Matthew W Kay

List of Publications by Year in descending order

46 papers	2,239 citations	218381 26 h-index	243296 44 g-index
48 all docs	48 docs citations	48 times ranked	2761 citing authors

#	Article	IF	Citations
1	Human ES-cell-derived cardiomyocytes electrically couple and suppress arrhythmias in injured hearts. Nature, 2012, 489, 322-325.	13.7	668
2	Cardiac optogenetics: a decade of enlightenment. Nature Reviews Cardiology, 2021, 18, 349-367.	6.1	97
3	Phthalate Exposure Changes the Metabolic Profile of Cardiac Muscle Cells. Environmental Health Perspectives, 2012, 120, 1243-1251.	2.8	87
4	Clinically relevant concentrations of di (2-ethylhexyl) phthalate (DEHP) uncouple cardiac syncytium. Toxicology and Applied Pharmacology, 2009, 236, 25-38.	1.3	77
5	Properties of blebbistatin for cardiac optical mapping and other imaging applications. Pflugers Archiv European Journal of Physiology, 2012, 464, 503-512.	1.3	69
6	Lifetimes of epicardial rotors in panoramic optical maps of fibrillating swine ventricles. American Journal of Physiology - Heart and Circulatory Physiology, 2006, 291, H1935-H1941.	1.5	68
7	Interaction between spiral and paced waves in cardiac tissue. American Journal of Physiology - Heart and Circulatory Physiology, 2007, 293, H503-H513.	1.5	68
8	A technical review of optical mapping of intracellular calcium within myocardial tissue. American Journal of Physiology - Heart and Circulatory Physiology, 2016, 310, H1388-H1401.	1.5	67
9	Bisphenol A Exposure and Cardiac Electrical Conduction in Excised Rat Hearts. Environmental Health Perspectives, 2014, 122, 384-390.	2.8	64
10	Optogenetic release of norepinephrine from cardiac sympathetic neurons alters mechanical and electrical function. Cardiovascular Research, 2015, 105, 143-150.	1.8	61
11	Epicardial organization of human ventricular fibrillation. Heart Rhythm, 2004, 1, 14-23.	0.3	58
12	RHYTHM: An Open Source Imaging Toolkit for Cardiac Panoramic Optical Mapping. Scientific Reports, 2018, 8, 2921.	1.6	58
13	Effects of heart isolation, voltage-sensitive dye, and electromechanical uncoupling agents on ventricular fibrillation. American Journal of Physiology - Heart and Circulatory Physiology, 2003, 284, H1818-H1826.	1.5	56
14	Three-Dimensional Surface Reconstruction and Panoramic Optical Mapping of Large Hearts. IEEE Transactions on Biomedical Engineering, 2004, 51, 1219-1229.	2.5	55
15	Dynamics of neuroeffector coupling at cardiac sympathetic synapses. Journal of Physiology, 2018, 596, 2055-2075.	1.3	55
16	NADH changes during hypoxia, ischemia, and increased work differ between isolated heart preparations. American Journal of Physiology - Heart and Circulatory Physiology, 2014, 306, H529-H537.	1.5	49
17	Chronic activation of hypothalamic oxytocin neurons improves cardiac function during left ventricular hypertrophy-induced heart failure. Cardiovascular Research, 2017, 113, 1318-1328.	1.8	46
18	TRPV1 expressed throughout the arterial circulation regulates vasoconstriction and blood pressure. Journal of Physiology, 2020, 598, 5639-5659.	1.3	37

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19	Panoramic Optical Mapping Reveals Continuous Epicardial Reentry during Ventricular Fibrillation in the Isolated Swine Heart. Biophysical Journal, 2007, 92, 1090-1095.	0.2	36
20	K_{ATP} channel inhibition blunts electromechanical decline during hypoxia in left ventricular working rabbit hearts. Journal of Physiology, 2017, 595, 3799-3813.	1.3	36
21	Functional response of the isolated, perfused normoxic heart to pyruvate dehydrogenase activation by dichloroacetate and pyruvate. Pflugers Archiv European Journal of Physiology, 2016, 468, 131-142.	1.3	35
22	Oxygen demand of perfused heart preparations: how electromechanical function and inadequate oxygenation affect physiology and optical measurements. Experimental Physiology, 2015, 100, 603-616.	0.9	34
23	Neurotransmission to parasympathetic cardiac vagal neurons in the brain stem is altered with left ventricular hypertrophy-induced heart failure. American Journal of Physiology - Heart and Circulatory Physiology, 2015, 309, H1281-H1287.	1.5	34
24	Cardiac performance is limited by oxygen delivery to the mitochondria in the crystalloid-perfused working heart. American Journal of Physiology - Heart and Circulatory Physiology, 2018, 314, H704-H715.	1.5	33
25	Benefits of oxytocin administration in obstructive sleep apnea. American Journal of Physiology - Lung Cellular and Molecular Physiology, 2017, 313, L825-L833.	1.3	31
26	Sudden Heart Rate Reduction Upon Optogenetic Release of Acetylcholine From Cardiac Parasympathetic Neurons in Perfused Hearts. Frontiers in Physiology, 2019, 10, 16.	1.3	31
27	Measuring Curvature and Velocity Vector Fields for Waves of Cardiac Excitation in 2-D Media. IEEE Transactions on Biomedical Engineering, 2005, 52, 50-63.	2.5	29
28	Signal Decomposition of Transmembrane Voltage-Sensitive Dye Fluorescence Using a Multiresolution Wavelet Analysis. IEEE Transactions on Biomedical Engineering, 2011, 58, 2083-2093.	2.5	24
29	Stop the beat to see the rhythm: excitation-contraction uncoupling in cardiac research. American Journal of Physiology - Heart and Circulatory Physiology, 2021, 321, H1005-H1013.	1.5	21
30	NADH Fluorescence Imaging of Isolated Biventricular Working Rabbit Hearts. Journal of Visualized Experiments, 2012, , .	0.2	18
31	Intranasal oxytocin increases respiratory rate and reduces obstructive event duration and oxygen desaturation in obstructive sleep apnea patients: a randomized double blinded placebo controlled study. Sleep Medicine, 2020, 74, 242-247.	0.8	17
32	Activation of Oxytocin Neurons Improves Cardiac Function in a Pressure-Overload Model of HeartÂFailure. JACC Basic To Translational Science, 2020, 5, 484-497.	1.9	16
33	Optical mapping of human embryonic stem cell-derived cardiomyocyte graft electrical activity in injured hearts. Stem Cell Research and Therapy, 2020, 11, 417.	2.4	14
34	Detachable glass microelectrodes for recording action potentials in active moving organs. American Journal of Physiology - Heart and Circulatory Physiology, 2017, 312, H1248-H1259.	1.5	13
35	Cholinergic stimulation improves electrophysiological rate adaptation during pressure overload-induced heart failure in rats. American Journal of Physiology - Heart and Circulatory Physiology, 2020, 319, H1358-H1368.	1.5	13
36	TRPV1 in arteries enables a rapid myogenic tone. Journal of Physiology, 2022, 600, 1651-1666.	1.3	12

#	ARTICLE	IF	CITATIONS
37	Interactions Between Paced Wavefronts and Monomorphic Ventricular Tachycardia: Implications for Antitachycardia Pacing. Journal of Cardiovascular Electrophysiology, 2006, 17, 1129-1139.	0.8	10
38	Chemogenetic activation of intracardiac cholinergic neurons improves cardiac function in pressure overload-induced heart failure. American Journal of Physiology - Heart and Circulatory Physiology, 2020, 319, H3-H12.	1.5	9
39	Epicardial rotors in panoramic optical maps of fibrillating swine ventricles. , 2006, 2006, 2268-71.		7
40	A Simplified Approach for Simultaneous Measurements of Wavefront Velocity and Curvature in the Heart Using Activation Times. Cardiovascular Engineering and Technology, 2013, 4, 520-534.	0.7	7
41	Enzyme-dependent fluorescence recovery of NADH after photobleaching to assess dehydrogenase activity of isolated perfused hearts. Scientific Reports, 2017, 7, 45744.	1.6	7
42	Optogenetic Control of Cardiac Autonomic Neurons in Transgenic Mice. Methods in Molecular Biology, 2021, 2191, 309-321.	0.4	5
43	Targeting Parasympathetic Activity to Improve Autonomic Tone & Clinical Outcomes. Physiology, 2021, , .	1.6	3
44	Optical Mapping of Cardiac Electromechanics. Biophysical Journal, 2016, 111, 269-270.	0.2	2
45	Mapping a Moving Target. Journal of Cardiovascular Electrophysiology, 2003, 14, 1085-1086.	0.8	1
46	Interleukin 1 receptor inhibition dampens the flame of postinfarction arrhythmias. Heart Rhythm, 2017, 14, 737-738.	0.3	0