Gaetano Burriesci

List of Publications by Year
in descending order

63 papers	2,121 citations	201674 27 h-index	233421 45 g-index
65 all docs	65 docs citations	65 times ranked	2255 citing authors

#	Article	IF	Citations
1	Polymeric heart valves: new materials, emerging hopes. Trends in Biotechnology, 2009, 27, 359-367.	9.3	194
2	Numerical analysis of the radial force produced by the Medtronic-CoreValve and Edwards-SAPIEN after transcatheter aortic valve implantation (TAVI). Medical Engineering and Physics, 2013, 35, 125-130.	1.7	150
3	A novel nanocomposite polymer for development of synthetic heart valve leaflets. Acta Biomaterialia, 2009, 5, 2409-2417.	8.3	148
4	An approach to the simulation of fluidâ€“structure interaction in the aortic valve. Journal of Biomechanics, 2006, 39, 158-169.	2.1	113
5	Computational Fluid Dynamic Analysis of the Left Atrial Appendage to Predict Thrombosis Risk. Frontiers in Cardiovascular Medicine, 2018, 5, 34.	2.4	112
6	Mitral valve dynamics in structural and fluidâ€“structure interaction models. Medical Engineering and Physics, 2010, 32, 1057-1064.	1.7	90
7	The anti-calcification potential of a silsesquioxane nanocomposite polymer under in vitro conditions: Potential material for synthetic leaflet heart valveâ˜†. Acta Biomaterialia, 2010, 6, 4249-4260.	8.3	90
8	Current developments and future prospects for heart valve replacement therapy. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2009, 88B, 290-303.	3.4	86
9	Manufacturing and hydrodynamic assessment of a novel aortic valve made of a new nanocomposite polymer. Journal of Biomechanics, 2012, 45, 1205-1211.	2.1	85
10	Uniaxial and buckling mechanical response of auxetic cellular tubes. Smart Materials and Structures, 2013, 22, 084008.	3.5	84
11	Impact of different aortic valve calcification patterns on the outcome of transcatheter aortic valve implantation: A finite element study. Journal of Biomechanics, 2016, 49, 2520-2530.	2.1	69
12	Physiological vortices in the sinuses of Valsalva: An in vitro approach for bio-prosthetic valves. Journal of Biomechanics, 2016, 49, 2635-2643.	2.1	63
13	Transcatheter aortic valves produce unphysiological flows which may contribute to thromboembolic events: An in-vitro study. Journal of Biomechanics, 2016, 49, 4080-4089.	2.1	56
14	Anatomically realistic ultrasound phantoms using gel wax with 3D printed moulds. Physics in Medicine and Biology, 2018, 63, 015033.	3.0	52
15	Computer aided photoelasticity by an optimum phase stepping method. Experimental Mechanics, 2002, 42, 132-139.	2.0	49
16	Manufacture of small calibre quadruple lamina vascular bypass grafts using a novel automated extrusion-phase-inversion method and nanocomposite polymer. Journal of Biomechanics, 2009, 42, 722-730.	2.1	46
17	Incidence, predictors and cerebrovascular consequences of leaflet thrombosis after transcatheter aortic valve implantation: a systematic review and meta-analysis. European Journal of Cardio-thoracic Surgery, 2019, 56, 488-494.	1.4	42
18	Influence of anisotropy on the mechanical behaviour of bioprosthetic heart valves. Journal of Medical Engineering and Technology, 1999, 23, 203-215.	1.4	41

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19	Possible Subclinical Leaflet Thrombosis in Bioprosthetic Aortic Valves. New England Journal of Medicine, 2016, 374, 1590-1592.	27.0	40
20	3D printing assisted finite element analysis for optimising the manufacturing parameters of a lumbar fusion cage. Materials and Design, 2019, 163, 107540.	7.0	40
21	Fluidâ€“structure interaction study of the edge-to-edge repair technique on the mitral valve. Journal of Biomechanics, 2011, 44, 2409-2417.	2.1	35
22	Hemodynamics in the Valsalva sinuses after transcatheter aortic valve implantation (TAVI). Journal of Heart Valve Disease, 2013, 22, 688-96.	0.5	32
23	Pledget-Armed Sutures Affect the Haemodynamic Performance of Biologic Aortic Valve Substitutes: A Preliminary Experimental and Computational Study. Cardiovascular Engineering and Technology, 2017, 8, 17-29.	1.6	30
24	Design of a novel polymeric heart valve. Journal of Medical Engineering and Technology, 2010, 34, 7-22.	1.4	29
25	A Technical Review of Minimally Invasive Mitral Valve Replacements. Cardiovascular Engineering and Technology, 2015, 6, 174-184.	1.6	28
26	Physical equivalency of wild type and galactose Î± 1,3 galactose free porcine pericardium; a new source material for bioprosthetic heart valves. Acta Biomaterialia, 2016, 41, 204-209.	8.3	28
27	In Vitro Hydrodynamic Assessment of a New Transcatheter Heart Valve Concept (the TRISKELE). Journal of Cardiovascular Translational Research, 2017, 10, 104-115.	2.4	28
28	Effect of the Alterations in Contractility and Morphology Produced by Atrial Fibrillation on the Thrombosis Potential of the Left Atrial Appendage. Frontiers in Bioengineering and Biotechnology, 2021, 9, 586041.	4.1	24
29	Validation and Extension of a Fluidâ€“Structure Interaction Model of the Healthy Aortic Valve. Cardiovascular Engineering and Technology, 2018, 9, 739-751.	1.6	21
30	A Durable Porcine Pericardial Surgical Bioprosthetic Heart Valve: a Proof of Concept. Journal of Cardiovascular Translational Research, 2019, 12, 331-337.	2.4	21
31	Novel heart valve prosthesis with self-endothelialization potential made of modified polyhedral oligomeric silsesquioxane-nanocomposite material. Biointerphases, 2016, 11, 029801.	1.6	16
32	Percutaneous Heart Valve Replacement: An Update. Trends in Cardiovascular Medicine, 2008, 18, 117-125.	4.9	15
33	Design, Analysis and Testing of a Novel Mitral Valve for Transcatheter Implantation. Annals of Biomedical Engineering, 2017, 45, 1852-1864.	2.5	14
34	In vitro hemodynamic testing of Amplatzer plugs for paravalvular leak occlusion after transcatheter aortic valve implantation. International Journal of Cardiology, 2016, 203, 1093-1099.	1.7	13
35	A new transcatheter heart valve concept (the TRISKELE): feasibility in an acute preclinical model. EuroIntervention, 2016, 12, 901-908.	3.2	13
36	Does transcatheter aortic valve alignment matter?. Open Heart, 2019, 6, e001132.	2.3	12

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37	Fluidâ€"structure interaction approach with smoothed particle hydrodynamics and particleâ€"spring systems. Computer Methods in Applied Mechanics and Engineering, 2022, 392, 114728.	6.6	10
38	Can finite element models of ballooning procedures yield mechanical response of the cardiovascular site to overexpansion?. Journal of Biomechanics, 2016, 49, 2778-2784.	2.1	9
39	Patient-Specific Aortic Phantom With Tunable Compliance. Journal of Engineering and Science in Medical Diagnostics and Therapy, 2019, 2, .	0.5	9
40	Sizing the aortic annulus with a robotised, commercially available soft balloon catheter: in vitro study on idealised phantoms. , 2019, , .		8
41	The neochord mitral valve repair procedure: Numerical simulation of different neochords tensioning protocols. Medical Engineering and Physics, 2019, 74, 121-128.	1.7	7
42	Low-Cost Fabrication of Polyvinyl Alcohol-Based Personalized Vascular Phantoms for In Vitro Hemodynamic Studies: Three Applications. Journal of Engineering and Science in Medical Diagnostics and Therapy, 2020, 3, .	0.5	7
43	The Role of Patient-Specific Morphological Features of the Left Atrial Appendage on the Thromboembolic Risk Under Atrial Fibrillation. Frontiers in Cardiovascular Medicine, 0, 9, .	2.4	7
44	Numerical model of a valvuloplasty balloon: in vitro validation in a rapid-prototyped phantom. BioMedical Engineering OnLine, 2016, 15, 37.	2.7	6
45	In vitro assessment of pacing as therapy for aortic regurgitation. Open Heart, 2019, 6, e000976.	2.3	6
46	In silico study of the ageing effect upon aortic valves. Journal of Fluids and Structures, 2021, 103, 103258.	3.4	6
47	Enhancing Magnetic Resonance Imaging With Computational Fluid Dynamics. Journal of Engineering and Science in Medical Diagnostics and Therapy, 2019, 2, .	0.5	6
48	Adaptation and development of software simulation methodologies for cardiovascular engineering: present and future challenges from an end-user perspective. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2009, 367, 2655-2666.	3.4	5
49	In Vitro and Ex Vivo Hemodynamic Testing of an Innovative Occluder for Paravalvular Leak After Transcather Aortic Valve Implantation. Journal of Cardiovascular Translational Research, 2019, 12, 551-559.	2.4	5
50	Finite Element Analysis of Transcatheter Aortic Valve Implantation in the Presence of Aortic Leaflet Calcifications. Lecture Notes in Applied and Computational Mechanics, 2015, , 101-115.	2.2	3
51	Heart Valves, Polymeric: Biocompatibility. , 0, , 3713-3721.		3
52	Standard mechanical testing is inadequate for the mechanical characterisation of shape-memory alloys: Source of errors and a new corrective approach. Materials and Design, 2022, 216, 110538.	7.0	3
53	Experimental Validation of Enhanced Magnetic Resonance Imaging (EMRI) Using Particle Image Velocimetry (PIV). Annals of Biomedical Engineering, 2021, , 1.	2.5	2
54	Biological Equivalence of GGTA-1 Glycosyltransferase Knockout and Standard Porcine Pericardial Tissue Using 90-Day Mitral Valve Implantation in Adolescent Sheep. Cardiovascular Engineering and Technology, 2021, , 1.	1.6	2

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55	Investigation of the Thermomechanical Response of Cyclically Loaded NiTi Alloys by Means of Temperature Frequency Domain Analyses. Materials, 2021, 14, 7866.	2.9	2
56	A New Generation of Aortic Valve Prosthesis: Design, Manufacture and Hydrodynamic Assessment. , 2012, , .		0
57	STRESS AND STRAIN BASED NUMERICAL SIMULATION OF MITRAL VALVE FIBRE REMODELLING. Journal of Biomechanics, 2012, 45, S147.	2.1	0
58	Fluid-Structure Interaction Simulation of the Edge-to-Edge Repair of the Mitral Valve in Functional and Degenerative States. , 2012, , .		0
59	Polymeric Heart Valves. , 2013, , 1893-1900.		0
60	DATA MINING USING A SOFT ROBOTIC BALLOON CATHETER: SIZING IDEALISED AORTIC ANNULAR PHANTOMS. , 0, , .		0
61	Haemodynamic Issues with Transcatheter Aortic Valve Implantation. , 2019, , 47-59.		0
62	Polymeric Heart Valves. , 2020, , 1-10.		0
63	Standard Mechanical Testing is Inadequate for the Mechanical Characterisation of Shape-Memory Alloys: Source of Errors and a New Corrective Approach. SSRN Electronic Journal, 0, , .	0.4	0