

Stefan Luther

List of Publications by Year in descending order

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Version: 2024-02-01

64
papers

2,241
citations

304743

22
h-index

223800

46
g-index

68
all docs

68
docs citations

68
times ranked

2172
citing authors

#	ARTICLE	IF	CITATIONS
1	Drift and termination of spiral waves in optogenetically modified cardiac tissue at sub-threshold illumination. <i>ELife</i> , 2021, 10, .	6.0	42
2	Predicting the duration of chaotic transients in excitable media. <i>Journal of Physics Complexity</i> , 2021, 2, 035016.	2.2	1
3	Advanced Cardiac Rhythm Management by Applying Optogenetic Multi-Site Photostimulation in Murine Hearts. <i>Journal of Visualized Experiments</i> , 2021, , .	0.3	2
4	Pulsed low-energy stimulation initiates electric turbulence in cardiac tissue. <i>PLoS Computational Biology</i> , 2021, 17, e1009476.	3.2	6
5	High-Resolution Optical Measurement of Cardiac Restitution, Contraction, and Fibrillation Dynamics in Beating vs. Blebbistatin-Uncoupled Isolated Rabbit Hearts. <i>Frontiers in Physiology</i> , 2020, 11, 464.	2.8	47
6	Guidelines for a Standardized Filesystem Layout for Scientific Data. <i>Data</i> , 2020, 5, 43.	2.3	1
7	Excitable dynamics in neural and cardiac systems. <i>Communications in Nonlinear Science and Numerical Simulation</i> , 2020, 86, 105275.	3.3	4
8	Extracting Robust Biomarkers From Multichannel EEG Time Series Using Nonlinear Dimensionality Reduction Applied to Ordinal Pattern Statistics and Spectral Quantities. <i>Frontiers in Physiology</i> , 2020, 11, 614565.	2.8	9
9	Termination of Scroll Waves by Surface Impacts. <i>Physical Review Letters</i> , 2019, 123, 068102.	7.8	5
10	Multiscale Modeling of Dyadic Structure-Function Relation in Ventricular Cardiac Myocytes. <i>Biophysical Journal</i> , 2019, 117, 2409-2419.	0.5	8
11	Synchronization of viscoelastically coupled excitable oscillators. <i>Physical Review E</i> , 2019, 100, 032214.	2.1	0
12	Spontaneous termination of chaotic spiral wave dynamics in human cardiac ion channel models. <i>PLoS ONE</i> , 2019, 14, e0221401.	2.5	17
13	CaosDB"Research Data Management for Complex, Changing, and Automated Research Workflows. <i>Data</i> , 2019, 4, 83.	2.3	4
14	Simultaneous unpinning of multiple vortices in two-dimensional excitable media. <i>Physical Review E</i> , 2019, 99, 042216.	2.1	6
15	Agonistic and antagonistic roles of fibroblasts and cardiomyocytes on viscoelastic stiffening of engineered human myocardium. <i>Progress in Biophysics and Molecular Biology</i> , 2019, 144, 51-60.	2.9	16
16	Marker-Free Tracking for Motion Artifact Compensation and Deformation Measurements in Optical Mapping Videos of Contracting Hearts. <i>Frontiers in Physiology</i> , 2018, 9, 1483.	2.8	27
17	Energy-Reduced Arrhythmia Termination Using Global Photostimulation in Optogenetic Murine Hearts. <i>Frontiers in Physiology</i> , 2018, 9, 1651.	2.8	32
18	Sarcoplasmic reticulum calcium leak contributes to arrhythmia but not to heart failure progression. <i>Science Translational Medicine</i> , 2018, 10, .	12.4	30

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19	Spatiotemporal Permutation Entropy as a Measure for Complexity of Cardiac Arrhythmia. <i>Frontiers in Physics</i> , 2018, 6, .	2.1	13
20	Synchronization as a mechanism for low-energy anti-fibrillation pacing. <i>Heart Rhythm</i> , 2017, 14, 1254-1262.	0.7	22
21	Combined scanning X-ray diffraction and holographic imaging of cardiomyocytes. <i>Journal of Applied Crystallography</i> , 2017, 50, 612-620.	4.5	18
22	Spontaneous termination of reentrant activity under myocardial acute ischemia: Role of cellular conductivity and its relation to ischemic heterogeneities. <i>Communications in Nonlinear Science and Numerical Simulation</i> , 2017, 48, 115-122.	3.3	5
23	Introduction to Focus Issue: Complex Cardiac Dynamics. <i>Chaos</i> , 2017, 27, .	2.5	17
24	Emergent dynamics of spatio-temporal chaos in a heterogeneous excitable medium. <i>Chaos</i> , 2017, 27, 093931.	2.5	13
25	Simultaneous Quantification of Spatially Discordant Alternans in Voltage and Intracellular Calcium in Langendorff-Perfused Rabbit Hearts and Inconsistencies with Models of Cardiac Action Potentials and Ca Transients. <i>Frontiers in Physiology</i> , 2017, 8, 819.	2.8	38
26	Complex restitution behavior and reentry in a cardiac tissue model for neonatal mice. <i>Physiological Reports</i> , 2017, 5, e13449.	1.7	4
27	Scanning and resetting the phase of a pinned spiral wave using periodic far field pulses. <i>New Journal of Physics</i> , 2016, 18, 043012.	2.9	18
28	Bifurcations, chaos, and sensitivity to parameter variations in the Sato cardiac cell model. <i>Communications in Nonlinear Science and Numerical Simulation</i> , 2016, 37, 265-281.	3.3	14
29	Optogenetic Light Crafting Tools for the Control of Cardiac Arrhythmias. <i>Methods in Molecular Biology</i> , 2016, 1408, 293-302.	0.9	11
30	A new far-field cardiac defibrillation mechanism. , 2015, , .		0
31	Stabilization of three-dimensional scroll waves and suppression of spatiotemporal chaos by heterogeneities. <i>Physical Review E</i> , 2015, 92, 042920.	2.1	12
32	Quantifying spatiotemporal complexity of cardiac dynamics using ordinal patterns. , 2015, 2015, 4049-52.		2
33	Simulations of ventricular tachycardia under myocardial ischemic conditions and infarction. , 2015, , .		0
34	Sensing Cardiac Electrical Activity With a Cardiac Myocyte-Targeted Optogenetic Voltage Indicator. <i>Circulation Research</i> , 2015, 117, 401-412.	4.5	57
35	Entropy Rate Maps of Complex Excitable Dynamics in Cardiac Monolayers. <i>Entropy</i> , 2015, 17, 950-967.	2.2	5
36	Optogenetic determination of the myocardial requirements for extrasystoles by cell type-specific targeting of ChannelRhodopsin-2. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, E4495-504.	7.1	89

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37	Toward panoramic in situ mapping of action potential propagation in transgenic hearts to investigate initiation and therapeutic control of arrhythmias. <i>Frontiers in Physiology</i> , 2014, 5, 337.	2.8	9
38	Local observability of state variables and parameters in nonlinear modeling quantified by delay reconstruction. <i>Chaos</i> , 2014, 24, 024411.	2.5	15
39	Mechanistic insights into hypothermic ventricular fibrillation: the role of temperature and tissue size. <i>Europace</i> , 2014, 16, 424-434.	1.7	36
40	Evaluation of machine learning methods for the long-term prediction of cardiac diseases. , 2014, , .		3
41	Quantifying uncertainty in state and parameter estimation. <i>Physical Review E</i> , 2014, 89, 050902.	2.1	8
42	Nonlinear system identification employing automatic differentiation. <i>Communications in Nonlinear Science and Numerical Simulation</i> , 2013, 18, 2733-2742.	3.3	6
43	Effects of Pacing Site and Stimulation History on Alternans Dynamics and the Development of Complex Spatiotemporal Patterns in Cardiac Tissue. <i>Frontiers in Physiology</i> , 2013, 4, 71.	2.8	109
44	Negative Curvature Boundaries as Wave Emitting Sites for the Control of Biological Excitable Media. <i>Physical Review Letters</i> , 2012, 109, 118106.	7.8	37
45	Stimulated Emission Depletion Live-Cell Super-Resolution Imaging Shows Proliferative Remodeling of T-Tubule Membrane Structures After Myocardial Infarction. <i>Circulation Research</i> , 2012, 111, 402-414.	4.5	179
46	Low-energy control of electrical turbulence in the heart. <i>Nature</i> , 2011, 475, 235-239.	27.8	287
47	Phase-sensitive Constant Temperature Anemometry. <i>Macromolecular Materials and Engineering</i> , 2011, 296, 230-237.	3.6	8
48	Synchronization patterns in transient spiral wave dynamics. <i>Physical Review E</i> , 2011, 83, 057201.	2.1	8
49	SAP97 and Dystrophin Macromolecular Complexes Determine Two Pools of Cardiac Sodium Channels Na ^v 1.5 in Cardiomyocytes. <i>Circulation Research</i> , 2011, 108, 294-304.	4.5	236
50	Phase-resolved analysis of the susceptibility of pinned spiral waves to far-field pacing in a two-dimensional model of excitable media. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2010, 368, 2221-2236.	3.4	42
51	Transmural Ultrasound-based Visualization of Patterns of Action Potential Wave Propagation in Cardiac Tissue. <i>Annals of Biomedical Engineering</i> , 2010, 38, 3112-3123.	2.5	11
52	Wave-train-induced termination of weakly anchored vortices in excitable media. <i>Physical Review E</i> , 2010, 81, 010901.	2.1	57
53	Termination of Atrial Fibrillation Using Pulsed Low-Energy Far-Field Stimulation. <i>Circulation</i> , 2009, 120, 467-476.	1.6	152
54	Far field pacing supersedes anti-tachycardia pacing in a generic model of excitable media. <i>New Journal of Physics</i> , 2008, 10, 103012.	2.9	32

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55	Characterization of multiple spiral wave dynamics as a stochastic predator-prey system. <i>Physical Review E</i> , 2008, 78, 021913.	2.1	10
56	Drag and lift forces on bubbles in a rotating flow. <i>Journal of Fluid Mechanics</i> , 2007, 571, 439-454.	3.4	63
57	Turbulent bubbly flow. <i>Journal of Turbulence</i> , 2006, 7, N14.	1.4	12
58	Energy spectra in microbubbly turbulence. <i>Physics of Fluids</i> , 2006, 18, 038103.	4.0	19
59	Viscosity Destabilizes Sonoluminescing Bubbles. <i>Physical Review Letters</i> , 2006, 96, 114301.	7.8	68
60	Hot-film anemometry in bubbly flow I: bubble-probe interaction. <i>International Journal of Multiphase Flow</i> , 2005, 31, 285-301.	3.4	28
61	Data analysis for hot-film anemometry in turbulent bubbly flow. <i>Experimental Thermal and Fluid Science</i> , 2005, 29, 821-826.	2.7	15
62	Drag Reduction in Bubbly Taylor-Couette Turbulence. <i>Physical Review Letters</i> , 2005, 94, 044501.	7.8	87
63	The effect of bubbles on developed turbulence. <i>Journal of Fluid Mechanics</i> , 2005, 538, 153.	3.4	108
64	A New Defibrillation Mechanism: Termination of Reentrant Waves by Propagating Action Potentials Induced by Nearby Heterogeneities. , 0, , .		0