Konstantin Agladze

List of Publications by Year
in descending order

72 papers	2,624 citations	257450 24 h-index	189892 50 g-index
77 all docs	77 docs citations	77 times ranked	1607 citing authors

#	Article	IF	Citations
1	Image processing using light-sensitive chemical waves. Nature, 1989, 337, 244-247.	27.8	390
2	Multi-armed vortices in an active chemical medium. Nature, 1982, 296, 424-426.	27.8	156
3	Electrospun nanofibers as a tool for architecture control in engineered cardiac tissue. Biomaterials, 2011, 32, 5615-5624.	11.4	153
4	Chaos in the non-stirred Belousovâ€"Zhabotinsky reaction is induced by interaction of waves and stationary dissipative structures. Nature, 1984, 308, 834-835.	27.8	143
5	Rotating Spiral Waves Created by Geometry. Science, 1994, 264, 1746-1748.	12.6	139
6	Interaction of rotating waves in an active chemical medium. Physica D: Nonlinear Phenomena, 1983, 8, 50-56.	2.8	123
7	Spatial Periodicity of Escherichia coli K-12 Biofilm Microstructure Initiates during a Reversible, Polar Attachment Phase of Development and Requires the Polysaccharide Adhesin PGA. Journal of Bacteriology, 2005, 187, 8237-8246.	2.2	113
8	Chemical Diode. The Journal of Physical Chemistry, 1996, 100, 13895-13897.	2.9	112
9	Influence of electric field on rotating spiral waves in the Belousov-Zhabotinskii reaction. The Journal of Physical Chemistry, 1992, 96, 5239-5242.	2.9	97
10	Finding the optimal path with the aid of chemical wave. Physica D: Nonlinear Phenomena, 1997, 106, 247-254.	2.8	86
11	Wave Emission from Heterogeneities Opens a Way to Controlling Chaos in the Heart. Physical Review Letters, 2007, 99, 208101.	7.8	86
12	Development of a reentrant arrhythmia model in human pluripotent stem cell-derived cardiac cell sheets. European Heart Journal, 2013, 34, 1147-1156.	2.2	72
13	Interaction between spiral and paced waves in cardiac tissue. American Journal of Physiology - Heart and Circulatory Physiology, 2007, 293, H503-H513.	3.2	68
14	Eliminating spiral waves pinned to an anatomical obstacle in cardiac myocytes by high-frequency stimuli. Physical Review E, 2008, 78, 066216.	2.1	65
15	Elastic excitable medium. Physical Review E, 1994, 50, R667-R670.	2.1	51
16	Stationary Turing patterns versus time-dependent structures in the chlorite-iodide-malonic acid reaction. Physica A: Statistical Mechanics and Its Applications, 1992, 188, 1-16.	2.6	48
17	Waves and Vortices of Rust on the Surface of Corroding Steel. Journal of Physical Chemistry A, 2000, 104, 9816-9819.	2.5	47
18	Size-Dependent Belousovâ˜'Zhabotinsky Oscillation in Small Beads. Journal of Physical Chemistry A, 1998, 102, 7649-7652.	2.5	46

#	Article	IF	Citations
19	Phase-shift as a basis of image processing in oscillating chemical medium. Physica D: Nonlinear Phenomena, 1995, 84, 238-245.	2.8	42
20	Three-dimensional vortex with a spiral filament in a chemically active medium. Physica D: Nonlinear Phenomena, 1989, 39, 38-42.	2.8	35
21	Periodicity of Cell Attachment Patterns during Escherichia coli Biofilm Development. Journal of Bacteriology, 2003, 185, 5632-5638.	2.2	34
22	Unpinning of a spiral wave anchored around a circular obstacle by an external wave train: Common aspects of a chemical reaction and cardiomyocyte tissue. Chaos, 2009, 19, 043114.	2.5	31
23	Microfreight Delivered by Chemical Waves. Journal of Physical Chemistry C, 2008, 112, 3032-3035.	3.1	25
24	Direct observation of vortex ring collapse in a chemically active medium. Physica D: Nonlinear Phenomena, 1991, 49, 1-4.	2.8	24
25	Synchronization of excitable cardiac cultures of different origin. Biomaterials Science, 2017, 5, 1777-1785.	5.4	24
26	Propagation of Chemical Waves at the Boundary of Excitable and Inhibitory Fields. Journal of Physical Chemistry A, 2000, 104, 6677-6680.	2.5	23
27	Functional Analysis of the Engineered Cardiac Tissue Grown on Recombinant Spidroin Fiber Meshes. PLoS ONE, 2015, 10, e0121155.	2.5	22
28	Critical conditions of chemical wave propagation in gel layers with an immobilized catalyst. Physica D: Nonlinear Phenomena, 1991, 50, 65-70.	2.8	21
29	The Use of iPSC-Derived Cardiomyocytes and Optical Mapping for Erythromycin Arrhythmogenicity Testing. Cardiovascular Toxicology, 2019, 19, 518-528.	2.7	21
30	Liberation of a pinned spiral wave by a single stimulus in excitable media. Physical Review E, 2009, 79, 026218.	2.1	20
31	Self-organization of conducting pathways explains electrical wave propagation in cardiac tissues with high fraction of non-conducting cells. PLoS Computational Biology, 2019, 15, e1006597.	3.2	20
32	Excitable medium with leftâ€“right symmetry breaking. Physica A: Statistical Mechanics and Its Applications, 1998, 249, 47-52.	2.6	19
33	Nonstationary rotation of spiral waves: Three-dimensional effect. Physica D: Nonlinear Phenomena, 1988, 29, 409-415.	2.8	18
34	Survival versus collapse: Abrupt drop of excitability kills the traveling pulse, while gradual change results in adaptation. Physical Review E, 2007, 76, 016205.	2.1	17
35	Electrochemical Waves on Patterned Surfaces:â€‰ Propagation through Narrow Gaps and Channels. Journal of Physical Chemistry A, 2001, 105, 7356-7363.	2.5	16
36	Multi-electrode monitoring of guided excitation in patterned cardiomyocytes. Microelectronic Engineering, 2013, 111, 267-271.	2.4	16

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37	Virtual cardiac monolayers for electrical wave propagation. Scientific Reports, 2017, 7, 7887.	3.3	15
38	Photo-Control of Excitation Waves in Cardiomyocyte Tissue Culture. Tissue Engineering - Part A, 2011, 17, 2703-2711.	3.1	13
39	Curvature-dependent excitation propagation in cultured cardiac tissue. JETP Letters, 2012, 94, 824-830.	1.4	13
40	Arrhythmogenicity Test Based on a Human-Induced Pluripotent Stem Cell (iPSC)-Derived Cardiomyocyte Layer. Toxicological Sciences, 2019, 168, 70-77.	3.1	13
41	Formation of an electrical coupling between differentiating cardiomyocytes. Scientific Reports, 2020, 10, 7774.	3.3	13
42	High resolution 3D microscopy study of cardiomyocytes on polymer scaffold nanofibers reveals formation of unusual sheathed structure. Acta Biomaterialia, 2018, 68, 214-222.	8.3	11
43	The initiation of traveling pulses from self-organized oscillations in the ironâ€"nitric acid system. Physical Chemistry Chemical Physics, 2001, 3, 1326-1330.	2.8	10
44	Patterning and excitability control in cardiomyocyte tissue culture. Physica D: Nonlinear Phenomena, 2010, 239, 1560-1566.	2.8	10
45	Arrhythmogenic role of the border between two areas of cardiac cell alignment. Journal of Molecular and Cellular Cardiology, 2014, 76, 227-234.	1.9	10
46	Photocontrol of Voltage-Gated Ion Channel Activity by Azobenzene Trimethylammonium Bromide in Neonatal Rat Cardiomyocytes. PLoS ONE, 2016, 11, e0152018.	2.5	9
47	Cyclophosphamide arrhythmogenicitytesting using human-induced pluripotent stem cell-derived cardiomyocytes. Scientific Reports, 2021, 11, 2336.	3.3	9
48	Biocontractile microfluidic channels for peristaltic pumping. Biomedical Microdevices, 2017, 19, 72.	2.8	8
49	Highâ€frequency instability of wave fronts. Chaos, 1994, 4, 525-529.	2.5	6
50	Digital photocontrol of the network of live excitable cells. JETP Letters, 2011, 94, 477-480.	1.4	6
51	Conditions for Waveblock Due to Anisotropy in a Model of Human Ventricular Tissue. PLoS ONE, 2015, 10, e0141832.	2.5	6
52	Stilbene derivative as a photosensitive compound to control the excitability of neonatal rat cardiomyocytes. Bioscience Reports, 2019, 39, .	2.4	6
53	Autowave Propagation in a Belousov-Zhabotinsky Medium with Immobilized Catalyst and Stationary Flow of Reagents. Zeitschrift Fur Physikalische Chemie, 1991, 173, 79-85.	2.8	5
54	Traveling Fronts of Copper Deposition. Journal of the American Chemical Society, 2002, 124, 10292-10293.	13.7	5

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55	Success of spiral wave unpinning from heterogeneity in a cardiac tissue depends on its boundary conditions. JETP Letters, 2017, 106, 608-612.	1.4	5
56	Effect of heptanol and ethanol on excitation wave propagation in a neonatal rat ventricular myocyte monolayer. Toxicology in Vitro, 2018, 51, 136-144.	2.4	5
57	Muscular Thin Films for Label-Free Mapping of Excitation Propagation in Cardiac Tissue. Annals of Biomedical Engineering, 2020, 48, 2425-2437.	2.5	4
58	Influence of patterned topographic features on the formation of cardiac cell clusters and their rhythmic activities. Biofabrication, 2013, 5, 035013.	7.1	3
59	Two models of anisotropic propagation of a cardiac excitation wave. JETP Letters, 2014, 100, 351-354.	1.4	3
60	The study of the functionality ofÂcardiomyocytes obtained from induced pluripotent stem cells for the modeling of cardiac arrhythmias based on long QT syndrome. Vavilovskii Zhurnal Genetiki I Selektsii, 2018, 22, 187-195.	1.1	3
61	Light induced annihilation and shift of spiral waves. Chaos, 1996, 6, 328-333.	2.5	2
62	Tunneling chemical waves. Nuovo Cimento Della Societa Italiana Di Fisica D - Condensed Matter, Atomic, Molecular and Chemical Physics, Biophysics, 1998, 20, 103-111.	0.4	2
63	Spontaneous spiral wave breakup caused by pinning to the tissue defect. JETP Letters, 2016, 104, 635-638.	1.4	2
64	Flower Patterns in a Growing Active Chemical Medium. Journal of Physical Chemistry A, 1997, 101, 2739-2742.	2.5	1
65	Formation of virtual isthmus: A new scenario of spiral wave death after a decrease in excitability. JETP Letters, 2015, 102, 688-692.	1.4	1
66	Status of INavin atrial cardiomyocytes after administration of cardioplegia. Clinical and Experimental Surgery, 2022, 10, 26-32.	0.1	1
67	Excitation wave propagation in a patterned multidomain cardiac tissue. JETP Letters, 2015, 101, 772-775.	1.4	0
68	Cardiac Excitation Waves under Strong Hyperkalemia Condition. JETP Letters, 2018, 108, 548-552.	1.4	0
69	Diphenhydramine Arrhythmogenicity Testing Using Monolayers of Human iPSC-derived Cardiomyocytes. , 2021, , .		0
70	Cell technologies in the regenerative medicine of the heart: main problems and ways of development. AlÊ¹manah KliniÄeskoj Mediciny, 2019, 47, 623-629.	0.3	0
71	Investigation of the formation of cardiac tissue on substrates of varying degrees of anisotropy and rigidity. AlÊ¹manah KliniÄeskoj Mediciny, 0, 49, .	0.3	0
72	Paradoxical wave acceleration in the sink-type boundary of an excitable medium. Doklady Biophysics: Proceedings of the Academy of Sciences of the USSR, Biophysics Section, 2000, 370-372, 13-7.	0.1	0