Raimond L Winslow

List of Publications by Year
in descending order

121 papers	7,608 citations	61984 43 h-index	53230 85 g-index
128 all docs	128 docs citations	128 times ranked	6165 citing authors

#	Article	IF	Citations
1	Evidence of Structural Remodeling in the Dyssynchronous Failing Heart. Circulation Research, 2006, 98, 125-132.	4.5	573
2	Mechanisms of Altered Excitation-Contraction Coupling in Canine Tachycardia-Induced Heart Failure, II. Circulation Research, 1999, 84, 571-586.	4.5	557
3	An Integrated Model of Cardiac Mitochondrial Energy Metabolism and Calcium Dynamics. Biophysical Journal, 2003, 84, 2734-2755.	0.5	345
4	Cardiac Ca2+ Dynamics: The Roles of Ryanodine Receptor Adaptation and Sarcoplasmic Reticulum Load. Biophysical Journal, 1998, 74, 1149-1168.	0.5	300
5	Classifying Gene Expression Profiles from Pairwise mRNA Comparisons. Statistical Applications in Genetics and Molecular Biology, 2004, 3, 1-19.	0.6	297
6	A Computational Model of the Human Left-Ventricular Epicardial Myocyte. Biophysical Journal, 2004, 87, 1507-1525.	0.5	244
7	Single-tone intensity discrimination based on auditory-nerve rate responses in backgrounds of quiet, noise, and with stimulation of the crossed olivocochlear bundle. Hearing Research, 1988, 35, 165-189.	2.0	228
8	Measuring and Mapping Cardiac Fiber and Laminar Architecture Using Diffusion Tensor MR Imaging. Annals of the New York Academy of Sciences, 2005, 1047, 296-307.	3.8	216
9	Direct histological validation of diffusion tensor MRI in formaldehyde-fixed myocardium. Magnetic Resonance in Medicine, 2000, 44, 157-161.	3.0	208
10	Ex vivo 3D diffusion tensor imaging and quantification of cardiac laminar structure. Magnetic Resonance in Medicine, 2005, 54, 850-859.	3.0	208
11	A Mitochondrial Oscillator Dependent on Reactive Oxygen Species. Biophysical Journal, 2004, 87, 2060-2073.	0.5	206
12	A Computational Model Integrating Electrophysiology, Contraction, and Mitochondrial Bioenergetics in the Ventricular Myocyte. Biophysical Journal, 2006, 91, 1564-1589.	0.5	198
13	Role of the Calcium-Independent Transient Outward Current I _{to1} in Shaping Action Potential Morphology and Duration. Circulation Research, 2000, 87, 1026-1033.	4.5	197
14	An Integrative Model of the Cardiac Ventricular Myocyte Incorporating Local Control of Ca2+ Release. Biophysical Journal, 2002, 83, 2918-2945.	0.5	173
15	Computational Medicine: Translating Models to Clinical Care. Science Translational Medicine, 2012, 4, 158rv11.	12.4	171
16	Role of Sodium-Calcium Exchanger in Modulating the Action Potential of Ventricular Myocytes From Normal and Failing Hearts. Circulation Research, 2003, 93, 46-53.	4.5	165
17	The Role of Stochastic and Modal Gating of Cardiac L-Type Ca2+ Channels on Early After-Depolarizations. Biophysical Journal, 2005, 88, 85-95.	0.5	138
18	Mechanisms of Excitation-Contraction Coupling in an Integrative Model of the Cardiac Ventricular Myocyte. Biophysical Journal, 2006, 90, 77-91.	0.5	133

#	Article	IF	Citations
19	A Reaction-Diffusion Model of ROS-Induced ROS Release in a Mitochondrial Network. PLoS Computational Biology, 2010, 6, e1000657.	3.2	131
20	Modeling Gain and Gradedness of Ca2+ Release in the Functional Unit of the Cardiac Diadic Space. Biophysical Journal, 1999, 77, 1871-1884.	0.5	105
21	Molecular Interactions Between Two Long-QT Syndrome Gene Products, HERG and KCNE2 , Rationalized by In Vitro and In Silico Analysis. Circulation Research, 2001, 89, 33-38.	4.5	104
22	Comparison of putative cooperative mechanisms in cardiac muscle: length dependence and dynamic responses. American Journal of Physiology - Heart and Circulatory Physiology, 1999, 276, H1734-H1754.	3.2	102
23	Superresolution Modeling of Calcium Release in the Heart. Biophysical Journal, 2014, 107, 3018-3029.	0.5	96
24	Integrating Mitochondrial Energetics, Redox and ROS Metabolic Networks: A Two-Compartment Model. Biophysical Journal, 2013, 104, 332-343.	0.5	94
25	Simulating cardiac sinus and atrial network dynamics on the connection machine. Physica D: Nonlinear Phenomena, 1993, 64, 281-298.	2.8	92
26	A computational model for rate-level functions from cat auditory-nerve fibers. Hearing Research, 1989, 41, 61-69.	2.0	89
27	Gene expression profiles in end-stage human idiopathic dilated cardiomyopathy: altered expression of apoptotic and cytoskeletal genes. Genomics, 2004, 83, 281-297.	2.9	89
28	Computational modelling of biological systems: tools and visions. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2000, 358, 579-610.	3.4	84
29	Geometric Properties of the Chaotic Saddle Responsible for Supertransients in Spatiotemporal Chaotic Systems. Physical Review Letters, 1995, 74, 5208-5211.	7.8	78
30	Modeling Cardiac Action Potential Shortening Driven by Oxidative Stress-Induced Mitochondrial Oscillations in Guinea Pig Cardiomyocytes. Biophysical Journal, 2009, 97, 1843-1852.	0.5	77
31	Cardiac Sodium Channel Markov Model with Temperature Dependence and Recovery from Inactivation. Biophysical Journal, 1999, 76, 1868-1885.	0.5	70
32	Control and Regulation of Mitochondrial Energetics in an Integrated Model of Cardiomyocyte Function. Biophysical Journal, 2009, 96, 2466-2478.	0.5	70
33	Dynamics of matrix-free Ca2+ in cardiac mitochondria: two components of Ca2+ uptake and role of phosphate buffering. Journal of General Physiology, 2012, 139, 465-478.	1.9	69
34	Identification of Novel Serological Biomarkers for Inflammatory Bowel Disease Using Escherichia coli Proteome Chip. Molecular and Cellular Proteomics, 2009, 8, 1765-1776.	3.8	63
35	Modeling short-term interval-force relations in cardiac muscle. American Journal of Physiology - Heart and Circulatory Physiology, 2000, 278, H913-H931.	3.2	60
36	Protein Geometry and Placement in the Cardiac Dyad Influence Macroscopic Properties of Calcium-Induced Calcium Release. Biophysical Journal, 2007, 92, 3379-3396.	0.5	57

#	Article	IF	Citations
37	Role of CaMKII in RyR leak, EC coupling and action potential duration: A computational model. Journal of Molecular and Cellular Cardiology, 2010, 49, 617-624.	1.9	57
38	Integrative Systems Models of Cardiac Excitationâ€“Contraction Coupling. Circulation Research, 2011, 108, 70-84.	4.5	56
39	Data-driven discovery of a novel sepsis pre-shock state predicts impending septic shock in the ICU. Scientific Reports, 2019, 9, 6145.	3.3	56
40	A Computational Model of Reactive Oxygen Species and Redox Balance in Cardiac Mitochondria. Biophysical Journal, 2013, 105, 1045-1056.	0.5	55
41	Transcriptomic profiling of the canine tachycardia-induced heart failure model: global comparison to human and murine heart failure. Journal of Molecular and Cellular Cardiology, 2006, 40, 76-86.	1.9	51
42	Riddled parameter space in spatiotemporal chaotic dynamical systems. Physical Review Letters, 1994, 72, 1640-1643.	7.8	48
43	CaMKII-Induced Shift in Modal Gating Explains L-Type Ca2+ Current Facilitation: A Modeling Study. Biophysical Journal, 2009, 96, 1770-1785.	0.5	48
44	Transport of Relational Structures in Groups of Diffeomorphisms. Journal of Mathematical Imaging and Vision, 2008, 32, 41-56.	1.3	44
45	Key pathways associated with heart failure development revealed by gene networks correlated with cardiac remodeling. Physiological Genomics, 2008, 35, 222-230.	2.3	44
46	Genome Informatics. Circulation Research, 2003, 92, 953-961.	4.5	43
47	Allele-specific expression in the germline of patients with familial pancreatic cancer: An unbiased approach to cancer gene discovery. Cancer Biology and Therapy, 2008, 7, 135-144.	3.4	42
48	Extreme sensitive dependence on parameters and initial conditions in spatio-temporal chaotic dynamical systems. Physica D: Nonlinear Phenomena, 1994, 74, 353-371.	2.8	36
49	An Integrated Mitochondrial ROS Production and Scavenging Model: Implications for Heart Failure. Biophysical Journal, 2013, 105, 2832-2842.	0.5	36
50	Modeling the cellular basis of altered excitationâ€“contraction coupling in heart failure. Progress in Biophysics and Molecular Biology, 1998, 69, 497-514.	2.9	35
51	On the Adjacency Matrix of RyR2 Cluster Structures. PLoS Computational Biology, 2015, 11, e1004521.	3.2	33
52	Roles of phosphodiesterases in the regulation of the cardiac cyclic nucleotide cross-talk signaling network. Journal of Molecular and Cellular Cardiology, 2016, 91, 215-227.	1.9	33
53	Model Studies of the Role of Mechano-sensitive Currents in the Generation of Cardiac Arrhythmias. Journal of Theoretical Biology, 1998, 190, 295-312.	1.7	32
54	Improved reproducibility of reverseâ€phase protein microarrays using array microenvironment normalization. Proteomics, 2009, 9, 5562-5566.	2.2	31

#	Article	IF	Citations
55	Modeling calcium regulation of contraction, energetics, signaling, and transcription in the cardiac myocyte. Wiley Interdisciplinary Reviews: Systems Biology and Medicine, 2016, 8, 37-67.	6.6	31
56	Integrative modeling of the cardiac ventricular myocyte. Wiley Interdisciplinary Reviews: Systems Biology and Medicine, 2011, 3, 392-413.	6.6	30
57	Screening Entire Health System ECG Databases to Identify Patients at Increased Risk of Death. Circulation: Arrhythmia and Electrophysiology, 2013, 6, 1156-1162.	4.8	29
58	Ectopic expression of KCNE3 accelerates cardiac repolarization and abbreviates the QT interval. Journal of Clinical Investigation, 2002, 109, 1083-1090.	8.2	28
59	Modeling the Actions of Î²-Adrenergic Signaling on Excitation-Contraction Coupling Processes. Annals of the New York Academy of Sciences, 2004, 1015, 16-27.	3.8	27
60	Cardiac Resynchronization Therapy Improves Altered Na Channel Gating in Canine Model of Dyssynchronous Heart Failure. Circulation: Arrhythmia and Electrophysiology, 2013, 6, 546-554.	4.8	27
61	Mechanistic Investigation of the Arrhythmogenic Role of Oxidized CaMKII in the Heart. Biophysical Journal, 2015, 109, 838-849.	0.5	27
62	Complex dynamics in coupled cardiac pacemaker cells. Physical Review Letters, 1993, 71, 2501-2504.	7.8	25
63	A model of selective processing of auditory-nerve inputs by stellate cells of the antero-ventral cochlear nucleus. Journal of Computational Neuroscience, 1994, 1, 167-194.	1.0	25
64	Control and Regulation of Integrated Mitochondrial Function in Metabolic and Transport Networks. International Journal of Molecular Sciences, 2009, 10, 1500-1513.	4.1	25
65	Toward an Integrative Computational Model of the Guinea Pig Cardiac Myocyte. Frontiers in Physiology, 2012, 3, 244.	2.8	25
66	Computational Method for Identifying and Quantifying Shape Features of Human Left Ventricular Remodeling. Annals of Biomedical Engineering, 2009, 37, 1043-1054.	2.5	24
67	Generation and propagation of normal and abnormal pacemaker activity in network models of cardiac sinus node and atrium. Chaos, Solitons and Fractals, 1995, 5, 491-512.	5.1	22
68	Interaction between phosphodiesterases in the regulation of the cardiac Î²-adrenergic pathway. Journal of Molecular and Cellular Cardiology, 2015, 88, 29-38.	1.9	22
69	Discovering robust protein biomarkers for disease from relative expression reversals in 2-D DIGE data.. Proteomics, 2007, 7, 1197-1207.	2.2	21
70	Modeling Na + -Ca 2+ exchange in the heart: Allosteric activation, spatial localization, sparks and excitation-contraction coupling. Journal of Molecular and Cellular Cardiology, 2016, 99, 174-187.	1.9	20
71	Using models of the myocyte for functional interpretation of cardiac proteomic data. Journal of Physiology, 2005, 563, 73-81.	2.9	19
72	Multiscale Modeling of Calcium Signaling in the Cardiac Dyad. Annals of the New York Academy of Sciences, 2006, 1080, 362-375.	3.8	19

#	Article	IF	Citations
73	Natural Language Processing of Clinical Notes for Improved Early Prediction of Septic Shock in the ICU. , 2019, 2019, 6103-6108.		19
74	Cardiac myocytes and local signaling in nano-domains. Progress in Biophysics and Molecular Biology, 2011, 107, 48-59.	2.9	17
75	Estimating the probabilities of rare arrhythmic events in multiscale computational models of cardiac cells and tissue. PLoS Computational Biology, 2017, 13, e1005783.	3.2	16
76	Spectral clustering of risk score trajectories stratifies sepsis patients by clinical outcome and interventions received. ELife, 2020, 9, .	6.0	15
77	Functional Roles of Sodium-Calcium Exchange in Normal and Abnormal Cardiac Rhythm. Annals of the New York Academy of Sciences, 1996, 779, 480-488.	3.8	12
78	Grand Challenges in Computational Physiology and Medicine. Frontiers in Physiology, 2011, 2, 79.	2.8	12
79	Shape analysis of hypertrophic and hypertensive heart disease using MRI-based 3D surface models of left ventricular geometry. Medical Image Analysis, 2016, 29, 12-23.	11.6	12
80	Modeling CaMKII-mediated regulation of L-type Ca2+ channels and ryanodine receptors in the heart. Frontiers in Pharmacology, 2014, 5, 60.	3.5	11
81	CaMKII-dependent activation of late I<inf>Na</inf> contributes to cellular arrhythmia in a model of the cardiac myocyte. , 2011, 2011, 4665-8.		10
82	A bilobal model of Ca2+-dependent inactivation to probe the physiology of L-type Ca2+ channels. Journal of General Physiology, 2018, 150, 1688-1701.	1.9	10
83	Na+ microdomains and sparks: Role in cardiac excitation-contraction coupling and arrhythmias in ankyrin-B deficiency. Journal of Molecular and Cellular Cardiology, 2019, 128, 145-157.	1.9	10
84	Early Prediction of Multiple Organ Dysfunction in the Pediatric Intensive Care Unit. Frontiers in Pediatrics, 2021, 9, 711104.	1.9	10
85	WaveformECG: A Platform for Visualizing, Annotating, and Analyzing ECG Data. Computing in Science and Engineering, 2016, 18, 36-46.	1.2	9
86	Models and Simulations as a Service: Exploring the Use of Galaxy for Delivering Computational Models. Biophysical Journal, 2016, 110, 1038-1043.	0.5	9
87	Please Welcome the New Team Member. Pediatric Critical Care Medicine, 2019, 20, 1200-1201.	0.5	8
88	Computational signatures for post-cardiac arrest trajectory prediction: Importance of early physiological time series. Anaesthesia, Critical Care & Pain Medicine, 2022, 41, 101015.	1.4	8
89	The Functional Role of Excitatory and Inhibitory Interactions in Chopper Cells of the Anteroventral Cochlear Nucleus. Neural Computation, 1994, 6, 1127-1140.	2.2	7
90	Modeling Short-Term Interval-Force Relations in Cardiac Muscle. Annals of the New York Academy of Sciences, 1998, 853, 345-349.	3.8	7

#	Article	IF	Citations
91	MASCOT HTML and XML parser: An implementation of a novel object model for protein identification data. Proteomics, 2006, 6, 5688-5693.	2.2	7
92	Mechanisms of the cyclic nucleotide cross-talk signaling network in cardiac L-type calcium channel regulation. Journal of Molecular and Cellular Cardiology, 2017, 106, 29-44.	1.9	7
93	Prediction of Impending Septic Shock in Children With Sepsis. , 2021, 3, e0442.		7
94	Dynamic models of the retinal horizontal cell network. Progress in Biophysics and Molecular Biology, 1991, 56, 107-133.	2.9	6
95	Extinguishing the Sparks. Biophysical Journal, 2013, 104, 2115-2117.	0.5	6
96	Metadata-driven Clinical Data Loading into i2b2 for Clinical and Translational Science Institutes. AMIA Summits on Translational Science Proceedings, 2016, 2016, 184-93.	0.4	6
97	Final Report of the Meeting â€œModeling & Simulation in Medicine: Towards an Integrated Frameworkâ€• July 20-21, 2000, National Library of Medicine, National Institutes of Health, Bethesda, Maryland, USA. Computer Aided Surgery, 2001, 6, 32-39.	1.8	5
98	Candidate Gene Discovery in Cardiovascular Disease. Circulation Research, 2005, 96, 605-606.	4.5	5
99	Lessons on Quality Control in Large Scale Imaging Trials: the Multi-Ethnic Study of Atherosclerosis (MESA). Current Cardiovascular Imaging Reports, 2015, 8, 1.	0.6	5
100	SWIFT: A deep learning approach to prediction of hypoxemic events in critically-Ill patients using SpO2 waveform prediction. PLoS Computational Biology, 2021, 17, e1009712.	3.2	5
101	Optimal Detection of Flash Intensity Differences Using Rod Photocurrent Observations. Neural Computation, 1999, 11, 1097-1111.	2.2	4
102	Imaging-Based Integrative Models of the Heart: Closing the Loop between Experiment and Simulation. Novartis Foundation Symposium, 0, , 129-143.	1.1	4
103	The Ongoing Journey to Understand Heart Function Through Integrative Modeling. Circulation Research, 2004, 95, 1135-1136.	4.5	4
104	Integrative Structurally Detailed Model of Calcium Dynamics in the Cardiac Diad. Multiscale Modeling and Simulation, 2006, 5, 1280-1296.	1.6	3
105	AB34-6. Heart Rhythm, 2006, 3, S72.	0.7	3
106	Critical Requirements for the Initiation of a Cardiac Arrhythmia in Rat Ventricle: How Many Myocytes?. Cells, 2022, 11, 1878.	4.1	3
107	Direct histological validation of diffusion tensor MRI in formaldehydeâ€fixed myocardium. Magnetic Resonance in Medicine, 2000, 44, 157-161.	3.0	2
108	Predicting Flow Rate Escalation for Pediatric Patients on High Flow Nasal Cannula Using Machine Learning. Frontiers in Pediatrics, 2021, 9, 734753.	1.9	2

#	Article	IF	Citations
109	CaMKII-Induced Shift in Modal Gating Explains L-type Ca2+ Current Facilitation: A Modeling Study. Biophysical Journal, 2009, 96, 540a.	0.5	1
110	Systems biology approaches to understanding the cause and treatment of heart, lung, blood, and sleep disorders. Frontiers in Physiology, 2014, 5, 107.	2.8	1
111	Estimating ectopic beat probability with simplified statistical models that account for experimental uncertainty. PLoS Computational Biology, 2021, 17, e1009536.	3.2	1
112	356: Predicting Hypoxemia in ICU Patients. Critical Care Medicine, 2021, 49, 167-167.	0.9	1
113	Imaging-based integrative models of the heart: closing the loop between experiment and simulation. Novartis Foundation Symposium, 2002, 247, 129-41; discussion 141-3, 144-50, 244-52.	1.1	1
114	Ontological Labels for Automated Location of Left Ventricular Remodeling. , 2011, , .		0
115	Mechanistic Electron Transport Chain Model Explains ROS Production in Different Respiratory Modes. Biophysical Journal, 2013, 104, 304a-305a.	0.5	0
116	Roles of Phosphodiesterases in Cyclic Nucleotide Cross-Talk in Cardiac Myocytes. Biophysical Journal, 2015, 108, 260a.	0.5	0
117	Dynamics of Ca2+-Dependent Regulation of the Cardiac Na+/Ca2+ Exchanger. Biophysical Journal, 2015, 108, 265a.	0.5	0
118	Simplified Models Predict Cellular Arrhythmia Probabilities and Reveal the Impact of Experimental Parameter Uncertainty on the Predicted Distribution of Arrhythmic Events. Biophysical Journal, 2020, 118, 409a.	0.5	0
119	PREDICTION OF PHYSIOLOGICAL DETERIORATION AND MORTALITY IN MECHANICALLY VENTILATED PATIENTS ADMITTED TO THE ICU. Chest, 2021, 160, A1061-A1062.	0.8	0
120	Local control model illustrates how action potential morphology affects Ca2+ release. FASEB Journal, 2012, 26, 1053.1.	0.5	0
121	771: MACHINE LEARNING PREDICTION OF RESPONSIVENESS PHENOTYPES IN NON-NEUROLOGIC ICU PATIENTS. Critical Care Medicine, 2022, 50, 379-379.	0.9	0