Alberto Cl Redaelli

List of Publications by Year in Descending Order

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	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	5.3	2
229	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	
228	In Silico Engineering of Enzyme Access Tunnels. *Methods in Molecular Biology*, **2022**, 2397, 203-225	1.4	0
227	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	
226	Computer Modeling of Valve Disease **2022**, 1, 100018		
225	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	5.4	0
224	Fast Approximate Quantification of Endovascular Stent Graft Displacement Forces in the Bovine Aortic Arch Variant.. *Journal of Endovascular Therapy*, **2022**, 15266028221095403	2.5	
223	Thrombotic Risk of Rotor Speed Modulation Regimes of Contemporary Centrifugal Continuous-flow Left Ventricular Assist Devices. *ASAIO Journal*, **2021**, 67, 737-745	3.6	4
222	Physiologic flow-conditioning limits vascular dysfunction in engineered human capillaries. *Biomaterials*, **2021**, 280, 121248	15.6	4
221	Bleeding in patients with continuous-flow left ventricular assist devices: acquired von Willebrand disease or antithrombotics?. *European Journal of Cardio-thoracic Surgery*, **2021**,	3	1
220	4D flow evaluation of blood non-Newtonian behavior in left ventricle flow analysis. *Journal of Biomechanics*, **2021**, 119, 110308	2.9	1
219	Characterization of the competing role of surface-contact and shear stress on platelet activation in the setting of blood contacting devices. *International Journal of Artificial Organs*, **2021**, 44, 1013-1020	1.9	0
218	Micro-electrode channel guide (μECG) technology: an online method for continuous electrical recording in a human beating heart-on-chip. *Biofabrication*, **2021**,	10.5	8
217	Assessing the influence of perfusion on cardiac microtissue maturation: A heart-on-chip platform embedding peristaltic pump capabilities. *Biotechnology and Bioengineering*, **2021**, 118, 3128-3137	4.9	5
216	Mathematical Modeling and Numerical Simulation of Atherosclerotic Plaque Progression Based on Fluid-Structure Interaction. *Journal of Mathematical Fluid Mechanics*, **2021**, 23, 1	1.4	0
215	Patient-Specific Bicuspid Aortic Valve Biomechanics: A Magnetic Resonance Imaging Integrated Fluid-Structure Interaction Approach. *Annals of Biomedical Engineering*, **2021**, 49, 627-641	4.7	13
214	A surrogate model for plaque modeling in carotids based on Robin conditions calibrated by cine MRI data. *International Journal for Numerical Methods in Biomedical Engineering*, **2021**, 37, e3447	2.6	3

213	Recapitulating monocyte extravasation to the synovium in an organotypic microfluidic model of the articular joint. *Biofabrication*, **2021**, 13,	10.5	11
212	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	2
211	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	
210	Applications of augmented reality in the neurosurgical operating room: A systematic review of the literature. *Journal of Clinical Neuroscience*, **2021**, 91, 43-61	2.2	6
209	Differential Effects of Aortic Valve Replacement on Aortic Circumferential Strain in Aortic Stenosis and Aortic Insufficiency. *Journal of Cardiothoracic and Vascular Anesthesia*, **2021**, 35, 2707-2714	2.1	0
208	The effect of turbulence modelling on the assessment of platelet activation. *Journal of Biomechanics*, **2021**, 128, 110704	2.9	0
207	In silico prediction of the in vitro behavior of polymeric gene delivery vectors. *Nanoscale*, **2021**, 13, 8333-8342	7.7	0
206	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	3.7	5
205	The MICELI (MICrofluidic, ELectrical, Impedance): Prototyping a Point-of-Care Impedance Platelet Aggregometer. *International Journal of Molecular Sciences*, **2020**, 21,	6.3	3
204	4D Flow MRI hemodynamic benchmarking of surgical bioprosthetic valves. *Magnetic Resonance Imaging*, **2020**, 68, 18-29	3.3	1
203	Platelet Adhesion and Thrombus Formation in Microchannels: The Effect of Assay-Dependent Variables. *International Journal of Molecular Sciences*, **2020**, 21,	6.3	3
202	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	2.8	8
201	Prediction of post-stenting biomechanics in coarcted aortas: A pilot finite element study. *Journal of Biomechanics*, **2020**, 105, 109796	2.9	4
200	Smoothed Particle Hydrodynamics multiphase modelling of an experimental microfluidic device for conformal coating of pancreatic islets. *Medical Engineering and Physics*, **2020**, 77, 19-30	2.4	2
199	Effect of the valve design on pressure drop, pressure recovery, and spatial positioning of vena contracta. *International Journal of Artificial Organs*, **2020**, 43, 468-475	1.9	1
198	Treatment of Tricuspid Regurgitation at Subvalvular Level: Hemodynamic and Morphological Assessment in Ex-Vivo Beating Heart Model. *Structural Heart*, **2020**, 4, 36-45	0.6	2
197	3-Dimensional personalized planning for transcatheter pulmonary valve implantation in a dysfunctional right ventricular outflow tract. *International Journal of Cardiology*, **2020**, 309, 33-39	3.2	10
196	Influence of Different Antithrombotic Regimens on Platelet-Mediated Thrombin Generation in Patients with Left Ventricular Assist Devices. *ASAIO Journal*, **2020**, 66, 415-422	3.6	11

195	Fluid dynamics characterization and thrombogenicity assessment of a levitating centrifugal pump with different impeller designs. *Medical Engineering and Physics*, **2020**, 83, 26-33	2.4	3
194	Rational backbone redesign of a fructosyl peptide oxidase to widen its active site access tunnel. *Biotechnology and Bioengineering*, **2020**, 117, 3688-3698	4.9	3
193	Aortic Root Dynamics in Sleeve Aortic Sparing Procedure: Echocardiographic and Computational Studies. *Seminars in Thoracic and Cardiovascular Surgery*, **2020**, 32, 635-643	1.7	
192	A Novel Multiparametric Score for the Detection and Grading of Prosthetic Mitral Valve Obstruction in Cases With Different Disc Motion Abnormalities. *Ultrasound in Medicine and Biology*, **2019**, 45, 1708-1720	3.5	
191	Fluid-structure interaction and in vitro analysis of a real bileaflet mitral prosthetic valve to gain insight into Doppler-silent thrombosis. *Journal of Biomechanical Engineering*, **2019**,	2.1	1
190	Molecular dynamics investigation of halogenated amyloidogenic peptides. *Journal of Molecular Modeling*, **2019**, 25, 124	2	5
189	Shear-Mediated Platelet Activation Enhances Thrombotic Complications in Patients With LVADs and Is Reversed After Heart Transplantation. *ASAIO Journal*, **2019**, 65, e33-e35	3.6	10
188	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	5.8	9
187	Aortic flow after valve sparing root replacement with or without neosinuses reconstruction. *Journal of Thoracic and Cardiovascular Surgery*, **2019**, 157, 455-465	1.5	21
186	Differentiation of the 4D MRI Blood Flow Data to Estimate the Vorticity and Shear Stress in Aorta, Pulmonary Artery and the Heart **2019**,		1
185	Mixed impact of torsion on LV hemodynamics: A CFD study based on the Chimera technique. *Computers in Biology and Medicine*, **2019**, 112, 103363	7	0
184	Evaluation of 4D flow MRI-based non-invasive pressure assessment in aortic coarctations. *Journal of Biomechanics*, **2019**, 94, 13-21	2.9	20
183	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	2.3	11
182	Blood damage in Left Ventricular Assist Devices: Pump thrombosis or system thrombosis?. *International Journal of Artificial Organs*, **2019**, 42, 113-124	1.9	21
181	A Simple Vacuum-Based Microfluidic Technique to Establish High-Throughput Organs-On-Chip and 3D Cell Cultures at the Microscale. *Advanced Materials Technologies*, **2019**, 4, 1800319	6.8	12
180	Thermal stabilization of the deglycating enzyme Amadoriase I by rational design. *Scientific Reports*, **2018**, 8, 3042	4.9	14
179	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	2.4	9
178	Review: Engineering of thermostable enzymes for industrial applications. *APL Bioengineering*, **2018**, 2, 011501	6.6	135

177	Design and validation of a microfluidic device for blood-brain barrier monitoring and transport studies. *Journal of Micromechanics and Microengineering*, **2018**, 28, 044001	2	9
176	Platelet activation is a preoperative risk factor for the development of thromboembolic complications in patients with continuous-flow left ventricular assist device. *European Journal of Heart Failure*, **2018**, 20, 792-800	12.3	31
175	Hydrodynamic and Geometric Behavior of Two Pericardial Prostheses Implanted in Small Aortic Roots. *ASAIO Journal*, **2018**, 64, 86-90	3.6	3
174	Prediction of stenting related adverse events through patient-specific finite element modelling. *Journal of Biomechanics*, **2018**, 79, 135-146	2.9	13
173	Optimal Body Masses for Different Olympic Sports. *Innovative Biosystems and Bioengineering*, **2018**, 2, 183-195	0.7	
172	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	8.2	11
171	Experimental quantification of the fluid dynamics in blood-processing devices through 4D-flow imaging: A pilot study on a real oxygenator/heat-exchanger module. *Journal of Biomechanics*, **2018**, 68, 14-23	2.9	5
170	A microscale biomimetic platform for generation and electro-mechanical stimulation of 3D cardiac microtissues. *APL Bioengineering*, **2018**, 2, 046102	6.6	20
169	Novel insights by 4D Flow imaging on aortic flow physiology after valve-sparing root replacement with or without neosinuses. *Interactive Cardiovascular and Thoracic Surgery*, **2018**, 26, 957-964	1.8	15
168	Microfluidic flow-based platforms for induction and analysis of dynamic shear-mediated platelet activation-Initial validation versus the standardized hemodynamic shearing device. *Biomicrofluidics*, **2018**, 12, 042208	3.2	5
167	Generating Multicompartmental 3D Biological Constructs Interfaced through Sequential Injections in Microfluidic Devices. *Advanced Healthcare Materials*, **2017**, 6, 1601170	10.1	17
166	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. *Journal of Biomechanical Engineering*, **2017**, 139,	2.1	3
165	Nanostructure and stability of calcitonin amyloids. *Journal of Biological Chemistry*, **2017**, 292, 7348-7357	5.4	12
164	Systolic anterior motion after mitral valve repair: a predictive computational model. *Interactive Cardiovascular and Thoracic Surgery*, **2017**, 25, 513-519	1.8	3
163	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	2.6	10
162	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	2.4	9
161	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	4.9	26
160	Aortic Root Biomechanics After Sleeve and David Sparing Techniques: A Finite Element Analysis. *Annals of Thoracic Surgery*, **2017**, 103, 1451-1459	2.7	16

159	Comparison of the Performance of a Sutureless Bioprosthesis With Two Pericardial Stented Valves on Small Annuli: An In Vitro Study. *Annals of Thoracic Surgery*, **2017**, 103, 139-144	2.7	9
158	In vitro and in silico approaches to quantify the effects of the Mitraclip system on mitral valve function. *Journal of Biomechanics*, **2017**, 50, 83-92	2.9	18
157	Advanced glycation end-products: Mechanics of aged collagen from molecule to tissue. *Matrix Biology*, **2017**, 59, 95-108	11.4	119
156	Transcatheter Edge-to-Edge Treatment of Functional Tricuspid Regurgitation in an Ex Vivo Pulsatile Heart Model. *Journal of the American College of Cardiology*, **2016**, 68, 1024-33	15.1	55
155	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, 184-93	1.9	13
154	Opening-closing pattern of four pericardial prostheses: results from an in vitro study of leaflet kinematics. *Journal of Artificial Organs*, **2016**, 19, 350-356	1.8	4
153	Molecular dynamics simulations provide insights into the substrate specificity of FAOX family members. *Molecular BioSystems*, **2016**, 12, 2622-33		9
152	Design of a microfluidic strategy for trapping and screening single cells. *Medical Engineering and Physics*, **2016**, 38, 33-40	2.4	6
151	Impact of different aortic valve calcification patterns on the outcome of transcatheter aortic valve implantation: A finite element study. *Journal of Biomechanics*, **2016**, 49, 2520-30	2.9	45
150	In vitro assessment of mitral valve function in cyclically pressurized porcine hearts. *Medical Engineering and Physics*, **2016**, 38, 346-53	2.4	16
149	Beating heart on a chip: a novel microfluidic platform to generate functional 3D cardiac microtissues. *Lab on A Chip*, **2016**, 16, 599-610	7.2	227
148	Microfabricated Physiological Models for In Vitro Drug Screening Applications. *Micromachines*, **2016**, 7,	3.3	16
147	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	2.6	13
146	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	8.2	25
145	Hemolysate-mediated platelet aggregation: an additional risk mechanism contributing to thrombosis of continuous flow ventricular assist devices. *Perfusion (United Kingdom)*, **2016**, 31, 401-8	1.9	12
144	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, e62-7	3	14
143	A numerical performance assessment of a commercial cardiopulmonary by-pass blood heat exchanger. *Medical Engineering and Physics*, **2015**, 37, 584-92	2.4	9
142	Finite Element Analysis of Transcatheter Aortic Valve Implantation in the Presence of Aortic Leaflet Calcifications. *Lecture Notes in Applied and Computational Mechanics*, **2015**, 101-115	0.3	1

141	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, 1349-61	3.8	13
140	An anatomy-based lumped parameter model of cerebrospinal venous circulation: can an extracranial anatomical change impact intracranial hemodynamics?. *BMC Neurology*, **2015**, 15, 95	3.1	10
139	Hemodynamic and thrombogenic analysis of a trileaflet polymeric valve using a fluid-structure interaction approach. *Journal of Biomechanics*, **2015**, 48, 3641-9	2.9	41
138	Biomechanical drawbacks of different techniques of mitral neochordal implantation: When an apparently optimal repair can fail. *Journal of Thoracic and Cardiovascular Surgery*, **2015**, 150, 1303-12.e4	1.5	13
137	High-throughput microfluidic platform for adherent single cells non-viral gene delivery. *RSC Advances*, **2015**, 5, 5087-5095	3.7	11
136	Does the type of suture technique affect the fluid-dynamic performance of bioprostheses implanted in small aortic roots? Results from an in vitro study. *Journal of Thoracic and Cardiovascular Surgery*, **2015**, 149, 912-8	1.5	11
135	Microfluidic emulation of mechanical circulatory support device shear-mediated platelet activation. *Biomedical Microdevices*, **2015**, 17, 117	3.7	20
134	A novel passive left heart platform for device testing and research. *Medical Engineering and Physics*, **2015**, 37, 361-6	2.4	24
133	High-Throughput Microfluidic Platform for 3D Cultures of Mesenchymal Stem Cells, Towards Engineering Developmental Processes. *Scientific Reports*, **2015**, 5, 10288	4.9	64
132	A Model of Health: Mathematical modeling tools play an important role in optimizing new treatment options for heart disease. *IEEE Pulse*, **2015**, 6, 27-32	0.7	1
131	Shear-mediated platelet activation in patients implanted with continuous flow LVADs: A preliminary study utilizing the platelet activity state (PAS) assay. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2015**, 2015, 1255-8	0.9	6
130	Lab-on-Chip for testing myelotoxic effect of drugs and chemicals. *Microfluidics and Nanofluidics*, **2015**, 19, 935-940	2.8	5
129	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, 117-40	2.2	14
128	Repair of Mitral Valve Prolapse Through ePTFE Neochordae: A Finite Element Approach From CMR. *Lecture Notes in Applied and Computational Mechanics*, **2015**, 117-128	0.3	2
127	The Principle: From a Computational Model to Clinical Validation **2015**, 7-18		
126	A Comprehensive Fluid Dynamic and Geometric Study for an "In-Vitro" Comparison of Four Surgically Implanted Pericardial Stented Valves. *Journal of Heart Valve Disease*, **2015**, 24, 596-603		5
125	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, 349-61	3.8	28
124	Computational Modelling of Cardiac Biomechanics **2014**, 479-502		

123	Age- and diabetes-related nonenzymatic crosslinks in collagen fibrils: candidate amino acids involved in Advanced Glycation End-products. *Matrix Biology*, **2014**, 34, 89-95	11.4	85
122	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, 1025-34; discussion 1034	1.5	22
121	Shape of Aquatic Animals and Their Swimming Efficiency. *Journal of Marine Biology*, **2014**, 2014, 1-9	1	19
120	Electrical conditioning of adipose-derived stem cells in a multi-chamber culture platform. *Biotechnology and Bioengineering*, **2014**, 111, 1452-63	4.9	29
119	In-vitro study of a porcine quadricuspid aortic valve. *Journal of Heart Valve Disease*, **2014**, 23, 122-6		6
118	Impact of modeling fluid-structure interaction in the computational analysis of aortic root biomechanics. *Medical Engineering and Physics*, **2013**, 35, 1721-30	2.4	56
117	Intracardiac visualization of transcatheter aortic valve and valve-in-valve implantation in an in vitro passive beating heart. *JACC: Cardiovascular Interventions*, **2013**, 6, 92-3	5	9
116	Toward patient-specific simulations of cardiac valves: state-of-the-art and future directions. *Journal of Biomechanics*, **2013**, 46, 217-28	2.9	100
115	Multiscale modeling of diffusion phenomena in polymers. *CISM International Centre for Mechanical Sciences, Courses and Lectures*, **2013**, 71-86	0.6	
114	Modeling and measuring visco-elastic properties: From collagen molecules to collagen fibrils. *International Journal of Non-Linear Mechanics*, **2013**, 56, 25-33	2.8	46
113	Fabrication of 3D cell-laden hydrogel microstructures through photo-mold patterning. *Biofabrication*, **2013**, 5, 035002	10.5	49
112	Structural analysis and ion translocation mechanisms of the muscle-type acetylcholine receptor channel. *Journal of Applied Biomaterials and Functional Materials*, **2013**, 11, e53-60	1.8	1
111	Nanomechanics of collagen microfibrils. *Muscles, Ligaments and Tendons Journal*, **2013**, 3, 23-34	1.9	18
110	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, 145-54	3.1	17
109	Computational modeling for the optimization of a cardiogenic 3D bioprocess of encapsulated embryonic stem cells. *Biomechanics and Modeling in Mechanobiology*, **2012**, 11, 261-77	3.8	18
108	Multiscale computational analysis of degradable polymers. *Modeling, Simulation and Applications*, **2012**, 333-361	1.1	1
107	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, 360-9, 369.e1	1.5	66
106	Influence of Mitral Valve Anterior Leaflet in vivo Shape on Left Ventricular Ejection. *Cardiovascular Engineering and Technology*, **2012**, 3, 388-401	2.2	7

105	Osteogenesis imperfecta mutations lead to local tropocollagen unfolding and disruption of H-bond network. *RSC Advances*, **2012**, 2, 3890	3.7	15
104	Viscoelastic properties of model segments of collagen molecules. *Matrix Biology*, **2012**, 31, 141-9	11.4	112
103	In vitro hemodynamics and valve imaging in passive beating hearts. *Journal of Biomechanics*, **2012**, 45, 1133-9	2.9	33
102	Hydration and distance dependence of intermolecular shearing between collagen molecules in a model microfibril. *Journal of Biomechanics*, **2012**, 45, 2079-83	2.9	53
101	Aortic valve repair via neo-chordae technique: mechanistic insight through numerical modelling. *Annals of Biomedical Engineering*, **2012**, 40, 1039-51	4.7	3
100	A microfluidic platform for controlled biochemical stimulation of twin neuronal networks. *Biomicrofluidics*, **2012**, 6, 24106-2410610	3.2	31
99	Microfabricated polyester conical microwells for cell culture applications. *Lab on A Chip*, **2011**, 11, 2325-32	5.7	52
98	Mitral leaflet modeling: Importance of in vivo shape and material properties. *Journal of Biomechanics*, **2011**, 44, 2229-35	2.9	26
97	On the importance of blood rheology for bulk flow in hemodynamic models of the carotid bifurcation. *Journal of Biomechanics*, **2011**, 44, 2427-38	2.9	72
96	Hierarchical structure and nanomechanics of collagen microfibrils from the atomistic scale up. *Nano Letters*, **2011**, 11, 757-66	11.5	442
95	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, 339-55	3.8	155
94	Reliable magnetic reversible assembly of complex microfluidic devices: fabrication, characterization, and biological validation. *Microfluidics and Nanofluidics*, **2011**, 10, 1097-1107	2.8	21
93	In vitro study of aortic valves treated with neo-chordae grafts: hydrodynamics and tensile force measurements. *Annals of Biomedical Engineering*, **2011**, 39, 1024-31	4.7	3
92	Mitral Valve Patient-Specific Finite Element Modeling from Cardiac MRI: Application to an Annuloplasty Procedure. *Cardiovascular Engineering and Technology*, **2011**, 2, 66-76	2.2	75
91	Left ventricular modelling: a quantitative functional assessment tool based on cardiac magnetic resonance imaging. *Interface Focus*, **2011**, 1, 384-95	3.9	12
90	Visualization and simulated surgery of the left ventricle in the virtual pathological heart of the Virtual Physiological Human. *Interface Focus*, **2011**, 1, 374-83	3.9	2
89	The aortic interleaflet triangles annuloplasty: a multidisciplinary appraisal. *European Journal of Cardio-thoracic Surgery*, **2011**, 40, 851-7	3	10
88	Trends in biomedical engineering: focus on Patient Specific Modeling and Life Support Systems. *Journal of Applied Biomaterials and Biomechanics*, **2011**, 9, 109-17		1

87	Simulation of functional tricuspid regurgitation using an isolated porcine heart model. *Journal of Heart Valve Disease*, **2011**, 20, 657-63		8
86	A novel approach to the in vitro hydrodynamic study of the aortic valve: mock loop development and test. *ASAIO Journal*, **2010**, 56, 279-84	3.6	24
85	Coarse Grain Modeling for Microtubule Mechanics. *Materials Science Forum*, **2010**, 638-642, 629-634	0.4	3
84	Computational multiscale studies of collagen tissues in the context of brittle bone disease osteogenesis imperfecta. *Materials Research Society Symposia Proceedings*, **2010**, 1274, 1		
83	Outflow conditions for image-based hemodynamic models of the carotid bifurcation: implications for indicators of abnormal flow. *Journal of Biomechanical Engineering*, **2010**, 132, 091005	2.1	58
82	Mechanisms of polymyxin B endotoxin removal from extracorporeal blood flow: molecular interactions. *Contributions To Nephrology*, **2010**, 167, 45-54	1.6	7
81	**2010**,		1
80	Computer-Aided Molecular Modeling and Experimental Validation of Water Permeability Properties in Biosynthetic Materials. *Journal of Computational and Theoretical Nanoscience*, **2010**, 7, 1287-1293	0.3	14
79	Mechanisms of polymyxin B endotoxin removal from extracorporeal blood flow: hydrodynamics of sorption. *Contributions To Nephrology*, **2010**, 167, 55-64	1.6	4
78	Anisotropic elastic network modeling of entire microtubules. *Biophysical Journal*, **2010**, 99, 2190-9	2.9	85
77	Molecular and nanostructural mechanisms of deformation, strength and toughness of spider silk fibrils. *Nano Letters*, **2010**, 10, 2626-34	11.5	301
76	Coarse-Grained Model of Collagen Molecules Using an Extended MARTINI Force Field. *Journal of Chemical Theory and Computation*, **2010**, 6, 1210-1218	6.4	80
75	Mitral Valve Models Reconstructor: a Python based GUI software in a HPC environment for patient-specific FEM structural analysis **2010**, 215-219		2
74	Response of two annular prostheses to functional mitral regurgitation main determinants: an in vitro evaluation. *ASAIO Journal*, **2010**, 56, 491-6	3.6	3
73	Dynamic finite element analysis of the aortic root from MRI-derived parameters. *Medical Engineering and Physics*, **2010**, 32, 212-21	2.4	70
72	How to predict diffusion of medium-sized molecules in polymer matrices. From atomistic to coarse grain simulations. *Journal of Molecular Modeling*, **2010**, 16, 1845-51	2	25
71	A bioreactor with compliance monitoring for heart valve grafts. *Annals of Biomedical Engineering*, **2010**, 38, 100-8	4.7	19
70	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, 3688-705	4.7	44

69	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, 1807-15	5	30
68	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, 890-6, 896.e1-2	3.5	92
67	Womersley number-based estimation of flow rate with Doppler ultrasound: sensitivity analysis and first clinical application. *Computer Methods and Programs in Biomedicine*, **2010**, 98, 151-60	6.9	10
66	Finite element modelling of the tricuspid valve: A preliminary study. *Medical Engineering and Physics* , **2010**, 32, 1213-23	2.4	31
65	Intermolecular slip mechanism in tropocollagen nanofibrils. *International Journal of Materials Research*, **2009**, 100, 921-925	0.5	20
64	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, 615-23	3.9	12
63	MICROTUBULE-KINESIN MECHANICS BY MOLECULAR MODELING. *Biophysical Reviews and Letters*, **2009**, 04, 45-61	1.2	7
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