Alberto Cl Redaelli

List of Publications by Year
in descending order

268 papers	8,457 citations	47 h-index	83 g-index
		47006	56724
272 all docs	272 docs citations	272 times ranked	8706 citing authors

#	Article	IF	Citations
1	Hierarchical Structure and Nanomechanics of Collagen Microfibrils from the Atomistic Scale Up. Nano Letters, 2011, 11, 757-766.	9.1	550
2	Molecular and Nanostructural Mechanisms of Deformation, Strength and Toughness of Spider Silk Fibrils. Nano Letters, 2010, 10, 2626-2634.	9.1	362
3	Beating heart on a chip: a novel microfluidic platform to generate functional 3D cardiac microtissues. Lab on A Chip, 2016, 16, 599-610.	6.0	322
4	Fluidâ€“structure interaction within realistic three-dimensional models of the aneurysmatic aorta as a guidance to assess the risk of rupture of the aneurysm. Medical Engineering and Physics, 2001, 23, 647-655.	1.7	301
5	Possible role of decorin glycosaminoglycans in fibril to fibril force transfer in relative mature tendonsâ€”a computational study from molecular to microstructural level. Journal of Biomechanics, 2003, 36, 1555-1569.	2.1	229
6	Review: Engineering of thermostable enzymes for industrial applications. APL Bioengineering, 2018, 2, 011501.	6.2	202
7	In Vivo Quantification of Helical Blood Flow in Human Aorta by Time-Resolved Three-Dimensional Cine Phase Contrast Magnetic Resonance Imaging. Annals of Biomedical Engineering, 2009, 37, 516-531.	2.5	191
8	Mechanistic insight into the physiological relevance of helical blood flow in the human aorta: an in vivo study. Biomechanics and Modeling in Mechanobiology, 2011, 10, 339-355.	2.8	190
9	Platelet Activation Due to Hemodynamic Shear Stresses: Damage Accumulation Model and Comparison to In Vitro Measurements. ASAIO Journal, 2008, 54, 64-72.	1.6	188
10	Advanced glycation end-products: Mechanics of aged collagen from molecule to tissue. Matrix Biology, 2017, 59, 95-108.	3.6	186
11	Helical flow as fluid dynamic signature for atherogenesis risk in aortocoronary bypass. A numeric study. Journal of Biomechanics, 2007, 40, 519-534.	2.1	157
12	Deformation rate controls elasticity and unfolding pathway of single tropocollagen molecules. Journal of the Mechanical Behavior of Biomedical Materials, 2009, 2, 130-137.	3.1	155
13	Viscoelastic properties of model segments of collagen molecules. Matrix Biology, 2012, 31, 141-149.	3.6	144
14	The Geoform Disease-Specific Annuloplasty System: A Finite Element Study. Annals of Thoracic Surgery, 2007, 84, 92-101.	1.3	126
15	Molecular and Mesoscale Mechanisms of Osteogenesis Imperfecta Disease in Collagen Fibrils. Biophysical Journal, 2009, 97, 857-865.	0.5	123
16	Numerical simulation of the dynamics of a bileaflet prosthetic heart valve using a fluidâ€“structure interaction approach. Journal of Biomechanics, 2008, 41, 2539-2550.	2.1	119
17	Toward patient-specific simulations of cardiac valves: State-of-the-art and future directions. Journal of Biomechanics, 2013, 46, 217-228.	2.1	119
18	Age- and diabetes-related nonenzymatic crosslinks in collagen fibrils: Candidate amino acids involved in Advanced Glycation End-products. Matrix Biology, 2014, 34, 89-95.	3.6	113

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19	Biomechanical implications of the congenital bicuspid aortic valve: A finite element study of aortic root function from in vivo data. Journal of Thoracic and Cardiovascular Surgery, 2010, 140, 890-896.e2.	0.8	109
20	Estimation of the binding force of the collagen molecule-decorin core protein complex in collagen fibril. Journal of Biomechanics, 2005, 38, 433-443.	2.1	105
21	Mitral valve finite-element modelling from ultrasound data: a pilot study for a new approach to understand mitral function and clinical scenarios. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2008, 366, 3411-3434.	3.4	102
22	Coarse-Grained Model of Collagen Molecules Using an Extended MARTINI Force Field. Journal of Chemical Theory and Computation, 2010, 6, 1210-1218.	5.3	94
23	On the importance of blood rheology for bulk flow in hemodynamic models of the carotid bifurcation. Journal of Biomechanics, 2011, 44, 2427-2438.	2.1	93
24	Mitral Valve Patient-Specific Finite Element Modeling from Cardiac MRI: Application to an Annuloplasty Procedure. Cardiovascular Engineering and Technology, 2011, 2, 66-76.	1.6	93
25	Anisotropic Elastic Network Modeling of Entire Microtubules. Biophysical Journal, 2010, 99, 2190-2199.	0.5	91
26	The hemodynamic effects of double-orifice valve repair for mitral regurgitation: a 3D computational model1. European Journal of Cardio-thoracic Surgery, 1999, 15, 419-425.	1.4	85
27	Dynamic finite element analysis of the aortic root from MRI-derived parameters. Medical Engineering and Physics, 2010, 32, 212-221.	1.7	82
28	Outflow Conditions for Image-Based Hemodynamic Models of the Carotid Bifurcation: Implications for Indicators of Abnormal Flow. Journal of Biomechanical Engineering, 2010, 132, 091005.	1.3	80
29	Transcatheter Edge-to-Edge Treatment ofÂFunctional Tricuspid Regurgitation inÂanÂExÂVivo Pulsatile Heart Model. Journal of the American College of Cardiology, 2016, 68, 1024-1033.	2.8	79
30	Impact of modeling fluidâ€“structure interaction in the computational analysis of aortic root biomechanics. Medical Engineering and Physics, 2013, 35, 1721-1730.	1.7	76
31	High-Throughput Microfluidic Platform for 3D Cultures of Mesenchymal Stem Cells, Towards Engineering Developmental Processes. Scientific Reports, 2015, 5, 10288.	3.3	76
32	Restricted cusp motion in right-left type of bicuspid aortic valves: A new risk marker for aortopathy. Journal of Thoracic and Cardiovascular Surgery, 2012, 144, 360-369.e1.	0.8	74
33	3-D computational analysis of the stress distribution on the leaflets after edge-to-edge repair of mitral regurgitation. Journal of Heart Valve Disease, 2002, 11, 810-22.	0.5	72
34	An Annular Prosthesis for the Treatment of Functional Mitral Regurgitation: Finite Element Model Analysis of a Dog Boneâ€“Shaped Ring Prosthesis. Annals of Thoracic Surgery, 2005, 79, 1268-1275.	1.3	70
35	Impact of different aortic valve calcification patterns on the outcome of transcatheter aortic valve implantation: A finite element study. Journal of Biomechanics, 2016, 49, 2520-2530.	2.1	69
36	Hydration and distance dependence of intermolecular shearing between collagen molecules in a model microfibril. Journal of Biomechanics, 2012, 45, 2079-2083.	2.1	67

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37	Molecular assessment of the elastic properties of collagen-like homotrimer sequences. Biomechanics and Modeling in Mechanobiology, 2005, 3, 224-234.	2.8	66
38	Blood damage safety of prosthetic heart valves. Shear-induced platelet activation and local flow dynamics: A fluidâ€“structure interaction approach. Journal of Biomechanics, 2009, 42, 1952-1960.	2.1	66
39	Single molecule effects of osteogenesis imperfecta mutations in tropocollagen protein domains. Protein Science, 2009, 18, 161-168.	7.6	61
40	Modeling and measuring visco-elastic properties: From collagen molecules to collagen fibrils. International Journal of Non-Linear Mechanics, 2013, 56, 25-33.	2.6	58
41	Microfabricated polyester conical microwells for cell culture applications. Lab on A Chip, 2011, 11, 2325.	6.0	57
42	Fabrication of 3D cell-laden hydrogel microstructures through photo-mold patterning. Biofabrication, 2013, 5, 035002.	7.1	55
43	Do cardiac stabilizers really stabilize? Experimental quantitative analysis of mechanical stabilization. Interactive Cardiovascular and Thoracic Surgery, 2005, 4, 222-226.	1.1	51
44	Hemodynamic and thrombogenic analysis of a trileaflet polymeric valve using a fluidâ€“structure interaction approach. Journal of Biomechanics, 2015, 48, 3641-3649.	2.1	51
45	Aortic root performance after valve sparing procedure: A comparative finite element analysis. Medical Engineering and Physics, 2009, 31, 234-243.	1.7	50
46	Quantitative Analysis of Bulk Flow in Image-Based Hemodynamic Models of the Carotid Bifurcation: The Influence of Outflow Conditions as Test Case. Annals of Biomedical Engineering, 2010, 38, 3688-3705.	2.5	50
47	Mechanical properties of physiological and pathological models of collagen peptides investigated via steered molecular dynamics simulations. Journal of Biomechanics, 2008, 41, 3073-3077.	2.1	49
48	Tubulin: from atomistic structure to supramolecular mechanical properties. Journal of Materials Science, 2007, 42, 8864-8872.	3.7	45
49	Poroelastic finite element analysis of a bone specimen under cyclic loading. Journal of Biomechanics, 1999, 32, 135-144.	2.1	44
50	Computational analysis of the ductus venosus fluid dynamics based on Doppler measurements. Ultrasound in Medicine and Biology, 1996, 22, 1017-1029.	1.5	43
51	In vitro hemodynamics and valve imaging in passive beating hearts. Journal of Biomechanics, 2012, 45, 1133-1139.	2.1	42
52	Mitral Valve Finite Element Modeling: Implications of Tissuesâ€™ Nonlinear Response and Annular Motion. Journal of Biomechanical Engineering, 2009, 131, 121010.	1.3	41
53	Womersley Number-Based Estimates of Blood Flow Rate in Doppler Analysis: In Vivo Validation by Means of Phase-Contrast MRI. IEEE Transactions on Biomedical Engineering, 2010, 57, 1807-1815.	4.2	41
54	Platelet activation is a preoperative risk factor for the development of thromboembolic complications in patients with continuousâ€flow left ventricular assist device. European Journal of Heart Failure, 2018, 20, 792-800.	7.1	40

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55	Finite element modelling of the tricuspid valve: A preliminary study. Medical Engineering and Physics, 2010, 32, 1213-1223.	1.7	39
56	A microfluidic platform for controlled biochemical stimulation of twin neuronal networks. Biomicrofluidics, 2012, 6, 024106.	2.4	37
57	Computational evaluation of the thrombogenic potential of a hollow-fiber oxygenator with integrated heat exchanger during extracorporeal circulation. Biomechanics and Modeling in Mechanobiology, 2014, 13, 349-361.	2.8	36
58	A novel passive left heart platform for device testing and research. Medical Engineering and Physics, 2015, 37, 361-366.	1.7	36
59	High Frequency Components of Hemodynamic Shear Stress Profiles are a Major Determinant of Shear-Mediated Platelet Activation in Therapeutic Blood Recirculating Devices. Scientific Reports, 2017, 7, 4994.	3.3	36
60	A microscale biomimetic platform for generation and electro-mechanical stimulation of 3D cardiac microtissues. APL Bioengineering, 2018, 2, 046102.	6.2	36
61	Evaluation of 4D flow MRI-based non-invasive pressure assessment in aortic coarctations. Journal of Biomechanics, 2019, 94, 13-21.	2.1	35
62	A Computational Study of the Hemodynamics After â€œEdge-to-Edgeâ€•Mitral Valve Repair. Journal of Biomechanical Engineering, 2001, 123, 565-570.	1.3	34
63	Mitral leaflet modeling: Importance of in vivo shape and material properties. Journal of Biomechanics, 2011, 44, 2229-2235.	2.1	32
64	Shape of Aquatic Animals and Their Swimming Efficiency. Journal of Marine Biology, 2014, 2014, 1-9.	1.0	32
65	Recapitulating monocyte extravasation to the synovium in an organotypic microfluidic model of the articular joint. Biofabrication, 2021, 13, 045001.	7.1	32
66	Aspirin has limited ability to modulate shear-mediated platelet activation associated with elevated shear stress of ventricular assist devices. Thrombosis Research, 2016, 140, 110-117.	1.7	31
67	Aortic flow after valve sparing root replacement with or without neosinuses reconstruction. Journal of Thoracic and Cardiovascular Surgery, 2019, 157, 455-465.	0.8	31
68	Electrical conditioning of adiposeâ€derived stem cells in a multiâ€chamber culture platform. Biotechnology and Bioengineering, 2014, 111, 1452-1463.	3.3	30
69	Thrombotic Risk of Rotor Speed Modulation Regimes of Contemporary Centrifugal Continuous-flow Left Ventricular Assist Devices. ASAIO Journal, 2021, 67, 737-745.	1.6	30
70	Reliable CFD-based estimation of flow rate in haemodynamics measures. Ultrasound in Medicine and Biology, 2006, 32, 1545-1555.	1.5	29
71	How to predict diffusion of medium-sized molecules in polymer matrices. From atomistic to coarse grain simulations. Journal of Molecular Modeling, 2010, 16, 1845-1851.	1.8	29
72	A Novel Approach to the In Vitro Hydrodynamic Study of the Aortic Valve: Mock Loop Development and Test. ASAIO Journal, 2010, 56, 279-284.	1.6	28

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73	Is it possible to assess the best mitral valve repair in the individual patient? Preliminary results of a finite element study from magnetic resonance imaging data. Journal of Thoracic and Cardiovascular Surgery, 2014, 148, 1025-1034.	0.8	28
74	Blood damage in Left Ventricular Assist Devices: Pump thrombosis or system thrombosis?. International Journal of Artificial Organs, 2019, 42, 113-124.	1.4	28
75	Patient-Specific Bicuspid Aortic Valve Biomechanics: A Magnetic Resonance Imaging Integrated Fluidâ€“Structure Interaction Approach. Annals of Biomedical Engineering, 2021, 49, 627-641.	2.5	28
76	A Computational Model for the Optimization of Transport Phenomena in a Rotating Hollow-Fiber Bioreactor for Artificial Liver. Tissue Engineering - Part C: Methods, 2009, 15, 41-55.	2.1	27
77	Mechanical Model of the Tubulin Dimer Based on Molecular Dynamics Simulations. Journal of Biomechanical Engineering, 2008, 130, 041008.	1.3	26
78	Nanomechanics of collagen microfibrils. Muscles, Ligaments and Tendons Journal, 2013, 3, 23-34.	0.3	26
79	Mechanical response and conformational changes of alpha-actinin domains during unfolding: a molecular dynamics study. Biomechanics and Modeling in Mechanobiology, 2007, 6, 399-407.	2.8	25
80	Reliable magnetic reversible assembly of complex microfluidic devices: fabrication, characterization, and biological validation. Microfluidics and Nanofluidics, 2011, 10, 1097-1107.	2.2	25
81	In vitro and in silico approaches to quantify the effects of the Mitraclip Â® system on mitral valve function. Journal of Biomechanics, 2017, 50, 83-92.	2.1	25
82	3-D simulation of the St. Jude Medical bileaflet valve opening process: fluid-structure interaction study and experimental validation. Journal of Heart Valve Disease, 2004, 13, 804-13.	0.5	25
83	Computational modeling for the optimization of a cardiogenic 3D bioprocess of encapsulated embryonic stem cells. Biomechanics and Modeling in Mechanobiology, 2012, 11, 261-277.	2.8	24
84	Immediate Impact of Prosthetic Graft Replacement of the Ascending Aorta on Circumferential Strain in the Descending Aorta. European Journal of Vascular and Endovascular Surgery, 2019, 58, 521-528.	1.5	24
85	Intermolecular slip mechanism in tropocollagen nanofibrils. International Journal of Materials Research, 2009, 100, 921-925.	0.3	23
86	A Bioreactor with Compliance Monitoring for Heart Valve Grafts. Annals of Biomedical Engineering, 2010, 38, 100-108.	2.5	23
87	Functional and Biomechanical Effects of the Edge-to-Edge Repair in the Setting of Mitral Regurgitation: Consolidated Knowledge and Novel Tools to Gain Insight into Its Percutaneous Implementation. Cardiovascular Engineering and Technology, 2015, 6, 117-140.	1.6	23
88	Applications of augmented reality in the neurosurgical operating room: A systematic review of the literature. Journal of Clinical Neuroscience, 2021, 91, 43-61.	1.5	23
89	Physiologic flow-conditioning limits vascular dysfunction in engineered human capillaries. Biomaterials, 2022, 280, 121248.	11.4	23
90	Bubble Tracking Through Computational Fluid Dynamics in Arterial Line Filters for Cardiopulmonary Bypass. ASAIO Journal, 2009, 55, 438-444.	1.6	22

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91	Microfluidic emulation of mechanical circulatory support device shear-mediated platelet activation. Biomedical Microdevices, 2015, 17, 117.	2.8	22
92	Generating Multicompartmental 3D Biological Constructs Interfaced through Sequential Injections in Microfluidic Devices. Advanced Healthcare Materials, 2017, 6, 1601170.	7.6	22
93	Micro-electrode channel guide (ÂµECG) technology: an online method for continuous electrical recording in a human beating heart-on-chip. Biofabrication, 2021, 13, 035026.	7.1	22
94	Biomechanical drawbacks of different techniques of mitral neochordal implantation: When an apparently optimal repair can fail. Journal of Thoracic and Cardiovascular Surgery, 2015, 150, 1303-1312.e4.	0.8	21
95	Novel insights by 4D Flow imaging on aortic flow physiology after valve-sparing root replacement with or without neosinusesâ€. Interactive Cardiovascular and Thoracic Surgery, 2018, 26, 957-964.	1.1	21
96	The assignment of velocity profiles in finite element simulations of pulsatile flow in arteries. Computers in Biology and Medicine, 1997, 27, 233-247.	7.0	20
97	Intraventricular pressure drop and aortic blood acceleration as indices of cardiac inotropy: a comparison with the first derivative of aortic pressure based on computer fluid dynamics. Medical Engineering and Physics, 1998, 20, 231-241.	1.7	20
98	Hemolysate-mediated platelet aggregation: an additional risk mechanism contributing to thrombosis of continuous flow ventricular assist devices. Perfusion (United Kingdom), 2016, 31, 401-408.	1.0	20
99	In vitro assessment of mitral valve function in cyclically pressurized porcine hearts. Medical Engineering and Physics, 2016, 38, 346-353.	1.7	20
100	Comparison of the Performance of a Sutureless Bioprosthesis With Two Pericardial Stented Valves on Small Annuli: An InÂVitro Study. Annals of Thoracic Surgery, 2017, 103, 139-144.	1.3	20
101	3-Dimensional personalized planning for transcatheter pulmonary valve implantation in a dysfunctional right ventricular outflow tract. International Journal of Cardiology, 2020, 309, 33-39.	1.7	20
102	Doppler derived quantitative flow estimate in coronary artery bypass graft: A computational multiscale model for the evaluation of the current clinical procedure. Medical Engineering and Physics, 2008, 30, 809-816.	1.7	19
103	Influence of the aortic valve leaflets on the fluid-dynamics in aorta in presence of a normally functioning bicuspid valve. Biomechanics and Modeling in Mechanobiology, 2015, 14, 1349-1361.	2.8	19
104	Microfabricated Physiological Models for In Vitro Drug Screening Applications. Micromachines, 2016, 7, 233.	2.9	19
105	Thermal stabilization of the deglycating enzyme Amadoriase I by rational design. Scientific Reports, 2018, 8, 3042.	3.3	19
106	Synthetic dataset generation for the analysis and the evaluation of image-based hemodynamics of the human aorta. Medical and Biological Engineering and Computing, 2012, 50, 145-154.	2.8	18
107	Aortic Root Biomechanics After Sleeve and David Sparing Techniques: A Finite ElementÂAnalysis. Annals of Thoracic Surgery, 2017, 103, 1451-1459.	1.3	18
108	Prediction of stenting related adverse events through patient-specific finite element modelling. Journal of Biomechanics, 2018, 79, 135-146.	2.1	18

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109	Aortic hemodynamics assessment prior and after valve sparing reconstruction: A patient-specific 4D flow-based FSI model. Computers in Biology and Medicine, 2021, 135, 104581.	7.0	18
110	Development of a New Disposable Pulsatile Pump for Cardiopulmonary Bypass: Computational Fluid-Dynamic Design and In Vitro Tests. ASAIO Journal, 2002, 48, 260-267.	1.6	17
111	Computational and Functional Evaluation of a Microfluidic Blood Flow Device. ASAIO Journal, 2007, 53, 447-455.	1.6	17
112	Computer-Aided Molecular Modeling and Experimental Validation of Water Permeability Properties in Biosynthetic Materials. Journal of Computational and Theoretical Nanoscience, 2010, 7, 1287-1293.	0.4	17
113	Microfluidic Approaches for the Assessment of Blood Cell Trauma: A Focus on Thrombotic Risk in Mechanical Circulatory Support Devices. International Journal of Artificial Organs, 2016, 39, 184-193.	1.4	17
114	Prothrombotic activity of cytokine-activated endothelial cells and shear-activated platelets in the setting of ventricular assist device support. Journal of Heart and Lung Transplantation, 2019, 38, 658-667.	0.6	17
115	Left ventricular modelling: a quantitative functional assessment tool based on cardiac magnetic resonance imaging. Interface Focus, 2011, 1, 384-395.	3.0	16
116	Fluid-dynamic results of in vitro comparison of four pericardial bioprostheses implanted in small porcine aortic roots. European Journal of Cardio-thoracic Surgery, 2015, 47, e62-e67.	1.4	16
117	Dynamic and quantitative evaluation of degenerative mitral valve disease: a dedicated framework based on cardiac magnetic resonance imaging. Journal of Thoracic Disease, 2017, 9, S225-S238.	1.4	16
118	Design and validation of a microfluidic device for bloodâ€“brain barrier monitoring and transport studies. Journal of Micromechanics and Microengineering, 2018, 28, 044001.	2.6	16
119	Influence of Different Antithrombotic Regimens on Platelet-Mediated Thrombin Generation in Patients with Left Ventricular Assist Devices. ASAIO Journal, 2020, 66, 415-422.	1.6	16
120	Prosthetic aortic graft replacement of the ascending thoracic aorta alters biomechanics of the native descending aorta as assessed by transthoracic echocardiography. PLoS ONE, 2020, 15, e0230208.	2.5	16
121	Osteogenesis imperfecta mutations lead to local tropocollagen unfolding and disruption of H-bond network. RSC Advances, 2012, 2, 3890.	3.6	15
122	On the Use of the Platelet Activity State Assay for the In Vitro Quantification of Platelet Activation in Blood Recirculating Devices for Extracorporeal Circulation. Artificial Organs, 2016, 40, 971-980.	1.9	15
123	Nanostructure and stability of calcitonin amyloids. Journal of Biological Chemistry, 2017, 292, 7348-7357.	3.4	15
124	Routine clinical anti-platelet agents have limited efficacy in modulating hypershear-mediated platelet activation associated with mechanical circulatory support. Thrombosis Research, 2018, 163, 162-171.	1.7	15
125	A Simple Vacuumâ€Based Microfluidic Technique to Establish Highâ€Throughput Organsâ€Onâ€Chip and 3D Cell Cultures at the Microscale. Advanced Materials Technologies, 2019, 4, 1800319.	5.8	15
126	Molecular dynamics simulations provide insights into the substrate specificity of FAOX family members. Molecular BioSystems, 2016, 12, 2622-2633.	2.9	14

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127	An experimental and computational study of the inferior vena cava hemodynamics under respiratory-induced collapse of the infrarenal IVC. Medical Engineering and Physics, 2018, 54, 44-55.	1.7	14
128	Shear-Mediated Platelet Activation Enhances Thrombotic Complications in Patients With LVADs and Is Reversed After Heart Transplantation. ASAIO Journal, 2019, 65, e33-e35.	1.6	14
129	Assessing the influence of perfusion on cardiac microtissue maturation: A heartâ€onâ€chip platform embedding peristaltic pump capabilities. Biotechnology and Bioengineering, 2021, 118, 3128-3137.	3.3	14
130	A Deep Learning-Based and Fully Automated Pipeline for Thoracic Aorta Geometric Analysis and Planning for Endovascular Repair from Computed Tomography. Journal of Digital Imaging, 2022, 35, 226-239.	2.9	14
131	Numerical Fluid-Dynamic Optimization of Microchannel-Provided Porous Scaffolds for the Co-Culture of Adherent and Non-Adherent Cells. Tissue Engineering - Part A, 2009, 15, 615-623.	3.1	13
132	The aortic interleaflet triangles annuloplasty: a multidisciplinary appraisalâ˜†. European Journal of Cardio-thoracic Surgery, 2011, 40, 851-7.	1.4	13
133	High-throughput microfluidic platform for adherent single cells non-viral gene delivery. RSC Advances, 2015, 5, 5087-5095.	3.6	13
134	Tailoring cardiac environment in microphysiological systems: an outlook on current and perspective heart-on-chip platforms. Future Science OA, 2017, 3, FSO191.	1.9	13
135	Flow dynamics of the St Jude Medical Symmetry aortic connector vein graft anastomosis do not contribute to the risk of acute thrombosis. Journal of Thoracic and Cardiovascular Surgery, 2004, 128, 117-123.	0.8	12
136	Interaction forces and interface properties of KIF1A kinesin-Î±Î² tubulin complex assessed by molecular dynamics. Journal of Biomechanics, 2008, 41, 3196-3201.	2.1	12
137	Womersley number-based estimation of flow rate with Doppler ultrasound: Sensitivity analysis and first clinical application. Computer Methods and Programs in Biomedicine, 2010, 98, 151-160.	4.7	12
138	Does the type of suture technique affect the fluid-dynamic performance of bioprostheses implanted in small aortic roots? Results from an inÂvitro study. Journal of Thoracic and Cardiovascular Surgery, 2015, 149, 912-918.	0.8	12
139	Molecular dynamics investigation of halogenated amyloidogenic peptides. Journal of Molecular Modeling, 2019, 25, 124.	1.8	12
140	Insights Into the Low Rate of In-Pump Thrombosis With the HeartMate 3: Does the Artificial Pulse Improve Washout?. Frontiers in Cardiovascular Medicine, 2022, 9, 775780.	2.4	12
141	An anatomy-based lumped parameter model of cerebrospinal venous circulation: can an extracranial anatomical change impact intracranial hemodynamics?. BMC Neurology, 2015, 15, 95.	1.8	11
142	Title is missing!. Meccanica, 1997, 32, 53-70.	2.0	10
143	A numerical performance assessment of a commercial cardiopulmonary by-pass blood heat exchanger. Medical Engineering and Physics, 2015, 37, 584-592.	1.7	10
144	Platelet Adhesion and Thrombus Formation in Microchannels: The Effect of Assay-Dependent Variables. International Journal of Molecular Sciences, 2020, 21, 750.	4.1	10

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145	Prediction of post-stenting biomechanics in coarcted aortas: A pilot finite element study. Journal of Biomechanics, 2020, 105, 109796.	2.1	10
146	Comparison of Fourâ€Ðimensional Magnetic Resonance Imaging Analysis of Left Ventricular Fluid Dynamics and Energetics in Ischemic and Restrictive Cardiomyopathies. Journal of Magnetic Resonance Imaging, 2022, 56, 1157-1170.	3.4	10
147	Influence of Mitral Valve Anterior Leaflet in vivo Shape on Left Ventricular Ejection. Cardiovascular Engineering and Technology, 2012, 3, 388-401.	1.6	9
148	Intracardiac Visualization of Transcatheter Aortic Valve and Valve-in-Valve Implantation in an In Vitro Passive Beating Heart. JACC: Cardiovascular Interventions, 2013, 6, 92-93.	2.9	9
149	Microfludic platforms for the evaluation of anti-platelet agent efficacy under hyper-shear conditions associated with ventricular assist devices. Medical Engineering and Physics, 2017, 48, 31-38.	1.7	9
150	4D MDCT in the assessment of the tricuspid valve and its spatial relationship with the right coronary artery: A customized tool based on computed tomography for the planning of percutaneous procedures. Journal of Cardiovascular Computed Tomography, 2020, 14, 520-523.	1.3	9
151	Simulation of functional tricuspid regurgitation using an isolated porcine heart model. Journal of Heart Valve Disease, 2011, 20, 657-63.	0.5	9
152	Assessment of the influence of the compliant aortic root on aortic valve mechanics by means of a geometrical model. Medical Engineering and Physics, 1997, 19, 696-710.	1.7	8
153	FINITE ELEMENT SIMULATIONS OF THE PHYSIOLOGICAL AORTIC ROOT AND VALVE SPARING CORRECTIONS. Journal of Mechanics in Medicine and Biology, 2006, 06, 91-99.	0.7	8
154	Mechanisms of Polymyxin B Endotoxin Removal from Extracorporeal Blood Flow: Molecular Interactions. Contributions To Nephrology, 2010, 167, 45-54.	1.1	8
155	Shear-mediated platelet activation in patients implanted with continuous flow LVADs: A preliminary study utilizing the platelet activity state (PAS) assay. , 2015, 2015, 1255-8.		8
156	Microfluidic flow-based platforms for induction and analysis of dynamic shear-mediated platelet activationâ€"Initial validation versus the standardized hemodynamic shearing device. Biomicrofluidics, 2018, 12, 042208.	2.4	8
157	Rational backbone redesign of a fructosyl peptide oxidase to widen its active site access tunnel. Biotechnology and Bioengineering, 2020, 117, 3688-3698.	3.3	8
158	An assisted automated procedure for vessel geometry reconstruction and hemodynamic simulations from clinical imaging. Computerized Medical Imaging and Graphics, 2002, 26, 143-152.	5.8	7
159	MICROTUBULE-KINESIN MECHANICS BY MOLECULAR MODELING. Biophysical Reviews and Letters, 2009, 04, 45-61.	0.8	7
160	Lab-on-Chip for testing myelotoxic effect of drugs and chemicals. Microfluidics and Nanofluidics, 2015, 19, 935-940.	2.2	7
161	Systolic anterior motion after mitral valve repair: a predictive computational modelâ€. Interactive Cardiovascular and Thoracic Surgery, 2017, 25, 513-519.	1.1	7
162	In silico prediction of the in vitro behavior of polymeric gene delivery vectors. Nanoscale, 2021, 13, 8333-8342.	5.6	7

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163	Mesh updating in fluid-structure interactions in biomechanics: An iterative method based on an uncoupled approach. Annals of Biomedical Engineering, 1997, 25, 218-231.	2.5	6
164	Design of a microfluidic strategy for trapping and screening single cells. Medical Engineering and Physics, 2016, 38, 33-40.	1.7	6
165	Fluid dynamics characterization and thrombogenicity assessment of a levitating centrifugal pump with different impeller designs. Medical Engineering and Physics, 2020, 83, 26-33.	1.7	6
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