Ryo Torii

List of Publications by Year in Descending Order

106 papers	3,185 citations	28 h-index	54 g-index
117 ext. papers	3,741 ext. citations	3.9 avg, IF	4.85 L-index

#	Paper	IF	Citations
106	Machine learning for atherosclerotic tissue component classification in combined near-infrared spectroscopy intravascular ultrasound imaging: Validation against histology.. *Atherosclerosis*, **2022**, 345, 15-25	3.1	
105	Modelling Pulmonary Arterial Hypertension: Clinical Concepts, Engineering Applications and an Integrated Medico-engineering Approach **2022**, 169-187		
104	CT-based fractional flow reserve: development and expanded application. *Global Cardiology Science & Practice*, **2021**, 2021, e202120	0.7	0
103	Wall shear stress estimated by 3D-QCA can predict cardiovascular events in lesions with borderline negative fractional flow reserve. *Atherosclerosis*, **2021**, 322, 24-30	3.1	5
102	Experimental Validation of Enhanced Magnetic Resonance Imaging (EMRI) Using Particle Image Velocimetry (PIV). *Annals of Biomedical Engineering*, **2021**, 1	4.7	0
101	Angiography-Based 4-Dimensional Superficial Wall Strain and Stress: A New Diagnostic Tool in the Catheterization Laboratory. *Frontiers in Cardiovascular Medicine*, **2021**, 8, 667310	5.4	1
100	Use of quantitative cardiovascular magnetic resonance myocardial perfusion mapping for characterization of ischemia in patients with left internal mammary coronary artery bypass grafts. *Journal of Cardiovascular Magnetic Resonance*, **2021**, 23, 82	6.9	3
99	A Computationally Efficient Approach to Segmentation of the Aorta and Coronary Arteries Using Deep Learning. *IEEE Access*, **2021**, 9, 108873-108888	3.5	2
98	Left Ventricular Assist Device Flow Pattern Analysis Using a Novel Model Incorporating Left Ventricular Pulsatility. *ASAIO Journal*, **2021**, 67, 724-732	3.6	2
97	A deep learning methodology for the automated detection of end-diastolic frames in intravascular ultrasound images. *International Journal of Cardiovascular Imaging*, **2021**, 37, 1825-1837	2.5	3
96	Uncovered non-apposed side-branch struts in a bifurcation lesion: a□nidus for late stent thrombosis. *Hellenic Journal of Cardiology*, **2021**, 63, 96-96	2.1	0
95	Advanced deep learning methodology for accurate, real-time segmentation of high-resolution intravascular ultrasound images. *International Journal of Cardiology*, **2021**, 339, 185-191	3.2	4
94	Spatiotemporal droplet dispersion measurements demonstrate face masks reduce risks from singing.. *Scientific Reports*, **2021**, 11, 24183	4.9	1
93	The impact of plaque type on strut embedment/protrusion and shear stress distribution in bioresorbable scaffold. *European Heart Journal Cardiovascular Imaging*, **2020**, 21, 454-462	4.1	5
92	Computerised Methodologies for Non-Invasive Angiography-Derived Fractional Flow Reserve Assessment: A Critical Review. *Journal of Interventional Cardiology*, **2020**, 2020, 6381637	1.8	5
91	Vulnerable plaques and patients: state-of-the-art. *European Heart Journal*, **2020**, 41, 2997-3004	9.5	34
90	Predictive value of the QFR in detecting vulnerable plaques in non-flow limiting lesions: a combined analysis of the PROSPECT and IBIS-4 study. *International Journal of Cardiovascular Imaging*, **2020**, 36, 993-1002	2.5	3

89	The Evolution of Data Fusion Methodologies Developed to Reconstruct Coronary Artery Geometry From Intravascular Imaging and Coronary Angiography Data: A Comprehensive Review. *Frontiers in Cardiovascular Medicine*, **2020**, 7, 33	5.4	1
88	Low-Cost Fabrication of Polyvinyl Alcohol-Based Personalized Vascular Phantoms for In Vitro Hemodynamic Studies: Three Applications. *Journal of Engineering and Science in Medical Diagnostics and Therapy*, **2020**, 3,	1	1
87	Dynamic Characterisation of Fibre-Optic Temperature Sensors for Physiological Monitoring. *Sensors* , **2020**, 21,	3.8	4
86	Impact of bioresorbable scaffold design characteristics on local haemodynamic forces: an ex vivo assessment with computational fluid dynamics simulations. *EuroIntervention*, **2020**, 16, e930-e937	3.1	4
85	Preclinical evaluation of a thin-strut bioresorbable scaffold (ArterioSorb): acute-phase invasive imaging assessment and hemodynamic implication. *EuroIntervention*, **2020**, 16, e141-e146	3.1	0
84	Shear Stress Estimated by Quantitative Coronary Angiography Predicts Plaques Prone to Progress and Cause Events. *JACC: Cardiovascular Imaging*, **2020**, 13, 2206-2219	8.4	11
83	On outflow boundary conditions for CT-based computation of FFR: Examination using PET images. *Medical Engineering and Physics*, **2020**, 76, 79-87	2.4	8
82	Endothelial shear stress and vascular remodeling in bioresorbable scaffold and metallic stent. *Atherosclerosis*, **2020**, 312, 79-89	3.1	
81	Failure and detachment path of impulsively loaded plates. *Thin-Walled Structures*, **2020**, 155, 106871	4.7	3
80	Two Secreted Proteoglycans, Activators of Urothelial Cell-Cell Adhesion, Negatively Contribute to Bladder Cancer Initiation and Progression. *Cancers*, **2020**, 12,	6.6	2
79	Evaluation of the Efficacy of Computed Tomographic Coronary Angiography in Assessing Coronary Artery Morphology and Physiology: Rationale and Study Design. *Cardiology*, **2020**, 145, 285-293	1.6	2
78	Reliable in vivo intravascular imaging plaque characterization: A challenge unmet. *American Heart Journal*, **2019**, 218, 20-31	4.9	4
77	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	9.5	70
76	Implications of the local haemodynamic forces on the phenotype of coronary plaques. *Heart*, **2019**, 105, 1078-1086	5.1	9
75	Impact of Inflow Boundary Conditions on the Calculation of CT-Based FFR. *Fluids*, **2019**, 4, 60	1.6	8
74	Angiographic derived endothelial shear stress: a new predictor of atherosclerotic disease progression. *European Heart Journal Cardiovascular Imaging*, **2019**, 20, 314-322	4.1	5
73	Enhancing Magnetic Resonance Imaging With Computational Fluid Dynamics. *Journal of Engineering and Science in Medical Diagnostics and Therapy*, **2019**, 2,	1	6
72	Early strut protrusion and late neointima thickness in the Absorb bioresorbable scaffold: a serial wall shear stress analysis up to five years. *EuroIntervention*, **2019**, 15, e370-e379	3.1	3

71	Efficacy and Reproducibility of Attenuation-Compensated Optical Coherence Tomography for Assessing External Elastic Membrane Border and Plaque Composition in Native and Stented Segments - An In Vivo and Histology-Based Study. *Circulation Journal*, **2019**, 84, 91-100	2.9	3
70	Disturbed Flow in a Stenosed Carotid Artery Bifurcation: Comparison of RANS-Based Transitional Model and LES with Experimental Measurements. *International Journal of Applied Mechanics*, **2019**, 11, 1950032	2.4	6
69	Post-implantation shear stress assessment: an emerging tool for differentiation of bioresorbable scaffolds. *International Journal of Cardiovascular Imaging*, **2019**, 35, 409-418	2.5	4
68	Hemodynamic analysis of a novel bioresorbable scaffold in porcine coronary artery model. *Catheterization and Cardiovascular Interventions*, **2018**, 91, 1084-1091	2.7	3
67	Endothelial shear stress 5 years after implantation of a coronary bioresorbable scaffold. *European Heart Journal*, **2018**, 39, 1602-1609	9.5	24
66	Aortic root dynamism, geometry, and function after the remodeling operation: Clinical relevance. *Journal of Thoracic and Cardiovascular Surgery*, **2018**, 156, 951-962.e2	1.5	9
65	Computational Fluid Dynamic Analysis of the Left Atrial Appendage to Predict Thrombosis Risk. *Frontiers in Cardiovascular Medicine*, **2018**, 5, 34	5.4	43
64	Neointima and neoatherosclerotic characteristics in bare metal and first- and second-generation drug-eluting stents in patients admitted with cardiovascular events attributed to stent failure: an optical coherence tomography study. *EuroIntervention*, **2018**, 13, e1831-e1840	3.1	9
63	Modelling multi-scale cell-tissue interaction of tissue-engineered muscle constructs. *Journal of Tissue Engineering*, **2018**, 9, 2041731418787141	7.5	10
62	Implications of the local hemodynamic forces on the formation and destabilization of neoatherosclerotic lesions. *International Journal of Cardiology*, **2018**, 272, 7-12	3.2	8
61	Midterm results of the Ross procedure in children: an appraisal of the subannular implantation with interrupted sutures technique. *European Journal of Cardio-thoracic Surgery*, **2017**, 52, 798-804	3	9
60	Strut protrusion and shape impact on endothelial shear stress: insights from pre-clinical study comparing Mirage and Absorb bioresorbable scaffolds. *International Journal of Cardiovascular Imaging*, **2017**, 33, 1313-1322	2.5	15
59	Design, Analysis and Testing of a Novel Mitral Valve for Transcatheter Implantation. *Annals of Biomedical Engineering*, **2017**, 45, 1852-1864	4.7	8
58	A Mock Circulatory System Incorporating a Compliant 3D-Printed Anatomical Model to Investigate Pulmonary Hemodynamics. *Artificial Organs*, **2017**, 41, 637-646	2.6	19
57	The Effect of Strut Protrusion on Shear Stress Distribution: Hemodynamic Insights From a Prospective Clinical Trial. *JACC: Cardiovascular Interventions*, **2017**, 10, 1803-1805	5	7
56	Local Hemodynamic Forces After Stenting: Implications on Restenosis and Thrombosis. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **2017**, 37, 2231-2242	9.4	51
55	The effect of strut thickness on shear stress distribution in a preclinical model. *International Journal of Cardiovascular Imaging*, **2017**, 33, 1675-1676	2.5	1
54	Non-Newtonian pulsatile shear stress assessment: a method to differentiate bioresorbable scaffold platforms. *European Heart Journal*, **2017**, 38, 2570	9.5	7

53	Assessment of the hemodynamic characteristics of Absorb BVS in a porcine coronary artery model. *International Journal of Cardiology*, **2017**, 227, 467-473	3.2	11
52	Five-year follow-up of underexpanded and overexpanded bioresorbable scaffolds: self-correction and impact on shear stress. *EuroIntervention*, **2017**, 12, 2158-2159	3.1	6
51	Difference in haemodynamic microenvironment in vessels scaffolded with Absorb BVS and Mirage BRMS: insights from a preclinical endothelial shear stress study. *EuroIntervention*, **2017**, 13, 1327-1335	3.1	13
50	Intravascular multimodality imaging: feasibility and role in the evaluation of coronary plaque pathology. *European Heart Journal Cardiovascular Imaging*, **2017**, 18, 613-620	4.1	10
49	Vulnerable plaque detection: an unrealistic quest or a feasible objective with a clinical value?. *Heart* , **2016**, 102, 581-9	5.1	23
48	Early coverage of drug-eluting stents analysed by optical coherence tomography: evidence of the impact of stent apposition and strut characteristics on the neointimal healing process. *EuroIntervention*, **2016**, 12, e605-14	3.1	13
47	Bioresorbable vascular scaffold radial expansion and conformation compared to a metallic platform: insights from in vitro expansion in a coronary artery lesion model. *EuroIntervention*, **2016**, 12, 834-44	3.1	10
46	Preclinical assessment of the endothelial shear stress in porcine-based models following implantation of two different bioresorbable scaffolds: effect of scaffold design on the local haemodynamic micro-environment. *EuroIntervention*, **2016**, 12, 1296	3.1	12
45	Importance of Stress Mapping of Aortic Wall in Aortic Valve Disease. *Journal of the American College of Cardiology*, **2016**, 67, 1755-6	15.1	2
44	The Nidus for Possible Thrombus Formation: Insight From the Microenvironment of Bioresorbable Vascular Scaffold. *JACC: Cardiovascular Interventions*, **2016**, 9, 2167-2168	5	27
43	A Technical Review of Minimally Invasive Mitral Valve Replacements. *Cardiovascular Engineering and Technology*, **2015**, 6, 174-84	2.2	23
42	Local Hemodynamics: An Innocent Bystander or a Critical Factor Regulating Neoatherosclerotic Evolution?. *JACC: Cardiovascular Interventions*, **2015**, 8, e149-e150	5	2
41	Characterisation of spatiotemporal aortic flow and aortic wall biomechanics in coarctation. *Global Cardiology Science & Practice*, **2015**, 2015, 45	0.7	3
40	Estimation of element-based zero-stress state for arterial FSI computations. *Computational Mechanics*, **2014**, 54, 895-910	4	40
39	Patient-specific coronary stenoses can be modeled using a combination of OCT and flow velocities to accurately predict hyperemic pressure gradients. *IEEE Transactions on Biomedical Engineering*, **2014**, 61, 1902-13	5	13
38	Coronary arterial dynamics computation with medical-image-based time-dependent anatomical models and element-based zero-stress state estimates. *Computational Mechanics*, **2014**, 54, 1047-1053	4	39
37	Incomplete stent apposition causes high shear flow disturbances and delay in neointimal coverage as a function of strut to wall detachment distance: implications for the management of incomplete stent apposition. *Circulation: Cardiovascular Interventions*, **2014**, 7, 180-9	6	151
36	Impact of stent strut design in metallic stents and biodegradable scaffolds. *International Journal of Cardiology*, **2014**, 177, 800-8	3.2	106

35	Quantitative assessment of right ventricular structure and flow dynamics in pulmonary homograft obstruction. *Global Cardiology Science & Practice*, **2014**, 2014, 350-3	0.7	2
34	Method for percutaneously introducing, and removing, anatomical stenosis of predetermined severity in vivo: the "stenotic stent". *Journal of Cardiovascular Translational Research*, **2013**, 6, 640-8	3.3	3
33	Predicting impending rupture of the ascending aorta with bicuspid aortic valve: spatiotemporal flow and wall shear stress. *JACC: Cardiovascular Imaging*, **2013**, 6, 1017-9	8.4	10
32	Location of side branch access critically affects results in bifurcation stenting: Insights from bench modeling and computational flow simulation. *International Journal of Cardiology*, **2013**, 168, 3623-8	3.2	51
31	Crush, culotte, T and protrusion: which 2-stent technique for treatment of true bifurcation lesions? - insights from in vitro experiments and micro-computed tomography. *Circulation Journal*, **2013**, 77, 73-80	2.9	41
30	Integrated morphologic and functional assessment of the aortic root after different tissue valve root replacement procedures. *Journal of Thoracic and Cardiovascular Surgery*, **2012**, 143, 1422-8	1.5	28
29	Comparison of Aortic Flow Patterns Before and After Transcatheter Aortic Valve Implantation. *Cardiovascular Engineering and Technology*, **2012**, 3, 123-135	2.2	16
28	An integrated geometric modelling framework for patient-specific computational haemodynamic study on wide-ranged vascular network. *Computer Methods in Biomechanics and Biomedical Engineering*, **2012**, 15, 615-25	2.1	4
27	Kissing balloon or sequential dilation of the side branch and main vessel for provisional stenting of bifurcations: lessons from micro-computed tomography and computational simulations. *JACC: Cardiovascular Interventions*, **2012**, 5, 47-56	5	101
26	Patient-specific modeling and multi-scale blood simulation for computational hemodynamic study on the human cerebrovascular system. *Current Pharmaceutical Biotechnology*, **2012**, 13, 2153-65	2.6	17
25	Computational biomechanics of the aortic root. *Aswan Heart Centre Science & Practice Series*, **2011**, 2011,		6
24	Influencing factors in image-based fluid–structure interaction computation of cerebral aneurysms. *International Journal for Numerical Methods in Fluids*, **2011**, 65, 324-340	1.9	49
23	MR image-based geometric and hemodynamic investigation of the right coronary artery with dynamic vessel motion. *Annals of Biomedical Engineering*, **2010**, 38, 2606-20	4.7	32
22	Role of 0D peripheral vasculature model in fluid–structure interaction modeling of aneurysms. *Computational Mechanics*, **2010**, 46, 43-52	4	56
21	Influence of wall thickness on fluid–structure interaction computations of cerebral aneurysms. *International Journal for Numerical Methods in Biomedical Engineering*, **2010**, 26, 336-347	2.6	73
20	Computational modeling of LDL and albumin transport in an in vivo CT image-based human right coronary artery. *Journal of Biomechanical Engineering*, **2009**, 131, 021003	2.1	37
19	Stress phase angle depicts differences in coronary artery hemodynamics due to changes in flow and geometry after percutaneous coronary intervention. *American Journal of Physiology - Heart and Circulatory Physiology*, **2009**, 296, H765-76	5.2	25
18	Fluid–structure interaction analysis of a patient-specific right coronary artery with physiological velocity and pressure waveforms. *Communications in Numerical Methods in Engineering*, **2009**, 25, 565-580		88

17	Fluid–structure interaction modeling of blood flow and cerebral aneurysm: Significance of artery and aneurysm shapes. *Computer Methods in Applied Mechanics and Engineering*, **2009**, 198, 3613-3621	5.7	115
16	Fluid–structure interaction modeling of a patient-specific cerebral aneurysm: influence of structural modeling. *Computational Mechanics*, **2008**, 43, 151-159	4	127
15	Numerical investigation of the effect of hypertensive blood pressure on cerebral aneurysm–Dependence of the effect on the aneurysm shape. *International Journal for Numerical Methods in Fluids*, **2007**, 54, 995-1009	1.9	71
14	A computational study on the influence of catheter-delivered intravascular probes on blood flow in a coronary artery model. *Journal of Biomechanics*, **2007**, 40, 2501-9	2.9	20
13	Influence of wall elasticity in patient-specific hemodynamic simulations. *Computers and Fluids*, **2007** , 36, 160-168	2.8	132
12	Numerical evaluation of elastic models in blood flow–arterial wall interaction. *International Journal of Computational Fluid Dynamics*, **2006**, 20, 223-228	1.2	7
11	Computer modeling of cardiovascular fluid–structure interactions with the deforming-spatial-domain/stabilized space–time formulation. *Computer Methods in Applied Mechanics and Engineering*, **2006**, 195, 1885-1895	5.7	137
10	Fluid–Structure Interaction Modeling of Aneurysmal Conditions with High and Normal Blood Pressures. *Computational Mechanics*, **2006**, 38, 482-490	4	141
9	Modelling of inflow boundary conditions for image-based simulation of cerebrovascular flow. *International Journal for Numerical Methods in Fluids*, **2005**, 47, 603-617	1.9	19
8	Role of the bloodstream impacting force and the local pressure elevation in the rupture of cerebral aneurysms. *Stroke*, **2005**, 36, 1933-8	6.7	85
7	Magnitude and role of wall shear stress on cerebral aneurysm: computational fluid dynamic study of 20 middle cerebral artery aneurysms. *Stroke*, **2004**, 35, 2500-5	6.7	594
6	Influence of Wall Elasticity on Image-Based Blood Flow Simulations. *Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A*, **2004**, 70, 1224-1231		45
5	Finite element simulation of blood flow in the cerebral artery. *Computer Methods in Applied Mechanics and Engineering*, **2001**, 191, 661-671	5.7	72
4	Numerical Simulation System for Blood Flow in the Cerebral Artery Using CT Imaging Data. *JSME International Journal Series C-Mechanical Systems Machine Elements and Manufacturing*, **2001**, 44, 982-989		13
3	F-0819 Fluid Structure Interaction Analysis of Curved Pipe Similar to Internal Carotid Artery. *The Proceedings of the JSME Annual Meeting*, **2001**, IV.01.1, 37-38		
2	1B43 Fluid-Structure Interaction Analysis of Growth of Cerebral Aneurysm. *Proceedings of the JSME Bioengineering Conference and Seminar*, **2001**, 2001.12, 71-72		
1	Estimation of Smoothing Error in Applying the Computed Tomography to Hemodynamic Numerical Simulations. *The Proceedings of the JSME Annual Meeting*, **2000**, 2000.1, 261-262		1