William R Ledoux

List of Publications by Year
in descending order

99 papers	3,235 citations	136950 32 h-index	168389 53 g-index
102 all docs	102 docs citations	102 times ranked	2494 citing authors

#	Article	IF	Citations
1	Triangular Osteosynthesis and Iliosacral Screw Fixation for Unstable Sacral Fractures: A Cadaveric and Biomechanical Evaluation Under Cyclic Loads. Journal of Orthopaedic Trauma, 2003, 17, 22-31.	1.4	233
2	The distributed plantar vertical force of neutrally aligned and pes planus feet. Gait and Posture, 2002, 15, 1-9.	1.4	145
3	The Midtarsal Joint Locking Mechanism. Foot and Ankle International, 2005, 26, 1074-1080.	2.3	132
4	Patellar Resurfacing in Primary Total Knee Replacement. Journal of Bone and Joint Surgery - Series A, 2012, 94, 2270-2278.	3.0	129
5	Iatrogenic Syndesmosis Malreduction via Clamp and Screw Placement. Journal of Orthopaedic Trauma, 2013, 27, 100-106.	1.4	111
6	The compressive mechanical properties of diabetic and non-diabetic plantar soft tissue. Journal of Biomechanics, 2010, 43, 1754-1760.	2.1	107
7	The compressive material properties of the plantar soft tissue. Journal of Biomechanics, 2007, 40, 2975-2981.	2.1	100
8	Biomechanical Differences Among Pes Cavus, Neutrally Aligned, and Pes Planus Feet in Subjects with Diabetes. Foot and Ankle International, 2003, 24, 845-850.	2.3	99
9	Diabetic foot ulcer incidence in relation to plantar pressure magnitude and measurement location. Journal of Diabetes and Its Complications, 2013, 27, 621-626.	2.3	98
10	Comparative Gait Analysis of Ankle Arthrodesis and Arthroplasty: Initial Findings of a Prospective Study. Foot and Ankle International, 2012, 33, 282-289.	2.3	92
11	Relationship between foot type, foot deformity, and ulcer occurrence in the high-risk diabetic foot. Journal of Rehabilitation Research and Development, 2005, 42, 665.	1.6	81
12	Effect of foot shape on the three-dimensional position of foot bones. Journal of Orthopaedic Research, 2006, 24, 2176-2186.	2.3	80
13	Foot bone kinematics as measured in a cadaveric robotic gait simulator. Gait and Posture, 2011, 33, 645-650.	1.4	68
14	Foot ulcer risk and location in relation to prospective clinical assessment of foot shape and mobility among persons with diabetes. Diabetes Research and Clinical Practice, 2008, 82, 226-232.	2.8	64
15	Residual-limb skin temperature in transtibial sockets. Journal of Rehabilitation Research and Development, 2005, 42, 147.	1.6	63
16	Effectiveness and Safety of Ankle Arthrodesis Versus Arthroplasty. Journal of Bone and Joint Surgery - Series A, 2019, 101, 1485-1494.	3.0	62
17	A shear and plantar pressure sensor based on fiber-optic bend loss. Journal of Rehabilitation Research and Development, 2005, 42, 315.	1.6	60
18	The thermal conductivity of prosthetic sockets and liners. Prosthetics and Orthotics International, 2007, 31, 292-299.	1.0	59

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19	Gait Simulation via a 6-DOF Parallel Robot With Iterative Learning Control. IEEE Transactions on Biomedical Engineering, 2008, 55, 1237-1240.	4.2	52
20	Comparison of Treatment Outcomes of Arthrodesis and Two Generations of Ankle Replacement Implants. Journal of Bone and Joint Surgery - Series A, 2017, 99, 1792-1800.	3.0	52
21	The shear mechanical properties of diabetic and non-diabetic plantar soft tissue. Journal of Biomechanics, 2012, 45, 364-370.	2.1	51
22	Cadaveric flatfoot model: Ligament attenuation and Achilles tendon overpull. Journal of Orthopaedic Research, 2009, 27, 1547-1554.	2.3	50
23	Histomorphological Evaluation of Diabetic and Non-Diabetic Plantar Soft Tissue. Foot and Ankle International, 2011, 32, 802-810.	2.3	49
24	Pennation angles of the intrinsic muscles of the foot. Journal of Biomechanics, 2001, 34, 399-403.	2.1	46
25	Functional Limitations Associated with End-Stage Ankle Arthritis. Journal of Bone and Joint Surgery - Series A, 2012, 94, 777-783.	3.0	46
26	Finite element analysis of the foot: Model validation and comparison between two common treatments of the clawed hallux deformity. Clinical Biomechanics, 2012, 27, 837-844.	1.2	44
27	A Robotic Cadaveric Gait Simulator With Fuzzy Logic Vertical Ground Reaction Force Control. IEEE Transactions on Robotics, 2012, 28, 246-255.	10.3	40
28	Muscular Imbalances Resulting in a Clawed Hallux. Foot and Ankle International, 2003, 24, 477-485.	2.3	38
29	Arthrodesis of the First Metatarsophalangeal Joint: A Robotic Cadaver Study of the Dorsiflexion Angle. Journal of Bone and Joint Surgery - Series A, 2010, 92, 1754-1764.	3.0	37
30	A three-dimensional, anatomically detailed foot model: a foundation for a finite element simulation and means of quantifying foot-bone position. Journal of Rehabilitation Research and Development, 2002, 39, 401-10.	1.6	37
31	Total Ankle Arthroplasty: Minimum Follow-up Policy for Reporting Results and Guidelines for Reporting Problems and Complications Resulting in Reoperations. Foot and Ankle International, 2017, 38, 703-704.	2.3	36
32	The Quasi-Linear Viscoelastic Properties of Diabetic and Non-Diabetic Plantar Soft Tissue. Annals of Biomedical Engineering, 2011, 39, 1517-1527.	2.5	35
33	Talonavicular joint coverage and bone morphology between different foot types. Journal of Orthopaedic Research, 2014, 32, 958-966.	2.3	35
34	Foot and ankle ligament morphometry. Journal of Rehabilitation Research and Development, 2005, 42, 809.	1.6	33
35	The Sensitivity of Standard Radiographic Foot Measures to Misalignment. Foot and Ankle International, 2014, 35, 1334-1340.	2.3	31
36	Clinical biomechanics of the peritalar joint. Foot and Ankle Clinics, 2004, 9, 663-683.	1.3	30

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37	Measuring Residual Limb Skin Temperatures at the Skin-Prosthesis Interface. Journal of Prosthetics and Orthotics, 2008, 20, 170-173.	0.4	30
38	Acceleration of the calcaneus at heel strike in neutrally aligned and pes planus feet. Clinical Biomechanics, 2001, 16, 608-613.	1.2	28
39	A Three-Dimensional Finite Element Model of the Transibial Residual Limb and Prosthetic Socket to Predict Skin Temperatures. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2006, 14, 336-343.	4.9	28
40	Does Activity Affect Residual Limb Skin Temperatures?. Clinical Orthopaedics and Related Research, 2014, 472, 3062-3067.	1.5	27
41	A Quasi-Linear, Viscoelastic, Structural Model of the Plantar Soft Tissue With Frequency-Sensitive Damping Properties. Journal of Biomechanical Engineering, 2004, 126, 831-837.	1.3	26
42	Second Metatarsal Length is Positively Correlated with Increased Pressure and Medial Deviation of the Second Toe in a Robotic Cadaveric Simulation of Gait. Foot and Ankle International, 2012, 33, 312-319.	2.3	26
43	Composite Optical Bend Loss Sensor for Pressure and Shear Measurement. IEEE Sensors Journal, 2007, 7, 1554-1565.	4.7	25
44	An interfacial stress sensor for biomechanical applications. Measurement Science and Technology, 2012, 23, 085701.	2.6	22
45	A three-year prospective comparative gait study between patients with ankle arthrodesis and arthroplasty. Clinical Biomechanics, 2018, 54, 42-53.	1.2	22
46	Comparing 4-Year Changes in Patient-Reported Outcomes Following Ankle Arthroplasty and Arthrodesis. Journal of Bone and Joint Surgery - Series A, 2021, 103, 869-878.	3.0	22
47	Marker-based validation of a biplane fluoroscopy system for quantifying foot kinematics. Medical Engineering and Physics, 2014, 36, 391-396.	1.7	21
48	Evaluating Foot Kinematics Using Magnetic Resonance Imaging: From Maximum Plantar Flexion, Inversion, and Internal Rotation to Maximum Dorsiflexion, Eversion, and External Rotation. Journal of Biomechanical Engineering, 2011, 133, 104502.	1.3	20
49	The Comparative Morphology of Idiopathic Ankle Osteoarthritis. Journal of Bone and Joint Surgery - Series A, 2012, 94, e181-1-6.	3.0	20
50	Hindâ€•and midfoot bone morphology varies with foot type and sex. Journal of Orthopaedic Research, 2019, 37, 744-759.	2.3	20
51	Hyperelastic compressive mechanical properties of the subcalcaneal soft tissue: An inverse finite element analysis. Journal of Biomechanics, 2016, 49, 1186-1191.	2.1	18
52	Histomorphological and biochemical properties of plantar soft tissue in diabetes. Foot, 2017, 33, 1-6.	1.1	18
53	Frequency and Impact of Adverse Events in Patients Undergoing Surgery for End-Stage Ankle Arthritis. Foot and Ankle International, 2018, 39, 1028-1038.	2.3	18
54	Step Activity After Surgical Treatment of Ankle Arthritis. Journal of Bone and Joint Surgery - Series A, 2019, 101, 1177-1184.	3.0	18

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55	Neuropathy, claw toes, intrinsic muscle volume, and plantar aponeurosis thickness in diabetic feet. BMC Musculoskeletal Disorders, 2020, 21, 485.	1.9	16
56	Histomorphometric comparison after fixation with formaldehyde or glyoxal. Biotechnic and Histochemistry, 2011, 86, 359-365.	1.3	15
57	A Robotic Cadaveric Flatfoot Analysis of Stance Phase. Journal of Biomechanical Engineering, 2011, 133, 051005.	1.3	15
58	Comparison of transfer sites for flexor digitorum longus in a cadaveric adult acquired flatfoot model. Journal of Orthopaedic Research, 2014, 32, 102-109.	2.3	15
59	Altered Range of Motion and Plantar Pressure in Anterior and Posterior Malaligned Total Ankle Arthroplasty. Journal of Bone and Joint Surgery - Series A, 2019, 101, e93.	3.0	13
60	Development of a Microfabricated Optical Bend Loss Sensor for Distributive Pressure Measurement. IEEE Transactions on Biomedical Engineering, 2008, 55, 614-625.	4.2	12
61	Multi-Rigid Image Segmentation and Registration for the Analysis of Joint Motion From Three-Dimensional Magnetic Resonance Imaging. Journal of Biomechanical Engineering, 2011, 133, 101005.	1.3	12
62	The association between mechanical and biochemical/histological characteristics in diabetic and non-diabetic plantar soft tissue. Journal of Biomechanics, 2016, 49, 3328-3333.	2.1	12
63	The Impact of Coronal Plane Deformity on Ankle Arthrodesis and Arthroplasty. Foot and Ankle International, 2021, 42, 1294-1302.	2.3	12
64	Calibration of the shear wave speed-stress relationship in in situ Achilles tendons using cadaveric simulations of gait and isometric contraction. Journal of Biomechanics, 2020, 106, 109799.	2.1	11
65	A novel workflow to fabricate a patient-specific 3D printed accommodative foot orthosis with personalized latticed metamaterial. Medical Engineering and Physics, 2022, 104, 103802.	1.7	11
66	Correction of Clawed Hallux Deformity: Comparison of the Jones Procedure and FHL Transfer in a Cadaver Model. Foot and Ankle International, 2007, 28, 369-376.	2.3	10
67	Quantifying Ligament Cross-Sectional Area via Molding and Casting. Journal of Biomechanical Engineering, 2010, 132, 091012.	1.3	9
68	Anteroposterior Translational Malalignment of Ankle Arthrodesis Alters Foot Biomechanics in Cadaveric Gait Simulation. Journal of Orthopaedic Research, 2020, 38, 450-458.	2.3	9
69	Second metatarsal osteotomies for metatarsalgia: A robotic cadaveric study of the effect of osteotomy plane and metatarsal shortening on plantar pressure. Journal of Orthopaedic Research, 2014, 32, 385-393.	2.3	8
70	Metatarsal Shape and Foot Type: A Geometric Morphometric Analysis. Journal of Biomechanical Engineering, 2017, 139, .	1.3	8
71	Model-based tracking of the bones of the foot: A biplane fluoroscopy validation study. Computers in Biology and Medicine, 2018, 92, 118-127.	7.0	8
72	The Effect of Target Strain Error on Plantar Tissue Stress. Journal of Biomechanical Engineering, 2010, 132, 071001.	1.3	7

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73	The design and validation of a magnetic resonance imagingâ€“compatible device for obtaining mechanical properties of plantar soft tissue via gated acquisition. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2015, 229, 732-742.	1.8	7
74	3D Printed lattice microstructures to mimic soft biological materials. Bioinspiration and Biomimetics, 2019, 14, 016001.	2.9	7
75	Mechanical characterization of fibrotic and mineralized tissue in Peyronieâ€™s disease. International Journal of Impotence Research, 2022, 34, 477-486.	1.8	7
76	The compressive, shear, biochemical, and histological characteristics of diabetic and non-diabetic plantar skin are minimally different. Journal of Biomechanics, 2021, 129, 110797.	2.1	7
77	Cadaveric Simulation of a Pes Cavus Foot. Foot and Ankle International, 2009, 30, 44-50.	2.3	6
78	A preliminary study of patient-specific mechanical properties of diabetic and healthy plantar soft tissue from gated magnetic resonance imaging. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2017, 231, 625-633.	1.8	6
79	Passive engineering mechanism enhancement of a flexor digitorum longus tendon transfer procedure. Journal of Orthopaedic Research, 2018, 36, 3033-3042.	2.3	6
80	Does Coronal Plane Malalignment of the Tibial Insert in Total Ankle Arthroplasty Alter Distal Foot Bone Mechanics? A Cadaveric Gait Study. Clinical Orthopaedics and Related Research, 2020, 478, 1683-1695.	1.5	6
81	Comparison of texture-based classification and deep learning for plantar soft tissue histology segmentation. Computers in Biology and Medicine, 2021, 134, 104491.	7.0	6
82	Joint-specific distance thresholds for patient-specific approximations of articular cartilage modeling in the first ray of the foot. Medical and Biological Engineering and Computing, 2014, 52, 773-779.	2.8	5
83	A flexible micromachined optical sensor for simultaneous measurement of pressure and shear force distribution on foot. , 2003, 5047, 275.		4
84	The Effect of Prior Compression Tests on the Plantar Soft Tissue Compressive and Shear Properties. Journal of Biomechanical Engineering, 2013, 135, 94501.	1.3	4
85	The static accuracy and repeatability of the musgrave footprintâ„¢ pressure plate system. Gait and Posture, 1995, 3, 93.	1.4	3
86	Artifact vs. Anatomy: Dealing with Conflict of Geometric Modeling Descriptions. , 2007, , .		3
87	A finite element foot model for simulating muscle imbalances. Journal of Foot and Ankle Research, 2008, 1, .	1.9	3
88	Wavelet SDF-Reps: Solid Modeling With Volumetric Scans. Journal of Computing and Information Science in Engineering, 2009, 9, .	2.7	3
89	The Biomechanics of the Diabetic Foot. Biomedical Engineering Series, 2007, , 317-345.	0.4	3
90	Evaluation of the Foot Arch in Partial Weightbearing Conditions. Foot and Ankle International, 2022, 43, 113-122.	2.3	2

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91	The Biomechanics of Aging and Diabetic Plantar Soft Tissue. Engineering Materials and Processes, 2015, , 187-206.	0.4	2
92	<title>Development of a directional sensitive pressure and shear sensor</title>. , 2002, 4702, 212.		1
93	Foot bone kinematics at half and three quarters body weight: A robotic cadaveric simulation of stance phase. , 2011, , .		1
94	A flexible toolkit for rapid GPU-based generation of DRRs for 2D-3D registration. , 2013, , .		1
95	Ankle fusion and replacement gait similar postâ€surgery, but still exhibit differences versus controls regardless of footwear. Journal of Orthopaedic Research, 2021, 39, 2506-2518.	2.3	1
96	Foot radiographic angle variation as a function of weightbearing magnitude. Journal of Orthopaedic Research, 2022, , .	2.3	1
97	The effect of prior compression tests on the plantar soft tissue compressive and shear elastic properties. Journal of Foot and Ankle Research, 2012, 5, .	1.9	0
98	Graphical User Interface for Human Intervention in 2D-3D Registration of Medical Images. , 2013, , .		0
99	Lower Limb Structure, Function, and Locomotion Biomechanics. , 2012, , 265-298.		0