Michael P Hughes

List of Publications by Year
in descending order

105 papers	4,221 citations	126907 33 h-index	114465 63 g-index
110 all docs	110 docs citations	110 times ranked	2867 citing authors

#	Article	IF	Citations
1	Separation of Submicron Bioparticles by Dielectrophoresis. Biophysical Journal, 1999, 77, 516-525.	0.5	492
2	Strategies for dielectrophoretic separation in laboratory-on-a-chip systems. Electrophoresis, 2002, 23, 2569-2582.	2.4	369
3	AC electrokinetics: applications for nanotechnology. Nanotechnology, 2000, 11, 124-132.	2.6	268
4	Manipulation of herpes simplex virus type 1 by dielectrophoresis. Biochimica Et Biophysica Acta - General Subjects, 1998, 1425, 119-126.	2.4	141
5	Large-area travelling-wave dielectrophoresis particle separator. Journal of Micromechanics and Microengineering, 1997, 7, 65-70.	2.6	113
6	Dielectrophoretic trapping of single sub-micrometre scale bioparticles. Journal Physics D: Applied Physics, 1998, 31, 2205-2210.	2.8	110
7	Dielectrophoretic forces on particles in travelling electric fields. Journal Physics D: Applied Physics, 1996, 29, 474-482.	2.8	93
8	Assessment of Multidrug Resistance Reversal Using Dielectrophoresis and Flow Cytometry. Biophysical Journal, 2003, 85, 2028-2034.	0.5	93
9	Measuring the dielectric properties of herpes simplex virus type 1 virions with dielectrophoresis. Biochimica Et Biophysica Acta - General Subjects, 2002, 1571, 1-8.	2.4	92
10	Differences in the biophysical properties of membrane and cytoplasm of apoptotic cells revealed using dielectrophoresis. Biochimica Et Biophysica Acta - General Subjects, 2006, 1760, 922-929.	2.4	90
11	The Dielectrophoretic Behavior of Submicron Latex Spheres: Influence of Surface Conductance. Journal of Colloid and Interface Science, 1999, 220, 454-457.	9.4	88
12	High-throughput, low-loss, low-cost, and label-free cell separation using electrophysiology-activated cell enrichment. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 4591-4596.	7.1	84
13	Extraction of dielectric properties of multiple populations from dielectrophoretic collection spectrum data. Physics in Medicine and Biology, 2005, 50, 2267-2274.	3.0	81
14	Nanoelectromechanics in Engineering and Biology. Nano- and Microscience, Engineering, Technology, and Medicine Series, 2002, , .	0.2	81
15	Cancer, pre-cancer and normal oral cells distinguished by dielectrophoresis. Analytical and Bioanalytical Chemistry, 2011, 401, 2455-2463.	3.7	78
16	Biophysical characterization of MDR breast cancer cell lines reveals the cytoplasm is critical in determining drug sensitivity. Biochimica Et Biophysica Acta - General Subjects, 2007, 1770, 601-608.	2.4	77
17	Dielectrophoretic Characterization and Separation of Antibody-Coated Submicrometer Latex Spheres. Analytical Chemistry, 1999, 71, 3441-3445.	6.5	76
18	Dielectrophoresis-Activated Multiwell Plate for Label-Free High-Throughput Drug Assessment. Analytical Chemistry, 2008, 80, 2063-2068.	6.5	76

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19	Fifty years of dielectrophoretic cell separation technology. Biomicrofluidics, 2016, 10, 032801.	2.4	73
20	Biophysical Characteristics Reveal Neural Stem Cell Differentiation Potential. PLoS ONE, 2011, 6, e25458.	2.5	69
21	Early detection of oral cancer â€“ Is dielectrophoresis the answer?. Oral Oncology, 2007, 43, 199-203.	1.5	67
22	Accurate quantification of apoptosis progression and toxicity using a dielectrophoretic approach. Analyst, The, 2016, 141, 6408-6415.	3.5	65
23	Use of combined dielectrophoretic/electrohydrodynamic forces for biosensor enhancement. Journal Physics D: Applied Physics, 2003, 36, L101-L104.	2.8	62
24	Dielectrophoretic manipulation and characterization of herpes simplex virus-1 capsids. European Biophysics Journal, 2001, 30, 268-272.	2.2	61
25	Rapidâ€onâ€chip determination of dielectric properties of biological cells using imaging techniques in a dielectrophoresis dot microsystem. Electrophoresis, 2008, 29, 3-10.	2.4	53
26	Non-uniform spatial distributions of both the magnitude and phase of AC electric fields determine dielectrophoretic forces. Biochimica Et Biophysica Acta - General Subjects, 1995, 1243, 185-194.	2.4	52
27	Dielectrophoretic assay of bacterial resistance to antibiotics. Physics in Medicine and Biology, 2003, 48, N193-N198.	3.0	45
28	Dielectrophoretic analysis of changes in cytoplasmic ion levels due to ion channel blocker action reveals underlying differences between drug-sensitive and multidrug-resistant leukaemic cells. Physics in Medicine and Biology, 2008, 53, N1-N7.	3.0	44
29	Measurement of Bacterial Flagellar Thrust by Negative Dielectrophoresis. Biotechnology Progress, 1999, 15, 245-249.	2.6	42
30	Computer-aided analyses of electric fields used in electrorotation studies. Journal Physics D: Applied Physics, 1994, 27, 1564-1570.	2.8	41
31	Optimizing particle collection for enhanced surface-based biosensors. IEEE Engineering in Medicine and Biology Magazine, 2003, 22, 68-74.	0.8	39
32	Dielectrophoretic Behavior of Latex Nanospheres: Low-Frequency Dispersion. Journal of Colloid and Interface Science, 2002, 250, 291-294.	9.4	38
33	Characterization of human skeletal stem and bone cell populations using dielectrophoresis. Journal of Tissue Engineering and Regenerative Medicine, 2015, 9, 162-168.	2.7	36
34	Tenâ€“Second Electrophysiology: Evaluation of the 3DEP Platform for high-speed, high-accuracy cell analysis. Scientific Reports, 2019, 9, 19153.	3.3	34
35	A High-Throughput 3-D Composite Dielectrophoretic Separator. IEEE Transactions on Biomedical Engineering, 2005, 52, 1347-1349.	4.2	33
36	Apoptosis progression studied using parallel dielectrophoresis electrophysiological analysis and flow cytometry. Integrative Biology (United Kingdom), 2015, 7, 1396-1401.	1.3	32

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37	Rapid determination of antibiotic resistance inE. coliusing dielectrophoresis. Physics in Medicine and Biology, 2007, 52, 6001-6009.	3.0	31
38	An integrated dielectrophoretic quartz crystal microbalance (DEP-QCM) device for rapid biosensing applications. Biosensors and Bioelectronics, 2007, 23, 225-232.	10.1	31
39	Epithelial cancer cells exhibit different electrical properties when cultured in 2D and 3D environments. Biochimica Et Biophysica Acta - General Subjects, 2013, 1830, 5136-5141.	2.4	30
40	Computer-aided analysis of conditions for optimizing practical electrorotation. Physics in Medicine and Biology, 1998, 43, 3639-3648.	3.0	29
41	In situ and real time determination of metallic and semiconducting single-walled carbon nanotubes in suspension via dielectrophoresis. Applied Physics Letters, 2006, 88, 243109.	3.3	28
42	A dielectrophoretic method of discrimination between normal oral epithelium, and oral and oropharyngeal cancer in a clinical setting. Analyst, The, 2015, 140, 5198-5204.	3.5	28
43	Solution processable multi-channel ZnO nanowire field-effect transistors with organic gate dielectric. Nanotechnology, 2013, 24, 405203.	2.6	27
44	Rapid assessment of early biophysical changes in K562 cells during apoptosis determined using dielectrophoresis. International Journal of Nanomedicine, 2006, 1, 333-7.	6.7	27
45	Protein adsorption on materials for recording sites on implantable microelectrodes. Journal of Materials Science: Materials in Medicine, 2008, 19, 143-151.	3.6	25
46	Simultaneous Tunable Selection and Self-Assembly of Si Nanowires from Heterogeneous Feedstock. ACS Nano, 2016, 10, 4384-4394.	14.6	25
47	Dielectrophoretic separation of Bacillus subtilis spores from environmental diesel particles. Journal of Environmental Monitoring, 2007, 9, 87-90.	2.1	24
48	Cytoplasm Resistivity of Mammalian Atrial Myocardium Determined by Dielectrophoresis and Impedance Methods. Biophysical Journal, 2012, 103, 2287-2294.	0.5	24
49	Parallel measurements of drug actions on Erythrocytes by dielectrophoresis, using a three-dimensional electrode design. IET Nanobiotechnology, 2005, 152, 150.	2.1	23
50	Micro- and nano-electrokinetics in medicine. IEEE Engineering in Medicine and Biology Magazine, 2003, 22, 32-32.	0.8	20
51	Water quality test based on dielectrophoretic measurements of fresh water algae Selenastrum capricornutum. Journal of Environmental Monitoring, 2003, 5, 861-864.	2.1	20
52	Action potential recording from dielectrophoretically positioned neurons inside micro-wells of a planar microelectrode array. Journal of Neuroscience Methods, 2009, 182, 225-235.	2.5	20
53	A dielectrophoresis-impedance method for protein detection and analysis. AIP Advances, 2017, 7, .	1.3	20
54	Dielectrophoresis as a Cell Characterisation Tool. Methods in Molecular Biology, 2010, 583, 183-198.	0.9	20

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55	Large area multilayered electrode arrays for dielectrophoretic fractionation. Microelectronic Engineering, 1997, 35, 421-424.	2.4	19
56	Efficient dielectrophoretic cell enrichment using a dielectrophoresis-well based system. Biomicrofluidics, 2013, 7, 064110.	2.4	19
57	The Influence of Stern Layer Conductance on the Dielectrophoretic Behavior of Latex Nanospheres. Journal of Colloid and Interface Science, 2002, 250, 266-268.	9.4	18
58	Rapid, automated measurement of dielectrophoretic forces using DEPâ€activated microwells. Electrophoresis, 2011, 32, 2393-2399.	2.4	18
59	Finite element analysis of thermal and acoustic processes during laser tattoo removal. Lasers in Surgery and Medicine, 2013, 45, 108-115.	2.1	17
60	Permutation Entropy for the Characterisation of Brain Activity Recorded with Magnetoencephalograms in Healthy Ageing. Entropy, 2017, 19, 141.	2.2	16
61	Dielectrophoretic analysis of treated cancer cells for rapid assessment of treatment efficacy. Electrophoresis, 2018, 39, 1104-1110.	2.4	16
62	Assessing biocompatibility of materials for implantable microelectrodes using cytotoxicity and protein adsorption studies. , 0, , .		15
63	Determination of the thermal and physical properties of black tattoo ink using compound analysis. Lasers in Medical Science, 2013, 28, 1107-1112.	2.1	15
64	Vm-related extracellular potentials observed in red blood cells. Scientific Reports, 2021, 11, 19446.	3.3	14
65	Mapping the electrorotational torque in planar microelectrodes. Journal Physics D: Applied Physics, 1999, 32, 1548-1552.	2.8	13
66	Effects of cell detachment methods on the dielectric properties of adherent and suspension cells. Electrophoresis, 2015, 36, 1493-1498.	2.4	13
67	Applications of dielectrophoretic/electrohydrodynamic "zipper" electrodes for detection of biological nanoparticles. International Journal of Nanomedicine, 2007, 2, 427-31.	6.7	13
68	Process development for cell aggregate arrays encapsulated in a synthetic hydrogel using negative dielectrophoresis. Electrophoresis, 2013, 34, 1059-1067.	2.4	12
69	Dielectrophoretic sample preparation for environmental monitoring of microorganisms: Soil particle removal. Biomicrofluidics, 2014, 8, 044115.	2.4	12
70	Complexity Changes in Brain Activity in Healthy Ageing: A Permutation Lempel-Ziv Complexity Study of Magnetoencephalograms. Entropy, 2018, 20, 506.	2.2	12
71	Numerical simulation of dielectrophoretic ratchet structures. Journal Physics D: Applied Physics, 2004, 37, 1275-1280.	2.8	11
72	Factors affecting particle collection by electroâ€osmosis in microfluidic systems. Electrophoresis, 2014, 35, 345-351.	2.4	11

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73	Rapid determination of nanowires electrical properties using a dielectrophoresis-well based system. Applied Physics Letters, 2017, 110, .	3.3	10
74	Surface-Enhanced Resonance Raman Scattering of Black Inkjet Dyes in Solution and in Situ Printed onto Paper. Applied Spectroscopy, 2003, 57, 977-983.	2.2	9
75	Continuous flow nanoparticle concentration using alternating currentâ€electroosmotic flow. Electrophoresis, 2014, 35, 467-473.	2.4	9
76	Rapid, Low-Cost Dielectrophoretic Diagnosis of Bladder Cancer in a Clinical Setting. IEEE Journal of Translational Engineering in Health and Medicine, 2020, 8, 1-5.	3.7	9
77	Effects of electrode size on the performance of neural recording microelectrodes. , 0, , .		8
78	Dielectrophoretic Response of DNA Shows Different Conduction Mechanisms for Poly(dG)-Poly(dC) and Poly(dA)-Poly(dT) in Solution. IEEE Transactions on Nanobioscience, 2014, 13, 51-54.	3.3	8
79	An evanescent-field technique for dielectrophoresis studies of colloidal particles. Measurement Science and Technology, 1999, 10, 759-762.	2.6	7
80	The Platelet Electrome: Evidence for a Role in Regulation of Function and Surface Interaction. Bioelectricity, 2022, 4, 153-159.	1.1	7
81	Transcriptomeâ€based screening of ion channels and transporters in a migratory chondroprogenitor cell line isolated from lateâ€stage osteoarthritic cartilage. Journal of Cellular Physiology, 2021, 236, 7421-7439.	4.1	6
82	Theoretical evaluation of asynchronous ac dielectric nanomotors. Nanotechnology, 2002, 13, 157-162.	2.6	5
83	Bacterial Concentration, Separation and Analysis by Dielectrophoresis. , 2008, , 895-907.		5
84	Biocompatibility studies of materials used for chronically implantable microelectrodes. , 0, , .		4
85	Ion channel expression and function in a chondrogenic progenitor cell line derived from osteoarthritic cartilage. Osteoarthritis and Cartilage, 2016, 24, S141.	1.3	4
86	Barefoot plantar pressure measurement in Chronic Exertional Compartment Syndrome. Gait and Posture, 2018, 63, 10-16.	1.4	4
87	Microelectrode Fabrication Using Indium Tin Oxide (ITO) For Microfluidic Devices Employing Dielectrophoresis. IFMBE Proceedings, 2008, , 719-722.	0.3	3
88	Technological developments in dielectrophoresis and its path to commercialization. Cell & Gene Therapy Insights, 2018, 4, 81-88.	0.1	3
89	Action potential velocity detection using a penetrating microprobe. Measurement Science and Technology, 2005, 16, N7-N10.	2.6	2
90	Dielectrophoresis of poly AT and poly GC DNA Nanomanipulation. , 2012, , .		2

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91	AC-Electrokinetic Applications in a Biological Setting. Methods in Molecular Biology, 2010, 583, 199-219.	0.9	2
92	Semi-automated Dielectrophoretic Cell Characterisation Module for Lab-on-Chip Applications. IFMBE Proceedings, 2011, , 582-586.	0.3	2
93	A dielectrophoresis and image processing based system for loading single-neurons per micro-well in planar microelectrode arrays. , 2013, , .		1
94	Impedance spectroscopy of Zinc Oxide nanoparticles in dielectrophoresis biotechnology. , 2014, , .		1
95	Preface to Special Topic: Selected Papers from the 2015 Annual Meeting of the AES Electrophoresis Society in Salt Lake City, Utah. Biomicrofluidics, 2016, 10, 032701.	2.4	1
96	Strategies for dielectrophoretic separation in laboratory-on-a-chip systems. , 2002, 23, 2569.		1
97	Strategies for dielectrophoretic separation in laboratory-on-a-chip systems. , 2002, 23, 2569.		1
98	Abstract 3490: Measurement of Gifinitib (ZD1839) effect on electrophysiological properties of head and neck cancer cells using Dielectrophoresis (DEP). , 2014, , .		1
99	Assembly of tin oxide nanowires for dielectrophoretic response modeling. , 2015, , .		0
100	Synchronisation likelihood analysis of the effects of age on the brain. , 2017, , .		0
101	AC Electrokinetics of Particles. The Electrical Engineering Handbook, 2004, , .	0.2	0
102	Nanoparticle Manipulation by Electrostatic Forces. The Electrical Engineering Handbook, 2007, , 16-1-16-32.	0.2	0
103	Nanoparticle Manipulation by Electrostatic Forces. The Electrical Engineering Handbook, 2012, , 279-312.	0.2	0
104	An Algorithm for Tracking the Position and Velocity of Multiple Neuronal Signals Using Implantable Microelectrodes In Vivo. Micromachines, 2021, 12, 1346.	2.9	0
105	Rapid determination of nanowire electrical properties using a dielectrophoresis-well based system. Applied Physics Letters, 2017, 110, .	3.3	0