Elena G Tolkacheva

List of Publications by Year
in descending order

64	1,248	430874 18	414414 32
papers	citations	h-index	g-index

67	67	67	1125
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Vitrification and Rewarming of Magnetic Nanoparticleâ€Loaded Rat Hearts. Advanced Materials Technologies, 2022, 7, 2100873.	5.8	25
2	Mechanisms of arrhythmia termination during acute myocardial ischemia: Role of ephaptic coupling and complex geometry of border zone. PLoS ONE, 2022, 17, e0264570.	2.5	5
3	Novel mapping techniques for rotor core detection using simulated intracardiac electrograms. Journal of Cardiovascular Electrophysiology, 2021, 32, 1268-1280.	1.7	8
4	Expression of SARSâ€CoVâ€2 Viroporins Triggers Cardiac Arrhythmia. FASEB Journal, 2021, 35, .	0.5	0
5	Clinical Potential of Beatâ€toâ€Beat Diastolic Interval Control in Preventing Cardiac Arrhythmias. Journal of the American Heart Association, 2021, 10, e020750.	3.7	8
6	Regional and Temporal Variation of Ventricular and Conduction Tissue Activity During Ventricular Fibrillation in Canines. Circulation: Arrhythmia and Electrophysiology, 2021, 14, e010281.	4.8	4
7	A Phase Defect Framework for the Analysis of Cardiac Arrhythmia Patterns. Frontiers in Physiology, 2021, 12, 690453.	2.8	5
8	Inhibition of the unfolded protein response reduces arrhythmia risk after myocardial infarction. Journal of Clinical Investigation, 2021, 131, .	8.2	20
9	Similarity Score for the Identification of Active Sites in Patients With Atrial Fibrillation. Frontiers in Physiology, 2021, 12, 767190.	2.8	1
10	Global vs local control of cardiac alternans in a 1D numerical model of human ventricular tissue. Chaos, 2020, 30, 083123.	2.5	4
11	Effect of constant-DI pacing on single cell pacing dynamics. Chaos, 2020, 30, 103122.	2.5	2
12	Optimizing Multiscale Entropy Approach for Rotor Core Identification using Simulated Intracardiac Electrograms. , 2020, 2020, 414-417.		1
13	VIEgram â€“ Analysis and Visualization of Intracardiac Electrograms on Patient-Specific 3D Atria Model. , 2020, 2020, 2606-2609.		2
14	Towards the Development of Nonlinear Approaches to Discriminate AF from NSR Using a Single-Lead ECG. Entropy, 2020, 22, 531.	2.2	3
15	In Situ Expansion, Differentiation, and Electromechanical Coupling of Human Cardiac Muscle in a 3D Bioprinted, Chambered Organoid. Circulation Research, 2020, 127, 207-224.	4.5	174
16	Interplay between ephaptic coupling and complex geometry of border zone during acute myocardial ischemia: Effect on arrhythmogeneity. Chaos, 2020, 30, 033111.	2.5	9
17	Chronic Low-Level Vagus Nerve Stimulation Improves Long-Term Survival in Salt-Sensitive Hypertensive Rats. Frontiers in Physiology, 2019, 10, 25.	2.8	22
18	Benchtop Optical Mapping Approaches to Study Arrhythmias. , 2019, , 35-54.		0

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19	Expression and relevance of the G protein-gated K+ channel in the mouse ventricle. Scientific Reports, 2018, 8, 1192.	3.3	19
20	Novel Quantitative Analytical Approaches for Rotor Identification and Associated Implications for Mapping. IEEE Transactions on Biomedical Engineering, 2018, 65, 273-281.	4.2	26
21	Real-Time Closed Loop Diastolic Interval Control Prevents Cardiac Alternans in Isolated Whole Rabbit Hearts. Annals of Biomedical Engineering, 2018, 46, 555-566.	2.5	13
22	Stochastic and periodic vagus nerve stimulation: how do they affect the heart?. Bioelectronics in Medicine, 2018, 1, 223-225.	2.0	1
23	Acute cardiovascular and hemodynamic effects of vagus nerve stimulation in conscious hypertensive rats. , 2018, 2018, 3685-3688.		9
24	Evaluation of Multiscale Frequency Approach for Visualizing Rotors in Patients with Atrial Fibrillation. , 2018, 2018, 5986-5989.		3
25	Modified Sequence Method to Assess Baroreflex Sensitivity in Rats. , 2018, 2018, 2764-2767.		0
26	The influences of the M2R-GIRK4-RGS6 dependent parasympathetic pathway on electrophysiological properties of the mouse heart. PLoS ONE, 2018, 13, e0193798.	2.5	5
27	Improved Multiscale Entropy Technique with Nearest-Neighbor Moving-Average Kernel for Nonlinear and Nonstationary Short-Time Biomedical Signal Analysis. Journal of Healthcare Engineering, 2018, 2018, 1-13.	1.9	8
28	Atrial GIRK Channels Mediate the Effects of Vagus Nerve Stimulation on Heart Rate Dynamics and Arrhythmogenesis. Frontiers in Physiology, 2018, 9, 943.	2.8	25
29	Stochastic vagus nerve stimulation affects acute heart rate dynamics in rats. PLoS ONE, 2018, 13, e0194910.	2.5	15
30	Constant DI pacing suppresses cardiac alternans formation in numerical cable models. Chaos, 2017, 27, 093903.	2.5	17
31	Computational and Mathematical Methods in Cardiovascular Diseases. Computational and Mathematical Methods in Medicine, 2017, 2017, 1-2.	1.3	3
32	Novel approaches for quantitative electrogram analysis for intraprocedural guidance for catheter ablation: A case of a patient with persistent atrial fibrillation. Nuclear Medicine and Biomedical Imaging, 2017, 2, .	0.2	5
33	Kurtosis as a statistical approach to identify the pivot point of the rotor. , 2016, 2016, 497-500.		7
34	Pro-arrhythmic effect of heart rate variability during periodic pacing. , 2016, 2016, 149-152.		5
35	Intelligent fractional-order PID (FOPID) heart rate controller for cardiac pacemaker. , 2016, , .		17
36	Rotor pivot point identification with intrinsic mode function complexity index using empirical mode decomposition. , 2016, , .		2

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37	The dual effect of ephaptic coupling on cardiac conduction with heterogeneous expression of connexin 43. Journal of Theoretical Biology, 2016, 397, 103-114.	1.7	22
38	Chronic cyclic vagus nerve stimulation has beneficial electrophysiological effects on healthy hearts in the absence of autonomic imbalance. Physiological Reports, 2016, 4, e12786.	1.7	18
39	Novel Multiscale Frequency Approach to Identify the Pivot Point of the Rotor1. Journal of Medical Devices, Transactions of the ASME, 2016, 10, .	0.7	13
40	Characterizing Spatial Dynamics of Bifurcation to Alternans in Isolated Whole Rabbit Hearts Based on Alternate Pacing. BioMed Research International, 2015, 2015, 1-8.	1.9	9
41	Feasibility of visualizing higher regions of Shannon entropy in atrial fibrillation patients. , 2015, 2015, 4499-502.		12
42	Real-time feedback based control of cardiac restitution using optical mapping. , 2015, 2015, 5920-3.		5
43	Intermittent electrical stimulation of the right cervical vagus nerve in salt-sensitive hypertensive rats: effects on blood pressure, arrhythmias, and ventricular electrophysiology. Physiological Reports, 2015, 3, e12476.	1.7	41
44	The role of short term memory and conduction velocity restitution in alternans formation. Journal of Theoretical Biology, 2015, 367, 21-28.	1.7	12
45	Intermittent vagal nerve stimulation alters the electrophysiological properties of atrium in the myocardial infarction rat model. , 2014, 2014, 1575-8.		9
46	Heart rate variability and alternans formation in the heart: The role of feedback in cardiac dynamics. Journal of Theoretical Biology, 2014, 350, 90-97.	1.7	25
47	Spatiotemporal Evolution and Prediction of [Ca²⁺]_i and APD Alternans in Isolated Rabbit Hearts. Journal of Cardiovascular Electrophysiology, 2013, 24, 1287-1295.	1.7	19
48	Intermittent Vagus Nerve Stimulation Reflexively Modulates Heart Rate Variability in Rats With Chronic Ischemic Heart Failure. Journal of Medical Devices, Transactions of the ASME, 2013, 7, .	0.7	1
49	Using dominant eigenvalue analysis to predict formation of alternans in the heart. Physical Review E, 2013, 88, 052716.	2.1	2
50	Visualizing the complex 3D geometry of the perfusion border zone in isolated rabbit heart. Applied Optics, 2012, 51, 2713.	1.8	8
51	Interventricular heterogeneity as a substrate for arrhythmogenesis of decoupled mitochondria during ischemia in the whole heart. American Journal of Physiology - Heart and Circulatory Physiology, 2012, 303, H224-H233.	3.2	23
52	Nonlinear dynamics of periodically paced cardiac tissue. Nonlinear Dynamics, 2012, 68, 347-363.	5.2	12
53	Toward Prediction of the Local Onset of Alternans in the Heart. Biophysical Journal, 2011, 100, 868-874.	0.5	12
54	The effect of cardiac sympathetic denervation through bilateral stellate ganglionectomy on electrical properties of the heart. American Journal of Physiology - Heart and Circulatory Physiology, 2011, 301, H192-H199.	3.2	24

#	Article	IF	Citations
55	Optical mapping of electrical heterogeneities in the heart during global ischemia. , 2009, 2009, 6321-4.		10
56	Role of Conduction Velocity Restitution and Short-Term Memory in the Development of Action Potential Duration Alternans in Isolated Rabbit Hearts. Circulation, 2008, 118, 17-25.	1.6	118
57	The Rate- and Species-Dependence of Short-Term Memory in Cardiac Myocytes. Journal of Biological Physics, 2007, 33, 35-47.	1.5	11
58	An Ionically Based Mapping Model with Memory for Cardiac Restitution. Bulletin of Mathematical Biology, 2007, 69, 459-482.	1.9	21
59	Action Potential Duration Restitution Portraits of Mammalian Ventricular Myocytes: Role of Calcium Current. Biophysical Journal, 2006, 91, 2735-2745.	0.5	47
60	Restitution in mapping models with an arbitrary amount of memory. Chaos, 2005, 15, 023701.	2.5	21
61	Condition for alternans and its control in a two-dimensional mapping model of paced cardiac dynamics. Physical Review E, 2004, 69, 031904.	2.1	45
62	The Restitution Portrait:. A New Method for Investigating Rate-Dependent Restitution. Journal of Cardiovascular Electrophysiology, 2004, 15, 698-709.	1.7	101
63	Condition for alternans and stability of the 1:1 response pattern in a â€œmemoryâ€•model of paced cardiac dynamics. Physical Review E, 2003, 67, 031904.	2.1	95
64	Analysis of the Fentonâ€“Karma model through an approximation by a one-dimensional map. Chaos, 2002, 12, 1034-1042.	2.5	38