

Igor Efimov

List of Publications by Year in descending order

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316
papers

13,783
citations

16451

64
h-index

31849

101
g-index

344
all docs

344
docs citations

344
times ranked

11266
citing authors

#	ARTICLE	IF	CITATIONS
1	3D multifunctional integumentary membranes for spatiotemporal cardiac measurements and stimulation across the entire epicardium. <i>Nature Communications</i> , 2014, 5, 3329.	12.8	485
2	Mechanisms of Cardiac and Renal Dysfunction in Patients Dying of Sepsis. <i>American Journal of Respiratory and Critical Care Medicine</i> , 2013, 187, 509-517.	5.6	392
3	Optical Imaging of the Heart. <i>Circulation Research</i> , 2004, 95, 21-33.	4.5	353
4	Application of blebbistatin as an excitation-contraction uncoupler for electrophysiologic study of rat and rabbit hearts. <i>Heart Rhythm</i> , 2007, 4, 619-626.	0.7	334
5	Virtual Electrode-Induced Phase Singularity. <i>Circulation Research</i> , 1998, 82, 918-925.	4.5	308
6	Transmural Dispersion of Repolarization in Failing and Nonfailing Human Ventricle. <i>Circulation Research</i> , 2010, 106, 981-991.	4.5	282
7	Capacitively coupled arrays of multiplexed flexible silicon transistors for long-term cardiac electrophysiology. <i>Nature Biomedical Engineering</i> , 2017, 1, .	22.5	210
8	Diabetes increases mortality after myocardial infarction by oxidizing CaMKII. <i>Journal of Clinical Investigation</i> , 2013, 123, 1262-1274.	8.2	203
9	Oxidized CaMKII causes cardiac sinus node dysfunction in mice. <i>Journal of Clinical Investigation</i> , 2011, 121, 3277-3288.	8.2	193
10	Processing and analysis of cardiac optical mapping data obtained with potentiometric dyes. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2012, 303, H753-H765.	3.2	191
11	Optical mapping of repolarization and refractoriness from intact hearts.. <i>Circulation</i> , 1994, 90, 1469-1480.	1.6	180
12	Catheter-integrated soft multilayer electronic arrays for multiplexed sensing and actuation during cardiac surgery. <i>Nature Biomedical Engineering</i> , 2020, 4, 997-1009.	22.5	175
13	Virtual Electrodes and Deexcitation: New Insights into Fibrillation Induction and Defibrillation. <i>Journal of Cardiovascular Electrophysiology</i> , 2000, 11, 339-353.	1.7	173
14	Computer Three-Dimensional Reconstruction of the Sinoatrial Node. <i>Circulation</i> , 2005, 111, 846-854.	1.6	163
15	Fully implantable and bioresorbable cardiac pacemakers without leads or batteries. <i>Nature Biotechnology</i> , 2021, 39, 1228-1238.	17.5	163
16	4D embryonic cardiography using gated optical coherence tomography. <i>Optics Express</i> , 2006, 14, 736.	3.4	153
17	Optical Mapping of the Isolated Coronary-Perfused Human Sinus Node. <i>Journal of the American College of Cardiology</i> , 2010, 56, 1386-1394.	2.8	151
18	Wireless, battery-free, fully implantable multimodal and multisite pacemakers for applications in small animal models. <i>Nature Communications</i> , 2019, 10, 5742.	12.8	146

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19	Site of Origin and Molecular Substrate of Atrioventricular Junctional Rhythm in the Rabbit Heart. <i>Circulation Research</i> , 2003, 93, 1102-1110.	4.5	144
20	The Role of Electroporation in Defibrillation. <i>Circulation Research</i> , 2000, 87, 797-804.	4.5	143
21	Conduction Remodeling in Human End-Stage Nonischemic Left Ventricular Cardiomyopathy. <i>Circulation</i> , 2012, 125, 1835-1847.	1.6	142
22	Materials and Fractal Designs for 3D Multifunctional Integumentary Membranes with Capabilities in Cardiac Electrotherapy. <i>Advanced Materials</i> , 2015, 27, 1731-1737.	21.0	141
23	Transmembrane Voltage Changes Produced by Real and Virtual Electrodes During Monophasic Defibrillation Shock Delivered by an Implantable Electrode. <i>Journal of Cardiovascular Electrophysiology</i> , 1997, 8, 1031-1045.	1.7	137
24	Transmural Heterogeneity and Remodeling of Ventricular Excitation-Contraction Coupling in Human Heart Failure. <i>Circulation</i> , 2011, 123, 1881-1890.	1.6	134
25	Intermittent drivers anchoring to structural heterogeneities as a major pathophysiological mechanism of human persistent atrial fibrillation. <i>Journal of Physiology</i> , 2016, 594, 2387-2398.	2.9	132
26	Differences Between Left and Right Ventricular Chamber Geometry Affect Cardiac Vulnerability to Electric Shocks. <i>Circulation Research</i> , 2005, 97, 168-175.	4.5	130
27	Virtual Electrode-Induced Reexcitation. <i>Circulation Research</i> , 1999, 85, 1056-1066.	4.5	124
28	<i>Pitx2</i> modulates a <i>Tbx5</i> -dependent gene regulatory network to maintain atrial rhythm. <i>Science Translational Medicine</i> , 2016, 8, 354ra115.	12.4	123
29	Connexins in the Sinoatrial and Atrioventricular Nodes. , 2006, 42, 175-197.		117
30	Structural and Functional Evidence for Discrete Exit Pathways That Connect the Canine Sinoatrial Node and Atria. <i>Circulation Research</i> , 2009, 104, 915-923.	4.5	114
31	Photocurable bioresorbable adhesives as functional interfaces between flexible bioelectronic devices and soft biological tissues. <i>Nature Materials</i> , 2021, 20, 1559-1570.	27.5	114
32	Effects of KATP channel openers diazoxide and pinacidil in coronary-perfused atria and ventricles from failing and non-failing human hearts. <i>Journal of Molecular and Cellular Cardiology</i> , 2011, 51, 215-225.	1.9	109
33	3D absolute shape measurement of live rabbit hearts with a superfast two-frequency phase-shifting technique. <i>Optics Express</i> , 2013, 21, 5822.	3.4	107
34	Computer Three-Dimensional Reconstruction of the Atrioventricular Node. <i>Circulation Research</i> , 2008, 102, 975-985.	4.5	106
35	Resolution of Established Cardiac Hypertrophy and Fibrosis and Prevention of Systolic Dysfunction in a Transgenic Rabbit Model of Human Cardiomyopathy Through Thiol-Sensitive Mechanisms. <i>Circulation</i> , 2009, 119, 1398-1407.	1.6	106
36	Stretchable, Multiplexed pH Sensors With Demonstrations on Rabbit and Human Hearts Undergoing Ischemia. <i>Advanced Healthcare Materials</i> , 2014, 3, 59-68.	7.6	105

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37	Subthreshold stimulation of Purkinje fibers interrupts ventricular tachycardia in intact hearts. Experimental study with voltage-sensitive dyes and imaging techniques.. Circulation Research, 1994, 74, 604-619.	4.5	99
38	Human Organotypic Cultured Cardiac Slices: New Platform For High Throughput Preclinical Human Trials. Scientific Reports, 2016, 6, 28798.	3.3	98
39	Dynamics of rotating vortices in the Beeler-Reuter model of cardiac tissue. Chaos, Solitons and Fractals, 1995, 5, 513-526.	5.1	97
40	Molecular architecture of the human specialised atrioventricular conduction axis. Journal of Molecular and Cellular Cardiology, 2011, 50, 642-651.	1.9	97
41	Evidence of Three-Dimensional Scroll Waves with Ribbon-Shaped Filament as a Mechanism of Ventricular Tachycardia in the Isolated Rabbit Heart. Journal of Cardiovascular Electrophysiology, 1999, 10, 1452-1462.	1.7	96
42	Virtual electrode polarization in the far field: implications for external defibrillation. American Journal of Physiology - Heart and Circulatory Physiology, 2000, 279, H1055-H1070.	3.2	94
43	Canonical Wnt Signaling Regulates Atrioventricular Junction Programming and Electrophysiological Properties. Circulation Research, 2015, 116, 398-406.	4.5	90
44	A transient, closed-loop network of wireless, body-integrated devices for autonomous electrotherapy. Science, 2022, 376, 1006-1012.	12.6	90
45	Remodeling of Calcium Handling in Human Heart Failure. Advances in Experimental Medicine and Biology, 2012, 740, 1145-1174.	1.6	88
46	Electroporation of the heart. Europace, 2005, 7, S146-S154.	1.7	86
47	A coupled-clock system drives the automaticity of human sinoatrial nodal pacemaker cells. Science Signaling, 2018, 11, .	3.6	85
48	Anatomy and Electrophysiology of the Human AV Node. PACE - Pacing and Clinical Electrophysiology, 2010, 33, 754-762.	1.2	84
49	Differential KATP channel pharmacology in intact mouse heart. Journal of Molecular and Cellular Cardiology, 2010, 48, 152-160.	1.9	84
50	Functional anatomy of the murine sinus node: high-resolution optical mapping of ankyrin-B heterozygous mice. American Journal of Physiology - Heart and Circulatory Physiology, 2010, 299, H482-H491.	3.2	82
51	High-Resolution, Three-dimensional Fluorescent Imaging Reveals Multilayer Conduction Pattern in the Atrioventricular Node. Circulation, 1998, 98, 54-57.	1.6	81
52	Direct Evidence of the Role of Virtual Electrode-Induced Phase Singularity in Success and Failure of Defibrillation. Journal of Cardiovascular Electrophysiology, 2000, 11, 861-868.	1.7	81
53	Connexin 43 Expression Delineates Two Discrete Pathways in the Human Atrioventricular Junction. Anatomical Record, 2008, 291, 204-215.	1.4	81
54	Mechanisms of unpinning and termination of ventricular tachycardia. American Journal of Physiology - Heart and Circulatory Physiology, 2006, 291, H184-H192.	3.2	78

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55	Virtual Electrode Effects in Transvenous Defibrillation-Modulation by Structure and Interface: Evidence from Bidomain Simulations and Optical Mapping. <i>Journal of Cardiovascular Electrophysiology</i> , 1998, 9, 949-961.	1.7	76
56	Widespread Down-Regulation of Cardiac Mitochondrial and Sarcomeric Genes in Patients With Sepsis*. <i>Critical Care Medicine</i> , 2017, 45, 407-414.	0.9	76
57	Effects of sterile pericarditis on connexins 40 and 43 in the atria: correlation with abnormal conduction and atrial arrhythmias. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2007, 293, H1231-H1241.	3.2	75
58	Minimum Information about a Cardiac Electrophysiology Experiment (MICEE): Standardised reporting for model reproducibility, interoperability, and data sharing. <i>Progress in Biophysics and Molecular Biology</i> , 2011, 107, 4-10.	2.9	75
59	Arrhythmogenic Remodeling of I_{CaL} Versus I_{CaT} Adrenergic Signaling in the Human Failing Heart. <i>Circulation: Arrhythmia and Electrophysiology</i> , 2015, 8, 409-419.	4.8	73
60	The Role of Photon Scattering in Optical Signal Distortion during Arrhythmia and Defibrillation. <i>Biophysical Journal</i> , 2007, 93, 3714-3726.	0.5	71
61	Mitochondrial dysfunction causing cardiac sodium channel downregulation in cardiomyopathy. <i>Journal of Molecular and Cellular Cardiology</i> , 2013, 54, 25-34.	1.9	71
62	Postganglionic nerve stimulation induces temporal inhibition of excitability in rabbit sinoatrial node. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2006, 291, H612-H623.	3.2	68
63	Activation and Repolarization Patterns are Governed by Different Structural Characteristics of Ventricular Myocardium... <i>Journal of Cardiovascular Electrophysiology</i> , 1996, 7, 512-530.	1.7	67
64	A technical review of optical mapping of intracellular calcium within myocardial tissue. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2016, 310, H1388-H1401.	3.2	67
65	The role of dynamic instability and wavelength in arrhythmia maintenance as revealed by panoramic imaging with blebbistatin vs. 2,3-butanedione monoxime. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2012, 302, H262-H269.	3.2	66
66	Structure-function relationship in the AV junction. <i>The Anatomical Record</i> , 2004, 280A, 952-965.	1.8	65
67	Localization of Na ⁺ Channel Isoforms at the Atrioventricular Junction and Atrioventricular Node in the Rat. <i>Circulation</i> , 2006, 114, 1360-1371.	1.6	65
68	Complex Interactions Between the Sinoatrial Node and Atrium During Reentrant Arrhythmias in the Canine Heart. <i>Circulation</i> , 2010, 122, 782-789.	1.6	64
69	Identification of atrial fibrillation associated genes and functional non-coding variants. <i>Nature Communications</i> , 2019, 10, 4755.	12.8	64
70	Innervation and Neuronal Control of the Mammalian Sinoatrial Node a Comprehensive Atlas. <i>Circulation Research</i> , 2021, 128, 1279-1296.	4.5	64
71	cAMP-dependent regulation of HCN4 controls the tonic entrainment process in sinoatrial node pacemaker cells. <i>Nature Communications</i> , 2020, 11, 5555.	12.8	63
72	Rabbit-specific ventricular model of cardiac electrophysiological function including specialized conduction system. <i>Progress in Biophysics and Molecular Biology</i> , 2011, 107, 90-100.	2.9	62

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73	Cx43 and Dual-Pathway Electrophysiology of the Atrioventricular Node and Atrioventricular Nodal Reentry. <i>Circulation Research</i> , 2003, 92, 469-475.	4.5	61
74	Quantification of cardiac fiber orientation using optical coherence tomography. <i>Journal of Biomedical Optics</i> , 2008, 13, 030505.	2.6	61
75	Panoramic imaging reveals basic mechanisms of induction and termination of ventricular tachycardia in rabbit heart with chronic infarction: Implications for low-voltage cardioversion. <i>Heart Rhythm</i> , 2009, 6, 87-97.	0.7	61
76	mRNA Expression Levels in Failing Human Hearts Predict Cellular Electrophysiological Remodeling: A Population-Based Simulation Study. <i>PLoS ONE</i> , 2013, 8, e56359.	2.5	61
77	Virtual electrode theory explains pacing threshold increase caused by cardiac tissue damage. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2004, 286, H2183-H2194.	3.2	59
78	Transient Local Injury Current in Right Ventricular Electrogram After Implantable Cardioverter-Defibrillator Shock Predicts Heart Failure Progression. <i>Journal of the American College of Cardiology</i> , 2009, 54, 822-828.	2.8	58
79	RHYTHM: An Open Source Imaging Toolkit for Cardiac Panoramic Optical Mapping. <i>Scientific Reports</i> , 2018, 8, 2921.	3.3	58
80	Multiple monophasic shocks improve electrotherapy of ventricular tachycardia in a rabbit model of chronic infarction. <i>Heart Rhythm</i> , 2009, 6, 1020-1027.	0.7	54
81	High-Resolution Fluorescent Imaging Does Not Reveal a Distinct Atrioventricular Nodal Anterior Input Channel (Fast Pathway) in the Rabbit Heart During Sinus Rhythm. <i>Journal of Cardiovascular Electrophysiology</i> , 1997, 8, 295-306.	1.7	52
82	A Novel Low-Energy Electrotherapy That Terminates Ventricular Tachycardia With Lower Energy Than a Biphasic Shock When Antitachycardia Pacing Fails. <i>Journal of the American College of Cardiology</i> , 2012, 60, 2393-2398.	2.8	52
83	Enhanced Transmural Fiber Rotation and Connexin 43 Heterogeneity Are Associated With an Increased Upper Limit of Vulnerability in a Transgenic Rabbit Model of Human Hypertrophic Cardiomyopathy. <i>Circulation Research</i> , 2007, 101, 1049-1057.	4.5	50
84	Optical Mapping of the Human Atrioventricular Junction. <i>Circulation</i> , 2008, 117, 1474-1477.	1.6	50
85	Termination of sustained atrial flutter and fibrillation using low-voltage multiple-shock therapy. <i>Heart Rhythm</i> , 2011, 8, 101-108.	0.7	50
86	Patient-specific flexible and stretchable devices for cardiac diagnostics and therapy. <i>Progress in Biophysics and Molecular Biology</i> , 2014, 115, 244-251.	2.9	50
87	Optical Coherence Tomography as a Tool for Measuring Morphogenetic Deformation of the Looping Heart. <i>Anatomical Record</i> , 2007, 290, 1057-1068.	1.4	49
88	Mapping Cardiac Pacemaker Circuits. <i>Circulation Research</i> , 2010, 106, 255-271.	4.5	49
89	Transmural APD gradient synchronizes repolarization in the human left ventricular wall. <i>Cardiovascular Research</i> , 2015, 108, 188-196.	3.8	49
90	Gender Differences in Electrophysiological Gene Expression in Failing and Non-Failing Human Hearts. <i>PLoS ONE</i> , 2013, 8, e54635.	2.5	48

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91	Optical Mapping of Action Potentials and Calcium Transients in the Mouse Heart. <i>Journal of Visualized Experiments</i> , 2011, , .	0.3	47
92	Ultrathin Injectable Sensors of Temperature, Thermal Conductivity, and Heat Capacity for Cardiac Ablation Monitoring. <i>Advanced Healthcare Materials</i> , 2016, 5, 373-381.	7.6	47
93	Anatomic Localization and Autonomic Modulation of Atrioventricular Junctional Rhythm in Failing Human Hearts. <i>Circulation: Arrhythmia and Electrophysiology</i> , 2011, 4, 515-525.	4.8	46
94	Three-dimensional panoramic imaging of cardiac arrhythmias in rabbit heart. <i>Journal of Biomedical Optics</i> , 2007, 12, 044019.	2.6	45
95	Quantitative Panoramic Imaging of Epicardial Electrical Activity. <i>Annals of Biomedical Engineering</i> , 2008, 36, 1649-1658.	2.5	45
96	Direct reprogramming of mouse fibroblasts to cardiomyocyte-like cells using Yamanaka factors on engineered poly(ethylene glycol) (PEG) hydrogels. <i>Biomaterials</i> , 2013, 34, 6559-6571.	11.4	45
97	c-Src Kinase Inhibition Reduces Arrhythmia Inducibility and Connexin43 Dysregulation After Myocardial Infarction. <i>Journal of the American College of Cardiology</i> , 2014, 63, 928-934.	2.8	45
98	Quantification of the Transmural Dynamics of Atrial Fibrillation by Simultaneous Endocardial and Epicardial Optical Mapping in an Acute Sheep Model. <i>Circulation: Arrhythmia and Electrophysiology</i> , 2015, 8, 456-465.	4.8	44
99	Evidence of Superior and Inferior Sinoatrial Nodes in the Mammalian Heart. <i>JACC: Clinical Electrophysiology</i> , 2020, 6, 1827-1840.	3.2	44
100	Hypoxia and Hypothermia Enhance Spatial Heterogeneities of Repolarization in Guinea Pig Hearts:.. <i>Journal of Cardiovascular Electrophysiology</i> , 1998, 9, 164-183.	1.7	43
101	Tuning the electrical properties of the heart by differential trafficking of KATP ion channel complexes. <i>Journal of Cell Science</i> , 2014, 127, 2106-19.	2.0	43
102	Effects of 2,3-Butanedione Monoxime on Atrial?Atrioventricular Nodal Conduction in Isolated Rabbit Heart. <i>Journal of Cardiovascular Electrophysiology</i> , 1997, 8, 790-802.	1.7	42
103	Effects of electroporation on optically recorded transmembrane potential responses to high-intensity electrical shocks. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2004, 286, H412-H418.	3.2	42
104	Low-Energy Multistage Atrial Defibrillation Therapy Terminates Atrial Fibrillation With Less Energy Than a Single Shock. <i>Circulation: Arrhythmia and Electrophysiology</i> , 2011, 4, 917-925.	4.8	42
105	Three-dimensional mechanisms of increased vulnerability to electric shocks in myocardial infarction: Altered virtual electrode polarizations and conduction delay in the peri-infarct zone. <i>Journal of Physiology</i> , 2012, 590, 4537-4551.	2.9	42
106	Structure-Function Relationship in the Sinus and Atrioventricular Nodes. <i>Pediatric Cardiology</i> , 2012, 33, 890-899.	1.3	42
107	Hibernator <i>Citellus undulatus</i> maintains safe cardiac conduction and is protected against tachyarrhythmias during extreme hypothermia: Possible role of Cx43 and Cx45 up-regulation. <i>Heart Rhythm</i> , 2005, 2, 966-975.	0.7	41
108	An activation-repolarization time metric to predict localized regions of high susceptibility to reentry. <i>Heart Rhythm</i> , 2015, 12, 1644-1653.	0.7	40

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109	Feasibility of a semi-automated method for cardiac conduction velocity analysis of high-resolution activation maps. <i>Computers in Biology and Medicine</i> , 2015, 65, 177-183.	7.0	40
110	At the Atrioventricular Crossroads: Dual Pathway Electrophysiology in the Atrioventricular Node and its underlying Heterogeneities. <i>Arrhythmia and Electrophysiology Review</i> , 2017, 6, 179.	2.4	40
111	Present Understanding of Shock Polarity for Internal Defibrillation: The Obvious and Non-Obvious Clinical Implications. <i>PACE - Pacing and Clinical Electrophysiology</i> , 2006, 29, 885-891.	1.2	39
112	Electrophysiological mechanisms of antiarrhythmic protection during hypothermia in winter hibernating versus nonhibernating mammals. <i>Heart Rhythm</i> , 2008, 5, 1587-1596.	0.7	39
113	Mapping cardiac surface mechanics with structured light imaging. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2012, 303, H712-H720.	3.2	39
114	Role of angiotensin-converting enzyme 2 and pericytes in cardiac complications of COVID-19 infection. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2020, 319, H1059-H1068.	3.2	39
115	Mechanisms of make and break excitation revisited: paradoxical break excitation during diastolic stimulation. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2002, 282, H565-H575.	3.2	37
116	Mechanisms of shock-induced arrhythmogenesis during acute global ischemia. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2002, 282, H2141-H2151.	3.2	37
117	Reduced response to IKr blockade and altered hERG1a/1b stoichiometry in human heart failure. <i>Journal of Molecular and Cellular Cardiology</i> , 2016, 96, 82-92.	1.9	37
118	Specialized impulse conduction pathway in the alligator heart. <i>ELife</i> , 2018, 7, .	6.0	37
119	Multiparametric Optical Mapping of the Langendorff-perfused Rabbit Heart. <i>Journal of Visualized Experiments</i> , 2011, , .	0.3	36
120	Long-term culture of HL-1 cardiomyocytes in modular poly(ethylene glycol) microsphere-based scaffolds crosslinked in the phase-separated state. <i>Acta Biomaterialia</i> , 2012, 8, 31-40.	8.3	36
121	Cardioversion. <i>Circulation</i> , 2009, 120, 1623-1632.	1.6	35
122	Relation of the Atrial Input Sites to the Dual Atrioventricular Nodal Pathways:. <i>Journal of Cardiovascular Electrophysiology</i> , 1997, 8, 1133-1144.	1.7	34
123	Atrioventricular conduction with and without AV nodal delay: two pathways to the bundle of His in the rabbit heart. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2007, 293, H1122-H1130.	3.2	34
124	Atria are more susceptible to electroporation than ventricles: Implications for atrial stunning, shock-induced arrhythmia and defibrillation failure. <i>Heart Rhythm</i> , 2008, 5, 593-604.	0.7	34
125	The mechanisms of the vulnerable window: the role of virtual electrodes and shock polarity. <i>Canadian Journal of Physiology and Pharmacology</i> , 2001, 79, 25-33.	1.4	33
126	Hypothermia-induced spatially discordant action potential duration alternans and arrhythmogenesis in nonhibernating versus hibernating mammals. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2012, 303, H1035-H1046.	3.2	33

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127	Pathways to clinical CLARITY: volumetric analysis of irregular, soft, and heterogeneous tissues in development and disease. <i>Scientific Reports</i> , 2017, 7, 5899.	3.3	33
128	Multifunctional Flexible Biointerfaces for Simultaneous Colocalized Optophysiology and Electrophysiology. <i>Advanced Functional Materials</i> , 2020, 30, 1910027.	14.9	33
129	Dynamics of virtual electrode-induced scroll-wave reentry in a 3D bidomain model. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2004, 287, H1570-H1581.	3.2	32
130	Spatiotemporal control of heart rate in a rabbit heart. <i>Journal of Electrocardiology</i> , 2011, 44, 626-634.	0.9	32
131	Quantification of fiber orientation in the canine atrial pacemaker complex using optical coherence tomography. <i>Journal of Biomedical Optics</i> , 2012, 17, 1.	2.6	32
132	Computational assessment of the functional role of sinoatrial node exit pathways in the human heart. <i>PLoS ONE</i> , 2017, 12, e0183727.	2.5	32
133	A Fully Implantable Pacemaker for the Mouse: From Battery to Wireless Power. <i>PLoS ONE</i> , 2013, 8, e76291.	2.5	32
134	Bimodal biophotonic imaging of the structure-function relationship in cardiac tissue. <i>Journal of Biomedical Optics</i> , 2008, 13, 054012.	2.6	31
135	Sudden Heart Rate Reduction Upon Optogenetic Release of Acetylcholine From Cardiac Parasympathetic Neurons in Perfused Hearts. <i>Frontiers in Physiology</i> , 2019, 10, 16.	2.8	31
136	A Century of Optocardiography. <i>IEEE Reviews in Biomedical Engineering</i> , 2014, 7, 115-125.	18.0	30
137	Left Septal Slow Pathway Ablation for Atrioventricular Nodal Reentrant Tachycardia. <i>Circulation: Arrhythmia and Electrophysiology</i> , 2018, 11, e005907.	4.8	30
138	Fluorescent Imaging of a Dual-Pathway Atrioventricular-Nodal Conduction System. <i>Circulation Research</i> , 2001, 88, E23-30.	4.5	29
139	Role of Pyk2 in cardiac arrhythmogenesis. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2011, 301, H975-H983.	3.2	29
140	Flexible and Transparent Metal Nanowire Microelectrode Arrays and Interconnects for Electrophysiology, Optogenetics, and Optical Mapping. <i>Advanced Materials Technologies</i> , 2021, 6, 2100225.	5.8	29
141	Shock-induced arrhythmogenesis is enhanced by 2,3-butanedione monoxime compared with cytochalasin D. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2004, 286, H310-H318.	3.2	28
142	Multiparametric slice culture platform for the investigation of human cardiac tissue physiology. <i>Progress in Biophysics and Molecular Biology</i> , 2019, 144, 139-150.	2.9	28
143	Mechanical alternans and restitution in failing SHHF rat left ventricles. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2002, 282, H1320-H1326.	3.2	27
144	Virtual electrode hypothesis of defibrillation. <i>Heart Rhythm</i> , 2006, 3, 1100-1102.	0.7	27

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145	Molecular remodeling of ion channels, exchangers and pumps in atrial and ventricular myocytes in ischemic cardiomyopathy. <i>Channels</i> , 2010, 4, 101-107.	2.8	27
146	CD36 Protein Influences Myocardial Ca ²⁺ Homeostasis and Phospholipid Metabolism. <i>Journal of Biological Chemistry</i> , 2012, 287, 38901-38912.	3.4	27
147	Effect of Electroporation on Cardiac Electrophysiology. <i>Methods in Molecular Biology</i> , 2008, 423, 433-448.	0.9	27
148	Reversal of Repolarization Gradient Does Not Reverse the Chirality of Shock-Induced Reentry in the Rabbit Heart. <i>Journal of Cardiovascular Electrophysiology</i> , 2000, 11, 998-1007.	1.7	26
149	Multistage Electrotherapy Delivered Through Chronically-Implanted Leads Terminates Atrial Fibrillation With Lower Energy Than a Single Biphasic Shock. <i>Journal of the American College of Cardiology</i> , 2014, 63, 40-48.	2.8	26
150	Imaging of the Atrioventricular Node Using Optical Coherence Tomography. <i>Journal of Cardiovascular Electrophysiology</i> , 2002, 13, 95-95.	1.7	25
151	Gene Printer: Laser-Scanning Targeted Transfection of Cultured Cardiac Neonatal Rat Cells. <i>Cell Communication and Adhesion</i> , 2006, 13, 217-222.	1.0	25
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