

Alberto Cl Redaelli

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

230
papers

6,618
citations

44
h-index

75
g-index

272
ext. papers

7,590
ext. citations

3.5
avg, IF

5.78
L-index

#	Paper	IF	Citations
230	Hierarchical structure and nanomechanics of collagen microfibrils from the atomistic scale up. <i>Nano Letters</i> , 2011 , 11, 757-66	11.5	442
229	Molecular and nanostructural mechanisms of deformation, strength and toughness of spider silk fibrils. <i>Nano Letters</i> , 2010 , 10, 2626-34	11.5	301
228	Fluid-structure interaction within realistic three-dimensional models of the aneurysmatic aorta as a guidance to assess the risk of rupture of the aneurysm. <i>Medical Engineering and Physics</i> , 2001 , 23, 647-55 ^{2.4}	2.4	243
227	Beating heart on a chip: a novel microfluidic platform to generate functional 3D cardiac microtissues. <i>Lab on A Chip</i> , 2016 , 16, 599-610	7.2	227
226	Possible role of decorin glycosaminoglycans in fibril to fibril force transfer in relative mature tendons--a computational study from molecular to microstructural level. <i>Journal of Biomechanics</i> , 2003 , 36, 1555-69	2.9	208
225	In vivo quantification of helical blood flow in human aorta by time-resolved three-dimensional cine phase contrast magnetic resonance imaging. <i>Annals of Biomedical Engineering</i> , 2009 , 37, 516-31	4.7	161
224	Mechanistic insight into the physiological relevance of helical blood flow in the human aorta: an in vivo study. <i>Biomechanics and Modeling in Mechanobiology</i> , 2011 , 10, 339-55	3.8	155
223	Platelet activation due to hemodynamic shear stresses: damage accumulation model and comparison to in vitro measurements. <i>ASAIO Journal</i> , 2008 , 54, 64-72	3.6	149
222	Deformation rate controls elasticity and unfolding pathway of single tropocollagen molecules. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2009 , 2, 130-7	4.1	138
221	Review: Engineering of thermostable enzymes for industrial applications. <i>APL Bioengineering</i> , 2018 , 2, 011501	6.6	135
220	Helical flow as fluid dynamic signature for atherogenesis risk in aortocoronary bypass. A numeric study. <i>Journal of Biomechanics</i> , 2007 , 40, 519-34	2.9	131
219	Advanced glycation end-products: Mechanics of aged collagen from molecule to tissue. <i>Matrix Biology</i> , 2017 , 59, 95-108	11.4	119
218	Viscoelastic properties of model segments of collagen molecules. <i>Matrix Biology</i> , 2012 , 31, 141-9	11.4	112
217	The Geoform disease-specific annuloplasty system: a finite element study. <i>Annals of Thoracic Surgery</i> , 2007 , 84, 92-101	2.7	112
216	Numerical simulation of the dynamics of a bileaflet prosthetic heart valve using a fluid-structure interaction approach. <i>Journal of Biomechanics</i> , 2008 , 41, 2539-50	2.9	101
215	Toward patient-specific simulations of cardiac valves: state-of-the-art and future directions. <i>Journal of Biomechanics</i> , 2013 , 46, 217-28	2.9	100
214	Molecular and mesoscale mechanisms of osteogenesis imperfecta disease in collagen fibrils. <i>Biophysical Journal</i> , 2009 , 97, 857-65	2.9	99

213	Estimation of the binding force of the collagen molecule-decorin core protein complex in collagen fibril. <i>Journal of Biomechanics</i> , 2005 , 38, 433-43	2.9	96
212	Biomechanical implications of the congenital bicuspid aortic valve: a finite element study of aortic root function from in vivo data. <i>Journal of Thoracic and Cardiovascular Surgery</i> , 2010 , 140, 890-6, 896.e1-2	1.5	92
211	Mitral valve finite-element modelling from ultrasound data: a pilot study for a new approach to understand mitral function and clinical scenarios. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2008 , 366, 3411-34	3	88
210	Age- and diabetes-related nonenzymatic crosslinks in collagen fibrils: candidate amino acids involved in Advanced Glycation End-products. <i>Matrix Biology</i> , 2014 , 34, 89-95	11.4	85
209	Anisotropic elastic network modeling of entire microtubules. <i>Biophysical Journal</i> , 2010 , 99, 2190-9	2.9	85
208	Coarse-Grained Model of Collagen Molecules Using an Extended MARTINI Force Field. <i>Journal of Chemical Theory and Computation</i> , 2010 , 6, 1210-1218	6.4	80
207	Mitral Valve Patient-Specific Finite Element Modeling from Cardiac MRI: Application to an Annuloplasty Procedure. <i>Cardiovascular Engineering and Technology</i> , 2011 , 2, 66-76	2.2	75
206	The hemodynamic effects of double-orifice valve repair for mitral regurgitation: a 3D computational model. <i>European Journal of Cardio-thoracic Surgery</i> , 1999 , 15, 419-25	3	74
205	On the importance of blood rheology for bulk flow in hemodynamic models of the carotid bifurcation. <i>Journal of Biomechanics</i> , 2011 , 44, 2427-38	2.9	72
204	Dynamic finite element analysis of the aortic root from MRI-derived parameters. <i>Medical Engineering and Physics</i> , 2010 , 32, 212-21	2.4	70
203	An annular prosthesis for the treatment of functional mitral regurgitation: finite element model analysis of a dog bone-shaped ring prosthesis. <i>Annals of Thoracic Surgery</i> , 2005 , 79, 1268-75	2.7	67
202	Restricted cusp motion in right-left type of bicuspid aortic valves: a new risk marker for aortopathy. <i>Journal of Thoracic and Cardiovascular Surgery</i> , 2012 , 144, 360-9, 369.e1	1.5	66
201	High-Throughput Microfluidic Platform for 3D Cultures of Mesenchymal Stem Cells, Towards Engineering Developmental Processes. <i>Scientific Reports</i> , 2015 , 5, 10288	4.9	64
200	3-D computational analysis of the stress distribution on the leaflets after edge-to-edge repair of mitral regurgitation. <i>Journal of Heart Valve Disease</i> , 2002 , 11, 810-22		62
199	Outflow conditions for image-based hemodynamic models of the carotid bifurcation: implications for indicators of abnormal flow. <i>Journal of Biomechanical Engineering</i> , 2010 , 132, 091005	2.1	58
198	Impact of modeling fluid-structure interaction in the computational analysis of aortic root biomechanics. <i>Medical Engineering and Physics</i> , 2013 , 35, 1721-30	2.4	56
197	Blood damage safety of prosthetic heart valves. Shear-induced platelet activation and local flow dynamics: a fluid-structure interaction approach. <i>Journal of Biomechanics</i> , 2009 , 42, 1952-60	2.9	56
196	Transcatheter Edge-to-Edge Treatment of Functional Tricuspid Regurgitation in an Ex Vivo Pulsatile Heart Model. <i>Journal of the American College of Cardiology</i> , 2016 , 68, 1024-33	15.1	55

195	Molecular assessment of the elastic properties of collagen-like homotrimer sequences. <i>Biomechanics and Modeling in Mechanobiology</i> , 2005 , 3, 224-34	3.8	55
194	Hydration and distance dependence of intermolecular shearing between collagen molecules in a model microfibril. <i>Journal of Biomechanics</i> , 2012 , 45, 2079-83	2.9	53
193	Microfabricated polyester conical microwells for cell culture applications. <i>Lab on A Chip</i> , 2011 , 11, 2325-32	3.2	52
192	Single molecule effects of osteogenesis imperfecta mutations in tropocollagen protein domains. <i>Protein Science</i> , 2009 , 18, 161-8	6.3	51
191	Fabrication of 3D cell-laden hydrogel microstructures through photo-mold patterning. <i>Biofabrication</i> , 2013 , 5, 035002	10.5	49
190	Aortic root performance after valve sparing procedure: a comparative finite element analysis. <i>Medical Engineering and Physics</i> , 2009 , 31, 234-43	2.4	47
189	Modeling and measuring visco-elastic properties: From collagen molecules to collagen fibrils. <i>International Journal of Non-Linear Mechanics</i> , 2013 , 56, 25-33	2.8	46
188	Do cardiac stabilizers really stabilize? Experimental quantitative analysis of mechanical stabilization. <i>Interactive Cardiovascular and Thoracic Surgery</i> , 2005 , 4, 222-6	1.8	46
187	Impact of different aortic valve calcification patterns on the outcome of transcatheter aortic valve implantation: A finite element study. <i>Journal of Biomechanics</i> , 2016 , 49, 2520-30	2.9	45
186	Quantitative analysis of bulk flow in image-based hemodynamic models of the carotid bifurcation: the influence of outflow conditions as test case. <i>Annals of Biomedical Engineering</i> , 2010 , 38, 3688-705	4.7	44
185	Mechanical properties of physiological and pathological models of collagen peptides investigated via steered molecular dynamics simulations. <i>Journal of Biomechanics</i> , 2008 , 41, 3073-7	2.9	43
184	Hemodynamic and thrombogenic analysis of a trileaflet polymeric valve using a fluid-structure interaction approach. <i>Journal of Biomechanics</i> , 2015 , 48, 3641-9	2.9	41
183	Computational analysis of the ductus venosus fluid dynamics based on Doppler measurements. <i>Ultrasound in Medicine and Biology</i> , 1996 , 22, 1017-29	3.5	39
182	Tubulin: from atomistic structure to supramolecular mechanical properties. <i>Journal of Materials Science</i> , 2007 , 42, 8864-8872	4.3	38
181	Poroelastic finite element analysis of a bone specimen under cyclic loading. <i>Journal of Biomechanics</i> , 1999 , 32, 135-44	2.9	36
180	Mitral valve finite element modeling: implications of tissue nonlinear response and annular motion. <i>Journal of Biomechanical Engineering</i> , 2009 , 131, 121010	2.1	34
179	In vitro hemodynamics and valve imaging in passive beating hearts. <i>Journal of Biomechanics</i> , 2012 , 45, 1133-9	2.9	33
178	Platelet activation is a preoperative risk factor for the development of thromboembolic complications in patients with continuous-flow left ventricular assist device. <i>European Journal of Heart Failure</i> , 2018 , 20, 792-800	12.3	31

177	A microfluidic platform for controlled biochemical stimulation of twin neuronal networks. <i>Biomicrofluidics</i> , 2012 , 6, 24106-2410610	3.2	31
176	Finite element modelling of the tricuspid valve: A preliminary study. <i>Medical Engineering and Physics</i> , 2010 , 32, 1213-23	2.4	31
175	Womersley number-based estimates of blood flow rate in Doppler analysis: in vivo validation by means of phase-contrast MRI. <i>IEEE Transactions on Biomedical Engineering</i> , 2010 , 57, 1807-15	5	30
174	Electrical conditioning of adipose-derived stem cells in a multi-chamber culture platform. <i>Biotechnology and Bioengineering</i> , 2014 , 111, 1452-63	4.9	29
173	Computational evaluation of the thrombogenic potential of a hollow-fiber oxygenator with integrated heat exchanger during extracorporeal circulation. <i>Biomechanics and Modeling in Mechanobiology</i> , 2014 , 13, 349-61	3.8	28
172	A computational study of the hemodynamics after "edge-to-edge" mitral valve repair. <i>Journal of Biomechanical Engineering</i> , 2001 , 123, 565-70	2.1	28
171	High Frequency Components of Hemodynamic Shear Stress Profiles are a Major Determinant of Shear-Mediated Platelet Activation in Therapeutic Blood Recirculating Devices. <i>Scientific Reports</i> , 2017 , 7, 4994	4.9	26
170	Mitral leaflet modeling: Importance of in vivo shape and material properties. <i>Journal of Biomechanics</i> , 2011 , 44, 2229-35	2.9	26
169	How to predict diffusion of medium-sized molecules in polymer matrices. From atomistic to coarse grain simulations. <i>Journal of Molecular Modeling</i> , 2010 , 16, 1845-51	2	25
168	Mechanical model of the tubulin dimer based on molecular dynamics simulations. <i>Journal of Biomechanical Engineering</i> , 2008 , 130, 041008	2.1	25
167	Aspirin has limited ability to modulate shear-mediated platelet activation associated with elevated shear stress of ventricular assist devices. <i>Thrombosis Research</i> , 2016 , 140, 110-117	8.2	25
166	A novel passive left heart platform for device testing and research. <i>Medical Engineering and Physics</i> , 2015 , 37, 361-6	2.4	24
165	A novel approach to the in vitro hydrodynamic study of the aortic valve: mock loop development and test. <i>ASAIO Journal</i> , 2010 , 56, 279-84	3.6	24
164	A computational model for the optimization of transport phenomena in a rotating hollow-fiber bioreactor for artificial liver. <i>Tissue Engineering - Part C: Methods</i> , 2009 , 15, 41-55	2.9	24
163	Reliable CFD-based estimation of flow rate in haemodynamics measures. <i>Ultrasound in Medicine and Biology</i> , 2006 , 32, 1545-55	3.5	24
162	Mechanical response and conformational changes of alpha-actinin domains during unfolding: a molecular dynamics study. <i>Biomechanics and Modeling in Mechanobiology</i> , 2007 , 6, 399-407	3.8	23
161	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. <i>Journal of Thoracic and Cardiovascular Surgery</i> , 2014 , 148, 1025-34; discussion 1034	1.5	22
160	Aortic flow after valve sparing root replacement with or without neosinuses reconstruction. <i>Journal of Thoracic and Cardiovascular Surgery</i> , 2019 , 157, 455-465	1.5	21

159	Reliable magnetic reversible assembly of complex microfluidic devices: fabrication, characterization, and biological validation. <i>Microfluidics and Nanofluidics</i> , 2011 , 10, 1097-1107	2.8	21
158	Blood damage in Left Ventricular Assist Devices: Pump thrombosis or system thrombosis?. <i>International Journal of Artificial Organs</i> , 2019 , 42, 113-124	1.9	21
157	3-D simulation of the St. Jude Medical bileaflet valve opening process: fluid-structure interaction study and experimental validation. <i>Journal of Heart Valve Disease</i> , 2004 , 13, 804-13		21
156	Evaluation of 4D flow MRI-based non-invasive pressure assessment in aortic coarctations. <i>Journal of Biomechanics</i> , 2019 , 94, 13-21	2.9	20
155	Microfluidic emulation of mechanical circulatory support device shear-mediated platelet activation. <i>Biomedical Microdevices</i> , 2015 , 17, 117	3.7	20
154	Intermolecular slip mechanism in tropocollagen nanofibrils. <i>International Journal of Materials Research</i> , 2009 , 100, 921-925	0.5	20
153	The assignment of velocity profiles in finite element simulations of pulsatile flow in arteries. <i>Computers in Biology and Medicine</i> , 1997 , 27, 233-47	7	20
152	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. <i>Medical Engineering and Physics</i> , 1998 , 20, 231-41	2.4	20
151	A microscale biomimetic platform for generation and electro-mechanical stimulation of 3D cardiac microtissues. <i>APL Bioengineering</i> , 2018 , 2, 046102	6.6	20
150	Shape of Aquatic Animals and Their Swimming Efficiency. <i>Journal of Marine Biology</i> , 2014 , 2014, 1-9	1	19
149	A bioreactor with compliance monitoring for heart valve grafts. <i>Annals of Biomedical Engineering</i> , 2010 , 38, 100-8	4.7	19
148	Computational modeling for the optimization of a cardiogenic 3D bioprocess of encapsulated embryonic stem cells. <i>Biomechanics and Modeling in Mechanobiology</i> , 2012 , 11, 261-77	3.8	18
147	In vitro and in silico approaches to quantify the effects of the Mitraclip system on mitral valve function. <i>Journal of Biomechanics</i> , 2017 , 50, 83-92	2.9	18
146	Nanomechanics of collagen microfibrils. <i>Muscles, Ligaments and Tendons Journal</i> , 2013 , 3, 23-34	1.9	18
145	Bubble tracking through computational fluid dynamics in arterial line filters for cardiopulmonary bypass. <i>ASAIO Journal</i> , 2009 , 55, 438-44	3.6	18
144	Generating Multicompartmental 3D Biological Constructs Interfaced through Sequential Injections in Microfluidic Devices. <i>Advanced Healthcare Materials</i> , 2017 , 6, 1601170	10.1	17
143	Synthetic dataset generation for the analysis and the evaluation of image-based hemodynamics of the human aorta. <i>Medical and Biological Engineering and Computing</i> , 2012 , 50, 145-54	3.1	17
142	Doppler derived quantitative flow estimate in coronary artery bypass graft: a computational multiscale model for the evaluation of the current clinical procedure. <i>Medical Engineering and Physics</i> , 2008 , 30, 809-16	2.4	17

141	In vitro assessment of mitral valve function in cyclically pressurized porcine hearts. <i>Medical Engineering and Physics</i> , 2016 , 38, 346-53	2.4	16
140	Aortic Root Biomechanics After Sleeve and David Sparing Techniques: A Finite Element Analysis. <i>Annals of Thoracic Surgery</i> , 2017 , 103, 1451-1459	2.7	16
139	Development of a new disposable pulsatile pump for cardiopulmonary bypass: computational fluid-dynamic design and in vitro tests. <i>ASAIO Journal</i> , 2002 , 48, 260-7	3.6	16
138	Microfabricated Physiological Models for In Vitro Drug Screening Applications. <i>Micromachines</i> , 2016 , 7,	3.3	16
137	Osteogenesis imperfecta mutations lead to local tropocollagen unfolding and disruption of H-bond network. <i>RSC Advances</i> , 2012 , 2, 3890	3.7	15
136	Computational and functional evaluation of a microfluidic blood flow device. <i>ASAIO Journal</i> , 2007 , 53, 447-55	3.6	15
135	Novel insights by 4D Flow imaging on aortic flow physiology after valve-sparing root replacement with or without neosinuses. <i>Interactive Cardiovascular and Thoracic Surgery</i> , 2018 , 26, 957-964	1.8	15
134	Fluid-dynamic results of in vitro comparison of four pericardial bioprostheses implanted in small porcine aortic roots. <i>European Journal of Cardio-thoracic Surgery</i> , 2015 , 47, e62-7	3	14
133	Thermal stabilization of the deglycating enzyme Amadoriase I by rational design. <i>Scientific Reports</i> , 2018 , 8, 3042	4.9	14
132	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. <i>Cardiovascular Engineering and Technology</i> , 2015 , 6, 117-40	2.2	14
131	Computer-Aided Molecular Modeling and Experimental Validation of Water Permeability Properties in Biosynthetic Materials. <i>Journal of Computational and Theoretical Nanoscience</i> , 2010 , 7, 1287-1293	2.3	14
130	Influence of the aortic valve leaflets on the fluid-dynamics in aorta in presence of a normally functioning bicuspid valve. <i>Biomechanics and Modeling in Mechanobiology</i> , 2015 , 14, 1349-61	3.8	13
129	Biomechanical drawbacks of different techniques of mitral neochordal implantation: When an apparently optimal repair can fail. <i>Journal of Thoracic and Cardiovascular Surgery</i> , 2015 , 150, 1303-12.e4	1.5	13
128	Microfluidic approaches for the assessment of blood cell trauma: a focus on thrombotic risk in mechanical circulatory support devices. <i>International Journal of Artificial Organs</i> , 2016 , 39, 184-93	1.9	13
127	Prediction of stenting related adverse events through patient-specific finite element modelling. <i>Journal of Biomechanics</i> , 2018 , 79, 135-146	2.9	13
126	On the Use of the Platelet Activity State Assay for the In Vitro Quantification of Platelet Activation in Blood Recirculating Devices for Extracorporeal Circulation. <i>Artificial Organs</i> , 2016 , 40, 971-980	2.6	13
125	Patient-Specific Bicuspid Aortic Valve Biomechanics: A Magnetic Resonance Imaging Integrated Fluid-Structure Interaction Approach. <i>Annals of Biomedical Engineering</i> , 2021 , 49, 627-641	4.7	13
124	Nanostructure and stability of calcitonin amyloids. <i>Journal of Biological Chemistry</i> , 2017 , 292, 7348-7357	5.4	12

123	Numerical fluid-dynamic optimization of microchannel-provided porous scaffolds for the co-culture of adherent and non-adherent cells. <i>Tissue Engineering - Part A</i> , 2009 , 15, 615-23	3.9	12
122	Left ventricular modelling: a quantitative functional assessment tool based on cardiac magnetic resonance imaging. <i>Interface Focus</i> , 2011 , 1, 384-95	3.9	12
121	Hemolysate-mediated platelet aggregation: an additional risk mechanism contributing to thrombosis of continuous flow ventricular assist devices. <i>Perfusion (United Kingdom)</i> , 2016 , 31, 401-8	1.9	12
120	A Simple Vacuum-Based Microfluidic Technique to Establish High-Throughput Organs-On-Chip and 3D Cell Cultures at the Microscale. <i>Advanced Materials Technologies</i> , 2019 , 4, 1800319	6.8	12
119	High-throughput microfluidic platform for adherent single cells non-viral gene delivery. <i>RSC Advances</i> , 2015 , 5, 5087-5095	3.7	11
118	Does the type of suture technique affect the fluid-dynamic performance of bioprostheses implanted in small aortic roots? Results from an in vitro study. <i>Journal of Thoracic and Cardiovascular Surgery</i> , 2015 , 149, 912-8	1.5	11
117	Immediate Impact of Prosthetic Graft Replacement of the Ascending Aorta on Circumferential Strain in the Descending Aorta. <i>European Journal of Vascular and Endovascular Surgery</i> , 2019 , 58, 521-528 ^{2.3}	3.3	11
116	Flow dynamics of the St Jude Medical Symmetry aortic connector vein graft anastomosis do not contribute to the risk of acute thrombosis. <i>Journal of Thoracic and Cardiovascular Surgery</i> , 2004 , 128, 117-23	1.5	11
115	Influence of Different Antithrombotic Regimens on Platelet-Mediated Thrombin Generation in Patients with Left Ventricular Assist Devices. <i>ASAIO Journal</i> , 2020 , 66, 415-422	3.6	11
114	Routine clinical anti-platelet agents have limited efficacy in modulating hypershear-mediated platelet activation associated with mechanical circulatory support. <i>Thrombosis Research</i> , 2018 , 163, 162-171 ^{8.2}	8.2	11
113	Recapitulating monocyte extravasation to the synovium in an organotypic microfluidic model of the articular joint. <i>Biofabrication</i> , 2021 , 13,	10.5	11
112	Shear-Mediated Platelet Activation Enhances Thrombotic Complications in Patients With LVADs and Is Reversed After Heart Transplantation. <i>ASAIO Journal</i> , 2019 , 65, e33-e35	3.6	10
111	An anatomy-based lumped parameter model of cerebrospinal venous circulation: can an extracranial anatomical change impact intracranial hemodynamics?. <i>BMC Neurology</i> , 2015 , 15, 95	3.1	10
110	Dynamic and quantitative evaluation of degenerative mitral valve disease: a dedicated framework based on cardiac magnetic resonance imaging. <i>Journal of Thoracic Disease</i> , 2017 , 9, S225-S238	2.6	10
109	The aortic interleaflet triangles annuloplasty: a multidisciplinary appraisal. <i>European Journal of Cardio-thoracic Surgery</i> , 2011 , 40, 851-7	3	10
108	Womersley number-based estimation of flow rate with Doppler ultrasound: sensitivity analysis and first clinical application. <i>Computer Methods and Programs in Biomedicine</i> , 2010 , 98, 151-60	6.9	10
107	3-Dimensional personalized planning for transcatheter pulmonary valve implantation in a dysfunctional right ventricular outflow tract. <i>International Journal of Cardiology</i> , 2020 , 309, 33-39	3.2	10
106	Prothrombotic activity of cytokine-activated endothelial cells and shear-activated platelets in the setting of ventricular assist device support. <i>Journal of Heart and Lung Transplantation</i> , 2019 , 38, 658-667 ^{5.8}	5.8	9

105	A numerical performance assessment of a commercial cardiopulmonary by-pass blood heat exchanger. <i>Medical Engineering and Physics</i> , 2015 , 37, 584-92	2.4	9
104	An experimental and computational study of the inferior vena cava hemodynamics under respiratory-induced collapse of the infrarenal IVC. <i>Medical Engineering and Physics</i> , 2018 , 54, 44-55	2.4	9
103	Design and validation of a microfluidic device for blood-brain barrier monitoring and transport studies. <i>Journal of Micromechanics and Microengineering</i> , 2018 , 28, 044001	2	9
102	Molecular dynamics simulations provide insights into the substrate specificity of FAOX family members. <i>Molecular BioSystems</i> , 2016 , 12, 2622-33		9
101	Intracardiac visualization of transcatheter aortic valve and valve-in-valve implantation in an in vitro passive beating heart. <i>JACC: Cardiovascular Interventions</i> , 2013 , 6, 92-3	5	9
100	Microfluidic platforms for the evaluation of anti-platelet agent efficacy under hyper-shear conditions associated with ventricular assist devices. <i>Medical Engineering and Physics</i> , 2017 , 48, 31-38	2.4	9
99	Comparison of the Performance of a Sutureless Bioprosthesis With Two Pericardial Stented Valves on Small Annuli: An In Vitro Study. <i>Annals of Thoracic Surgery</i> , 2017 , 103, 139-144	2.7	9
98	Interaction forces and interface properties of KIF1A kinesin-alpha-tubulin complex assessed by molecular dynamics. <i>Journal of Biomechanics</i> , 2008 , 41, 3196-201	2.9	9
97	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. <i>Journal of Cardiovascular Computed Tomography</i> , 2020 , 14, 520-523	2.8	8
96	A Structural Model of the Left Ventricle Including Muscle Fibres and Coronary Vessels: Mechanical Behaviour in Normal Conditions. <i>Meccanica</i> , 1997 , 32, 53-70	2.1	8
95	Micro-electrode channel guide (µECG) technology: an online method for continuous electrical recording in a human beating heart-on-chip. <i>Biofabrication</i> , 2021 ,	10.5	8
94	Simulation of functional tricuspid regurgitation using an isolated porcine heart model. <i>Journal of Heart Valve Disease</i> , 2011 , 20, 657-63		8
93	Influence of Mitral Valve Anterior Leaflet in vivo Shape on Left Ventricular Ejection. <i>Cardiovascular Engineering and Technology</i> , 2012 , 3, 388-401	2.2	7
92	Mechanisms of polymyxin B endotoxin removal from extracorporeal blood flow: molecular interactions. <i>Contributions To Nephrology</i> , 2010 , 167, 45-54	1.6	7
91	MICROTUBULE-KINESIN MECHANICS BY MOLECULAR MODELING. <i>Biophysical Reviews and Letters</i> , 2009 , 04, 45-61	1.2	7
90	Assessment of the influence of the compliant aortic root on aortic valve mechanics by means of a geometrical model. <i>Medical Engineering and Physics</i> , 1997 , 19, 696-710	2.4	7
89	FINITE ELEMENT SIMULATIONS OF THE PHYSIOLOGICAL AORTIC ROOT AND VALVE SPARING CORRECTIONS. <i>Journal of Mechanics in Medicine and Biology</i> , 2006 , 06, 91-99	0.7	7
88	Design of a microfluidic strategy for trapping and screening single cells. <i>Medical Engineering and Physics</i> , 2016 , 38, 33-40	2.4	6

87	Shear-mediated platelet activation in patients implanted with continuous flow LVADs: A preliminary study utilizing the platelet activity state (PAS) assay. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , 2015 , 2015, 1255-8	0.9	6
86	Mesh updating in fluid-structure interactions in biomechanics: an iterative method based on an uncoupled approach. <i>Annals of Biomedical Engineering</i> , 1997 , 25, 218-31	4.7	6
85	An assisted automated procedure for vessel geometry reconstruction and hemodynamic simulations from clinical imaging. <i>Computerized Medical Imaging and Graphics</i> , 2002 , 26, 143-52	7.6	6
84	Applications of augmented reality in the neurosurgical operating room: A systematic review of the literature. <i>Journal of Clinical Neuroscience</i> , 2021 , 91, 43-61	2.2	6
83	In-vitro study of a porcine quadricuspid aortic valve. <i>Journal of Heart Valve Disease</i> , 2014 , 23, 122-6		6
82	Molecular dynamics investigation of halogenated amyloidogenic peptides. <i>Journal of Molecular Modeling</i> , 2019 , 25, 124	2	5
81	Prosthetic aortic graft replacement of the ascending thoracic aorta alters biomechanics of the native descending aorta as assessed by transthoracic echocardiography. <i>PLoS ONE</i> , 2020 , 15, e0230208	3.7	5
80	Lab-on-Chip for testing myelotoxic effect of drugs and chemicals. <i>Microfluidics and Nanofluidics</i> , 2015 , 19, 935-940	2.8	5
79	Bioartificial polymer membranes as innovative systems for biomedical or biotechnological uses. <i>Desalination</i> , 2006 , 200, 493-495	10.3	5
78	Assessing the influence of perfusion on cardiac microtissue maturation: A heart-on-chip platform embedding peristaltic pump capabilities. <i>Biotechnology and Bioengineering</i> , 2021 , 118, 3128-3137	4.9	5
77	Experimental quantification of the fluid dynamics in blood-processing devices through 4D-flow imaging: A pilot study on a real oxygenator/heat-exchanger module. <i>Journal of Biomechanics</i> , 2018 , 68, 14-23	2.9	5
76	Microfluidic flow-based platforms for induction and analysis of dynamic shear-mediated platelet activation-Initial validation versus the standardized hemodynamic shearing device. <i>Biomicrofluidics</i> , 2018 , 12, 042208	3.2	5
75	A Comprehensive Fluid Dynamic and Geometric Study for an "In-Vitro" Comparison of Four Surgically Implanted Pericardial Stented Valves. <i>Journal of Heart Valve Disease</i> , 2015 , 24, 596-603		5
74	Prediction of post-stenting biomechanics in coarcted aortas: A pilot finite element study. <i>Journal of Biomechanics</i> , 2020 , 105, 109796	2.9	4
73	Opening-closing pattern of four pericardial prostheses: results from an in vitro study of leaflet kinematics. <i>Journal of Artificial Organs</i> , 2016 , 19, 350-356	1.8	4
72	Mechanisms of polymyxin B endotoxin removal from extracorporeal blood flow: hydrodynamics of sorption. <i>Contributions To Nephrology</i> , 2010 , 167, 55-64	1.6	4
71	Actomyosin interaction: mechanical and energetic properties in different nucleotide binding states. <i>International Journal of Molecular Sciences</i> , 2008 , 9, 1927-43	6.3	4
70	Diffusion of small molecules in bioartificial membranes for clinical use: molecular modelling and laboratory investigation. <i>Desalination</i> , 2006 , 200, 157-159	10.3	4

69	A computerized method to measure systolic pressure variation (SPV) in mechanically ventilated patients. <i>Journal of Clinical Monitoring and Computing</i> , 2002 , 17, 141-6	2	4
68	Thrombotic Risk of Rotor Speed Modulation Regimes of Contemporary Centrifugal Continuous-flow Left Ventricular Assist Devices. <i>ASAIO Journal</i> , 2021 , 67, 737-745	3.6	4
67	Physiologic flow-conditioning limits vascular dysfunction in engineered human capillaries. <i>Biomaterials</i> , 2021 , 280, 121248	15.6	4
66	Toward the Virtual Benchmarking of Pneumatic Ventricular Assist Devices: Application of a Novel Fluid-Structure Interaction-Based Strategy to the Penn State 12 cc Device. <i>Journal of Biomechanical Engineering</i> , 2017 , 139,	2.1	3
65	Systolic anterior motion after mitral valve repair: a predictive computational model. <i>Interactive Cardiovascular and Thoracic Surgery</i> , 2017 , 25, 513-519	1.8	3
64	The MICELI (MICrofluidic, ELectrical, Impedance): Prototyping a Point-of-Care Impedance Platelet Aggregometer. <i>International Journal of Molecular Sciences</i> , 2020 , 21,	6.3	3
63	Platelet Adhesion and Thrombus Formation in Microchannels: The Effect of Assay-Dependent Variables. <i>International Journal of Molecular Sciences</i> , 2020 , 21,	6.3	3
62	Hydrodynamic and Geometric Behavior of Two Pericardial Prostheses Implanted in Small Aortic Roots. <i>ASAIO Journal</i> , 2018 , 64, 86-90	3.6	3
61	Aortic valve repair via neo-chordae technique: mechanistic insight through numerical modelling. <i>Annals of Biomedical Engineering</i> , 2012 , 40, 1039-51	4.7	3
60	In vitro study of aortic valves treated with neo-chordae grafts: hydrodynamics and tensile force measurements. <i>Annals of Biomedical Engineering</i> , 2011 , 39, 1024-31	4.7	3
59	Coarse Grain Modeling for Microtubule Mechanics. <i>Materials Science Forum</i> , 2010 , 638-642, 629-634	0.4	3
58	Response of two annular prostheses to functional mitral regurgitation main determinants: an in vitro evaluation. <i>ASAIO Journal</i> , 2010 , 56, 491-6	3.6	3
57	Mechanical Characterization of Motor Proteins: A Molecular Dynamics Approach. <i>Macromolecular Theory and Simulations</i> , 2008 , 17, 376-384	1.5	3
56	Myosin cross-bridge mechanics: geometrical determinants for continuous sliding. <i>Journal of Biomechanics</i> , 2001 , 34, 1607-17	2.9	3
55	Fluid dynamics characterization and thrombogenicity assessment of a levitating centrifugal pump with different impeller designs. <i>Medical Engineering and Physics</i> , 2020 , 83, 26-33	2.4	3
54	Rational backbone redesign of a fructosyl peptide oxidase to widen its active site access tunnel. <i>Biotechnology and Bioengineering</i> , 2020 , 117, 3688-3698	4.9	3
53	A surrogate model for plaque modeling in carotids based on Robin conditions calibrated by cine MRI data. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2021 , 37, e3447	2.6	3
52	Mitral Valve Models Reconstructor: a Python based GUI software in a HPC environment for patient-specific FEM structural analysis 2010 , 215-219		2

51	Visualization and simulated surgery of the left ventricle in the virtual pathological heart of the Virtual Physiological Human. <i>Interface Focus</i> , 2011 , 1, 374-83	3.9	2
50	From real-time 3D echocardiography to mitral valve finite element analysis: A novel modeling approach 2008 ,		2
49	Response to letter to the editor: On the calculation of the binding force between decorin and collagen. <i>Journal of Biomechanics</i> , 2006 , 39, 1160-1162	2.9	2
48	A Deep Learning-Based and Fully Automated Pipeline for Thoracic Aorta Geometric Analysis and Planning for Endovascular Repair from Computed Tomography.. <i>Journal of Digital Imaging</i> , 2022 , 35, 226	5.3	2
47	Repair of Mitral Valve Prolapse Through ePTFE Neochordae: A Finite Element Approach From CMR. <i>Lecture Notes in Applied and Computational Mechanics</i> , 2015 , 117-128	0.3	2
46	Smoothed Particle Hydrodynamics multiphase modelling of an experimental microfluidic device for conformal coating of pancreatic islets. <i>Medical Engineering and Physics</i> , 2020 , 77, 19-30	2.4	2
45	Treatment of Tricuspid Regurgitation at Subvalvular Level: Hemodynamic and Morphological Assessment in Ex-Vivo Beating Heart Model. <i>Structural Heart</i> , 2020 , 4, 36-45	0.6	2
44	Aortic hemodynamics assessment prior and after valve sparing reconstruction: A patient-specific 4D flow-based FSI model. <i>Computers in Biology and Medicine</i> , 2021 , 135, 104581	7	2
43	Fluid-structure interaction and in vitro analysis of a real bileaflet mitral prosthetic valve to gain insight into Doppler-silent thrombosis. <i>Journal of Biomechanical Engineering</i> , 2019 ,	2.1	1
42	Finite Element Analysis of Transcatheter Aortic Valve Implantation in the Presence of Aortic Leaflet Calcifications. <i>Lecture Notes in Applied and Computational Mechanics</i> , 2015 , 101-115	0.3	1
41	4D Flow MRI hemodynamic benchmarking of surgical bioprosthetic valves. <i>Magnetic Resonance Imaging</i> , 2020 , 68, 18-29	3.3	1
40	Differentiation of the 4D MRI Blood Flow Data to Estimate the Vorticity and Shear Stress in Aorta, Pulmonary Artery and the Heart 2019 ,		1
39	A Model of Health: Mathematical modeling tools play an important role in optimizing new treatment options for heart disease. <i>IEEE Pulse</i> , 2015 , 6, 27-32	0.7	1
38	Multiscale computational analysis of degradable polymers. <i>Modeling, Simulation and Applications</i> , 2012 , 333-361	1.1	1
37	Structural analysis and ion translocation mechanisms of the muscle-type acetylcholine receptor channel. <i>Journal of Applied Biomaterials and Functional Materials</i> , 2013 , 11, e53-60	1.8	1
36	2010 ,		1
35	Trends in biomedical engineering: focus on Patient Specific Modeling and Life Support Systems. <i>Journal of Applied Biomaterials and Biomechanics</i> , 2011 , 9, 109-17		1
34	Prediction of Shear Induced Platelet Activation in Prosthetic Heart Valves by Integrating FluidStructure Interaction Approach and Lagrangian-Based Blood Damage Model 2009 ,		1

33	Platelet damage accumulation: In vitro and mathematical models 2007 ,		1
32	A RELIABLE METHOD FOR PROTOTYPING FLEXIBLE PHYSIOLOGIC-LIKE BEHAVING LEFT VENTRICLES FOR STUDYING MITRAL VALVE SURGICAL CORRECTIONS. <i>Journal of Mechanics in Medicine and Biology</i> , 2006 , 06, 101-107	0.7	1
31	Myosin head mechanical performance under different conformational change mechanisms. <i>Journal of Biomechanics</i> , 2004 , 37, 1031-41	2.9	1
30	Haemodynamics and mechanics following partial left ventriculectomy: a computer modeling analysis. <i>Medical Engineering and Physics</i> , 2004 , 26, 31-42	2.4	1
29	Skin nanostructural features determine suture biomechanics. <i>IEEE Transactions on Nanobioscience</i> , 2003 , 2, 79-88	3.4	1
28	CAMM techniques for the prediction of the mechanical properties of tendons and ligaments nanostructures. <i>Scientific World Journal, The</i> , 2005 , 5, 564-70	2.2	1
27	Bleeding in patients with continuous-flow left ventricular assist devices: acquired von Willebrand disease or antithrombotics?. <i>European Journal of Cardio-thoracic Surgery</i> , 2021 ,	3	1
26	Effect of the valve design on pressure drop, pressure recovery, and spatial positioning of vena contracta. <i>International Journal of Artificial Organs</i> , 2020 , 43, 468-475	1.9	1
25	4D flow evaluation of blood non-Newtonian behavior in left ventricle flow analysis. <i>Journal of Biomechanics</i> , 2021 , 119, 110308	2.9	1
24	Mixed impact of torsion on LV hemodynamics: A CFD study based on the Chimera technique. <i>Computers in Biology and Medicine</i> , 2019 , 112, 103363	7	0
23	In Silico Engineering of Enzyme Access Tunnels. <i>Methods in Molecular Biology</i> , 2022 , 2397, 203-225	1.4	0
22	Characterization of the competing role of surface-contact and shear stress on platelet activation in the setting of blood contacting devices. <i>International Journal of Artificial Organs</i> , 2021 , 44, 1013-1020	1.9	0
21	Mathematical Modeling and Numerical Simulation of Atherosclerotic Plaque Progression Based on Fluid-Structure Interaction. <i>Journal of Mathematical Fluid Mechanics</i> , 2021 , 23, 1	1.4	0
20	Differential Effects of Aortic Valve Replacement on Aortic Circumferential Strain in Aortic Stenosis and Aortic Insufficiency. <i>Journal of Cardiothoracic and Vascular Anesthesia</i> , 2021 , 35, 2707-2714	2.1	0
19	The effect of turbulence modelling on the assessment of platelet activation. <i>Journal of Biomechanics</i> , 2021 , 128, 110704	2.9	0
18	In silico prediction of the in vitro behavior of polymeric gene delivery vectors. <i>Nanoscale</i> , 2021 , 13, 8333-8342	3.42	0
17	Insights Into the Low Rate of In-Pump Thrombosis With the HeartMate 3: Does the Artificial Pulse Improve Washout?. <i>Frontiers in Cardiovascular Medicine</i> , 2022 , 9, 775780	5.4	0
16	A Novel Multiparametric Score for the Detection and Grading of Prosthetic Mitral Valve Obstruction in Cases With Different Disc Motion Abnormalities. <i>Ultrasound in Medicine and Biology</i> , 2019 , 45, 1708-1720	3.5	

- 15 Computational Modelling of Cardiac Biomechanics **2014**, 479-502
- 14 Multiscale modeling of diffusion phenomena in polymers. *CISM International Centre for Mechanical Sciences, Courses and Lectures*, **2013**, 71-86 0.6
- 13 Computational multiscale studies of collagen tissues in the context of brittle bone disease osteogenesis imperfecta. *Materials Research Society Symposia Proceedings*, **2010**, 1274, 1
- 12 Magnetic Vascular Positioner for Automatic Coronary Artery Bypass Grafting Does Not Significantly Increase the Risk of Failure Related to Local Fluid Dynamics: A Numeric Study **2007**, 721
- 11 Bottom-Up Mesoscale Model of Microtubule **2007**, 345
- 10 A Molecular Modelling Approach for Designing Bioartificial Membranes for Clinical Use With Tailored Transport Properties **2007**, 369
- 9 Evaluation of the Dynamics of a Bileaflet Heart Valve: Physical and Numerical Experiments **2007**, 481
- 8 four-dimensional flow magnetic resonance analysis of the effect of pericardial valve design on aortic flow.. *Journal of Medical Engineering and Technology*, **2022**, 1-11 1.8
- 7 Optimal Body Masses for Different Olympic Sports. *Innovative Biosystems and Bioengineering*, **2018**, 2, 183-195 0.7
- 6 The Principle: From a Computational Model to Clinical Validation **2015**, 7-18
- 5 Aortic Root Dynamics in Sleeve Aortic Sparing Procedure: Echocardiographic and Computational Studies. *Seminars in Thoracic and Cardiovascular Surgery*, **2020**, 32, 635-643 1.7
- 4 Electrical impedance vs. light transmission aggregometry: Testing platelet reactivity to antiplatelet drugs using the MICELI POC impedance aggregometer as compared to a commercial predecessor. *Thrombosis Research*, **2021**, 204, 66-75 8.2
- 3 On-Chip Platelet Activation Assessment: Microfluidic Emulation of Shear Stress Profiles Induced by Mechanical Circulatory Support Devices. *Methods in Molecular Biology*, **2022**, 2373, 201-212 1.4
- 2 Computer Modeling of Valve Disease **2022**, 1, 100018
- 1 Fast Approximate Quantification of Endovascular Stent Graft Displacement Forces in the Bovine Aortic Arch Variant.. *Journal of Endovascular Therapy*, **2022**, 15266028221095403 2.5