

Gianni Pedrizzetti

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132
papers

5,027
citations

32
h-index

69
g-index

154
ext. papers

6,129
ext. citations

3.8
avg, IF

5.64
L-index

#	Paper	IF	Citations
132	Definitions for a common standard for 2D speckle tracking echocardiography: consensus document of the EACVI/ASE/Industry Task Force to standardize deformation imaging. <i>European Heart Journal Cardiovascular Imaging</i> , 2015 , 16, 1-11	4.1	541
131	Definitions for a common standard for 2D speckle tracking echocardiography: consensus document of the EACVI/ASE/Industry Task Force to standardize deformation imaging. <i>Journal of the American Society of Echocardiography</i> , 2015 , 28, 183-93	5.8	428
130	Echocardiographic particle image velocimetry: a novel technique for quantification of left ventricular blood vorticity pattern. <i>Journal of the American Society of Echocardiography</i> , 2010 , 23, 86-94	5.8	358
129	Characterization and quantification of vortex flow in the human left ventricle by contrast echocardiography using vector particle image velocimetry. <i>JACC: Cardiovascular Imaging</i> , 2008 , 1, 705-17	8.4	238
128	Tissue Tracking Technology for Assessing Cardiac Mechanics: Principles, Normal Values, and Clinical Applications. <i>JACC: Cardiovascular Imaging</i> , 2015 , 8, 1444-1460	8.4	236
127	Principles of cardiovascular magnetic resonance feature tracking and echocardiographic speckle tracking for informed clinical use. <i>Journal of Cardiovascular Magnetic Resonance</i> , 2016 , 18, 51	6.9	189
126	Nature optimizes the swirling flow in the human left ventricle. <i>Physical Review Letters</i> , 2005 , 95, 108101	7.4	175
125	The vortex--an early predictor of cardiovascular outcome?. <i>Nature Reviews Cardiology</i> , 2014 , 11, 545-53	14.8	174
124	Emerging trends in CV flow visualization. <i>JACC: Cardiovascular Imaging</i> , 2012 , 5, 305-16	8.4	174
123	Left ventricular flow patterns in healthy subjects and patients with prosthetic mitral valves: an in vivo study using echocardiographic particle image velocimetry. <i>Journal of Thoracic and Cardiovascular Surgery</i> , 2010 , 139, 1501-10	1.5	164
122	Flow about a circular cylinder between parallel walls. <i>Journal of Fluid Mechanics</i> , 2001 , 440, 1-25	3.7	138
121	Three-dimensional filling flow into a model left ventricle. <i>Journal of Fluid Mechanics</i> , 2005 , 539, 179	3.7	121
120	Effect of cardiac resynchronization therapy on longitudinal and circumferential left ventricular mechanics by velocity vector imaging: description and initial clinical application of a novel method using high-frame rate B-mode echocardiographic images. <i>Echocardiography</i> , 2005 , 22, 826-30	1.5	108
119	Magnetic resonance derived myocardial strain assessment using feature tracking. <i>Journal of Visualized Experiments</i> , 2011 ,	1.6	98
118	Contrast echocardiography for assessing left ventricular vortex strength in heart failure: a prospective cohort study. <i>European Heart Journal Cardiovascular Imaging</i> , 2013 , 14, 1049-60	4.1	81
117	On the left ventricular vortex reversal after mitral valve replacement. <i>Annals of Biomedical Engineering</i> , 2010 , 38, 769-73	4.7	80
116	Fluid dynamics of the left ventricular filling in dilated cardiomyopathy. <i>Journal of Biomechanics</i> , 2002 , 35, 665-71	2.9	79

115	Combined experimental and numerical analysis of the flow structure into the left ventricle. <i>Journal of Biomechanics</i> , 2007 , 40, 1988-94	2.9	62
114	Echocardiography and cardiac magnetic resonance-based feature tracking in the assessment of myocardial mechanics in tetralogy of Fallot: an intermodality comparison. <i>Echocardiography</i> , 2013 , 30, 203-10	1.5	56
113	Comparative numerical study on left ventricular fluid dynamics after dilated cardiomyopathy. <i>Journal of Biomechanics</i> , 2013 , 46, 1611-7	2.9	55
112	Quantitative analysis of intraventricular blood flow dynamics by echocardiographic particle image velocimetry in patients with acute myocardial infarction at different stages of left ventricular dysfunction. <i>European Heart Journal Cardiovascular Imaging</i> , 2014 , 15, 1203-12	4.1	51
111	Precision Phenotyping in Heart Failure and Pattern Clustering of Ultrasound Data for the Assessment of Diastolic Dysfunction. <i>JACC: Cardiovascular Imaging</i> , 2017 , 10, 1291-1303	8.4	50
110	Three-dimensional principal strain analysis for characterizing subclinical changes in left ventricular function. <i>Journal of the American Society of Echocardiography</i> , 2014 , 27, 1041-1050.e1	5.8	50
109	On Markov modelling of turbulence. <i>Journal of Fluid Mechanics</i> , 1994 , 280, 69-93	3.7	45
108	Model and influence of mitral valve opening during the left ventricular filling. <i>Journal of Biomechanics</i> , 2003 , 36, 355-61	2.9	42
107	Left ventricular fluid mechanics: the long way from theoretical models to clinical applications. <i>Annals of Biomedical Engineering</i> , 2015 , 43, 26-40	4.7	37
106	Diagnostic concordance of echocardiography and cardiac magnetic resonance-based tissue tracking for differentiating constrictive pericarditis from restrictive cardiomyopathy. <i>Circulation: Cardiovascular Imaging</i> , 2014 , 7, 819-27	3.9	37
105	Cardiac fluid dynamics anticipates heart adaptation. <i>Journal of Biomechanics</i> , 2015 , 48, 388-91	2.9	36
104	Unsteady tube flow over an expansion. <i>Journal of Fluid Mechanics</i> , 1996 , 310, 89-111	3.7	36
103	Changes in electrical activation modify the orientation of left ventricular flow momentum: novel observations using echocardiographic particle image velocimetry. <i>European Heart Journal Cardiovascular Imaging</i> , 2016 , 17, 203-9	4.1	34
102	Intraventricular vortex flow changes in the infarcted left ventricle: numerical results in an idealised 3D shape. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2011 , 14, 95-101	2.1	33
101	Flow-tissue interaction with compliance mismatch in a model stented artery. <i>Journal of Biomechanics</i> , 2004 , 37, 1-11	2.9	33
100	Speckle tracking for left ventricle performance in young athletes with bicuspid aortic valve and mild aortic regurgitation. <i>European Journal of Echocardiography</i> , 2009 , 10, 527-31		32
99	Real-time evaluation of longitudinal peak systolic strain (speckle tracking measurement) in left and right ventricles of athletes. <i>Cardiovascular Ultrasound</i> , 2009 , 7, 17	2.4	32
98	Two-dimensional tracking and TDI are consistent methods for evaluating myocardial longitudinal peak strain in left and right ventricle basal segments in athletes. <i>Cardiovascular Ultrasound</i> , 2007 , 5, 7	2.4	32

97	Evaluation of Left Atrial Size and Function: Relevance for Clinical Practice. <i>Journal of the American Society of Echocardiography</i> , 2020 , 33, 934-952	5.8	32
96	CRT improves LV filling dynamics: insights from echocardiographic particle imaging velocimetry. <i>JACC: Cardiovascular Imaging</i> , 2013 , 6, 704-13	8.4	31
95	Self-similarity and probability distributions of turbulent intermittency. <i>Physical Review E</i> , 1996 , 53, 475-484	4.4	31
94	Intracardiac Flow Analysis: Techniques and Potential Clinical Applications. <i>Journal of the American Society of Echocardiography</i> , 2019 , 32, 319-332	5.8	31
93	Current clinical application of intracardiac flow analysis using echocardiography. <i>Journal of Cardiovascular Imaging</i> , 2013 , 21, 155-62	0	30
92	Vortex dynamics in a model left ventricle during filling. <i>European Journal of Mechanics, B/Fluids</i> , 2002 , 21, 527-543	2.4	28
91	Left and right ventricular hemodynamic forces in healthy volunteers and elite athletes assessed with 4D flow magnetic resonance imaging. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2017 , 312, H314-H328	5.2	25
90	Fluid flow in a tube with an elastic membrane insertion. <i>Journal of Fluid Mechanics</i> , 1998 , 375, 39-64	3.7	25
89	Vortex formation out of two-dimensional orifices. <i>Journal of Fluid Mechanics</i> , 2010 , 655, 198-216	3.7	24
88	Functional strain-line pattern in the human left ventricle. <i>Physical Review Letters</i> , 2012 , 109, 048103	7.4	23
87	Vortex Formation in the Cardiovascular System 2012 ,		22
86	The effect of exercise training on left ventricular function in young elite athletes. <i>Cardiovascular Ultrasound</i> , 2011 , 9, 27	2.4	22
85	Supernormal functional reserve of apical segments in elite soccer players: an ultrasound speckle tracking handgrip stress study. <i>Cardiovascular Ultrasound</i> , 2008 , 6, 14	2.4	22
84	Cardiac resynchronization therapy by multipoint pacing improves response of left ventricular mechanics and fluid dynamics: a three-dimensional and particle image velocimetry echo study. <i>Europace</i> , 2017 , 19, 1833-1840	3.9	21
83	Asymptotic Model of Fluid-Tissue Interaction for Mitral Valve Dynamics. <i>Cardiovascular Engineering and Technology</i> , 2015 , 6, 95-104	2.2	21
82	On estimating intraventricular hemodynamic forces from endocardial dynamics: A comparative study with 4D flow MRI. <i>Journal of Biomechanics</i> , 2017 , 60, 203-210	2.9	21
81	Birth of three-dimensionality in a pulsed jet through a circular orifice. <i>Journal of Fluid Mechanics</i> , 2003 , 493, 209-218	3.7	21
80	On the geometrical relationship between global longitudinal strain and ejection fraction in the evaluation of cardiac contraction. <i>Journal of Biomechanics</i> , 2014 , 47, 746-9	2.9	20

79	Global longitudinal strain assessment by computed tomography in severe aortic stenosis patients - Feasibility using feature tracking analysis. <i>Journal of Cardiovascular Computed Tomography</i> , 2019 , 13, 157-162	2.8	20
78	Close interaction between a vortex filament and a rigid sphere. <i>Journal of Fluid Mechanics</i> , 1992 , 245, 701	3.7	19
77	Diagnostic and prognostic significance of cardiovascular vortex formation. <i>Journal of Cardiology</i> , 2019 , 74, 403-411	3	18
76	The Relationship Between EF and Strain Permits a More Accurate Assessment of LV Systolic Function. <i>JACC: Cardiovascular Imaging</i> , 2019 , 12, 1893-1895	8.4	13
75	Hemodynamic forces in the left and right ventricles of the human heart using 4D flow magnetic resonance imaging: Phantom validation, reproducibility, sensitivity to respiratory gating and free analysis software. <i>PLoS ONE</i> , 2018 , 13, e0195597	3.7	13
74	Three-dimensional reconstruction of cardiac flows based on multi-planar velocity fields. <i>Experiments in Fluids</i> , 2014 , 55, 1	2.5	13
73	Effects of right ventricular hemodynamic burden on intraventricular flow in tetralogy of Fallot: an echocardiographic contrast particle imaging velocimetry study. <i>Journal of the American Society of Echocardiography</i> , 2014 , 27, 1311-8	5.8	13
72	Asymmetric opening of a simple bileaflet valve. <i>Physical Review Letters</i> , 2007 , 98, 214503	7.4	13
71	3D Strain helps relating LV function to LV and structure in athletes. <i>Cardiovascular Ultrasound</i> , 2014 , 12, 33	2.4	12
70	Clinical application of quantitative analysis in real-time MCE. <i>European Journal of Echocardiography</i> , 2004 , 5 Suppl 2, S17-23		12
69	Space and time dependency of inertial and convective contribution to the transmitral pressure drop during ventricular filling. <i>Journal of the American College of Cardiology</i> , 2001 , 38, 290-2	15.1	12
68	Insight into singular vortex flows. <i>Fluid Dynamics Research</i> , 1992 , 10, 101-115	1.2	12
67	Hemodynamic forces in a model left ventricle. <i>Physical Review Fluids</i> , 2016 , 1,	2.8	12
66	Hemodynamic forces using four-dimensional flow MRI: an independent biomarker of cardiac function in heart failure with left ventricular dyssynchrony?. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2018 , 315, H1627-H1639	5.2	12
65	Range Variability in CMR Feature Tracking Multilayer Strain across Different Stages of Heart Failure. <i>Scientific Reports</i> , 2019 , 9, 16478	4.9	11
64	Three-dimensional reconstruction of the functional strain-line pattern in the left ventricle from 3-dimensional echocardiography. <i>Circulation: Cardiovascular Imaging</i> , 2012 , 5, 808-9	3.9	11
63	Kinematic characterization of valvular opening. <i>Physical Review Letters</i> , 2005 , 94, 194502	7.4	11
62	Usefulness of Left Ventricular Vortex Flow Analysis for Predicting Clinical Outcomes in Patients with Chronic Heart Failure: A Quantitative Vorticity Imaging Study Using Contrast Echocardiography. <i>Ultrasound in Medicine and Biology</i> , 2018 , 44, 1951-1959	3.5	10

61	Dynamical control for capturing vortices near bluff bodies. <i>Physical Review E</i> , 1998 , 58, 1883-1898	2.4	10
60	Vortex Formation in the Heart 2012 , 45-79		9
59	Simplified mitral valve modeling for prospective clinical application of left ventricular fluid dynamics. <i>Journal of Computational Physics</i> , 2019 , 398, 108895	4.1	8
58	Assessment of Global Longitudinal and Circumferential Strain Using Computed Tomography Feature Tracking: Intra-Individual Comparison with CMR Feature Tracking and Myocardial Tagging in Patients with Severe Aortic Stenosis. <i>Journal of Clinical Medicine</i> , 2019 , 8,	5.1	8
57	On the computation of hemodynamic forces in the heart chambers. <i>Journal of Biomechanics</i> , 2019 , 95, 109323	2.9	8
56	The Intraventricular Hemodynamic Forces Estimated Using Routine CMR Cine Images: A New Marker of the Failing Heart. <i>JACC: Cardiovascular Imaging</i> , 2019 , 12, 377-379	8.4	8
55	Simultaneous Volumetric and Functional Assessment of the Right Ventricle in Hypoplastic Left Heart Syndrome After Fontan Palliation, Utilizing 3-Dimensional Speckle-Tracking Echocardiography. <i>Circulation Journal</i> , 2020 , 84, 235-244	2.9	7
54	Controlled capture of a continuous vorticity distribution. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1995 , 204, 108-114	2.3	7
53	Chaotic capture of vortices by a moving body. II. Bound pair model. <i>Chaos</i> , 1994 , 4, 681-691	3.3	6
52	Intracardiac flow analysis in cardiac resynchronization therapy: A new challenge?. <i>Echocardiography</i> , 2019 , 36, 1919-1929	1.5	5
51	Left ventricular pacing vector selection by novel echo-particle imaging velocimetry analysis for optimization of quadripolar cardiac resynchronization device: a case report. <i>Journal of Medical Case Reports</i> , 2016 , 10, 191	1.2	5
50	Changes in Intraventricular Flow Patterns after MitraClip Implant in Patients with Functional Severe Mitral Regurgitation. <i>Journal of the American Society of Echocardiography</i> , 2019 , 32, 1250-1253.e1	5.8	5
49	Analysis of mitral valve regurgitation by computational fluid dynamics. <i>APL Bioengineering</i> , 2019 , 3, 036105	10.5	5
48	2D longitudinal LV speckle tracking strain pattern in breast cancer survivors: sports activity vs exercise as prescription model. <i>Internal and Emergency Medicine</i> , 2017 , 12, 1149-1157	3.7	5
47	Myocardial stretch in early systole is a key determinant of the synchrony of left ventricular mechanical activity in vivo. <i>Circulation Journal</i> , 2013 , 77, 2526-34	2.9	5
46	Pulsatile flow inside moderately elastic arteries, its modelling and effects of elasticity. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2002 , 5, 219-31	2.1	5
45	A new integrated approach to cardiac mechanics: reference values for normal left ventricle. <i>International Journal of Cardiovascular Imaging</i> , 2020 , 36, 2173-2185	2.5	5
44	Interscale transfer in two-dimensional compact vortices. <i>Journal of Fluid Mechanics</i> , 2000 , 406, 109-129	3.7	4

43	Quadratic Markov modeling for intermittent turbulence. <i>Physics of Fluids</i> , 1999 , 11, 1694-1696	4.4	4
42	Chaotic trapping phenomena in extended systems. <i>Physical Review E</i> , 1993 , 48, 3299-3308	2.4	4
41	Influence of mitral valve elasticity on flow development in the left ventricle. <i>European Journal of Mechanics, B/Fluids</i> , 2019 , 75, 110-118	2.4	4
40	Changes in global longitudinal strain in renal transplant recipients following 12 months of exercise. <i>Internal and Emergency Medicine</i> , 2018 , 13, 805-809	3.7	4
39	Fluid flow in a helical vessel in presence of a stenosis. <i>Meccanica</i> , 2017 , 52, 545-553	2.1	3
38	Left Ventricular Response to Cardiac Resynchronization Therapy: Insights From Hemodynamic Forces Computed by Speckle Tracking. <i>Frontiers in Cardiovascular Medicine</i> , 2019 , 6, 59	5.4	3
37	Intracardiac hemodynamic forces using 4D flow: a new reproducible method applied to healthy controls, elite athletes and heart failure patients. <i>Journal of Cardiovascular Magnetic Resonance</i> , 2016 , 18,	6.9	3
36	Role of inertia in the interaction between oscillatory flow and a wall-mounted leaflet. <i>Physical Review E</i> , 2011 , 83, 016310	2.4	3
35	Impulsively started flow separation in wavy-walled tubes. <i>Journal of Fluid Mechanics</i> , 1998 , 359, 1-22	3.7	3
34	Assessment of Myocardial Contractile Function Using Global and Segmental Circumferential Strain following Intracoronary Stem Cell Infusion after Myocardial Infarction: MRI Feature Tracking Feasibility Study. <i>ISRN Radiology</i> , 2013 , 2013, 371028		3
33	Cardiovascular Outcomes in Renal Transplant Recipients: Feasibility and Clinical Role of 2D Speckle Tracking to Assess Myocardial Function. <i>Journal of Functional Morphology and Kinesiology</i> , 2016 , 1, 109-114		3
32	Clinical Application of 2D Speckle Tracking Strain for Assessing Cardio-Toxicity in Oncology. <i>Journal of Functional Morphology and Kinesiology</i> , 2016 , 1, 343-354	2.4	3
31	Implantable Fiber Bragg Grating Sensor for Continuous Heart Activity Monitoring: Ex-Vivo and In-Vivo Validation. <i>IEEE Sensors Journal</i> , 2021 , 1-1	4	3
30	Impact of intraventricular haemodynamic forces misalignment on left ventricular remodelling after myocardial infarction.. <i>ESC Heart Failure</i> , 2021 ,	3.7	3
29	Intraventricular flow patterns during right ventricular apical pacing. <i>Open Heart</i> , 2019 , 6, e001057	3	2
28	Differences in aortic vortex flow pattern between normal and patients with stroke: qualitative and quantitative assessment using transesophageal contrast echocardiography. <i>International Journal of Cardiovascular Imaging</i> , 2016 , 32 Suppl 1, 45-52	2.5	2
27	Vortex Dynamics 2012 , 17-44		2
26	Impulsive and pressure-driven transient flows in closed ducts. <i>Physics of Fluids</i> , 1997 , 9, 3575-3577	4.4	2

25	The hemodynamic power of the heart differentiates normal from diseased right ventricles. <i>Journal of Biomechanics</i> , 2021 , 119, 110312	2.9	2
24	Comparative Analysis of Right Ventricle Fluid Dynamics. <i>Frontiers in Bioengineering and Biotechnology</i> , 2021 , 9, 667408	5.8	2
23	Optimal helical entry flow in a helical vessel. <i>Fluid Dynamics Research</i> , 2018 , 50, 065503	1.2	2
22	Introduction to Hemodynamic Forces Analysis: Moving Into the New Frontier of Cardiac Deformation Analysis. <i>Journal of the American Heart Association</i> , 2021 , e023417	6	2
21	Special issue on Advances in biomechanics: from foundations to applications. <i>Meccanica</i> , 2017 , 52, 487-488		1
20	Cardiac fluid dynamics meets deformation imaging. <i>Cardiovascular Ultrasound</i> , 2018 , 16, 4	2.4	1
19	Ultrasound assessment of the force-frequency relationship from the law of conservation of momentum in patients with left ventricular dysfunction. <i>Ultrasound in Medicine and Biology</i> , 2013 , 39, 585-91	3.5	1
18	Space temporal maps for vortical flow field construction. <i>Meccanica</i> , 1991 , 26, 33-36	2.1	1
17	Computed tomography derived left ventricular inward displacement as a novel tool for quantification of segmental wall motion abnormalities. <i>International Journal of Cardiovascular Imaging</i> , 2021 , 37, 3589-3590	2.5	1
16	Integration between volumetric change and strain for describing the global mechanical function of the left ventricle. <i>Medical Engineering and Physics</i> , 2019 , 74, 65-72	2.4	1
15	Impact of synchronous atrioventricular delay optimization on left ventricle flow force angle evaluated by echocardiographic particle image velocimetry. <i>Journal of Interventional Cardiac Electrophysiology</i> , 2021 , 1	2.4	1
14	Comments on Defining the Contribution of Diastolic Vortex Ring to Left Ventricular Filling. <i>Journal of the American College of Cardiology</i> , 2015 , 65, 2573-4	15.1	0
13	Combined flow-based imaging assessment of optimal cardiac resynchronization therapy pacing vector: a case report. <i>Journal of Medical Case Reports</i> , 2019 , 13, 161	1.2	
12	Assessment Of Myocardial Mechanics In Renal Transplant Recipients Using Speckle Tracking Echocardiography. <i>Medicine and Science in Sports and Exercise</i> , 2017 , 49, 157-158	1.2	
11	123 Myocardial and Fluid Mechanics by Echocardiography Detect Subclinical Changes in Type 2 Diabetes Mellitus. <i>Heart</i> , 2015 , 101, A70-A71	5.1	
10	Diagnostic Vortex Imaging 2012 , 125-157		
9	Effect of Cardiac Devices and Surgery on Vortex Formation 2012 , 81-124		
8	Aging does not affect radial viscoelastic behavior of the left ventricle. <i>Cardiology</i> , 2013 , 125, 38-49	1.6	

- 7 Opening of a wall-mounted leaflet by a single flow pulse. *Physical Review E*, **2011**, 84, 017301 2.4
- 6 A Novel Approach to Left Ventricular Filling Pressure Assessment: The Role of Hemodynamic Forces Analysis. *Frontiers in Cardiovascular Medicine*, **2021**, 8, 704909 5.4
- 5 Cardiac Fluid Dynamics in Prolapsed and Repaired Mitral Valve. *Lecture Notes in Mechanical Engineering*, **2020**, 857-867 0.4
- 4 Cardioprotection in Breast Cancer Survivors. *Medicine and Science in Sports and Exercise*, **2017**, 49, 675 1.2
- 3 Right Ventricle Systolic And Diastolic Function In Renal Transplant Recipients after 12 Months Of Unsupervised Exercise Training. *Medicine and Science in Sports and Exercise*, **2019**, 51, 609-609 1.2
- 2 Home-based Exercise Improves Heart Contractility Determined by 2D Speckle Tracking Strain in Renal Transplant Recipients. *Medicine and Science in Sports and Exercise*, **2018**, 50, 421-422 1.2
- 1 Biomechanics in AIMETA **2022**, 453-475