Vadim V Fedorov

List of Publications by Year
in descending order

75 papers	3,967 citations	109321 35 h-index	123424 61 g-index
76 all docs	76 docs citations	76 times ranked	3822 citing authors

#	Article	IF	Citations
1	Comprehensive evaluation of electrophysiological and 3D structural features of human atrial myocardium with insights on atrial fibrillation maintenance mechanisms. Journal of Molecular and Cellular Cardiology, 2021, 151, 56-71.	1.9	11
2	Pharmacologic Approach to Sinoatrial Node Dysfunction. Annual Review of Pharmacology and Toxicology, 2021, 61, 757-778.	9.4	29
3	Fibroblast-Specific Proteotranscriptomes Reveal Distinct Fibrotic Signatures of Human Sinoatrial Node in Nonfailing and Failing Hearts. Circulation, 2021, 144, 126-143.	1.6	22
4	Altered microRNA and mRNA profiles during heart failure in the human sinoatrial node. Scientific Reports, 2021, 11, 19328.	3.3	12
5	Calmodulin kinase II regulates atrial myocyte late sodium current, calcium handling, and atrial arrhythmia. Heart Rhythm, 2020, 17, 503-511.	0.7	34
6	Chronic heart failure increases negative chronotropic effects of adenosine in canine sinoatrial cells via A1R stimulation and GIRK-mediated IKado. Life Sciences, 2020, 240, 117068.	4.3	14
7	Unmasking Arrhythmogenic Hubs of Reentry Driving Persistent Atrial Fibrillation for Patientâ€Specific Treatment. Journal of the American Heart Association, 2020, 9, e017789.	3.7	18
8	Identification of Key Small Nonâ€Coding MicroRNAs Controlling Pacemaker Mechanisms in the Human Sinus Node. Journal of the American Heart Association, 2020, 9, e016590.	3.7	17
9	Silencing miR-370-3p rescues funny current and sinus node function in heart failure. Scientific Reports, 2020, 10, 11279.	3.3	30
10	Optical Mapping-Validated Machine Learning Improves Atrial Fibrillation Driver Detection by Multi-Electrode Mapping. Circulation: Arrhythmia and Electrophysiology, 2020, 13, e008249.	4.8	21
11	Afterdepolarizations and abnormal calcium handling in atrial myocytes with modulated SERCA uptake: a sensitivity analysis of calcium handling channels. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190557.	3.4	6
12	In silico investigation of the mechanisms underlying atrial fibrillation due to impaired Pitx2. PLoS Computational Biology, 2020, 16, e1007678.	3.2	21
13	Impaired neuronal sodium channels cause intranodal conduction failure and reentrant arrhythmias in human sinoatrial node. Nature Communications, 2020, 11, 512.	12.8	39
14	Fully Automatic Left Atrium Segmentation From Late Gadolinium Enhanced Magnetic Resonance Imaging Using a Dual Fully Convolutional Neural Network. IEEE Transactions on Medical Imaging, 2019, 38, 515-524.	8.9	90
15	A robust computational framework for estimating 3D Bi-Atrial chamber wall thickness. Computers in Biology and Medicine, 2019, 114, 103444.	7.0	16
16	Î²IV-Spectrin/STAT3 complex regulates fibroblast phenotype, fibrosis, and cardiac function. JCI Insight, 2019, 4, .	5.0	19
17	Lights on! Can visual light help distinguish fibrotic scars from ablation lesions?. Heart Rhythm, 2018, 15, 576-577.	0.7	0
18	Increased cross-bridge recruitment contributes to transient increase in force generation beyond maximal capacity in human myocardium. Journal of Molecular and Cellular Cardiology, 2018, 114, 116-123.	1.9	3

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19	A Secret Marriage Between Fibrosis and Atrial Fibrillation Drivers. JACC: Clinical Electrophysiology, 2018, 4, 30-32.	3.2	2
20	Now You See a Rotor, Now You Donâ€™t. JACC: Clinical Electrophysiology, 2018, 4, 84-86.	3.2	2
21	Ionic and cellular mechanisms underlying TBX5/PITX2 insufficiency-induced atrial fibrillation: Insights from mathematical models of human atrial cells. Scientific Reports, 2018, 8, 15642.	3.3	24
22	First In Vivo Use of High-Resolution Near-Infrared Optical Mapping to Assess Atrial Activation During Sinus Rhythm and Atrial Fibrillation in a Large Animal Model. Circulation: Arrhythmia and Electrophysiology, 2018, 11, e006870.	4.8	11
23	Human Atrial Fibrillation Drivers ResolvedÂWith Integrated Functional andÂStructural Imaging to Benefit ClinicalÂMapping. JACC: Clinical Electrophysiology, 2018, 4, 1501-1515.	3.2	51
24	Etiology-dependent impairment of relaxation kinetics in right ventricular end-stage failing human myocardium. Journal of Molecular and Cellular Cardiology, 2018, 121, 81-93.	1.9	28
25	ECG signal classification for the detection of cardiac arrhythmias using a convolutional recurrent neural network. Physiological Measurement, 2018, 39, 094006.	2.1	110
26	Mechanisms of Normal and Dysfunctional Sinoatrial Nodal Excitability and Propagation. , 2018, , 259-271.		3
27	Novel application of 3D contrast-enhanced CMR to define fibrotic structure of the human sinoatrial node in vivo. European Heart Journal Cardiovascular Imaging, 2017, 18, 862-869.	1.2	35
28	Fibrosis and Atrial Fibrillation: Computerized and Optical Mapping. JACC: Clinical Electrophysiology, 2017, 3, 531-546.	3.2	77
29	Redundant and diverse intranodal pacemakers and conduction pathways protect the human sinoatrial node from failure. Science Translational Medicine, 2017, 9, .	12.4	76
30	Threeâ€dimensional Integrated Functional, Structural, and Computational Mapping to Define the Structural â€œFingerprintsâ€• of Heartâ€Specific Atrial Fibrillation Drivers in Human Heart Ex Vivo. Journal of the American Heart Association, 2017, 6, .	3.7	120
31	Atrial fibrillation driver mechanisms: Insight from the isolated human heart. Trends in Cardiovascular Medicine, 2017, 27, 1-11.	4.9	27
32	Twoâ€Pore K + Channel TREKâ€1 Regulates Sinoatrial Node Membrane Excitability. Journal of the American Heart Association, 2016, 5, e002865.	3.7	52
33	Effect of exercise training and myocardial infarction on force development and contractile kinetics in isolated canine myocardium. Journal of Applied Physiology, 2016, 120, 817-824.	2.5	4
34	Insights into length-dependent regulation of cardiac cross-bridge cycling kinetics in human myocardium. Archives of Biochemistry and Biophysics, 2016, 601, 48-55.	3.0	10
35	Maintenance of Atrial Fibrillation. Circulation: Arrhythmia and Electrophysiology, 2016, 9, .	4.8	37
36	Adenosine-Induced Atrial Fibrillation. Circulation, 2016, 134, 486-498.	1.6	85

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37	Rationally engineered Troponin C modulates in vivo cardiac function and performance in health and disease. Nature Communications, 2016, 7, 10794.	12.8	45
38	Human sinoatrial node structure: 3D microanatomy of sinoatrial conduction pathways. Progress in Biophysics and Molecular Biology, 2016, 120, 164-178.	2.9	81
39	Atrial fibrillation driven by micro-anatomic intramural re-entry revealed by simultaneous sub-epicardial and sub-endocardial optical mapping in explanted human hearts. European Heart Journal, 2015, 36, 2390-2401.	2.2	347
40	Exercise training-induced bradycardia: evidence for enhanced parasympathetic regulation without changes in intrinsic sinoatrial node function. Journal of Applied Physiology, 2015, 118, 1344-1355.	2.5	62
41	Integration of High-Resolution Optical Mapping and 3-Dimensional Micro-Computed Tomographic Imaging to Resolve the Structural Basis of Atrial Conduction in the Human Heart. Circulation: Arrhythmia and Electrophysiology, 2015, 8, 1514-1517.	4.8	51
42	The Frank-Starling mechanism involves deceleration of cross-bridge kinetics and is preserved in failing human right ventricular myocardium. American Journal of Physiology - Heart and Circulatory Physiology, 2015, 309, H2077-H2086.	3.2	32
43	Claudin-5 levels are reduced from multiple cell types in human failing hearts and are associated with mislocalization of ephrin-B1. Cardiovascular Pathology, 2015, 24, 160-167.	1.6	17
44	Fibrosis: a structural modulator of sinoatrial node physiology and dysfunction. Frontiers in Physiology, 2015, 6, 37.	2.8	93
45	Optimization of Catheter Ablation of Atrial Fibrillation: Insights Gained from Clinically-Derived Computer Models. International Journal of Molecular Sciences, 2015, 16, 10834-10854.	4.1	33
46	Alternating membrane potential/calcium interplay underlies repetitive focal activity in a genetic model of calciumâ€dependent atrial arrhythmias. Journal of Physiology, 2015, 593, 1443-1458.	2.9	24
47	<i>SCN5A</i> variant that blocks fibroblast growth factor homologous factor regulation causes human arrhythmia. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 12528-12533.	7.1	51
48	Molecular Mapping of Sinoatrial Node HCN Channel Expression in the Human Heart. Circulation: Arrhythmia and Electrophysiology, 2015, 8, 1219-1227.	4.8	72
49	Targeting Atrial Fibrillation Rotors. JACC: Clinical Electrophysiology, 2015, 1, 270-272.	3.2	0
50	Calsequestrin 2 deletion causes sinoatrial node dysfunction and atrial arrhythmias associated with altered sarcoplasmic reticulum calcium cycling and degenerative fibrosis within the mouse atrial pacemaker complex1. European Heart Journal, 2015, 36, 686-697.	2.2	110
51	Abstract 18402: Human Atrial Fibrillation Drivers Seen Simultaneously by Focal Impulse and Rotor Mapping and High-resolution Optical Mapping. Circulation, 2015, 132, .	1.6	15
52	Abstract 18171: HCN Channel Distribution in the Human Sinoatrial Node and Latent Atrial Pacemakers <i>(Best of Basic Science Abstract)</i>. Circulation, 2015, 132, .	1.6	0
53	Fibroblast Growth Factor 23. Circulation, 2014, 130, 295-297.	1.6	3
54	Upregulation of Adenosine A1 Receptors Facilitates Sinoatrial Node Dysfunction in Chronic Canine Heart Failure by Exacerbating Nodal Conduction Abnormalities Revealed by Novel Dual-Sided Intramural Optical Mapping. Circulation, 2014, 130, 315-324.	1.6	70

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55	Calcium-Activated Potassium Current Modulates Ventricular Repolarization in Chronic Heart Failure. PLoS ONE, 2014, 9, e108824.	2.5	62
56	Tachy-brady arrhythmias: The critical role of adenosine-induced sinoatrial conduction block in post-tachycardia pauses. Heart Rhythm, 2013, 10, 110-118.	0.7	29
57	Sinoatrial Node Reentry in a Canine Chronic Left Ventricular Infarct Model. Circulation: Arrhythmia and Electrophysiology, 2013, 6, 984-994.	4.8	41
58	Conduction barriers and pathways of the sinoatrial pacemaker complex: their role in normal rhythm and atrial arrhythmias. American Journal of Physiology - Heart and Circulatory Physiology, 2012, 302, H1773-H1783.	3.2	95
59	Effects of KATP channel openers diazoxide and pinacidil in coronary-perfused atria and ventricles from failing and non-failing human hearts. Journal of Molecular and Cellular Cardiology, 2011, 51, 215-225.	1.9	109
60	Anatomic Localization and Autonomic Modulation of Atrioventricular Junctional Rhythm in Failing Human Hearts. Circulation: Arrhythmia and Electrophysiology, 2011, 4, 515-525.	4.8	46
61	Mapping Cardiac Pacemaker Circuits. Circulation Research, 2010, 106, 255-271.	4.5	49
62	Complex Interactions Between the Sinoatrial Node and Atrium During Reentrant Arrhythmias in the Canine Heart. Circulation, 2010, 122, 782-789.	1.6	64
63	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
64	Optical Mapping of the Isolated Coronary-Perfused Human Sinus Node. Journal of the American College of Cardiology, 2010, 56, 1386-1394.	2.8	151
65	Differential KATP channel pharmacology in intact mouse heart. Journal of Molecular and Cellular Cardiology, 2010, 48, 152-160.	1.9	84
66	Structural and Functional Evidence for Discrete Exit Pathways That Connect the Canine Sinoatrial Node and Atria. Circulation Research, 2009, 104, 915-923.	4.5	114
67	Atria are more susceptible to electroporation than ventricles: Implications for atrial stunning, shock-induced arrhythmia and defibrillation failure. Heart Rhythm, 2008, 5, 593-604.	0.7	34
68	Electrophysiological mechanisms of antiarrhythmic protection during hypothermia in winter hibernating versus nonhibernating mammals. Heart Rhythm, 2008, 5, 1587-1596.	0.7	39
69	Effect of Electroporation on Cardiac Electrophysiology. Methods in Molecular Biology, 2008, 423, 433-448.	0.9	27
70	Application of blebbistatin as an excitationâ€"contraction uncoupler for electrophysiologic study of rat and rabbit hearts. Heart Rhythm, 2007, 4, 619-626.	0.7	334
71	Natural mechanisms of resistance to ventricular fibrillation during hypothermia: comparative study of a hibernator Citellus undulatus versus rabbit. FASEB Journal, 2007, 21, .	0.5	0
72	Overexpression of Cx43 and NF200 in the ground squirrel Citellus undulatus heart during the hibernation state. FASEB Journal, 2007, 21, A487.	0.5	0

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73	Postganglionic nerve stimulation induces temporal inhibition of excitability in rabbit sinoatrial node. American Journal of Physiology - Heart and Circulatory Physiology, 2006, 291, H612-H623.	3.2	68
74	Chessboard of atrial fibrillation: reentry or focus? Single or multiple source(s)? Neurogenic or myogenic?. American Journal of Physiology - Heart and Circulatory Physiology, 2005, 289, H977-H979.	3.2	12
75	Roles of adrenergic and cholinergic stimulation in spontaneous atrial fibrillation in dogs. Journal of the American College of Cardiology, 2004, 43, 483-490.	2.8	263