i>Journal of Hand Surgery</i> , 2016, 41, 1071-1079.	0.7	25
47	The effect of neck-shaft angle, glenosphere size, and cup depth on contact mechanics in reverse shoulder arthroplasty. <i>Journal of Shoulder and Elbow Surgery</i> , 2016, 25, e320-e322.	1.2	0
48	Development of a Computational Elbow Model with Experimental Validation of Kinematics and Muscle Forces. <i>Journal of Applied Biomechanics</i> , 2016, 32, 407-414.	0.3	2
49	The Effect of Radial Head Hemiarthroplasty Geometry on Proximal Radioulnar Joint Contact Mechanics. <i>Journal of Hand Surgery</i> , 2016, 41, 745-752.	0.7	12
50	Comparison of proximal humeral bone stresses between stemless, short stem, and standard stem length: a finite element analysis. <i>Journal of Shoulder and Elbow Surgery</i> , 2016, 25, 1076-1083.	1.2	110
51	Contact mechanics of reverse total shoulder arthroplasty during abduction: the effect of neck-shaft angle, humeral cup depth, and glenosphere diameter. <i>Journal of Shoulder and Elbow Surgery</i> , 2016, 25, 589-597.	1.2	58
52	A rigid body model for the assessment of glenohumeral joint mechanics: Influence of osseous defects on range of motion and dislocation. <i>Journal of Biomechanics</i> , 2016, 49, 514-519.	0.9	5
53	Application of a Novel Semi-Automatic Technique for Determining the Bilateral Symmetry Plane of the Facial Skeleton of Normal Adult Males. <i>Journal of Craniofacial Surgery</i> , 2015, 26, 1997-2001.	0.3	9
54	Accuracy assessment of 3D bone reconstructions using CT: an intro comparison. <i>Medical Engineering and Physics</i> , 2015, 37, 729-738.	0.8	42

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55	Contact mechanics of reverse engineered distal humeral hemiarthroplasty implants. <i>Journal of Biomechanics</i> , 2015, 48, 4037-4042.	0.9	13
56	Contact analysis of the native radiocapitellar joint compared with axisymmetric and nonaxisymmetric radial head hemiarthroplasty. <i>Journal of Shoulder and Elbow Surgery</i> , 2015, 24, 787-795.	1.2	21
57	Effect of Radial Head Implant Shape on Joint Contact Area and Location During Static Loading. <i>Journal of Hand Surgery</i> , 2015, 40, 716-722.	0.7	26
58	The Effect of Radial Head Hemiarthroplasty Geometry on Radiocapitellar Joint Contact Mechanics. <i>Journal of Shoulder and Elbow Surgery</i> , 2015, 24, e118.	1.2	3
59	Implications of Radial Head Hemiarthroplasty Dish Depth on Radiocapitellar Contact Mechanics. <i>Journal of Hand Surgery</i> , 2015, 40, 723-729.	0.7	13
60	Regional Variations in Cartilage Thickness of the Radial Head: Implications for Prosthesis Design. <i>Journal of Hand Surgery</i> , 2015, 40, 2364-2371.e1.	0.7	21
61	Evaluation of a computational model to predict elbow range of motion. <i>Computer Aided Surgery</i> , 2014, 19, 57-63.	1.8	7
62	The effect of implant design of linked total elbow arthroplasty on stability and stress: a finite element analysis. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2014, 17, 1165-1172.	0.9	12
63	In vitro assessment of the contact mechanics of reverse-engineered distal humeral hemiarthroplasty prostheses. <i>Clinical Biomechanics</i> , 2014, 29, 990-996.	0.5	15
64	Development of a computational technique to measure cartilage contact area. <i>Journal of Biomechanics</i> , 2014, 47, 1193-1197.	0.9	18
65	The effect of distal humeral hemiarthroplasty on articular contact of the elbow. <i>Clinical Biomechanics</i> , 2014, 29, 537-544.	0.5	27
66	Identifying the Location and Volume of Bony Impingement in Elbow Osteoarthritis by 3-Dimensional Computational Modeling. <i>Journal of Hand Surgery</i> , 2013, 38, 1370-1376.	0.7	22
67	Validation of a finite element model of the human elbow for determining cartilage contact mechanics. <i>Journal of Biomechanics</i> , 2013, 46, 1767-1771.	0.9	37
68	Development and evaluation of a semi-automatic technique for determining the bilateral symmetry plane of the facial skeleton. <i>Medical Engineering and Physics</i> , 2013, 35, 1843-1849.	0.8	15
69	The Effect of Radial Head Implant Design on Radiocapitellar Contact and Kinematics. <i>Journal of Shoulder and Elbow Surgery</i> , 2013, 22, e33.	1.2	1
70	Video Analysis of the Biomechanics of a Bicycle Accident Resulting in Significant Facial Fractures. <i>Journal of Craniofacial Surgery</i> , 2013, 24, 2023-2029.	0.3	7
71	Wear Modeling in Artificial Knee Joints. , 2013, , 4039-4045.		0
72	The development, calibration and validation of a numerical total knee replacement kinematics simulator considering laxity and unconstrained flexion motions. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2012, 15, 585-593.	0.9	5

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73	Quantifying the competing relationship between durability and kinematics of total knee replacements using multiobjective design optimization and validated computational models. Journal of Biomechanics, 2012, 45, 141-147.	0.9	18
74	Design optimization of a total knee replacement for improved constraint and flexion kinematics. Journal of Biomechanics, 2011, 44, 1014-1020.	0.9	40
75	Total Hip Wear Assessment: A Comparison Between Computational and In Vitro Wear Assessment Techniques Using ISO 14242 Loading and Kinematics. Journal of Biomechanical Engineering, 2009, 131, 041011.	0.6	27
76	Three dimensional shape optimization of total knee replacements for reduced wear. Structural and Multidisciplinary Optimization, 2009, 38, 405-414.	1.7	47
77	A holistic numerical model to predict strain hardening and damage of UHMWPE under multiple total knee replacement kinematics and experimental validation. Journal of Biomechanics, 2009, 42, 2520-2527.	0.9	38
78	Multiobjective Design Optimization of Total Knee Replacements Considering UHMWPE Damage and Kinematics. , 2008, , .		0