

# Ajit P Yoganathan

## List of Publications by Citations

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442  
papers

15,258  
citations

64  
h-index

98  
g-index

475  
ext. papers

16,886  
ext. citations

3.9  
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6.41  
L-index

| #   | Paper  | IF   | Citations |
|-----|--|------|-----------|
| 442 | Calcific aortic valve disease: not simply a degenerative process: A review and agenda for research from the National Heart and Lung and Blood Institute Aortic Stenosis Working Group. Executive summary: Calcific aortic valve disease-2011 update. <i>Circulation</i> , <b>2011</b> , 124, 1783-91 | 16.3 | 581       |
| 441 | Semiautomated method for noise reduction and background phase error correction in MR phase velocity data. <i>Journal of Magnetic Resonance Imaging</i> , <b>1993</b> , 3, 521-30   | 5.4  | 298       |
| 440 | Heart valve function: a biomechanical perspective. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , <b>2007</b> , 362, 1369-91  | 5.7  | 265       |
| 439 | Review of hydrodynamic principles for the cardiologist: applications to the study of blood flow and jets by imaging techniques. <i>Journal of the American College of Cardiology</i> , <b>1988</b> , 12, 1344-53   | 4.6  | 260       |
| 438 | Fluid mechanics of heart valves. <i>Annual Review of Biomedical Engineering</i> , <b>2004</b> , 6, 331-62  | 11.6 | 252       |
| 437 | Integrated mechanism for functional mitral regurgitation: leaflet restriction versus coapting force: in vitro studies. <i>Circulation</i> , <b>1997</b> , 96, 1826-34  | 16.3 | 251       |
| 436 | Chordal cutting: a new therapeutic approach for ischemic mitral regurgitation. <i>Circulation</i> , <b>2001</b> , 104, 1958-63   | 16.3 | 236       |
| 435 | Left ventricular blood flow patterns in normal subjects: a quantitative analysis by three-dimensional magnetic resonance velocity mapping. <i>Journal of the American College of Cardiology</i> , <b>1995</b> , 26, 224-38   | 4.6  | 206       |
| 434 | Standardized Definition of Structural Valve Degeneration for Surgical and Transcatheter Bioprosthetic Aortic Valves. <i>Circulation</i> , <b>2018</b> , 137, 388-399   | 16.3 | 212       |
| 433 | Fluid mechanics of artificial heart valves. <i>Clinical and Experimental Pharmacology and Physiology</i> , <b>2009</b> , 36, 225-37  | 2.9  | 189       |
| 432 | Altered shear stress stimulates upregulation of endothelial VCAM-1 and ICAM-1 in a BMP-4- and TGF-beta1-dependent pathway. <i>Arteriosclerosis, Thrombosis, and Vascular Biology</i> , <b>2009</b> , 29, 254-60  | 9.1  | 182       |
| 431 | Elevated cyclic stretch alters matrix remodeling in aortic valve cusps: implications for degenerative aortic valve disease. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , <b>2009</b> , 296, H756-64  | 5    | 157       |
| 430 | Papillary muscle displacement causes systolic anterior motion of the mitral valve. Experimental validation and insights into the mechanism of subaortic obstruction. <i>Circulation</i> , <b>1995</b> , 91, 1189-95  | 16.3 | 148       |
| 429 | Characterization of hemodynamic forces induced by mechanical heart valves: Reynolds vs. viscous stresses. <i>Annals of Biomedical Engineering</i> , <b>2008</b> , 36, 276-97   | 4.6  | 140       |
| 428 | Nonlinear power loss during exercise in single-ventricle patients after the Fontan: insights from computational fluid dynamics. <i>Circulation</i> , <b>2007</b> , 116, 1165-71  | 16.3 | 139       |
| 427 | Biaxial stress-stretch behavior of the mitral valve anterior leaflet at physiologic strain rates. <i>Annals of Biomedical Engineering</i> , <b>2006</b> , 34, 315-25   | 4.6  | 139       |
| 426 | Adjacent solid boundaries alter the size of regurgitant jets on Doppler color flow maps. <i>Journal of the American College of Cardiology</i> , <b>1991</b> , 17, 1094-102   | 4.6  | 131       |

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|-----|---|------|-----|
| 425 | Flow in prosthetic heart valves: state-of-the-art and future directions. <i>Annals of Biomedical Engineering</i> , <b>2005</b> , 33, 1689-94  | 4.6  | 128 |
| 424 | Elevated cyclic stretch induces aortic valve calcification in a bone morphogenetic protein-dependent manner. <i>American Journal of Pathology</i> , <b>2010</b> , 177, 49-57  | 5.6  | 124 |
| 423 | Pressure recovery distal to a stenosis: potential cause of gradient "overestimation" by Doppler echocardiography. <i>Journal of the American College of Cardiology</i> , <b>1989</b> , 13, 706-15   | 4.6  | 127 |
| 422 | In vitro flow experiments for determination of optimal geometry of total cavopulmonary connection for surgical repair of children with functional single ventricle. <i>Journal of the American College of Cardiology</i> , <b>1996</b> , 27, 1264-9 | 4.6  | 120 |
| 421 | In-vivo dynamic deformation of the mitral valve anterior leaflet. <i>Annals of Thoracic Surgery</i> , <b>2006</b> , 82, 1369-77   | 2.6  | 110 |
| 420 | Endothelium-dependent regulation of the mechanical properties of aortic valve cusps. <i>Journal of the American College of Cardiology</i> , <b>2009</b> , 53, 1448-55   | 4.6  | 110 |
| 419 | Hemodynamics and mechanobiology of aortic valve inflammation and calcification. <i>International Journal of Inflammation</i> , <b>2011</b> , 2011, 263870   | 6.2  | 104 |
| 418 | Effects of a saddle shaped annulus on mitral valve function and chordal force distribution: an in vitro study. <i>Annals of Biomedical Engineering</i> , <b>2003</b> , 31, 1171-81  | 4.6  | 104 |
| 417 | Toward designing the optimal total cavopulmonary connection: an in vitro study. <i>Annals of Thoracic Surgery</i> , <b>1999</b> , 68, 1384-90   | 2.6  | 103 |
| 416 | An ex vivo study of the biological properties of porcine aortic valves in response to circumferential cyclic stretch. <i>Annals of Biomedical Engineering</i> , <b>2006</b> , 34, 1655-65   | 4.6  | 101 |
| 415 | Bileaflet, tilting disc and porcine aortic valve substitutes: in vitro hydrodynamic characteristics. <i>Journal of the American College of Cardiology</i> , <b>1984</b> , 3, 313-20   | 4.6  | 99  |
| 414 | Turbulent shear stress measurements in the vicinity of aortic heart valve prostheses. <i>Journal of Biomechanics</i> , <b>1986</b> , 19, 433-42   | 2.8  | 97  |
| 413 | The Fluid Mechanics of Transcatheter Heart Valve Leaflet Thrombosis in the Neosinus. <i>Circulation</i> , <b>2017</b> , 136, 1598-1609  | 16.3 | 105 |
| 412 | Physics-driven CFD modeling of complex anatomical cardiovascular flows-a TCPC case study. <i>Annals of Biomedical Engineering</i> , <b>2005</b> , 33, 284-300   | 4.6  | 94  |
| 411 | The total cavopulmonary connection resistance: a significant impact on single ventricle hemodynamics at rest and exercise. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , <b>2008</b> , 295, H2427-35                   | 5    | 92  |
| 410 | Flow characteristics of four commonly used mechanical heart valves. <i>American Journal of Cardiology</i> , <b>1986</b> , 58, 743-52  | 2.9  | 93  |
| 409 | Pressure drops across prosthetic aortic heart valves under steady and pulsatile flow--in vitro measurements. <i>Journal of Biomechanics</i> , <b>1979</b> , 12, 153-64  | 2.8  | 92  |
| 408 | A saddle-shaped annulus reduces systolic strain on the central region of the mitral valve anterior leaflet. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2007</b> , 134, 1562-8   | 1.5  | 92  |

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|-----|--|------|----|
| 407 | Saddle-shaped mitral valve annuloplasty rings experience lower forces compared with flat rings. <i>Circulation</i> , <b>2008</b> , 118, S250-5   | 16.3 | 88 |
| 406 | Planar biaxial creep and stress relaxation of the mitral valve anterior leaflet. <i>Annals of Biomedical Engineering</i> , <b>2006</b> , 34, 1509-18   | 4.6  | 85 |
| 405 | Introduction of a new optimized total cavopulmonary connection. <i>Annals of Thoracic Surgery</i> , <b>2007</b> , 83, 2182-90  | 2.6  | 85 |
| 404 | In vitro velocity measurements in the vicinity of aortic prostheses. <i>Journal of Biomechanics</i> , <b>1979</b> , 12, 135-52   | 2.8  | 84 |
| 403 | Clinical significance and origin of artifacts in transesophageal echocardiography of the thoracic aorta. <i>Journal of the American College of Cardiology</i> , <b>1993</b> , 21, 754-60   | 4.6  | 82 |
| 402 | In vitro characterization of the mechanisms responsible for functional tricuspid regurgitation. <i>Circulation</i> , <b>2011</b> , 124, 920-9  | 16.3 | 79 |
| 401 | Fontan hemodynamics: importance of pulmonary artery diameter. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2009</b> , 137, 560-4   | 1.5  | 81 |
| 400 | Estimation of the shear stress on the surface of an aortic valve leaflet. <i>Annals of Biomedical Engineering</i> , <b>1999</b> , 27, 572-9  | 4.6  | 80 |
| 399 | Accurate assessment of aortic stenosis: a review of diagnostic modalities and hemodynamics. <i>Circulation</i> , <b>2014</b> , 129, 244-53   | 16.3 | 82 |
| 398 | Patient-specific surgical planning and hemodynamic computational fluid dynamics optimization through free-form haptic anatomy editing tool (SURGEM). <i>Medical and Biological Engineering and Computing</i> , <b>2008</b> , 46, 1139-52 | 3    | 78 |
| 397 | Mechanism of mitral regurgitation in hypertrophic cardiomyopathy: mismatch of posterior to anterior leaflet length and mobility. <i>Circulation</i> , <b>1998</b> , 98, 856-65   | 16.3 | 79 |
| 396 | Exercise capacity in single-ventricle patients after Fontan correlates with haemodynamic energy loss in TCPC. <i>Heart</i> , <b>2015</b> , 101, 139-43   | 4.9  | 77 |
| 395 | Evaluation of the precision of magnetic resonance phase velocity mapping for blood flow measurements. <i>Journal of Cardiovascular Magnetic Resonance</i> , <b>2001</b> , 3, 11-9  | 6.6  | 75 |
| 394 | Flow in a mechanical bileaflet heart valve at laminar and near-peak systole flow rates: CFD simulations and experiments. <i>Journal of Biomechanical Engineering</i> , <b>2005</b> , 127, 782-97   | 2.1  | 76 |
| 393 | Experimental measurement of dynamic fluid shear stress on the aortic surface of the aortic valve leaflet. <i>Biomechanics and Modeling in Mechanobiology</i> , <b>2012</b> , 11, 171-82  | 3.7  | 73 |
| 392 | Energy loss for evaluating heart valve performance. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2008</b> , 136, 820-33  | 1.5  | 77 |
| 391 | Doppler color flow mapping in the evaluation of prosthetic mitral and aortic valve function. <i>Journal of the American College of Cardiology</i> , <b>1989</b> , 13, 1561-71  | 4.6  | 74 |
| 390 | Mechanistic insights into functional mitral regurgitation. <i>Current Cardiology Reports</i> , <b>2002</b> , 4, 125-9  | 4    | 73 |

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| 389 | Aortic valve: mechanical environment and mechanobiology. <i>Annals of Biomedical Engineering</i> , <b>2013</b> , 41, 1331-46   | 4.6 | 71 |
| 388 | Correction of pulmonary arteriovenous malformation using image-based surgical planning. <i>JACC: Cardiovascular Imaging</i> , <b>2009</b> , 2, 1024-30   | 8.1 | 69 |
| 387 | Fluid dynamic assessment of three polymeric heart valves using particle image velocimetry. <i>Annals of Biomedical Engineering</i> , <b>2006</b> , 34, 936-52  | 4.6 | 69 |
| 386 | Saddle shape of the mitral annulus reduces systolic strains on the P2 segment of the posterior mitral leaflet. <i>Annals of Thoracic Surgery</i> , <b>2009</b> , 88, 1499-504  | 2.6 | 72 |
| 385 | Cyclic pressure affects the biological properties of porcine aortic valve leaflets in a magnitude and frequency dependent manner. <i>Annals of Biomedical Engineering</i> , <b>2004</b> , 32, 1461-70                                    | 4.6 | 69 |
| 384 | Influence of various instrument settings on the flow information derived from the power mode. <i>Ultrasound in Medicine and Biology</i> , <b>1991</b> , 17, 49-54  | 2.7 | 68 |
| 383 | In vitro dynamic strain behavior of the mitral valve posterior leaflet. <i>Journal of Biomechanical Engineering</i> , <b>2005</b> , 127, 504-11  | 2.1 | 66 |
| 382 | Chordal geometry determines the shape and extent of systolic anterior mitral motion: in vitro studies. <i>Journal of the American College of Cardiology</i> , <b>1989</b> , 13, 1438-48  | 4.6 | 67 |
| 381 | Mitral valve hemodynamics after repair of acute posterior leaflet prolapse: quadrangular resection versus triangular resection versus neochordoplasty. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2009</b> , 138, 309-15 | 1.5 | 67 |
| 380 | Bileaflet, tilting disc and porcine aortic valve substitutes: in vivo hydrodynamic characteristics. <i>Journal of the American College of Cardiology</i> , <b>1984</b> , 3, 321-7  | 4.6 | 64 |
| 379 | In vitro characterization of bicuspid aortic valve hemodynamics using particle image velocimetry. <i>Annals of Biomedical Engineering</i> , <b>2012</b> , 40, 1760-75  | 4.6 | 61 |
| 378 | Chordal force distribution determines systolic mitral leaflet configuration and severity of functional mitral regurgitation. <i>Journal of the American College of Cardiology</i> , <b>1999</b> , 33, 843-53                             | 4.6 | 64 |
| 377 | Importance of accurate geometry in the study of the total cavopulmonary connection: computational simulations and in vitro experiments. <i>Annals of Biomedical Engineering</i> , <b>2001</b> , 29, 844-53                               | 4.6 | 61 |
| 376 | Coupling pediatric ventricle assist devices to the Fontan circulation: simulations with a lumped-parameter model. <i>ASAIO Journal</i> , <b>2005</b> , 51, 618-28  | 3.4 | 64 |
| 375 | In vitro hemodynamic characteristics of tissue bioprostheses in the aortic position. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>1986</b> , 92, 198-209   | 1.5 | 62 |
| 374 | Saddle-shaped mitral valve annuloplasty rings improve leaflet coaptation geometry. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2011</b> , 142, 697-703  | 1.5 | 64 |
| 373 | Flow study of an extracardiac connection with persistent left superior vena cava. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2006</b> , 131, 785-91  | 1.5 | 60 |
| 372 | Numerical simulation of flow in mechanical heart valves: grid resolution and the assumption of flow symmetry. <i>Journal of Biomechanical Engineering</i> , <b>2003</b> , 125, 709-18  | 2.1 | 60 |

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|-----|---|------|----|
| 371 | Application of an adaptive control grid interpolation technique to morphological vascular reconstruction. <i>IEEE Transactions on Biomedical Engineering</i> , <b>2003</b> , 50, 197-206  | 4.6  | 60 |
| 370 | The material properties of the native porcine mitral valve chordae tendineae: an in vitro investigation. <i>Journal of Biomechanics</i> , <b>2006</b> , 39, 1129-35   | 2.8  | 59 |
| 369 | In vitro flow analysis of a patient-specific intraatrial total cavopulmonary connection. <i>Annals of Thoracic Surgery</i> , <b>2005</b> , 79, 2094-102   | 2.6  | 59 |
| 368 | Theoretical and practical differences between the Gorlin formula and the continuity equation for calculating aortic and mitral valve areas. <i>American Journal of Cardiology</i> , <b>1991</b> , 67, 1268-72   | 2.9  | 60 |
| 367 | A new method for registration-based medical image interpolation. <i>IEEE Transactions on Medical Imaging</i> , <b>2008</b> , 27, 370-7  | 11   | 56 |
| 366 | Total cavopulmonary connection flow with functional left pulmonary artery stenosis: angioplasty and fenestration in vitro. <i>Circulation</i> , <b>2005</b> , 112, 3264-71  | 16.3 | 59 |
| 365 | Three-dimensional computational model of left heart diastolic function with fluid-structure interaction. <i>Journal of Biomechanical Engineering</i> , <b>2000</b> , 122, 109-17  | 2.1  | 55 |
| 364 | Fontan hemodynamics from 100 patient-specific cardiac magnetic resonance studies: a computational fluid dynamics analysis. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2014</b> , 148, 1481-9 <sup>1.5</sup>                               | 1.5  | 58 |
| 363 | Experimental measurement of dynamic fluid shear stress on the ventricular surface of the aortic valve leaflet. <i>Biomechanics and Modeling in Mechanobiology</i> , <b>2012</b> , 11, 231-44  | 3.7  | 57 |
| 362 | Functional analysis of Fontan energy dissipation. <i>Journal of Biomechanics</i> , <b>2008</b> , 41, 2246-52  | 2.8  | 57 |
| 361 | Biosynthetic activity in heart valve leaflets in response to in vitro flow environments. <i>Annals of Biomedical Engineering</i> , <b>2001</b> , 29, 752-63   | 4.6  | 56 |
| 360 | On the Mechanics of Transcatheter Aortic Valve Replacement. <i>Annals of Biomedical Engineering</i> , <b>2017</b> , 45, 310-331   | 4.6  | 56 |
| 359 | Dynamic deformation characteristics of porcine aortic valve leaflet under normal and hypertensive conditions. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , <b>2010</b> , 298, H395-405                                      | 5    | 52 |
| 358 | Mitral valve function and chordal force distribution using a flexible annulus model: an in vitro study. <i>Annals of Biomedical Engineering</i> , <b>2005</b> , 33, 557-66  | 4.6  | 53 |
| 357 | Slice location dependence of aortic regurgitation measurements with MR phase velocity mapping. <i>Magnetic Resonance in Medicine</i> , <b>1997</b> , 37, 545-51   | 4.3  | 52 |
| 356 | Factors influencing the structure and shape of stenotic and regurgitant jets: an in vitro investigation using Doppler color flow mapping and optical flow visualization. <i>Journal of the American College of Cardiology</i> , <b>1989</b> , 13, 1672-81 | 4.6  | 51 |
| 355 | Design of an ex vivo culture system to investigate the effects of shear stress on cardiovascular tissue. <i>Journal of Biomechanical Engineering</i> , <b>2008</b> , 130, 035001  | 2.1  | 49 |
| 354 | Blood flow distribution in a large series of patients having the Fontan operation: a cardiac magnetic resonance velocity mapping study. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2009</b> , 138, 96-102                                 | 1.5  | 50 |

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|-----|---|-----|----|
| 353 | Valve Type, Size, and Deployment Location Affect Hemodynamics in an In Vitro Valve-in-Valve Model. <i>JACC: Cardiovascular Interventions</i> , <b>2016</b> , 9, 1618-28   | 4.2 | 49 |
| 352 | Geometric characterization of patient-specific total cavopulmonary connections and its relationship to hemodynamics. <i>JACC: Cardiovascular Imaging</i> , <b>2014</b> , 7, 215-24  | 8.1 | 50 |
| 351 | Correlates of tricuspid regurgitation as determined by 3D echocardiography: pulmonary arterial pressure, ventricle geometry, annular dilatation, and papillary muscle displacement. <i>Circulation: Cardiovascular Imaging</i> , <b>2012</b> , 5, 43-50 | 3.7 | 52 |
| 350 | Flow simulations in arbitrarily complex cardiovascular anatomies [An unstructured Cartesian grid approach. <i>Computers and Fluids</i> , <b>2009</b> , 38, 1749-1762  | 2.7 | 48 |
| 349 | Determinants of pulmonary venous flow reversal in mitral regurgitation and its usefulness in determining the severity of regurgitation. <i>American Journal of Cardiology</i> , <b>1999</b> , 83, 535-41  | 2.9 | 49 |
| 348 | Cardiac evaluation of women distance runners by echocardiographic color Doppler flow mapping. <i>Journal of the American College of Cardiology</i> , <b>1988</b> , 11, 89-93  | 4.6 | 48 |
| 347 | Pulsatile flow visualization in a model of the human abdominal aorta and aortic bifurcation. <i>Journal of Biomechanics</i> , <b>1992</b> , 25, 935-44  | 2.8 | 47 |
| 346 | On the effects of leaflet microstructure and constitutive model on the closing behavior of the mitral valve. <i>Biomechanics and Modeling in Mechanobiology</i> , <b>2015</b> , 14, 1281-302  | 3.7 | 45 |
| 345 | An in vitro evaluation of the impact of eccentric deployment on transcatheter aortic valve hemodynamics. <i>Annals of Biomedical Engineering</i> , <b>2014</b> , 42, 1195-206   | 4.6 | 47 |
| 344 | Mathematics of systolic pulmonary vein flow: A closed form analytical solution incorporating fundamental principles and key variables. <i>Journal of the American College of Cardiology</i> , <b>1996</b> , 27, 1-2                                     | 4.6 | 46 |
| 343 | In vitro pulsatile flow velocity and shear stress measurements in the vicinity of mechanical mitral heart valve prostheses. <i>Journal of Biomechanics</i> , <b>1986</b> , 19, 39-51  | 2.8 | 46 |
| 342 | Pulmonary hepatic flow distribution in total cavopulmonary connections: extracardiac versus intracardiac. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2011</b> , 141, 207-14   | 1.5 | 45 |
| 341 | Progress in the CFD modeling of flow instabilities in anatomical total cavopulmonary connections. <i>Annals of Biomedical Engineering</i> , <b>2007</b> , 35, 1840-56   | 4.6 | 44 |
| 340 | Fluid-Structure Interaction Analysis of Papillary Muscle Forces Using a Comprehensive Mitral Valve Model with 3D Chordal Structure. <i>Annals of Biomedical Engineering</i> , <b>2016</b> , 44, 942-53  | 4.6 | 43 |
| 339 | New techniques for the reconstruction of complex vascular anatomies from MRI images. <i>Journal of Cardiovascular Magnetic Resonance</i> , <b>2005</b> , 7, 425-32  | 6.6 | 42 |
| 338 | Single-step stereolithography of complex anatomical models for optical flow measurements. <i>Journal of Biomechanical Engineering</i> , <b>2005</b> , 127, 204-7  | 2.1 | 42 |
| 337 | Computational modeling of left heart diastolic function: examination of ventricular dysfunction. <i>Journal of Biomechanical Engineering</i> , <b>2000</b> , 122, 297-303   | 2.1 | 42 |
| 336 | A numerical investigation of blood damage in the hinge area of aortic bileaflet mechanical heart valves during the leakage phase. <i>Annals of Biomedical Engineering</i> , <b>2012</b> , 40, 1468-85   | 4.6 | 41 |

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|-----|---|-----|----|
| 335 | Comparing pre- and post-operative Fontan hemodynamic simulations: implications for the reliability of surgical planning. <i>Annals of Biomedical Engineering</i> , <b>2012</b> , 40, 2639-51  | 4.6 | 43 |
| 334 | Biofluid Mechanics  |     | 40 |
| 333 | In vitro methods for studying the accuracy of velocity determination and spatial resolution of a color Doppler flow mapping system. <i>American Heart Journal</i> , <b>1987</b> , 114, 152-8  | 4.7 | 42 |
| 332 | Effects of papillary muscle position on in-vitro dynamic strain on the porcine mitral valve. <i>Journal of Heart Valve Disease</i> , <b>2003</b> , 12, 488-94   |     | 42 |
| 331 | The effects of combined cyclic stretch and pressure on the aortic valve interstitial cell phenotype. <i>Annals of Biomedical Engineering</i> , <b>2011</b> , 39, 1654-67  | 4.6 | 40 |
| 330 | Effects of constant static pressure on the biological properties of porcine aortic valve leaflets. <i>Annals of Biomedical Engineering</i> , <b>2004</b> , 32, 555-62   | 4.6 | 41 |
| 329 | Structural simulations of prosthetic tri-leaflet aortic heart valves. <i>Journal of Biomechanics</i> , <b>2008</b> , 41, 1510-9   |     | 40 |
| 328 | In vivo flow dynamics of the total cavopulmonary connection from three-dimensional multislice magnetic resonance imaging. <i>Annals of Thoracic Surgery</i> , <b>2001</b> , 71, 889-98  | 2.6 | 40 |
| 327 | 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. <i>Annals of Biomedical Engineering</i> , <b>2000</b> , 28, 39-47 | 4.6 | 40 |
| 326 | A novel left heart simulator for the multi-modality characterization of native mitral valve geometry and fluid mechanics. <i>Annals of Biomedical Engineering</i> , <b>2013</b> , 41, 305-15  | 4.6 | 38 |
| 325 | Aortic valve cyclic stretch causes increased remodeling activity and enhanced serotonin receptor responsiveness. <i>Annals of Thoracic Surgery</i> , <b>2011</b> , 92, 147-53   | 2.6 | 39 |
| 324 | Experimental and numeric investigation of Impella pumps as cavopulmonary assistance for a failing Fontan. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2012</b> , 144, 563-9  | 1.5 | 40 |
| 323 | Neonatal aortic arch hemodynamics and perfusion during cardiopulmonary bypass. <i>Journal of Biomechanical Engineering</i> , <b>2008</b> , 130, 061012  | 2.1 | 40 |
| 322 | Structural characterization of the chordae tendineae in native porcine mitral valves. <i>Annals of Thoracic Surgery</i> , <b>2005</b> , 80, 189-97  | 2.6 | 42 |
| 321 | Effects of annular size, transmitral pressure, and mitral flow rate on the edge-to-edge repair: an in vitro study. <i>Annals of Thoracic Surgery</i> , <b>2006</b> , 82, 1362-8   | 2.6 | 39 |
| 320 | Impaired power output and cardiac index with hypoplastic left heart syndrome: a magnetic resonance imaging study. <i>Annals of Thoracic Surgery</i> , <b>2006</b> , 82, 1267-75; discussion 1275-7  | 2.6 | 40 |
| 319 | Improved in vitro quantification of the force exerted by the papillary muscle on the left ventricular wall: three-dimensional force vector measurement system. <i>Annals of Biomedical Engineering</i> , <b>2001</b> , 29, 406-13                           | 4.6 | 39 |
| 318 | Fluid mechanic assessment of the total cavopulmonary connection using magnetic resonance phase velocity mapping and digital particle image velocimetry. <i>Annals of Biomedical Engineering</i> , <b>2000</b> , 28, 1172-83                                 | 4.6 | 38 |



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|-----------------|---|-----|----|
| 3 <sup>17</sup> | Two-dimensional velocity measurements in a pulsatile flow model of the normal abdominal aorta simulating different hemodynamic conditions. <i>Journal of Biomechanics</i> , <b>1993</b> , 26, 1237-47   | 2.8 | 38 |
| 3 <sup>16</sup> | Cyclic pressure and shear stress regulate matrix metalloproteinases and cathepsin activity in porcine aortic valves. <i>Journal of Heart Valve Disease</i> , <b>2006</b> , 15, 622-9  |     | 39 |
| 3 <sup>15</sup> | The effects of a three-dimensional, saddle-shaped annulus on anterior and posterior leaflet stretch and regurgitation of the tricuspid valve. <i>Annals of Biomedical Engineering</i> , <b>2012</b> , 40, 996-1005  | 4.6 | 39 |
| 3 <sup>14</sup> | Visualization of flow structures in Fontan patients using 3-dimensional phase contrast magnetic resonance imaging. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2012</b> , 143, 1108-16   | 1.5 | 38 |
| 3 <sup>13</sup> | 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. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2011</b> , 141, 1170-7 | 1.5 | 39 |
| 3 <sup>12</sup> | Mechanics of the mitral valve strut chordae insertion region. <i>Journal of Biomechanical Engineering</i> , <b>2010</b> , 132, 081004   | 2.1 | 38 |
| 3 <sup>11</sup> | Comparison of the hinge flow fields of two bileaflet mechanical heart valves under aortic and mitral conditions. <i>Annals of Biomedical Engineering</i> , <b>2004</b> , 32, 1607-17  | 4.6 | 38 |
| 3 <sup>10</sup> | An in vitro study of the hinge and near-field forward flow dynamics of the St. Jude Medical Regent bileaflet mechanical heart valve. <i>Annals of Biomedical Engineering</i> , <b>2000</b> , 28, 524-32   | 4.6 | 38 |
| 3 <sup>09</sup> | Two-dimensional mitral flow velocity profiles in pig models using epicardial Doppler echocardiography. <i>Journal of the American College of Cardiology</i> , <b>1994</b> , 24, 532-45  | 4.6 | 38 |
| 3 <sup>08</sup> | Spatial velocity distribution and acceleration in serial subvalve tunnel and valvular obstructions: an in vitro study using Doppler color flow mapping. <i>Journal of the American College of Cardiology</i> , <b>1989</b> , 13, 241-8  | 4.6 | 38 |
| 3 <sup>07</sup> | Ex Vivo Methods for Informing Computational Models of the Mitral Valve. <i>Annals of Biomedical Engineering</i> , <b>2017</b> , 45, 496-507   | 4.6 | 37 |
| 3 <sup>06</sup> | Hemodynamic performance of stage-2 univentricular reconstruction: Glenn vs. hemi-Fontan templates. <i>Annals of Biomedical Engineering</i> , <b>2009</b> , 37, 50-63  | 4.6 | 36 |
| 3 <sup>05</sup> | Miniature C-shaped transducers for chordae tendineae force measurements. <i>Annals of Biomedical Engineering</i> , <b>2004</b> , 32, 1050-7   | 4.6 | 37 |
| 3 <sup>04</sup> | A comparison of the hinge and near-hinge flow fields of the St Jude medical hemodynamic plus and regent bileaflet mechanical heart valves. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2000</b> , 119, 83-93 <sup>1-5</sup>  |     | 37 |
| 3 <sup>03</sup> | Fontan Surgical Planning: Previous Accomplishments, Current Challenges, and Future Directions. <i>Journal of Cardiovascular Translational Research</i> , <b>2018</b> , 11, 133-144  | 3.2 | 37 |
| 3 <sup>02</sup> | Simulation of the three-dimensional hinge flow fields of a bileaflet mechanical heart valve under aortic conditions. <i>Annals of Biomedical Engineering</i> , <b>2010</b> , 38, 841-53   | 4.6 | 35 |
| 3 <sup>01</sup> | A new theoretical model for noninvasive quantification of mitral regurgitation. <i>Journal of Biomechanics</i> , <b>1990</b> , 23, 27-33  | 2.8 | 37 |
| 3 <sup>00</sup> | Numerical, hydraulic, and hemolytic evaluation of an intravascular axial flow blood pump to mechanically support Fontan patients. <i>Annals of Biomedical Engineering</i> , <b>2011</b> , 39, 324-36  | 4.6 | 34 |

|     |   |     |    |
|-----|---|-----|----|
| 299 | Noninvasive fluid dynamic power loss assessments for total cavopulmonary connections using the viscous dissipation function: a feasibility study. <i>Journal of Biomechanical Engineering</i> , <b>2001</b> , 123, 317-24   | 2.1 | 35 |
| 298 | Increased heart rate can cause underestimation of regurgitant jet size by Doppler color flow mapping. <i>Journal of the American College of Cardiology</i> , <b>1993</b> , 21, 1029-37  | 4.6 | 35 |
| 297 | Hemodynamic Modeling of Surgically Repaired Coarctation of the Aorta. <i>Cardiovascular Engineering and Technology</i> , <b>2011</b> , 2, 288-295   | 2.1 | 34 |
| 296 | Effect of Fontan geometry on exercise haemodynamics and its potential implications. <i>Heart</i> , <b>2017</b> , 103, 1806-1812   | 4.9 | 34 |
| 295 | Quantification of mitral regurgitation with MR phase-velocity mapping using a control volume method. <i>Journal of Magnetic Resonance Imaging</i> , <b>1998</b> , 8, 577-82   | 5.4 | 34 |
| 294 | Effects of papillary muscle position on chordal force distribution: an in-vitro study. <i>Journal of Heart Valve Disease</i> , <b>2005</b> , 14, 295-302  |     | 34 |
| 293 | Simulating hemodynamics of the Fontan Y-graft based on patient-specific in vivo connections. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2013</b> , 145, 663-70  | 1.5 | 36 |
| 292 | Mitral leaflet geometry perturbations with papillary muscle displacement and annular dilatation: an in-vitro study of ischemic mitral regurgitation. <i>Journal of Heart Valve Disease</i> , <b>2003</b> , 12, 300-7  |     | 33 |
| 291 | 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-1 $\alpha$ /Hypoxia-Inducible Factor-1 $\beta$ Pathway in Endothelial Cells. <i>Arteriosclerosis, Thrombosis, and Vascular Biology</i> , <b>2019</b> , 39, 467-481 | 9.1 | 32 |
| 290 | Microflow fields in the hinge region of the CarboMedics bileaflet mechanical heart valve design. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2002</b> , 124, 561-74  | 1.5 | 32 |
| 289 | Experimental analysis of fluid mechanical energy losses in aortic valve stenosis: importance of pressure recovery. <i>Annals of Biomedical Engineering</i> , <b>1996</b> , 24, 685-94   | 4.6 | 36 |
| 288 | Identification of side- and shear-dependent microRNAs regulating porcine aortic valve pathogenesis. <i>Scientific Reports</i> , <b>2016</b> , 6, 25397  | 4.7 | 31 |
| 287 | In vitro mitral valve simulator mimics systolic valvular function of chronic ischemic mitral regurgitation ovine model. <i>Annals of Thoracic Surgery</i> , <b>2013</b> , 95, 825-30  | 2.6 | 31 |
| 286 | Power loss and right ventricular efficiency in patients after tetralogy of Fallot repair with pulmonary insufficiency: clinical implications. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2012</b> , 143, 1279-85  | 1.5 | 31 |
| 285 | Preliminary clinical experience with a bifurcated Y-graft Fontan procedure--a feasibility study. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2012</b> , 144, 383-9   | 1.5 | 33 |
| 284 | The Effect of Valve-in-Valve Implantation Height on Sinus Flow. <i>Annals of Biomedical Engineering</i> , <b>2017</b> , 45, 405-412   | 4.6 | 32 |
| 283 | 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. <i>Journal of the Royal Society Interface</i> , <b>2015</b> , 12, 20150737   | 4   | 30 |
| 282 | Imaging and patient-specific simulations for the Fontan surgery: current methodologies and clinical applications. <i>Progress in Pediatric Cardiology</i> , <b>2010</b> , 30, 31-44   | 0.4 | 30 |

|     |  |      |    |
|-----|--|------|----|
| 281 | A comparison of flow field structures of two tri-leaflet polymeric heart valves. <i>Annals of Biomedical Engineering</i> , <b>2005</b> , 33, 429-43  | 4.6  | 28 |
| 280 | How Can We Help a Patient With a Small Failing Bioprosthesis?: An In Vitro Case Study. <i>JACC: Cardiovascular Interventions</i> , <b>2015</b> , 8, 2026-2033  | 4.2  | 30 |
| 279 | A new control volume method for calculating valvular regurgitation. <i>Circulation</i> , <b>1995</b> , 92, 579-86  | 16.3 | 29 |
| 278 | A pulsatile hemodynamic evaluation of the commercially available bifurcated Y-graft Fontan modification and comparison with the lateral tunnel and extracardiac conduits. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2016</b> , 151, 1529-36 | 1.5  | 29 |
| 277 | Respiratory Effects on Fontan Circulation During Rest and Exercise Using Real-Time Cardiac Magnetic Resonance Imaging. <i>Annals of Thoracic Surgery</i> , <b>2016</b> , 101, 1818-25  | 2.6  | 28 |
| 276 | Energetic implications of vessel growth and flow changes over time in Fontan patients. <i>Annals of Thoracic Surgery</i> , <b>2015</b> , 99, 163-70  | 2.6  | 28 |
| 275 | Bicuspid aortic valves are associated with increased wall and turbulence shear stress levels compared to trileaflet aortic valves. <i>Biomechanics and Modeling in Mechanobiology</i> , <b>2015</b> , 14, 577-88   | 3.7  | 28 |
| 274 | Numerical investigation of the effects of channel geometry on platelet activation and blood damage. <i>Annals of Biomedical Engineering</i> , <b>2011</b> , 39, 897-910  | 4.6  | 28 |
| 273 | Regional analysis of dynamic deformation characteristics of native aortic valve leaflets. <i>Journal of Biomechanics</i> , <b>2011</b> , 44, 1459-65   | 2.8  | 28 |
| 272 | The congenital bicuspid aortic valve can experience high-frequency unsteady shear stresses on its leaflet surface. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , <b>2012</b> , 303, H721-31                                     | 5    | 28 |
| 271 | Optimum fuzzy filters for phase-contrast magnetic resonance imaging segmentation. <i>Journal of Magnetic Resonance Imaging</i> , <b>2009</b> , 29, 155-65  | 5.4  | 28 |
| 270 | Fluid-structure interaction and structural analyses using a comprehensive mitral valve model with 3D chordal structure. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , <b>2017</b> , 33, e2815                               | 2.5  | 27 |
| 269 | Transcatheter Mitral Valve Planning and the Neo-LVOT: Utilization of Virtual Simulation Models and 3D Printing. <i>Current Treatment Options in Cardiovascular Medicine</i> , <b>2018</b> , 20, 99   | 2    | 27 |
| 268 | Experimental technique of measuring dynamic fluid shear stress on the aortic surface of the aortic valve leaflet. <i>Journal of Biomechanical Engineering</i> , <b>2011</b> , 133, 061007  | 2.1  | 28 |
| 267 | Quantitative analysis of extracardiac versus intraatrial Fontan anatomic geometries. <i>Annals of Thoracic Surgery</i> , <b>2008</b> , 85, 810-7   | 2.6  | 27 |
| 266 | Hemodynamic energy dissipation in the cardiovascular system: generalized theoretical analysis on disease states. <i>Annals of Biomedical Engineering</i> , <b>2009</b> , 37, 661-73  | 4.6  | 27 |
| 265 | Flow and thrombosis at orifices simulating mechanical heart valve leakage regions. <i>Journal of Biomechanical Engineering</i> , <b>2006</b> , 128, 30-9   | 2.1  | 27 |
| 264 | The effects of different mesh generation methods on computational fluid dynamic analysis and power loss assessment in total cavopulmonary connection. <i>Journal of Biomechanical Engineering</i> , <b>2004</b> , 126, 594-603                               | 2.1  | 26 |

|     |   |      |    |
|-----|---|------|----|
| 263 | Normal physiological conditions maintain the biological characteristics of porcine aortic heart valves: an ex vivo organ culture study. <i>Annals of Biomedical Engineering</i> , <b>2005</b> , 33, 1158-66   | 4.6  | 27 |
| 262 | Can time-averaged flow boundary conditions be used to meet the clinical timeline for Fontan surgical planning?. <i>Journal of Biomechanics</i> , <b>2017</b> , 50, 172-179  | 2.8  | 26 |
| 261 | Mitral Valve Chordae Tendineae: Topological and Geometrical Characterization. <i>Annals of Biomedical Engineering</i> , <b>2017</b> , 45, 378-393   | 4.6  | 27 |
| 260 | Effective regurgitant orifice area by the color Doppler flow convergence method for evaluating the severity of chronic aortic regurgitation. An animal study. <i>Circulation</i> , <b>1996</b> , 93, 594-602  | 16.3 | 26 |
| 259 | Quantifying aortic regurgitation by using the color Doppler-imaged vena contracta: a chronic animal model study. <i>Circulation</i> , <b>1997</b> , 96, 2009-15   | 16.3 | 25 |
| 258 | Mechanism of incomplete mitral leaflet coaptation--interaction of chordal restraint and changes in mitral leaflet coaptation geometry. Insight from in vitro validation of the premise of force equilibrium. <i>Journal of Biomechanical Engineering</i> , <b>2002</b> , 124, 596-608 | 2.1  | 26 |
| 257 | In vitro fluid dynamic characteristics of Ionescu-Shiley and Carpentier-Edwards tissue bioprostheses. <i>Artificial Organs</i> , <b>1983</b> , 7, 459-69  | 2.5  | 26 |
| 256 | Long-Term Durability of Carpentier-Edwards Magna Ease Valve: A One Billion Cycle In Vitro Study. <i>Annals of Thoracic Surgery</i> , <b>2016</b> , 101, 1759-65   | 2.6  | 25 |
| 255 | How Local Annular Force and Collagen Density Govern Mitral Annuloplasty Ring Dehiscence Risk. <i>Annals of Thoracic Surgery</i> , <b>2016</b> , 102, 518-26   | 2.6  | 26 |
| 254 | Right ventricular papillary muscle approximation as a novel technique of valve repair for functional tricuspid regurgitation in an ex vivo porcine model. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2012</b> , 144, 235-42   | 1.5  | 24 |
| 253 | Elevated cyclic stretch and serotonin result in altered aortic valve remodeling via a mechanosensitive 5-HT(2A) receptor-dependent pathway. <i>Cardiovascular Pathology</i> , <b>2012</b> , 21, 206-13  | 3.6  | 24 |
| 252 | Procoagulant properties of flow fields in stenotic and expansive orifices. <i>Annals of Biomedical Engineering</i> , <b>2008</b> , 36, 1-13   | 4.6  | 24 |
| 251 | An in vitro assessment by means of laser Doppler velocimetry of the medtronic advantage bileaflet mechanical heart valve hinge flow. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2003</b> , 126, 90-8  | 1.5  | 24 |
| 250 | Chapter 16 Prosthetic Cardiac Valves. <i>Cardiovascular Pathology</i> , <b>1993</b> , 2, 167-177  | 3.6  | 24 |
| 249 | What forces act on a flat rigid mitral annuloplasty ring?. <i>Journal of Heart Valve Disease</i> , <b>2008</b> , 17, 267-75; discussion 275   |      | 25 |
| 248 | The Advantages of Viscous Dissipation Rate over Simplified Power Loss as a Fontan Hemodynamic Metric. <i>Annals of Biomedical Engineering</i> , <b>2018</b> , 46, 404-416   | 4.6  | 23 |
| 247 | Fontan pathway growth: a quantitative evaluation of lateral tunnel and extracardiac cavopulmonary connections using serial cardiac magnetic resonance. <i>Annals of Thoracic Surgery</i> , <b>2014</b> , 97, 916-22   | 2.6  | 23 |
| 246 | Mechanics of healthy and functionally diseased mitral valves: a critical review. <i>Journal of Biomechanical Engineering</i> , <b>2013</b> , 135, 021007  | 2.1  | 22 |

|     |   |     |    |
|-----|---|-----|----|
| 245 | Passive flow control of bileaflet mechanical heart valve leakage flow. <i>Journal of Biomechanics</i> , <b>2008</b> , 41, 1166-73   | 2.8 | 23 |
| 244 | Three-dimensional surface geometry correction is required for calculating flow by the proximal isovelocity surface area technique. <i>Journal of the American Society of Echocardiography</i> , <b>1995</b> , 8, 585-94   | 5.7 | 23 |
| 243 | Impact of hemodynamics and fluid energetics on liver fibrosis after Fontan operation. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2018</b> , 156, 267-275  | 1.5 | 25 |
| 242 | Valve mediated hemodynamics and their association with distal ascending aortic diameter in bicuspid aortic valve subjects. <i>Journal of Magnetic Resonance Imaging</i> , <b>2018</b> , 47, 246-254   | 5.4 | 21 |
| 241 | High-resolution subject-specific mitral valve imaging and modeling: experimental and computational methods. <i>Biomechanics and Modeling in Mechanobiology</i> , <b>2016</b> , 15, 1619-1630  | 3.7 | 22 |
| 240 | Bileaflet aortic valve prosthesis pivot geometry influences platelet secretion and anionic phospholipid exposure. <i>Annals of Biomedical Engineering</i> , <b>2001</b> , 29, 657-64  | 4.6 | 22 |
| 239 | An analysis of turbulent shear stresses in leakage flow through a bileaflet mechanical prostheses. <i>Journal of Biomechanical Engineering</i> , <b>2002</b> , 124, 155-65  | 2.1 | 22 |
| 238 | Axial flow velocity patterns in a normal human pulmonary artery model: pulsatile in vitro studies. <i>Journal of Biomechanics</i> , <b>1990</b> , 23, 201-14  | 2.8 | 22 |
| 237 | Pulsatile flow velocity and shear stress measurements on the St. Jude bileaflet valve prosthesis. <i>Scandinavian Journal of Thoracic and Cardiovascular Surgery</i> , <b>1986</b> , 20, 15-28  |     | 22 |
| 236 | Dynamic assessment of mitral annular force profile in an ovine model. <i>Annals of Thoracic Surgery</i> , <b>2012</b> , 94, 59-65   | 2.6 | 21 |
| 235 | Comparison of particle image velocimetry and phase contrast MRI in a patient-specific extracardiac total cavopulmonary connection. <i>Journal of Biomechanical Engineering</i> , <b>2008</b> , 130, 041004  | 2.1 | 20 |
| 234 | Three-dimensional velocity field reconstruction. <i>Journal of Biomechanical Engineering</i> , <b>2004</b> , 126, 727-35  | 2.1 | 21 |
| 233 | Comparison of various agents in contrast enhancement of color Doppler flow images: an in vitro study. <i>Ultrasound in Medicine and Biology</i> , <b>1993</b> , 19, 45-57   | 2.7 | 21 |
| 232 | Numerical simulation of steady turbulent flow through trileaflet aortic heart valves--II. Results on five models. <i>Journal of Biomechanics</i> , <b>1985</b> , 18, 909-26   | 2.8 | 21 |
| 231 | Computational Fluid Dynamics Assessment Associated with Transcatheter Heart Valve Prostheses: A Position Paper of the ISO Working Group. <i>Cardiovascular Engineering and Technology</i> , <b>2018</b> , 9, 289-299  | 2.1 | 20 |
| 230 | Characteristics of surgical prosthetic heart valves and problems around labeling: A document from the European Association for Cardio-Thoracic Surgery (EACTS)-The Society of Thoracic Surgeons (STS)-American Association for Thoracic Surgery (AATS) Valve Labelling Task Force. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2019</b> , 158, 1041-1054 | 1.5 | 20 |
| 229 | The first cohort of prospective Fontan surgical planning patients with follow-up data: How accurate is surgical planning?. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2019</b> , 157, 1146-1155   | 1.5 | 21 |
| 228 | Clinical evaluation of new heart valve prostheses: update of objective performance criteria. <i>Annals of Thoracic Surgery</i> , <b>2014</b> , 98, 1865-74  | 2.6 | 20 |

|     |   |     |    |
|-----|---|-----|----|
| 227 | Mitral valve annuloplasty and anterior leaflet augmentation for functional ischemic mitral regurgitation: quantitative comparison of coaptation and subvalvular tethering. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2014</b> , 148, 1688-93 | 1.5 | 20 |
| 226 | Numerical investigation of the performance of three hinge designs of bileaflet mechanical heart valves. <i>Annals of Biomedical Engineering</i> , <b>2010</b> , 38, 3295-310  | 4.6 | 19 |
| 225 | Thrombin formation in vitro in response to shear-induced activation of platelets. <i>Thrombosis Research</i> , <b>2007</b> , 121, 397-406   | 7.3 | 20 |
| 224 | Impact of mitral valve geometry on hemodynamic efficacy of surgical repair in secondary mitral regurgitation. <i>Journal of Heart Valve Disease</i> , <b>2014</b> , 23, 79-87   |     | 21 |
| 223 | Quantitative Evaluation of Annuloplasty on Mitral Valve Chordae Tendineae Forces to Supplement Surgical Planning Model Development. <i>Cardiovascular Engineering and Technology</i> , <b>2014</b> , 5, 35-43   | 2.1 | 20 |
| 222 | Micro particle image velocimetry measurements of steady diastolic leakage flow in the hinge of a St. Jude Medical regent mechanical heart valve. <i>Annals of Biomedical Engineering</i> , <b>2014</b> , 42, 526-40   | 4.6 | 19 |
| 221 | Effect of flow pulsatility on modeling the hemodynamics in the total cavopulmonary connection. <i>Journal of Biomechanics</i> , <b>2012</b> , 45, 2376-81   | 2.8 | 19 |
| 220 | Dynamic hemodynamic energy loss in normal and stenosed aortic valves. <i>Journal of Biomechanical Engineering</i> , <b>2010</b> , 132, 021005   | 2.1 | 19 |
| 219 | Design of a sterile organ culture system for the ex vivo study of aortic heart valves. <i>Journal of Biomechanical Engineering</i> , <b>2005</b> , 127, 857-61  | 2.1 | 19 |
| 218 | Estimation of mitral regurgitation with a hemielliptic curve-fitting algorithm: in vitro experiments with native mitral valves. <i>Journal of the American Society of Echocardiography</i> , <b>1998</b> , 11, 322-31   | 5.7 | 19 |
| 217 | A computational study of a thin-walled three-dimensional left ventricle during early systole. <i>Journal of Biomechanical Engineering</i> , <b>1994</b> , 116, 307-14   | 2.1 | 18 |
| 216 | A High-Fidelity and Micro-anatomically Accurate 3D Finite Element Model for Simulations of Functional Mitral Valve. <i>Lecture Notes in Computer Science</i> , <b>2013</b> , 7945, 416-424  | 0.8 | 19 |
| 215 | Differential immediate-early gene responses to elevated pressure in porcine aortic valve interstitial cells. <i>Journal of Heart Valve Disease</i> , <b>2006</b> , 15, 34-41; discussion 42   |     | 19 |
| 214 | On the simulation of mitral valve function in health, disease, and treatment. <i>Journal of Biomechanical Engineering</i> , <b>2019</b> ,   | 2.1 | 18 |
| 213 | Cardiovascular magnetic resonance compatible physical model of the left ventricle for multi-modality characterization of wall motion and hemodynamics. <i>Journal of Cardiovascular Magnetic Resonance</i> , <b>2015</b> , 17, 51                             | 6.6 | 18 |
| 212 | Blood damage through a bileaflet mechanical heart valve: a quantitative computational study using a multiscale suspension flow solver. <i>Journal of Biomechanical Engineering</i> , <b>2014</b> , 136, 101009  | 2.1 | 18 |
| 211 | Treatment planning for a TCPC test case: a numerical investigation under rigid and moving wall assumptions. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , <b>2013</b> , 29, 197-216  | 2.5 | 19 |
| 210 | Imaging for preintervention planning: pre- and post-Fontan procedures. <i>Circulation: Cardiovascular Imaging</i> , <b>2013</b> , 6, 1092-101   | 3.7 | 19 |

|     |   |      |    |
|-----|---|------|----|
| 209 | Larger aortic reconstruction corresponds to diminished left pulmonary artery size in patients with single-ventricle physiology. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2010</b> , 139, 557-61                                     | 1.5  | 18 |
| 208 | In vitro hemodynamic investigation of the embryonic aortic arch at late gestation. <i>Journal of Biomechanics</i> , <b>2008</b> , 41, 1697-706  | 2.8  | 18 |
| 207 | Flow characteristics of the St. Jude prosthetic valve: an in vitro and in vivo study. <i>Artificial Organs</i> , <b>1982</b> , 6, 288-94  | 2.5  | 17 |
| 206 | Assessment of Current Continuous Hemofiltration Systems and Development of a Novel Accurate Fluid Management System for Use in Extracorporeal Membrane Oxygenation. <i>Journal of Medical Devices, Transactions of the ASME</i> , <b>2008</b> , 2,    | 1.2  | 17 |
| 205 | A three-dimensional computational investigation of intraventricular fluid dynamics: examination into the initiation of systolic anterior motion of the mitral valve leaflets. <i>Journal of Biomechanical Engineering</i> , <b>1995</b> , 117, 94-102 | 2.1  | 19 |
| 204 | Cardiac motion can alter proximal isovelocity surface area calculations of regurgitant flow. <i>Journal of the American College of Cardiology</i> , <b>1993</b> , 22, 1730-7  | 4.6  | 19 |
| 203 | Evaluation of Prosthetic Heart Valves by Doppler Flow Imaging. <i>Echocardiography</i> , <b>1986</b> , 3, 513-525   | 1.4  | 18 |
| 202 | Surgical planning of the total cavopulmonary connection: robustness analysis. <i>Annals of Biomedical Engineering</i> , <b>2015</b> , 43, 1321-34   | 4.6  | 17 |
| 201 | Computational simulations of flow dynamics and blood damage through a bileaflet mechanical heart valve scaled to pediatric size and flow. <i>Journal of Biomechanics</i> , <b>2014</b> , 47, 3169-77  | 2.8  | 17 |
| 200 | Aortic Regurgitation Generates a Kinematic Obstruction Which Hinders Left Ventricular Filling. <i>Annals of Biomedical Engineering</i> , <b>2017</b> , 45, 1305-1314  | 4.6  | 17 |
| 199 | Assessment of small-diameter aortic mechanical prostheses: physiological relevance of the Doppler gradient, utility of flow augmentation, and limitations of orifice area estimation. <i>Circulation</i> , <b>1998</b> , 98, 866-72                   | 16.3 | 18 |
| 198 | Dynamics of systolic pulmonary venous flow in mitral regurgitation: mathematical modeling of the pulmonary venous system and atrium. <i>Journal of the American Society of Echocardiography</i> , <b>1995</b> , 8, 631-42                             | 5.7  | 17 |
| 197 | Numerical simulation of steady turbulent flow through trileaflet aortic heart valves--I. Computational scheme and methodology. <i>Journal of Biomechanics</i> , <b>1985</b> , 18, 899-907   | 2.8  | 17 |
| 196 | The Björk-Shiley aortic prosthesis: Flow characteristics of the present model vs. the convexo-concave model. <i>Scandinavian Journal of Thoracic and Cardiovascular Surgery</i> , <b>1980</b> , 14, 1-5   |      | 18 |
| 195 | Effect of hinge gap width on the microflow structures in 27-mm bileaflet mechanical heart valves. <i>Journal of Heart Valve Disease</i> , <b>2006</b> , 15, 800-8   |      | 17 |
| 194 | SURGEM: A solid modeling tool for planning and optimizing pediatric heart surgeries. <i>CAD Computer Aided Design</i> , <b>2016</b> , 70, 3-12  | 2.8  | 16 |
| 193 | Relationship of single ventricle filling and preload to total cavopulmonary connection hemodynamics. <i>Annals of Thoracic Surgery</i> , <b>2015</b> , 99, 911-7  | 2.6  | 17 |
| 192 | Fluid-Structure Interaction Analysis of Ruptured Mitral Chordae Tendineae. <i>Annals of Biomedical Engineering</i> , <b>2017</b> , 45, 619-631  | 4.6  | 16 |

|     |  |     |    |
|-----|--|-----|----|
| 191 | Experimentally Validated Hemodynamics Simulations of Mechanical Heart Valves in Three Dimensions. <i>Cardiovascular Engineering and Technology</i> , <b>2012</b> , 3, 88-100   | 2.1 | 16 |
| 190 | Efficacy of the edge-to-edge repair in the setting of a dilated ventricle: an in vitro study. <i>Annals of Thoracic Surgery</i> , <b>2007</b> , 84, 1578-84  | 2.6 | 16 |
| 189 | Three-dimensional reconstruction of the flow in a human left heart by using magnetic resonance phase velocity encoding. <i>Annals of Biomedical Engineering</i> , <b>1996</b> , 24, 139-47   | 4.6 | 16 |
| 188 | Doppler flow velocity mapping in an in vitro model of the normal pulmonary artery. <i>Journal of the American College of Cardiology</i> , <b>1988</b> , 12, 1366-76  | 4.6 | 16 |
| 187 | The role of inorganic pyrophosphate in aortic valve calcification. <i>Journal of Heart Valve Disease</i> , <b>2014</b> , 23, 387-94  |     | 17 |
| 186 | Analysis of Inlet Velocity Profiles in Numerical Assessment of Fontan Hemodynamics. <i>Annals of Biomedical Engineering</i> , <b>2019</b> , 47, 2258-2270  | 4.6 | 15 |
| 185 | Development of a Computational Method for Simulating Tricuspid Valve Dynamics. <i>Annals of Biomedical Engineering</i> , <b>2019</b> , 47, 1422-1434   | 4.6 | 15 |
| 184 | Comparison of artificial neochordae and native chordal transfer in the repair of a flail posterior mitral leaflet: an experimental study. <i>Annals of Thoracic Surgery</i> , <b>2013</b> , 95, 629-33   | 2.6 | 15 |
| 183 | Suture forces in undersized mitral annuloplasty: novel device and measurements. <i>Annals of Thoracic Surgery</i> , <b>2014</b> , 98, 305-9  | 2.6 | 18 |
| 182 | Reduction of procoagulant potential of b-datum leakage jet flow in bileaflet mechanical heart valves via application of vortex generator arrays. <i>Journal of Biomechanical Engineering</i> , <b>2010</b> , 132, 071011 <sup>2-1</sup>            |     | 15 |
| 181 | Using a Novel In Vitro Fontan Model and Condition-Specific Real-Time MRI Data to Examine Hemodynamic Effects of Respiration and Exercise. <i>Annals of Biomedical Engineering</i> , <b>2018</b> , 46, 135-147                                      | 4.6 | 14 |
| 180 | Transapical beating heart cardioscopy technique for off-pump visualization of heart valves. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2012</b> , 144, 231-4   | 1.5 | 15 |
| 179 | Altered right ventricular papillary muscle position and orientation in patients with a dilated left ventricle. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2011</b> , 141, 744-9  | 1.5 | 15 |
| 178 | Cleft closure and undersizing annuloplasty improve mitral repair in atrioventricular canal defects. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2008</b> , 136, 1243-9  | 1.5 | 14 |
| 177 | Cardiac Magnetic Resonance-Derived Metrics Are Predictive of Liver Fibrosis in Fontan Patients. <i>Annals of Thoracic Surgery</i> , <b>2020</b> , 109, 1904-1911   | 2.6 | 14 |
| 176 | Pressure recovery distal to stenoses: expanding clinical applications of engineering principles. <i>Journal of the American College of Cardiology</i> , <b>1993</b> , 21, 1026-8   | 4.6 | 14 |
| 175 | Effect of heart rate on centerline velocities of pulsatile intracardiac jets: an in vitro study with laser Doppler anemometry and pulsed Doppler ultrasound. <i>Journal of the American Society of Echocardiography</i> , <b>1992</b> , 5, 393-404 | 5.7 | 14 |
| 174 | High Transcatheter Valve Replacement May Reduce Washout in the Aortic Sinuses: an In-Vitro Study. <i>Journal of Heart Valve Disease</i> , <b>2015</b> , 24, 22-9   |     | 14 |



|     |   |     |    |
|-----|---|-----|----|
| 173 | Local Hemodynamic Differences Between Commercially Available Y-Grafts and Traditional Fontan Baffles Under Simulated Exercise Conditions: Implications for Exercise Tolerance. <i>Cardiovascular Engineering and Technology</i> , <b>2017</b> , 8, 390-399  | 2.1 | 14 |
| 172 | Leg lean mass correlates with exercise systemic output in young Fontan patients. <i>Heart</i> , <b>2018</b> , 104, 680-684  | 1.9 | 13 |
| 171 | Three-dimensional extent of flow stagnation in transcatheter heart valves. <i>Journal of the Royal Society Interface</i> , <b>2019</b> , 16, 20190063   | 4   | 13 |
| 170 | A Comprehensive Framework for the Characterization of the Complete Mitral Valve Geometry for the Development of a Population-Averaged Model. <i>Lecture Notes in Computer Science</i> , <b>2015</b> , 164-171   | 0.8 | 12 |
| 169 | The effect of respiration-driven flow waveforms on hemodynamic metrics used in Fontan surgical planning. <i>Journal of Biomechanics</i> , <b>2019</b> , 82, 87-95   | 2.8 | 13 |
| 168 | Effect of hinge gap width of a St. Jude medical bileaflet mechanical heart valve on blood damage potential—an in vitro micro particle image velocimetry study. <i>Journal of Biomechanical Engineering</i> , <b>2014</b> , 136, 091008  | 2.1 | 13 |
| 167 | Accuracy of a mitral valve segmentation method using J-splines for real-time 3D echocardiography data. <i>Annals of Biomedical Engineering</i> , <b>2013</b> , 41, 1258-68  | 4.6 | 12 |
| 166 | Numerical and experimental investigation of pulsatile hemodynamics in the total cavopulmonary connection. <i>Journal of Biomechanics</i> , <b>2013</b> , 46, 373-82   | 2.8 | 13 |
| 165 | Contractile mitral annular forces are reduced with ischemic mitral regurgitation. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2013</b> , 146, 422-8  | 1.5 | 13 |
| 164 | Suture Dehiscence in the Tricuspid Annulus: An Ex Vivo Analysis of Tissue Strength and Composition. <i>Annals of Thoracic Surgery</i> , <b>2017</b> , 104, 820-826  | 2.6 | 13 |
| 163 | The importance of slice location on the accuracy of aortic regurgitation measurements with magnetic resonance phase velocity mapping. <i>Annals of Biomedical Engineering</i> , <b>1997</b> , 25, 644-52  | 4.6 | 13 |
| 162 | Evaluation of eccentric aortic regurgitation by color Doppler jet and color Doppler-imaged vena contracta measurements: an animal study of quantified aortic regurgitation. <i>American Heart Journal</i> , <b>1996</b> , 132, 796-804  | 4.7 | 13 |
| 161 | Clinical correlates of the rate of transmission of transmitral "A" wave to the left ventricular outflow tract in left ventricular hypertrophy secondary to systemic hypertension, hypertrophic cardiomyopathy or aortic valve stenosis. <i>American Journal of Cardiology</i> , <b>1994</b> , 73, 831-4 | 2.9 | 13 |
| 160 | In-vivo transducer to measure dynamic mitral annular forces. <i>Journal of Biomechanics</i> , <b>2012</b> , 45, 1514-6  | 2.8 | 12 |
| 159 | Modified control grid interpolation for the volumetric reconstruction of fluid flows. <i>Experiments in Fluids</i> , <b>2008</b> , 45, 987-997  | 2.5 | 12 |
| 158 | What is the validity of continuous wave Doppler grading of aortic regurgitation severity? A chronic animal model study. <i>Journal of the American Society of Echocardiography</i> , <b>1998</b> , 11, 332-7  | 5.7 | 10 |
| 157 | Flow characteristics of bioprosthetic heart valves. <i>Chest</i> , <b>1990</b> , 98, 365-75   | 1.2 | 12 |
| 156 | Novel Method to Track Soft Tissue Deformation by Micro-Computed Tomography: Application to the Mitral Valve. <i>Annals of Biomedical Engineering</i> , <b>2016</b> , 44, 2273-81  | 4.6 | 11 |

|     |   |      |    |
|-----|---|------|----|
| 155 | Effects of targeted papillary muscle relocation on mitral leaflet tenting and coaptation. <i>Annals of Thoracic Surgery</i> , <b>2013</b> , 95, 621-8   | 2.6  | 11 |
| 154 | Mitral valve annular downsizing forces: implications for annuloplasty device development. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2014</b> , 148, 83-9   | 1.5  | 11 |
| 153 | Computational modeling of Fontan physiology: at the crossroads of pediatric cardiology and biomedical engineering. <i>International Journal of Cardiovascular Imaging</i> , <b>2014</b> , 30, 1073-84   | 2.4  | 12 |
| 152 | Laser flow measurements in an idealized total cavopulmonary connection with mechanical circulatory assistance. <i>Artificial Organs</i> , <b>2011</b> , 35, 1052-64   | 2.5  | 12 |
| 151 | Hemodynamic effects of implanting a unidirectional valve in the inferior vena cava of the Fontan circulation pathway: an in vitro investigation. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , <b>2013</b> , 305, H1538-47           | 5    | 12 |
| 150 | Cannulation strategy for aortic arch reconstruction using deep hypothermic circulatory arrest. <i>Annals of Thoracic Surgery</i> , <b>2012</b> , 94, 614-20   | 2.6  | 11 |
| 149 | An Evaluation of the Influence of Coronary Flow on Transcatheter Heart Valve Neo-Sinus Flow Stasis. <i>Annals of Biomedical Engineering</i> , <b>2020</b> , 48, 169-180   | 4.6  | 11 |
| 148 | A multilayered valve leaflet promotes cell-laden collagen type I production and aortic valve hemodynamics. <i>Biomaterials</i> , <b>2020</b> , 240, 119838  | 15.2 | 11 |
| 147 | Spatio-temporal flow analysis in bileaflet heart valve hinge regions: potential analysis for blood element damage. <i>Annals of Biomedical Engineering</i> , <b>2007</b> , 35, 1333-46  | 4.6  | 11 |
| 146 | An automated method for analysis and visualization of laser Doppler velocimetry data. <i>Annals of Biomedical Engineering</i> , <b>1997</b> , 25, 335-43  | 4.6  | 11 |
| 145 | Quantification of cardiac jets: theory and limitations. <i>Echocardiography</i> , <b>1994</b> , 11, 267-80  | 1.4  | 11 |
| 144 | Design of a pulsatile flow facility to evaluate thrombogenic potential of implantable cardiac devices. <i>Journal of Biomechanical Engineering</i> , <b>2015</b> , 137, 045001  | 2.1  | 10 |
| 143 | Novel method of measuring valvular regurgitation using three-dimensional nonlinear curve fitting of Doppler signals within the flow convergence zone. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2013</b> , 60, 1295-311 | 3    | 10 |
| 142 | Hemodynamics of the Boston Scientific Lotus Valve: An In Vitro Study. <i>Cardiovascular Engineering and Technology</i> , <b>2013</b> , 4, 427-439   | 2.1  | 10 |
| 141 | Hemodynamics of the hepatic venous three-vessel confluences using particle image velocimetry. <i>Annals of Biomedical Engineering</i> , <b>2011</b> , 39, 2398-416  | 4.6  | 10 |
| 140 | Peak mechanical loads induced in the in vitro edge-to-edge repair of posterior leaflet flail. <i>Annals of Thoracic Surgery</i> , <b>2012</b> , 94, 1446-53   | 2.6  | 10 |
| 139 | Measurement of strut chordal forces of the tricuspid valve using miniature C ring transducers. <i>Journal of Biomechanics</i> , <b>2012</b> , 45, 1084-91   | 2.8  | 10 |
| 138 | Y-graft modification to the Fontan procedure: Increasingly balanced flow over time. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2020</b> , 159, 652-661  | 1.5  | 11 |

|     |  |      |    |
|-----|--|------|----|
| 137 | Evaluation of cardiovascular parameters of a selenium-based antihypertensive using pulsed Doppler ultrasound. <i>Journal of Cardiovascular Pharmacology</i> , <b>2001</b> , 38, 337-46   | 3.1  | 10 |
| 136 | A three-component force vector cell for in vitro quantification of the force exerted by the papillary muscle on the left ventricular wall. <i>Journal of Biomechanics</i> , <b>1997</b> , 30, 1071-5                                 | 2.8  | 10 |
| 135 | Quantitative Approaches to Color Doppler Flow Mapping of Intracardiac Blood Flow: A Review of In Vitro Methods. <i>Echocardiography</i> , <b>1989</b> , 6, 371-383   | 1.4  | 10 |
| 134 | Mitral annuloplasty ring suture forces: Impact of surgeon, ring, and use conditions. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2018</b> , 155, 131-139.e3   | 1.5  | 11 |
| 133 | Three-Dimensional Field Optimization Method: Gold-Standard Validation of a Novel Color Doppler Method for Quantifying Mitral Regurgitation. <i>Journal of the American Society of Echocardiography</i> , <b>2016</b> , 29, 917-925   | 5.7  | 10 |
| 132 | miR-214 is Stretch-Sensitive in Aortic Valve and Inhibits Aortic Valve Calcification. <i>Annals of Biomedical Engineering</i> , <b>2019</b> , 47, 1106-1115  | 4.6  | 9  |
| 131 | Neosinus Flow Stasis Correlates With Thrombus Volume Post-TAVR: A Patient-Specific In Vitro Study. <i>JACC: Cardiovascular Interventions</i> , <b>2019</b> , 12, 1288-1290   | 4.2  | 9  |
| 130 | Transcatheter aortic valve deployment influences neo-sinus thrombosis risk: An in vitro flow study. <i>Catheterization and Cardiovascular Interventions</i> , <b>2020</b> , 95, 1009-1016  | 2.6  | 9  |
| 129 | Influence of Patient-Specific Characteristics on Transcatheter Heart Valve Neo-Sinus Flow: An In Silico Study. <i>Annals of Biomedical Engineering</i> , <b>2020</b> , 48, 2400-2411   | 4.6  | 9  |
| 128 | Personalized mitral valve closure computation and uncertainty analysis from 3D echocardiography. <i>Medical Image Analysis</i> , <b>2017</b> , 35, 238-249   | 14.7 | 9  |
| 127 | Computational simulations of mitral regurgitation quantification using the flow convergence method: comparison of hemispheric and hemieliptic formulae. <i>Annals of Biomedical Engineering</i> , <b>1996</b> , 24, 561-72           | 4.6  | 9  |
| 126 | Mitral annuloplasty ring flexibility preferentially reduces posterior suture forces. <i>Journal of Biomechanics</i> , <b>2018</b> , 75, 58-66  | 2.8  | 8  |
| 125 | Comparison of hinge microflow fields of bileaflet mechanical heart valves implanted in different sinus shape and downstream geometry. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , <b>2015</b> , 18, 1785-96 | 2.1  | 8  |
| 124 | Characterization of aortic root geometry in transcatheter aortic valve replacement patients. <i>Catheterization and Cardiovascular Interventions</i> , <b>2019</b> , 93, 134-140   | 2.6  | 8  |
| 123 | Real-time recording of annuloplasty suture dehiscence reveals a potential mechanism for dehiscence cascade. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2016</b> , 152, e15-7   | 1.5  | 8  |
| 122 | Fluid-Structure Interaction Simulation of an Intra-Atrial Fontan Connection. <i>Biology</i> , <b>2020</b> , 9,   | 4.7  | 9  |
| 121 | Effect of Edge-to-Edge Mitral Valve Repair on Chordal Strain: Fluid-Structure Interaction Simulations. <i>Biology</i> , <b>2020</b> , 9,   | 4.7  | 9  |
| 120 | Non-Newtonian Effects on Patient-Specific Modeling of Fontan Hemodynamics. <i>Annals of Biomedical Engineering</i> , <b>2020</b> , 48, 2204-2217   | 4.6  | 8  |

|     |   |     |   |
|-----|---|-----|---|
| 119 | A Method for In Vitro TCPC Compliance Verification. <i>Journal of Biomechanical Engineering</i> , <b>2017</b> , 139,  | 2.1 | 8 |
| 118 | Axial flow velocity patterns in a pulmonary artery model with varying degrees of valvular pulmonic stenosis: pulsatile in vitro studies. <i>Journal of Biomechanics</i> , <b>1990</b> , 23, 563-78  | 2.8 | 8 |
| 117 | Amplitude information from Doppler color flow mapping systems: a preliminary study of the power mode. <i>Journal of the American College of Cardiology</i> , <b>1991</b> , 18, 997-1003   | 4.6 | 7 |
| 116 | The Björk-Shiley heart valve prosthesis. Flow characteristics of the new 70 degrees model. <i>Scandinavian Journal of Thoracic and Cardiovascular Surgery</i> , <b>1982</b> , 16, 1-7   |     | 8 |
| 115 | Creation of a tricuspid valve regurgitation model from tricuspid annular dilatation using the cardioport video-assisted imaging system. <i>Journal of Heart Valve Disease</i> , <b>2011</b> , 20, 184-8                                     |     | 8 |
| 114 | An in vitro analysis of the PediMag and CentriMag for right-sided failing Fontan support. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2019</b> , 158, 1413-1421  | 1.5 | 7 |
| 113 | MRI-based Protocol to Characterize the Relationship Between Bicuspid Aortic Valve Morphology and Hemodynamics. <i>Annals of Biomedical Engineering</i> , <b>2015</b> , 43, 1815-27  | 4.6 | 7 |
| 112 | Isolated effect of geometry on mitral valve function for in silico model development. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , <b>2015</b> , 18, 618-27   | 2.1 | 7 |
| 111 | Role of Mitral Annulus Diastolic Geometry on Intraventricular Filling Dynamics. <i>Journal of Biomechanical Engineering</i> , <b>2015</b> , 137, 121007   | 2.1 | 7 |
| 110 | Suture dehiscence and collagen content in the human mitral and tricuspid annuli. <i>Biomechanics and Modeling in Mechanobiology</i> , <b>2019</b> , 18, 291-299   | 3.7 | 7 |
| 109 | Effect of high altitude exposure on the hemodynamics of the bidirectional Glenn physiology: modeling incremented pulmonary vascular resistance and heart rate. <i>Journal of Biomechanics</i> , <b>2014</b> , 47, 1846-52                   | 2.8 | 7 |
| 108 | Haemodynamic comparison of a novel flow-divider Optiflo geometry and a traditional total cavopulmonary connection. <i>Interactive Cardiovascular and Thoracic Surgery</i> , <b>2013</b> , 17, 1-7   | 1.7 | 7 |
| 107 | Uniquely shaped cardiovascular stents enhance the pressure generation of intravascular blood pumps. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2012</b> , 144, 704-9  | 1.5 | 7 |
| 106 | Fluid-Structure Interaction Analysis of Subject-Specific Mitral Valve Regurgitation Treatment with an Intra-Valvular Spacer. <i>Prosthesis</i> , <b>2020</b> , 2, 65-75   | 4.6 | 7 |
| 105 | The role of flow stasis in transcatheter aortic valve leaflet thrombosis. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2020</b> ,   | 1.5 | 8 |
| 104 | Anatomically realistic patient-specific surgical planning of complex congenital heart defects using MRI and CFD. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society</i> , <b>2007</b> , 2007, 202-5 |     | 6 |
| 103 | Atrial inflow can alter regurgitant jet size: in vitro studies. <i>Ultrasound in Medicine and Biology</i> , <b>1995</b> , 21, 459-69  | 2.7 | 7 |
| 102 | Steady and pulsatile flow studies on a trileaflet heart valve prosthesis. <i>Scandinavian Journal of Thoracic and Cardiovascular Surgery</i> , <b>1983</b> , 17, 227-36   |     | 7 |

|     |  |     |   |
|-----|--|-----|---|
| 101 | An integrated macro/micro approach to evaluating pivot flow within the Medtronic ADVANTAGE bileaflet mechanical heart valve. <i>Journal of Heart Valve Disease</i> , <b>2003</b> , 12, 503-12  |     | 7 |
| 100 | Haemodynamic impact of stent implantation for lateral tunnel Fontan stenosis: a patient-specific computational assessment. <i>Cardiology in the Young</i> , <b>2016</b> , 26, 116-26   | 1   | 6 |
| 99  | New mitral annular force transducer optimized to distinguish annular segments and multi-plane forces. <i>Journal of Biomechanics</i> , <b>2016</b> , 49, 742-748   | 2.8 | 6 |
| 98  | Hemodynamic Impact of Superior Vena Cava Placement in the Y-Graft Fontan Connection. <i>Annals of Thoracic Surgery</i> , <b>2016</b> , 101, 183-9  | 2.6 | 6 |
| 97  | Tricuspid Valve Annular Mechanics: Interactions with and Implications for Transcatheter Devices. <i>Cardiovascular Engineering and Technology</i> , <b>2019</b> , 10, 193-204  | 2.1 | 6 |
| 96  | Comparison by magnetic resonance phase contrast imaging of pulse-wave velocity in patients with single ventricle who have reconstructed aortas versus those without. <i>American Journal of Cardiology</i> , <b>2014</b> , 114, 1902-7 | 2.9 | 8 |
| 95  | Revisiting the Gorlin equation for aortic stenosis--is it correctly used in clinical practice?. <i>International Journal of Cardiology</i> , <b>2013</b> , 168, 2881-3   | 3   | 6 |
| 94  | In-vivo mitral annuloplasty ring transducer: implications for implantation and annular downsizing. <i>Journal of Biomechanics</i> , <b>2013</b> , 46, 2550-3   | 2.8 | 6 |
| 93  | A new paradigm for obtaining marketing approval for pediatric-sized prosthetic heart valves. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2013</b> , 146, 879-86   | 1.5 | 7 |
| 92  | Impact of pulmonary hypertension on tricuspid valve function. <i>Annals of Biomedical Engineering</i> , <b>2013</b> , 41, 709-24   | 4.6 | 6 |
| 91  | A mechanistic investigation of the EDWARDS INTUITY Elite valve's hemodynamic performance. <i>General Thoracic and Cardiovascular Surgery</i> , <b>2020</b> , 68, 9-17  | 1.6 | 6 |
| 90  | Advances in cardiovascular fluid mechanics: bench to bedside. <i>Annals of the New York Academy of Sciences</i> , <b>2009</b> , 1161, 1-25   | 6.3 | 6 |
| 89  | Temporal variability of vena contracta and jet areas with color Doppler in aortic regurgitation: a chronic animal model study. <i>Journal of the American Society of Echocardiography</i> , <b>1998</b> , 11, 1064-71                  | 5.7 | 6 |
| 88  | An emergency physician's guide to prosthetic heart valves: identification and hemodynamic function. <i>Annals of Emergency Medicine</i> , <b>1988</b> , 17, 194-200  | 1.3 | 6 |
| 87  | Mitral web--a new concept for mitral valve repair: improved engineering design and in-vitro studies. <i>Journal of Heart Valve Disease</i> , <b>2009</b> , 18, 300-6   |     | 6 |
| 86  | Hemodynamic comparison of mitral valve repair: techniques for a flail anterior leaflet. <i>Journal of Heart Valve Disease</i> , <b>2014</b> , 23, 171-6  |     | 7 |
| 85  | In Vitro Examination of the VentriFlo True Pulse Pump for Failing Fontan Support. <i>Artificial Organs</i> , <b>2019</b> , 43, 181-188   | 2.5 | 5 |
| 84  | The hemodynamic effects of acute aortic regurgitation into a stiffened left ventricle resulting from chronic aortic stenosis. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , <b>2016</b> , 310, H1801-7    | 5.1 | 5 |

|    |  |     |   |
|----|--|-----|---|
| 83 | Impact of Free-Breathing Phase-Contrast MRI on Decision-Making in Fontan Surgical Planning. <i>Journal of Cardiovascular Translational Research</i> , <b>2020</b> , 13, 640-647  | 3.2 | 5 |
| 82 | In Vitro evaluation of a new aortic valved conduit. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2021</b> , 161, 581-590.e6  | 1.5 | 5 |
| 81 | Quantification of regurgitant flow through bileaflet heart valve prostheses: theoretical and in vitro studies. <i>Ultrasound in Medicine and Biology</i> , <b>1993</b> , 19, 461-8   | 2.7 | 5 |
| 80 | Color Doppler assessment of high flow velocities using a new technology: in vitro and clinical studies. <i>Echocardiography</i> , <b>1990</b> , 7, 763-9   | 1.4 | 5 |
| 79 | Doppler echocardiographic study of porcine bioprosthetic heart valves in the aortic valve position in patients without evidence of cardiac dysfunction. <i>American Journal of Cardiology</i> , <b>1991</b> , 67, 611-5  | 2.9 | 5 |
| 78 | In vitro fluid dynamic characteristics of the Medtronic-Hall pivoting disc heart valve prosthesis. <i>Scandinavian Journal of Thoracic and Cardiovascular Surgery</i> , <b>1982</b> , 16, 235-43   |     | 5 |
| 77 | Atrial systole enhances intraventricular filling flow propagation during increasing heart rate. <i>Journal of Biomechanics</i> , <b>2016</b> , 49, 618-23  | 2.8 | 4 |
| 76 | Might Coronary Flow Influence Transcatheter Heart Valve Neo-Sinus Thrombosis?. <i>Circulation: Cardiovascular Interventions</i> , <b>2019</b> , 12, e008005  | 5.8 | 4 |
| 75 | Flow visualization of the non-parallel jet-vortex interaction. <i>Journal of Visualization</i> , <b>2018</b> , 21, 533-542   | 1.5 | 4 |
| 74 | Outcomes of Single Ventricle Patients Undergoing the Kawashima Procedure: Can We Do Better?. <i>World Journal for Pediatric &amp; Congenital Heart Surgery</i> , <b>2019</b> , 10, 20-27   | 1.1 | 4 |
| 73 | Novel In Vitro Test Systems and Insights for Transcatheter Mitral Valve Design, Part II: Radial Expansion Forces. <i>Annals of Biomedical Engineering</i> , <b>2019</b> , 47, 392-402  | 4.6 | 4 |
| 72 | Novel In Vitro Test Systems and Insights for Transcatheter Mitral Valve Design, Part I: Paravalvular Leakage. <i>Annals of Biomedical Engineering</i> , <b>2019</b> , 47, 381-391  | 4.6 | 4 |
| 71 | In Vitro Examination of the HeartWare CircuLite Ventricular Assist Device in the Fontan Connection. <i>ASAIO Journal</i> , <b>2017</b> , 63, 482-489   | 3.4 | 5 |
| 70 | In vitro assessment of available coaptation area as a novel metric for the quantification of tricuspid valve coaptation. <i>Journal of Biomechanics</i> , <b>2013</b> , 46, 832-6  | 2.8 | 4 |
| 69 | Design and validation of a diaphragm pump for pediatric CRRT during ECMO. <i>International Journal of Artificial Organs</i> , <b>2013</b> , 36, 892-9  | 1.8 | 4 |
| 68 | Optimized mitral annuloplasty ring design reduces loading in the posterior annulus. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2020</b> , 159, 1766-1774.e2  | 1.5 | 4 |
| 67 | Essential information on surgical heart valve characteristics for optimal valve prosthesis selection: expert consensus document from the European Association for Cardio-Thoracic Surgery (EACTS)-The Society of Thoracic Surgeons (STS)-American Association for Thoracic Surgery (AATS) Valve Labelling Task Force. <i>European Journal of Cardio-thoracic Surgery</i> , <b>2021</b> , 59, 54-64 | 2.9 | 4 |
| 66 | In-Vitro Assessment of the Effects of Transcatheter Aortic Valve Leaflet Design on Neo-Sinus Geometry and Flow. <i>Annals of Biomedical Engineering</i> , <b>2021</b> , 49, 1046-1057  | 4.6 | 4 |

|    |   |      |   |
|----|---|------|---|
| 65 | A Simplified In Silico Model of Left Ventricular Outflow in Patients After Transcatheter Mitral Valve Replacement with Anterior Leaflet Laceration. <i>Annals of Biomedical Engineering</i> , <b>2021</b> , 49, 1449-1461                               | 4.6  | 4 |
| 64 | A model based on dimensional analysis for noninvasive quantification of valvular regurgitation under confined and impinging conditions: in vitro pulsatile flow validation. <i>Ultrasound in Medicine and Biology</i> , <b>1995</b> , 21, 899-911       | 2.7  | 4 |
| 63 | Hemodynamic assessment of carbomedics bileaflet heart valves by ultrasound: studies in the aortic and mitral positions. <i>Ultrasound in Medicine and Biology</i> , <b>1996</b> , 22, 421-30  | 2.7  | 4 |
| 62 | In vitro fluid dynamics of the St Jude valve prosthesis in steady and pulsatile flow. <i>Engineering in Medicine</i> , <b>1988</b> , 17, 181-7  |      | 4 |
| 61 | Effects of annular contraction on anterior leaflet strain using an in vitro simulator with a dynamically contracting mitral annulus. <i>Journal of Biomechanics</i> , <b>2018</b> , 66, 51-56   | 2.8  | 3 |
| 60 | Validation of Cardiac Output as Reported by a Permanently Implanted Wireless Sensor. <i>Journal of Medical Devices, Transactions of the ASME</i> , <b>2016</b> , 10,  | 1.2  | 3 |
| 59 | Exercise capacity in the Bidirectional Glenn physiology: Coupling cardiac index, ventricular function and oxygen extraction ratio. <i>Journal of Biomechanics</i> , <b>2015</b> , 48, 1997-2004   | 2.8  | 3 |
| 58 | Does TCPC power loss really affect exercise capacity?. <i>Heart</i> , <b>2015</b> , 101, 575-6  | 4.9  | 3 |
| 57 | Transcatheter aortic valve implantation can potentially impact short-term and long-term functionality: an in vitro study. <i>International Journal of Cardiology</i> , <b>2014</b> , 172, e421-2  | 3    | 3 |
| 56 | Comparison of Fontan Surgical Options for Patients with Apicocaval Juxtaposition. <i>Pediatric Cardiology</i> , <b>2020</b> , 41, 1021-1030   | 2    | 3 |
| 55 | Computational modeling of a right-sided Fontan assist device: Effectiveness across patient anatomies and cannulations. <i>Journal of Biomechanics</i> , <b>2020</b> , 109, 109917   | 2.8  | 3 |
| 54 | Mechanotransduction in small intestinal submucosa scaffolds: fabrication parameters potentially modulate the shear-induced expression of PECAM-1 and eNOS. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , <b>2017</b> , 11, 1427-1434 | 4.2  | 3 |
| 53 | A Skeletalized Representation of the Total Cavopulmonary Connection <b>2007</b> ,   |      | 3 |
| 52 | Flow visualization in anatomically accurate, flow-through models of the main pulmonary artery trunk. <i>Cardiology in the Young</i> , <b>1992</b> , 2, 114-120  | 1    | 3 |
| 51 | PULSATILE FLOW VISUALIZATION STUDIES WITH AORTIC AND MITRAL MECHANICAL VALVE PROSTHESES. <i>Chemical Engineering Communications</i> , <b>1986</b> , 47, 23-48   | 2.1  | 3 |
| 50 | Predictive Model for Thrombus Formation After Transcatheter Valve Replacement. <i>Cardiovascular Engineering and Technology</i> , <b>2021</b> , 12, 576   | 2.1  | 3 |
| 49 | Abstract 2207: Significant Impact of the Total Cavopulmonary Connection Resistance on Cardiac Output and Exercise Performance in Single Ventricles. <i>Circulation</i> , <b>2007</b> , 116,   | 16.3 | 2 |
| 48 | INCREASED POWER LOSS IN THE TOTAL CAVOPULMONARY CONNECTION IS RELATED TO DECREASED SINGLE VENTRICLE VOLUME. <i>Journal of the American College of Cardiology</i> , <b>2013</b> , 61, E491   | 4.6  | 2 |

|    |   |      |   |
|----|---|------|---|
| 47 | Cross-Sectional Magnetic Resonance and Modeling Comparison From Just After Fontan to the Teen Years. <i>Annals of Thoracic Surgery</i> , <b>2020</b> , 109, 574-582   | 2.6  | 2 |
| 46 | Hemodynamics of a stenosed aortic valve: Effects of the geometry of the sinuses and the positions of the coronary ostia. <i>International Journal of Mechanical Sciences</i> , <b>2020</b> , 188, 106015                    | 5.4  | 2 |
| 45 | Framework for Planning TMVR using 3-D Imaging, In Silico Modeling, and Virtual Reality. <i>Structural Heart</i> , <b>2020</b> , 4, 336-341  | 0.5  | 2 |
| 44 | Transcatheter Aortic Valve Thrombogenesis: A Foreign Materials Perspective. <i>Cardiovascular Engineering and Technology</i> , <b>2021</b> , 12, 28-36  | 2.1  | 2 |
| 43 | Setting Standards: Revised ISO 5840 Series Clarifies Testing, Evaluation Procedures for Cardiac Valves. <i>Biomedical Instrumentation and Technology</i> , <b>2020</b> , 54, 441-443  | 0.3  | 2 |
| 42 | Hepatic Venous Blood Flow Distribution in the Total Cavopulmonary Connection: Patient-Specific Anatomical Models <b>2007</b> ,  |      | 2 |
| 41 | A semi-automated method to quantify left ventricular diastolic inflow propagation by magnetic resonance phase velocity mapping. <i>Journal of Magnetic Resonance Imaging</i> , <b>1999</b> , 9, 544-51                      | 5.4  | 2 |
| 40 | A model based on dimensional analysis for non-invasive quantification of valvular regurgitation under confined and impinging conditions. <i>Journal of Biomechanics</i> , <b>1996</b> , 29, 99-102                          | 2.8  | 2 |
| 39 | Quantification of Mitral and Tricuspid Regurgitation Using Jet Centerline Velocities: An In Vitro Study of Jets in an Ambient Counterflow. <i>Echocardiography</i> , <b>1996</b> , 13, 357-372                              | 1.4  | 2 |
| 38 | Assessment of the accuracy of color Doppler flow mapping by digital image analysis. <i>Echocardiography</i> , <b>1994</b> , 11, 11-28   | 1.4  | 2 |
| 37 | A Simplified Model for Fluid Spreading in Composite Web Structures. <i>Textile Reseach Journal</i> , <b>1990</b> , 60, 23-32  | 1.6  | 2 |
| 36 | Transcatheter aortic valve thrombosis: a review of potential mechanisms. <i>Journal of the Royal Society Interface</i> , <b>2021</b> , 18, 20210599   | 4    | 2 |
| 35 | Hemodynamic characterization of calcified stenotic human aortic valves before and after treatment with a novel aortic valve repair system. <i>Journal of Heart Valve Disease</i> , <b>2004</b> , 13, 582-92; discussion 592 |      | 2 |
| 34 | Impact of simulated MitraClip on forward flow obstruction in the setting of mitral leaflet tethering: An in vitro investigation. <i>Catheterization and Cardiovascular Interventions</i> , <b>2018</b> , 92, 797-807        | 2.6  | 1 |
| 33 | Mitral annuloplasty ring suture dehiscence: In search of more robust techniques. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2016</b> , 152, 1640  | 1.5  | 1 |
| 32 | Response to letter regarding article, "accurate assessment of aortic stenosis: a review of diagnostic modalities and hemodynamics". <i>Circulation</i> , <b>2014</b> , 130, e135  | 16.3 | 1 |
| 31 | Pulsatile Hemodynamics of the Fontan Connection: A Tri-Modal Investigation <b>2011</b> ,  |      | 1 |
| 30 | Magnetic resonance imaging-guided surgical design: can we optimise the Fontan operation?. <i>Cardiology in the Young</i> , <b>2013</b> , 23, 818-23   | 1    | 1 |



|    |  |      |   |
|----|--|------|---|
| 29 | Dynamic nature of the LVOT following transcatheter mitral valve replacement with LAMPOON: new insights from post-procedure imaging. <i>European Heart Journal Cardiovascular Imaging</i> , <b>2021</b> ,                       | 3.9  | 1 |
| 28 | Alterations in Tricuspid Valve Mechanics as a Result of Annular Dilatation and Papillary Muscle Displacement: An In Vitro Study <b>2010</b> ,  |      | 1 |
| 27 | Low and Unsteady Shear Stresses Upregulate Calcification Response of the Aortic Valve Leaflets <b>2011</b> ,   |      | 1 |
| 26 | Transesophageal color Doppler evaluation of obstructive lesions using the new "Quasar" technology. <i>Ultrasound in Medicine and Biology</i> , <b>1995</b> , 21, 1021-8  | 2.7  | 1 |
| 25 | Left Ventricular Blood Flow Patterns Assessed by Magnetic Resonance Velocity Mapping in Patients with Ischemic Heart Disease. <i>American Journal of Noninvasive Cardiology</i> , <b>1994</b> , 8, 317-325                     |      | 1 |
| 24 | Computational Methods for Fluid-Structure Interaction Simulation of Heart Valves in Patient-Specific Left Heart Anatomies. <i>Fluids</i> , <b>2022</b> , 7, 94   | 1.6  | 1 |
| 23 | Impact of Anchor Location on Mitral Neo-chordae Forces: An In Vitro Study.. <i>Annals of Thoracic Surgery</i> , <b>2021</b> ,  | 2.6  | 1 |
| 22 | An Anterior Anastomosis for the Modified Fontan Connection: A Hemodynamic Analysis. <i>Seminars in Thoracic and Cardiovascular Surgery</i> , <b>2021</b> , 33, 816-823   | 1.6  | 1 |
| 21 | Multi-modal Validation Framework of Mitral Valve Geometry and Functional Computational Models. <i>Lecture Notes in Computer Science</i> , <b>2015</b> , 239-248  | 0.8  | 1 |
| 20 | Relationship of Aortic Stiffness to Exercise and Ventricular Volumes in Single Ventricles. <i>Annals of Thoracic Surgery</i> , <b>2019</b> , 108, 574-580  | 2.6  | 0 |
| 19 | Measurement Technologies for Heart Valve Function <b>2018</b> , 115-149  |      | 0 |
| 18 | Percutaneous DLC-Based Total Cavopulmonary Assist Achieves 96-Hour Survival in Lethal Cavopulmonary Failure Sheep. <i>Journal of the American College of Cardiology</i> , <b>2021</b> , 78, 538-540                            | 4.6  |   |
| 17 | How sensitive are jet centerline velocities to an opposing flow? Implications for using the centerline method to quantify regurgitant jet flow. <i>Journal of Biomechanics</i> , <b>1996</b> , 29, 967-71                      | 2.8  | 1 |
| 16 | ARE FONTAN HEMODYNAMICS PREDICTIVE OF FUTURE LIVER DISEASE IN FONTAN PATIENTS?. <i>Journal of the American College of Cardiology</i> , <b>2019</b> , 73, 581   | 4.6  |   |
| 15 | Left ventricular flow in the presence of aortic regurgitation. <i>Journal of Biomechanics</i> , <b>2019</b> , 87, 211  | 2.8  |   |
| 14 | CORONARY FLOW INFLUENCES TRANSCATHETER AORTIC VALVE LEAFLET THROMBOSIS RISK. <i>Journal of the American College of Cardiology</i> , <b>2019</b> , 73, 1035   | 4.6  |   |
| 13 | Response by Sharma et al to Letter Regarding Article, "The Fluid Mechanics of Transcatheter Heart Valve Leaflet Thrombosis in the Neosinus". <i>Circulation</i> , <b>2018</b> , 137, 2094-2095                                 | 16.3 |   |
| 12 | Blood Damage Quantification in Cardiovascular Flows Through Medical Devices Using a Novel Suspension Flow Method. <i>Journal of Medical Devices, Transactions of the ASME</i> , <b>2013</b> , 7, 0409091-409091 <sup>1,2</sup> |      |   |

- 11 Diagnosis of "paradoxical" low-gradient aortic stenosis patients. *Journal of the American College of Cardiology*, **2013**, 62, 2345-6 4.6
- 10 Reply to the editor. *Journal of Thoracic and Cardiovascular Surgery*, **2014**, 148, 1771-2 1.5
- 9 Letter regarding the article by Vismara et al published in Int J Artif Organs 2011; 34(4): 383-391. *International Journal of Artificial Organs*, **2012**, 35, 158-9; author reply 160-1 1.8
- 8 Advances in Computational Simulations for Interventional Treatments and Surgical Planning **2010**, 343-373
- 7 In Response to Comparison of Particle Image Velocimetry and Laser Doppler Velocimetry Measurements in Turbulent Fluid Flow by Wernet et al.. *Annals of Biomedical Engineering*, **2000**, 28, 1395-1396 4.6
- 6 Modified Lawr-Doppler Anemometer to Study Fluid Flow in Microstructures. *Textile Reseach Journal*, **1990**, 60, 266-276 1.6
- 5 Flow characteristics of prosthetic heart valves. *International Journal of Cardiovascular Imaging*, **1989**, 4, 5-8
- 4 Numerical analysis of the hemodynamic performance of bileaflet mechanical heart valves at different implantation angles. *Journal of Heart Valve Disease*, **2014**, 23, 642-50
- 3 Fundamentals of Image-Based Computational Simulation **2018**, 191-197
- 2 Heart Valve Dynamics **2014**, 9-1-9-32
- 1 Fluid Dynamics of Prosthetic Valves **2017**, 433-454