Christian M Puttlitz

List of Publications by Year
in descending order

71	1,621	279798	315739
papers	citations	23 h-index	38 g-index

72	72	72	1805
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Bony ingrowth potential of 3D-printed porous titanium alloy: a direct comparison of interbody cage materials in an in vivo ovine lumbar fusion model. Spine Journal, 2018, 18, 1250-1260.	1.3	161
2	Metamaterial-based wireless strain sensors. Applied Physics Letters, 2009, 95, .	3.3	144
3	Flexible metamaterials for wireless strain sensing. Applied Physics Letters, 2009, 95, 181105.	3.3	94
4	Nested Metamaterials for Wireless Strain Sensing. IEEE Journal of Selected Topics in Quantum Electronics, 2010, 16, 450-458.	2.9	93
5	Finite Element Modeling of Kinematic and Load Transmission Alterations due to Cervical Intervertebral Disc Replacement. Spine, 2011, 36, E1126-E1133.	2.0	59
6	Human cervical spine ligaments exhibit fully nonlinear viscoelastic behavior. Acta Biomaterialia, 2011, 7, 700-709.	8.3	59
7	Evaluation of a polyetheretherketone (PEEK) titanium composite interbody spacer in an ovine lumbar interbody fusion model: biomechanical, microcomputed tomographic, and histologic analyses. Spine Journal, 2017, 17, 1907-1916.	1.3	59
8	Viscoelastic effects during loading play an integral role in soft tissue mechanics. Acta Biomaterialia, 2012, 8, 234-243.	8.3	57
9	Implantable microelectromechanical sensors for diagnostic monitoring and postâ€surgical prediction of bone fracture healing. Journal of Orthopaedic Research, 2015, 33, 1439-1446.	2.3	54
10	Effects of delayed stabilization on fracture healing. Journal of Orthopaedic Research, 2007, 25, 1552-1558.	2.3	52
11	Bio-implantable passive on-chip RF-MEMS strain sensing resonators for orthopaedic applications. Journal of Micromechanics and Microengineering, 2008, 18, 115017.	2.6	42
12	An anisotropic hyperelastic constitutive model of brain white matter in biaxial tension and structuralâ€“mechanical relationships. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 62, 195-208.	3.1	41
13	Nonlinear viscoelasticty plays an essential role in the functional behavior of spinal ligaments. Journal of Biomechanics, 2012, 45, 684-691.	2.1	38
14	Nonlinear viscoelastic characterization of the porcine spinal cord. Acta Biomaterialia, 2014, 10, 792-797.	8.3	32
15	Experimental Characterization and Finite Element Implementation of Soft Tissue Nonlinear Viscoelasticity. Journal of Biomechanical Engineering, 2012, 134, 114501.	1.3	29
16	Cervical facet force analysis after disc replacement versus fusion. Clinical Biomechanics, 2017, 44, 52-58.	1.2	29
17	Viscoelasticity of spinal cord and meningeal tissues. Acta Biomaterialia, 2018, 75, 253-262.	8.3	28
18	Cervical Spine Arthroplasty Biomechanics. Neurosurgery Clinics of North America, 2005, 16, 589-594.	1.7	27

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19	A biomechanical analysis of venous tissue in its normal and post-phlebitic conditions. Journal of Biomechanics, 2010, 43, 2941-2947.	2.1	25
20	Allogeneic mesenchymal progenitor cells for posterolateral lumbar spine fusion in sheep. Spine Journal, 2014, 14, 435-444.	1.3	25
21	Biaxial response of ovine spinal cord dura mater. Journal of the Mechanical Behavior of Biomedical Materials, 2014, 34, 146-153.	3.1	25
22	Utilizing Multiple BioMEMS Sensors to Monitor Orthopaedic Strain and Predict Bone Fracture Healing. Journal of Orthopaedic Research, 2019, 37, 1873-1880.	2.3	25
23	A prospective study comparing tendon-to-bone interface healing using an interposition bioresorbable scaffold with a vented anchor for primary rotator cuff repair in sheep. Journal of Shoulder and Elbow Surgery, 2020, 29, 157-166.	2.6	24
24	Matrix Metalloproteinase 9 (MMP-9) Regulates Vein Wall Biomechanics in Murine Thrombus Resolution. PLoS ONE, 2015, 10, e0139145.	2.5	22
25	Modeling Degenerative Disk Disease in the Lumbar Spine: A Combined Experimental, Constitutive, and Computational Approach. Journal of Biomechanical Engineering, 2012, 134, 101003.	1.3	21
26	Partial gravity unloading inhibits bone healing responses in a large animal model. Journal of Biomechanics, 2014, 47, 2836-2842.	2.1	21
27	Rotator cuff repair using a bioresorbable nanofiber interposition scaffold: a biomechanical and histologic analysis in sheep. Journal of Shoulder and Elbow Surgery, 2022, 31, 402-412.	2.6	20
28	Comparison of in vivo and ex vivo viscoelastic behavior of the spinal cord. Acta Biomaterialia, 2018, 68, 78-89.	8.3	19
29	The effects of ligamentous injury in the human lower cervical spine. Journal of Biomechanics, 2012, 45, 2668-2672.	2.1	18
30	Modulating tibiofemoral contact force in the sheep hind limb via treadmill walking: Predictions from an opensim musculoskeletal model. Journal of Orthopaedic Research, 2015, 33, 1128-1133.	2.3	18
31	Osteoinductive 3D printed scaffold healed 5Âcm segmental bone defects in the ovine metatarsus. Scientific Reports, 2021, 11, 6704.	3.3	16
32	A biomechanical analysis of C2 corpectomy constructs. Spine Journal, 2007, 7, 210-215.	1.3	14
33	Characterization of the L4â€“L5â€“S1 motion segment using the stepwise reduction method. Journal of Biomechanics, 2016, 49, 1248-1254.	2.1	14
34	The development and validation of a numerical integration method for non-linear viscoelastic modeling. PLoS ONE, 2018, 13, e0190137.	2.5	14
35	Cortical bone facet spacers for cervical spine decompression: effects on intervertebral kinetics and foraminal area. Journal of Neurosurgery: Spine, 2016, 24, 69-76.	1.7	13
36	Optical Coherence Tomographic Elastography Reveals Mesoscale Shear Strain Inhomogeneities in the Annulus Fibrosus. Spine, 2016, 41, E770-E777.	2.0	11

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37	Direct electromagnetic coupling for nonâ€invasive measurements of stability in simulated fracture healing. Journal of Orthopaedic Research, 2019, 37, 1164-1171.	2.3	10
38	Mechanical characterization and viscoelastic model of the ovine temporomandibular joint Disc in indentation, uniaxial tension, and biaxial tension. Journal of the Mechanical Behavior of Biomedical Materials, 2021, 116, 104300.	3.1	10
39	Different Passive Viscoelastic Properties Between the Left and Right Ventricles in Healthy Adult Ovine. Journal of Biomechanical Engineering, 2021, 143, .	1.3	10
40	Intubation biomechanics: laryngoscope force and cervical spine motion during intubation in cadaversâ€"effect of severe distractive-flexion injury on C3â€“4 motion. Journal of Neurosurgery: Spine, 2016, 25, 545-555.	1.7	9
41	A Coaxial Dipole Antenna for Passively Sensing Object Displacement and Deflection for Orthopaedic Applications. IEEE Access, 2018, 6, 68184-68194.	4.2	9
42	Biaxial mechanics of 3D fiber deposited ply-laminate scaffolds for soft tissue engineering part I: Experimental evaluation. Journal of the Mechanical Behavior of Biomedical Materials, 2019, 98, 317-326.	3.1	9
43	An investigation of shock wave therapy and lowâ€intensity pulsed ultrasound on fracture healing under reduced loading conditions in an ovine model. Journal of Orthopaedic Research, 2018, 36, 921-929.	2.3	8
44	Biomechanical and histologic assessment of a novel screw retention technology in an ovine lumbar fusion model. Spine Journal, 2018, 18, 2302-2315.	1.3	8
45	Enhanced bone formation in locally-optimised, low-stiffness additive manufactured titanium implants: An in silico and in vivo tibial advancement study. Acta Biomaterialia, 2023, 156, 202-213.	8.3	8
46	RF-MEMS load sensors with enhanced Q-factor and sensitivity in a suspended architecture. Microelectronic Engineering, 2011, 88, 247-253.	2.4	7
47	Computational characterization of fracture healing under reduced gravity loading conditions. Journal of Orthopaedic Research, 2016, 34, 1206-1215.	2.3	7
48	Biaxial mechanics of 3D fiber deposited ply-laminate scaffolds for soft tissue engineering part II: Finite element analyses. Journal of the Mechanical Behavior of Biomedical Materials, 2019, 100, 103395.	3.1	7
49	Diagnostic prediction of ovine fracture healing outcomes via a novel multi-location direct electromagnetic coupling antenna. Annals of Translational Medicine, 2021, 9, 1223-1223.	1.7	7
50	Comparing Predictive Accuracy and Computational Costs for Viscoelastic Modeling of Spinal Cord Tissues. Journal of Biomechanical Engineering, 2019, 141, .	1.3	6
51	Investigation of a Prevascularized Bone Graft for Large Defects in the Ovine Tibia. Tissue Engineering - Part A, 2021, 27, 1458-1469.	3.1	6
52	Intubation Biomechanics: Clinical Implications of Computational Modeling of Intervertebral Motion and Spinal Cord Strain during Tracheal Intubation in an Intact Cervical Spine. Anesthesiology, 2021, 135, 1055-1065.	2.5	6
53	Intubation biomechanics: validation of a finite element model of cervical spine motion during endotracheal intubation in intact and injured conditions. Journal of Neurosurgery: Spine, 2018, 28, 10-22.	1.7	5
54	Ex vivo evaluation of a novel surgical guide on the accuracy of closing wedge osteotomies. Veterinary Surgery, 2019, 48, 1429-1436.	1.0	5

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55	Partial Infraspinatus Tendon Transection as a Means for the Development of a Translational Ovine Chronic Rotator Cuff Disease Model. Veterinary and Comparative Orthopaedics and Traumatology, 2020, 33, 212-219.	0.5	5
56	Evaluation of lumbar spinal fusion utilizing recombinant human platelet derived growth factorâ€B chain homodimer (<scp>rhPDGFâ€BB</scp>) combined with a bovine collagen/Î²â€tricalcium phosphate (<scp>Î²â€TCP</scp>) matrix in an ovine model. JOR Spine, 2021, 4, e1166.	3.2	5
57	Finite element modeling of kinematic and load transmission alterations due to cervical intervertebral disc replacement. Spine, 2011, , 1.	2.0	4
58	Comparison of crossâ€sectional geometrical properties and bone density of the proximal radius between Saint Bernard and other giant breed dogs. Veterinary Surgery, 2019, 48, 947-955.	1.0	4
59	Vivaldi Antennas for Contactless Sensing of Implant Deflections and Stiffness for Orthopaedic Applications. IEEE Access, 2022, 10, 1151-1161.	4.2	4
60	Multiscale Contrasts Between the Right and Left Ventricle Biomechanics in Healthy Adult Sheep and Translational Implications. Frontiers in Bioengineering and Biotechnology, 2022, 10, 857638.	4.1	4
61	Addition of lateral bending range of motion measurement to standard sagittal measurement to improve diagnosis sensitivity of ligamentous injury in the human lower cervical spine. European Spine Journal, 2016, 25, 122-126.	2.2	3
62	Computational modeling to predict the micromechanical environment in tissue engineering scaffolds. Journal of Biomechanics, 2021, 120, 110355.	2.1	3
63	C1â€“C2 Motion During C-MAC D-Blade Videolaryngoscopy and Endotracheal Intubation in 2 Patients With Type II Odontoid Fractures. A&A Practice, 2019, 13, 121-123.	0.4	2
64	Adult ovine connective tissue cells resemble mesenchymal stromal cells in their propensity for extensive ex vivo expansion. Connective Tissue Research, 2021, 62, 671-680.	2.3	2
65	High throughput computational evaluation of how scaffold architecture, material selection, and loading modality influence the cellular micromechanical environment in tissue engineering strategies. JOR Spine, 2021, 4, e1152.	3.2	2
66	Biomechanical and Histological Assessment of a Polyethylene Terephthalate Screw Retention Technology in an Ovine Metatarsal Fracture Model. Veterinary and Comparative Orthopaedics and Traumatology, 2020, 33, 153-160.	0.5	1
67	A Large Animal Model for Orthopedic Foot and Ankle Research. Frontiers in Veterinary Science, 2022, 9, 816529.	2.2	1
68	Relationship Between Glottic View and Intubation Force During Macintosh and Airtraq Laryngoscopy and Intubation. Anesthesia and Analgesia, 2022, 135, 815-819.	2.2	1
69	Nerve biomechanics and features of gait are altered in rats after mild crush injury to the sciatic nerve. FASEB Journal, 2006, 20, A443.	0.5	0
70	A Constitutive Model of Ovine Left and Right Ventricles Biaxial Mechanical Properties. FASEB Journal, 2018, 32, .	0.5	0
71	Distinct Biaxial Mechanical Properties between Right and Left Ventricles in Healthy Adult Sheep. FASEB Journal, 2018, 32, 848.6.	0.5	0