# Vadim V Fedorov

List of Publications by Year
in descending order



| 75 | 3,967 | 109321 | 123424 |
|---|---|---|---|
| papers | citations | 35 h-index | 61 g-index |

| 76 | 76 | 76 | 3822 |
|---|---|---|---|
| all docs | docs citations | times ranked | citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | 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 |
| 2 | 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 |
| 3 | 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 |
| 4 | Optical Mapping of the Isolated Coronary-Perfused Human Sinus Node. Journal of the American College of Cardiology, 2010, 56, 1386-1394. | 2.8 | 151 |
| 5 | 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 |
| 6 | 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 |
| 7 | 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 |
| 8 | ECG signal classification for the detection of cardiac arrhythmias using a convolutional recurrent neural network. Physiological Measurement, 2018, 39, 094006. | 2.1 | 110 |
| 9 | 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 |
| 10 | 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 |
| 11 | Fibrosis: a structural modulator of sinoatrial node physiology and dysfunction. Frontiers in Physiology, 2015, 6, 37. | 2.8 | 93 |
| 12 | 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 |
| 13 | Adenosine-Induced Atrial Fibrillation. Circulation, 2016, 134, 486-498. | 1.6 | 85 |
| 14 | Differential KATP channel pharmacology in intact mouse heart. Journal of Molecular and Cellular Cardiology, 2010, 48, 152-160. | 1.9 | 84 |
| 15 | 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 |
| 16 | Human sinoatrial node structure: 3D microanatomy of sinoatrial conduction pathways. Progress in Biophysics and Molecular Biology, 2016, 120, 164-178. | 2.9 | 81 |
| 17 | Fibrosis and Atrial Fibrillation: Computerized and Optical Mapping. JACC: Clinical Electrophysiology, 2017, 3, 531-546. | 3.2 | 77 |
| 18 | Redundant and diverse intranodal pacemakers and conduction pathways protect the human sinoatrial node from failure. Science Translational Medicine, 2017, 9, . | 12.4 | 76 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Molecular Mapping of Sinoatrial Node HCN Channel Expression in the Human Heart. Circulation: Arrhythmia and Electrophysiology, 2015, 8, 1219-1227. | 4.8 | 72 |
| 20 | 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 |
| 21 | 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 |
| 22 | Complex Interactions Between the Sinoatrial Node and Atrium During Reentrant Arrhythmias in the Canine Heart. Circulation, 2010, 122, 782-789. | 1.6 | 64 |
| 23 | 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 |
| 24 | Calcium-Activated Potassium Current Modulates Ventricular Repolarization in Chronic Heart Failure. PLoS ONE, 2014, 9, e108824. | 2.5 | 62 |
| 25 | Twoâ€Pore K + Channel TREKâ€1 Regulates Sinoatrial Node Membrane Excitability. Journal of the American Heart Association, 2016, 5, e002865. | 3.7 | 52 |
| 26 | 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 |
| 27 | SCN5A 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 |
| 28 | Human Atrial Fibrillation Drivers ResolvedÂWith Integrated Functional andÂStructural Imaging to Benefit ClinicalÂMapping. JACC: Clinical Electrophysiology, 2018, 4, 1501-1515. | 3.2 | 51 |
| 29 | Mapping Cardiac Pacemaker Circuits. Circulation Research, 2010, 106, 255-271. | 4.5 | 49 |
| 30 | Anatomic Localization and Autonomic Modulation of Atrioventricular Junctional Rhythm in Failing Human Hearts. Circulation: Arrhythmia and Electrophysiology, 2011, 4, 515-525. | 4.8 | 46 |
| 31 | Rationally engineered Troponin C modulates in vivo cardiac function and performance in health and disease. Nature Communications, 2016, 7, 10794. | 12.8 | 45 |
| 32 | Sinoatrial Node Reentry in a Canine Chronic Left Ventricular Infarct Model. Circulation: Arrhythmia and Electrophysiology, 2013, 6, 984-994. | 4.8 | 41 |
| 33 | Electrophysiological mechanisms of antiarrhythmic protection during hypothermia in winter hibernating versus nonhibernating mammals. Heart Rhythm, 2008, 5, 1587-1596. | 0.7 | 39 |
| 34 | Impaired neuronal sodium channels cause intranodal conduction failure and reentrant arrhythmias in human sinoatrial node. Nature Communications, 2020, 11, 512. | 12.8 | 39 |
| 35 | Maintenance of Atrial Fibrillation. Circulation: Arrhythmia and Electrophysiology, 2016, 9, . | 4.8 | 37 |
| 36 | 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 |

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|---|---|---|---|
| 37 | 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 |
| 38 | Calmodulin kinase II regulates atrial myocyte late sodium current, calcium handling, and atrial arrhythmia. Heart Rhythm, 2020, 17, 503-511. | 0.7 | 34 |
| 39 | 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 |
| 40 | 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 |
| 41 | Silencing miR-370-3p rescues funny current and sinus node function in heart failure. Scientific Reports, 2020, 10, 11279. | 3.3 | 30 |
| 42 | 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 |
| 43 | Pharmacologic Approach to Sinoatrial Node Dysfunction. Annual Review of Pharmacology and Toxicology, 2021, 61, 757-778. | 9.4 | 29 |
| 44 | 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 |
| 45 | Atrial fibrillation driver mechanisms: Insight from the isolated human heart. Trends in Cardiovascular Medicine, 2017, 27, 1-11. | 4.9 | 27 |
| 46 | Effect of Electroporation on Cardiac Electrophysiology. Methods in Molecular Biology, 2008, 423, 433-448. | 0.9 | 27 |
| 47 | 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 |
| 48 | 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 |
| 49 | Fibroblast-Specific Proteotranscriptomes Reveal Distinct Fibrotic Signatures of Human Sinoatrial Node in Nonfailing and Failing Hearts. Circulation, 2021, 144, 126-143. | 1.6 | 22 |
| 50 | Optical Mapping-Validated Machine Learning Improves Atrial Fibrillation Driver Detection by Multi-Electrode Mapping. Circulation: Arrhythmia and Electrophysiology, 2020, 13, e008249. | 4.8 | 21 |
| 51 | In silico investigation of the mechanisms underlying atrial fibrillation due to impaired Pitx2. PLoS Computational Biology, 2020, 16, e1007678. | 3.2 | 21 |
| 52 | Î²IV-Spectrin/STAT3 complex regulates fibroblast phenotype, fibrosis, and cardiac function. JCI Insight, 2019, 4, . | 5.0 | 19 |
| 53 | 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 |
| 54 | 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 |

| # | ARTICLE | IF | CITATIONS |
|---|---|---|---|
| 55 | 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 |
| 56 | A robust computational framework for estimating 3D Bi-Atrial chamber wall thickness. Computers in Biology and Medicine, 2019, 114, 103444. | 7.0 | 16 |
| 57 | 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 |
| 58 | 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 |
| 59 | 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 |
| 60 | Altered microRNA and mRNA profiles during heart failure in the human sinoatrial node. Scientific Reports, 2021, 11, 19328. | 3.3 | 12 |
| 61 | 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 |
| 62 | 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 |
| 63 | 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 |
| 64 | 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 |
| 65 | 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 |
| 66 | Fibroblast Growth Factor 23. Circulation, 2014, 130, 295-297. | 1.6 | 3 |
| 67 | 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 |
| 68 | Mechanisms of Normal and Dysfunctional Sinoatrial Nodal Excitability and Propagation. , 2018, , 259-271. | | 3 |
| 69 | A Secret Marriage Between Fibrosis and Atrial Fibrillation Drivers. JACC: Clinical Electrophysiology, 2018, 4, 30-32. | 3.2 | 2 |
| 70 | Now You See a Rotor, Now You Donâ€™t. JACC: Clinical Electrophysiology, 2018, 4, 84-86. | 3.2 | 2 |
| 71 | Targeting Atrial Fibrillation Rotors. JACC: Clinical Electrophysiology, 2015, 1, 270-272. | 3.2 | 0 |
| 72 | Lights on! Can visual light help distinguish fibrotic scars from ablation lesions?. Heart Rhythm, 2018, 15, 576-577. | 0.7 | 0 |

| # | Article | IF | Citations |
|---|---|---|---|
| 73 | 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 |
| 74 | Overexpression of Cx43 and NF200 in the ground squirrel Citellus undulatus heart during the hibernation state. FASEB Journal, 2007, 21, A487. | 0.5 | 0 |
| 75 | Abstract 18171: HCN Channel Distribution in the Human Sinoatrial Node and Latent Atrial Pacemakers (Best of Basic Science Abstract). Circulation, 2015, 132, . | 1.6 | 0 |