

Andrew Trafford

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115
papers

5,857
citations

43
h-index

74
g-index

131
ext. papers

6,748
ext. citations

7.4
avg. IF

5.72
L-index

#	Paper	IF	Citations
115	Enhanced sarcoplasmic reticulum Ca ²⁺ leak and increased Na ⁺ -Ca ²⁺ exchanger function underlie delayed afterdepolarizations in patients with chronic atrial fibrillation. <i>Circulation</i> , 2012 , 125, 2059-70	16.7	395
114	Calcium and Excitation-Contraction Coupling in the Heart. <i>Circulation Research</i> , 2017 , 121, 181-195	15.7	318
113	Integrative analysis of calcium cycling in cardiac muscle. <i>Circulation Research</i> , 2000 , 87, 1087-94	15.7	254
112	How can we improve our understanding of cardiovascular safety liabilities to develop safer medicines?. <i>British Journal of Pharmacology</i> , 2011 , 163, 675-93	8.6	247
111	The control of Ca release from the cardiac sarcoplasmic reticulum: regulation versus autoregulation. <i>Cardiovascular Research</i> , 1998 , 38, 589-604	9.9	170
110	The sarcoplasmic reticulum and arrhythmogenic calcium release. <i>Cardiovascular Research</i> , 2008 , 77, 285-92	9.2	168
109	Measurement of sarcoplasmic reticulum Ca ²⁺ content and sarcolemmal Ca ²⁺ fluxes in isolated rat ventricular myocytes during spontaneous Ca ²⁺ release. <i>Journal of Physiology</i> , 1997 , 501 (Pt 1), 3-16	3.9	154
108	Increasing ryanodine receptor open probability alone does not produce arrhythmogenic calcium waves: threshold sarcoplasmic reticulum calcium content is required. <i>Circulation Research</i> , 2007 , 100, 105-11	15.7	154
107	Modulation of CICR has no maintained effect on systolic Ca ²⁺ : simultaneous measurements of sarcoplasmic reticulum and sarcolemmal Ca ²⁺ fluxes in rat ventricular myocytes. <i>Journal of Physiology</i> , 2000 , 522 Pt 2, 259-70	3.9	141
106	Aging and the cardiac collagen matrix: Novel mediators of fibrotic remodelling. <i>Journal of Molecular and Cellular Cardiology</i> , 2016 , 93, 175-85	5.8	140
105	Characterization of an extensive transverse tubular network in sheep atrial myocytes and its depletion in heart failure. <i>Circulation: Heart Failure</i> , 2009 , 2, 482-9	7.6	120
104	Differences in intracellular calcium homeostasis between atrial and ventricular myocytes. <i>Journal of Molecular and Cellular Cardiology</i> , 2009 , 46, 463-73	5.8	106
103	Coordinated control of cell Ca(2+) loading and triggered release from the sarcoplasmic reticulum underlies the rapid inotropic response to increased L-type Ca(2+) current. <i>Circulation Research</i> , 2001 , 88, 195-201	15.7	106
102	A novel, rapid and reversible method to measure Ca buffering and time-course of total sarcoplasmic reticulum Ca content in cardiac ventricular myocytes. <i>Pflugers Archiv European Journal of Physiology</i> , 1999 , 437, 501-3	4.6	104
101	Transverse tubules are a common feature in large mammalian atrial myocytes including human. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2011 , 301, H1996-2005	5.2	103
100	Three-dimensional reconstruction of cardiac sarcoplasmic reticulum reveals a continuous network linking transverse-tubules: this organization is perturbed in heart failure. <i>Circulation Research</i> , 2013 , 113, 1219-30	15.7	95
99	Comparison of subsarcolemmal and bulk calcium concentration during spontaneous calcium release in rat ventricular myocytes. <i>Journal of Physiology</i> , 1995 , 488 (Pt 3), 577-86	3.9	93

98	The effects of low concentrations of caffeine on spontaneous Ca release in isolated rat ventricular myocytes. <i>Cell Calcium</i> , 2000 , 28, 269-76	4	86
97	Calcium flux balance in the heart. <i>Journal of Molecular and Cellular Cardiology</i> , 2013 , 58, 110-7	5.8	83
96	Tissue section AFM: In situ ultrastructural imaging of native biomolecules. <i>Matrix Biology</i> , 2010 , 29, 254-60.4	6.4	82
95	Reducing ryanodine receptor open probability as a means to abolish spontaneous Ca ²⁺ release and increase Ca ²⁺ transient amplitude in adult ventricular myocytes. <i>Circulation Research</i> , 2006 , 98, 1299-305	15.7	81
94	Enhanced Ca ²⁺ current and decreased Ca ²⁺ efflux restore sarcoplasmic reticulum Ca ²⁺ content after depletion. <i>Circulation Research</i> , 1997 , 81, 477-84	15.7	79
93	MAPS; acute safety data of the St Jude accent - tendril IPG system during prolonged max power CMR scanning. <i>Journal of Cardiovascular Magnetic Resonance</i> , 2015 , 17,	6.9	78
92	Dependence of cardiac transverse tubules on the BAR domain protein amphiphysin II (BIN-1). <i>Circulation Research</i> , 2014 , 115, 986-96	15.7	78
91	Extracellular matrix profiles in the progression to heart failure. European Young Physiologists Symposium Keynote Lecture-Bratislava 2007. <i>Acta Physiologica</i> , 2008 , 194, 3-21	5.6	77
90	In the RyR2(R4496C) mouse model of CPVT, β adrenergic stimulation induces Ca waves by increasing SR Ca content and not by decreasing the threshold for Ca waves. <i>Circulation Research</i> , 2010 , 107, 1483-9	15.7	76
89	The control of sarcoplasmic reticulum Ca content in cardiac muscle. <i>Cell Calcium</i> , 2005 , 38, 391-6	4	74
88	What role does modulation of the ryanodine receptor play in cardiac inotropy and arrhythmogenesis?. <i>Journal of Molecular and Cellular Cardiology</i> , 2009 , 46, 474-81	5.8	73
87	Age-related divergent remodeling of the cardiac extracellular matrix in heart failure: collagen accumulation in the young and loss in the aged. <i>Journal of Molecular and Cellular Cardiology</i> , 2012 , 53, 82-90	5.8	71
86	Nanoindentation of histological specimens: Mapping the elastic properties of soft tissues. <i>Journal of Materials Research</i> , 2009 , 24, 638-646	2.5	67
85	Calcium in the Pathophysiology of Atrial Fibrillation and Heart Failure. <i>Frontiers in Physiology</i> , 2018 , 9, 1380	4.6	66
84	Diastolic spontaneous calcium release from the sarcoplasmic reticulum increases beat-to-beat variability of repolarization in canine ventricular myocytes after β adrenergic stimulation. <i>Circulation Research</i> , 2013 , 112, 246-56	15.7	65
83	Analysis of cellular calcium fluxes in cardiac muscle to understand calcium homeostasis in the heart. <i>Cell Calcium</i> , 2007 , 42, 503-12	4	65
82	The effect of acidosis on systolic Ca ²⁺ and sarcoplasmic reticulum calcium content in isolated rat ventricular myocytes. <i>Journal of Physiology</i> , 2000 , 529 Pt 3, 661-8	3.9	61
81	Mechanisms underlying enhanced cardiac excitation contraction coupling observed in the senescent sheep myocardium. <i>Journal of Molecular and Cellular Cardiology</i> , 2004 , 37, 1171-81	5.8	58

80	Phosphodiesterase type-5 inhibitor use in type 2 diabetes is associated with a reduction in all-cause mortality. <i>Heart</i> , 2016 , 102, 1750-1756	5.1	58
79	An induced pluripotent stem cell model of hypoplastic left heart syndrome (HLHS) reveals multiple expression and functional differences in HLHS-derived cardiac myocytes. <i>Stem Cells Translational Medicine</i> , 2014 , 3, 416-23	6.9	57
78	Regulation of systolic $[Ca^{2+}]_i$ and cellular Ca^{2+} flux balance in rat ventricular myocytes by SR Ca^{2+} , L-type Ca^{2+} current and diastolic $[Ca^{2+}]_i$. <i>Journal of Physiology</i> , 2007 , 585, 579-92	3.9	55
77	Enhanced sarcolemmal Ca^{2+} efflux reduces sarcoplasmic reticulum Ca^{2+} content and systolic Ca^{2+} in cardiac hypertrophy. <i>Cardiovascular Research</i> , 2004 , 62, 538-47	9.9	52
76	From the ryanodine receptor to cardiac arrhythmias. <i>Circulation Journal</i> , 2009 , 73, 1561-7	2.9	49
75	Propagating calcium waves initiated by local caffeine application in rat ventricular myocytes. <i>Journal of Physiology</i> , 1995 , 489 (Pt 2), 319-26	3.9	47
74	Stability and instability of regulation of intracellular calcium. <i>Experimental Physiology</i> , 2005 , 90, 3-12	2.4	45
73	Phosphodiesterase-5 inhibitors and the heart: compound cardioprotection?. <i>Heart</i> , 2018 , 104, 1244-1250	5.1	43
72	The Control of Diastolic Calcium in the Heart: Basic Mechanisms and Functional Implications. <i>Circulation Research</i> , 2020 , 126, 395-412	15.7	43
71	Changes of SERCA activity have only modest effects on sarcoplasmic reticulum Ca^{2+} content in rat ventricular myocytes. <i>Journal of Physiology</i> , 2011 , 589, 4723-9	3.9	42
70	Na/Ca exchange: regulator of intracellular calcium and source of arrhythmias in the heart. <i>Annals of the New York Academy of Sciences</i> , 2007 , 1099, 315-25	6.5	42
69	Stimulation of Ca-induced Ca release only transiently increases the systolic Ca transient: measurements of Ca fluxes and sarcoplasmic reticulum Ca. <i>Cardiovascular Research</i> , 1998 , 37, 710-7	9.9	42
68	Impaired β -adrenergic responsiveness accentuates dysfunctional excitation-contraction coupling in an ovine model of tachypacing-induced heart failure. <i>Journal of Physiology</i> , 2011 , 589, 1367-82	3.9	41
67	Reduced SERCA2 abundance decreases the propensity for Ca^{2+} wave development in ventricular myocytes. <i>Cardiovascular Research</i> , 2010 , 86, 63-71	9.9	41
66	Factors affecting the propagation of locally activated systolic Ca transients in rat ventricular myocytes. <i>Pflügers Archiv European Journal of Physiology</i> , 1993 , 425, 181-3	4.6	40
65	Reproducibility of CRISPR-Cas9 methods for generation of conditional mouse alleles: a multi-center evaluation. <i>Genome Biology</i> , 2019 , 20, 171	18.3	39
64	Localised micro-mechanical stiffening in the ageing aorta. <i>Mechanisms of Ageing and Development</i> , 2011 , 132, 459-67	5.6	39
63	The mechanism and significance of the slow changes of ventricular action potential duration following a change of heart rate. <i>Experimental Physiology</i> , 2009 , 94, 520-8	2.4	39

62	Calcium signalling microdomains and the t-tubular system in atrial myocytes: potential roles in cardiac disease and arrhythmias. <i>Cardiovascular Research</i> , 2013 , 98, 192-203	9.9	38
61	Concise Review: Cardiac Disease Modeling Using Induced Pluripotent Stem Cells. <i>Stem Cells</i> , 2015 , 33, 2643-51	5.8	35
60	Spatial disruption and enhanced degradation of collagen with the transition from compensated ventricular hypertrophy to symptomatic congestive heart failure. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2007 , 292, H1364-72	5.2	34
59	Three-dimensional structure of the intercalated disc reveals plicate domain and gap junction remodeling in heart failure. <i>Biophysical Journal</i> , 2015 , 108, 498-507	2.9	33
58	Ca-activated chloride current and Na-Ca exchange have different timecourses during sarcoplasmic reticulum Ca release in ferret ventricular myocytes. <i>Pflugers Archiv European Journal of Physiology</i> , 1998 , 435, 743-5	4.6	33
57	The effects of exogenous calcium buffers on the systolic calcium transient in rat ventricular myocytes. <i>Biophysical Journal</i> , 2001 , 80, 1915-25	2.9	32
56	Perturbed atrial calcium handling in an ovine model of heart failure: potential roles for reductions in the L-type calcium current. <i>Journal of Molecular and Cellular Cardiology</i> , 2015 , 79, 169-79	5.8	31
55	A computational model of spatio-temporal cardiac intracellular calcium handling with realistic structure and spatial flux distribution from sarcoplasmic reticulum and t-tubule reconstructions. <i>PLoS Computational Biology</i> , 2017 , 13, e1005714	5	31
54	A functional role for transverse (t-) tubules in the atria. <i>Journal of Molecular and Cellular Cardiology</i> , 2013 , 58, 84-91	5.8	31
53	Sarcoplasmic reticulum Ca-ATPase and heart failure 20 years later. <i>Circulation Research</i> , 2013 , 113, 958-61	5.7	28
52	A measurable reduction of s.r. Ca content follows spontaneous Ca release in rat ventricular myocytes. <i>Pflugers Archiv European Journal of Physiology</i> , 1997 , 434, 852-4	4.6	28
51	Physiological and pathological modulation of ryanodine receptor function in cardiac muscle. <i>Cell Calcium</i> , 2004 , 35, 583-9	4	28
50	The role of intracellular Ca buffers in determining the shape of the systolic Ca transient in cardiac ventricular myocytes. <i>Pflugers Archiv European Journal of Physiology</i> , 2001 , 442, 96-100	4.6	28
49	Integrative analysis of calcium signalling in cardiac muscle. <i>Frontiers in Bioscience - Landmark</i> , 2002 , 7, d843-52	2.8	27
48	2,3-Butanedione monoxime (BDM) decreases sarcoplasmic reticulum Ca content by stimulating Ca release in isolated rat ventricular myocytes. <i>Pflugers Archiv European Journal of Physiology</i> , 1998 , 436, 776-81	4.6	26
47	Balanced changes in Ca buffering by SERCA and troponin contribute to Ca handling during β -adrenergic stimulation in cardiac myocytes. <i>Cardiovascular Research</i> , 2014 , 104, 347-54	9.9	25
46	Ca(2+) wave probability is determined by the balance between SERCA2-dependent Ca(2+) reuptake and threshold SR Ca(2+) content. <i>Cardiovascular Research</i> , 2011 , 90, 503-12	9.9	25
45	Use of medetomidine and butorphanol for sedation in dogs. <i>Journal of Small Animal Practice</i> , 1994 , 35, 495-498	1.6	25

44	Phosphodiesterase 5 inhibition improves contractile function and restores transverse tubule loss and catecholamine responsiveness in heart failure. <i>Scientific Reports</i> , 2019 , 9, 6801	4.9	22
43	Variability of spontaneous Ca ²⁺ release between different rat ventricular myocytes is correlated with Na(+)-Ca ²⁺ exchange and [Na ⁺] _i . <i>Circulation Research</i> , 1996 , 78, 857-62	15.7	22
42	Direct measurements of SR free Ca reveal the mechanism underlying the transient effects of RyR potentiation under physiological conditions. <i>Cardiovascular Research</i> , 2014 , 103, 554-63	9.9	19
41	Human junctophilin-2 undergoes a structural rearrangement upon binding PtdIns(3,4,5)P ₃ and the S101R mutation identified in hypertrophic cardiomyopathy obviates this response. <i>Biochemical Journal</i> , 2013 , 456, 205-17	3.8	19
40	A mechanism distinct from the L-type Ca current or Na-Ca exchange contributes to Ca entry in rat ventricular myocytes. <i>Cell Calcium</i> , 2006 , 39, 417-23	4	18
39	Measurement of calcium entry and exit in quiescent rat ventricular myocytes. <i>Pflugers Archiv European Journal of Physiology</i> , 2000 , 440, 600-8	4.6	18
38	Life, sudden death, and intracellular calcium. <i>Circulation Research</i> , 2006 , 99, 223-4	15.7	17
37	Photoperiod-dependent modulation of cardiac excitation contraction coupling in the Siberian hamster. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , 2005 , 288, R607-14	3.2	17
36	Frequency-modulated atomic force microscopy localises viscoelastic remodelling in the ageing sheep aorta. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2016 , 64, 10-7	4.1	14
35	No role for a voltage sensitive release mechanism in cardiac muscle. <i>Journal of Molecular and Cellular Cardiology</i> , 2003 , 35, 145-51	5.8	13
34	Increased Vulnerability to Atrial Fibrillation Is Associated With Increased Susceptibility to Alternans in Old Sheep. <i>Journal of the American Heart Association</i> , 2018 , 7, e009972	6	11
33	No Role for the Ryanodine Receptor in Regulating Cardiac Contraction?. <i>Physiology</i> , 2000 , 15, 275-279	9.8	10
32	Increased Ca buffering underpins remodelling of Ca handling in old sheep atrial myocytes. <i>Journal of Physiology</i> , 2017 , 595, 6263-6279	3.9	9
31	Distinct circadian mechanisms govern cardiac rhythms and susceptibility to arrhythmia. <i>Nature Communications</i> , 2021 , 12, 2472	17.4	9
30	Measurement of sarcoplasmic reticulum Ca content and sarcolemmal fluxes during the transient stimulation of the systolic Ca transient produced by caffeine. <i>Annals of the New York Academy of Sciences</i> , 1998 , 853, 368-71	6.5	8
29	Illuminating sarcoplasmic reticulum calcium. <i>Circulation Research</i> , 2003 , 93, 4-5	15.7	8
28	Sex-dependent effects of developmental hypoxia on cardiac mitochondria from adult murine offspring. <i>Free Radical Biology and Medicine</i> , 2021 , 162, 490-499	7.8	6
27	What is the purpose of the large sarcolemmal calcium flux on each heartbeat?. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2009 , 297, H493-4	5.2	5

26	Can changes of ryanodine receptor expression affect cardiac contractility?. <i>Cardiovascular Research</i> , 2000 , 45, 1068-71	9.9	5
25	Postnatal Enalapril to Improve Cardiovascular Function Following Preterm Preeclampsia (PICK-UP):: A Randomized Double-Blind Placebo-Controlled Feasibility Trial. <i>Hypertension</i> , 2020 , 76, 1828-1837	8.5	5
24	How does CaMKII δ phosphorylation of the cardiac ryanodine receptor contribute to inotropy?. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010 , 107, E123; author reply E124	11.5	4
23	Another trigger for the heartbeat. <i>Journal of Physiology</i> , 1998 , 513 (Pt 1), 1	3.9	4
22	Non-ischemic Heart Preservation via Hypothermic Cardioplegic Perfusion Induces Immunodepletion of Donor Hearts Resulting in Diminished Graft Infiltration Following Transplantation. <i>Frontiers in Immunology</i> , 2020 , 11, 1621	8.4	4
21	Temporal Development of Autonomic Dysfunction in Heart Failure: Effects of Age in an Ovine Rapid-pacing Model. <i>Journals of Gerontology - Series A Biological Sciences and Medical Sciences</i> , 2016 , 71, 1544-1552	6.4	4
20	A model model: a commentary on DiFrancesco and Noble (1985) 'A model of cardiac electrical activity incorporating ionic pumps and concentration changes'. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2015 , 370,	5.8	3
19	Omega-3 fatty acids do not alter P-wave parameters in electrocardiogram or expression of atrial connexins in patients undergoing coronary artery bypass surgery. <i>Europace</i> , 2016 , 18, 1521-1527	3.9	3
18	Cardiac Transverse Tubules in Physiology and Heart Failure. <i>Annual Review of Physiology</i> , 2021 ,	23.1	3
17	Chronic vagal nerve stimulation has no effect on tachycardia-induced heart failure progression or excitation-contraction coupling. <i>Physiological Reports</i> , 2020 , 8, e14321	2.6	2
16	The ryanodine receptor: cause or consequence of diabetic heart failure?. <i>Journal of Molecular and Cellular Cardiology</i> , 2000 , 32, 1377-9	5.8	2
15	Response to correspondence on "Reproducibility of CRISPR-Cas9 methods for generation of conditional mouse alleles: a multi-center evaluation". <i>Genome Biology</i> , 2021 , 22, 99	18.3	2
14	PDE5 Inhibition Suppresses Ventricular Arrhythmias by Reducing SR Ca Content. <i>Circulation Research</i> , 2021 , 129, 650-665	15.7	2
13	Letter by Hutchings et al Regarding Article, "Preimplant Phosphodiesterase-5 Inhibitor Use Is Associated With Higher Rates of Severe Early Right Heart Failure After Left Ventricular Assist Device Implantation : An INTERMACS Analysis". <i>Circulation: Heart Failure</i> , 2019 , 12, e006410	7.6	1
12	DYNAMICS OF CARDIAC INTRACELLULAR Ca ²⁺ HANDLING [FROM EXPERIMENTS TO VIRTUAL CELLS. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2003 , 13, 3535-3560	3	1
11	Location, location, location: new avenues to determine the function of the cardiac Na ⁺ -Ca ²⁺ exchanger?. <i>Journal of Molecular and Cellular Cardiology</i> , 2003 , 35, 1321-4	5.8	1
10	Vagal Nerve Stimulation for the Treatment of Heart Failure 2017 , 157-179		1
9	Excitation-Contraction Coupling in Cardiac Muscle. <i>Advances in Muscle Research</i> , 2002 , 49-89		1

8	Primum non nocere: when will ryanodine receptor leak find its role in heart failure?. <i>Journal of Molecular and Cellular Cardiology</i> , 2011 , 50, 13-5	5.8	○
7	Maternal melatonin: Effective intervention against developmental programming of cardiovascular dysfunction in adult offspring of complicated pregnancy. <i>Journal of Pineal Research</i> , 2021 , 72, e12766	10.4	○
6	Optimising Large Animal Models of Sustained Atrial Fibrillation: Relevance of the Critical Mass Hypothesis. <i>Frontiers in Physiology</i> , 2021 , 12, 690897	4.6	○
5	Electrophysiological and Proarrhythmic Effects of Hydroxychloroquine Challenge in Guinea-Pig Hearts. <i>ACS Pharmacology and Translational Science</i> , 2021 , 4, 1639-1653	5.9	○
4	Letter by Pearman et al. regarding article "Effect of botulinum toxin on inducibility and maintenance of atrial fibrillation in ovine myocardial tissue". <i>PACE - Pacing and Clinical Electrophysiology</i> , 2017 , 40, 1186	1.6	
3	Comparison of Near Membrane and Bulk Cytoplasmic Calcium Concentration in Single Cardiac Ventricular Myocytes During Spontaneous Calcium Waves 1996 , 109-128		
2	Both collagen and elastin matrices are remodeled in the failing ovine atria a role for elastin-degrading enzymes in atrial structural remodeling. <i>FASEB Journal</i> , 2013 , 27, 1129.7	0.9	
1	Alkaline nucleoplasm facilitates contractile gene expression in the mammalian heart.. <i>Basic Research in Cardiology</i> , 2022 , 117, 17	11.8	