P Thomas Vernier

List of Publications by Year
in descending order

121 papers	4,880 citations	39 h-index (81743)	68 g-index (95083)
128 all docs	128 docs citations	128 times ranked	2809 citing authors

#	Article	IF	Citations
1	Calcium bursts induced by nanosecond electric pulses. Biochemical and Biophysical Research Communications, 2003, 310, 286-295.	1.0	370
2	Nanoelectropulse-driven membrane perturbation and small molecule permeabilization. BMC Cell Biology, 2006, 7, 37.	3.0	264
3	pH-Sensitive Photoluminescence of CdSe/ZnSe/ZnS Quantum Dots in Human Ovarian Cancer Cells. Journal of Physical Chemistry C, 2007, 111, 2872-2878.	1.5	230
4	Life Cycle of an Electropore: Field-Dependent and Field-Independent Steps in Pore Creation and Annihilation. Journal of Membrane Biology, 2010, 236, 27-36.	1.0	196
5	Nanoelectropulse-Induced Phosphatidylserine Translocation. Biophysical Journal, 2004, 86, 4040-4048.	0.2	183
6	In vitro andin vivo evaluation and a case report of intense nanosecond pulsed electric field as a local therapy for human malignancies. International Journal of Cancer, 2007, 121, 675-682.	2.3	165
7	Effects of high voltage nanosecond electric pulses on eukaryotic cells (in vitro): A systematic review. Bioelectrochemistry, 2016, 110, 1-12.	2.4	160
8	Nanopore Formation and Phosphatidylserine Externalization in a Phospholipid Bilayer at High Transmembrane Potential. Journal of the American Chemical Society, 2006, 128, 6288-6289.	6.6	137
9	Nanopore-facilitated, voltage-driven phosphatidylserine translocation in lipid bilayersâ€"in cells andin silico. Physical Biology, 2006, 3, 233-247.	0.8	135
10	Nanosecond electric pulses cause mitochondrial membrane permeabilization in Jurkat cells. Bioelectromagnetics, 2012, 33, 257-264.	0.9	131
11	Interface Water Dynamics and Porating Electric Fields for Phospholipid Bilayers. Journal of Physical Chemistry B, 2008, 112, 13588-13596.	1.2	119
12	Electroporating Fields Target Oxidatively Damaged Areas in the Cell Membrane. PLoS ONE, 2009, 4, e7966.	1.1	116
13	Multiple nanosecond electric pulses increase the number but not the size of long-lived nanopores in the cell membrane. Biochimica Et Biophysica Acta - Biomembranes, 2015, 1848, 958-966.	1.4	103
14	Ultrashort pulsed electric fields induce membrane phospholipid translocation and caspase activation: differential sensitivities of Jurkat T lymphoblasts and rat Glioma C6 cells. IEEE Transactions on Dielectrics and Electrical Insulation, 2003, 10, 795-809.	1.8	98
15	Nanosecond electric pulse-induced calcium entry into chromaffin cells. Bioelectrochemistry, 2008, 73, 1-4.	2.4	97
16	Nanosecond Pulsed Plasma Dental Probe. Plasma Processes and Polymers, 2009, 6, 479-483.	1.6	92
17	Nanosecond Electric Pulses: A Novel Stimulus for Triggering Ca2+ Influx into Chromaffin Cells Via Voltage-Gated Ca2+ Channels. Cellular and Molecular Neurobiology, 2010, 30, 1259-1265.	1.7	91
18	Photostability and pH sensitivity of CdSe/ZnSe/ZnS quantum dots in living cells. Nanotechnology, 2006, 17, 4469-4476.	1.3	86

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19	Nanosecond pulsed electric fields perturb membrane phospholipids in T lymphoblasts. FEBS Letters, 2004, 572, 103-108.	1.3	84
20	Calcium Binding and Head Group Dipole Angle in Phosphatidylserineâ˘'Phosphatidylcholine Bilayers. Langmuir, 2009, 25, 1020-1027.	1.6	84
21	Electric Field-Driven Water Dipoles: Nanoscale Architecture of Electroporation. PLoS ONE, 2013, 8, e61111.	1.1	83
22	Nanosecond Field Alignment of Head Group and Water Dipoles in Electroporating Phospholipid Bilayers. Journal of Physical Chemistry B, 2007, 111, 12993-12996.	1.2	81
23	Basic Features of a Cell Electroporation Model: Illustrative Behavior for Two Very Different Pulses. Journal of Membrane Biology, 2014, 247, 1209-1228.	1.0	79
24	Cardiac Myocyte Excitation by Ultrashort High-Field Pulses. Biophysical Journal, 2009, 96, 1640-1648.	0.2	75
25	Pulse generators for pulsed electric field exposure of biological cells and tissues. IEEE Transactions on Dielectrics and Electrical Insulation, 2003, 10, 820-825.	1.8	68
26	Dose-Dependent ATP Depletion and Cancer Cell Death following Calcium Electroporation, Relative Effect of Calcium Concentration and Electric Field Strength. PLoS ONE, 2015, 10, e0122973.	1.1	68
27	Pulsed Atmospheric-Pressure Cold Plasma for Endodontic Disinfection ^{ast}. IEEE Transactions on Plasma Science, 2009, 37, 1190-1195.	0.6	65
28	A linear, single-stage, nanosecond pulse generator for delivering intense electric fields to biological loads. IEEE Transactions on Dielectrics and Electrical Insulation, 2009, 16, 1048-1054.	1.8	63
29	Size-controlled nanopores in lipid membranes with stabilizing electric fields. Biochemical and Biophysical Research Communications, 2012, 423, 325-330.	1.0	63
30	Water influx and cell swelling after nanosecond electropermeabilization. Biochimica Et Biophysica Acta - Biomembranes, 2013, 1828, 1715-1722.	1.4	59
31	Molecular Dynamics Simulations of Ion Conductance in Field-Stabilized Nanoscale Lipid Electropores. Journal of Physical Chemistry B, 2013, 117, 11633-11640.	1.2	54
32	Modulation of intracellular Ca2+ levels in chromaffin cells by nanoelectropulses. Bioelectrochemistry, 2012, 87, 244-252.	2.4	46
33	Compact Subnanosecond Pulse Generator Using Avalanche Transistors for Cell Electroperturbation Studies. IEEE Transactions on Dielectrics and Electrical Insulation, 2007, 14, 873-877.	1.8	44
34	Electrode Microchamber for Noninvasive Perturbation of Mammalian Cells With Nanosecond Pulsed Electric Fields. IEEE Transactions on Nanobioscience, 2005, 4, 277-283.	2.2	40
35	Receptor-targeted quantum dots: fluorescent probes for brain tumor diagnosis. Journal of Biomedical Optics, 2007, 12, 044021.	1.4	40
36	Nanosecond electric pulse-induced increase in intracellular calcium in adrenal chromaffin cells triggers calcium-dependent catecholamine release. IEEE Transactions on Dielectrics and Electrical Insulation, 2009, 16, 1294-1301.	1.8	40

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37	Microchamber Setup Characterization for Nanosecond Pulsed Electric Field Exposure. IEEE Transactions on Biomedical Engineering, 2011, 58, 1656-1662.	2.5	40
38	Differential Sensitivities of Malignant and Normal Skin Cells to Nanosecond Pulsed Electric Fields. Technology in Cancer Research and Treatment, 2011, 10, 281-286.	0.8	40
39	Nanosecond pulse Generator using fast recovery diodes for cell electromanipulation. IEEE Transactions on Plasma Science, 2005, 33, 1192-1197.	0.6	39
40	Pulsed electric field reduces the permeability of potato cell wall. Bioelectromagnetics, 2008, 29, 296-301.	0.9	39
41	Picosecond and Terahertz Perturbation of Interfacial Water and Electropermeabilization of Biological Membranes. Journal of Membrane Biology, 2015, 248, 837-847.	1.0	39
42	Cutaneous Papilloma and Squamous Cell Carcinoma Therapy Utilizing Nanosecond Pulsed Electric Fields (nsPEF). PLoS ONE, 2012, 7, e43891.	1.1	39
43	Calcium and Phosphatidylserine Inhibit Lipid Electropore Formation and Reduce Pore Lifetime. Journal of Membrane Biology, 2012, 245, 599-610.	1.0	38
44	ESOPE-Equivalent Pulsing Protocols for Calcium Electroporation: An <i>In Vitro</i> Optimization Study on 2 Cancer Cell Models. Technology in Cancer Research and Treatment, 2018, 17, 153303381878807.	0.8	35
45	Quantitative Limits on Small Molecule Transport via the Electropermeome â€" Measuring and Modeling Single Nanosecond Perturbations. Scientific Reports, 2017, 7, 57.	1.6	34
46	Moveable Wire Electrode Microchamber for Nanosecond Pulsed Electric-Field Delivery. IEEE Transactions on Biomedical Engineering, 2013, 60, 489-496.	2.5	32
47	Water Bridges in Electropermeabilized Phospholipid Bilayers. Proceedings of the IEEE, 2013, 101, 494-504.	16.4	32
48	Transport of charged small molecules after electropermeabilization â€" drift and diffusion. BMC Biophysics, 2018, 11, 4.	4.4	29
49	Electrophoresis of neutral oil in water. Journal of Colloid and Interface Science, 2010, 352, 223-231.	5.0	27
50	Dependence of Electroporation Detection Threshold on Cell Radius: An Explanation to Observations Non Compatible with Schwanâ€™s Equation Model. Journal of Membrane Biology, 2016, 249, 663-676.	1.0	26
51	Frequency spectrum of induced transmembrane potential and permeabilization efficacy of bipolar electric pulses. Biochimica Et Biophysica Acta - Biomembranes, 2017, 1859, 1282-1290.	1.4	26
52	Asymmetric Patterns of Small Molecule Transport After Nanosecond and Microsecond Electropermeabilization. Journal of Membrane Biology, 2018, 251, 197-210.	1.0	26
53	Modulation of biological responses to 2â€¯ns electrical stimuli by field reversal. Biochimica Et Biophysica Acta - Biomembranes, 2019, 1861, 1228-1239.	1.4	25
54	Fluorescence microscopy imaging of electroperturbation in mammalian cells. Journal of Biomedical Optics, 2006, 11, 024010.	1.4	24

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55	Young's Modulus Measurements in Standard IC CMOS Processes Using MEMS Test Structures. IEEE Electron Device Letters, 2007, 28, 960-963.	2.2	24
56	Electroporation-Based Technologies and Treatments. Journal of Membrane Biology, 2010, 236, 1-2.	1.0	23
57	Two-dimensional nanosecond electric field mapping based on cell electropermeabilization. PMC Biophysics, 2009, 2, 9.	2.2	20
58	Nanometer-Scale Permeabilization and Osmotic Swelling Induced by 5-ns Pulsed Electric Fields. Journal of Membrane Biology, 2017, 250, 21-30.	1.0	20
59	Dye Transport through Bilayers Agrees with Lipid Electropore Molecular Dynamics. Biophysical Journal, 2020, 119, 1724-1734.	0.2	19
60	Nanoscale, Electric Field-Driven Water Bridges in Vacuum Gaps and Lipid Bilayers. Journal of Membrane Biology, 2013, 246, 793-801.	1.0	18
61	DNA Electrophoretic Migration Patterns Change after Exposure of Jurkat Cells to a Single Intense Nanosecond Electric Pulse. PLoS ONE, 2011, 6, e28419.	1.1	17
62	Nanoelectropulse Intracellular Perturbation and Electropermeabilization Technology: Phospholipid Translocation, Calcium Bursts, Chromatin Rearrangement, Cardiomyocyte Activation, and Tumor Cell Sensitivity. , 2005, 2005, 5850-3.		16
63	Enhanced Monitoring of Nanosecond Electric Pulse-Evoked Membrane Conductance Changes in Whole-Cell Patch Clamp Experiments. Journal of Membrane Biology, 2016, 249, 633-644.	1.0	15
64	Adrenal Chromaffin Cells Exposed to 5-ns Pulses Require Higher Electric Fields to Porate Intracellular Membranes than the Plasma Membrane: An Experimental and Modeling Study. Journal of Membrane Biology, 2017, 250, 535-552.	1.0	14
65	Surface chemical immobilization of parylene C with thermosensitive block copolymer brushes based on<i>N</i>â€isopropylacrylamide and<i>N</i>â€<i>tert</i>â€butylacrylamide: Synthesis, characterization, and cell adhesion/detachment. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2012, 100B, 217-229.	1.6	13
66	Nanosecond electric pulses differentially affect inward and outward currents in patch clamped adrenal chromaffin cells. PLoS ONE, 2017, 12, e0181002.	1.1	13
67	Characterization of a TEM cell-based setup for the exposure of biological cell suspensions to high-intensity nanosecond pulsed electric fields (nsPEFs). , 2012, , .		12
68	pH-sensitive intracellular photoluminescence of carbon nanotubeâ€“fluorescein conjugates in human ovarian cancer cells. Nanotechnology, 2009, 20, 295101.	1.3	11
69	2-ns Electrostimulation of Ca2+ Influx into Chromaffin Cells: Rapid Modulation by Field Reversal. Biophysical Journal, 2021, 120, 556-567.	0.2	10
70	Analysis of electrostimulation and electroporation by high repetition rate bursts of nanosecond stimuli. Bioelectrochemistry, 2021, 140, 107811.	2.4	10
71	Nanosecond Electroperturbationâ€”Mammalian Cell Sensitivity and Bacterial Spore Resistance. IEEE Transactions on Plasma Science, 2004, 32, 1620-1625.	0.6	9
72	A Review of Diverse Academic Research in Nanosecond Pulsed Power and Plasma Science. IEEE Transactions on Plasma Science, 2020, 48, 742-748.	0.6	9

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73	Scalable, compact, nanosecond pulse generator with a high repetition rate for biomedical applications requiring intense electric fields. , 2009, , .		8
74	Mitochondrial membrane permeabilization with nanosecond electric pulses. , 2011, 2011, 743-5.		8
75	Adrenal chromaffin cells do not swell when exposed to nanosecond electric pulses. Bioelectrochemistry, 2015, 103, 98-102.	2.4	8
76	Geometrical Characterization of an Electropore from Water Positional Fluctuations. Journal of Membrane Biology, 2017, 250, 11-19.	1.0	8
77	Electrical Analysis of Cell Membrane Poration by an Intense Nanosecond Pulsed Electric Field Using an Atomistic-to-Continuum Method. IEEE Transactions on Microwave Theory and Techniques, 2015, 63, 2032-2040.	2.9	7
78	Phospholipid and Hydrocarbon Interactions with a Charged Electrode Interface. Langmuir, 2016, 32, 2808-2819.	1.6	5
79	Electro-physical technique for post-fabrication measurements of CMOS process layer thicknesses. Journal of Research of the National Institute of Standards and Technology, 2007, 112, 223.	0.4	5
80	A fluorescence microscopy study of quantum dots as fluorescent probes for brain tumor diagnosis. , 2005, , .		4
81	Electric Field-Driven Water Dipoles: Nanoscale Architecture of Electroporation. Biophysical Journal, 2012, 102, 401a.	0.2	4
82	A statistical analytical model for hydrophilic electropore characterization: a comparison study. RSC Advances, 2017, 7, 31997-32007.	1.7	4
83	From algal cells to autofluorescent ghost plasma membrane vesicles. Bioelectrochemistry, 2020, 134, 107524.	2.4	4
84	Open Transverse ElectroMagnetic (TEM) cell as applicator of high-intensity nsPEFs and electro-optic measurements. , 2012, , .		3
85	Nanoscopic Cell Membrane and Pore Profiles Combining Molecular Dynamics and a 3D Electromagnetic Tool. Biophysical Journal, 2013, 104, 250a.	0.2	3
86	Introduction to Third Special Electroporation-Based Technologies and Treatments Issue. Journal of Membrane Biology, 2013, 246, 723-724.	1.0	3
87	Biological Responses. , 2017, , 155-274.		3
88	Electroporation-Induced Cell Modifications Detected with THz Time-Domain Spectroscopy. Journal of Infrared, Millimeter, and Terahertz Waves, 2018, 39, 854-862.	1.2	3
89	5Âns electric pulses induce Ca2+-dependent exocytotic release of catecholamine from adrenal chromaffin cells. Bioelectrochemistry, 2021, 140, 107830.	2.4	3
90	Electroporation Sensitivity of Oxidized Phospholipid Bilayers. Biophysical Journal, 2009, 96, 41a.	0.2	2

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91	Electrical analysis of cell membrane poration induced by an intense nanosecond pulsed electric field, using an atomistic-to-continuum method. , 2014, , .		2
92	Computing Spatiotemporal Heat Maps of Lipid Electropore Formation: A Statistical Approach. Frontiers in Molecular Biosciences, 2017, 4, 22.	1.6	2
93	Compact high voltage subnanosecond pulsed power delivery system for biological applications. , 2007, , .		1
94	Cell Swelling and Membrane Permeabilization after Nanoelectropulse Exposure. Biophysical Journal, 2012, 102, 190a.	0.2	1
95	Foreword to Sixth Special Issue on Electroporation-Based Technologies and Treatments. Journal of Membrane Biology, 2016, 249, 591-592.	1.0	1
96	Lipid Electropore Geometry in Molecular Models. , 2017, , 155-170.		1
97	Electropore Formation in Mechanically Constrained Phospholipid Bilayers. Journal of Membrane Biology, 2018, 251, 237-245.	1.0	1
98	Electropermeabilization of Mammalian Cells Visualized with Fluorescent Semiconductor Nanocrystals (Quantum Dots). Materials Research Society Symposia Proceedings, 2005, 873, 1.	0.1	0
99	Design and Synthesis of a Multifunctional Probe for Bio-Imaging and Therapeutics. Materials Research Society Symposia Proceedings, 2006, 943, 1.	0.1	0
100	Temperature Modulation of the Life Cycles of Phospholipid Bilayer Electropores. Biophysical Journal, 2011, 100, 151a.	0.2	0
101	Nanosecond Megavolt-Per-Meter Pulsed Electric Field Effects on Biological Membranes. Biophysical Journal, 2011, 100, 502a.	0.2	0
102	Nanosecond (Gigahertz) and Microsecond (Megahertz) pulsed electric field interactions with cell membranes. , 2011, , .		0
103	Molecular Dynamics Comparison of Electroporation in Water-Vacuum-Water and Lipid Bilayer System. Biophysical Journal, 2012, 102, 399a.	0.2	0
104	Electropore Dynamics in Time-Dependent Electric Fields. Biophysical Journal, 2012, 102, 401a.	0.2	0
105	Versatile broadband electrode assembly for cell electroporation. , 2012, 2012, 2563-6.		0
106	A compact circuit for wafer-level monitoring of operational amplifier high-frequency performance using DC parametric test equipment. , 2012, , .		0
107	Introduction for the special issue on electroporation. Journal of Membrane Biology, 2012, 245, 507-508.	1.0	0
108	Molecular Dynamics Interactions between Silicon Electrodes and Phospholipids. Biophysical Journal, 2013, 104, 334a-335a.	0.2	0

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109	Effect of Monovalent Ion Concentration in Molecular Simulation of Electroporation. Biophysical Journal, 2013, 104, 172a-173a.	0.2	0
110	Introduction to Fourth Special Issue on Electroporation-Based Technologies and Treatments. Journal of Membrane Biology, 2014, 247, 1207-1208.	1.0	0
111	Introduction to Fifth Special Issue on Electroporation-Based Technologies and Treatments. Journal of Membrane Biology, 2015, 248, 825-826.	1.0	0
112	Quantifying Molecular Transport through Lipid Electropores Induced by Nanosecond Pulsed Electric Fields. Biophysical Journal, 2015, 108, 243a.	0.2	0
113	Quantitative Small Molecule Transport after Nanosecond Electric Field Exposures - Experiments and Models. Biophysical Journal, 2017, 112, 219a.	0.2	0
114	Spatial Heat Maps from Fast Information Matching of Fast and Slow Degrees of Freedom in Molecular Dynamics Simulations. Biophysical Journal, 2017, 112, 322a.	0.2	0
115	Measurement of Molecular Transport After Electropermeabilization. , 2017, , 201-217.		0
116	1 + 1 = 0? â€" Nanosecond Bipolar Pulse Cancellation and the Electropermeome. Biophysical Journal, 2018, 114, 600a.	0.2	0
117	Molecular Simulations of Lipid Electropore Formation and Pore-Mediated Calcium Transport with an Improved Ca2+ Model. Biophysical Journal, 2018, 114, 527a.	0.2	0
118	Microsecond Kinetics of Ion Transport and Membrane Interface Binding in Electrically Stressed Lipid Bilayers. Biophysical Journal, 2019, 116, 571a.	0.2	0
119	Biophotonic Studies of Intracellular Responses to Nanosecond, Megavolt-per-meter, pulsed Electric Field. , 2011, , .		0
120	Measurement of Molecular Transport After Electropermeabilization. , 2016, , 1-17.		0
121	Measurement of Molecular Transport After Electropermeabilization. , 2017, , 1-18.		0