

Kerem Pekkan

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

117 papers	2,668 citations	29 h-index	48 g-index
152 ext. papers	3,018 ext. citations	3.5 avg, IF	4.75 L-index

#	Paper	IF	Citations
117	Interaction between alk1 and blood flow in the development of arteriovenous malformations. <i>Development (Cambridge)</i> , 2011 , 138, 1573-82	6.6	148
116	Nonlinear power loss during exercise in single-ventricle patients after the Fontan: insights from computational fluid dynamics. <i>Circulation</i> , 2007 , 116, 1165-71	16.7	140
115	Physics-driven CFD modeling of complex anatomical cardiovascular flows-a TCPC case study. <i>Annals of Biomedical Engineering</i> , 2005 , 33, 284-300	4.7	97
114	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> , 2008 , 295, H2427-35	5.2	94
113	Variability of computational fluid dynamics solutions for pressure and flow in a giant aneurysm: the ASME 2012 Summer Bioengineering Conference CFD Challenge. <i>Journal of Biomechanical Engineering</i> , 2013 , 135, 021016	2.1	92
112	Introduction of a new optimized total cavopulmonary connection. <i>Annals of Thoracic Surgery</i> , 2007 , 83, 2182-90	2.7	85
111	Fontan hemodynamics: importance of pulmonary artery diameter. <i>Journal of Thoracic and Cardiovascular Surgery</i> , 2009 , 137, 560-4	1.5	82
110	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> , 2008 , 46, 1139-52	3.1	77
109	Aortic arch morphogenesis and flow modeling in the chick embryo. <i>Annals of Biomedical Engineering</i> , 2009 , 37, 1069-81	4.7	67
108	The Computational Fluid Dynamics Rupture Challenge 2013--Phase II: Variability of Hemodynamic Simulations in Two Intracranial Aneurysms. <i>Journal of Biomechanical Engineering</i> , 2015 , 137, 121008	2.1	61
107	Coupling pediatric ventricle assist devices to the Fontan circulation: simulations with a lumped-parameter model. <i>ASAIO Journal</i> , 2005 , 51, 618-28	3.6	61
106	Flow study of an extracardiac connection with persistent left superior vena cava. <i>Journal of Thoracic and Cardiovascular Surgery</i> , 2006 , 131, 785-91	1.5	60
105	A new method for registration-based medical image interpolation. <i>IEEE Transactions on Medical Imaging</i> , 2008 , 27, 370-7	11.7	59
104	In vitro flow analysis of a patient-specific intraatrial total cavopulmonary connection. <i>Annals of Thoracic Surgery</i> , 2005 , 79, 2094-102	2.7	59
103	Total cavopulmonary connection flow with functional left pulmonary artery stenosis: angioplasty and fenestration in vitro. <i>Circulation</i> , 2005 , 112, 3264-71	16.7	58
102	Functional analysis of Fontan energy dissipation. <i>Journal of Biomechanics</i> , 2008 , 41, 2246-52	2.9	57
101	Real-World Variability in the Prediction of Intracranial Aneurysm Wall Shear Stress: The 2015 International Aneurysm CFD Challenge. <i>Cardiovascular Engineering and Technology</i> , 2018 , 9, 544-564	2.2	47

100	Motile-Cilia-Mediated Flow Improves Sensitivity and Temporal Resolution of Olfactory Computations. <i>Current Biology</i> , 2017 , 27, 166-174	6.3	46
99	Progress in the CFD modeling of flow instabilities in anatomical total cavopulmonary connections. <i>Annals of Biomedical Engineering</i> , 2007 , 35, 1840-56	4.7	46
98	Pulmonary hepatic flow distribution in total cavopulmonary connections: extracardiac versus intracardiac. <i>Journal of Thoracic and Cardiovascular Surgery</i> , 2011 , 141, 207-14	1.5	45
97	Mechanobiology and the microcirculation: cellular, nuclear and fluid mechanics. <i>Microcirculation</i> , 2010 , 17, 179-91	2.9	43
96	Single-step stereolithography of complex anatomical models for optical flow measurements. <i>Journal of Biomechanical Engineering</i> , 2005 , 127, 204-7	2.1	43
95	Computer modeling for the prediction of thoracic aortic stent graft collapse. <i>Journal of Vascular Surgery</i> , 2013 , 57, 1353-61	3.5	41
94	Computer-Aided Patient-Specific Coronary Artery Graft Design Improvements Using CFD Coupled Shape Optimizer. <i>Cardiovascular Engineering and Technology</i> , 2011 , 2, 35-47	2.2	41
93	Mechanotransduction in embryonic vascular development. <i>Biomechanics and Modeling in Mechanobiology</i> , 2012 , 11, 1149-68	3.8	39
92	Neonatal aortic arch hemodynamics and perfusion during cardiopulmonary bypass. <i>Journal of Biomechanical Engineering</i> , 2008 , 130, 061012	2.1	39
91	Visualization of flow structures in Fontan patients using 3-dimensional phase contrast magnetic resonance imaging. <i>Journal of Thoracic and Cardiovascular Surgery</i> , 2012 , 143, 1108-16	1.5	38
90	Hemodynamic performance of stage-2 univentricular reconstruction: Glenn vs. hemi-Fontan templates. <i>Annals of Biomedical Engineering</i> , 2009 , 37, 50-63	4.7	38
89	Critical transitions in early embryonic aortic arch patterning and hemodynamics. <i>PLoS ONE</i> , 2013 , 8, e60371	3.7	35
88	Left atrial ligation alters intracardiac flow patterns and the biomechanical landscape in the chick embryo. <i>Developmental Dynamics</i> , 2014 , 243, 652-62	2.9	29
87	Cellular-level near-wall unsteadiness of high-hematocrit erythrocyte flow using confocal PIV. <i>Experiments in Fluids</i> , 2011 , 50, 887-904	2.5	29
86	Investigating developmental cardiovascular biomechanics and the origins of congenital heart defects. <i>Frontiers in Physiology</i> , 2014 , 5, 408	4.6	27
85	Right ventricular outflow tract reconstruction with bicuspid valved polytetrafluoroethylene conduit. <i>Annals of Thoracic Surgery</i> , 2011 , 91, 1235-8; discussion 1239	2.7	27
84	Hemodynamic energy dissipation in the cardiovascular system: generalized theoretical analysis on disease states. <i>Annals of Biomedical Engineering</i> , 2009 , 37, 661-73	4.7	27
83	Quantitative analysis of extracardiac versus intraatrial Fontan anatomic geometries. <i>Annals of Thoracic Surgery</i> , 2008 , 85, 810-7	2.7	27

82	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> , 2004 , 126, 594-603	2.1	27
81	Analysis of early embryonic great-vessel microcirculation in zebrafish using high-speed confocal BIV. <i>Biorheology</i> , 2011 , 48, 305-21	1.7	25
80	Growth and hemodynamics after early embryonic aortic arch occlusion. <i>Biomechanics and Modeling in Mechanobiology</i> , 2015 , 14, 735-51	3.8	23
79	Characterization of neonatal aortic cannula jet flow regimes for improved cardiopulmonary bypass. <i>Journal of Biomechanics</i> , 2013 , 46, 362-72	2.9	23
78	Effects of intraluminal thrombus on patient-specific abdominal aortic aneurysm hemodynamics via stereoscopic particle image velocity and computational fluid dynamics modeling. <i>Journal of Biomechanical Engineering</i> , 2014 , 136, 031001	2.1	22
77	Experimental and computational investigation of the patient-specific abdominal aortic aneurysm pressure field. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2015 , 18, 981-992	2.1	21
76	Aortic outflow cannula tip design and orientation impacts cerebral perfusion during pediatric cardiopulmonary bypass procedures. <i>Annals of Biomedical Engineering</i> , 2013 , 41, 2588-602	4.7	21
75	Optimization of inflow waveform phase-difference for minimized total cavopulmonary power loss. <i>Journal of Biomechanical Engineering</i> , 2010 , 132, 031012	2.1	21
74	Three-dimensional velocity field reconstruction. <i>Journal of Biomechanical Engineering</i> , 2004 , 126, 727-35	2.1	21
73	Characterization of the vessel geometry, flow mechanics and wall shear stress in the great arteries of wildtype prenatal mouse. <i>PLoS ONE</i> , 2014 , 9, e86878	3.7	20
72	Hemodynamics of patient-specific aorta-pulmonary shunt configurations. <i>Journal of Biomechanics</i> , 2017 , 50, 166-171	2.9	19
71	Computational hemodynamic optimization predicts dominant aortic arch selection is driven by embryonic outflow tract orientation in the chick embryo. <i>Biomechanics and Modeling in Mechanobiology</i> , 2012 , 11, 1057-73	3.8	19
70	Transition from fetal to neonatal circulation: Modeling the effect of umbilical cord clamping. <i>Journal of Biomechanics</i> , 2015 , 48, 1662-70	2.9	18
69	Characterization of zebrafish larvae suction feeding flow using BIV and optical coherence tomography. <i>Experiments in Fluids</i> , 2016 , 57, 1	2.5	18
68	In vitro hemodynamic investigation of the embryonic aortic arch at late gestation. <i>Journal of Biomechanics</i> , 2008 , 41, 1697-706	2.9	18
67	Total cavopulmonary connection in patients with apicocaval juxtaposition: optimal conduit route using preoperative angiogram and flow simulation. <i>European Journal of Cardio-thoracic Surgery</i> , 2013 , 44, e46-52	3	15
66	Tetralogy of Fallot Surgical Repair: Shunt Configurations, Ductus Arteriosus and the Circle of Willis. <i>Cardiovascular Engineering and Technology</i> , 2017 , 8, 107-119	2.2	14
65	Three-dimensional chemical profile manipulation using two-dimensional autonomous microfluidic control. <i>Journal of the American Chemical Society</i> , 2010 , 132, 1339-47	16.4	13

64	Pulsatile in vitro simulation of the pediatric univentricular circulation for evaluation of cardiopulmonary assist scenarios. <i>Artificial Organs</i> , 2009 , 33, 967-76	2.6	13
63	Time-resolved OCT-PIV: a new microscopic PIV technique for noninvasive depth-resolved pulsatile flow profile acquisition. <i>Experiments in Fluids</i> , 2013 , 54, 1	2.5	12
62	Computational Modeling of Neonatal Cardiopulmonary Bypass Hemodynamics With Full Circle of Willis Anatomy. <i>Artificial Organs</i> , 2015 , 39, E164-75	2.6	12
61	In vitro evaluation of right ventricular outflow tract reconstruction with bicuspid valved polytetrafluoroethylene conduit. <i>Artificial Organs</i> , 2010 , 34, 1010-6	2.6	12
60	Modified control grid interpolation for the volumetric reconstruction of fluid flows. <i>Experiments in Fluids</i> , 2008 , 45, 987-997	2.5	12
59	Cannulation strategy for aortic arch reconstruction using deep hypothermic circulatory arrest. <i>Annals of Thoracic Surgery</i> , 2012 , 94, 614-20	2.7	11
58	Hemodynamics of the hepatic venous three-vessel confluences using particle image velocimetry. <i>Annals of Biomedical Engineering</i> , 2011 , 39, 2398-416	4.7	10
57	Computational Pre-surgical Planning of Arterial Patch Reconstruction: Parametric Limits and In Vitro Validation. <i>Annals of Biomedical Engineering</i> , 2018 , 46, 1292-1308	4.7	10
56	Fontan conversion templates: patient-specific hemodynamic performance of the lateral tunnel versus the intraatrial conduit with fenestration. <i>Pediatric Cardiology</i> , 2013 , 34, 1447-54	2.1	8
55	Presurgical evaluation of Fontan connection options for patients with apicocaval juxtaposition using computational fluid dynamics. <i>Artificial Organs</i> , 2013 , 37, E1-8	2.6	8
54	Pulsatile venous waveform quality affects the conduit performance in functional and "failing" Fontan circulations. <i>Cardiology in the Young</i> , 2012 , 22, 251-62	1	8
53	Oscillating Couette flow for in vitro cell loading. <i>Journal of Biomechanics</i> , 2004 , 37, 939-42	2.9	8
52	Microstructure of early embryonic aortic arch and its reversibility following mechanically altered hemodynamic load release. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2020 , 318, H1208-H1218	5.2	8
51	Asymmetry in Mechanosensitive Gene Expression during Aortic Arch Morphogenesis. <i>Scientific Reports</i> , 2018 , 8, 16948	4.9	8
50	Patient-Specific Atrial Hemodynamics of a Double Lumen Neonatal Cannula in Correct Caval Position. <i>Artificial Organs</i> , 2018 , 42, 401-409	2.6	7
49	In Vitro validation of a self-driving aortic-turbine venous-assist device for Fontan patients. <i>Journal of Thoracic and Cardiovascular Surgery</i> , 2018 , 156, 292-301.e7	1.5	7
48	Non-dimensional physics of pulsatile cardiovascular networks and energy efficiency. <i>Journal of the Royal Society Interface</i> , 2016 , 13, 20151019	4.1	7
47	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> , 2007 , 2007, 202-5		7

46	Two-Dimensional Flow and NOx Emissions in Deflagrative Internal Combustion Wave Rotor Configurations. <i>Journal of Engineering for Gas Turbines and Power</i> , 2003 , 125, 720-733	1.7	7
45	Time-Series Interactions of Gene Expression, Vascular Growth and Hemodynamics during Early Embryonic Arterial Development. <i>PLoS ONE</i> , 2016 , 11, e0161611	3.7	7
44	Thrust and Hydrodynamic Efficiency of the Bundled Flagella. <i>Micromachines</i> , 2019 , 10,	3.3	6
43	Mitral web--a new concept for mitral valve repair: improved engineering design and in-vitro studies. <i>Journal of Heart Valve Disease</i> , 2009 , 18, 300-6		6
42	The impact of plaque type on strut embedment/protrusion and shear stress distribution in bioresorbable scaffold. <i>European Heart Journal Cardiovascular Imaging</i> , 2020 , 21, 454-462	4.1	5
41	High-speed three-dimensional characterization of fluid flows induced by micro-objects in deep microchannels. <i>Biochip Journal</i> , 2013 , 7, 95-103	4	5
40	Novel fenestration designs for controlled venous flow shunting in failing Fontans with systemic venous hypertension. <i>Artificial Organs</i> , 2013 , 37, 66-75	2.6	5
39	Haemodynamic Recovery Properties of the Torsioned Testicular Artery Lumen. <i>Scientific Reports</i> , 2017 , 7, 15570	4.9	5
38	Pulsatile venous waveform quality in Fontan circulation-clinical implications, venous assists options and the future. <i>Anatolian Journal of Cardiology</i> , 2012 , 12, 420-6		5
37	Spatiotemporal remodeling of embryonic aortic arch: stress distribution, microstructure, and vascular growth in silico. <i>Biomechanics and Modeling in Mechanobiology</i> , 2020 , 19, 1897-1915	3.8	4
36	A Review of Rotary Pressure-Gain Combustion Systems for Gas Turbine Applications 2003 , 241		4
35	Effect of modified Blalock-Taussig shunt anastomosis angle and pulmonary artery diameter on pulmonary flow. <i>Anatolian Journal of Cardiology</i> , 2018 , 20, 2-8	0.8	4
34	Post-implantation shear stress assessment: an emerging tool for differentiation of bioresorbable scaffolds. <i>International Journal of Cardiovascular Imaging</i> , 2019 , 35, 409-418	2.5	4
33	Hemodynamics of neonatal double lumen cannula malposition. <i>Perfusion (United Kingdom)</i> , 2020 , 35, 306-315	1.9	4
32	Increased Energy Loss Due to Twist and Offset Buckling of the Total Cavopulmonary Connection. <i>Journal of Medical Devices, Transactions of the ASME</i> , 2017 , 11,	1.3	3
31	Heart valve inspired and multi-stream aortic cannula: Novel designs for cardiopulmonary bypass improvement in neonates. <i>Artificial Organs</i> , 2019 , 43, E233-E248	2.6	3
30	Quantitative Hemodynamic Evaluation in Children with Coarctation of Aorta: Phase Contrast Cardiovascular MRI versus Computational Fluid Dynamics. <i>Lecture Notes in Computer Science</i> , 2013 , 9-16	0.9	3
29	Noninvasive in vivo determination of residual strains and stresses. <i>Journal of Biomechanical Engineering</i> , 2015 , 137, 061011	2.1	3

28	Simultaneous real-time quantification of blood flow and vascular growth in the chick embryo using optical coherence tomography 2014 ,		3
27	Control of Fuel and Hot-Gas Leakage in a Stratified Internal Combustion Wave Rotor 2002 ,		3
26	Infusion Jet Flow Control in Neonatal Double Lumen Cannulae. <i>Journal of Biomechanical Engineering</i> , 2020 , 142,	2.1	3
25	A Skeletalized Representation of the Total Cavopulmonary Connection 2007 ,		3
24	Abstract 2207: Significant Impact of the Total Cavopulmonary Connection Resistance on Cardiac Output and Exercise Performance in Single Ventricles. <i>Circulation</i> , 2007 , 116,	16.7	3
23	Single-center experience with routine clinical use of 3D technologies in surgical planning for pediatric patients with complex congenital heart disease. <i>Diagnostic and Interventional Radiology</i> , 2021 , 27, 488-496	3.2	3
22	Mytilus galloprovincialis as a smart micro-pump. <i>Biology Open</i> , 2016 , 5, 1493-1499	2.2	3
21	Effect of Caval Waveform on Energy Dissipation of Failing Fontan Patients 2009 ,		2
20	Bicuspid-valved PTFE conduit optimization for pediatric RVOT reconstruction 2011 ,		2
19	Computed Synovial Fluid Flow in a Simple Knee Joint Model 2003 , 2085		2
18	Hepatic Venous Blood Flow Distribution in the Total Cavopulmonary Connection: Patient-Specific Anatomical Models 2007 ,		2
17	Hemodynamic flow visualization of early embryonic great vessels using PIV. <i>Methods in Molecular Biology</i> , 2015 , 1189, 17-30	1.4	2
16	Computational modeling of vascular growth in patient-specific pulmonary arterial patch reconstructions. <i>Journal of Biomechanics</i> , 2021 , 117, 110274	2.9	2
15	Transitional fetal hemodynamics and gas exchange in premature postpartum adaptation: immediate vs. delayed cord clamping. <i>Maternal Health, Neonatology and Perinatology</i> , 2019 , 5, 5	3.4	1
14	In Vivo Hemodynamic Performance of Wild-Type vs. Mutant Zebrafish Embryos Using High-Speed Confocal Micro-PIV 2010 ,		1
13	Device Specific Aortic Outflow Cannula Jets Studied Using 2D PIV and High-Performance 3D CFD Simulation 2012 ,		1
12	One-Dimensional Combustion Instability Studies with Moving Boundaries in an End-Burning Test Motor 2002 ,		1
11	A novel Fontan Y-graft for interrupted inferior vena cava and azygos continuation.. <i>Interactive Cardiovascular and Thoracic Surgery</i> , 2022 ,	1.8	1

10	Polymeric hollow fiber membrane oxygenators as artificial lungs: A review. <i>Biochemical Engineering Journal</i> , 2022 , 180, 108340	4.2	1
9	Shaping the field of Cardiovascular Fluid Mechanics: The 40th Anniversary of Ajit Yoganathan's Research Laboratory. <i>Cardiovascular Engineering and Technology</i> , 2021 , 1	2.2	1
8	Abstract 2212: Computational Model of Exercise Effects on Fontan Hemodynamics Demonstrates Favorable Energetics In Extracardiac Fontans When Compared to Lateral Tunnel. <i>Circulation</i> , 2007 , 116,	16.7	1
7	Patient-Specific Hemodynamics of New Coronary Artery Bypass Configurations. <i>Cardiovascular Engineering and Technology</i> , 2020 , 11, 663-678	2.2	1
6	Estimation of pulsatile energy dissipation in intersecting pipe junctions using inflow pulsatility indices. <i>AIP Advances</i> , 2021 , 11, 015342	1.5	1
5	Hemodynamic performance limits of the neonatal Double-Lumen cannula. <i>Journal of Biomechanics</i> , 2021 , 121, 110382	2.9	0
4	3-D Stereo-particle image velocimetry in the total cavopulmonary connection. <i>Journal of Biomechanics</i> , 2006 , 39, S304	2.9	
3	Endothelial shear stress and vascular remodeling in bioresorbable scaffold and metallic stent. <i>Atherosclerosis</i> , 2020 , 312, 79-89	3.1	
2	Applications of Micro-CT in Cardiovascular Engineering and Bio-inspired Design 2020 , 171-181		
1	In vitro measurement of hepatic flow distribution in Fontan vascular conduits: Towards rapid validation techniques.. <i>Journal of Biomechanics</i> , 2022 , 137, 111092	2.9	