Ernst Niggli

List of Publications by Year
in descending order

125 papers	4,232 citations	101543 36 h-index	114465 63 g-index
126 all docs	126 docs citations	126 times ranked	3475 citing authors

#	Article	IF	Citations
1	Sodium-calcium exchange in excitable cells: fuzzy space. Science, 1990, 248, 283-283.	12.6	284
2	Ratiometric confocal Ca2+-measurements with visible wavelength indicators in isolated cardiac myocytes. Cell Calcium, 1993, 14, 359-372.	2.4	238
3	The nitrodibenzofuran chromophore: a new caging group for ultra-efficient photolysis in living cells. Nature Methods, 2006, 3, 35-40.	19.0	194
4	Voltage-independent calcium release in heart muscle. Science, 1990, 250, 565-568.	12.6	186
5	Sodium currentâ€induced calcium signals in isolated guineaâ€pig ventricular myocytes.. Journal of Physiology, 1994, 474, 439-446.	2.9	171
6	Molecular operations of the sodiumâ€"calcium exchanger revealed by conformation currents. Nature, 1991, 349, 621-624.	27.8	159
7	Microscopic spiral waves reveal positive feedback in subcellular calcium signaling. Biophysical Journal, 1993, 65, 2272-2276.	0.5	147
8	Fundamental calcium release events revealed by two-photon excitation photolysis of caged calcium in guinea-pig cardiac myocytes. Journal of Physiology, 1998, 508, 801-809.	2.9	137
9	LOCALIZED INTRACELLULAR CALCIUM SIGNALING IN MUSCLE: Calcium Sparks and Calcium Quarks. Annual Review of Physiology, 1999, 61, 311-335.	13.1	129
10	Dystrophic cardiomyopathy: amplification of cellular damage by Ca2+ signalling and reactive oxygen species-generating pathways. Cardiovascular Research, 2008, 77, 766-773.	3.8	124
11	Modulation of Ca2+ release in cultured neonatal rat cardiac myocytes. Insight from subcellular release patterns revealed by confocal microscopy.. Circulation Research, 1994, 74, 979-990.	4.5	120
12	Cardiac phenotype of Duchenne Muscular Dystrophy: Insights from cellular studies. Journal of Molecular and Cellular Cardiology, 2013, 58, 217-224.	1.9	98
13	Reciprocal amplification of ROS and Ca2+ signals in stressed mdx dystrophic skeletal muscle fibers. Pflugers Archiv European Journal of Physiology, 2009, 458, 915-928.	2.8	95
14	Erythropoietin modulates intracellular calcium in a human neuroblastoma cell line. Journal of Physiology, 1999, 516, 343-352.	2.9	91
15	Sarcoplasmic Reticulum Ca 2+ Refilling Controls Recovery From Ca 2+ -Induced Ca 2+ Release Refractoriness in Heart Muscle. Circulation Research, 2004, 95, 807-813.	4.5	84
16	A hierarchical concept of cellular and subcellular Ca2+-signalling. Progress in Biophysics and Molecular Biology, 1996, 65, 265-296.	2.9	76
17	Calcium signalling in cardiac muscle: refractoriness revealed by coherent activation. Nature Cell Biology, 1999, 1, 323-329.	10.3	76
18	Calcium waves driven by â€œsensitizationâ€• wave-fronts. Cardiovascular Research, 2007, 74, 39-45.	3.8	72

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19	Posttranslational modifications of cardiac ryanodine receptors: Ca2+ signaling and EC-coupling. Biochimica Et Biophysica Acta - Molecular Cell Research, 2013, 1833, 866-875.	4.1	69
20	NO-dependent CaMKII activation during Î²-adrenergic stimulation of cardiac muscle. Cardiovascular Research, 2013, 100, 392-401.	3.8	69
21	Calcium Uncaging with Visible Light. Journal of the American Chemical Society, 2016, 138, 3687-3693.	13.7	67
22	Dystrophic cardiomyopathy: role of TRPV2 channels in stretch-induced cell damage. Cardiovascular Research, 2015, 106, 153-162.	3.8	65
23	Real-time confocal microscopy and calcium measurements in heart muscle cells: Towards the development of a fluorescence microscope with high temporal and spatial resolution. Cell Calcium, 1990, 11, 121-130.	2.4	61
24	Spatiotemporal Features of Ca2+ Buffering and Diffusion in Atrial Cardiac Myocytes with Inhibited Sarcoplasmic Reticulum. Biophysical Journal, 2002, 83, 3134-3151.	0.5	59
25	A guide to sparkology: The taxonomy of elementary cellular Ca2+ signaling events. Cell Calcium, 2007, 42, 379-387.	2.4	59
26	Photolysis of caged compounds characterized by ratiometric confocal microscopy: a new approach to homogeneously control and measure the calcium concentration in cardiac myocytes. Cell Calcium, 1996, 19, 255-266.	2.4	55
27	Increased Ca²⁺ leak and spatiotemporal coherence of Ca²⁺ release in cardiomyocytes during Î²â€adrenergic stimulation. Journal of Physiology, 2010, 588, 225-242.	2.9	55
28	Increased Exchange Current but Normal Ca2+Transport via Na+-Ca2+Exchange During Cardiac Hypertrophy After Myocardial Infarction. Circulation Research, 2002, 91, 323-330.	4.5	54
29	Hypersensitivity of excitation-contraction coupling in dystrophic cardiomyocytes. American Journal of Physiology - Heart and Circulatory Physiology, 2009, 297, H1992-H2003.	3.2	49
30	PKA phosphorylation of cardiac ryanodine receptor modulates SR luminal Ca2+ sensitivity. Journal of Molecular and Cellular Cardiology, 2012, 53, 33-42.	1.9	49
31	Synthesis and Two-photon Photolysis of 6-(ortho-Nitroveratryl)-Caged IP3 in Living Cells. ChemBioChem, 2006, 7, 174-180.	2.6	48
32	Sodium/calcium exchanger in heart muscle: molecular biology, cellular function, and its special role in excitation-contraction coupling. Cardiovascular Research, 1993, 27, 1726-1734.	3.8	47
33	Confocal nearmmembrane detection of calcium in cardiac myocytes. Cell Calcium, 1998, 23, 269-279.	2.4	45
34	Paradoxical SR Ca2+release in guinea-pig cardiac myocytes after Î²-adrenergic stimulation revealed by two-photon photolysis of caged Ca2+. Journal of Physiology, 2005, 565, 801-813.	2.9	45
35	Hierarchical accumulation of RyR post-translational modifications drives disease progression in dystrophic cardiomyopathy. Cardiovascular Research, 2013, 97, 666-675.	3.8	45
36	Activation of Na-Ca exchange current by photolysis of "caged calcium". Biophysical Journal, 1993, 65, 882-891.	0.5	39

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37	Paradoxical block of the Na + â€Ca 2+ exchanger by extracellular protons in guineaâ€pig ventricular myocytes. Journal of Physiology, 2000, 523, 353-366.	2.9	39
38	Phosphorylation of the ryanodine receptor 2 at serine 2030 is required for a complete Î²-adrenergic response. Journal of General Physiology, 2019, 151, 131-145.	1.9	38
39	Functional coupling of Î±2-isoform Na+/K+-ATPase and Ca2+ extrusion through the Na+/Ca2+-exchanger in cardiomyocytes. Cell Calcium, 2010, 48, 54-60.	2.4	35
40	Cardiomyocyte Lineage Specification inÂAdult Human Cardiac Precursor Cells ViaÂModulation of Enhancer-Associated Long Noncoding RNA Expression. JACC Basic To Translational Science, 2016, 1, 472-493.	4.1	33
41	Maximal acceleration of Ca²⁺ release refractoriness by Î²â€adrenergic stimulation requires dual activation of kinases PKA and CaMKII in mouse ventricular myocytes. Journal of Physiology, 2015, 593, 1495-1507.	2.9	30
42	Restoring forces in cardiac myocytes. Insight from relaxations induced by photolysis of caged ATP. Biophysical Journal, 1991, 59, 1123-1135.	0.5	27
43	Spatial characteristics of sarcoplasmic reticulum Ca 2+ release events triggered by Lâ€type Ca 2+ current and Na + current in guineaâ€pig cardiac myocytes. Journal of Physiology, 2002, 542, 383-393.	2.9	26
44	Modulation of the Local SR Ca2+ Release by Intracellular Mg2+ in Cardiac Myocytes. Journal of General Physiology, 2008, 132, 721-730.	1.9	26
45	Stabilization of Ca2+ signaling in cardiac muscle by stimulation of SERCA. Journal of Molecular and Cellular Cardiology, 2018, 119, 87-95.	1.9	26
46	Modulation of ATP-sensitive potassium channel activity by flash-photolysis of ?caged-ATP? in rat heart cells. Pflugers Archiv European Journal of Physiology, 1990, 415, 510-512.	2.8	25
47	Angiotensin IIâ€“Mediated Adaptive and Maladaptive Remodeling of Cardiomyocyte Excitationâ€“Contraction Coupling. Circulation Research, 2009, 105, 42-50.	4.5	24
48	Subcellular features of calcium signalling in heart muscle: What do we learn?. Cardiovascular Research, 1995, 29, 441-448.	3.8	22
49	Reassessment of the Transport Mechanism of the Human Zinc Transporter SLC39A2. Biochemistry, 2018, 57, 3976-3986.	2.5	22
50	Applications of multi-photon microscopy in cell physiology. Frontiers in Bioscience - Landmark, 2004, 9, 1598.	3.0	22
51	Subcellular restricted spaces: significance for cell signalling and excitation-contraction coupling. Journal of Muscle Research and Cell Motility, 1993, 14, 288-291.	2.0	21
52	Voltage dependence of Na-Ca exchanger conformational currents. Biophysical Journal, 1994, 67, 1516-1524.	0.5	19
53	Impaired Binding to Junctophilin-2 and Nanostructural Alteration in CPVT Mutation. Circulation Research, 2021, 129, e35-e52.	4.5	19
54	Lâ€type Ca 2+ current as the predominant pathway of Ca 2+ entry during I Na activation in Î²â€stimulated cardiac myocytes. Journal of Physiology, 2000, 527, 455-466.	2.9	18

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55	Altered sarcoplasmic reticulum calcium transport in the presence of the heavy metal chelator TPEN. Cell Calcium, 2009, 46, 347-355.	2.4	18
56	Automatic Detection and Classification of Ca2+ Release Events in Line- and Frame-Scan Images. Biophysical Journal, 2019, 116, 383-394.	0.5	18
57	A laser diffraction system with improved sensitivity for long-time measurements of sarcomere dynamics in isolated cardiac myocytes. Pflugers Archiv European Journal of Physiology, 1988, 411, 462-468.	2.8	15
58	Involvement of Calcium in Rhythmic Activity Induced by Disinhibition in Cultured Spinal Cord Networks. Journal of Neurophysiology, 2002, 88, 1461-1468.	1.8	15
59	Rapid turnover of the â€œfunctionalâ€•Na+â€"Ca2+ exchanger in cardiac myocytes revealed by an antisense oligodeoxynucleotide approach. Cell Calcium, 2005, 37, 233-243.	2.4	15
60	Alterations of excitation-contraction coupling and excitation coupled Ca2+ entry in human myotubes carrying CAV3 mutations linked to rippling muscle. Human Mutation, 2011, 32, 309-317.	2.5	15
61	Isolation of Cardiovascular Precursor Cells from the Human Fetal Heart. Tissue Engineering - Part A, 2012, 18, 198-207.	3.1	15
62	Bacopa monnieri extract increases rat coronary flow and protects against myocardial ischemia/reperfusion injury. BMC Complementary and Alternative Medicine, 2017, 17, 117.	3.7	15
63	Ca2+ signaling in mouse cardiomyocytes with ablated S100A1 protein. General Physiology and Biophysics, 2009, 28, 371-383.	0.9	13
64	Response. Science, 1991, 251, 1371-1371.	12.6	12
65	Photorelease of Ca2+Produces Na-Ca Exchange Currents and Na-Ca Exchange "Gating" Currents. Annals of the New York Academy of Sciences, 1991, 639, 61-70.	3.8	11
66	A novel steroid-like compound F90927 exerting positive-inotropic effects in cardiac muscle. British Journal of Pharmacology, 2006, 147, 772-782.	5.4	11
67	Activation of endogenous protein phosphatase 1 enhances the calcium sensitivity of the ryanodine receptor type 2 in murine ventricular cardiomyocytes. Journal of Physiology, 2020, 598, 1131-1150.	2.9	11
68	The Cardiac Sarcoplasmic Reticulum. Circulation Research, 2007, 100, 5-6.	4.5	10
69	Studies of RyR function in situ. Methods, 2008, 46, 183-193.	3.8	9
70	Ca2+ release from the sarcoplasmic reticulum activated by the low affinity Ca2+ chelator TPEN in ventricular myocytes. Cell Calcium, 2007, 41, 187-194.	2.4	8
71	Ryanodine receptors: waking up from refractoriness. Cardiovascular Research, 2011, 91, 563-564.	3.8	7
72	Local recovery of cardiac calciumâ€induced calcium release interrogated by ultraâ€effective, twoâ€photon uncaging of calcium. Journal of Physiology, 2021, 599, 3841-3852.	2.9	7

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73	Ca2+ Sparks in Cardiac Muscle: Is There Life Without Them?. Physiology, 1999, 14, 129-134.	3.1	6
74	Mechanical parameters determined in dispersed ventricular heart cells. Experientia, 1987, 43, 1150-1153.	1.2	5
75	Antisense Oligodeoxynucleotides Directed against the Na-Ca Exchanger mRNA. Annals of the New York Academy of Sciences, 1996, 779, 93-102.	3.8	5
76	Real-time intra-store confocal Ca2+ imaging in isolated mouse cardiomyocytes. Cell Calcium, 2016, 60, 331-340.	2.4	5
77	Uptake-leak balance of SR Ca2+ determines arrhythmogenic potential of RyR2R420Q+/âˆ’ cardiomyocytes. Journal of Molecular and Cellular Cardiology, 2022, , .	1.9	5
78	Calcium quarks. Frontiers in Bioscience - Landmark, 2002, 7, d1288-1297.	3.0	4
79	The early years of cellular cardiac electrophysiology and Silvio Weidmann (1921â€“2005). Heart Rhythm, 2006, 3, 353-359.	0.7	4
80	Confocal imaging of CICR events from isolated and immobilized SR vesicles. Cell Calcium, 2005, 38, 497-505.	2.4	3
81	Founder of cardiac cellular electrophysiology: Honouring Silvio Weidmann, 7 April 1921- 11 July 2005. Journal of Physiology, 2006, 570, 431-432.	2.9	3
82	[32] Application of antisense oligodeoxynucleotides for suppression of exchange. Methods in Enzymology, 2000, 314, 454-476.	1.0	2
83	Calcium quarks. Frontiers in Bioscience - Landmark, 2002, 7, d1288.	3.0	2
84	Agonist specific L-type Ca2+-current stimulation in ventricular myocytes by a novel steroid-like compound. Cell Calcium, 2006, 39, 425-433.	2.4	2
85	F90927: A New Member in the Class of Cardioactive Steroids. Cardiovascular Drug Reviews, 2007, 25, 210-220.	4.1	2
86	How to shut down Ca²⁺â€induced Ca²⁺ release?. Journal of Physiology, 2009, 587, 5003-5004.	2.9	2
87	Changes of EC-coupling and RyR Calcium Sensitivity in Dystrophic mdx Mouse Cardiomyocytes. Biophysical Journal, 2009, 96, 10a-11a.	0.5	2
88	REAL-TIME FLUORESCENCE MICROSCOPY IN LIVING CELLS. , 1993, , 213-235.		2
89	DYNAMICS OF CARDIAC INTRACELLULAR Ca2+ HANDLING â€" FROM EXPERIMENTS TO VIRTUAL CELLS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2003, 13, 3535-3560.	1.7	1
90	Altered Ryanodine Receptor Sensitivity after ÃŸ-Adrenergic Stimulation ofÂGuinea-pig Ventricular Myocytes. Biophysical Journal, 2009, 96, 276a.	0.5	1

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91	Pathways of Abnormal Stress-Induced Calcium Influx into Dystrophic mdx Cardiomyocytes. Biophysical Journal, 2009, 96, 274a.	0.5	1
92	Ca²⁺ on the move: what is better â€" fire and forget, or fireâ€"diffuseâ€"fire?. Journal of Physiology, 2010, 588, 1391-1392.	2.9	1
93	Impaired Ca2+ Release Synchronization in RyR2-S2808a Mouse Cardiomyocytes During Î²-Adrenergic Stimulation. Biophysical Journal, 2010, 98, 550a.	0.5	1
94	Cardiac Ryanodine Receptor Phosphorylation at Ser2808 is Involved in Intra-SR Calcium Sensing. Biophysical Journal, 2011, 100, 353a.	0.5	1
95	Measuring calcium in â€˜fuzzyâ€™ spaces. Journal of Physiology, 2011, 589, 2663-2663.	2.9	1
96	Insights into RyRs Dysfunctions via Studies of Intracellular Calcium Signals. Biophysical Journal, 2012, 102, 213a.	0.5	1
97	Activation of Ca2+ Sparks during Î²-Adrenergic Stimulation in Resting Cardiomyocytes May Involve CAMKII and No, But Not ROS. Biophysical Journal, 2012, 102, 98a.	0.5	1
98	SERCA Stimulation Triggers Arrhythmogenic Ca2+ Events in Mouse Cardiomyocytes Harboring the RyR2R420Q+/- Mutation. Biophysical Journal, 2020, 118, 254a.	0.5	1
99	Î²-adrenergic receptors in cardiac muscle: it takes two to tango. Cardiovascular Research, 2020, 116, 2033-2035.	3.8	1
100	Basic mechanisms of excitation/contraction coupling. Journal of Molecular and Cellular Cardiology, 2006, 40, 923.	1.9	0
101	Redox Modifications of Ca2+-Release Events in Cardiomyocytes. Biophysical Journal, 2010, 98, 549a.	0.5	0
102	Î²-Adrenergic Stimulation and SR Ca2+ Leak in Cardiomyocytes. Biophysical Journal, 2010, 98, 549a-550a.	0.5	0
103	Hypersensitive Intracellular Ca2+ Signaling Precedes Deterioration of Cardiac Functions in Muscular Dystrophy. Biophysical Journal, 2011, 100, 562a.	0.5	0
104	Activation of Calcium Sparks in Resting Cardiomyocytes by Î²-Adrenergic Stimulation May Involve CaMKII and nNOS. Biophysical Journal, 2011, 100, 559a.	0.5	0
105	Improved Protocol to Record Sarcoplasmic Reticulum Calcium Concentrations in Mouse Cardiomyocytes. Biophysical Journal, 2013, 104, 607a.	0.5	0
106	Direct CaMKII Activation by Endogenous Nitric Oxide Modulates Calcium Spark Frequency in Cardiomyocytes. Biophysical Journal, 2013, 104, 361a.	0.5	0
107	Factors Influencing Ca2+ Spark Refractoriness in Mouse. Biophysical Journal, 2013, 104, 438a.	0.5	0
108	Characterization of Calcium Release Events Evoked by InsP3R Activation in Intact and Permeabilized Atrial Myocytes. Biophysical Journal, 2014, 106, 532a.	0.5	0

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109	Serca Stimulation Increases Intra-Sr Ca2+Threshold for Ca2+ Waves in Cadiomyocytes. Biophysical Journal, 2014, 106, 323a.	0.5	0
110	Extracting Detailed Ca2+ Signaling Information from Noisy Confocal Images. Biophysical Journal, 2014, 106, 532a.	0.5	0
111	Activity of Both PKA and Camkii is Required for Maximal RyR Sensitivity Under Beta-Adrenergic Stimulation. Biophysical Journal, 2014, 106, 431a.	0.5	0
112	Opposite Changes of Ca2+ Wave Threshold and Fractional SR Ca2+ Release during SERCA Stimulation in Cardiomyocytes. Biophysical Journal, 2015, 108, 263a.	0.5	0
113	IP₃ and Ca²⁺ signals in the heart: boost them or bust them?. Journal of Physiology, 2015, 593, 1385-1386.	2.9	0
114	Protein Phosphatase-1 Increases Calcium Spark Frequency in Murine Cardiomyocytes via Modulation of RyR2 Phosphorylation. Biophysical Journal, 2016, 110, 269a-270a.	0.5	0
115	One and Two-Photon Calcium Uncaging with Visible Light in Cardiac Myocytes. Biophysical Journal, 2016, 110, 432a.	0.5	0
116	Functional Effects of the RyR 2 R420Q Catecholaminergic Ventricular Polymorphic Tachycardia in Mouse Cardiomyocytes. Biophysical Journal, 2017, 112, 94a.	0.5	0
117	Ablation of the RyR2-Ser2030 Phosphorylation Site Limits Changes in RyR2 Sensitivity during ÃŸ-Adrenergic Stimulation. Biophysical Journal, 2017, 112, 541a-542a.	0.5	0
118	Local Recovery of CICR Probed by Ultra-Effective Calcium Uncaging. Biophysical Journal, 2017, 112, 231a.	0.5	0
119	Dual Ablation of the RYR2-S2808 and RYR2-S2814 Sites Increases Propensity for Pro-arrhythmic Spontaneous Calcium Releases. Biophysical Journal, 2018, 114, 116a.	0.5	0
120	The RyR2R420Q Mutation Triggers Catecholaminergic Polymorphic Ventricular Tachycardia in Mouse Cardiomyocytes via SR Calcium Loading. Biophysical Journal, 2018, 114, 116a.	0.5	0
121	Simultaneous Recording of Subcellular Ca2+ Signals from the Cytosol and Sarco/Endoplasmic Reticulum: Compartmentalized Dye Loading, Imaging, and Analysis. Methods in Molecular Biology, 2019, 1929, 53-71.	0.9	0
122	Activation of Endogenous PP1 Enhances Calcium Spark Activity in Wild Type Cardiomyocytes. Biophysical Journal, 2019, 116, 384a-385a.	0.5	0
123	Na/Ca exchanger: Molecular and cellular characteristics. Developments in Cardiovascular Medicine, 1996, , 447-455.	0.1	0
124	Caged Compounds: Applications in Cardiac Muscle Research. , 2018, , 75-95.		0
125	The yin and yang of intracellular delivery of amphipathic optical probes using <i>n</i>-butyl charge masking. Chemical Communications, 2022, 58, 2826-2829.	4.1	0