Lucas H Timmins

List of Publications by Year
in descending order

44 papers	2,020 citations	19 h-index (394421)	40 g-index (289244)
48 all docs	48 docs citations	48 times ranked	2455 citing authors

#	Article	IF	Citations
1	Coronary Artery Wall Shear Stress Is Associated With Progression and Transformation of Atherosclerotic Plaque and Arterial Remodeling in Patients With Coronary Artery Disease. Circulation, 2011, 124, 779-788.	1.6	579
2	Myocardial Bridging. Journal of the American College of Cardiology, 2014, 63, 2346-2355.	2.8	234
3	Expert recommendations on the assessment of wall shear stress in human coronary arteries: existing methodologies, technical considerations, and clinical applications. European Heart Journal, 2019, 40, 3421-3433.	2.2	178
4	Association of Coronary Wall Shear Stress With Atherosclerotic Plaque Burden, Composition, and Distribution in Patients With Coronary Artery Disease. Journal of the American Heart Association, 2012, 1, e002543.	3.7	109
5	Increased artery wall stress post-stenting leads to greater intimal thickening. Laboratory Investigation, 2011, 91, 955-967.	3.7	105
6	Combination of plaque burden, wall shear stress, and plaque phenotype has incremental value for prediction of coronary atherosclerotic plaque progression and vulnerability. Atherosclerosis, 2014, 232, 271-276.	0.8	105
7	Stented artery biomechanics and device design optimization. Medical and Biological Engineering and Computing, 2007, 45, 505-513.	2.8	73
8	Impact of combined plaque structural stress and wall shear stress on coronary plaque progression, regression, and changes in composition. European Heart Journal, 2019, 40, 1411-1422.	2.2	68
9	Oscillatory wall shear stress is a dominant flow characteristic affecting lesion progression patterns and plaque vulnerability in patients with coronary artery disease. Journal of the Royal Society Interface, 2017, 14, 20160972.	3.4	61
10	Effects of Stent Design and Atherosclerotic Plaque Composition on Arterial Wall Biomechanics. Journal of Endovascular Therapy, 2008, 15, 643-654.	1.5	49
11	Disturbed Flow Promotes Arterial Stiffening Through Thrombospondin-1. Circulation, 2017, 136, 1217-1232.	1.6	48
12	Focal Association Between Wall Shear Stress and Clinical Coronary Artery Disease Progression. Annals of Biomedical Engineering, 2015, 43, 94-106.	2.5	44
13	Mechanical Modeling of Stents Deployed in Tapered Arteries. Annals of Biomedical Engineering, 2008, 36, 2042-2050.	2.5	42
14	Fibrin Network Changes in Neonates after Cardiopulmonary Bypass. Anesthesiology, 2016, 124, 1021-1031.	2.5	42
15	Coronary artery bifurcation biomechanics and implications for interventional strategies. Catheterization and Cardiovascular Interventions, 2010, 76, 836-843.	1.7	27
16	Biomechanics and Inflammation in Atherosclerotic Plaque Erosion and Plaque Rupture: Implications for Cardiovascular Events in Women. PLoS ONE, 2014, 9, e111785.	2.5	25
17	The influence of multidirectional shear stress on plaque progression and composition changes in human coronary arteries. EuroIntervention, 2019, 15, 692-699.	3.2	24
18	Comprehensive Assessment of Coronary Plaque Progression With Advanced Intravascular Imaging, Physiological Measures, and Wall Shear Stress: A Pilot Doubleâ€Blinded Randomized Controlled Clinical Trial of Nebivolol Versus Atenolol in Nonobstructive Coronary Artery Disease. Journal of the American Heart Association, 2016, 5, .	3.7	23

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19	An endovascular model of ischemic myopathy from peripheral arterial disease. Journal of Vascular Surgery, 2017, 66, 891-901.	1.1	23
20	Computational Fluid Dynamics Simulations of Hemodynamics in Plaque Erosion. Cardiovascular Engineering and Technology, 2013, 4, 464-473.	1.6	20
21	Pulsatile Flow Leads to Intimal Flap Motion and Flow Reversal in an In Vitro Model of Type B Aortic Dissection. Cardiovascular Engineering and Technology, 2017, 8, 378-389.	1.6	20
22	Framework to Co-register Longitudinal Virtual Histology-Intravascular Ultrasound Data in the Circumferential Direction. IEEE Transactions on Medical Imaging, 2013, 32, 1989-1996.	8.9	20
23	Biomechanical Assessment of Fully Bioresorbable Devices. JACC: Cardiovascular Interventions, 2013, 6, 760-761.	2.9	16
24	Evaluation of a framework for the co-registration of intravascular ultrasound and optical coherence tomography coronary artery pullbacks. Journal of Biomechanics, 2016, 49, 4048-4056.	2.1	13
25	Comparison of angiographic and IVUS derived coronary geometric reconstructions for evaluation of the association of hemodynamics with coronary artery disease progression. International Journal of Cardiovascular Imaging, 2016, 32, 1327-1336.	1.5	11
26	Co-localization of Disturbed Flow Patterns and Occlusive Cardiac Allograft Vasculopathy Lesion Formation in Heart Transplant Patients. Cardiovascular Engineering and Technology, 2015, 6, 25-35.	1.6	7
27	Colocalization of Low and Oscillatory Coronary Wall Shear Stress With Subsequent Culprit Lesion Resulting in Myocardial Infarction in an Orthotopic Heart Transplant Patient. JACC: Cardiovascular Interventions, 2013, 6, 1210-1211.	2.9	5
28	Quantification of the focal progression of coronary atherosclerosis through automated co-registration of virtual histology-intravascular ultrasound imaging data. International Journal of Cardiovascular Imaging, 2017, 33, 13-24.	1.5	5
29	Establishment of an Automated Algorithm Utilizing Optical Coherence Tomography and Micro-Computed Tomography Imaging to Reconstruct the 3-D Deformed Stent Geometry. IEEE Transactions on Medical Imaging, 2019, 38, 710-720.	8.9	5
30	On the use of constrained reactive mixtures of solids to model finite deformation isothermal elastoplasticity and elastoplastic damage mechanics. Journal of the Mechanics and Physics of Solids, 2021, 155, 104534.	4.8	5
31	Reply. Journal of the American College of Cardiology, 2014, 64, 2179-2181.	2.8	4
32	Considerations for analysis of endothelial shear stress and strain in FSI models of atherosclerosis. Journal of Biomechanics, 2021, 128, 110720.	2.1	4
33	A New Method for Quantifying Abdominal Aortic Wall Shear Stress Using Phase Contrast Magnetic Resonance Imaging and the Womersley Solution. Journal of Biomechanical Engineering, 2022, 144, .	1.3	4
34	A Nonparametric Approach for Estimating Three-Dimensional Fiber Orientation Distribution Functions (ODFs) in Fibrous Materials. IEEE Transactions on Medical Imaging, 2022, 41, 446-455.	8.9	3
35	Effect of Subject-Specific, Spatially Reduced, and Idealized Boundary Conditions on the Predicted Hemodynamic Environment in the Murine Aorta. Annals of Biomedical Engineering, 2021, 49, 3255-3266.	2.5	3
36	Geometric and Hemodynamic Evaluation of 3-Dimensional Reconstruction Techniques for the Assessment of Coronary Artery Wall Shear Stress in the Setting of Clinical Disease Progression. , 2011, , .		3

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37	Vascular Geometry and Flow Profile Mediate Pathological Cell-Cell Interactions in Sickle Cell Disease As Measured with "Do-It-Yourself" "Endothelial-Ized" Microfluidics. Blood, 2014, 124, 454-454.	1.4	3
38	PC008. Number of Reentry Tears Influences Flap Motion and Flow Reversal in an In Vitro Model of Type B Aortic Dissection. Journal of Vascular Surgery, 2016, 63, 154S-155S.	1.1	2
39	Catheter-based optical approaches for cardiovascular medicine: progress, challenges and new directions. Progress in Biomedical Engineering, 2020, 2, 032001.	4.9	2
40	Effect of Patient-Specific Coronary Flow Reserve Values on the Accuracy of MRI-Based Virtual Fractional Flow Reserve. Frontiers in Cardiovascular Medicine, 2021, 8, 663767.	2.4	2
41	Effect of regional analysis methods on assessing the association between wall shear stress and coronary artery disease progression in the clinical setting. , 2021, , 203-223.		1
42	Model-Directed Design of Tissue Engineering Scaffolds. ACS Biomaterials Science and Engineering, 2022, 8, 4622-4624.	5.2	1
43	Comparison of Prospective and Retrospective Gated 4D Flow Cardiac MR Image Acquisitions in the Carotid Bifurcation. Cardiovascular Engineering and Technology, 0, , .	1.6	1
44	CFD and VH-IVUS Biomechanical Analysis of Coronary Artery Disease With One Year Follow-Up. , 2013, , .		0