Stefan Luther

List of Publications by Year
in descending order

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64	2,241	304743	223800
papers	citations	22 h-index	46 g-index

68	68	68	2172
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Low-energy control of electrical turbulence in the heart. Nature, 2011, 475, 235-239.	27.8	287
2	SAP97 and Dystrophin Macromolecular Complexes Determine Two Pools of Cardiac Sodium Channels Na _v 1.5 in Cardiomyocytes. Circulation Research, 2011, 108, 294-304.	4.5	236
3	Stimulated Emission Depletion Live-Cell Super-Resolution Imaging Shows Proliferative Remodeling of T-Tubule Membrane Structures After Myocardial Infarction. Circulation Research, 2012, 111, 402-414.	4.5	179
4	Termination of Atrial Fibrillation Using Pulsed Low-Energy Far-Field Stimulation. Circulation, 2009, 120, 467-476.	1.6	152
5	Effects of Pacing Site and Stimulation History on Alternans Dynamics and the Development of Complex Spatiotemporal Patterns in Cardiac Tissue. Frontiers in Physiology, 2013, 4, 71.	2.8	109
6	The effect of bubbles on developed turbulence. Journal of Fluid Mechanics, 2005, 538, 153.	3.4	108
7	Optogenetic determination of the myocardial requirements for extrasystoles by cell type-specific targeting of ChannelRhodopsin-2. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E4495-504.	7.1	89
8	Drag Reduction in Bubbly Taylor-Couette Turbulence. Physical Review Letters, 2005, 94, 044501.	7.8	87
9	Viscosity Destabilizes Sonoluminescing Bubbles. Physical Review Letters, 2006, 96, 114301.	7.8	68
10	Drag and lift forces on bubbles in a rotating flow. Journal of Fluid Mechanics, 2007, 571, 439-454.	3.4	63
11	Wave-train-induced termination of weakly anchored vortices in excitable media. Physical Review E, 2010, 81, 010901.	2.1	57
12	Sensing Cardiac Electrical Activity With a Cardiac Myocyteâ€“Targeted Optogenetic Voltage Indicator. Circulation Research, 2015, 117, 401-412.	4.5	57
13	High-Resolution Optical Measurement of Cardiac Restitution, Contraction, and Fibrillation Dynamics in Beating vs. Blebbistatin-Uncoupled Isolated Rabbit Hearts. Frontiers in Physiology, 2020, 11, 464.	2.8	47
14	Phase-resolved analysis of the susceptibility of pinned spiral waves to far-field pacing in a two-dimensional model of excitable media. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2010, 368, 2221-2236.	3.4	42
15	Drift and termination of spiral waves in optogenetically modified cardiac tissue at sub-threshold illumination. ELife, 2021, 10, .	6.0	42
16	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. Frontiers in Physiology, 2017, 8, 819.	2.8	38
17	Negative Curvature Boundaries as Wave Emitting Sites for the Control of Biological Excitable Media. Physical Review Letters, 2012, 109, 118106.	7.8	37
18	Mechanistic insights into hypothermic ventricular fibrillation: the role of temperature and tissue size. Europace, 2014, 16, 424-434.	1.7	36

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19	Far field pacing supersedes anti-tachycardia pacing in a generic model of excitable media. New Journal of Physics, 2008, 10, 103012.	2.9	32
20	Energy-Reduced Arrhythmia Termination Using Global Photostimulation in Optogenetic Murine Hearts. Frontiers in Physiology, 2018, 9, 1651.	2.8	32
21	Sarcoplasmic reticulum calcium leak contributes to arrhythmia but not to heart failure progression. Science Translational Medicine, 2018, 10, .	12.4	30
22	Hot-film anemometry in bubbly flow I: bubbleâ€“probe interaction. International Journal of Multiphase Flow, 2005, 31, 285-301.	3.4	28
23	Marker-Free Tracking for Motion Artifact Compensation and Deformation Measurements in Optical Mapping Videos of Contracting Hearts. Frontiers in Physiology, 2018, 9, 1483.	2.8	27
24	Synchronization as a mechanism for low-energy anti-fibrillation pacing. Heart Rhythm, 2017, 14, 1254-1262.	0.7	22
25	Energy spectra in microbubbly turbulence. Physics of Fluids, 2006, 18, 038103.	4.0	19
26	Scanning and resetting the phase of a pinned spiral wave using periodic far field pulses. New Journal of Physics, 2016, 18, 043012.	2.9	18
27	Combined scanning X-ray diffraction and holographic imaging of cardiomyocytes. Journal of Applied Crystallography, 2017, 50, 612-620.	4.5	18
28	Introduction to Focus Issue: Complex Cardiac Dynamics. Chaos, 2017, 27, .	2.5	17
29	Spontaneous termination of chaotic spiral wave dynamics in human cardiac ion channel models. PLoS ONE, 2019, 14, e0221401.	2.5	17
30	Agonistic and antagonistic roles of fibroblasts and cardiomyocytes on viscoelastic stiffening of engineered human myocardium. Progress in Biophysics and Molecular Biology, 2019, 144, 51-60.	2.9	16
31	Data analysis for hot-film anemometry in turbulent bubbly flow. Experimental Thermal and Fluid Science, 2005, 29, 821-826.	2.7	15
32	Local observability of state variables and parameters in nonlinear modeling quantified by delay reconstruction. Chaos, 2014, 24, 024411.	2.5	15
33	Bifurcations, chaos, and sensitivity to parameter variations in the Sato cardiac cell model. Communications in Nonlinear Science and Numerical Simulation, 2016, 37, 265-281.	3.3	14
34	Emergent dynamics of spatio-temporal chaos in a heterogeneous excitable medium. Chaos, 2017, 27, 093931.	2.5	13
35	Spatiotemporal Permutation Entropy as a Measure for Complexity of Cardiac Arrhythmia. Frontiers in Physics, 2018, 6, .	2.1	13
36	Turbulent bubbly flow. Journal of Turbulence, 2006, 7, N14.	1.4	12

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37	Stabilization of three-dimensional scroll waves and suppression of spatiotemporal chaos by heterogeneities. Physical Review E, 2015, 92, 042920.	2.1	12
38	Transmural Ultrasound-based Visualization of Patterns of Action Potential Wave Propagation in Cardiac Tissue. Annals of Biomedical Engineering, 2010, 38, 3112-3123.	2.5	11
39	Optogenetic Light Crafting Tools for the Control of Cardiac Arrhythmias. Methods in Molecular Biology, 2016, 1408, 293-302.	0.9	11
40	Characterization of multiple spiral wave dynamics as a stochastic predator-prey system. Physical Review E, 2008, 78, 021913.	2.1	10
41	Toward panoramic in situ mapping of action potential propagation in transgenic hearts to investigate initiation and therapeutic control of arrhythmias. Frontiers in Physiology, 2014, 5, 337.	2.8	9
42	Extracting Robust Biomarkers From Multichannel EEG Time Series Using Nonlinear Dimensionality Reduction Applied to Ordinal Pattern Statistics and Spectral Quantities. Frontiers in Physiology, 2020, 11, 614565.	2.8	9
43	Phaseâ€Sensitive Constant Temperature Anemometry. Macromolecular Materials and Engineering, 2011, 296, 230-237.	3.6	8
44	Synchronization patterns in transient spiral wave dynamics. Physical Review E, 2011, 83, 057201.	2.1	8
45	Quantifying uncertainty in state and parameter estimation. Physical Review E, 2014, 89, 050902.	2.1	8
46	Multiscale Modeling of Dyadic Structure-Function Relation in Ventricular Cardiac Myocytes. Biophysical Journal, 2019, 117, 2409-2419.	0.5	8
47	Nonlinear system identification employing automatic differentiation. Communications in Nonlinear Science and Numerical Simulation, 2013, 18, 2733-2742.	3.3	6
48	Simultaneous unpinning of multiple vortices in two-dimensional excitable media. Physical Review E, 2019, 99, 042216.	2.1	6
49	Pulsed low-energy stimulation initiates electric turbulence in cardiac tissue. PLoS Computational Biology, 2021, 17, e1009476.	3.2	6
50	Entropy Rate Maps of Complex Excitable Dynamics in Cardiac Monolayers. Entropy, 2015, 17, 950-967.	2.2	5
51	Spontaneous termination of reentrant activity under myocardial acute ischemia: Role of cellular conductivity and its relation to ischemic heterogeneities. Communications in Nonlinear Science and Numerical Simulation, 2017, 48, 115-122.	3.3	5
52	Termination of Scroll Waves by Surface Impacts. Physical Review Letters, 2019, 123, 068102.	7.8	5
53	Complex restitution behavior and reentry in a cardiac tissue model for neonatal mice. Physiological Reports, 2017, 5, e13449.	1.7	4
54	CaosDBâ€"Research Data Management for Complex, Changing, and Automated Research Workflows. Data, 2019, 4, 83.	2.3	4

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55	Excitable dynamics in neural and cardiac systems. Communications in Nonlinear Science and Numerical Simulation, 2020, 86, 105275.	3.3	4
56	Evaluation of machine learning methods for the long-term prediction of cardiac diseases. , 2014, , .		3
57	Quantifying spatiotemporal complexity of cardiac dynamics using ordinal patterns. , 2015, 2015, 4049-52.		2
58	Advanced Cardiac Rhythm Management by Applying Optogenetic Multi-Site Photostimulation in Murine Hearts. Journal of Visualized Experiments, 2021, , .	0.3	2
59	Guidelines for a Standardized Filesystem Layout for Scientific Data. Data, 2020, 5, 43.	2.3	1
60	Predicting the duration of chaotic transients in excitable media. Journal of Physics Complexity, 2021, 2, 035016.	2.2	1
61	A new far-field cardiac defibrillation mechanism. , 2015, , .		0
62	Simulations of ventricular tachycardia under myocardial ischemic conditions and infarction. , 2015, , .		0
63	Synchronization of viscoelastically coupled excitable oscillators. Physical Review E, 2019, 100, 032214.	2.1	0
64	A New Defibrillation Mechanism: Termination of Reentrant Waves by Propagating Action Potentials Induced by Nearby Heterogeneities. , 0, , .		0