Danny Bluestein

List of Publications by Citations

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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.

115
papers3,898
citations38
h-index58
g-index130
ext. papers4,511
ext. citations3.5
avg, IF5.47
L-index

#	Paper	IF	Citations
115	Fluid mechanics of arterial stenosis: relationship to the development of mural thrombus. <i>Annals of Biomedical Engineering</i> , 1997 , 25, 344-56	4.7	191
114	Flow-induced platelet activation and damage accumulation in a mechanical heart valve: numerical studies. <i>Artificial Organs</i> , 2007 , 31, 677-88	2.6	157
113	Platelet activation due to hemodynamic shear stresses: damage accumulation model and comparison to in vitro measurements. <i>ASAIO Journal</i> , 2008 , 54, 64-72	3.6	149
112	Influence of microcalcifications on vulnerable plaque mechanics using FSI modeling. <i>Journal of Biomechanics</i> , 2008 , 41, 1111-8	2.9	133
111	Comparison of the hemodynamic and thrombogenic performance of two bileaflet mechanical heart valves using a CFD/FSI model. <i>Journal of Biomechanical Engineering</i> , 2007 , 129, 558-65	2.1	125
110	Vortex shedding as a mechanism for free emboli formation in mechanical heart valves. <i>Journal of Biomechanical Engineering</i> , 2000 , 122, 125-34	2.1	121
109	High-shear stress sensitizes platelets to subsequent low-shear conditions. <i>Annals of Biomedical Engineering</i> , 2010 , 38, 1442-50	4.7	103
108	Platelet activation in a circulating flow loop: combined effects of shear stress and exposure time. <i>Platelets</i> , 2003 , 14, 143-9	3.6	95
107	Abdominal aortic aneurysm risk of rupture: patient-specific FSI simulations using anisotropic model. <i>Journal of Biomechanical Engineering</i> , 2009 , 131, 031001	2.1	93
106	Acetylated prothrombin as a substrate in the measurement of the procoagulant activity of platelets: elimination of the feedback activation of platelets by thrombin. <i>Analytical Biochemistry</i> , 1999 , 272, 64-70	3.1	89
105	Device Thrombogenicity Emulator (DTE)design optimization methodology for cardiovascular devices: a study in two bileaflet MHV designs. <i>Journal of Biomechanics</i> , 2010 , 43, 2400-9	2.9	85
104	Flow-induced platelet activation in bileaflet and monoleaflet mechanical heart valves. <i>Annals of Biomedical Engineering</i> , 2004 , 32, 1058-66	4.7	85
103	Vortex shedding in steady flow through a model of an arterial stenosis and its relevance to mural platelet deposition. <i>Annals of Biomedical Engineering</i> , 1999 , 27, 763-73	4.7	81
102	Evaluation of shear-induced platelet activation models under constant and dynamic shear stress loading conditions relevant to devices. <i>Annals of Biomedical Engineering</i> , 2013 , 41, 1279-96	4.7	76
101	Device thrombogenicity emulation: a novel method for optimizing mechanical circulatory support device thromboresistance. <i>PLoS ONE</i> , 2012 , 7, e32463	3.7	72
100	Dynamics of blood flow and platelet transport in pathological vessels. <i>Annals of the New York Academy of Sciences</i> , 2004 , 1015, 351-66	6.5	67
99	Research approaches for studying flow-induced thromboembolic complications in blood recirculating devices. <i>Expert Review of Medical Devices</i> , 2004 , 1, 65-80	3.5	67

(2015-2014)

98	thromboresistance comparison of the HeartMate II ventricular assist device with the device thrombogenicity emulation- optimized HeartAssist 5 VAD. <i>Journal of Biomechanical Engineering</i> , 2014 , 136, 021014	2.1	64	
97	Intraluminal thrombus and risk of rupture in patient specific abdominal aortic aneurysm IFSI modelling. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2009 , 12, 73-81	2.1	63	
96	Patient-based abdominal aortic aneurysm rupture risk prediction with fluid structure interaction modeling. <i>Annals of Biomedical Engineering</i> , 2010 , 38, 3323-37	4.7	59	
95	A squeeze flow phenomenon at the closing of a bileaflet mechanical heart valve prosthesis. <i>Journal of Biomechanics</i> , 1994 , 27, 1369-78	2.9	59	
94	Blood damage safety of prosthetic heart valves. Shear-induced platelet activation and local flow dynamics: a fluid-structure interaction approach. <i>Journal of Biomechanics</i> , 2009 , 42, 1952-60	2.9	56	
93	Patient-specific simulation of transcatheter aortic valve replacement: impact of deployment options on paravalvular leakage. <i>Biomechanics and Modeling in Mechanobiology</i> , 2019 , 18, 435-451	3.8	56	
92	Flow-induced platelet activation in mechanical heart valves. <i>Journal of Heart Valve Disease</i> , 2004 , 13, 501-8		52	
91	The Syncardia (Intotal artificial heart: in vivo, in vitro, and computational modeling studies. <i>Journal of Biomechanics</i> , 2013 , 46, 266-75	2.9	51	
90	Polymeric trileaflet prosthetic heart valves: evolution and path to clinical reality. <i>Expert Review of Medical Devices</i> , 2012 , 9, 577-94	3.5	48	
89	Hemocompatibility of Poly(vinyl alcohol)-Gelatin Core-Shell Electrospun Nanofibers: A Scaffold for Modulating Platelet Deposition and Activation. <i>ACS Applied Materials & Deposition and Activation and </i>	2 ^{9.5}	47	
88	Flow-induced platelet activation in a St. Jude mechanical heart valve, a trileaflet polymeric heart valve, and a St. Jude tissue valve. <i>Artificial Organs</i> , 2005 , 29, 826-31	2.6	47	
87	Multiscale Particle-Based Modeling of Flowing Platelets in Blood Plasma Using Dissipative Particle Dynamics and Coarse Grained Molecular Dynamics. <i>Cellular and Molecular Bioengineering</i> , 2014 , 7, 552-5	5 7 4	44	
86	Microcalcifications increase coronary vulnerable plaque rupture potential: a patient-based micro-CT fluid-structure interaction study. <i>Annals of Biomedical Engineering</i> , 2012 , 40, 1443-54	4.7	44	
85	Shear-mediated platelet activation in the free flow: Perspectives on the emerging spectrum of cell mechanobiological mechanisms mediating cardiovascular implant thrombosis. <i>Journal of Biomechanics</i> , 2017 , 50, 20-25	2.9	42	
84	Thrombus formation patterns in the HeartMate II ventricular assist device: clinical observations can be predicted by numerical simulations. <i>ASAIO Journal</i> , 2014 , 60, 237-40	3.6	42	
83	In vitro evaluation of a novel hemodynamically optimized trileaflet polymeric prosthetic heart valve. <i>Journal of Biomechanical Engineering</i> , 2013 , 135, 021021	2.1	42	
82	Design optimization of a mechanical heart valve for reducing valve thrombogenicity-A case study with ATS valve. <i>ASAIO Journal</i> , 2010 , 56, 389-96	3.6	42	
81	Hemodynamic and thrombogenic analysis of a trileaflet polymeric valve using a fluid-structure interaction approach. <i>Journal of Biomechanics</i> , 2015 , 48, 3641-9	2.9	41	

80	Device thrombogenicity emulation: a novel methodology for optimizing the thromboresistance of cardiovascular devices. <i>Journal of Biomechanics</i> , 2013 , 46, 338-44	2.9	41
79	A novel mathematical model of activation and sensitization of platelets subjected to dynamic stress histories. <i>Biomechanics and Modeling in Mechanobiology</i> , 2013 , 12, 1127-41	3.8	39
78	Biological effects of dynamic shear stress in cardiovascular pathologies and devices. <i>Expert Review of Medical Devices</i> , 2008 , 5, 167-81	3.5	39
77	Particle-based methods for multiscale modeling of blood flow in the circulation and in devices: challenges and future directions. Sixth International Bio-Fluid Mechanics Symposium and Workshop March 28-30, 2008 Pasadena, California. <i>Annals of Biomedical Engineering</i> , 2010 , 38, 1225-35	4:7	37
76	Progression of abdominal aortic aneurysm towards rupture: refining clinical risk assessment using a fully coupled fluid-structure interaction method. <i>Annals of Biomedical Engineering</i> , 2015 , 43, 139-53	4.7	34
75	Thrombogenic potential of Innovia polymer valves versus Carpentier-Edwards Perimount Magna aortic bioprosthetic valves. <i>ASAIO Journal</i> , 2011 , 57, 26-31	3.6	33
74	Novel Polymeric Valve for Transcatheter Aortic Valve Replacement Applications: In Vitro Hemodynamic Study. <i>Annals of Biomedical Engineering</i> , 2019 , 47, 113-125	4.7	33
73	Toward optimization of a novel trileaflet polymeric prosthetic heart valve via device thrombogenicity emulation. <i>ASAIO Journal</i> , 2013 , 59, 275-83	3.6	31
72	The effect of angulation in abdominal aortic aneurysms: fluid-structure interaction simulations of idealized geometries. <i>Medical and Biological Engineering and Computing</i> , 2010 , 48, 1175-90	3.1	31
71	The extent of platelet activation under shear depends on platelet count: differential expression of anionic phospholipid and factor Va. <i>Pathophysiology of Haemostasis and Thrombosis: International Journal on Haemostasis and Thrombosis Research</i> , 2005 , 34, 255-62		30
70	A Multiple Time Stepping Algorithm for Efficient Multiscale Modeling of Platelets Flowing in Blood Plasma. <i>Journal of Computational Physics</i> , 2015 , 284, 668-686	4.1	29
69	Computational evaluation of the thrombogenic potential of a hollow-fiber oxygenator with integrated heat exchanger during extracorporeal circulation. <i>Biomechanics and Modeling in Mechanobiology</i> , 2014 , 13, 349-61	3.8	28
68	A multiscale biomechanical model of platelets: Correlating with in-vitro results. <i>Journal of Biomechanics</i> , 2017 , 50, 26-33	2.9	27
67	Effect of Balloon-Expandable Transcatheter Aortic Valve Replacement Positioning: A Patient-Specific Numerical Model. <i>Artificial Organs</i> , 2016 , 40, E292-E304	2.6	27
66	Principles of TAVR valve design, modelling, and testing. Expert Review of Medical Devices, 2018, 15, 771	-3951	27
65	High Frequency Components of Hemodynamic Shear Stress Profiles are a Major Determinant of Shear-Mediated Platelet Activation in Therapeutic Blood Recirculating Devices. <i>Scientific Reports</i> , 2017 , 7, 4994	4.9	26
64	Simulation of platelets suspension flowing through a stenosis model using a dissipative particle dynamics approach. <i>Annals of Biomedical Engineering</i> , 2013 , 41, 2318-33	4.7	25
63	Aspirin has limited ability to modulate shear-mediated platelet activation associated with elevated shear stress of ventricular assist devices. <i>Thrombosis Research</i> , 2016 , 140, 110-117	8.2	25

62	Fluid-structure interaction modeling of calcific aortic valve disease using patient-specific three-dimensional calcification scans. <i>Medical and Biological Engineering and Computing</i> , 2016 , 54, 1683-	36 ¹ 94	24
61	Dielectrophoresis-Mediated Electrodeformation as a Means of Determining Individual Platelet Stiffness. <i>Annals of Biomedical Engineering</i> , 2016 , 44, 903-13	4.7	23
60	Lagrangian methods for blood damage estimation in cardiovascular devicesHow numerical implementation affects the results. <i>Expert Review of Medical Devices</i> , 2016 , 13, 113-22	3.5	22
59	Viscous flow simulation in a stenosis model using discrete particle dynamics: a comparison between DPD and CFD. <i>Biomechanics and Modeling in Mechanobiology</i> , 2012 , 11, 119-29	3.8	22
58	Numerical evaluation of transcatheter aortic valve performance during heart beating and its post-deployment fluid-structure interaction analysis. <i>Biomechanics and Modeling in Mechanobiology</i> , 2020 , 19, 1725-1740	3.8	21
57	A phenomenological particle-based platelet model for simulating filopodia formation during early activation. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2015 , 31, e02702	2.6	21
56	Intraluminal thrombus and risk of rupture in patient specific abdominal aortic aneurysm - FSI modelling. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2009 , 12, 73-81	2.1	21
55	Blood damage in Left Ventricular Assist Devices: Pump thrombosis or system thrombosis?. <i>International Journal of Artificial Organs</i> , 2019 , 42, 113-124	1.9	21
54	Repetitive Hypershear Activates and Sensitizes Platelets in a Dose-Dependent Manner. <i>Artificial Organs</i> , 2016 , 40, 586-95	2.6	20
53	Biomechanical modeling of transcatheter aortic valve replacement in a stenotic bicuspid aortic valve: deployments and paravalvular leakage. <i>Medical and Biological Engineering and Computing</i> , 2019 , 57, 2129-2143	3.1	20
52	Microfluidic emulation of mechanical circulatory support device shear-mediated platelet activation. <i>Biomedical Microdevices</i> , 2015 , 17, 117	3.7	20
51	Activation of platelets exposed to shear stress in the presence of smoke extracts of low-nicotine and zero-nicotine cigarettes: the protective effect of nicotine. <i>Nicotine and Tobacco Research</i> , 2004 , 6, 835-41	4.9	19
50	Comparative Fluid-Structure Interaction Analysis of Polymeric Transcatheter and Surgical Aortic ValvesTHemodynamics and Structural Mechanics. <i>Journal of Biomechanical Engineering</i> , 2018 ,	2.1	18
49	Platelet Activation via Shear Stress Exposure Induces a Differing Pattern of Biomarkers of Activation versus Biochemical Agonists. <i>Thrombosis and Haemostasis</i> , 2020 , 120, 776-792	7	17
48	Comparative efficacy of in vitro and in vivo metabolized aspirin in the DeBakey ventricular assist device. <i>Journal of Thrombosis and Thrombolysis</i> , 2014 , 37, 499-506	5.1	17
47	Development and evaluation of a novel artificial catheter-deliverable prosthetic heart valve and method for in vitro testing. <i>International Journal of Artificial Organs</i> , 2009 , 32, 262-71	1.9	17
46	Parameterizing the Morse Potential for Coarse-Grained Modeling of Blood Plasma. <i>Journal of Computational Physics</i> , 2014 , 257, 726-736	4.1	16
45	Realistic Vascular Replicator for TAVR Procedures. <i>Cardiovascular Engineering and Technology</i> , 2018 , 9, 339-350	2.2	15

44	A Multiscale Model for Recruitment Aggregation of Platelets by Correlating with Results. <i>Cellular and Molecular Bioengineering</i> , 2019 , 12, 327-343	3.9	15
43	Physical Characterization and Platelet Interactions under Shear Flows of a Novel Thermoset Polyisobutylene-based Co-polymer. <i>ACS Applied Materials & Description of the Polyisobutylene and Polyisobutylene (Polyisobutylene and Platelet Interactions under Shear Flows of a Novel Thermoset Polyisobutylene (Polyisobutylene and Platelet Interactions under Shear Flows of a Novel Thermoset Polyisobutylene (Polyisobutylene and Platelet Interactions under Shear Flows of a Novel Thermoset Polyisobutylene (Polyisobutylene and Platelet Interactions under Shear Flows of a Novel Thermoset Polyisobutylene (Polyisobutylene and Platelet Interactions under Shear Flows of a Novel Thermoset Polyisobutylene (Polyisobutylene and Platelet Interactions under Shear Flows of a Novel Thermoset Polyisobutylene (Polyisobutylene and Polyisobutylene and Polyisobutylene (Polyisobutylene and Polyisobutylene and Polyisobutylene and Polyisobutylene (Polyisobutylene and Polyisobutylene and Polyisobutylene and Polyisobutylene and Polyisobutylene (Polyisobutylene and Polyisobutylene and P</i>	9.5	14
42	Numerical model of full-cardiac cycle hemodynamics in a total artificial heart and the effect of its size on platelet activation. <i>Journal of Cardiovascular Translational Research</i> , 2014 , 7, 788-96	3.3	14
41	Reducing the effects of compressibility in DPD-based blood flow simulations through severe stenotic microchannels. <i>Journal of Computational Physics</i> , 2017 , 335, 812-827	4.1	13
40	Microfluidic approaches for the assessment of blood cell trauma: a focus on thrombotic risk in mechanical circulatory support devices. <i>International Journal of Artificial Organs</i> , 2016 , 39, 184-93	1.9	13
39	Patient-Specific Bicuspid Aortic Valve Biomechanics: A Magnetic Resonance Imaging Integrated Fluid-Structure Interaction Approach. <i>Annals of Biomedical Engineering</i> , 2021 , 49, 627-641	4.7	13
38	Ventricular Assist Device Implantation Configurations Impact Overall Mechanical Circulatory Support System Thrombogenic Potential. <i>ASAIO Journal</i> , 2017 , 63, 285-292	3.6	12
37	Thrombogenic performance of a st. Jude bileaflet mechanical heart valve in a sheep model. <i>ASAIO Journal</i> , 2006 , 52, 28-33	3.6	11
36	Routine clinical anti-platelet agents have limited efficacy in modulating hypershear-mediated platelet activation associated with mechanical circulatory support. <i>Thrombosis Research</i> , 2018 , 163, 162	-8 7 1	11
35	Imaging analysis of collagen fiber networks in cusps of porcine aortic valves: effect of their local distribution and alignment on valve functionality. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2016 , 19, 1002-8	2.1	10
34	Prothrombotic activity of cytokine-activated endothelial cells and shear-activated platelets in the setting of ventricular assist device support. <i>Journal of Heart and Lung Transplantation</i> , 2019 , 38, 658-66	7 ^{5.8}	9
33	Microfludic platforms for the evaluation of anti-platelet agent efficacy under hyper-shear conditions associated with ventricular assist devices. <i>Medical Engineering and Physics</i> , 2017 , 48, 31-38	2.4	9
32	Simulation of Transcatheter Aortic Valve Replacement in patient-specific aortic roots: Effect of crimping and positioning on device performance. Annual International Conference of the IEEE Engineering in Medicine and Biology Society Annual	0.9	8
31	International Conference, 2015, 2015, 282-5 In Vitro Durability and Stability Testing of a Novel Polymeric Transcatheter Aortic Valve. <i>ASAIO Journal</i> , 2020, 66, 190-198	3.6	8
30	Device Thrombogenicity Emulation: An In Silico Predictor of In Vitro and In Vivo Ventricular Assist Device Thrombogenicity. <i>Scientific Reports</i> , 2019 , 9, 2946	4.9	8
29	Assessment of neonatal, cord, and adult platelet granule trafficking and secretion. <i>Platelets</i> , 2020 , 31, 68-78	3.6	8
28	Platelet Dysfunction During Mechanical Circulatory Support: Elevated Shear Stress Promotes Downregulation of Hand GPIb via Microparticle Shedding Decreasing Platelet Aggregability. <i>Arteriosclerosis, Thrombosis, and Vascular Biology</i> , 2021 , 41, 1319-1336	9.4	7
27	Shear-mediated platelet activation in patients implanted with continuous flow LVADs: A preliminary study utilizing the platelet activity state (PAS) assay. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society</i>	0.9	6

26	A predictive multiscale model for simulating flow-induced platelet activation: Correlating in silico results with in vitro results. <i>Journal of Biomechanics</i> , 2021 , 117, 110275	2.9	6
25	Comparative study of flow in right-sided and left-sided aortas: numerical simulations in patient-based models. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2015 , 18, 414-25	2.1	5
24	Original article submission: Platelet stress accumulation analysis to predict thrombogenicity of an artificial kidney. <i>Journal of Biomechanics</i> , 2018 , 69, 26-33	2.9	5
23	Scalability Test of Multiscale Fluid-Platelet Model for Three Top Supercomputers. <i>Computer Physics Communications</i> , 2016 , 204, 132-140	4.2	5
22	Artificial intelligence for accelerating time integrations in multiscale modeling. <i>Journal of Computational Physics</i> , 2021 , 427, 110053	4.1	5
21	Effect of macroscale formation of intraluminal thrombus on blood flow in abdominal aortic aneurysms. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2016 , 19, 84-92	2.1	4
20	Shear-mediated platelet activation in the free flow II: Evolving mechanobiological mechanisms reveal an identifiable signature of activation and a bi-directional platelet dyscrasia with thrombotic and bleeding features. <i>Journal of Biomechanics</i> , 2021 , 123, 110415	2.9	4
19	Multiscale Modeling of Flow Induced Thrombogenicity With Dissipative Particle Dynamics and Molecular Dynamics. <i>Journal of Medical Devices, Transactions of the ASME</i> , 2014 , 8, 0209541-209542	1.3	3
18	Patient-specific in vitro testing for evaluating TAVR clinical performance-A complementary approach to current ISO standard testing. <i>Artificial Organs</i> , 2021 , 45, E41-E52	2.6	3
17	The platelet hammer: In vitro platelet activation under repetitive hypershear. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , 2015 , 2015, 262-5	0.9	2
16	Bio-fluids educational issues: an emerging field aims to define its next generation. <i>Annals of Biomedical Engineering</i> , 2005 , 33, 1674-80	4.7	2
15	Multiscale Modeling of Blood Flow-Mediated Platelet Thrombosis 2020 , 2667-2698		2
14	Circulatory loop design and components introduce artifacts impacting in ventricular assist device thrombogenicity: A call for caution. <i>Artificial Organs</i> , 2020 , 44, E226-E237	2.6	2
13	A multiscale model for multiple platelet aggregation in shear flow. <i>Biomechanics and Modeling in Mechanobiology</i> , 2021 , 20, 1013-1030	3.8	2
12	Rapid analysis of streaming platelet images by semi-unsupervised learning. <i>Computerized Medical Imaging and Graphics</i> , 2021 , 89, 101895	7.6	2
11	Design Effect of Metallic (Durable) and Polymeric (Resorbable) Stents on Blood Flow and Platelet Activation. <i>Artificial Organs</i> , 2018 , 42, 1148-1156	2.6	2
10	Patient-Specific Numerical Model of Calcific Aortic Stenosis and Its Treatment by Balloon-Expandable Transcatheter Aortic Valve: Effect of Positioning on the Anchorage. <i>Lecture Notes in Bioengineering</i> , 2018 , 259-263	o.8	1
9	Multiscale Modeling of Blood Flow-Mediated Platelet Thrombosis 2018 , 1-32		1

8	Assessment of Paravalvular Leak Severity and Thrombogenic Potential in Transcatheter Bicuspid Aortic Valve Replacements Using Patient-Specific Computational Modeling. <i>Journal of Cardiovascular Translational Research</i> , 2021 , 1	3.3	1
7	Progressive Calcification in Bicuspid Valves: A Coupled Hemodynamics and Multiscale Structural Computations. <i>Annals of Biomedical Engineering</i> , 2021 , 1	4.7	1
6	In Vitro Measurements of Shear-Mediated Platelet Adhesion Kinematics as Analyzed through Machine Learning. <i>Annals of Biomedical Engineering</i> , 2021 , 1	4.7	1
5	Structural Responses of Integrated Parametric Aortic Valve in an Electro-Mechanical Full Heart Model. <i>Annals of Biomedical Engineering</i> , 2021 , 49, 441-454	4.7	1
4	Shear-Induced Platelet Activation is Sensitive to Age and Calcium Availability: A Comparison of Adult and Cord Blood. <i>Cellular and Molecular Bioengineering</i> , 2020 , 13, 575-590	3.9	О
3	Shear-Mediated Platelet Activation is Accompanied by Unique Alterations in Platelet Release of Lipids <i>Cellular and Molecular Bioengineering</i> , 2021 , 14, 597-612	3.9	O
2	The flow of a power-law fluid in the near-wake of a flat plate. <i>Physics of Fluids</i> , 2006 , 18, 088102	4.4	
1	The use of poly(styrene-block-isobutylene-block-styrene) and analogs for long-term implant applications 2021 , 211-235		