Min Zhao

List of Publications by Year
in descending order

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116 papers	8,100 citations	46984 47 h-index	51562 86 g-index
122 all docs	122 docs citations	122 times ranked	5640 citing authors

#	Article	IF	Citations
1	Drawnâ€onâ€Skin Sensors from Fully Biocompatible Inks toward Highâ€Quality Electrophysiology. Small, 2022, 18, .	5.2	12
2	Actin Dynamics as a Multiscale Integrator of Cellular Guidance Cues. Frontiers in Cell and Developmental Biology, 2022, 10, 873567.	1.8	7
3	A machine learning based model accurately predicts cellular response to electric fields in multiple cell types. Scientific Reports, 2022, 12, .	1.6	3
4	Physiological electric fields induce directional migration of mammalian cranial neural crest cells. Developmental Biology, 2021, 471, 97-105.	0.9	10
5	Global feather orientations changed by electric current. IScience, 2021, 24, 102671.	1.9	4
6	Electric signals counterbalanced posterior vs anterior PTEN signaling in directed migration of Dictyostelium. Cell and Bioscience, 2021, 11, 111.	2.1	2
7	Quantifying the impact of electric fields on single-cell motility. Biophysical Journal, 2021, 120, 3363-3373.	0.2	5
8	Synergistic effect of highly aligned bacterial cellulose/gelatin membranes and electrical stimulation on directional cell migration for accelerated wound healing. Chemical Engineering Journal, 2021, 424, 130563.	6.6	91
9	Investigations on T cell transmigration in a human skin-on-chip (SoC) model. Lab on A Chip, 2021, 21, 1527-1539.	3.1	27
10	Electrically synchronizing and modulating the dynamics of ERK activation to regulate cell fate. IScience, 2021, 24, 103240.	1.9	9
11	Applied electric fields suppress osimertinib-induced cytotoxicity via inhibiting FOXO3a nuclear translocation through AKT activation. Carcinogenesis, 2020, 41, 600-610.	1.3	4
12	Real-time physiological measurements of oxygen using a non-invasive self-referencing optical fiber microsensor. Nature Protocols, 2020, 15, 207-235.	5.5	20
13	The Use of Electrotherapeutics in Ophthalmology. American Journal of Ophthalmology, 2020, 211, 4-14.	1.7	2
14	Intracranial alternating current stimulation facilitates neurogenesis in a mouse model of Alzheimerâ€™s disease. Alzheimer's Research and Therapy, 2020, 12, 89.	3.0	15
15	Electric Fields at Breast Cancer and Cancer Cell Collective Galvanotaxis. Scientific Reports, 2020, 10, 8712.	1.6	22
16	Biomedical applications of electrical stimulation. Cellular and Molecular Life Sciences, 2020, 77, 2681-2699.	2.4	75
17	Optimization of Electrical Stimulation for Safe and Effective Guidance of Human Cells. Bioelectricity, 2020, 2, 372-381.	0.6	13
18	Methodology of Research and Applications of Electric Fields. Bioelectricity, 2020, 2, 320-320.	0.6	1

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19	Physiologic Electrical Fields Direct Retinal Ganglion Cell Axon Growth In Vitro. , 2019, 60, 3659.		31
20	Controlling ERK Activation Dynamics in Mammary Epithelial Cells with Alternating Electric Fields through Microelectrodes. Nano Letters, 2019, 19, 7526-7533.	4.5	10
21	Cell migration directionality and speed are independently regulated by RasG and GÎ² inDictyosteliumcells in electrotaxis. Biology Open, 2019, 8, .	0.6	11
22	Expression of integrins to control migration direction of electrotaxis. FASEB Journal, 2019, 33, 9131-9141.	0.2	24
23	Infection-generated electric field in gut epithelium drives bidirectional migration of macrophages. PLoS Biology, 2019, 17, e3000044.	2.6	28
24	The Bioelectricity Revolution: A Discussion Among the Founding Associate Editors. Bioelectricity, 2019, 1, 8-15.	0.6	1
25	An Essential and Synergistic Role of Purinergic Signaling in Guided Migration of Corneal Epithelial Cells in Physiological Electric Fields. Cellular Physiology and Biochemistry, 2019, 52, 198-211.	1.1	6
26	Src activation decouples cell division orientation from cell geometry in mammalian cells. Biomaterials, 2018, 170, 82-94.	5.7	2
27	Whorl pattern keratopathies in veterinary and human patients. Veterinary Ophthalmology, 2018, 21, 661-667.	0.6	7
28	Electric fields accelerate cell polarization and bypass myosin action in motility initiation. Journal of Cellular Physiology, 2018, 233, 2378-2385.	2.0	8
29	Calcium oscillations coordinate feather mesenchymal cell movement by SHH dependent modulation of gap junction networks. Nature Communications, 2018, 9, 5377.	5.8	40
30	Early redox activities modulate Xenopus tail regeneration. Nature Communications, 2018, 9, 4296.	5.8	56
31	Electrically stimulated cell migration and its contribution to wound healing. Burns and Trauma, 2018, 6, 20.	2.3	116
32	Collective cell migration has distinct directionality and speed dynamics. Cellular and Molecular Life Sciences, 2017, 74, 3841-3850.	2.4	33
33	Electrical Guidance of Human Stem Cells in the Rat Brain. Stem Cell Reports, 2017, 9, 177-189.	2.3	72
34	Caveolin-1-mediated STAT3 activation determines electrotaxis of human lung cancer cells. Oncotarget, 2017, 8, 95741-95754.	0.8	13
35	cAMP and cGMP Play an Essential Role in Galvanotaxis of Cell Fragments. Journal of Cellular Physiology, 2016, 231, 1291-1300.	2.0	10
36	Diabetic cornea wounds produce significantly weaker electric signals that may contribute to impaired healing. Scientific Reports, 2016, 6, 26525.	1.6	27

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37	Early bioelectric activities mediate redox-modulated regeneration. Development (Cambridge), 2016, 143, 4582-4594.	1.2	50
38	An Experimental Model for Simultaneous Study of Migration of Cell Fragments, Single Cells, and Cell Sheets. Methods in Molecular Biology, 2016, 1407, 251-272.	0.4	5
39	Concerted action of KCNJ15/Kir4.2 and intracellular polyamines in sensing physiological electric fields for galvanotaxis. Channels, 2016, 10, 264-266.	1.5	4
40	GÎ² Regulates Coupling between Actin Oscillators for Cell Polarity and Directional Migration. PLoS Biology, 2016, 14, e1002381.	2.6	28
41	Measurement of Extracellular Ion Fluxes Using the Ion-selective Self-referencing Microelectrode Technique. Journal of Visualized Experiments, 2015, , e52782.	0.2	3
42	A large-scale screen reveals genes that mediate electrotaxis in Dictyostelium discoideum. Science Signaling, 2015, 8, ra50.	1.6	39
43	Proinflammatory Secreted Phospholipase A2 Type IIA (sPLA-IIA) Induces Integrin Activation through Direct Binding to a Newly Identified Binding Site (Site 2) in Integrins Î±vÎ²3, Î±4Î²1, and Î±5Î²1. Journal of Biological Chemistry, 2015, 290, 259-271.	1.6	38
44	KCNJ15/Kir4.2 couples with polyamines to sense weak extracellular electric fields in galvanotaxis. Nature Communications, 2015, 6, 8532.	5.8	83
45	Biomimetic stochastic topography and electric fields synergistically enhance directional migration of corneal epithelial cells in a MMP-3-dependent manner. Acta Biomaterialia, 2015, 12, 102-112.	4.1	23
46	Polarizing intestinal epithelial cells electrically through Ror2. Journal of Cell Science, 2014, 127, 3233-9.	1.2	12
47	3D arrays for high throughput assay of cell migration and electrotaxis. Cell Biology International, 2014, 38, 987-987.	1.4	1
48	The Electrical Response to Injury: Molecular Mechanisms and Wound Healing. Advances in Wound Care, 2014, 3, 184-201.	2.6	110
49	Single cell wound generates electric current circuit and cell membrane potential variations that requires calcium influx. Integrative Biology (United Kingdom), 2014, 6, 662-672.	0.6	15
50	ElectroTaxis-on-a-Chip (ETC): an integrated quantitative high-throughput screening platform for electrical field-directed cell migration. Lab on A Chip, 2014, 14, 4398-4405.	3.1	22
51	NHE3 phosphorylation via PKCÎ· marks the polarity and orientation of directionally migrating cells. Cellular and Molecular Life Sciences, 2014, 71, 4653-4663.	2.4	10
52	Polarizing intestinal epithelial cells electrically through Ror2. Development (Cambridge), 2014, 141, e1605-e1605.	1.2	0
53	Endogenous electric currents might guide rostral migration of neuroblasts. EMBO Reports, 2013, 14, 184-190.	2.0	85
54	Keratocyte Fragments and Cells Utilize Competing Pathways to Move in Opposite Directions in an Electric Field. Current Biology, 2013, 23, 569-574.	1.8	77

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55	3<scp>D</scp> Arrays for high throughput assay of cell migration and electrotaxis. Cell Biology International, 2013, 37, 995-1002.	1.4	13
56	AcanthamoebaMigration in an Electric Field. , 2013, 54, 4225.		3
57	Collective cell migration: Implications for wound healing and cancer invasion. Burns and Trauma, 2013, 1, 21.	0.7	100
58	Synchronization Modulation Increases Transepithelial Potentials in MDCK Monolayers through Na/K Pumps. PLoS ONE, 2013, 8, e61509.	1.1	11
59	Electric Field-controlled Directed Migration of Neural Progenitor Cells in 2D and 3D Environments. Journal of Visualized Experiments, 2012, , 3453.	0.2	14
60	A Molecular Link Between Interleukin 22 and Intestinal Mucosal Wound Healing. Advances in Wound Care, 2012, 1, 231-237.	2.6	7
61	Electric fields guide migration of epidermal stem cells and promote skin wound healing. Wound Repair and Regeneration, 2012, 20, 840-851.	1.5	46
62	Guided Migration of Neural Stem Cells Derived from Human Embryonic Stem Cells by an Electric Field. Stem Cells, 2012, 30, 349-355.	1.4	136
63	E-cadherin plays an essential role in collective directional migration of large epithelial sheets. Cellular and Molecular Life Sciences, 2012, 69, 2779-2789.	2.4	119
64	Directing migration of endothelial progenitor cells with applied DC electric fields. Stem Cell Research, 2012, 8, 38-48.	0.3	59
65	Electrical signaling in control of ocular cell behaviors. Progress in Retinal and Eye Research, 2012, 31, 65-88.	7.3	51
66	PI3K mediated electrotaxis of embryonic and adult neural progenitor cells in the presence of growth factors. Experimental Neurology, 2011, 227, 210-217.	2.0	104
67	Measurement of Bioelectric Current with a Vibrating Probe. Journal of Visualized Experiments, 2011, , .	0.2	10
68	Modulating Endogenous Electric Currents in Human Corneal Woundsâ€"A Novel Approach of Bioelectric Stimulation Without Electrodes. Cornea, 2011, 30, 338-343.	0.9	21
69	GSK-3Î² is essential for physiological electric field-directed Golgi polarization and optimal electrotaxis. Cellular and Molecular Life Sciences, 2011, 68, 3081-3093.	2.4	36
70	Electrically Guiding Migration of Human Induced Pluripotent Stem Cells. Stem Cell Reviews and Reports, 2011, 7, 987-996.	5.6	80
71	The role of electrical signals in murine corneal wound reâ€epithelialization. Journal of Cellular Physiology, 2011, 226, 1544-1553.	2.0	36
72	Airway epithelial wounds in rhesus monkey generate ionic currents that guide cell migration to promote healing. Journal of Applied Physiology, 2011, 111, 1031-1041.	1.2	29

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73	Different Roles of Membrane Potentials in Electrotaxis and Chemotaxis of Dictyostelium Cells. Eukaryotic Cell, 2011, 10, 1251-1256.	3.4	53
74	Ion-selective self-referencing probes for measuring specific ion flux. Communicative and Integrative Biology, 2011, 4, 524-527.	0.6	13
75	Ionic Components of Electric Current at Rat Corneal Wounds. PLoS ONE, 2011, 6, e17411.	1.1	39
76	Specific ion fluxes generate cornea wound electric currents. Communicative and Integrative Biology, 2011, 4, 462-5.	0.6	6
77	Ion-selective self-referencing probes for measuring specific ion flux. Communicative and Integrative Biology, 2011, 4, 524-7.	0.6	8
78	A timeâ€lapse and quantitative modelling analysis of neural stem cell motion in the absence of directional cues and in electric fields. Journal of Neuroscience Research, 2010, 88, 3267-3274.	1.3	45
79	Effects of Physiological Electric Fields on Migration of Human Dermal Fibroblasts. Journal of Investigative Dermatology, 2010, 130, 2320-2327.	0.3	153
80	Electric currents and lens regeneration in the rat. Experimental Eye Research, 2010, 90, 316-323.	1.2	21
81	Chloride channels and transporters in human corneal epithelium. Experimental Eye Research, 2010, 90, 771-779.	1.2	32
82	Electrical estimulation of retinal pigment epithelial cells. Experimental Eye Research, 2010, 91, 195-204.	1.2	20
83	Electrical Activation of Wound-Healing Pathways. Advances in Skin and Wound Care, 2010, 1, 567-573.	0.5	44
84	Electrical signals polarize neuronal organelles, direct neuron migration, and orient cell division. Hippocampus, 2009, 19, 855-868.	0.9	83
85	Electrical fields in wound healingâ€”An overriding signal that directs cell migration. Seminars in Cell and Developmental Biology, 2009, 20, 674-682.	2.3	462
86	Electric currents in Xenopus tadpole tail regeneration. Developmental Biology, 2009, 335, 198-207.	0.9	42
87	Electrotaxis and Wound Healing: Experimental Methods to Study Electric Fields as a Directional Signal for Cell Migration. Methods in Molecular Biology, 2009, 571, 77-97.	0.4	70
88	Intracellular Ca²⁺ stores are essential for injury induced Ca²⁺ signaling and reâ€endothelialization. Journal of Cellular Physiology, 2008, 214, 595-603.	2.0	21
89	Small applied electric fields guide migration of hippocampal neurons. Journal of Cellular Physiology, 2008, 216, 527-535.	2.0	117
90	The Spark of Life: The Role of Electric Fields in Regulating Cell Behaviour Using the Eye as a Model System. Ophthalmic Research, 2007, 39, 4-16.	1.0	24

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91	EGF receptor signalling is essential for electric-field-directed migration of breast cancer cells. Journal of Cell Science, 2007, 120, 3395-3403.	1.2	122
92	Application of direct current electric fields to cells and tissues in vitro and modulation of wound electric field in vivo. Nature Protocols, 2007, 2, 1479-1489.	5.5	257
93	Non-invasive measurement of bioelectric currents with a vibrating probe. Nature Protocols, 2007, 2, 661-669.	5.5	134
94	The roles of calcium signaling and ERK1/2 phosphorylation in a Pax6+/- mouse model of epithelial wound-healing delay. BMC Biology, 2006, 4, 27.	1.7	67
95	Electrical signals control wound healing through phosphatidylinositol-3-OH kinase-Î³ and PTEN. Nature, 2006, 442, 457-460.	13.7	880
96	Influx of extracellular Ca2+ is necessary for electrotaxis in Dictyostelium. Journal of Cell Science, 2006, 119, 4741-4748.	1.2	56
97	Wound healing in rat cornea: the role of electric currents. FASEB Journal, 2005, 19, 379-386.	0.2	163
98	Golgi polarization in a strong electric field. Journal of Cell Science, 2005, 118, 1117-1128.	1.2	64
99	Controlling Cell Behavior Electrically: Current Views and Future Potential. Physiological Reviews, 2005, 85, 943-978.	13.1	842
100	Electrical inhibition of lens epithelial cell proliferation: an additional factor in secondary cataract?. FASEB Journal, 2005, 19, 1-16.	0.2	58
101	Electrical stimulation directly induces pre-angiogenic responses in vascular endothelial cells by signaling through VEGF receptors. Journal of Cell Science, 2004, 117, 397-405.	1.2	340
102	Nerve regeneration and wound healing are stimulated and directed by an endogenous electrical field in vivo. Journal of Cell Science, 2004, 117, 4681-4690.	1.2	147
103	DC Electric Fields Induce Distinct Preangiogenic Responses in Microvascular and Macrovascular Cells. Arteriosclerosis, Thrombosis, and Vascular Biology, 2004, 24, 1234-1239.	1.1	106
104	Bi-directional migration of lens epithelial cells in a physiological electrical field. Experimental Eye Research, 2003, 76, 29-37.	1.2	75
105	Direct visualization of a stratified epithelium reveals that wounds heal by unified sliding of cell sheets. FASEB Journal, 2003, 17, 397-406.	0.2	78
106	Electric Fields and MAP Kinase Signaling Can Regulate Early Wound Healing in Lens Epithelium. , 2003, 44, 244.		55
107	Physiological electric fields control the G1/S phase cell cycle checkpoint to inhibit endothelial cell proliferation. FASEB Journal, 2003, 17, 1-14.	0.2	52
108	Membrane lipids, EGF receptors, and intracellular signals colocalize and are polarized in epithelial cells moving directionally in a physiological electric field. FASEB Journal, 2002, 16, 857-859.	0.2	180

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109	Electrical cues regulate the orientation and frequency of cell division and the rate of wound healing in vivo. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 13577-13582.	3.3	208
110	Genetic analysis of the role of G proteinâ€“coupled receptor signaling in electrotaxis. Journal of Cell Biology, 2002, 157, 921-928.	2.3	60
111	Has electrical growth cone guidance found its potential?. Trends in Neurosciences, 2002, 25, 354-359.	4.2	123
112	Re-orientation and Faster, Directed Migration of Lens Epithelial Cells in a Physiological Electric Field. Experimental Eye Research, 2000, 71, 91-98.	1.2	53
113	Electric Fieldâ€“directed Cell Motility Involves Up-regulated Expression and Asymmetric Redistribution of the Epidermal Growth Factor Receptors and Is Enhanced by Fibronectin and Laminin. Molecular Biology of the Cell, 1999, 10, 1259-1276.	0.9	154
114	Proximity between Glu126 and Arg144 in the Lactose Permease of Escherichia coli. Biochemistry, 1999, 38, 7407-7412.	1.2	67
115	Human corneal epithelial cells reorient and migrate cathodally in a small applied electric field. Current Eye Research, 1997, 16, 973-984.	0.7	71
116	Physiological electrical fields modify cell behaviour. BioEssays, 1997, 19, 819-826.	1.2	133