Gil Bub

List of Publications by Year
in descending order

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Version: 2024-02-01

62 papers	1,817 citations	279487 23 h-index	288905 40 g-index
69 all docs	69 docs citations	69 times ranked	2035 citing authors

#	Article	IF	Citations
1	Spiral Wave Generation in Heterogeneous Excitable Media. Physical Review Letters, 2002, 88, 058101.	2.9	157
2	Hydroxychloroquine reduces heart rate by modulating the hyperpolarization-activated current If: Novel electrophysiological insights and therapeutic potential. Heart Rhythm, 2015, 12, 2186-2194.	0.3	124
3	Optical control of excitation waves in cardiac tissue. Nature Photonics, 2015, 9, 813-816.	15.6	120
4	Global Organization of Dynamics in Oscillatory Heterogeneous Excitable Media. Physical Review Letters, 2005, 94, 028105.	2.9	93
5	Bursting calcium rotors in cultured cardiac myocyte monolayers. Proceedings of the National Academy of Sciences of the United States of America, 1998, 95, 10283-10287.	3.3	85
6	Temporal pixel multiplexing for simultaneous high-speed, high-resolution imaging. Nature Methods, 2010, 7, 209-211.	9.0	79
7	Minimum Information about a Cardiac Electrophysiology Experiment (MICEE): Standardised reporting for model reproducibility, interoperability, and data sharing. Progress in Biophysics and Molecular Biology, 2011, 107, 4-10.	1.4	75
8	Measurement and analysis of sarcomere length in rat cardiomyocytes in situ and in vitro. American Journal of Physiology - Heart and Circulatory Physiology, 2010, 298, H1616-H1625.	1.5	69
9	Dynamical Mechanism for Subcellular Alternans in Cardiac Myocytes. Circulation Research, 2009, 105, 335-342.	2.0	61
10	Allâ€optical control of cardiac excitation: combined highâ€resolution optogenetic actuation and optical mapping. Journal of Physiology, 2016, 594, 2503-2510.	1.3	59
11	The pelvisâ€“kidney junction contains HCN3, a hyperpolarization-activated cation channel that triggers ureter peristalsis. Kidney International, 2010, 77, 500-508.	2.6	54
12	Hypertensionâ€induced remodelling: on the interactions of cardiac risk factors. Journal of Physiology, 2017, 595, 4027-4036.	1.3	49
13	Caveolae in Rabbit Ventricular Myocytes: Distribution and Dynamic Diminution after CellÂIsolation. Biophysical Journal, 2017, 113, 1047-1059.	0.2	49
14	The kinetics of spontaneous calcium oscillations and arrhythmogenesis in the in vivo heart during ischemia/reperfusion. Heart Rhythm, 2006, 3, 58-66.	0.3	43
15	Optogenetic Control of Heart Rhythm by Selective Stimulation of Cardiomyocytes Derived from Pnmt+ Cells in Murine Heart. Scientific Reports, 2017, 7, 40687.	1.6	42
16	Realâ€time optical manipulation of cardiac conduction in intact hearts. Journal of Physiology, 2018, 596, 3841-3858.	1.3	42
17	Drift and termination of spiral waves in optogenetically modified cardiac tissue at sub-threshold illumination. ELife, 2021, 10, .	2.8	42
18	Propagation through heterogeneous substrates in simple excitable media models. Chaos, 2002, 12, 747-753.	1.0	41

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19	Spontaneous Initiation and Termination of Complex Rhythms in Cardiac Cell Culture. Journal of Cardiovascular Electrophysiology, 2003, 14, S229-S236.	0.8	37
20	A molecular signature of tissues with pacemaker activity in the heart and upper urinary tract involves coexpressed hyperpolarizationâ€activated cation and Tâ€type Ca ²⁺ channels. FASEB Journal, 2014, 28, 730-739.	0.2	31
21	Fast Measurement of Sarcomere Length and Cell Orientation in Langendorff-Perfused Hearts Using Remote Focusing Microscopy. Circulation Research, 2013, 113, 863-870.	2.0	30
22	Î²-Adrenergic receptor stimulation inhibits proarrhythmic alternans in postinfarction border zone cardiomyocytes: a computational analysis. American Journal of Physiology - Heart and Circulatory Physiology, 2017, 313, H338-H353.	1.5	28
23	Protection against ventricular fibrillation via cholinergic receptor stimulation and the generation of nitric oxide. Journal of Physiology, 2016, 594, 3981-3992.	1.3	25
24	Synaptic Plasticity in Cardiac Innervation and Its Potential Role in Atrial Fibrillation. Frontiers in Physiology, 2018, 9, 240.	1.3	25
25	Reentrant waves in a ring of embryonic chick ventricular cells imaged with a Ca2+ sensitive dye. BioSystems, 2003, 71, 71-80.	0.9	24
26	Î²-Adrenergic Receptor Stimulation and Alternans in the Border Zone of a Healed Infarct: An ex vivo Study and Computational Investigation of Arrhythmogenesis. Frontiers in Physiology, 2019, 10, 350.	1.3	24
27	BIFURCATIONS IN A DISCONTINUOUS CIRCLE MAP: A THEORY FOR A CHAOTIC CARDIAC ARRHYTHMIA. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 1995, 05, 359-371.	0.7	20
28	COSMAS: a lightweight toolbox for cardiac optical mapping analysis. Scientific Reports, 2021, 11, 9147.	1.6	20
29	Inducibility, but not stability, of atrial fibrillation is increased by NOX2 overexpression in mice. Cardiovascular Research, 2021, 117, 2354-2364.	1.8	18
30	Optogenetic manipulation of cardiac electrical dynamics using sub-threshold illumination: dissecting the role of cardiac alternans in terminating rapid rhythms. Basic Research in Cardiology, 2022, 117, 25.	2.5	18
31	Modulation of Cardiac Alternans by Altered Sarcoplasmic Reticulum Calcium Release: A Simulation Study. Frontiers in Physiology, 2018, 9, 1306.	1.3	16
32	Quantifying distortions in two-photon remote focussing microscope images using a volumetric calibration specimen. Frontiers in Physiology, 2014, 5, 384.	1.3	15
33	Resetting and Annihilating Reentrant Waves in a Ring of Cardiac Tissue: Theory and Experiment. Progress of Theoretical Physics Supplement, 2000, 139, 83-89.	0.2	14
34	Random access parallel microscopy. ELife, 2021, 10, .	2.8	14
35	An investigation into the role of the optical detection set-up in the recording of cardiac optical mapping signals: A Monte Carlo simulation study. Physica D: Nonlinear Phenomena, 2009, 238, 1008-1018.	1.3	13
36	Optical Interrogation of Sympathetic Neuronal Effects on Macroscopic Cardiomyocyte Network Dynamics. IScience, 2020, 23, 101334.	1.9	13

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37	Optical imaging of arrhythmias in the cardiomyocyte monolayer. Heart Rhythm, 2012, 9, 2077-2082.	0.3	12
38	KHz-rate volumetric voltage imaging of the whole Zebrafish heart. Biophysical Reports, 2022, 2, 100046.	0.7	11
39	Ccoffinn: Automated Wave Tracking in Cultured Cardiac Monolayers. Biophysical Journal, 2016, 111, 1595-1599.	0.2	10
40	The Role of Photon Scattering in Voltage-Calcium Fluorescent Recordings of Ventricular Fibrillation. Biophysical Journal, 2011, 101, 307-318.	0.2	9
41	Early voltage/calcium uncoupling predestinates the duration of ventricular tachyarrhythmias during ischemia/reperfusion. Heart Rhythm, 2009, 6, 1359-1365.	0.3	8
42	Electrotonic suppression of early afterdepolarizations in the neonatal rat ventricular myocyte monolayer. Journal of Physiology, 2013, 591, 5357-5364.	1.3	6
43	Detecting cardiac contractile activity in the early mouse embryo using multiple modalities. Frontiers in Physiology, 2014, 5, 508.	1.3	6
44	Novel Optics-Based Approaches for Cardiac Electrophysiology: A Review. Frontiers in Physiology, 2021, 12, 769586.	1.3	6
45	Global organization of dynamics in cultured cardiac monolayers. Chaos, 2004, 14, S14-S14.	1.0	5
46	A Software Architecture to Mimic a Ventricular Tachycardia in Intact Murine Hearts by Means of an All-Optical Platform. Methods and Protocols, 2019, 2, 7.	0.9	5
47	Long ECGs reveal rich and robust dynamical regimes in patients with frequent ectopy. Chaos, 2020, 30, 113127.	1.0	5
48	Macroâ€•micro imaging of cardiacâ€“neural circuits in coâ€•cultures from normal and diseased hearts. Journal of Physiology, 2015, 593, 3047-3053.	1.3	4
49	Double-wave reentry in excitable media. Chaos, 2019, 29, 073103.	1.0	4
50	Feasibility of Using Adjunctive Optogenetic Technologies in Cardiomyocyte Phenotyping â€“ from the Single Cell to the Whole Heart. Current Pharmaceutical Biotechnology, 2020, 21, 752-764.	0.9	3
51	Universal mechanisms for self-termination of rapid cardiac rhythm. Chaos, 2020, 30, 121107.	1.0	3
52	Combining tissue engineering and optical imaging approaches to explore interactions along the neuro-cardiac axis. Royal Society Open Science, 2020, 7, 200265.	1.1	2
53	BURSTING IN CELLULAR AUTOMATA AND CARDIAC ARRHYTHMIAS. , 2013, , 135-145.		1
54	Spatiotemporal Transitions in Cardiac Neuronal Co-Cultures. Biophysical Journal, 2014, 106, 630a.	0.2	1

#	Article	IF	Citations
55	Bringing the living brain into focus. Nature Photonics, 2015, 9, 80-82.	15.6	0
56	Editorial: Recent Developments in Micron-Scale Optical Imaging of Intact, Living Heart and Vasculature. Frontiers in Physiology, 2016, 7, 490.	1.3	0
57	Real-Time Optical Manipulation of Cardiac Conduction in Intact Hearts. Biophysical Journal, 2018, 114, 166a.	0.2	0
58	Optogenetic Control of Re-Entrant Waves Demonstrated in Human Induced Stem Cell Derived Cardiomyocytes (hiPSC-CMs). Biophysical Journal, 2019, 116, 100a.	0.2	0
59	Novel optics-based approaches for cardiac electrophysiology. Progress in Biophysics and Molecular Biology, 2020, 154, 1-2.	1.4	0
60	10.1063/5.0033813.1. , 2020, , .		0
61	The Kinetics of Intracellular Calcium and Arrhythmogenesis in Ischemia/Reperfusion: A Calcium-Centric Mechanism of Arrhythmia. , 0, , 474-484.		0
62	Optogenetic manipulation of cardiac electrical dynamics using sub-threshold illumination: dissecting the role of cardiac alternans in terminating rapid rhythms. Cardiovascular Research, 2022, 118, .	1.8	0