

Seth H Weinberg

List of Publications by Year in descending order

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66
papers

1,498
citations

516561

16
h-index

345118

36
g-index

74
all docs

74
docs citations

74
times ranked

1980
citing authors

#	ARTICLE	IF	CITATIONS
1	A Universal System for Highly Efficient Cardiac Differentiation of Human Induced Pluripotent Stem Cells That Eliminates Interline Variability. PLoS ONE, 2011, 6, e18293.	1.1	363
2	Full-field swept-source phase microscopy. Optics Letters, 2006, 31, 1462.	1.7	119
3	Mechanochemical Signaling of the Extracellular Matrix in Epithelial-Mesenchymal Transition. Frontiers in Cell and Developmental Biology, 2019, 7, 135.	1.8	91
4	Electrophysiological and contractile function of cardiomyocytes derived from human embryonic stem cells. Progress in Biophysics and Molecular Biology, 2012, 110, 178-195.	1.4	79
5	Cardiomyocytes derived from human induced pluripotent stem cells as models for normal and diseased cardiac electrophysiology and contractility. Progress in Biophysics and Molecular Biology, 2012, 110, 166-177.	1.4	56
6	Membrane Capacitive Memory Alters Spiking in Neurons Described by the Fractional-Order Hodgkin-Huxley Model. PLoS ONE, 2015, 10, e0126629.	1.1	52
7	Revealing the Concealed Nature of Long-QT Type 3 Syndrome. Circulation: Arrhythmia and Electrophysiology, 2017, 10, e004400.	2.1	49
8	Ephaptic coupling rescues conduction failure in weakly coupled cardiac tissue with voltage-gated gap junctions. Chaos, 2017, 27, 093908.	1.0	47
9	Reversible Cardiac Conduction Block and Defibrillation with High-Frequency Electric Field. Science Translational Medicine, 2011, 3, 102ra96.	5.8	42
10	Mechanotransduction Dynamics at the Cell-Matrix Interface. Biophysical Journal, 2017, 112, 1962-1974.	0.2	37
11	Phase-dependent stimulation effects on bursting activity in a neural network cortical simulation. Epilepsy Research, 2009, 84, 42-55.	0.8	32
12	Intercalated disk nanoscale structure regulates cardiac conduction. Journal of General Physiology, 2021, 153, .	0.9	31
13	The Influence of Ca ²⁺ Buffers on Free [Ca ²⁺] Fluctuations and the Effective Volume of Ca ²⁺ Microdomains. Biophysical Journal, 2014, 106, 2693-2709.	0.2	28
14	Mechanochemical Coupling and Junctional Forces during Collective Cell Migration. Biophysical Journal, 2019, 117, 170-183.	0.2	26
15	Defibrillation success with high frequency electric fields is related to degree and location of conduction block. Heart Rhythm, 2013, 10, 740-748.	0.3	25
16	Intercellular Sodium Regulates Repolarization in Cardiac Tissue with Sodium Channel Gain of Function. Biophysical Journal, 2020, 118, 2829-2843.	0.2	23
17	Cellular Size, Gap Junctions, and Sodium Channel Properties Govern Developmental Changes in Cardiac Conduction. Frontiers in Physiology, 2021, 12, 731025.	1.3	20
18	In Vitro Electrophysiological Mapping of Stem Cells. Methods in Molecular Biology, 2010, 660, 215-237.	0.4	19

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19	Distributed synthesis of sarcolemmal and sarcoplasmic reticulum membrane proteins in cardiac myocytes. <i>Basic Research in Cardiology</i> , 2021, 116, 63.	2.5	19
20	Mechanisms underlying age-associated manifestation of cardiac sodium channel gain-of-function. <i>Journal of Molecular and Cellular Cardiology</i> , 2021, 153, 60-71.	0.9	18
21	A hybrid model of intercellular tension and cell-matrix mechanical interactions in a multicellular geometry. <i>Biomechanics and Modeling in Mechanobiology</i> , 2020, 19, 1997-2013.	1.4	17
22	Multiple Cryptic Binding Sites are Necessary for Robust Fibronectin Assembly: An In Silico Study. <i>Scientific Reports</i> , 2017, 7, 18061.	1.6	15
23	Representation of Collective Electrical Behavior of Cardiac Cell Sheets. <i>Biophysical Journal</i> , 2008, 95, 1138-1150.	0.2	14
24	Discrete-State Stochastic Models of Calcium-Regulated Calcium Influx and Subspace Dynamics Are Not Well-Approximated by ODEs That Neglect Concentration Fluctuations. <i>Computational and Mathematical Methods in Medicine</i> , 2012, 2012, 1-17.	0.7	14
25	Oscillation in Cycle Length Induces Transient Discordant and Steady-State Concordant Alternans in the Heart. <i>PLoS ONE</i> , 2012, 7, e40477.	1.1	14
26	Emerging therapeutic targets for cardiac hypertrophy. <i>Expert Opinion on Therapeutic Targets</i> , 2022, 26, 29-40.	1.5	14
27	High-Frequency Stimulation of Excitable Cells and Networks. <i>PLoS ONE</i> , 2013, 8, e81402.	1.1	13
28	Memory in a fractional-order cardiomyocyte model alters properties of alternans and spontaneous activity. <i>Chaos</i> , 2017, 27, 093904.	1.0	12
29	Heart rate variability alters cardiac repolarization and electromechanical dynamics. <i>Journal of Theoretical Biology</i> , 2018, 442, 31-43.	0.8	12
30	Computational modeling of aberrant electrical activity following remuscularization with intramyocardially injected pluripotent stem cell-derived cardiomyocytes. <i>Journal of Molecular and Cellular Cardiology</i> , 2022, 162, 97-109.	0.9	12
31	Vulnerable windows define susceptibility to alternans and spatial discordance. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2010, 298, H1727-H1737.	1.5	11
32	Calcium Dynamics and Cardiac Arrhythmia. <i>Clinical Medicine Insights: Cardiology</i> , 2017, 11, 117954681773952.	0.6	11
33	Characteristics of Medical Examiner/Coroner Offices Accredited by the National Association of Medical Examiners. <i>Journal of Forensic Sciences</i> , 2013, 58, 1193-1199.	0.9	10
34	Impaired Sarcoplasmic Reticulum Calcium Uptake and Release Promote Electromechanically and Spatially Discordant Alternans: A Computational Study. <i>Clinical Medicine Insights: Cardiology</i> , 2016, 10s1, CMC.S39709.	0.6	10
35	Memory in a fractional-order cardiomyocyte model alters voltage- and calcium-mediated instabilities. <i>Communications in Nonlinear Science and Numerical Simulation</i> , 2020, 89, 105340.	1.7	10
36	Full-field swept-source phase microscopy. , 2006, , .		9

#	ARTICLE	IF	CITATIONS
37	Calcium homeostasis in a local/global whole cell model of permeabilized ventricular myocytes with a Langevin description of stochastic calcium release. American Journal of Physiology - Heart and Circulatory Physiology, 2015, 308, H510-H523.	1.5	9
38	Hypernatremia and intercalated disc edema synergistically exacerbate long-QT syndrome type 3 phenotype. American Journal of Physiology - Heart and Circulatory Physiology, 2021, 321, H1042-H1055.	1.5	9
39	Ca ²⁺ -activation kinetics modulate successive puff/spark amplitude, duration and inter-event-interval correlations in a Langevin model of stochastic Ca ²⁺ release. Mathematical Biosciences, 2015, 264, 101-107.	0.9	8
40	Automaticity in ventricular myocyte cell pairs with ephaptic and gap junction coupling. Chaos, 2022, 32, 033123.	1.0	8
41	Spatial discordance and phase reversals during alternate pacing in discrete-time kinematic and cardiomyocyte ionic models. Chaos, 2015, 25, 103119.	1.0	7
42	Death Certification in Northern Alberta. American Journal of Forensic Medicine and Pathology, 2020, 41, 11-17.	0.4	7
43	A rapid electromechanical model to predict reverse remodeling following cardiac resynchronization therapy. Biomechanics and Modeling in Mechanobiology, 2022, 21, 231-247.	1.4	7
44	High frequency stimulation of cardiac myocytes: A theoretical and computational study. Chaos, 2014, 24, 043104.	1.0	6
45	Analysis of heterogeneous cardiac pacemaker tissue models and traveling wave dynamics. Journal of Theoretical Biology, 2018, 459, 18-35.	0.8	6
46	Cell Fate Forecasting: A Data-Assimilation Approach to Predict Epithelial-Mesenchymal Transition. Biophysical Journal, 2020, 118, 1749-1768.	0.2	6
47	Calcium Ion Fluctuations Alter Channel Gating in a Stochastic Luminal Calcium Release Site Model. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2017, 14, 611-619.	1.9	5
48	Immunofluorescence Image Feature Analysis and Phenotype Scoring Pipeline for Distinguishing Epithelial-Mesenchymal Transition. Microscopy and Microanalysis, 2021, 27, 849-859.	0.2	5
49	Ion Channel Modeling beyond State of the Art: A Comparison with a System Theory-Based Model of the Shaker-Related Voltage-Gated Potassium Channel Kv1.1. Cells, 2022, 11, 239.	1.8	5
50	Microdomain [Ca ²⁺] Fluctuations Alter Temporal Dynamics in Models of Ca ²⁺ -Dependent Signaling Cascades and Synaptic Vesicle Release. Neural Computation, 2016, 28, 493-524.	1.3	4
51	Initiation and entrainment of multicellular automaticity via diffusion limited extracellular domains. Biophysical Journal, 2021, 120, 5279-5294.	0.2	4
52	Multicellular mechanochemical hybrid cellular Potts model of tissue formation during epithelial-mesenchymal transition. Computational and Systems Oncology, 2021, 1, .	1.1	4
53	Role of Cytosolic Calcium Diffusion in Murine Cardiac Purkinje Cells. Clinical Medicine Insights: Cardiology, 2016, 10s1, CMC.S39705.	0.6	3
54	An Apache Spark Implementation of Block Power Method for Computing Dominant Eigenvalues and Eigenvectors of Large-Scale Matrices. , 2016, , .		3

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55	Delayed afterdepolarization-induced triggered activity in cardiac purkinje cells mediated through cytosolic calcium diffusion waves. <i>Physiological Reports</i> , 2019, 7, e14296.	0.7	3
56	Dual regulation by subcellular calcium heterogeneity and heart rate variability on cardiac electromechanical dynamics. <i>Chaos</i> , 2020, 30, 093129.	1.0	3
57	A data-assimilation approach to predict population dynamics during epithelial-mesenchymal transition. <i>Biophysical Journal</i> , 2022, 121, 3061-3080.	0.2	2
58	Heart Rate Variability Alters Cardiac Alternans and Electromechanical Dynamics. <i>Biophysical Journal</i> , 2018, 114, 472a.	0.2	1
59	Cellular mitosis predicts vessel stability in a mechanochemical model of sprouting angiogenesis. <i>Biomechanics and Modeling in Mechanobiology</i> , 2021, 20, 1195-1208.	1.4	1
60	Population Density and Moment-based Approaches to Modeling Domain Calcium-mediated Inactivation of L-type Calcium Channels. <i>Acta Biotheoretica</i> , 2016, 64, 11-32.	0.7	0
61	Attitudes Towards Forensic Autopsy Standard B3.7 and the Use of Physician Extenders in Select Autopsy Cases. <i>Academic Forensic Pathology</i> , 2019, 9, 181-190.	0.3	0
62	How to Boost Efficacy of a Sodium Channel Blocker. <i>JACC Basic To Translational Science</i> , 2019, 4, 752-754.	1.9	0
63	Binucleate Cell Atlasing: An Intracellular Object Localization Tool for Single-Cell Fluorescence Microscopy. <i>Microscopy and Microanalysis</i> , 2020, 26, 602-604.	0.2	0
64	Statistical Approach to Incorporating Experimental Variability into a Mathematical Model of the Voltage-Gated Na ⁺ Channel and Human Atrial Action Potential. <i>Cells</i> , 2021, 10, 1516.	1.8	0
65	Effects of substrate stiffness and actin velocity on in silico fibronectin fibril morphometry and mechanics. <i>PLoS ONE</i> , 2021, 16, e0248256.	1.1	0
66	Sodium channels and the intercalated disk – it is all about location, location, location. <i>Journal of Physiology</i> , 2021, 599, 4735-4736.	1.3	0