

# Jan Gimsa

## List of Publications by Year in descending order

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102  
papers

2,526  
citations

236925

25  
h-index

214800

47  
g-index

106  
all docs

106  
docs citations

106  
times ranked

2228  
citing authors

#	ARTICLE	IF	CITATIONS
1	Dielectrophoresis from the System's Point of View: A Tale of Inhomogeneous Object Polarization, Mirror Charges, High Repelling and Snap-to-Surface Forces and Complex Trajectories Featuring Bifurcation Points and Watersheds. <i>Micromachines</i> , 2022, 13, 1002.	2.9	3
2	Active, Reactive, and Apparent Power in Dielectrophoresis: Force Corrections from the Capacitive Charging Work on Suspensions Described by Maxwell-Wagner's Mixing Equation. <i>Micromachines</i> , 2021, 12, 738.	2.9	7
3	Contributions to a Discussion of <i>Spinosaurus aegyptiacus</i> as a Capable Swimmer and Deep-Water Predator. <i>Life</i> , 2021, 11, 889.	2.4	2
4	Subthalamic nucleus deep brain stimulation induces sustained neurorestoration in the mesolimbic dopaminergic system in a Parkinson's disease model. <i>Neurobiology of Disease</i> , 2021, 156, 105404.	4.4	10
5	A comparative analysis of detachment forces and energies in initial and mature cell-material interaction. <i>Colloids and Surfaces B: Biointerfaces</i> , 2020, 190, 110894.	5.0	18
6	Can the law of maximum entropy production describe the field-induced orientation of ellipsoids of rotation?. <i>Journal of Physics Communications</i> , 2020, 4, 085017.	1.2	4
7	Surface Coatings Modulate the Differences in the Adhesion Forces of Eukaryotic and Prokaryotic Cells as Detected by Single Cell Force Microscopy. <i>International Journal of Biomaterials</i> , 2019, 2019, 1-12.	2.4	3
8	Impedance detection of the electrical resistivity of the wound tissue around deep brain stimulation electrodes permits registration of the encapsulation process in a rat model. <i>Journal of Electrical Bioimpedance</i> , 2019, 8, 11-24.	0.9	9
9	Furthering the state of knowledge on the electric properties of hemi-ellipsoidal single cells and cell patches on electrodes. <i>Biosensors and Bioelectronics</i> , 2018, 105, 166-172.	10.1	6
10	Spermidine-Induced Attraction of Like-Charged Surfaces Is Correlated with the pH-Dependent Spermidine Charge: Force Spectroscopy Characterization. <i>Langmuir</i> , 2018, 34, 2725-2733.	3.5	12
11	Combined AC electrokinetic effects: Theoretical considerations on a three-axial ellipsoidal model. <i>Electrophoresis</i> , 2018, 39, 1339-1348.	2.4	7
12	Combined detection of AC electrokinetic effects: Experiments with three-axial chicken red blood cells. <i>Electrophoresis</i> , 2018, 39, 2253-2261.	2.4	5
13	Assessing immune competence in pigs by immunization with tetanus toxoid. <i>Animal</i> , 2018, 12, 116-121.	3.3	2
14	Automated and manual patch clamp data of human induced pluripotent stem cell-derived dopaminergic neurons. <i>Scientific Data</i> , 2017, 4, 170056.	5.3	23
15	WST-assay data reveal a pH dependence of the mitochondrial succinate reductase in osteoblast-like cells. <i>Data in Brief</i> , 2017, 12, 442-446.	1.0	0
16	MC3T3 osteoblast-like cells cultured at alkaline pH: Microarray data (Affymetrix GeneChip Mouse 2.0) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	1.0	7
17	Increased osteoblast viability at alkaline pH in vitro provides a new perspective on bone regeneration. <i>Biochemistry and Biophysics Reports</i> , 2017, 10, 17-25.	1.3	94
18	The influence of insulating and conductive ellipsoidal objects on the impedance and permittivity of media. <i>Journal of Electrostatics</i> , 2017, 90, 131-138.	1.9	9

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19	Deep Brain Stimulation of Hemiparkinsonian Rats with Unipolar and Bipolar Electrodes for up to 6 Weeks: Behavioral Testing of Freely Moving Animals. <i>Parkinson's Disease</i> , 2017, 2017, 1-18.	1.1	14
20	Electric and Magnetic Fields in Cells and Tissues. , 2017, , .		1
21	Cell Monitoring and Manipulation Systems (CMMSs) based on Glass Cell-Culture Chips (GC3s). <i>Micromachines</i> , 2016, 7, 106.	2.9	11
22	Enhancing the regeneration of bone defects by alkalizing the peri-implant zone " an <i>in vitro</i> approach. <i>Current Directions in Biomedical Engineering</i> , 2016, 2, 547-551.	0.4	1
23	Optical high-resolution analysis of rotational movement: testing circular spatial filter velocimetry (CSFV) with rotating biological cells. <i>Journal Physics D: Applied Physics</i> , 2016, 49, 265402.	2.8	6
24	The riddle of <i>Spinosaurus aegyptiacus</i> ™ dorsal sail. <i>Geological Magazine</i> , 2016, 153, 544-547.	1.5	13
25	Neuronal in vitro activity is more sensitive to valproate than intracellular ATP: Considerations on conversion problems of IC50 in vitro data for animal replacement. <i>BioSystems</i> , 2016, 144, 35-45.	2.0	2
26	Design and Characterization of a Sensorized Microfluidic Cell-Culture System with Electro-Thermal Micro-Pumps and Sensors for Cell Adhesion, Oxygen, and pH on a Glass Chip. <i>Biosensors</i> , 2015, 5, 513-536.	4.7	30
27	Fast Prototyping of Sensorized Cell Culture Chips and Microfluidic Systems with Ultrashort Laser Pulses. <i>Micromachines</i> , 2015, 6, 364-374.	2.9	9
28	The effect of hyperbaric air on the electric activity of neuronal in vitro networks. <i>Biosensors and Bioelectronics</i> , 2015, 73, 153-159.	10.1	2
29	Maxwell's Mixing Equation Revisited: Characteristic Impedance Equations for Ellipsoidal Cells. <i>Biophysical Journal</i> , 2015, 109, 194-208.	0.5	33
30	A short tutorial contribution to impedance and AC-electrokinetic characterization and manipulation of cells and media: Are electric methods more versatile than acoustic and laser methods?. <i>Journal of Electrical Bioimpedance</i> , 2014, 5, 74-91.	0.9	47
31	Experimental verification of an equivalent circuit for the characterization of electrothermal micropumps: High pumping velocities induced by the external inductance at driving voltages below 5 V. <i>Electrophoresis</i> , 2013, 34, 562-574.	2.4	26
32	Electrical Impedance Properties of Deep Brain Stimulation Electrodes during Long-Term In-Vivo Stimulation in the Parkinson Model of the Rat. <i>Communications in Computer and Information Science</i> , 2013, , 287-297.	0.5	11
33	Poregenic - Patch on Chip System for Adherent Cellular Networks. <i>Biophysical Journal</i> , 2012, 102, 583a.	0.5	0
34	Low fibronectin concentration overcompensates for reduced initial fibroblasts adhesion to a nanoscale topography: Single-cell force spectroscopy. <i>Colloids and Surfaces B: Biointerfaces</i> , 2012, 95, 82-89.	5.0	13
35	A decrease of intracellular ATP is compensated by increased respiration and acidification at sub-lethal parathion concentrations in murine embryonic neuronal cells: Measurements in metabolic cell-culture chips. <i>Toxicology Letters</i> , 2011, 207, 182-190.	0.8	13
36	Optimizing a Rodent Model of Parkinson's Disease for Exploring the Effects and Mechanisms of Deep Brain Stimulation. <i>Parkinson's Disease</i> , 2011, 2011, 1-19.	1.1	45

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37	Attachment of Rod-Like (BAR) Proteins and Membrane Shape. Mini-Reviews in Medicinal Chemistry, 2011, 11, 272-282.	2.4	35
38	The influence of topographic microstructures on the initial adhesion of L929 fibroblasts studied by single-cell force spectroscopy. European Biophysics Journal, 2011, 40, 317-327.	2.2	27
39	A short review on AC electro-thermal micropumps based on smeared structural polarizations in the presence of a temperature gradient. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2011, 376, 97-101.	4.7	32
40	AC-Electrokinetic Applications in Cell Chips: Basic Understanding and Modeling of Structural Polarization Effects. IFMBE Proceedings, 2011, , 1242-1245.	0.3	3
41	Recording electric potentials from single adherent cells with 3D microelectrode arrays after local electroporation. Biosensors and Bioelectronics, 2010, 26, 1731-1735.	10.1	20
42	Modular glass chip system measuring the electric activity and adhesion of neuronal cellsâ€™ application and drug testing with sodium valproic acid. Lab on A Chip, 2010, 10, 1579.	6.0	17
43	ac-field-induced fluid pumping in microsystems with asymmetric temperature gradients. Physical Review E, 2009, 79, 026309.	2.1	12
44	Template-Free Galvanic Nanostructuring of Gold Electrodes for Sensitive Electrochemical Biosensors. Electroanalysis, 2009, 21, 2153-2159.	2.9	5
45	Electrochemical product detection of an asymmetric convective polymerase chain reaction. Biosensors and Bioelectronics, 2009, 25, 400-405.	10.1	20
46	Effects of cell orientation and electric field frequency on the transmembrane potential induced in ellipsoidal cells. Bioelectrochemistry, 2008, 74, 130-141.	4.6	39
47	Differential astroglial activation in 6-hydroxydopamine models of Parkinsonâ€™s disease. Neuroscience Research, 2008, 62, 246-253.	1.9	55
48	A new working principle for ac electro-hydrodynamic on-chip micro-pumps. Journal Physics D: Applied Physics, 2007, 40, 6850-6856.	2.8	26
49	Simplified equations for the transmembrane potential induced in ellipsoidal cells of rotational symmetry. Journal Physics D: Applied Physics, 2007, 40, 914-923.	2.8	25
50	Actin is not required for nanotubular protrusions of primary astrocytes grown on metal nano-lawn. Molecular Membrane Biology, 2007, 24, 243-255.	2.0	24
51	A Compact and Versatile Instrument for Radio Frequency Heating in Nonisothermal Electrochemical Studies. Electroanalysis, 2007, 19, 535-540.	2.9	25
52	A new exposure system for the in vitro detection of GHz field effects on neuronal networks. Bioelectrochemistry, 2007, 70, 104-114.	4.6	20
53	On the temperature dependence of the dielectric membrane properties of human red blood cells. Bioelectrochemistry, 2007, 70, 134-140.	4.6	25
54	Title is missing!. ScienceAsia, 2007, 33, 061.	0.5	3

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55	Chapter 8 Basic Cell-Cell and Cell-Surface Interactions in Liposome and Cellular Systems. Behavior Research Methods, 2006, , 229-251.	4.0	0
56	Matching geometry and stimulation parameters of electrodes for deep brain stimulation experiments-Numerical considerations. Journal of Neuroscience Methods, 2006, 150, 212-227.	2.5	47
57	On the field distribution in electrorotation chambers-Influence of electrode shape. Electrochimica Acta, 2006, 51, 5215-5220.	5.2	12
58	The influence of the molecular structure of lipid membranes on the electric field distribution and energy absorption. Bioelectromagnetics, 2006, 27, 652-666.	1.6	29
59	Choosing electrodes for deep brain stimulation experiments-electrochemical considerations. Journal of Neuroscience Methods, 2005, 142, 251-265.	2.5	116
60	Electric and Magnetic Fields in Cells and Tissues. , 2005, , 6-14.		2
61	Excluded volume driven counterion condensation inside nanotubes in a concave electrical double layer model. Bioelectrochemistry, 2005, 67, 91-99.	4.6	13
62	Dielectric anisotropy, volume potential anomalies and the persistent Maxwellian equivalent body. Journal of Physics Condensed Matter, 2005, 17, 7817-7831.	1.8	12
63	TRENNBARKEIT VON QUELLEN IN BIOMAGNETISCHEN MESSUNGEN DURCH DIE INDEPENDENT COMPONENT ANALYSIS (ICA). Biomedizinische Technik, 2003, 48, 420-421.	0.8	0
64	Cellular absorption of electric field energy: influence of molecular properties of the cytoplasm. Bioelectrochemistry, 2002, 56, 215-218.	4.6	38
65	Estimating the subcellular absorption of electric field energy: equations for an ellipsoidal single shell model. Bioelectrochemistry, 2002, 56, 211-213.	4.6	14
66	Analytical Description of the Transmembrane Voltage Induced on Arbitrarily Oriented Ellipsoidal and Cylindrical Cells. Biophysical Journal, 2001, 81, 1888-1896.	0.5	116
67	On the analytical description of transmembrane voltage induced on spheroidal cells with zero membrane conductance. European Biophysics Journal, 2001, 30, 463-466.	2.2	29
68	A comprehensive approach to electro-orientation, electrodeformation, dielectrophoresis, and electrorotation of ellipsoidal particles and biological cells. Bioelectrochemistry, 2001, 54, 23-31.	4.6	109
69	Particle characterization by AC-electrokinetic phenomena: 1. A short introduction to dielectrophoresis (DP) and electrorotation (ER). Colloids and Surfaces A: Physicochemical and Engineering Aspects, 1999, 149, 451-459.	4.7	7
70	Particle characterization by AC electrokinetic phenomena. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 1999, 149, 443-449.	4.7	17
71	New Light-Scattering and Field-Trapping Methods Access the Internal Electric Structure of Submicron Particles, like Influenza Viruses. Annals of the New York Academy of Sciences, 1999, 873, 287-298.	3.8	23
72	A Polarization Model Overcoming the Geometric Restrictions of the Laplace Solution for Spheroidal Cells: Obtaining New Equations for Field-Induced Forces and Transmembrane Potential. Biophysical Journal, 1999, 77, 1316-1326.	0.5	88

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73	Particle characterization by AC-electrokinetic phenomena 3. New developments in electrorotational light scattering (ERLS). Colloids and Surfaces A: Physicochemical and Engineering Aspects, 1998, 136, 199-207.	4.7	9
74	A Possible Molecular Mechanism Governing Human Erythrocyte Shape. Biophysical Journal, 1998, 75, 568.	0.5	22
75	A Unified Resistor-Capacitor Model for Impedance, Dielectrophoresis, Electrorotation, and Induced Transmembrane Potential. Biophysical Journal, 1998, 75, 1107-1116.	0.5	108
76	Handling and investigation of adherently growing cells and viruses of medical relevance in three-dimensional micro-structures. , 1997, , .		3
77	Determination of viral neuraminidase specificity for membrane-bound sialic acids by cell electrophoresis. Molecular Membrane Biology, 1997, 14, 87-90.	2.0	0
78	Introducing phase analysis light scattering for dielectric characterization: measurement of traveling-wave pumping. Biophysical Journal, 1997, 73, 3309-3316.	0.5	37
79	Measurement of inherent particle properties by dynamic light scattering: introducing electrorotational light scattering. Biophysical Journal, 1997, 72, 1414-1424.	0.5	22
80	A resonant, dielectric micro-motor driven by low ac-voltages (<6V). Microsystem Technologies, 1997, 3, 168-170.	2.0	1
81	Dielectric spectroscopy of single human erythrocytes at physiological ionic strength: dispersion of the cytoplasm. Biophysical Journal, 1996, 71, 495-506.	0.5	191
82	Two evolutionary strategies of influenza viruses to escape host non-specific inhibitors: alteration of hemagglutinin or neuraminidase specificity. Virus Research, 1996, 42, 127-135.	2.2	14
83	Dynamic Light Scattering from Oriented, Rotating Particles: A Theoretical Study and Comparison to Electrorotation Data. Journal De Physique III, 1996, 6, 421-432.	0.3	5
84	Dynamic Light Scattering Applied to Electrorotation: Measurement of Internal Particle Properties and Layer Capacitance. , 1996, , 160-163.		0
85	Characterization of Internal Particle Structures by Dynamic Light Scattering. , 1996, , 156-159.		0
86	Red cell echinocytogenesis is correlated to the recruitment of external band-3 conformations. Bioelectrochemistry, 1995, 38, 99-103.	1.0	11
87	Electrorotation of particles measured by dynamic light scattering â€” a new dielectric spectroscopy technique. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 1995, 98, 243-249.	4.7	12
88	Do band 3 protein conformational changes mediate shape changes of human erythrocytes?. Molecular Membrane Biology, 1995, 12, 247-254.	2.0	61
89	Dielectric spectroscopy of human erythrocytes: investigations under the influence of nystatin. Biophysical Journal, 1994, 66, 1244-1253.	0.5	82
90	Ion channel enzyme in an oscillating electric field. Journal of Membrane Biology, 1992, 126, 137-45.	2.1	21

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91	Electroporation in rotating electric fields. <i>Bioelectrochemistry</i> , 1992, 29, 81-89.	1.0	10
92	Analysis of the torque-frequency characteristics of dielectric induction motors. <i>Sensors and Actuators A: Physical</i> , 1992, 33, 237-247.	4.1	9
93	Traveling-wave dielectrophoresis of microparticles. <i>Electrophoresis</i> , 1992, 13, 49-54.	2.4	109
94	Dielectrophoresis and electrorotation of neurospora slime and murine myeloma cells. <i>Biophysical Journal</i> , 1991, 60, 749-760.	0.5	165
95	Rotational Behaviour of Living Cells with Reference to Micro-Motors. , 1990, , 832-837.		1
96	Ac-field-induced KCl leakage from human red cells at low ionic strengths. <i>Bioelectrochemistry</i> , 1989, 22, 255-270.	1.0	13
97	Ac-field-induced KCl leakage from human red cells at low ionic strengths. <i>Journal of Electroanalytical Chemistry and Interfacial Electrochemistry</i> , 1989, 276, 255-270.	0.1	4
98	Evaluation of the data of simple cells by electrorotation using square-topped fields. <i>Journal of Electroanalytical Chemistry and Interfacial Electrochemistry</i> , 1988, 253, 389-396.	0.1	0
99	Evaluation of the data of simple cells by electrorotation using square-topped fields. <i>Bioelectrochemistry</i> , 1988, 19, 389-396.	1.0	11
100	Membrane Potentials Induced by External Rotating Electrical Fields. <i>Electromagnetic Biology and Medicine</i> , 1987, 6, 49-69.	1.4	1
101	Effect Of Temperature On The Electrorotation Behavior Of Human Red Blood Cells. <i>Jurnal Teknologi (Sciences and Engineering)</i> , 0, , .	0.4	0
102	Electro-Quasistatic Simulations in Bio-Systems Engineering and Medical Engineering. <i>Advances in Radio Science</i> , 0, 3, 39-49.	0.7	21