Juan Carlos Del Ãlamo

List of Publications by Year
in descending order

124 papers	5,591 citations	117625 34 h-index	82547 72 g-index
141 all docs	141 docs citations	141 times ranked	5817 citing authors

#	Article	IF	Citations
1	Scaling of the energy spectra of turbulent channels. Journal of Fluid Mechanics, 2004, 500, 135-144.	3.4	574
2	Spectra of the very large anisotropic scales in turbulent channels. Physics of Fluids, 2003, 15, L41.	4.0	408
3	Self-similar vortex clusters in the turbulent logarithmic region. Journal of Fluid Mechanics, 2006, 561, 329.	3.4	312
4	Estimation of turbulent convection velocities and corrections to Taylor's approximation. Journal of Fluid Mechanics, 2009, 640, 5-26.	3.4	306
5	High-throughput screening of tyrosine kinase inhibitor cardiotoxicity with human induced pluripotent stem cells. Science Translational Medicine, 2017, 9, .	12.4	297
6	Linear energy amplification in turbulent channels. Journal of Fluid Mechanics, 2006, 559, 205.	3.4	282
7	Mesenchymal stem cell durotaxis depends on substrate stiffness gradient strength. Biotechnology Journal, 2013, 8, 472-484.	3.5	219
8	Spatio-temporal analysis of eukaryotic cell motility by improved force cytometry. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 13343-13348.	7.1	183
9	Two-Dimensional Intraventricular Flow Mapping by Digital Processing Conventional Color-Doppler Echocardiography Images. IEEE Transactions on Medical Imaging, 2010, 29, 1701-1713.	8.9	177
10	The large-scale dynamics of near-wall turbulence. Journal of Fluid Mechanics, 2004, 505, 179-199.	3.4	157
11	Turbulence modification by stable stratification in channel flow. Physics of Fluids, 2011, 23, .	4.0	113
12	Roles of cell confluency and fluid shear in 3-dimensional intracellular forces in endothelial cells. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 11110-11115.	7.1	109
13	Contribution of the Diastolic Vortex Ring to Left Ventricular Filling. Journal of the American College of Cardiology, 2014, 64, 1711-1721.	2.8	102
14	Use of human induced pluripotent stem cellâ€“derived cardiomyocytes to assess drug cardiotoxicity. Nature Protocols, 2018, 13, 3018-3041.	12.0	102
15	Rickettsia Sca4 Reduces Vinculin-Mediated Intercellular Tension to Promote Spread. Cell, 2016, 167, 670-683.e10.	28.9	101
16	In situ mechanotransduction via vinculin regulates stem cell differentiation. Stem Cells, 2013, 31, 2467-2477.	3.2	100
17	High throughput physiological screening of iPSC-derived cardiomyocytes for drug development. Biochimica Et Biophysica Acta - Molecular Cell Research, 2016, 1863, 1717-1727.	4.1	99
18	Three-Dimensional Quantification of Cellular Traction Forces and Mechanosensing of Thin Substrata by Fourier Traction Force Microscopy. PLoS ONE, 2013, 8, e69850.	2.5	93

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19	Myosin II Is Essential for the Spatiotemporal Organization of Traction Forces during Cell Motility. Molecular Biology of the Cell, 2010, 21, 405-417.	2.1	81
20	Topology of Blood Transport in the Human Left Ventricle by Novel Processing of Doppler Echocardiography. Annals of Biomedical Engineering, 2013, 41, 2603-2616.	2.5	79
21	3D Traction Stresses Activate Protease-Dependent Invasion of Cancer Cells. Biophysical Journal, 2014, 107, 2528-2537.	0.5	77
22	Intraventricular vortex properties in nonischemic dilated cardiomyopathy. American Journal of Physiology - Heart and Circulatory Physiology, 2014, 306, H718-H729.	3.2	77
23	Anisotropic rheology and directional mechanotransduction in vascular endothelial cells. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 15411-15416.	7.1	76
24	The mechanics of the adhesive locomotion of terrestrial gastropods. Journal of Experimental Biology, 2010, 213, 3920-3933.	1.7	71
25	Vorticity organization in the outer layer of turbulent channels with disturbed walls. Journal of Fluid Mechanics, 2007, 591, 145-154.	3.4	62
26	Intraventricular flow patterns and stasis in the LVAD-assisted heart. Journal of Biomechanics, 2014, 47, 1485-1494.	2.1	60
27	Coordination of contractility, adhesion and flow in migratingPhysarumamoebae. Journal of the Royal Society Interface, 2015, 12, 20141359.	3.4	60
28	Both contractile axial and lateral traction force dynamics drive amoeboid cell motility. Journal of Cell Biology, 2014, 204, 1045-1061.	5.2	58
29	Cyclic stretch of embryonic cardiomyocytes increases proliferation, growth, and expression while repressing Tgf-Î² signaling. Journal of Molecular and Cellular Cardiology, 2015, 79, 133-144.	1.9	56
30	The Clinical Assessment of Intraventricular Flows. Annual Review of Fluid Mechanics, 2015, 47, 315-342.	25.0	55
31	A clinical method for mapping and quantifying blood stasis in the left ventricle. Journal of Biomechanics, 2016, 49, 2152-2161.	2.1	54
32	Demonstration of Patient-Specific Simulations to Assess Left Atrial Appendage Thrombogenesis Risk. Frontiers in Physiology, 2021, 12, 596596.	2.8	51
33	Three-Dimensional Balance of Cortical Tension and Axial Contractility Enables Fast Amoeboid Migration. Biophysical Journal, 2015, 108, 821-832.	0.5	49
34	Dynamic and reversible surface topography influences cell morphology. Journal of Biomedical Materials Research - Part A, 2013, 101A, 2313-2321.	4.0	47
35	Three-dimensional forces exerted by leukocytes and vascular endothelial cells dynamically facilitate diapedesis. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 133-138.	7.1	42
36	Shp2 plays a crucial role in cell structural orientation and force polarity in response to matrix rigidity. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 2840-2845.	7.1	34

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37	Fibrosis, atrial fibrillation and stroke: clinical updates and emerging mechanistic models. Heart, 2021, 107, 99-105.	2.9	33
38	MiR-145 mediates cell morphology-regulated mesenchymal stem cell differentiation to smooth muscle cells. Biomaterials, 2019, 204, 59-69.	11.4	32
39	Three-Dimensional Monolayer Stress Microscopy. Biophysical Journal, 2019, 117, 111-128.	0.5	30
40	Hemodynamic-mediated endocardial signaling controls in vivo myocardial reprogramming. ELife, 2019, 8, .	6.0	30
41	GEF-H1 controls focal adhesion signaling that regulates mesenchymal stem cell lineage commitment. Journal of Cell Science, 2014, 127, 4186-200.	2.0	29
42	Lis1 dysfunction leads to traction force reduction and cytoskeletal disorganization during cell migration. Biochemical and Biophysical Research Communications, 2018, 497, 869-875.	2.1	27
43	Self-organized mechano-chemical dynamics in amoeboid locomotion ofPhysarumfragments. Journal Physics D: Applied Physics, 2017, 50, 204004.	2.8	26
44	miR-486 is modulated by stretch and increases ventricular growth. JCI Insight, 2019, 4, .	5.0	26
45	From imaging to prediction: Emerging non-invasive methods in pediatric cardiology. Progress in Pediatric Cardiology, 2010, 30, 81-89.	0.4	25
46	Bio- chemical and physical characterizations of mesenchymal stromal cells along the time course of directed differentiation. Scientific Reports, 2016, 6, 31547.	3.3	25
47	Two-Layer Elastographic 3-D Traction Force Microscopy. Scientific Reports, 2017, 7, 39315.	3.3	23
48	The SCAR/WAVE complex is necessary for proper regulation of traction stresses during amoeboid motility. Molecular Biology of the Cell, 2011, 22, 3995-4003.	2.1	22
49	Intraventricular thrombus formation in the LVAD-assisted heart studied in a mock circulatory loop. Meccanica, 2017, 52, 515-528.	2.0	22
50	Stasis Mapping Using Ultrasound. JACC: Cardiovascular Imaging, 2018, 11, 514-515.	5.3	20
51	Diastolic chamber properties of the left ventricle assessed by global fitting of pressure-volume data: improving the gold standard of diastolic function. Journal of Applied Physiology, 2013, 115, 556-568.	2.5	19
52	Mechanosensitive Adhesion Explains Stepping Motility in Amoeboid Cells. Biophysical Journal, 2017, 112, 2672-2682.	0.5	19
53	<scp>Nonâ€Newtonian</scp> blood rheology impacts left atrial stasis in <scp>patientâ€specific</scp> simulations. International Journal for Numerical Methods in Biomedical Engineering, 2022, 38, e3597.	2.1	19
54	Blood Stasis Imaging Predicts Cerebral Microembolism during Acute Myocardial Infarction. Journal of the American Society of Echocardiography, 2020, 33, 389-398.	2.8	18

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55	Resolution and uniqueness of estimated parameters of a model of thin filament regulation in solution. Computational Biology and Chemistry, 2010, 34, 19-33.	2.3	17
56	Elucidating the Biomechanics of Leukocyte Transendothelial Migration by Quantitative Imaging. Frontiers in Cell and Developmental Biology, 2021, 9, 635263.	3.7	17
57	Bicuspid Aortic Valves Experience Increased Strain as Compared to Tricuspid Aortic Valves. World Journal for Pediatric & Congenital Heart Surgery, 2013, 4, 362-366.	0.8	16
58	Mitral Valve Prosthesis Design Affects Hemodynamic Stasis and Shear In The Dilated Left Ventricle. Annals of Biomedical Engineering, 2019, 47, 1265-1280.	2.5	16
59	The role of elastic restoring forces in right-ventricular filling. Cardiovascular Research, 2015, 107, 45-55.	3.8	15
60	Two-point particle tracking microrheology of nematic complex fluids. Soft Matter, 2016, 12, 5758-5779.	2.7	15
61	Intraventricular Flow Patterns in Patients Treated with Left Ventricular Assist Devices. ASAIO Journal, 2021, 67, 74-83.	1.6	14
62	Cyclic Mechanical Stresses Alter Erythrocyte Membrane Composition and Microstructure and Trigger Macrophage Phagocytosis. Advanced Science, 2022, 9, e2201481.	11.2	14
63	Age-Dependence of Flow Homeostasis in the Left Ventricle. Frontiers in Physiology, 2019, 10, 485.	2.8	13
64	Quantifying the mechanics of locomotion of the schistosome pathogen with respect to changes in its physical environment. Journal of the Royal Society Interface, 2019, 16, 20180675.	3.4	13
65	Cooperative cell motility during tandem locomotion of amoeboid cells. Molecular Biology of the Cell, 2016, 27, 1262-1271.	2.1	12
66	Clinical assessment of intraventricular blood transport in patients undergoing cardiac resynchronization therapy. Meccanica, 2017, 52, 563-576.	2.0	12
67	Cytoskeletal Mechanics Regulating Amoeboid Cell Locomotion. Applied Mechanics Reviews, 2014, 66, .	10.1	11
68	How Computation Is Helping Unravel the Dynamics of Morphogenesis. Frontiers in Physics, 2020, 8, .	2.1	11
69	An Oscillatory Contractile Pole-Force Component Dominates the Traction Forces Exerted by Migrating Amoeboid Cells. Cellular and Molecular Bioengineering, 2011, 4, 603-615.	2.1	10
70	Flow of a viscous nematic fluid around a sphere. Journal of Fluid Mechanics, 2013, 725, 299-331.	3.4	10
71	The interplay between matrix deformation and the coordination of turning events governs directed neutrophil migration in 3D matrices. Science Advances, 2021, 7, .	10.3	10
72	Recent Advances in the Application of Computational Mechanics to the Diagnosis and Treatment of Cardiovascular Disease. Revista Espanola De Cardiologia (English Ed), 2009, 62, 781-805.	0.6	8

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73	The Effect of Enterohemorrhagic E. coli Infection on the Cell Mechanics of Host Cells. PLoS ONE, 2014, 9, e112137.	2.5	8
74	Symmetry breaking transition towards directional locomotion inPhysarummicroplasmodia. Journal Physics D: Applied Physics, 2019, 52, 494004.	2.8	7
75	Distribution of traction forces associated with shape changes during amoeboid cell migration. , 2009, 2009, 3346-9.		5
76	Regional dynamics of fractal dimension of the left ventricular endocardium from cine computed tomography images. Journal of Medical Imaging, 2019, 6, 1.	1.5	5
77	High-Throughput Functional Screening Assay of Force and Stiffness in IPSC Derived Cardiomyocytes. Biophysical Journal, 2018, 114, 312a.	0.5	4
78	The natural matching of harmonic responses in the pulmonary circulation. Journal of Physiology, 2019, 597, 3853-3865.	2.9	4
79	Assessment of Blood Flow Transport in the Left Ventricle Using Ultrasound. Validation Against 4-D Flow Cardiac Magnetic Resonance. Ultrasound in Medicine and Biology, 2022, 48, 1822-1832.	1.5	4
80	Turbulence and Internal Waves in a Stably-Stratified Channel Flow. , 2009, , 217-227.		3
81	MicroMotility: State of the art, recent accomplishments and perspectives on the mathematical modeling of bio-motility at microscopic scales. Mathematics in Engineering, 2020, 2, 230-252.	0.9	3
82	Biomechanical interactions of Schistosoma mansoni eggs with vascular endothelial cells facilitate egg extravasation. PLoS Pathogens, 2022, 18, e1010309.	4.7	3
83	QUANTITATIVE ASSESSMENT OF INTRAVENTRICULAR VORTICITY USING CONVENTIONAL COLOR-DOPPLER ULTRASOUND. HEAD TO HEAD CLINICAL VALIDATION AGAINST PHASE-CONTRAST MAGNETIC RESONANCE IMAGING. Journal of the American College of Cardiology, 2012, 59, E1128.	2.8	2
84	Mechanics of Adhesion Dependent and Independent Neutrophil Migration in Three-Dimensional Extra-Cellular Matrices. Biophysical Journal, 2016, 110, 512a.	0.5	2
85	THE NEAR-WALL STRUCTURES OF TURBULENT WALL FLOWS. , 2006, , 53-70.		2
86	Healthy vs Diseased Transport and Mixing in the Human Left Ventricle. , 2012, , .		2
87	Cell Aspect Ratio Alters Stem Cell Traction Stresses and Lineage. Biophysical Journal, 2012, 102, 716a.	0.5	1
88	Reply. Journal of the American College of Cardiology, 2015, 65, 2574-2575.	2.8	1
89	Three-Dimensional Monolayer Stress Microscopy. Biophysical Journal, 2016, 110, 330a.	0.5	1
90	Three-Dimensional Monolayer Stress Cytometry. Biophysical Journal, 2017, 112, 271a.	0.5	1

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91	Focal Adhesion Mechanotransduction Regulates Stiffness-Directed Differentiation. , 2013, , .		1
92	Coordination of Contractility, Adhesion and Flow in Migrating Physarum Amoebae : Experiments and Modeling. , 2016, , .		1
93	Probing the Directional Structure and Intracellular Microrheology of Vascular Endothelial Cells. Biophysical Journal, 2011, 100, 489a.	0.5	0
94	The Role of the Scar/WAVE Complex in the Mechanics of Cell Migration. Biophysical Journal, 2011, 100, 441a.	0.5	0
95	Corrections to Taylorâ€™s Approximation fromÂComputed Turbulent Convection Velocities. ERCOFTAC Series, 2011, , 211-218.	0.1	0
96	Viscoelastic Properties of Vascular Endothelial Cells Exposed to Uniaxial Stretch. Biophysical Journal, 2012, 102, 564a.	0.5	0
97	Dynamics of a Microsphere in an Anisotropic Gel: a Frontier in Intracellular Microrheology. Biophysical Journal, 2012, 102, 565a.	0.5	0
98	Three Dimensional Traction Forces Exerted by Migrating Amoeboid Cells. Biophysical Journal, 2012, 102, 704a.	0.5	0
99	Deciphering Cellular Forces during Myoblast Fusion. Biophysical Journal, 2012, 102, 704a.	0.5	0
100	Mechanosensitive Vinculin Signaling Regulates Stem Cell Fate. Biophysical Journal, 2012, 102, 177a.	0.5	0
101	Amoeboid Cells Migrate by Alternating Between Modes with Distinct Adhesion Dynamics and Contractility. Biophysical Journal, 2013, 104, 148a.	0.5	0
102	In Vivo Measurements of Blood Transport Patterns and Stasis in the Human Left Ventricle. , 2013, , .		0
103	Closure to â€œDiscussion of â€˜Cytoskeletal Mechanics Regulating Amoeboid Cell Locomotionâ€™â€• (Ãlvarez-GonzÃ¡lez, B., Bastounis, E., Meili, R., del Alamo, J. C., Firtel, R. A., and Lasheras, J. C., 2014, ASME) Tj ETQq1 1 0.784314 rgBT /Overlock		
104	Traction Stress Dynamics During Chemotactic Amoeboid Cell Migration. Biophysical Journal, 2014, 106, 787a-788a.	0.5	0
105	Cortical and Cytoskeletal Structural Network regulates the Three-Dimensional Traction Forces Exerted by Migrating Amoeboid Cells. Biophysical Journal, 2014, 106, 360a.	0.5	0
106	Three-Dimensional Balance of Cortical Tension and Axial Contractility Enables Fast Amoeboid Migration. Biophysical Journal, 2015, 108, 494a.	0.5	0
107	Mechanics of Neutrophil Migration in Three-Dimensional Matrices. Biophysical Journal, 2015, 108, 455a.	0.5	0
108	Three-Dimensional Fourier Monolayer Stress Microscopy. Biophysical Journal, 2015, 108, 307a.	0.5	0

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109	Three-Dimensional Traction Forces Exerted by Filopodia and Membrane Protrusions Drive Neutrophil Invasion. Biophysical Journal, 2015, 108, 307a.	0.5	0
110	Validation of a Novel Experimental and Computational Methodology to Measure Intercellular Forces during Tissue Morphogenesis. Biophysical Journal, 2016, 110, 309a.	0.5	0
111	Understanding the Mechanics of Neutrophil Migration in Three-Dimensional Extracellular Matrices. Biophysical Journal, 2017, 112, 125a.	0.5	0
112	Mechanosensitive Adhesion Explains Stepping Motility in Amoeboid Cells. Biophysical Journal, 2017, 112, 433a.	0.5	0
113	Non-Invasive Mapping of Intraventricular Flow Patterns in Patients Treated with Left Ventricular Assist Devices. Journal of Cardiac Failure, 2017, 23, S24.	1.7	0
114	Investigating the Effect of Matrix Porosity on the Mechanics of Neutrophil Migration in Three-Dimensional Extracellular Matrices. Biophysical Journal, 2018, 114, 371a.	0.5	0
115	Biomechanics of JAM-C-Mediated Neutrophil Reverse Transendothelial Migration. Biophysical Journal, 2020, 118, 282a.	0.5	0
116	A Balance between Turning and Persistent Motion is Critical for Fast and Efficient 3-Dimensional Neutrophil Migration. Biophysical Journal, 2020, 118, 602a.	0.5	0
117	In vitro Characterization and Numerical Simulations of Red Blood Cell Transmigration Through Splenic Inter-Endothelial Slits. Biophysical Journal, 2020, 118, 621a.	0.5	0
118	A Capillary Controlled Hydrogel Microchannel for Isotropic Compressive Stress Quantification. Biophysical Journal, 2020, 118, 601a.	0.5	0
119	Hierarchical Bayesian 3D Traction Force Microscopy with Local Regularization Based on Image Quality. Biophysical Journal, 2021, 120, 193a.	0.5	0
120	Very Large Anisotropic Scales in Turbulent Wall-Bounded Flows. , 2003, , 105-112.		0
121	GEF-H1 controls focal adhesion signaling that regulates mesenchymal stem cell lineage commitment. Development (Cambridge), 2014, 141, e2005-e2005.	2.5	0
122	Coordinations of Intracellular Flow, Calcium Signal and Cellular Contraction in Migrating Physarum. , 2016, , .		0
123	Kindlinâ€3 organizes a ring of clustered high affinity Î² 2 integrins during human neutrophil spreading under flow. FASEB Journal, 2020, 34, 1-1.	0.5	0
124	Abstract 21097: Three-Dimensional Traction Stresses Facilitate Leukocyte Diapedesis. Circulation, 2017, 136, .	1.6	0