Ajit P Yoganathan

List of Publications by Year
in descending order

451 papers	18,651 citations	12303 69 h-index	24915 109 g-index
475 all docs	475 docs citations	475 times ranked	8841 citing authors

#	Article	IF	Citations
1	Calcific Aortic Valve Disease: Not Simply a Degenerative Process. Circulation, 2011, 124, 1783-1791.	1.6	699
2	Semiautomated method for noise reduction and background phase error correction in MR phase velocity data. Journal of Magnetic Resonance Imaging, 1993, 3, 521-530.	1.9	354
3	Standardized Definition of Structural Valve Degeneration for Surgical and Transcatheter Bioprosthetic Aortic Valves. Circulation, 2018, 137, 388-399.	1.6	350
4	Integrated Mechanism for Functional Mitral Regurgitation. Circulation, 1997, 96, 1826-1834.	1.6	327
5	Fluid Mechanics of Heart Valves. Annual Review of Biomedical Engineering, 2004, 6, 331-362.	5.7	314
6	Heart valve function: a biomechanical perspective. Philosophical Transactions of the Royal Society B: Biological Sciences, 2007, 362, 1369-1391.	1.8	309
7	Review of hydrodynamic principles for the cardiologist: Applications to the study of blood flow and jets by imaging techniques. Journal of the American College of Cardiology, 1988, 12, 1344-1353.	1.2	289
8	Chordal Cutting. Circulation, 2001, 104, 1958-1963.	1.6	285
9	Left ventricular blood flow patterns in normal subjects: A quantitative analysis by three-dimensional magnetic resonance velocity mapping. Journal of the American College of Cardiology, 1995, 26, 224-238.	1.2	243
10	FLUID MECHANICS OF ARTIFICIAL HEART VALVES. Clinical and Experimental Pharmacology and Physiology, 2009, 36, 225-237.	0.9	228
11	Altered Shear Stress Stimulates Upregulation of Endothelial VCAM-1 and ICAM-1 in a BMP-4â€" and TGF-Î²1â€"Dependent Pathway. Arteriosclerosis, Thrombosis, and Vascular Biology, 2009, 29, 254-260.	1.1	212
12	Papillary Muscle Displacement Causes Systolic Anterior Motion of the Mitral Valve. Circulation, 1995, 91, 1189-1195.	1.6	199
13	Elevated cyclic stretch alters matrix remodeling in aortic valve cusps: implications for degenerative aortic valve disease. American Journal of Physiology - Heart and Circulatory Physiology, 2009, 296, H756-H764.	1.5	172
14	Characterization of Hemodynamic Forces Induced by Mechanical Heart Valves: Reynolds vs. Viscous Stresses. Annals of Biomedical Engineering, 2008, 36, 276-297.	1.3	163
15	The Fluid Mechanics of Transcatheter Heart Valve Leaflet Thrombosis in the Neosinus. Circulation, 2017, 136, 1598-1609.	1.6	163
16	Biaixal Stressâ€"Stretch Behavior of the Mitral Valve Anterior Leaflet at Physiologic Strain Rates. Annals of Biomedical Engineering, 2006, 34, 315-325.	1.3	159
17	Nonlinear Power Loss During Exercise in Single-Ventricle Patients After the Fontan. Circulation, 2007, 116, I165-71.	1.6	157
18	Flow in Prosthetic Heart Valves: State-of-the-Art and Future Directions. Annals of Biomedical Engineering, 2005, 33, 1689-1694.	1.3	155

#	Article	IF	Citations
19	Pressure recovery distal to a stenosis: Potential cause of gradient â€œverestimationâ€•by Doppler echocardiography. Journal of the American College of Cardiology, 1989, 13, 706-715.	1.2	149
20	Adjacent solid boundaries alter the size of regurgitant jets on Doppler color flow maps. Journal of the American College of Cardiology, 1991, 17, 1094-1102.	1.2	146
21	Elevated Cyclic Stretch Induces Aortic Valve Calcification in a Bone Morphogenic Protein-Dependent Manner. American Journal of Pathology, 2010, 177, 49-57.	1.9	138
22	Hemodynamics and Mechanobiology of Aortic Valve Inflammation and Calcification. International Journal of Inflammation, 2011, 2011, 1-15.	0.9	133
23	Accurate Assessment of Aortic Stenosis. Circulation, 2014, 129, 244-253.	1.6	130
24	In vitro flow experiments for determination of optimal geometry of total cavopulmonary connection for surgical repair of children with functional single ventricle. Journal of the American College of Cardiology, 1996, 27, 1264-1269.	1.2	129
25	In-Vivo Dynamic Deformation of the Mitral Valve Anterior Leaflet. Annals of Thoracic Surgery, 2006, 82, 1369-1377.	0.7	122
26	Endothelium-Dependent Regulation of the Mechanical Properties of Aortic Valve Cusps. Journal of the American College of Cardiology, 2009, 53, 1448-1455.	1.2	122
27	Bileaflet, tilting disc and porcine aortic valve substitutes: In vitro hydrodynamic characteristics. Journal of the American College of Cardiology, 1984, 3, 313-320.	1.2	116
28	Effects of a Saddle Shaped Annulus on Mitral Valve Function and Chordal Force Distribution: An In Vitro Study. Annals of Biomedical Engineering, 2003, 31, 1171-1181.	1.3	115
29	Turbulent shear stress measurements in the vicinity of aortic heart valve prostheses. Journal of Biomechanics, 1986, 19, 433-442.	0.9	112
30	The total cavopulmonary connection resistance: a significant impact on single ventricle hemodynamics at rest and exercise. American Journal of Physiology - Heart and Circulatory Physiology, 2008, 295, H2427-H2435.	1.5	112
31	In Vitro Characterization of the Mechanisms Responsible for Functional Tricuspid Regurgitation. Circulation, 2011, 124, 920-929.	1.6	111
32	An Ex Vivo Study of the Biological Properties of Porcine Aortic Valves in Response to Circumferential Cyclic Stretch. Annals of Biomedical Engineering, 2006, 34, 1655-1665.	1.3	110
33	Mechanism of Mitral Regurgitation in Hypertrophic Cardiomyopathy. Circulation, 1998, 98, 856-865.	1.6	108
34	Toward designing the optimal total cavopulmonary connection: an in vitro study. Annals of Thoracic Surgery, 1999, 68, 1384-1390.	0.7	107
35	Physics-Driven CFD Modeling of Complex Anatomical Cardiovascular Flows?A TCPC Case Study. Annals of Biomedical Engineering, 2005, 33, 284-300.	1.3	106
36	A saddle-shaped annulus reduces systolic strain on the central region of the mitral valve anterior leaflet. Journal of Thoracic and Cardiovascular Surgery, 2007, 134, 1562-1568.	0.4	105

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37	Exercise capacity in single-ventricle patients after Fontan correlates with haemodynamic energy loss in TCPC. Heart, 2015, 101, 139-143.	1.2	104
38	Pressure drops across prosthetic aortic heart valves under steady and pulsatile flowâ€"In vitro measurements. Journal of Biomechanics, 1979, 12, 153-164.	0.9	100
39	Flow characteristics of four commonly used mechanical heart valves. American Journal of Cardiology, 1986, 58, 743-752.	0.7	100
40	Clinical significance and origin of artifacts in transesophageal echocardiography of the thoracic aorta. Journal of the American College of Cardiology, 1993, 21, 754-760.	1.2	98
41	Energy loss for evaluating heart valve performance. Journal of Thoracic and Cardiovascular Surgery, 2008, 136, 820-833.	0.4	98
42	Experimental measurement of dynamic fluid shear stress on the aortic surface of the aortic valve leaflet. Biomechanics and Modeling in Mechanobiology, 2012, 11, 171-182.	1.4	97
43	Saddle-Shaped Mitral Valve Annuloplasty Rings Experience Lower Forces Compared With Flat Rings. Circulation, 2008, 118, S250-5.	1.6	96
44	In vitro velocity measurements in the vicinity of aortic prostheses. Journal of Biomechanics, 1979, 12, 135-152.	0.9	94
45	Planar Biaxial Creep and Stress Relaxation of the Mitral Valve Anterior Leaflet. Annals of Biomedical Engineering, 2006, 34, 1509-1518.	1.3	94
46	Introduction of a New Optimized Total Cavopulmonary Connection. Annals of Thoracic Surgery, 2007, 83, 2182-2190.	0.7	94
47	Estimation of the Shear Stress on the Surface of an Aortic Valve Leaflet. Annals of Biomedical Engineering, 1999, 27, 572-579.	1.3	92
48	Evaluation of the Precision of Magnetic Resonance Phase Velocity Mapping for Blood Flow Measurements. Journal of Cardiovascular Magnetic Resonance, 2001, 3, 11-19.	1.6	92
49	Flow in a Mechanical Bileaflet Heart Valve at Laminar and Near-Peak Systole Flow Rates: CFD Simulations and Experiments. Journal of Biomechanical Engineering, 2005, 127, 782-797.	0.6	91
50	Aortic Valve: Mechanical Environment and Mechanobiology. Annals of Biomedical Engineering, 2013, 41, 1331-1346.	1.3	91
51	Fontan hemodynamics: Importance of pulmonary artery diameter. Journal of Thoracic and Cardiovascular Surgery, 2009, 137, 560-564.	0.4	90
52	Mechanistic insights into functional mitral regurgitation. Current Cardiology Reports, 2002, 4, 125-129.	1.3	89
53	Patient-specific surgical planning and hemodynamic computational fluid dynamics optimization through free-form haptic anatomy editing tool (SURGEM). Medical and Biological Engineering and Computing, 2008, 46, 1139-1152.	1.6	88
54	Saddle Shape of the Mitral Annulus Reduces Systolic Strains on the P2 Segment of the Posterior Mitral Leaflet. Annals of Thoracic Surgery, 2009, 88, 1499-1504.	0.7	88

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55	Fontan hemodynamics from 100 patient-specific cardiac magnetic resonance studies: A computational fluid dynamics analysis. Journal of Thoracic and Cardiovascular Surgery, 2014, 148, 1481-1489.	0.4	86
56	Mitral valve hemodynamics after repair of acute posterior leaflet prolapse: Quadrangular resection versus triangular resection versus neochordoplasty. Journal of Thoracic and Cardiovascular Surgery, 2009, 138, 309-315.	0.4	81
57	Chordal geometry determines the shape and extent of systolic anterior mitral motion: In vitro studies. Journal of the American College of Cardiology, 1989, 13, 1438-1448.	1.2	80
58	Fluid Dynamic Assessment of Three Polymeric Heart Valves Using Particle Image Velocimetry. Annals of Biomedical Engineering, 2006, 34, 936-952.	1.3	80
59	Coupling Pediatric Ventricle Assist Devices to the Fontan Circulation: Simulations with a Lumped-Parameter Model. ASAIO Journal, 2005, 51, 618-628.	0.9	78
60	Doppler color flow mapping in the evaluation of prosthetic mitral and aortic valve function. Journal of the American College of Cardiology, 1989, 13, 1561-1571.	1.2	75
61	Correction of Pulmonary Arteriovenous Malformation Using Image-Based Surgical Planning. JACC: Cardiovascular Imaging, 2009, 2, 1024-1030.	2.3	75
62	Influence of various instrument settings on the flow information derived from the power mode. Ultrasound in Medicine and Biology, 1991, 17, 49-54.	0.7	74
63	Saddle-shaped mitral valve annuloplasty rings improve leaflet coaptation geometry. Journal of Thoracic and Cardiovascular Surgery, 2011, 142, 697-703.	0.4	74
64	Numerical Simulation of Flow in Mechanical Heart Valves: Grid Resolution and the Assumption of Flow Symmetry. Journal of Biomechanical Engineering, 2003, 125, 709-718.	0.6	73
65	Cyclic Pressure Affects the Biological Properties of Porcine Aortic Valve Leaflets in a Magnitude and Frequency Dependent Manner. Annals of Biomedical Engineering, 2004, 32, 1461-1470.	1.3	73
66	In Vitro Dynamic Strain Behavior of the Mitral Valve Posterior Leaflet. Journal of Biomechanical Engineering, 2005, 127, 504-511.	0.6	73
67	Correlates of Tricuspid Regurgitation as Determined by 3D Echocardiography: Pulmonary Arterial Pressure, Ventricle Geometry, Annular Dilatation, and Papillary Muscle Displacement. Circulation: Cardiovascular Imaging, 2012, 5, 43-50.	1.3	72
68	In Vitro Characterization of Bicuspid Aortic Valve Hemodynamics Using Particle Image Velocimetry. Annals of Biomedical Engineering, 2012, 40, 1760-1775.	1.3	72
69	Chordal force distribution determines systolic mitral leaflet configuration and severity of functional mitral regurgitation. Journal of the American College of Cardiology, 1999, 33, 843-853.	1.2	71
70	Bileaflet, tilting disc and porcine aortic valve substitutes: In vivo hydrodynamic characteristics. Journal of the American College of Cardiology, 1984, 3, 321-327.	1.2	70
71	Three-Dimensional Computational Model of Left Heart Diastolic Function With Fluidâ€“Structure Interaction. Journal of Biomechanical Engineering, 2000, 122, 109-117.	0.6	69
72	On the Mechanics of Transcatheter Aortic Valve Replacement. Annals of Biomedical Engineering, 2017, 45, 310-331.	1.3	69

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73	In vitro hemodynamic characteristics of tissue bioprostheses in the aortic position. Journal of Thoracic and Cardiovascular Surgery, 1986, 92, 198-209.	0.4	67
74	Theoretical and practical differences between the Gorlin formula and the continuity equation for calculating aortic and mitral valve areas. American Journal of Cardiology, 1991, 67, 1268-1272.	0.7	67
75	Biosynthetic Activity in Heart Valve Leaflets in Response to In Vitro Flow Environments. Annals of Biomedical Engineering, 2001, 29, 752-763.	1.3	67
76	Total Cavopulmonary Connection Flow With Functional Left Pulmonary Artery Stenosis. Circulation, 2005, 112, 3264-3271.	1.6	67
77	A New Method for Registration-Based Medical Image Interpolation. IEEE Transactions on Medical Imaging, 2008, 27, 370-377.	5.4	67
78	Design of an Ex Vivo Culture System to Investigate the Effects of Shear Stress on Cardiovascular Tissue. Journal of Biomechanical Engineering, 2008, 130, 035001.	0.6	67
79	Experimental measurement of dynamic fluid shear stress on the ventricular surface of the aortic valve leaflet. Biomechanics and Modeling in Mechanobiology, 2012, 11, 231-244.	1.4	67
80	Valve Type, Size, and Deployment Location Affect Hemodynamics in anÂInÂVitro Valve-in-Valve Model. JACC: Cardiovascular Interventions, 2016, 9, 1618-1628.	1.1	67
81	Slice location dependence of aortic regurgitation measurements with MR phase velocity mapping. Magnetic Resonance in Medicine, 1997, 37, 545-551.	1.9	65
82	Importance of Accurate Geometry in the Study of the Total Cavopulmonary Connection: Computational Simulations and In Vitro Experiments. Annals of Biomedical Engineering, 2001, 29, 844-853.	1.3	65
83	In Vitro Flow Analysis of a Patient-Specific Intraatrial Total Cavopulmonary Connection. Annals of Thoracic Surgery, 2005, 79, 2094-2102.	0.7	64
84	Application of an adaptive control grid interpolation technique to morphological vascular reconstruction. IEEE Transactions on Biomedical Engineering, 2003, 50, 197-206.	2.5	63
85	The material properties of the native porcine mitral valve chordae tendineae: An in vitro investigation. Journal of Biomechanics, 2006, 39, 1129-1135.	0.9	63
86	Dynamic deformation characteristics of porcine aortic valve leaflet under normal and hypertensive conditions. American Journal of Physiology - Heart and Circulatory Physiology, 2010, 298, H395-H405.	1.5	63
87	Mathematics of systolic pulmonary vein flow: A closed form analytical solution incorporating fundamental principles and key variables. Journal of the American College of Cardiology, 1996, 27, 1-2.	1.2	62
88	Functional analysis of Fontan energy dissipation. Journal of Biomechanics, 2008, 41, 2246-2252.	0.9	62
89	Blood flow distribution in a large series of patients having the Fontan operation: A cardiac magnetic resonance velocity mapping study. Journal of Thoracic and Cardiovascular Surgery, 2009, 138, 96-102.	0.4	62
90	An In Vitro Evaluation of the Impact of Eccentric Deployment on Transcatheter Aortic Valve Hemodynamics. Annals of Biomedical Engineering, 2014, 42, 1195-1206.	1.3	61

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91	Flow study of an extracardiac connection with persistent left superior vena cava. Journal of Thoracic and Cardiovascular Surgery, 2006, 131, 785-791.	0.4	60
92	On the effects of leaflet microstructure and constitutive model on the closing behavior of the mitral valve. Biomechanics and Modeling in Mechanobiology, 2015, 14, 1281-1302.	1.4	60
93	Geometric Characterization of Patient-Specific Total Cavopulmonary Connections and its Relationship to Hemodynamics. JACC: Cardiovascular Imaging, 2014, 7, 215-224.	2.3	59
94	Determinants of pulmonary venous flow reversal in mitral regurgitation and its usefulness in determining the severity of regurgitation. American Journal of Cardiology, 1999, 83, 535-541.	0.7	58
95	Mitral Valve Function and Chordal Force Distribution Using a Flexible Annulus Model: An In Vitro Study. Annals of Biomedical Engineering, 2005, 33, 557-566.	1.3	58
96	Factors influencing the structure and shape of stenotic and regurgitant jets: An in vitro investigation using doppler color flow mapping and optical flow visualization. Journal of the American College of Cardiology, 1989, 13, 1672-1681.	1.2	55
97	Biofluid Mechanics. , 0, , .		55
98	In vitro pulsatile flow velocity and shear stress measurements in the vicinity of mechanical mitral heart valve prostheses. Journal of Biomechanics, 1986, 19, 39-51.	0.9	54
99	Fluidâ€"Structure Interaction Analysis of Papillary Muscle Forces Using a Comprehensive Mitral Valve Model with 3D Chordal Structure. Annals of Biomedical Engineering, 2016, 44, 942-953.	1.3	54
100	Disturbed Flow Increases UBE2C (Ubiquitin E2 Ligase C) via Loss of miR-483-3p, Inducing Aortic Valve Calcification by the pVHL (von Hippel-Lindau Protein) and HIF-1Î± (Hypoxia-Inducible Factor-1Î±) Pathway in Endothelial Cells. Arteriosclerosis, Thrombosis, and Vascular Biology, 2019, 39, 467-481.	1.1	54
101	Experimental and numeric investigation of Impella pumps as cavopulmonary assistance for a failing Fontan. Journal of Thoracic and Cardiovascular Surgery, 2012, 144, 563-569.	0.4	53
102	Pulsatile flow visualization in a model of the human abdominal aorta and aortic bifurcation. Journal of Biomechanics, 1992, 25, 935-944.	0.9	52
103	Computational Modeling of Left Heart Diastolic Function: Examination of Ventricular Dysfunction. Journal of Biomechanical Engineering, 2000, 122, 297-303.	0.6	52
104	Progress in the CFD Modeling of Flow Instabilities in Anatomical Total Cavopulmonary Connections. Annals of Biomedical Engineering, 2007, 35, 1840-1856.	1.3	52
105	Comparing Pre- and Post-operative Fontan Hemodynamic Simulations: Implications for the Reliability of Surgical Planning. Annals of Biomedical Engineering, 2012, 40, 2639-2651.	1.3	52
106	Experimental analysis of fluid mechanical energy losses in aortic valve stenosis: Importance of pressure recovery. Annals of Biomedical Engineering, 1996, 24, 685-694.	1.3	51
107	Cardiac evaluation of women distance runners by echocardiographic color Doppler flow mapping. Journal of the American College of Cardiology, 1988, 11, 89-93.	1.2	50
108	Single-Step Stereolithography of Complex Anatomical Models for Optical Flow Measurements. Journal of Biomechanical Engineering, 2005, 127, 204-207.	0.6	49

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109	Structural Characterization of the Chordae Tendineae in Native Porcine Mitral Valves. Annals of Thoracic Surgery, 2005, 80, 189-197.	0.7	49
110	Impaired Power Output and Cardiac Index With Hypoplastic Left Heart Syndrome: A Magnetic Resonance Imaging Study. Annals of Thoracic Surgery, 2006, 82, 1267-1277.	0.7	49
111	Structural simulations of prosthetic tri-leaflet aortic heart valves. Journal of Biomechanics, 2008, 41, 1510-1519.	0.9	49
112	Pulmonary hepatic flow distribution in total cavopulmonary connections: Extracardiac versus intracardiac. Journal of Thoracic and Cardiovascular Surgery, 2011, 141, 207-214.	0.4	49
113	The Effects of Combined Cyclic Stretch and Pressure on the Aortic Valve Interstitial Cell Phenotype. Annals of Biomedical Engineering, 2011, 39, 1654-1667.	1.3	49
114	A Novel Left Heart Simulator for the Multi-modality Characterization of Native Mitral Valve Geometry and Fluid Mechanics. Annals of Biomedical Engineering, 2013, 41, 305-315.	1.3	49
115	New Techniques for the Reconstruction of Complex Vascular Anatomies from MRI Images. Journal of Cardiovascular Magnetic Resonance, 2005, 7, 425-432.	1.6	48
116	Flow simulations in arbitrarily complex cardiovascular anatomies â€“ An unstructured Cartesian grid approach. Computers and Fluids, 2009, 38, 1749-1762.	1.3	48
117	Individualized computer-based surgical planning to address pulmonary arteriovenous malformations in patients with a single ventricle with an interrupted inferior vena cava and azygous continuation. Journal of Thoracic and Cardiovascular Surgery, 2011, 141, 1170-1177.	0.4	48
118	Fluid Mechanic Assessment of the Total Cavopulmonary Connection using Magnetic Resonance Phase Velocity Mapping and Digital Particle Image Velocimetry. Annals of Biomedical Engineering, 2000, 28, 1172-1183.	1.3	47
119	Experimental Investigation of the Steady Flow Downstream of the St. Jude Bileaflet Heart Valve: A Comparison Between Laser Doppler Velocimetry and Particle Image Velocimetry Techniques. Annals of Biomedical Engineering, 2000, 28, 39-47.	1.3	47
120	Numerical, Hydraulic, and Hemolytic Evaluation of an Intravascular Axial Flow Blood Pump to Mechanically Support Fontan Patients. Annals of Biomedical Engineering, 2011, 39, 324-336.	1.3	47
121	A Numerical Investigation of Blood Damage in the Hinge Area of Aortic Bileaflet Mechanical Heart Valves During the Leakage Phase. Annals of Biomedical Engineering, 2012, 40, 1468-1485.	1.3	47
122	Two-dimensional velocity measurements in a pulsatile flow model of the normal abdominal aorta simulating different hemodynamic conditions. Journal of Biomechanics, 1993, 26, 1237-1247.	0.9	46
123	Improved In Vitro Quantification of the Force Exerted by the Papillary Muscle on the Left Ventricular Wall: Three-Dimensional Force Vector Measurement System. Annals of Biomedical Engineering, 2001, 29, 406-413.	1.3	46
124	Effect of Fontan geometry on exercise haemodynamics and its potential implications. Heart, 2017, 103, 1806-1812.	1.2	46
125	Fontan Surgical Planning: Previous Accomplishments, Current Challenges, and Future Directions. Journal of Cardiovascular Translational Research, 2018, 11, 133-144.	1.1	46
126	In vitro methods for studying the accuracy of velocity determination and spatial resolution of a color Doppler flow mapping system. American Heart Journal, 1987, 114, 152-158.	1.2	45

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127	Visualization of flow structures in Fontan patients using 3-dimensional phase contrast magnetic resonance imaging. Journal of Thoracic and Cardiovascular Surgery, 2012, 143, 1108-1116.	0.4	45
128	Total ellipse of the heart valve: the impact of eccentric stent distortion on the regional dynamic deformation of pericardial tissue leaflets of a transcatheter aortic valve replacement. Journal of the Royal Society Interface, 2015, 12, 20150737.	1.5	45
129	On the Simulation of Mitral Valve Function in Health, Disease, and Treatment. Journal of Biomechanical Engineering, 2019, 141, .	0.6	45
130	Noninvasive Fluid Dynamic Power Loss Assessments for Total Cavopulmonary Connections Using the Viscous Dissipation Function: A Feasibility Study. Journal of Biomechanical Engineering, 2001, 123, 317-324.	0.6	44
131	Effects of Constant Static Pressure on the Biological Properties of Porcine Aortic Valve Leaflets. Annals of Biomedical Engineering, 2004, 32, 555-562.	1.3	44
132	Effects of Annular Size, Transmitral Pressure, and Mitral Flow Rate on the Edge-To-Edge Repair: An In Vitro Study. Annals of Thoracic Surgery, 2006, 82, 1362-1368.	0.7	44
133	Neonatal Aortic Arch Hemodynamics and Perfusion During Cardiopulmonary Bypass. Journal of Biomechanical Engineering, 2008, 130, 061012.	0.6	44
134	Hemodynamic Modeling of Surgically Repaired Coarctation of the Aorta. Cardiovascular Engineering and Technology, 2011, 2, 288-295.	0.7	44
135	Transcatheter Mitral Valve Planning and the Neo-LVOT: Utilization of Virtual Simulation Models and 3D Printing. Current Treatment Options in Cardiovascular Medicine, 2018, 20, 99.	0.4	44
136	Quantification of mitral regurgitation with MR phase-velocity mapping using a control volume method. Journal of Magnetic Resonance Imaging, 1998, 8, 577-582.	1.9	43
137	In vivo flow dynamics of the total cavopulmonary connection from three-dimensional multislice magnetic resonance imaging. Annals of Thoracic Surgery, 2001, 71, 889-898.	0.7	43
138	Aortic Valve Cyclic Stretch Causes Increased Remodeling Activity and Enhanced Serotonin Receptor Responsiveness. Annals of Thoracic Surgery, 2011, 92, 147-153.	0.7	43
139	The Effects of a Three-Dimensional, Saddle-Shaped Annulus on Anterior and Posterior Leaflet Stretch and Regurgitation of the Tricuspid Valve. Annals of Biomedical Engineering, 2012, 40, 996-1005.	1.3	43
140	Identification of side- and shear-dependent microRNAs regulating porcine aortic valve pathogenesis. Scientific Reports, 2016, 6, 25397.	1.6	43
141	Ex Vivo Methods for Informing Computational Models of the Mitral Valve. Annals of Biomedical Engineering, 2017, 45, 496-507.	1.3	43
142	A New Control Volume Method for Calculating Valvular Regurgitation. Circulation, 1995, 92, 579-586.	1.6	43
143	Two-dimensional mitral flow velocity profiles in pig models using epicardial doppler echocardiography. Journal of the American College of Cardiology, 1994, 24, 532-545.	1.2	42
144	An In Vitro Study of the Hinge and Near-Field Forward Flow Dynamics of the St. Jude MedicalÂ® Regentâ„¢ Bileaflet Mechanical Heart Valve. Annals of Biomedical Engineering, 2000, 28, 524-532.	1.3	42

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145	Simulation of the Three-Dimensional Hinge Flow Fields of a Bileaflet Mechanical Heart Valve Under Aortic Conditions. Annals of Biomedical Engineering, 2010, 38, 841-853.	1.3	42
146	Mechanics of the Mitral Valve Strut Chordae Insertion Region. Journal of Biomechanical Engineering, 2010, 132, 081004.	0.6	42
147	Preliminary clinical experience with a bifurcated Y-graft Fontan procedureâ€"A feasibility study. Journal of Thoracic and Cardiovascular Surgery, 2012, 144, 383-389.	0.4	42
148	The Effect of Valve-in-Valve Implantation Height on Sinus Flow. Annals of Biomedical Engineering, 2017, 45, 405-412.	1.3	42
149	Effects of papillary muscle position on in-vitro dynamic strain on the porcine mitral valve. Journal of Heart Valve Disease, 2003, 12, 488-94.	0.5	42
150	Hemodynamic Performance of Stage-2 Univentricular Reconstruction: Glenn vs. Hemi-Fontan Templates. Annals of Biomedical Engineering, 2009, 37, 50-63.	1.3	41
151	Impact of hemodynamics and fluid energetics on liver fibrosis after Fontan operation. Journal of Thoracic and Cardiovascular Surgery, 2018, 156, 267-275.	0.4	41
152	Spatial velocity distribution and acceleration in serial subvalve tunnel and valvular obstructions: An in vitro study using doppler color flow mapping. Journal of the American College of Cardiology, 1989, 13, 241-248.	1.2	40
153	A new theoretical model for noninvasive quantification of mitral regurgitation. Journal of Biomechanics, 1990, 23, 27-33.	0.9	40
154	Miniature C-Shaped Transducers for Chordae Tendineae Force Measurements. Annals of Biomedical Engineering, 2004, 32, 1050-1057.	1.3	40
155	Comparison of the Hinge Flow Fields of Two Bileaflet Mechanical Heart Valves under Aortic and Mitral Conditions. Annals of Biomedical Engineering, 2004, 32, 1607-1617.	1.3	40
156	Cyclic pressure and shear stress regulate matrix metalloproteinases and cathepsin activity in porcine aortic valves. Journal of Heart Valve Disease, 2006, 15, 622-9.	0.5	40
157	A comparison of the hinge and near-hinge flow fields of the St Jude medical hemodynamic plus and regent bileaflet mechanical heart valves. Journal of Thoracic and Cardiovascular Surgery, 2000, 119, 83-93.	0.4	39
158	The Effects of Different Mesh Generation Methods on Computational Fluid Dynamic Analysis and Power Loss Assessment in Total Cavopulmonary Connection. Journal of Biomechanical Engineering, 2004, 126, 594-603.	0.6	39
159	Power loss and right ventricular efficiency in patients after tetralogy of Fallot repair with pulmonary insufficiency: Clinical implications. Journal of Thoracic and Cardiovascular Surgery, 2012, 143, 1279-1285.	0.4	39
160	Simulating hemodynamics of the Fontan Y-graft based on patient-specific inÂvivo connections. Journal of Thoracic and Cardiovascular Surgery, 2013, 145, 663-670.	0.4	39
161	Increased heart rate can cause underestimation of regurgitant jet size by Doppler color flow mapping. Journal of the American College of Cardiology, 1993, 21, 1029-1037.	1.2	38
162	Respiratory Effects on Fontan Circulation During Rest and Exercise Using Real-Time Cardiac Magnetic Resonance Imaging. Annals of Thoracic Surgery, 2016, 101, 1818-1825.	0.7	37

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163	Fluidâ€“structure interaction and structural analyses using a comprehensive mitral valve model with 3D chordal structure. International Journal for Numerical Methods in Biomedical Engineering, 2017, 33, e2815.	1.0	37
164	Mitral leaflet geometry perturbations with papillary muscle displacement and annular dilatation: an in-vitro study of ischemic mitral regurgitation. Journal of Heart Valve Disease, 2003, 12, 300-7.	0.5	37
165	In Vitro Mitral Valve Simulator Mimics Systolic Valvular Function of Chronic Ischemic Mitral Regurgitation Ovine Model. Annals of Thoracic Surgery, 2013, 95, 825-830.	0.7	36
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