

# Zhongzhao Teng

## List of Publications by Citations

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97  
papers

2,434  
citations

29  
h-index

46  
g-index

103  
ext. papers

3,144  
ext. citations

4.6  
avg, IF

5.04  
L-index

#	Paper	IF	Citations
97	Common pitfalls and recommendations for using machine learning to detect and prognosticate for COVID-19 using chest radiographs and CT scans. <i>Nature Machine Intelligence</i> , <b>2021</b> , 3, 199-217	22.5	200
96	Sites of rupture in human atherosclerotic carotid plaques are associated with high structural stresses: an in vivo MRI-based 3D fluid-structure interaction study. <i>Stroke</i> , <b>2009</b> , 40, 3258-63	6.7	148
95	The role of imaging in 2019 novel coronavirus pneumonia (COVID-19). <i>European Radiology</i> , <b>2020</b> , 30, 4874-4882	8	143
94	Role of biomechanical forces in the natural history of coronary atherosclerosis. <i>Nature Reviews Cardiology</i> , <b>2016</b> , 13, 210-20	14.8	132
93	An experimental study on the ultimate strength of the adventitia and media of human atherosclerotic carotid arteries in circumferential and axial directions. <i>Journal of Biomechanics</i> , <b>2009</b> , 42, 2535-9	2.9	79
92	In vivo IVUS-based 3-D fluid-structure interaction models with cyclic bending and anisotropic vessel properties for human atherosclerotic coronary plaque mechanical analysis. <i>IEEE Transactions on Biomedical Engineering</i> , <b>2009</b> , 56, 2420-8	5	76
91	3D MRI-based anisotropic FSI models with cyclic bending for human coronary atherosclerotic plaque mechanical analysis. <i>Journal of Biomechanical Engineering</i> , <b>2009</b> , 131, 061010	2.1	64
90	Direct Comparison of Virtual-Histology Intravascular Ultrasound and Optical Coherence Tomography Imaging for Identification of Thin-Cap Fibroatheroma. <i>Circulation: Cardiovascular Imaging</i> , <b>2015</b> , 8, e003487	3.9	63
89	Material properties of components in human carotid atherosclerotic plaques: a uniaxial extension study. <i>Acta Biomaterialia</i> , <b>2014</b> , 10, 5055-5063	10.8	61
88	3D critical plaque wall stress is a better predictor of carotid plaque rupture sites than flow shear stress: An in vivo MRI-based 3D FSI study. <i>Journal of Biomechanical Engineering</i> , <b>2010</b> , 132, 031007	2.1	61
87	Coronary plaque structural stress is associated with plaque composition and subtype and higher in acute coronary syndrome: the BEACON I (Biomechanical Evaluation of Atheromatous Coronary Arteries) study. <i>Circulation: Cardiovascular Imaging</i> , <b>2014</b> , 7, 461-70	3.9	56
86	Critical mechanical conditions around neovessels in carotid atherosclerotic plaque may promote intraplaque hemorrhage. <i>Atherosclerosis</i> , <b>2012</b> , 223, 321-6	3.1	50
85	Endovascular repair by customized branched stent-graft: A promising treatment for chronic aortic dissection involving the arch branches. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2015</b> , 150, 1631-8. <sup>1,5</sup>	1.5	49
84	Plaque hemorrhage in carotid artery disease: pathogenesis, clinical and biomechanical considerations. <i>Journal of Biomechanics</i> , <b>2014</b> , 47, 847-58	2.9	49
83	Local critical stress correlates better than global maximum stress with plaque morphological features linked to atherosclerotic plaque vulnerability: an in vivo multi-patient study. <i>BioMedical Engineering OnLine</i> , <b>2009</b> , 8, 15	4.1	49
82	Gadolinium Enhancement in Intracranial Atherosclerotic Plaque and Ischemic Stroke: A Systematic Review and Meta-Analysis. <i>Journal of the American Heart Association</i> , <b>2016</b> , 5,	6	43
81	Impact of combined plaque structural stress and wall shear stress on coronary plaque progression, regression, and changes in composition. <i>European Heart Journal</i> , <b>2019</b> , 40, 1411-1422	9.5	40

80	An assessment on the incremental value of high-resolution magnetic resonance imaging to identify culprit plaques in atherosclerotic disease of the middle cerebral artery. <i>European Radiology</i> , <b>2016</b> , 26, 2206-14	8	40
79	Computer simulation of three-dimensional plaque formation and progression in the carotid artery. <i>Medical and Biological Engineering and Computing</i> , <b>2013</b> , 51, 607-16	3.1	40
78	Plaque Rupture in Coronary Atherosclerosis Is Associated With Increased Plaque Structural Stress. <i>JACC: Cardiovascular Imaging</i> , <b>2017</b> , 10, 1472-1483	8.4	40
77	Ex-vivo imaging and plaque type classification of intracranial atherosclerotic plaque using high resolution MRI. <i>Atherosclerosis</i> , <b>2016</b> , 249, 10-6	3.1	39
76	Comparison of high-resolution MRI with CT angiography and digital subtraction angiography for the evaluation of middle cerebral artery atherosclerotic steno-occlusive disease. <i>International Journal of Cardiovascular Imaging</i> , <b>2013</b> , 29, 1491-8	2.5	38
75	Biomechanical structural stresses of atherosclerotic plaques. <i>Expert Review of Cardiovascular Therapy</i> , <b>2010</b> , 8, 1469-81	2.5	35
74	Plaque Structural Stress Estimations Improve Prediction of Future Major Adverse Cardiovascular Events After Intracoronary Imaging. <i>Circulation: Cardiovascular Imaging</i> , <b>2016</b> , 9,	3.9	33
73	Layer- and Direction-Specific Material Properties, Extreme Extensibility and Ultimate Material Strength of Human Abdominal Aorta and Aneurysm: A Uniaxial Extension Study. <i>Annals of Biomedical Engineering</i> , <b>2015</b> , 43, 2745-59	4.7	31
72	Clinical Significance of Intraplaque Hemorrhage in Low- and High-Grade Basilar Artery Stenosis on High-Resolution MRI. <i>American Journal of Neuroradiology</i> , <b>2018</b> , 39, 1286-1292	4.4	30
71	The influence of computational strategy on prediction of mechanical stress in carotid atherosclerotic plaques: comparison of 2D structure-only, 3D structure-only, one-way and fully coupled fluid-structure interaction analyses. <i>Journal of Biomechanics</i> , <b>2014</b> , 47, 1465-71	2.9	30
70	In vivo MRI-based 3D mechanical stress-strain profiles of carotid plaques with juxtaluminal plaque haemorrhage: an exploratory study for the mechanism of subsequent cerebrovascular events. <i>European Journal of Vascular and Endovascular Surgery</i> , <b>2011</b> , 42, 427-33	2.3	30
69	Anisotropic material behaviours of soft tissues in human trachea: an experimental study. <i>Journal of Biomechanics</i> , <b>2012</b> , 45, 1717-23	2.9	29
68	Intraplaque hemorrhage is associated with higher structural stresses in human atherosclerotic plaques: an in vivo MRI-based 3D fluid-structure interaction study. <i>BioMedical Engineering OnLine</i> , <b>2010</b> , 9, 86	4.1	29
67	Arterial luminal curvature and fibrous-cap thickness affect critical stress conditions within atherosclerotic plaque: an in vivo MRI-based 2D finite-element study. <i>Annals of Biomedical Engineering</i> , <b>2010</b> , 38, 3096-101	4.7	25
66	How does juxtaluminal calcium affect critical mechanical conditions in carotid atherosclerotic plaque? An exploratory study. <i>IEEE Transactions on Biomedical Engineering</i> , <b>2014</b> , 61, 35-40	5	23
65	Impact of plaque haemorrhage and its age on structural stresses in atherosclerotic plaques of patients with carotid artery disease: an MR imaging-based finite element simulation study. <i>International Journal of Cardiovascular Imaging</i> , <b>2011</b> , 27, 397-402	2.5	23
64	Normalized wall index specific and MRI-based stress analysis of atherosclerotic carotid plaques: a study comparing acutely symptomatic and asymptomatic patients. <i>Circulation Journal</i> , <b>2010</b> , 74, 2360-4	2.9	23
63	Nonlinear mechanical property of tracheal cartilage: a theoretical and experimental study. <i>Journal of Biomechanics</i> , <b>2008</b> , 41, 1995-2002	2.9	23

62	Superficial and multiple calcifications and ulceration associate with intraplaque hemorrhage in the carotid atherosclerotic plaque. <i>European Radiology</i> , <b>2018</b> , 28, 4968-4977	8	22
61	Using in vivo Cine and 3D multi-contrast MRI to determine human atherosclerotic carotid artery material properties and circumferential shrinkage rate and their impact on stress/strain predictions. <i>Journal of Biomechanical Engineering</i> , <b>2012</b> , 134, 011008	2.1	22
60	Cap inflammation leads to higher plaque cap strain and lower cap stress: An MRI-PET/CT-based FSI modeling approach. <i>Journal of Biomechanics</i> , <b>2017</b> , 50, 121-129	2.9	20
59	Characterization of healing following atherosclerotic carotid plaque rupture in acutely symptomatic patients: an exploratory study using in vivo cardiovascular magnetic resonance. <i>Journal of Cardiovascular Magnetic Resonance</i> , <b>2011</b> , 13, 64	6.9	20
58	Scan-Rescan Reproducibility of High Resolution Magnetic Resonance Imaging of Atherosclerotic Plaque in the Middle Cerebral Artery. <i>PLoS ONE</i> , <b>2015</b> , 10, e0134913	3.7	19
57	Intravascular ultrasound and optical coherence tomography imaging of coronary atherosclerosis. <i>International Journal of Cardiovascular Imaging</i> , <b>2016</b> , 32, 189-200	2.5	18
56	The influence of constitutive law choice used to characterise atherosclerotic tissue material properties on computing stress values in human carotid plaques. <i>Journal of Biomechanics</i> , <b>2015</b> , 48, 3912-21	2.9	18
55	High Structural Stress and Presence of Intraluminal Thrombus Predict Abdominal Aortic Aneurysm 18F-FDG Uptake: Insights From Biomechanics. <i>Circulation: Cardiovascular Imaging</i> , <b>2016</b> , 9,	3.9	17
54	Influence of material property variability on the mechanical behaviour of carotid atherosclerotic plaques: a 3D fluid-structure interaction analysis. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , <b>2015</b> , 31, e02722	2.6	16
53	Three-dimensional volumetric analysis of atherosclerotic plaques: a magnetic resonance imaging-based study of patients with moderate stenosis carotid artery disease. <i>International Journal of Cardiovascular Imaging</i> , <b>2010</b> , 26, 897-904	2.5	16
52	In vivo MRI-based simulation of fatigue process: a possible trigger for human carotid atherosclerotic plaque rupture. <i>BioMedical Engineering OnLine</i> , <b>2013</b> , 12, 36	4.1	15
51	Comparison of NASCET and WASID criteria for the measurement of intracranial stenosis using digital subtraction and computed tomography angiography of the middle cerebral artery. <i>Journal of Neuroradiology</i> , <b>2012</b> , 39, 342-5	3.1	15
50	Non-uniform shrinkage for obtaining computational start shape for in-vivo MRI-based plaque vulnerability assessment. <i>Journal of Biomechanics</i> , <b>2011</b> , 44, 2316-9	2.9	15
49	Study on tracheal collapsibility, compliance, and stress by considering nonlinear mechanical property of cartilage. <i>Annals of Biomedical Engineering</i> , <b>2009</b> , 37, 2380-9	4.7	15
48	Impact of Fiber Structure on the Material Stability and Rupture Mechanisms of Coronary Atherosclerotic Plaques. <i>Annals of Biomedical Engineering</i> , <b>2017</b> , 45, 1462-1474	4.7	14
47	Protective or destructive: High wall shear stress and atherosclerosis. <i>Atherosclerosis</i> , <b>2016</b> , 251, 501-503	3.1	14
46	3D high-resolution contrast enhanced MRI of carotid atheroma--a technical update. <i>Magnetic Resonance Imaging</i> , <b>2014</b> , 32, 594-7	3.3	14
45	A uni-extension study on the ultimate material strength and extreme extensibility of atherosclerotic tissue in human carotid plaques. <i>Journal of Biomechanics</i> , <b>2015</b> , 48, 3859-67	2.9	14

44	Management of complicated aortic aneurysms using multiple overlapping uncovered stents: mid-term outcome from a cohort study. <i>Medicine (United States)</i> , <b>2014</b> , 93, e209	1.8	14
43	Lumen irregularity dominates the relationship between mechanical stress condition, fibrous-cap thickness, and lumen curvature in carotid atherosclerotic plaque. <i>Journal of Biomechanical Engineering</i> , <b>2011</b> , 133, 034501	2.1	14
42	Heterogeneity of Plaque Structural Stress Is Increased in Plaques Leading to MACE: Insights From the PROSPECT Study. <i>JACC: Cardiovascular Imaging</i> , <b>2020</b> , 13, 1206-1218	8.4	14
41	Utility of magnetic resonance imaging-based finite element analysis for the biomechanical stress analysis of hemorrhagic and non-hemorrhagic carotid plaques. <i>Circulation Journal</i> , <b>2011</b> , 75, 884-9	2.9	12
40	Cyclic Bending Contributes to High Stress in a Human Coronary Atherosclerotic Plaque and Rupture Risk: In Vitro Experimental Modeling and Ex Vivo MRI-Based Computational Modeling Approach. <i>MCB Molecular and Cellular Biomechanics</i> , <b>2008</b> , 5, 259-274	1.2	11
39	Error propagation in the characterization of atheromatic plaque types based on imaging. <i>Computer Methods and Programs in Biomedicine</i> , <b>2015</b> , 121, 161-74	6.9	10
38	Stiffness Properties of Adventitia, Media, and Full Thickness Human Atherosclerotic Carotid Arteries in the Axial and Circumferential Directions. <i>Journal of Biomechanical Engineering</i> , <b>2017</b> , 139,	2.1	10
37	MARK4 (Microtubule Affinity-Regulating Kinase 4)-Dependent Inflammasome Activation Promotes Atherosclerosis-Brief Report. <i>Arteriosclerosis, Thrombosis, and Vascular Biology</i> , <b>2019</b> , 39, 1645-1651	9.4	9
36	Intraplaque stretch in carotid atherosclerotic plaque--an effective biomechanical predictor for subsequent cerebrovascular ischemic events. <i>PLoS ONE</i> , <b>2013</b> , 8, e61522	3.7	9
35	Relationship between carotid plaque surface morphology and perfusion: a 3D DCE-MRI study. <i>Magnetic Resonance Materials in Physics, Biology, and Medicine</i> , <b>2018</b> , 31, 191-199	2.8	8
34	Study of tracheal collapsibility, compliance and stress by considering its asymmetric geometry. <i>Medical Engineering and Physics</i> , <b>2009</b> , 31, 328-36	2.4	8
33	MRI-based biomechanical parameters for carotid artery plaque vulnerability assessment. <i>Thrombosis and Haemostasis</i> , <b>2016</b> , 115, 493-500	7	8
32	Quantitative Histogram Analysis on Intracranial Atherosclerotic Plaques: A High-Resolution Magnetic Resonance Imaging Study. <i>Stroke</i> , <b>2020</b> , 51, 2161-2169	6.7	7
31	Influence of overlapping pattern of multiple overlapping uncovered stents on the local mechanical environment: A patient-specific parameter study. <i>Journal of Biomechanics</i> , <b>2017</b> , 60, 188-196	2.9	7
30	Bayes clustering and structural support vector machines for segmentation of carotid artery plaques in multicontrast MRI. <i>Computational and Mathematical Methods in Medicine</i> , <b>2012</b> , 2012, 549102	2.8	6
29	Compounding local invariant features and global deformable geometry for medical image registration. <i>PLoS ONE</i> , <b>2014</b> , 9, e105815	3.7	5
28	Neural network fusion: a novel CT-MR Aortic Aneurysm image segmentation method. <i>Proceedings of SPIE</i> , <b>2018</b> , 10574,	1.7	5
27	Automatic segmentation of MR depicted carotid arterial boundary based on local priors and constrained global optimisation. <i>IET Image Processing</i> , <b>2019</b> , 13, 506-514	1.7	4

26	Tracheal compliance and limit flow rate changes in a murine model of asthma. <i>Science in China Series C: Life Sciences</i> , <b>2008</b> , 51, 922-31		4
25	Greater aortic inflammation and calcification in abdominal aortic aneurysmal disease than atherosclerosis: a prospective matched cohort study. <i>Open Heart</i> , <b>2020</b> , 7, e001141	3	4
24	Bayesian Inference-Based Estimation of Normal Aortic, Aneurysmal and Atherosclerotic Tissue Mechanical Properties: From Material Testing, Modeling and Histology. <i>IEEE Transactions on Biomedical Engineering</i> , <b>2019</b> , 66, 2269-2278	5	3
23	Identification and Quantitative Assessment of Different Components of Intracranial Atherosclerotic Plaque by Ex Vivo 3T High-Resolution Multicontrast MRI. <i>American Journal of Neuroradiology</i> , <b>2017</b> , 38, 1716-1722	4.4	3
22	Advancing COVID-19 diagnosis with privacy-preserving collaboration in artificial intelligence. <i>Nature Machine Intelligence</i> , <b>2021</b> , 3, 1081-1089	22.5	3
21	Carotid Intraplaque Hemorrhage: A Biomarker for Subsequent Ischemic Cerebrovascular Event?. <i>Cerebrovascular Diseases</i> , <b>2017</b> , 43, 257-258	3.2	2
20	Theoretical and experimental studies on the nonlinear mechanical property of tracheal cartilage. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society</i> , <b>2007</b> , 2007, 1058-61		2
19	Study on cartilaginous and muscular strains of rat trachea. <i>Science in China Series C: Life Sciences</i> , <b>2004</b> , 47, 485-93		2
18	Association of Hypertension With Both Occurrence and Outcome of Symptomatic Patients With Mild Intracranial Atherosclerotic Stenosis: A Prospective Higher Resolution Magnetic Resonance Imaging Study. <i>Journal of Magnetic Resonance Imaging</i> , <b>2021</b> , 54, 76-88	5.6	2
17	Local blood pressure associates with the degree of luminal stenosis in patients with atherosclerotic disease in the middle cerebral artery. <i>BioMedical Engineering OnLine</i> , <b>2016</b> , 15, 67	4.1	2
16	From Ultrasonography to High Resolution Magnetic Resonance Imaging: Towards an Optimal Management Strategy for Vulnerable Carotid Atherosclerotic Plaques. <i>EBioMedicine</i> , <b>2016</b> , 3, 2-3	8.8	2
15	Cascaded residual U-net for fully automatic segmentation of 3D carotid artery in high-resolution multi-contrast MR images. <i>Physics in Medicine and Biology</i> , <b>2021</b> , 66, 045033	3.8	2
14	Early Diastolic Longitudinal Strain Rate at MRI and Outcomes in Heart Failure with Preserved Ejection Fraction. <i>Radiology</i> , <b>2021</b> , 301, 582-592	20.5	2
13	Magnetic Resonance Imaging-Based Assessment of Carotid Atheroma: a Comparative Study of Patients with and without Coronary Artery Disease. <i>Journal of Stroke and Cerebrovascular Diseases</i> , <b>2017</b> , 26, 347-351	2.8	1
12	Multi-scale segmentation of carotid artery wall in MRI images <b>2010</b> ,		1
11	Opening angles and residual strains in normal rat trachea. <i>Science in China Series C: Life Sciences</i> , <b>2002</b> , 45, 138-48		1
10	Multiparametric Cardiovascular Magnetic Resonance in Acute Myocarditis: Comparison of 2009 and 2018 Lake Louise Criteria With Endomyocardial Biopsy Confirmation. <i>Frontiers in Cardiovascular Medicine</i> , <b>2021</b> , 8, 739892	5.4	1
9	The role of porosity and 3D cross-stent configuration of multiple overlapping uncovered stents in the management of complex aortic aneurysms Insights from haemodynamics. <i>Medicine in Novel Technology and Devices</i> , <b>2019</b> , 3, 100020	2.1	1

8	Biomechanical insight of the stent-induced thrombosis following flow-diverting strategy in the management of complicated aortic aneurysms. <i>International Angiology</i> , <b>2021</b> , 40, 52-59	2.2	1
7	Association of Collagen, Elastin, Glycosaminoglycans and Macrophages with Tissue Ultimate Material Strength and Stretch in Human Thoracic Aortic Aneurysms: A Uniaxial Tension Study.. <i>Journal of Biomechanical Engineering</i> , <b>2022</b> ,	2.1	1
6	Vessel structural stress mediates aortic media degeneration in bicuspid aortopathy: New insights based on patient-specific fluid-structure interaction analysis. <i>Journal of Biomechanics</i> , <b>2021</b> , 129, 110805 <sup>2.9</sup>		0
5	Study on the association of wall shear stress and vessel structural stress with atherosclerosis: An experimental animal study. <i>Atherosclerosis</i> , <b>2021</b> , 320, 38-46	3.1	0
4	Identification of high risk clinical and imaging features for intracranial artery dissection using high-resolution cardiovascular magnetic resonance. <i>Journal of Cardiovascular Magnetic Resonance</i> , <b>2021</b> , 23, 74	6.9	0
3	Mechanical and Histological Characteristics of Aortic Dissection Tissues.. <i>Acta Biomaterialia</i> , <b>2022</b> , 146, 284-284	10.8	0
2	Estimation of the zero-pressure computational start shape of atherosclerotic plaques: Improving the backward displacement method with deformation gradient tensor.. <i>Journal of Biomechanics</i> , <b>2021</b> , 131, 110910	2.9	
1	Multi-Sequence MRI Registration of Atherosclerotic Carotid Arteries Based on Cross-Scale Siamese Network.. <i>Frontiers in Cardiovascular Medicine</i> , <b>2021</b> , 8, 785523	5.4	