Sandra Loerakker

List of Publications by Year
in descending order

41 papers	1,558 citations	393982 19 h-index	315357 38 g-index
41 all docs	41 docs citations	41 times ranked	1532 citing authors

#	Article	IF	Citations
1	Pressure Induced Deep Tissue Injury Explained. Annals of Biomedical Engineering, 2015, 43, 297-305.	1.3	146
2	Computational modeling guides tissue-engineered heart valve design for long-term in vivo performance in a translational sheep model. Science Translational Medicine, 2018, 10, .	5.8	142
3	Next-generation tissue-engineered heart valves with repair, remodelling and regeneration capacity. Nature Reviews Cardiology, 2021, 18, 92-116.	6.1	128
4	The effects of deformation, ischemia, and reperfusion on the development of muscle damage during prolonged loading. Journal of Applied Physiology, 2011, 111, 1168-1177.	1.2	115
5	The importance of internal strain as opposed to interface pressure in the prevention of pressure related deep tissue injury. Journal of Tissue Viability, 2010, 19, 35-42.	0.9	78
6	Effects of valve geometry and tissue anisotropy on the radial stretch and coaptation area of tissue-engineered heart valves. Journal of Biomechanics, 2013, 46, 1792-1800.	0.9	73
7	A Mathematical Model to Evaluate Control Strategies for Mechanical Circulatory Support. Artificial Organs, 2009, 33, 593-603.	1.0	72
8	Temporal Effects of Mechanical Loading on Deformation-Induced Damage in Skeletal Muscle Tissue. Annals of Biomedical Engineering, 2010, 38, 2577-2587.	1.3	71
9	Vimentin regulates Notch signaling strength and arterial remodeling in response to hemodynamic stress. Scientific Reports, 2019, 9, 12415.	1.6	62
10	A computational analysis of cell-mediated compaction and collagen remodeling in tissue-engineered heart valves. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 58, 173-187.	1.5	55
11	Computational model predicts cell orientation in response to a range of mechanical stimuli. Biomechanics and Modeling in Mechanobiology, 2014, 13, 227-236.	1.4	54
12	Mechanosensitivity of Jaggedâ€“Notch signaling can induce a switch-type behavior in vascular homeostasis. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E3682-E3691.	3.3	51
13	Improved Geometry of Decellularized Tissue Engineered Heart Valves to Prevent Leaflet Retraction. Annals of Biomedical Engineering, 2016, 44, 1061-1071.	1.3	50
14	Age-dependent changes of stress and strain in the human heart valve and their relation with collagen remodeling. Acta Biomaterialia, 2016, 29, 161-169.	4.1	47
15	A physically motivated constitutive model for cell-mediated compaction and collagen remodeling in soft tissues. Biomechanics and Modeling in Mechanobiology, 2014, 13, 985-1001.	1.4	45
16	Tissue alignment enhances remodeling potential of tendon-derived cells - Lessons from a novel microtissue model of tendon scarring. Matrix Biology, 2018, 65, 14-29.	1.5	38
17	Ischemiaâ€reperfusion injury in rat skeletal muscle assessed with <i>T</i>₂â€weighted and dynamic contrastâ€enhanced MRI. Magnetic Resonance in Medicine, 2011, 66, 528-537.	1.9	36
18	Cellular Contact Guidance Emerges from Gap Avoidance. Cell Reports Physical Science, 2020, 1, 100055.	2.8	36

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19	How does muscle stiffness affect the internal deformations within the soft tissue layers of the buttocks under constant loading?. Computer Methods in Biomechanics and Biomedical Engineering, 2013, 16, 520-529.	0.9	25
20	Geometry influences inflammatory host cell response and remodeling in tissue-engineered heart valves in-vivo. Scientific Reports, 2020, 10, 19882.	1.6	22
21	Plasma variations of biomarkers for muscle damage in male nondisabled and spinal cord injured subjects. Journal of Rehabilitation Research and Development, 2012, 49, 361.	1.6	20
22	Growth and remodeling play opposing roles during postnatal human heart valve development. Scientific Reports, 2018, 8, 1235.	1.6	18
23	Computational modeling for cardiovascular tissue engineering: the importance of including cell behavior in growth and remodeling algorithms. Current Opinion in Biomedical Engineering, 2020, 15, 1-9.	1.8	18
24	Prediction of Cell Alignment on Cyclically Strained Grooved Substrates. Biophysical Journal, 2016, 111, 2274-2285.	0.2	15
25	Diffusion of water in skeletal muscle tissue is not influenced by compression in a rat model of deep tissue injury. Journal of Biomechanics, 2010, 43, 570-575.	0.9	14
26	A Bioreactor to Identify the Driving Mechanical Stimuli of Tissue Growth and Remodeling. Tissue Engineering - Part C: Methods, 2017, 23, 377-387.	1.1	14
27	Efficient computational simulation of actin stress fiber remodeling. Computer Methods in Biomechanics and Biomedical Engineering, 2016, 19, 1347-1358.	0.9	12
28	Which factors influence the ability of a computational model to predict the<i>in vivo</i>deformation behaviour of skeletal muscle?. Computer Methods in Biomechanics and Biomedical Engineering, 2013, 16, 338-345.	0.9	11
29	Lateral induction limits the impact of cell connectivity on Notch signaling in arterial walls. International Journal for Numerical Methods in Biomedical Engineering, 2020, 36, e3323.	1.0	11
30	Implementing Computational Modeling in Tissue Engineering: Where Disciplines Meet. Tissue Engineering - Part A, 2022, 28, 542-554.	1.6	11
31	Intrinsic Cell Stress is Independent of Organization in Engineered Cell Sheets. Cardiovascular Engineering and Technology, 2018, 9, 181-192.	0.7	10
32	Initial scaffold thickness affects the emergence of a geometrical and mechanical equilibrium in engineered cardiovascular tissues. Journal of the Royal Society Interface, 2018, 15, 20180359.	1.5	8
33	Increased Cell Traction-Induced Prestress in Dynamically Cultured Microtissues. Frontiers in Bioengineering and Biotechnology, 2019, 7, 41.	2.0	8
34	Nondestructive mechanical characterization of developing biological tissues using inflation testing. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 74, 438-447.	1.5	7
35	The Mechanical Contribution of Vimentin to Cellular Stress Generation. Journal of Biomechanical Engineering, 2018, 140, .	0.6	7
36	Pressure-induced collagen degradation in arterial tissue as a potential mechanism for degenerative arterial disease progression. Journal of the Mechanical Behavior of Biomedical Materials, 2020, 109, 103771.	1.5	7

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37	Mechano-regulated cellâ€“cell signaling in the context of cardiovascular tissue engineering. Biomechanics and Modeling in Mechanobiology, 2022, 21, 5-54.	1.4	6
38	Controlling the adaption behaviour of next-generation tissue-engineered cardiovascular implants via computational modelling. European Heart Journal, 2020, 41, 1069-1073.	1.0	5
39	Computational modelling to reduce outcome variability in tissue-engineered heart valves. European Heart Journal, 2021, 42, 2225-2229.	1.0	5
40	Substrate Stiffness Determines the Establishment of Apical-Basal Polarization in Renal Epithelial Cells but Not in Tubuloid-Derived Cells. Frontiers in Bioengineering and Biotechnology, 2022, 10, 820930.	2.0	4
41	Computational analysis of the role of mechanosensitive Notch signaling in arterial adaptation to hypertension. Journal of the Mechanical Behavior of Biomedical Materials, 2022, 133, 105325.	1.5	1