Ted J Vaughan

List of Publications by Year
in descending order

36 papers	1,104 citations	471509 17 h-index	414414 32 g-index
36 all docs	36 docs citations	36 times ranked	1348 citing authors

#	Article	IF	Citations
1	Fluid flow in the osteocyte mechanical environment: a fluidâ€“structure interaction approach. Biomechanics and Modeling in Mechanobiology, 2014, 13, 85-97.	2.8	126
2	Strain amplification in bone mechanobiology: a computational investigation of the <i>in vivo</i> mechanics of osteocytes. Journal of the Royal Society Interface, 2012, 9, 2735-2744.	3.4	124
3	The Effect of Substrate Stiffness, Thickness, and Cross-Linking Density on Osteogenic Cell Behavior. Biophysical Journal, 2015, 108, 1604-1612.	0.5	87
4	Simulation of Self Expanding Transcatheter Aortic Valve in a Realistic Aortic Root: Implications of Deployment Geometry on Leaflet Deformation. Annals of Biomedical Engineering, 2014, 42, 1989-2001.	2.5	70
5	Quantification of fluid shear stress in bone tissue engineering scaffolds with spherical and cubical pore architectures. Biomechanics and Modeling in Mechanobiology, 2016, 15, 561-577.	2.8	70
6	Multiscale fluidâ€“structure interaction modelling to determine the mechanical stimulation of bone cells in a tissue engineered scaffold. Biomechanics and Modeling in Mechanobiology, 2015, 14, 231-243.	2.8	65
7	Investigating the interplay between substrate stiffness and ligand chemistry in directing mesenchymal stem cell differentiation within 3D macro-porous substrates. Biomaterials, 2018, 171, 23-33.	11.4	64
8	The role of integrin Î±VÎ²3 in osteocyte mechanotransduction. Journal of the Mechanical Behavior of Biomedical Materials, 2015, 42, 67-75.	3.1	58
9	The In Situ Mechanics of Trabecular Bone Marrow: The Potential for Mechanobiological Response. Journal of Biomechanical Engineering, 2015, 137, .	1.3	55
10	Mechanisms of osteocyte stimulation in osteoporosis. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 62, 158-168.	3.1	37
11	A finite element investigation on design parameters of bare and polymer-covered self-expanding wire braided stents. Journal of the Mechanical Behavior of Biomedical Materials, 2021, 115, 104305.	3.1	33
12	Are all osteocytes equal? Multiscale modelling of cortical bone to characterise the mechanical stimulation of osteocytes. International Journal for Numerical Methods in Biomedical Engineering, 2013, 29, 1361-1372.	2.1	30
13	An experimental evaluation of the mechanics of bare and polymer-covered self-expanding wire braided stents. Journal of the Mechanical Behavior of Biomedical Materials, 2020, 103, 103549.	3.1	30
14	Influence of surface condition on the degradation behaviour and biocompatibility of additively manufactured WE43. Materials Science and Engineering C, 2021, 124, 112016.	7.3	29
15	The effect of equiaxial stretching on the osteogenic differentiation and mechanical properties of human adipose stem cells. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 72, 38-48.	3.1	24
16	Physical and mechanical degradation behaviour of semi-crystalline PLLA for bioresorbable stent applications. Journal of the Mechanical Behavior of Biomedical Materials, 2021, 118, 104409.	3.1	22
17	In silico study of bone tissue regeneration in an idealised porous hydrogel scaffold using a mechano-regulation algorithm. Biomechanics and Modeling in Mechanobiology, 2018, 17, 5-18.	2.8	20
18	Automated ex-situ detection of pitting corrosion and its effect on the mechanical integrity of rare earth magnesium alloy - WE43. Bioactive Materials, 2022, 8, 545-558.	15.6	20

#	Article	IF	Citations
19	How Bone Tissue and Cells Experience Elevated Temperatures During Orthopaedic Cutting: An Experimental and Computational Investigation. Journal of Biomechanical Engineering, 2014, 136, 021019.	1.3	15
20	The structural role of osteocalcin in bone biomechanics and its alteration in Type-2 Diabetes. Scientific Reports, 2020, 10, 17321.	3.3	15
21	Bone Mineral Is More Heterogeneously Distributed in the Femoral Heads of Osteoporotic and Diabetic Patients: A Pilot Study. JBMR Plus, 2020, 4, e10253.	2.7	12
22	Designing Hydrogel-Based Bone-On-Chips for Personalized Medicine. Applied Sciences (Switzerland), 2021, 11, 4495.	2.5	12
23	How to Validate in silico Deployment of Coronary Stents: Strategies and Limitations in the Choice of Comparator. Frontiers in Medical Technology, 2021, 3, 702656.	2.5	12
24	Altered architecture and cell populations affect bone marrow mechanobiology in the osteoporotic human femur. Biomechanics and Modeling in Mechanobiology, 2017, 16, 841-850.	2.8	11
25	An experimental investigation into the physical, thermal and mechanical degradation of a polymeric bioresorbable scaffold. Journal of the Mechanical Behavior of Biomedical Materials, 2022, 125, 104955.	3.1	10
26	Superficial femoral artery stenting: Impact of stent design and overlapping on the local hemodynamics. Computers in Biology and Medicine, 2022, 143, 105248.	7.0	10
27	Oversizing of self-expanding Nitinol vascular stents â€“ A biomechanical investigation in the superficial femoral artery. Journal of the Mechanical Behavior of Biomedical Materials, 2022, 132, 105259.	3.1	10
28	Energy dissipation of osteopontin at a HAp mineral interface: Implications for bone biomechanics. Biophysical Journal, 2022, 121, 228-236.	0.5	9
29	A multiscale finite element investigation on the role of intra- and extra-fibrillar mineralisation on the elastic properties of bone tissue. Journal of the Mechanical Behavior of Biomedical Materials, 2022, 129, 105139.	3.1	9
30	A coupled diffusion-fluid pressure model to predict cell density distribution for cells encapsulated in a porous hydrogel scaffold under mechanical loading. Computers in Biology and Medicine, 2017, 89, 181-189.	7.0	5
31	A coupled computational framework for bone fracture healing and longâ€term remodelling: Investigating the role of internal fixation on bone fractures. International Journal for Numerical Methods in Biomedical Engineering, 2022, , e3609.	2.1	3
32	Design and implementation of in silico clinical trial for Bioresorbable Vascular Scaffolds. , 2020, 2020, 2675-2678.		2
33	Design and Verification of a Novel Perfusion Bioreactor to Evaluate the Performance of a Self-Expanding Stent for Peripheral Artery Applications. Frontiers in Medical Technology, 0, 4, .	2.5	2
34	MULTISCALE MODELLING OF BONE: UNDERSTANDING TISSUE MECHANICS AND CELL MECHANOBIOLOGY. Journal of Biomechanics, 2012, 45, S473.	2.1	1
35	A Computational Framework Examining the Mechanical Behaviour of Bare and Polymer-Covered Self-Expanding Laser-Cut Stents. Cardiovascular Engineering and Technology, 2021, , 1.	1.6	1
36	<i>In silico</i> modelling of aortic valve implants â€“ predicting inÂvitro performance using finite element analysis. Journal of Medical Engineering and Technology, 2022, 46, 220-230.	1.4	1