Vijayaraghavan Rajagopal

List of Publications by Year
in descending order

68 papers	1,084 citations	394421 19 h-index	454955 30 g-index
82 all docs	82 docs citations	82 times ranked	1199 citing authors

#	Article	IF	Citations
1	Multimodal imaging reveals membrane skeleton reorganisation during reticulocyte maturation and differences in dimple and rim regions of mature erythrocytes. Journal of Structural Biology: X, 2022, 6, 100056.	1.3	2
2	Cortical tension initiates the positive feedback loop between cadherin and F-actin. Biophysical Journal, 2022, 121, 596-606.	0.5	9
3	Paradoxes of Hymenoptera flight muscles, extreme machines. Biophysical Reviews, 2022, 14, 403-412.	3.2	4
4	The Cell Physiome: What Do We Need in a Computational Physiology Framework for Predicting Single-Cell Biology?. Annual Review of Biomedical Data Science, 2022, 5, 341-366.	6.5	4
5	Role of actin filaments and cis binding in cadherin clustering and patterning. PLoS Computational Biology, 2022, 18, e1010257.	3.2	4
6	Surface areaâ€toâ€volume ratio, not cellular viscoelasticity, is the major determinant of red blood cell traversal through small channels. Cellular Microbiology, 2021, 23, e13270.	2.1	22
7	Unconventional acoustic approaches for localized and designed micromanipulation. Lab on A Chip, 2021, 21, 2837-2856.	6.0	36
8	A Computational Study of the Dynamics of Cadherin-Catenin Complex Regulated by Actin Cytoskeleton. Biophysical Journal, 2021, 120, 130a.	0.5	0
9	Enhancing student learning through trans-disciplinary project-based assessment in bioengineering. Pacific Journal of Technology Enhanced Learning, 2021, 3, 4-5.	0.3	0
10	Surface Area-to-Volume Ratio, not Cellular Viscoelasticity is the Major Determinant of Red Blood Cell Traversal through Small Channels. Biophysical Journal, 2021, 120, 170a.	0.5	0
11	EGFRvIII Promotes Cell Survival during Endoplasmic Reticulum Stress through a Reticulocalbin 1-Dependent Mechanism. Cancers, 2021, 13, 1198.	3.7	7
12	A toolbox for generating scalable mitral valve morphometric models. Computers in Biology and Medicine, 2021, 135, 104628.	7.0	1
13	Respiration mask waveguide optimisation for maximised speech intelligibility. Journal of the Acoustical Society of America, 2021, 150, 2030-2039.	1.1	0
14	EM-net: Deep learning for electron microscopy image segmentation. , 2021, , .		9
15	EM-stellar: benchmarking deep learning for electron microscopy image segmentation. Bioinformatics, 2021, 37, 97-106.	4.1	16
16	Periodic Rayleigh streaming vortices and Eckart flow arising from traveling-wave-based diffractive acoustic fields. Physical Review E, 2021, 104, 045104.	2.1	10
17	Membrane Tension Can Enhance Adaptation to Maintain Polarity of Migrating Cells. Biophysical Journal, 2020, 119, 1617-1629.	0.5	15
18	Ca2+ Release via IP3 Receptors Shapes the Cardiac Ca2+ Transient for Hypertrophic Signaling. Biophysical Journal, 2020, 119, 1178-1192.	0.5	13

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19	Efficient estimation of loadâ€free left ventricular geometry and passive myocardial properties using principal component analysis. International Journal for Numerical Methods in Biomedical Engineering, 2020, 36, e3313.	2.1	7
20	Detecting RyR Clusters with CaCLEAN: Validation and Influence of Spatial Heterogeneity. Biophysical Journal, 2019, 116, 42a-43a.	0.5	0
21	How Does the Internal Structure of Cardiac Muscle Cells Regulate Cellular Metabolism?. Microscopy and Microanalysis, 2019, 25, 240-241.	0.4	0
22	The Feedback between Cellular Mechanics and Chemical Signalling during Cytoskeletal Remodelling. Biophysical Journal, 2019, 116, 414a.	0.5	0
23	Assessing Cardiomyocyte Excitation-Contraction Coupling Site Detection From Live Cell Imaging Using a Structurally-Realistic Computational Model of Calcium Release. Frontiers in Physiology, 2019, 10, 1263.	2.8	8
24	Automated segmentation of cardiomyocyte Z-disks from high-throughput scanning electron microscopy data. BMC Medical Informatics and Decision Making, 2019, 19, 272.	3.0	7
25	Assessment of single beat end-systolic elastance methods for quantifying ventricular contractility. Heart and Vessels, 2019, 34, 716-723.	1.2	6
26	Multimodal analysis of <i>Plasmodium knowlesi</i> â€infected erythrocytes reveals large invaginations, swelling of the host cell, and rheological defects. Cellular Microbiology, 2019, 21, e13005.	2.1	20
27	An automated workflow for segmenting single adult cardiac cells from large-volume serial block-face scanning electron microscopy data. Journal of Structural Biology, 2018, 202, 275-285.	2.8	27
28	Computational modeling of singleâ€cell mechanics and cytoskeletal mechanobiology. Wiley Interdisciplinary Reviews: Systems Biology and Medicine, 2018, 10, e1407.	6.6	36
29	Creatine-Kinase Shuttle and Rapid Mitochondrial Membrane Potential Conductivity are Needed Simultaneously to Maintain Uniform Metabolite Distributions in the Cardiac Cell Contraction Cycle. Biophysical Journal, 2018, 114, 550a.	0.5	1
30	Automated framework to reconstruct 3D model of cardiac Z-disk: an image processing approach. , 2018, , .		6
31	Insights on the impact of mitochondrial organisation on bioenergetics in high-resolution computational models of cardiac cell architecture. PLoS Computational Biology, 2018, 14, e1006640.	3.2	23
32	Creating a Structurally Realistic Finite Element Geometric Model of a Cardiomyocyte to Study the Role of Cellular Architecture in Cardiomyocyte Systems Biology. Journal of Visualized Experiments, 2018, , .	0.3	3
33	Mixed Signals: Interaction between RyR and IP3R Mediated Calcium Release Shapes the Calcium Transient for Hypertrophic Signalling in Cardiomyocytes. Biophysical Journal, 2018, 114, 212a-213a.	0.5	1
34	Changes in mitochondrial morphology and organization can enhance energy supply from mitochondrial oxidative phosphorylation in diabetic cardiomyopathy. American Journal of Physiology - Cell Physiology, 2017, 312, C190-C197.	4.6	33
35	A Semi-Automated Workflow for Segmenting Contents of Single Cardiac Cells from Serial-Block-Face Scanning Electron Microscopy Data. Microscopy and Microanalysis, 2017, 23, 240-241.	0.4	4
36	A computational study of the role of mitochondrial organization on cardiac bioenergetics. , 2017, 2017, 2696-2699.		2

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37	Erythrocyte Î² spectrin can be genetically targeted to protect mice from malaria. Blood Advances, 2017, 1, 2624-2636.	5.2	16
38	Examination of the Effects of Heterogeneous Organization of RyR Clusters, Myofibrils and Mitochondria on Ca2+ Release Patterns in Cardiomyocytes. PLoS Computational Biology, 2015, 11, e1004417.	3.2	46
39	Super-resolution fluorescence imaging to study cardiac biophysics: Î±-actinin distribution and Z-disk topologies in optically thick cardiac tissue slices. Progress in Biophysics and Molecular Biology, 2014, 115, 328-339.	2.9	25
40	Breast lesion co-localisation between X-ray and MR images using finite element modelling. Medical Image Analysis, 2013, 17, 1256-1264.	11.6	41
41	Modelling Prone to Supine Breast Deformation Under Gravity Loading Using Heterogeneous Finite Element Models. , 2012, , 29-38.		10
42	Subcellular Structural Changes in Diabetic Cardiomyopathy and its Impact on Cardiac Cell Calcium Dynamics. Biophysical Journal, 2012, 102, 104a.	0.5	0
43	Modelling the Structure and Function of Cardiac Cell Transverse-Axial-Tubules. Biophysical Journal, 2011, 100, 293a.	0.5	0
44	Cardiac Excitation-Contraction Coupling Proteins: A 3D Spatial Analysis. Biophysical Journal, 2011, 100, 621a-622a.	0.5	0
45	OpenCMISS: A multi-physics & multi-scale computational infrastructure for the VPH/Physiome project. Progress in Biophysics and Molecular Biology, 2011, 107, 32-47.	2.9	123
46	Identification of mechanical properties of heterogeneous soft bodies using gravity loading. International Journal for Numerical Methods in Biomedical Engineering, 2011, 27, 391-407.	2.1	36
47	Patient-Specific Modeling of Breast Biomechanics with Applications to Breast Cancer Detection and Treatment. Studies in Mechanobiology, Tissue Engineering and Biomaterials, 2011, , 379-412.	1.0	7
48	Modeling breast biomechanics for multiâ€modal image analysisâ€"successes and challenges. Wiley Interdisciplinary Reviews: Systems Biology and Medicine, 2010, 2, 293-304.	6.6	45
49	Stochastic modelling of cardiac cell structure. , 2010, 2010, 3257-60.		5
50	Mapping Microcalcifications Between 2D Mammograms and 3D MRI Using a Biomechanical Model of the Breast. , 2010, , 17-28.		6
51	Method for Validating Breast Compression Models Using Normalised Cross-Correlation. , 2010, , 63-71.		3
52	Breast Image Registration by Combining Finite Elements and Free-Form Deformations. Lecture Notes in Computer Science, 2010, , 736-743.	1.3	24
53	Correlation of breast image alignment using biomechanical modelling. Proceedings of SPIE, 2009, , .	0.8	1
54	Modeling of the mechanical function of the human gastroesophageal junction using an anatomically realistic three-dimensional model. Journal of Biomechanics, 2009, 42, 1604-1609.	2.1	36

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55	A biomechanical model of mammographic compressions. Biomechanics and Modeling in Mechanobiology, 2008, 7, 43-52.	2.8	43
56	Frictional contact mechanics methods for soft materials: Application to tracking breast cancers. Journal of Biomechanics, 2008, 41, 69-77.	2.1	20
57	Creating Individual-specific Biomechanical Models of the Breast for Medical Image Analysis. Academic Radiology, 2008, 15, 1425-1436.	2.5	69
58	Biomechanical modelling for breast image registration. Proceedings of SPIE, 2008, , .	0.8	3
59	The Breast Biomechanics Reference State for Multi-modal Image Analysis. Lecture Notes in Computer Science, 2008, , 385-392.	1.3	11
60	Modelling Mammographic Compression of the Breast. Lecture Notes in Computer Science, 2008, 11, 758-765.	1.3	22
61	Determining the finite elasticity reference state from a loaded configuration. International Journal for Numerical Methods in Engineering, 2007, 72, 1434-1451.	2.8	62
62	Towards Tracking Breast Cancer Across Medical Images Using Subject-Specific Biomechanical Models. , 2007, 10, 651-658.		11
63	Finite Element Modelling of Breast Biomechanics: Directly Calculating the Reference State. , 2006, 2006, 420-3.		9
64	Computational modeling of the breast during mammography for tumor tracking. , 2005, 5746, 817.		0
65	Finite element modelling of breast biomechanics: finding a reference state. , 2005, 2005, 3268-71.		2
66	Development of a three-dimensional finite element model of breast mechanics. , 2004, 2004, 5080-3.		11
67	Predicting Tumour Location by Simulating Large Deformations of the Breast Using a 3D Finite Element Model and Nonlinear Elasticity. Lecture Notes in Computer Science, 2004, , 217-224.	1.3	36
68	Modelling cardiomyocyte energetics. , 0, , .		2