Arthur Sherman

List of Publications by Year
in descending order

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88	4,416	87723 38	114278 63
papers	citations	h-index	g-index

92	92	92	3196
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Pulsatile Basal Insulin Secretion Is Driven by Glycolytic Oscillations. Physiology, 2022, 37, 216-223.	1.6	6
2	Beta-cell failure rather than insulin resistance is the major cause of abnormal glucose tolerance in Africans: insight from the Africans in America study. BMJ Open Diabetes Research and Care, 2021, 9, e002447.	1.2	11
3	Calcium-Prolactin Secretion Coupling in Rat Pituitary Lactotrophs Is Controlled by PI4-Kinase Alpha. Frontiers in Endocrinology, 2021, 12, 790441.	1.5	5
4	Type 2 diabetes: one disease, many pathways. American Journal of Physiology - Endocrinology and Metabolism, 2020, 319, E410-E426.	1.8	33
5	Cell-Type-Specific Expression Pattern of Proton-Sensing Receptors and Channels in Pituitary Gland. Biophysical Journal, 2020, 119, 2335-2348.	0.2	3
6	Improved Detection of Abnormal Glucose Tolerance in Africans: The Value of Combining Hemoglobin A1c With Glycated Albumin. Diabetes Care, 2020, 43, 2607-2613.	4.3	10
7	The OGTT is highly reproducible in Africans for the diagnosis of diabetes: Implications for treatment and protocol design. Diabetes Research and Clinical Practice, 2020, 170, 108523.	1.1	8
8	Metabolic characteristics of Africans with normal glucose tolerance and elevated 1-hour glucose: insight from the Africans in America study. BMJ Open Diabetes Research and Care, 2020, 8, e000837.	1.2	5
9	Intact pancreatic islets and dispersed beta-cells both generate intracellular calcium oscillations but differ in their responsiveness to glucose. Cell Calcium, 2019, 83, 102081.	1.1	35
10	Cell Type- and Sex-Dependent Transcriptome Profiles of Rat Anterior Pituitary Cells. Frontiers in Endocrinology, 2019, 10, 623.	1.5	74
11	A1C Underperforms as a Diagnostic Test in Africans Even in the Absence of Nutritional Deficiencies, Anemia and Hemoglobinopathies: Insight From the Africans in America Study. Frontiers in Endocrinology, 2019, 10, 533.	1.5	22
12	Divergent expression patterns of pituitary gonadotropin subunit and GnRH receptor genes to continuous GnRH in vitro and in vivo. Scientific Reports, 2019, 9, 20098.	1.6	16
13	Common and diverse elements of ion channels and receptors underlying electrical activity in endocrine pituitary cells. Molecular and Cellular Endocrinology, 2018, 463, 23-36.	1.6	34
14	Modeling the diversity of spontaneous and agonist-induced electrical activity in anterior pituitary corticotrophs. Journal of Neurophysiology, 2017, 117, 2298-2311.	0.9	16
15	Ca2+ channel clustering with insulin-containing granules is disturbed in type 2 diabetes. Journal of Clinical Investigation, 2017, 127, 2353-2364.	3.9	70
16	Deciphering the regulation of P2X4 receptor channel gating by ivermectin using Markov models. PLoS Computational Biology, 2017, 13, e1005643.	1.5	10
17	Paracrine regulation of glucagon secretion: the Î²/Î±/Î´ model. American Journal of Physiology - Endocrinology and Metabolism, 2016, 310, E597-E611.	1.8	40
18	Chronic Glucose Exposure Systematically Shifts the Oscillatory Threshold of Mouse Islets: Experimental Evidence for an Early Intrinsic Mechanism of Compensation for Hyperglycemia. Endocrinology, 2016, 157, 611-623.	1.4	32

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19	Ca 2+ Effects on ATP Production and Consumption Have Regulatory Roles on Oscillatory Islet Activity. Biophysical Journal, 2016, 110, 733-742.	0.2	35
20	Phase Analysis of Metabolic Oscillations and Membrane Potential in Pancreatic Islet Î² -Cells. Biophysical Journal, 2016, 110, 691-699.	0.2	52
21	Electrical, Calcium, and Metabolic Oscillations in Pancreatic Islets. , 2015, , 453-474.		2
22	Allosteric regulation of the P2X4 receptor channel pore dilation. Pflugers Archiv European Journal of Physiology, 2015, 467, 713-726.	1.3	24
23	Dynamics of Computational Islet Simulations: Islets with majority mutated openK_{ATP}channels retain bursting. Letters in Biomathematics, 2014, 1, 3-15.	0.3	1
24	Calcium and Metabolic Oscillations in Pancreatic Islets: Who's Driving the Bus?. SIAM Journal on Applied Dynamical Systems, 2014, 13, 683-703.	0.7	19
25	Modeling the Pancreatic Î±-Cell: Dual Mechanisms of Glucose Suppression of Glucagon Secretion. Biophysical Journal, 2014, 106, 741-751.	0.2	36
26	Electrical, Calcium, and Metabolic Oscillations in Pancreatic Islets. , 2014, , 1-20.		0
27	Dual Gating Mechanism and Function of P2X7 Receptor Channels. Biophysical Journal, 2013, 104, 2612-2621.	0.2	47
28	Slow oscillations of KATP conductance in mouse pancreatic islets provide support for electrical bursting driven by metabolic oscillations. American Journal of Physiology - Endocrinology and Metabolism, 2013, 305, E805-E817.	1.8	33
29	Gating properties of the P2X2a and P2X2b receptor channels: Experiments and mathematical modeling. Journal of General Physiology, 2012, 139, 333-348.	0.9	32
30	Phosphofructo-2-kinase/Fructose-2,6-bisphosphatase Modulates Oscillations of Pancreatic Islet Metabolism. PLoS ONE, 2012, 7, e34036.	1.1	28
31	Cross-currents between biology and mathematics: The codimension of pseudo-plateau bursting. Discrete and Continuous Dynamical Systems, 2012, 32, 2853-2877.	0.5	37
32	Calcium cooperativity of exocytosis as a measure of Ca2+ channel domain overlap. Brain Research, 2011, 1398, 126-138.	1.1	49
33	Slow variable dominance and phase resetting in phantom bursting. Journal of Theoretical Biology, 2011, 276, 218-228.	0.8	34
34	Effect of spatial arrangement of presynaptic calcium channels on the calcium current cooperativity of neurotransmitter release. BMC Neuroscience, 2011, 12, .	0.8	0
35	Calcium-dependent block of P2X7 receptor channel function is allosteric. Journal of General Physiology, 2011, 138, 437-452.	0.9	68
36	Dynamical systems theory in physiology. Journal of General Physiology, 2011, 138, 13-19.	0.9	26

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37	Full system bifurcation analysis of endocrine bursting models. Journal of Theoretical Biology, 2010, 264, 1133-1146.	0.8	84
38	Differential adipogenic and inflammatory properties of small adipocytes in Zucker Obese and Lean rats. Diabetes and Vascular Disease Research, 2010, 7, 311-318.	0.9	21
39	Experimental Characterization and Mathematical Modeling of P2X7 Receptor Channel Gating. Journal of Neuroscience, 2010, 30, 14213-14224.	1.7	116
40	Metabolic Oscillations in Pancreatic Islets Depend on the Intracellular Ca2+ Level but Not Ca2+ Oscillations. Biophysical Journal, 2010, 99, 76-84.	0.2	50
41	Lessons from models of pancreatic Î² cells for engineering glucose-sensing cells. Mathematical Biosciences, 2010, 227, 12-19.	0.9	13
42	Electrical Bursting, Calcium Oscillations, and Synchronization of Pancreatic Islets. Advances in Experimental Medicine and Biology, 2010, 654, 261-279.	0.8	57
43	Glucose Metabolism, Islet Architecture, and Genetic Homogeneity in Imprinting of [Ca2+]i and Insulin Rhythms in Mouse Islets. PLoS ONE, 2009, 4, e8428.	1.1	45
44	The Geometry of Bursting in the Dual Oscillator Model of Pancreatic eta-cells. SIAM Journal on Applied Dynamical Systems, 2009, 8, 1664-1693.	0.7	21
45	Ca²⁺Current versus Ca²⁺Channel Cooperativity of Exocytosis. Journal of Neuroscience, 2009, 29, 12196-12209.	1.7	25
46	Newcomer insulin secretory granules as a highly calcium-sensitive pool. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 7432-7436.	3.3	94
47	Differential Intra-abdominal Adipose Tissue Profiling in Obese, Insulin-resistant Women. Obesity Surgery, 2009, 19, 1564-1573.	1.1	43
48	Accounting for Near-Normal Glucose Sensitivity in Kir6.2[AAA] Transgenic Mice. Biophysical Journal, 2009, 97, 2409-2418.	0.2	8
49	Multiscale Modeling of Electrical and Intracellular Activity in the Pancreas: The Islet Tridomain Equations. Multiscale Modeling and Simulation, 2009, 7, 1609-1642.	0.6	1
50	Resetting Behavior in a Model of Bursting in Secretory Pituitary Cells: Distinguishing Plateaus from Pseudo-Plateaus. Bulletin of Mathematical Biology, 2008, 70, 68-88.	0.9	43
51	Identifying the Targets of the Amplifying Pathway for Insulin Secretion in Pancreatic Î²-Cells by Kinetic Modeling of Granule Exocytosis. Biophysical Journal, 2008, 95, 2226-2241.	0.2	57
52	Long Lasting Synchronization of Calcium Oscillations by Cholinergic Stimulation in Isolated Pancreatic Islets. Biophysical Journal, 2008, 95, 4676-4688.	0.2	40
53	Response to the Comment by F. Diederichs. Biophysical Journal, 2008, 94, 5080.	0.2	0
54	Metabolic and electrical oscillations: partners in controlling pulsatile insulin secretion. American Journal of Physiology - Endocrinology and Metabolism, 2007, 293, E890-E900.	1.8	155

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55	Interaction of Glycolysis and Mitochondrial Respiration in Metabolic Oscillations of Pancreatic Islets. Biophysical Journal, 2007, 92, 1544-1555.	0.2	104
56	Mechanism of Spontaneous and Receptor-Controlled Electrical Activity in Pituitary Somatotrophs: Experiments and Theory. Journal of Neurophysiology, 2007, 98, 131-144.	0.9	96
57	Diffusion of Calcium and Metabolites in Pancreatic Islets: Killing Oscillations with a Pitchfork. Biophysical Journal, 2006, 90, 3434-3446.	0.2	85
58	Glucose Modulates [Ca2+]i Oscillations in Pancreatic Islets via Ionic and Glycolytic Mechanisms. Biophysical Journal, 2006, 91, 2082-2096.	0.2	102
59	Residual Bound Ca2+ Can Account for the Effects of Ca2+ Buffers on Synaptic Facilitation. Journal of Neurophysiology, 2006, 96, 3389-3397.	0.9	31
60	A simplified model for mitochondrial ATP production. Journal of Theoretical Biology, 2006, 243, 575-586.	0.8	145
61	NEGATIVE CALCIUM FEEDBACK: THE ROAD FORM CHAY-KEIZER. , 2005, , 19-48.		32
62	BEYOND SYNCHRONIZATION: MODULATORY AND EMERGENT EFFECTS OF COUPLING IN SQUARE-WAVE BURSTING. , 2005, , 243-272.		6
63	Integrative modeling of the pancreatic ï¿½ï¿½-cell. , 2005, , .		1
64	Individual Mice Can Be Distinguished by the Period of Their Islet Calcium Oscillations: Is There an Intrinsic Islet Period That Is Imprinted In Vivo?. Diabetes, 2005, 54, 3517-3522.	0.3	89
65	Intra- and Inter-Islet Synchronization of Metabolically Driven Insulin Secretion. Biophysical Journal, 2005, 89, 107-119.	0.2	129
66	A calcium-based phantom bursting model for pancreatic islets. Bulletin of Mathematical Biology, 2004, 66, 1313-1344.	0.9	97
67	Three Roads to Islet Bursting: Emergent Oscillations in Coupled Phantom Bursters. Biophysical Journal, 2004, 87, 193-206.	0.2	33
68	Calcium and Glycolysis Mediate Multiple Bursting Modes in Pancreatic Islets. Biophysical Journal, 2004, 87, 3074-3087.	0.2	147
69	Filtering of Calcium Transients by the Endoplasmic Reticulum in Pancreatic Î²-Cells. Biophysical Journal, 2004, 87, 3775-3785.	0.2	31
70	Facilitation through Buffer Saturation: Constraints on Endogenous Buffering Properties. Biophysical Journal, 2004, 86, 2691-2709.	0.2	94
71	The Ca2+ Dynamics of Isolated Mouse Î²-Cells and Islets: Implications for Mathematical Models. Biophysical Journal, 2003, 84, 2852-2870.	0.2	141
72	New and Corrected Simulations of Synaptic Facilitation. Biophysical Journal, 2002, 83, 1368-1373.	0.2	83

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73	A mathematical model of metabolic insulin signaling pathways. American Journal of Physiology - Endocrinology and Metabolism, 2002, 283, E1084-E1101.	1.8	177
74	Asymptotic Analysis of Buffered Calcium Diffusion near a Point Source. SIAM Journal on Applied Mathematics, 2001, 61, 1816-1838.	0.8	104
75	From Spikers to Bursters Via Coupling: Help From Heterogeneity. Bulletin of Mathematical Biology, 2001, 63, 371-391.	0.9	43
76	Channel Sharing in Pancreatic Î² -Cells Revisited: Enhancement of Emergent Bursting by Noise. Journal of Theoretical Biology, 2000, 207, 513-530.	0.8	79
77	Modeling of Membrane Excitability in Gonadotropin-Releasing Hormone-Secreting Hypothalamic Neurons Regulated by Ca²⁺-Mobilizing and Adenylyl Cyclase-Coupled Receptors. Journal of Neuroscience, 2000, 20, 9290-9297.	1.7	59
78	Dynamical complexity and temporal plasticity in pancreatic gÎ²b-cells. Journal of Biosciences, 2000, 25, 197-209.	0.5	28
79	Amplitude-Dependent Spike-Broadening and Enhanced Ca2+ Signaling in GnRH-Secreting Neurons. Biophysical Journal, 2000, 79, 1310-1323.	0.2	33
80	The Phantom Burster Model for Pancreatic Î²-Cells. Biophysical Journal, 2000, 79, 2880-2892.	0.2	97
81	Modeling Study of the Effects of Overlapping Ca2+ Microdomains on Neurotransmitter Release. Biophysical Journal, 1999, 76, 735-750.	0.2	99
82	Diffusively Coupled Bursters: Effects of Cell Heterogeneity. Bulletin of Mathematical Biology, 1998, 60, 1167-1200.	0.9	79
83	Population Dynamics of Synaptic Release Sites. SIAM Journal on Applied Mathematics, 1998, 58, 142-169.	0.8	9
84	Computer Modeling of Heterogeneous Î²-Cell Populations. Advances in Experimental Medicine and Biology, 1997, 426, 275-284.	0.8	2
85	Topological and phenomenological classification of bursting oscillations. Bulletin of Mathematical Biology, 1995, 57, 413-439.	0.9	235
86	Phase Independent Resetting in Relaxation and Bursting Oscillators. Journal of Theoretical Biology, 1994, 169, 339-348.	0.8	10
87	Anti-phase, asymmetric and aperiodic oscillations in excitable cellsâ€”I. Coupled bursters. Bulletin of Mathematical Biology, 1994, 56, 811-835.	0.9	78
88	Channels, Coupling, and Synchronized Rhythmic Bursting Activity. , 1992, , 29-46.		9