

Igor Efimov

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302
papers

10,306
citations

56
h-index

89
g-index

344
ext. papers

12,379
ext. citations

6.7
avg, IF

6.02
L-index

#	Paper	IF	Citations
302	3D multifunctional integumentary membranes for spatiotemporal cardiac measurements and stimulation across the entire epicardium. <i>Nature Communications</i> , 2014 , 5, 3329	17.4	384
301	Mechanisms of cardiac and renal dysfunction in patients dying of sepsis. <i>American Journal of Respiratory and Critical Care Medicine</i> , 2013 , 187, 509-17	10.2	303
300	Optical imaging of the heart. <i>Circulation Research</i> , 2004 , 95, 21-33	15.7	291
299	Application of blebbistatin as an excitation-contraction uncoupler for electrophysiologic study of rat and rabbit hearts. <i>Heart Rhythm</i> , 2007 , 4, 619-26	6.7	277
298	Virtual electrode-induced phase singularity: a basic mechanism of defibrillation failure. <i>Circulation Research</i> , 1998 , 82, 918-25	15.7	269
297	Transmural dispersion of repolarization in failing and nonfailing human ventricle. <i>Circulation Research</i> , 2010 , 106, 981-91	15.7	237
296	Diabetes increases mortality after myocardial infarction by oxidizing CaMKII. <i>Journal of Clinical Investigation</i> , 2013 , 123, 1262-74	15.9	179
295	Capacitively Coupled Arrays of Multiplexed Flexible Silicon Transistors for Long-Term Cardiac Electrophysiology. <i>Nature Biomedical Engineering</i> , 2017 , 1,	19	163
294	Optical mapping of repolarization and refractoriness from intact hearts. <i>Circulation</i> , 1994 , 90, 1469-80	16.7	157
293	Virtual electrodes and deexcitation: new insights into fibrillation induction and defibrillation. <i>Journal of Cardiovascular Electrophysiology</i> , 2000 , 11, 339-53	2.7	154
292	Oxidized CaMKII causes cardiac sinus node dysfunction in mice. <i>Journal of Clinical Investigation</i> , 2011 , 121, 3277-88	15.9	154
291	Computer three-dimensional reconstruction of the sinoatrial node. <i>Circulation</i> , 2005 , 111, 846-54	16.7	139
290	Processing and analysis of cardiac optical mapping data obtained with potentiometric dyes. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2012 , 303, H753-65	5.2	131
289	Site of origin and molecular substrate of atrioventricular junctional rhythm in the rabbit heart. <i>Circulation Research</i> , 2003 , 93, 1102-10	15.7	126
288	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, 1031-45	2.7	122
287	The role of electroporation in defibrillation. <i>Circulation Research</i> , 2000 , 87, 797-804	15.7	122
286	Differences between left and right ventricular chamber geometry affect cardiac vulnerability to electric shocks. <i>Circulation Research</i> , 2005 , 97, 168-75	15.7	120

285	Materials and fractal designs for 3D multifunctional integumentary membranes with capabilities in cardiac electrotherapy. <i>Advanced Materials</i> , 2015 , 27, 1731-7	24	117
284	Transmural heterogeneity and remodeling of ventricular excitation-contraction coupling in human heart failure. <i>Circulation</i> , 2011 , 123, 1881-90	16.7	117
283	Conduction remodeling in human end-stage nonischemic left ventricular cardiomyopathy. <i>Circulation</i> , 2012 , 125, 1835-47	16.7	116
282	Virtual electrode-induced reexcitation: A mechanism of defibrillation. <i>Circulation Research</i> , 1999 , 85, 1056-66	15.7	113
281	Optical mapping of the isolated coronary-perfused human sinus node. <i>Journal of the American College of Cardiology</i> , 2010 , 56, 1386-94	15.1	112
280	Structural and functional evidence for discrete exit pathways that connect the canine sinoatrial node and atria. <i>Circulation Research</i> , 2009 , 104, 915-23	15.7	98
279	Subthreshold stimulation of Purkinje fibers interrupts ventricular tachycardia in intact hearts. Experimental study with voltage-sensitive dyes and imaging techniques. <i>Circulation Research</i> , 1994 , 74, 604-19	15.7	92
278	Computer three-dimensional reconstruction of the atrioventricular node. <i>Circulation Research</i> , 2008 , 102, 975-85	15.7	89
277	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, 1398-407	16.7	88
276	Evidence of three-dimensional scroll waves with ribbon-shaped filament as a mechanism of ventricular tachycardia in the isolated rabbit heart. <i>Journal of Cardiovascular Electrophysiology</i> , 1999 , 10, 1452-62	2.7	88
275	Stretchable, multiplexed pH sensors with demonstrations on rabbit and human hearts undergoing ischemia. <i>Advanced Healthcare Materials</i> , 2014 , 3, 59-68	10.1	87
274	Connexins in the sinoatrial and atrioventricular nodes. <i>Advances in Cardiology</i> , 2006 , 42, 175-197		87
273	Intermittent drivers anchoring to structural heterogeneities as a major pathophysiological mechanism of human persistent atrial fibrillation. <i>Journal of Physiology</i> , 2016 , 594, 2387-98	3.9	86
272	Dynamics of rotating vortices in the Beeler-Reuter model of cardiac tissue. <i>Chaos, Solitons and Fractals</i> , 1995 , 5, 513-526	9.3	81
271	4D embryonic cardiography using gated optical coherence tomography. <i>Optics Express</i> , 2006 , 14, 736-48	3.3	80
270	Pitx2 modulates a Tbx5-dependent gene regulatory network to maintain atrial rhythm. <i>Science Translational Medicine</i> , 2016 , 8, 354ra115	17.5	79
269	Molecular architecture of the human specialised atrioventricular conduction axis. <i>Journal of Molecular and Cellular Cardiology</i> , 2011 , 50, 642-51	5.8	77
268	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, 215-25	5.8	74

267	High-resolution, three-dimensional fluorescent imaging reveals multilayer conduction pattern in the atrioventricular node. <i>Circulation</i> , 1998 , 98, 54-7	16.7	74
266	Catheter-integrated soft multilayer electronic arrays for multiplexed sensing and actuation during cardiac surgery. <i>Nature Biomedical Engineering</i> , 2020 , 4, 997-1009	19	74
265	Wireless, battery-free, fully implantable multimodal and multisite pacemakers for applications in small animal models. <i>Nature Communications</i> , 2019 , 10, 5742	17.4	72
264	Virtual electrode polarization in the far field: implications for external defibrillation. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2000 , 279, H1055-70	5.2	71
263	Differential K(ATP) channel pharmacology in intact mouse heart. <i>Journal of Molecular and Cellular Cardiology</i> , 2010 , 48, 152-60	5.8	70
262	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, 949-61	2.7	70
261	Connexin 43 expression delineates two discrete pathways in the human atrioventricular junction. <i>Anatomical Record</i> , 2008 , 291, 204-15	2.1	70
260	Remodeling of calcium handling in human heart failure. <i>Advances in Experimental Medicine and Biology</i> , 2012 , 740, 1145-74	3.6	69
259	Direct evidence of the role of virtual electrode-induced phase singularity in success and failure of defibrillation. <i>Journal of Cardiovascular Electrophysiology</i> , 2000 , 11, 861-8	2.7	68
258	The role of photon scattering in optical signal distortion during arrhythmia and defibrillation. <i>Biophysical Journal</i> , 2007 , 93, 3714-26	2.9	67
257	Activation and repolarization patterns are governed by different structural characteristics of ventricular myocardium: experimental study with voltage-sensitive dyes and numerical simulations. <i>Journal of Cardiovascular Electrophysiology</i> , 1996 , 7, 512-30	2.7	64
256	Functional anatomy of the murine sinus node: high-resolution optical mapping of ankyrin-B heterozygous mice. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2010 , 299, H482-91	5.2	63
255	Postganglionic nerve stimulation induces temporal inhibition of excitability in rabbit sinoatrial node. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2006 , 291, H612-23	5.2	63
254	Mechanisms of unpinning and termination of ventricular tachycardia. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2006 , 291, H184-92	5.2	63
253	Localization of Na ⁺ channel isoforms at the atrioventricular junction and atrioventricular node in the rat. <i>Circulation</i> , 2006 , 114, 1360-71	16.7	62
252	Mitochondrial dysfunction causing cardiac sodium channel downregulation in cardiomyopathy. <i>Journal of Molecular and Cellular Cardiology</i> , 2013 , 54, 25-34	5.8	61
251	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, H262-9	5.2	61
250	Electroporation of the heart. <i>Europace</i> , 2005 , 7 Suppl 2, 146-54	3.9	61

249	3D absolute shape measurement of live rabbit hearts with a superfast two-frequency phase-shifting technique. <i>Optics Express</i> , 2013 , 21, 5822-32	3.3	60
248	Anatomy and electrophysiology of the human AV node. <i>PACE - Pacing and Clinical Electrophysiology</i> , 2010 , 33, 754-62	1.6	60
247	Canonical wnt signaling regulates atrioventricular junction programming and electrophysiological properties. <i>Circulation Research</i> , 2015 , 116, 398-406	15.7	57
246	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	6.7	56
245	Structure-function relationship in the AV junction. <i>The Anatomical Record</i> , 2004 , 280, 952-65		56
244	Rabbit-specific ventricular model of cardiac electrophysiological function including specialized conduction system. <i>Progress in Biophysics and Molecular Biology</i> , 2011 , 107, 90-100	4.7	54
243	Complex interactions between the sinoatrial node and atrium during reentrant arrhythmias in the canine heart. <i>Circulation</i> , 2010 , 122, 782-9	16.7	53
242	Human Organotypic Cultured Cardiac Slices: New Platform For High Throughput Preclinical Human Trials. <i>Scientific Reports</i> , 2016 , 6, 28798	4.9	52
241	Virtual electrode theory explains pacing threshold increase caused by cardiac tissue damage. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2004 , 286, H2183-94	5.2	52
240	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, H1231-41	5.2	51
239	Cx43 and dual-pathway electrophysiology of the atrioventricular node and atrioventricular nodal reentry. <i>Circulation Research</i> , 2003 , 92, 469-75	15.7	51
238	Arrhythmogenic remodeling of β versus α adrenergic signaling in the human failing heart. <i>Circulation: Arrhythmia and Electrophysiology</i> , 2015 , 8, 409-19	6.4	50
237	mRNA expression levels in failing human hearts predict cellular electrophysiological remodeling: a population-based simulation study. <i>PLoS ONE</i> , 2013 , 8, e56359	3.7	50
236	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	2.7	50
235	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, 1049-57	15.7	50
234	Quantification of cardiac fiber orientation using optical coherence tomography. <i>Journal of Biomedical Optics</i> , 2008 , 13, 030505	3.5	48
233	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, 822-8	15.1	47
232	Multiple monophasic shocks improve electrotherapy of ventricular tachycardia in a rabbit model of chronic infarction. <i>Heart Rhythm</i> , 2009 , 6, 1020-7	6.7	46

231	Optical coherence tomography as a tool for measuring morphogenetic deformation of the looping heart. <i>Anatomical Record</i> , 2007 , 290, 1057-68	2.1	46
230	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	4.7	45
229	Widespread Down-Regulation of Cardiac Mitochondrial and Sarcomeric Genes in Patients With Sepsis. <i>Critical Care Medicine</i> , 2017 , 45, 407-414	1.4	43
228	Patient-specific flexible and stretchable devices for cardiac diagnostics and therapy. <i>Progress in Biophysics and Molecular Biology</i> , 2014 , 115, 244-51	4.7	42
227	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	2.7	42
226	Three-dimensional panoramic imaging of cardiac arrhythmias in rabbit heart. <i>Journal of Biomedical Optics</i> , 2007 , 12, 044019	3.5	40
225	Direct reprogramming of mouse fibroblasts to cardiomyocyte-like cells using Yamanaka factors on engineered poly(ethylene glycol) (PEG) hydrogels. <i>Biomaterials</i> , 2013 , 34, 6559-71	15.6	38
224	Gender differences in electrophysiological gene expression in failing and non-failing human hearts. <i>PLoS ONE</i> , 2013 , 8, e54635	3.7	38
223	Images in cardiovascular medicine. Optical mapping of the human atrioventricular junction. <i>Circulation</i> , 2008 , 117, 1474-7	16.7	38
222	Fully implantable and bioresorbable cardiac pacemakers without leads or batteries. <i>Nature Biotechnology</i> , 2021 , 39, 1228-1238	44.5	38
221	Transmural APD gradient synchronizes repolarization in the human left ventricular wall. <i>Cardiovascular Research</i> , 2015 , 108, 188-96	9.9	37
220	Mapping cardiac pacemaker circuits: methodological puzzles of the sinoatrial node optical mapping. <i>Circulation Research</i> , 2010 , 106, 255-71	15.7	37
219	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, 966-75	6.7	37
218	Ultrathin Injectable Sensors of Temperature, Thermal Conductivity, and Heat Capacity for Cardiac Ablation Monitoring. <i>Advanced Healthcare Materials</i> , 2016 , 5, 373-81	10.1	36
217	A technical review of optical mapping of intracellular calcium within myocardial tissue. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2016 , 310, H1388-401	5.2	36
216	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, 2393-8	15.1	36
215	Optical mapping of action potentials and calcium transients in the mouse heart. <i>Journal of Visualized Experiments</i> , 2011 ,	1.6	36
214	Termination of sustained atrial flutter and fibrillation using low-voltage multiple-shock therapy. <i>Heart Rhythm</i> , 2011 , 8, 101-8	6.7	36

213	Hypoxia and hypothermia enhance spatial heterogeneities of repolarization in guinea pig hearts: analysis of spatial autocorrelation of optically recorded action potential durations. <i>Journal of Cardiovascular Electrophysiology</i> , 1998 , 9, 164-83	2.7	36
212	Present understanding of shock polarity for internal defibrillation: the obvious and non-obvious clinical implications. <i>PACE - Pacing and Clinical Electrophysiology</i> , 2006 , 29, 885-91	1.6	36
211	Identification of atrial fibrillation associated genes and functional non-coding variants. <i>Nature Communications</i> , 2019 , 10, 4755	17.4	36
210	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	10.8	35
209	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, H412-8	5.2	35
208	A coupled-clock system drives the automaticity of human sinoatrial nodal pacemaker cells. <i>Science Signaling</i> , 2018 , 11,	8.8	34
207	Electrophysiological mechanisms of antiarrhythmic protection during hypothermia in winter hibernating versus nonhibernating mammals. <i>Heart Rhythm</i> , 2008 , 5, 1587-96	6.7	34
206	Mechanisms of shock-induced arrhythmogenesis during acute global ischemia. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2002 , 282, H2141-51	5.2	33
205	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	5.3	32
204	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, 4537-51	3.9	32
203	Structure-function relationship in the sinus and atrioventricular nodes. <i>Pediatric Cardiology</i> , 2012 , 33, 890-9	2.1	32
202	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	2.4	32
201	Low-energy multistage atrial defibrillation therapy terminates atrial fibrillation with less energy than a single shock. <i>Circulation: Arrhythmia and Electrophysiology</i> , 2011 , 4, 917-25	6.4	31
200	c-Src kinase inhibition reduces arrhythmia inducibility and connexin43 dysregulation after myocardial infarction. <i>Journal of the American College of Cardiology</i> , 2014 , 63, 928-34	15.1	30
199	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, 456-65	6.4	30
198	Anatomic localization and autonomic modulation of atrioventricular junctional rhythm in failing human hearts. <i>Circulation: Arrhythmia and Electrophysiology</i> , 2011 , 4, 515-25	6.4	30
197	Relation of the atrial input sites to the dual atrioventricular nodal pathways: crossing of conduction curves generated with posterior and anterior pacing. <i>Journal of Cardiovascular Electrophysiology</i> , 1997 , 8, 1133-44	2.7	30
196	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, H1570-81	5.2	30

195	cAMP-dependent regulation of HCN4 controls the tonic entrainment process in sinoatrial node pacemaker cells. <i>Nature Communications</i> , 2020 , 11, 5555	17.4	29
194	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, H565-75	5.2	29
193	Photocurable bioresorbable adhesives as functional interfaces between flexible bioelectronic devices and soft biological tissues. <i>Nature Materials</i> , 2021 , 20, 1559-1570	27	29
192	Mapping cardiac surface mechanics with structured light imaging. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2012 , 303, H712-20	5.2	28
191	Fluorescent imaging of a dual-pathway atrioventricular-nodal conduction system. <i>Circulation Research</i> , 2001 , 88, E23-30	15.7	28
190	Specialized impulse conduction pathway in the alligator heart. <i>ELife</i> , 2018 , 7,	8.9	28
189	Pathways to clinical CLARITY: volumetric analysis of irregular, soft, and heterogeneous tissues in development and disease. <i>Scientific Reports</i> , 2017 , 7, 5899	4.9	27
188	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, H1035-46	5.2	27
187	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, H1122-30	5.2	27
186	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, H310-8	5.2	27
185	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	5.8	26
184	CD36 protein influences myocardial Ca ²⁺ homeostasis and phospholipid metabolism: conduction anomalies in CD36-deficient mice during fasting. <i>Journal of Biological Chemistry</i> , 2012 , 287, 38901-12	5.4	26
183	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	2.7	26
182	A fully implantable pacemaker for the mouse: from battery to wireless power. <i>PLoS ONE</i> , 2013 , 8, e76293	3.7	26
181	Quantification of fiber orientation in the canine atrial pacemaker complex using optical coherence tomography. <i>Journal of Biomedical Optics</i> , 2012 , 17, 071309	3.5	25
180	Bimodal biophotonic imaging of the structure-function relationship in cardiac tissue. <i>Journal of Biomedical Optics</i> , 2008 , 13, 054012	3.5	25
179	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	6.7	24
178	Mechanical alternans and restitution in failing SHHF rat left ventricles. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2002 , 282, H1320-6	5.2	24

177	RHYTHM: An Open Source Imaging Toolkit for Cardiac Panoramic Optical Mapping. <i>Scientific Reports</i> , 2018 , 8, 2921	4.9	23
176	Cardioversion: past, present, and future. <i>Circulation</i> , 2009 , 120, 1623-32	16.7	23
175	Quantitative panoramic imaging of epicardial electrical activity. <i>Annals of Biomedical Engineering</i> , 2008 , 36, 1649-58	4.7	23
174	Virtual electrode hypothesis of defibrillation. <i>Heart Rhythm</i> , 2006 , 3, 1100-2	6.7	23
173	A century of optocardiography. <i>IEEE Reviews in Biomedical Engineering</i> , 2014 , 7, 115-25	6.4	22
172	Role of Pyk2 in cardiac arrhythmogenesis. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2011 , 301, H975-83	5.2	22
171	Imaging of the atrioventricular node using optical coherence tomography. <i>Journal of Cardiovascular Electrophysiology</i> , 2002 , 13, 95	2.7	22
170	Sudden Heart Rate Reduction Upon Optogenetic Release of Acetylcholine From Cardiac Parasympathetic Neurons in Perfused Hearts. <i>Frontiers in Physiology</i> , 2019 , 10, 16	4.6	21
169	An activation-repolarization time metric to predict localized regions of high susceptibility to reentry. <i>Heart Rhythm</i> , 2015 , 12, 1644-53	6.7	21
168	Optical mapping technique applied to biventricular pacing: potential mechanisms of ventricular arrhythmias occurrence. <i>PACE - Pacing and Clinical Electrophysiology</i> , 2003 , 26, 197-205	1.6	21
167	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, 40-8	15.1	20
166	Spatiotemporal control of heart rate in a rabbit heart. <i>Journal of Electrocardiology</i> , 2011 , 44, 626-34	1.4	20
165	Molecular remodeling of ion channels, exchangers and pumps in atrial and ventricular myocytes in ischemic cardiomyopathy. <i>Channels</i> , 2010 , 4, 101-7	3	20
164	Virtual histology of the human heart using optical coherence tomography. <i>Journal of Biomedical Optics</i> , 2009 , 14, 054002	3.5	20
163	Electroporation induced by internal defibrillation shock with and without recovery in intact rabbit hearts. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2012 , 303, H439-49	5.2	20
162	Finite element modeling of electric field effects of TASER devices on nerve and muscle. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society</i> , 2006 , 2006, 1277-9		20
161	Gene printer: laser-scanning targeted transfection of cultured cardiac neonatal rat cells. <i>Cell Communication and Adhesion</i> , 2006 , 13, 217-22		20
160	Effect of electroporation on cardiac electrophysiology. <i>Methods in Molecular Biology</i> , 2008 , 423, 433-48	1.4	20

159	Three-dimensional printing physiology laboratory technology. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2013 , 305, H1569-73	5.2	19
158	Three potential mechanisms for failure of high intensity focused ultrasound ablation in cardiac tissue. <i>Circulation: Arrhythmia and Electrophysiology</i> , 2012 , 5, 409-16	6.4	19
157	Autonomic control and innervation of the atrioventricular junctional pacemaker. <i>Heart Rhythm</i> , 2007 , 4, 1326-35	6.7	19
156	Electrophysiology and anatomy of embryonic rabbit hearts before and after septation. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2005 , 288, H344-51	5.2	19
155	At the Atrioventricular Crossroads: Dual Pathway Electrophysiology in the Atrioventricular Node and its Underlying Heterogeneities. <i>Arrhythmia and Electrophysiology Review</i> , 2017 , 6, 179-185	3.2	19
154	Innervation and Neuronal Control of the Mammalian Sinoatrial Node a Comprehensive Atlas. <i>Circulation Research</i> , 2021 , 128, 1279-1296	15.7	19
153	Adverse remodeling of the electrophysiological response to ischemia-reperfusion in human heart failure is associated with remodeling of metabolic gene expression. <i>Circulation: Arrhythmia and Electrophysiology</i> , 2014 , 7, 875-82	6.4	18
152	Multiparametric optical mapping of the Langendorff-perfused rabbit heart. <i>Journal of Visualized Experiments</i> , 2011 ,	1.6	18
151	Focal but reversible diastolic sheet dysfunction reflects regional calcium mishandling in dystrophic mdx mouse hearts. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2012 , 303, H559-68	5.2	18
150	Computational assessment of the functional role of sinoatrial node exit pathways in the human heart. <i>PLoS ONE</i> , 2017 , 12, e0183727	3.7	17
149	Multiparametric slice culture platform for the investigation of human cardiac tissue physiology. <i>Progress in Biophysics and Molecular Biology</i> , 2019 , 144, 139-150	4.7	17
148	Mechanisms of enhanced shock-induced arrhythmogenesis in the rabbit heart with healed myocardial infarction. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2005 , 289, H1054-68	5.2	17
147	Evidence of Superior and Inferior Sinoatrial Nodes in the Mammalian Heart. <i>JACC: Clinical Electrophysiology</i> , 2020 , 6, 1827-1840	4.6	17
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15 Optical Mapping of the Heart60-68

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