Michel M Maharbiz

List of Publications by Year
in descending order

81 papers	4,179 citations	172457 29 h-index	123424 61 g-index
92 all docs	92 docs citations	92 times ranked	6115 citing authors

#	Article	IF	Citations
1	Reply to: The overwhelming role of ballistic photons in ultrasonically guided light through tissue. Nature Communications, 2022, 13, 1872.	12.8	2
2	Ceramic packaging in neural implants. Journal of Neural Engineering, 2021, 18, 025002.	3.5	26
3	Monitoring deep-tissue oxygenation with a millimeter-scale ultrasonic implant. Nature Biotechnology, 2021, 39, 855-864.	17.5	74
4	Optical voltage sensor based on a piezoelectric thin film for grid applications. Optics Express, 2021, 29, 33716.	3.4	7
5	A Method and Analysis to Enable Efficient Piezoelectric Transducer-Based Ultrasonic Power and Data Links for Miniaturized Implantable Medical Devices. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2021, 68, 3362-3370.	3.0	6
6	Design of Ceramic Packages for Ultrasonically Coupled Implantable Medical Devices. IEEE Transactions on Biomedical Engineering, 2020, 67, 2230-2240.	4.2	15
7	Charge-pumping with finger capacitance in a custom electrostatic energy harvesting ASIC. Applied Physics Letters, 2020, 117, .	3.3	1
8	A Millimeter-Scale Single Charged Particle Dosimeter for Cancer Radiotherapy. IEEE Journal of Solid-State Circuits, 2020, 55, 2947-2958.	5.4	0
9	Wireless User-Generic Ear EEG. IEEE Transactions on Biomedical Circuits and Systems, 2020, 14, 727-737.	4.0	37
10	34.4 A 4.5mm³ Deep-Tissue Ultrasonic Implantable Luminescence Oxygen Sensor. , 2020, , .		18
11	A wireless millimetre-scale implantable neural stimulator with ultrasonically powered bidirectional communication. Nature Biomedical Engineering, 2020, 4, 207-222.	22.5	278
12	A Sub-mm³ Ultrasonic Free-Floating Implant for Multi-Mote Neural Recording. IEEE Journal of Solid-State Circuits, 2019, 54, 3017-3030.	5.4	83
13	Ion concentration polarization (ICP) of proteins at silicon micropillar nanogaps. PLoS ONE, 2019, 14, e0223732.	2.5	12
14	Ceramic Packages for Acoustically Coupled Neural Implants. , 2019, , .		9
15	An Actuated Neural Probe Architecture for Reducing Gliosis-Induced Recording Degradation. IEEE Transactions on Nanobioscience, 2019, 18, 220-225.	3.3	8
16	MEMS-Actuated Carbon Fiber Microelectrode for Neural Recording. IEEE Transactions on Nanobioscience, 2019, 18, 234-239.	3.3	13
17	17.5 A 0.8mm³ Ultrasonic Implantable Wireless Neural Recording System With Linear AM Backscattering. , 2019, , .		22
18	Smart bone plates can monitor fracture healing. Scientific Reports, 2019, 9, 2122.	3.3	32

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19	A Wireless, Multielectrode, User-generic Ear EEG Recording System. , 2019, , .		4
20	Ultrasonic sculpting of virtual optical waveguides in tissue. Nature Communications, 2019, 10, 92.	12.8	39
21	Recent advances in neural dust: towards a neural interface platform. Current Opinion in Neurobiology, 2018, 50, 64-71.	4.2	81
22	A 2.7-mu W Neuromodulation AFE With 200 mV_{pp} Differential-Mode Stimulus Artifact Canceler Including On-Chip LMS Adaptation. IEEE Solid-State Circuits Letters, 2018, 1, 194-197.	2.0	9
23	Germanium as a scalable sacrificial layer for nanoscale protein patterning. PLoS ONE, 2018, 13, e0195062.	2.5	4
24	PEDOT:PSS-based Multilayer Bacterial-Composite Films for Bioelectronics. Scientific Reports, 2018, 8, 15293.	3.3	69
25	StimDust: A 6.5mm³, wireless ultrasonic peripheral nerve stimulator with 82% peak chip efficiency. , 2018, , .		49
26	Upconverting nanoparticle micro-lightbulbs designed for deep tissue optical stimulation and imaging. Biomedical Optics Express, 2018, 9, 4359.	2.9	16
27	A silicon carbide array for electrocorticography and peripheral nerve recording. Journal of Neural Engineering, 2017, 14, 056006.	3.5	46
28	New opportunities for fracture healing detection: Impedance spectroscopy measurements correlate to tissue composition in fractures. Journal of Orthopaedic Research, 2017, 35, 2620-2629.	2.3	16
29	Reliable Next-Generation Cortical Interfaces for Chronic Brainâ€“Machine Interfaces and Neuroscience. Proceedings of the IEEE, 2017, 105, 73-82.	21.3	44
30	Rodent wearable ultrasound system for wireless neural recording. , 2017, 2017, 221-225.		26
31	Selective Insulation of Carbon Nanotubes. Physica Status Solidi (B): Basic Research, 2017, 254, 1700202.	1.5	0
32	Ultrasonic thermal dust: A method to monitor deep tissue temperature profiles. , 2017, 2017, 865-868.		3
33	Blind parallel interrogation of ultrasonic neural dust motes based on canonical polyadic decomposition: A simulation study. , 2017, , .		0
34	A portable bioelectronic sensing system (BESSY) for environmental deployment incorporating differential microbial sensing in miniaturized reactors. PLoS ONE, 2017, 12, e0184994.	2.5	27
35	Inkjetâ€Printed Flexible Gold Electrode Arrays for Bioelectronic Interfaces. Advanced Functional Materials, 2016, 26, 1004-1013.	14.9	133
36	Teaching design with a tinkering-driven robot hack. , 2016, , .		4

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37	Interrogating cellular fate decisions with high-throughput arrays of multiplexed cellular communities. Nature Communications, 2016, 7, 10309.	12.8	41
38	Energy-Looping Nanoparticles: Harnessing Excited-State Absorption for Deep-Tissue Imaging. ACS Nano, 2016, 10, 8423-8433.	14.6	122
39	Wireless Recording in the Peripheral Nervous System with Ultrasonic Neural Dust. Neuron, 2016, 91, 529-539.	8.1	417
40	A Large-Scale Interface for Optogenetic Stimulation and Recording in Nonhuman Primates. Neuron, 2016, 89, 927-939.	8.1	94
41	Miniaturizing Ultrasonic System for Portable Health Care and Fitness. IEEE Transactions on Biomedical Circuits and Systems, 2016, 9, 1-1.	4.0	29
42	Modular Synthetic Inverters from Zinc Finger Proteins and Small RNAs. PLoS ONE, 2016, 11, e0149483.	2.5	8
43	Ultrasonic beamforming system for interrogating multiple implantable sensors. , 2015, 2015, 2673-6.		13
44	A miniaturized monitoring system for electrochemical biosensing using Shewanella oneidensis in environmental applications. , 2015, 2015, 7518-21.		6
45	Semi-chronic chamber system for simultaneous subdural electrocorticography, local field potentials, and spike recordings. , 2015, , .		15
46	Impedance sensing device enables early detection of pressure ulcers in vivo. Nature Communications, 2015, 6, 6575.	12.8	176
47	Deciphering the Role of a Coleopteran Steering Muscle via Free Flight Stimulation. Current Biology, 2015, 25, 798-803.	3.9	50
48	Strategies for optical control and simultaneous electrical readout of extended cortical circuits. Journal of Neuroscience Methods, 2015, 256, 220-231.	2.5	62
49	A Minimally Invasive 64-Channel Wireless Î¼ECoG Implant. IEEE Journal of Solid-State Circuits, 2015, 50, 344-359.	5.4	295
50	Model validation of untethered, ultrasonic neural dust motes for cortical recording. Journal of Neuroscience Methods, 2015, 244, 114-122.	2.5	140
51	Galvanotactic control of collective cell migration in epithelial monolayers. Nature Materials, 2014, 13, 409-417.	27.5	139
52	A Biological Micro Actuator: Graded and Closed-Loop Control of Insect Leg Motion by Electrical Stimulation of Muscles. PLoS ONE, 2014, 9, e105389.	2.5	41
53	Cyborg Insects, Neural Interfaces and Other Things Building Interfaces between the Synthetic and the Multicellular. , 2013, , .		0
54	Design and scaling of microscale Tesla turbines. Journal of Micromechanics and Microengineering, 2013, 23, 125001.	2.6	14

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55	Physical principles for scalable neural recording. Frontiers in Computational Neuroscience, 2013, 7, 137.	2.1	215
56	A synthetic Brownian ratchet architecture for creating tailorable chemomechanical nanomachines. Applied Physics Letters, 2012, 101, 013703.	3.3	1
57	New architecture for patterning gene expression using zinc finger proteins and small RNAs. , 2012, , .		3
58	A mixed-signal EEG interface circuit for use in first year electronics courses. , 2012, , .		5
59	A Synthetic Chemomechanical Machine Driven by Ligandâ€“Receptor Bonding. Nano Letters, 2012, 12, 4983-4987.	9.1	13
60	Synthetic multicellularity. Trends in Cell Biology, 2012, 22, 617-623.	7.9	13
61	A Highly Elastic, Capacitive Strain Gauge Based on Percolating Nanotube Networks. Nano Letters, 2012, 12, 1821-1825.	9.1	447
62	Design of Wireless Links to Implanted Brainâ€“Machine Interface Microelectronic Systems. IEEE Antennas and Wireless Propagation Letters, 2012, 11, 1663-1666.	4.0	33
63	Cyborg eyes: Microfabricated neural interfaces implanted during the development of insect sensory organs produce stable neurorecordings in the adult. , 2012, , .		6
64	A Feedback Quenched Oscillator Produces Turing Patterning with One Diffuser. PLoS Computational Biology, 2012, 8, e1002331.	3.2	32
65	Micrometerâ€scale oxygen delivery rearranges cells and prevents necrosis in tumor tissue in vitro. Biotechnology Progress, 2012, 28, 515-525.	2.6	9
66	A quenched oscillator network for pattern formation in gene expression. , 2011, , .		4
67	Cyborg Beetles. Scientific American, 2010, 303, 94-99.	1.0	29
68	Cyborg beetles: The remote radio control of insect flight. , 2010, , .		7
69	A Modified Consumer Inkjet for Spatiotemporal Control of Gene Expression. PLoS ONE, 2009, 4, e7086.	2.5	26
70	Control of locomotion in ambulatory and airborne insects using implanted thermal microstimulators. , 2009, , .		3
71	Generating steep, shear-free gradients of small molecules for cell culture. Biomedical Microdevices, 2009, 11, 65-73.	2.8	67
72	Patterned delivery and expression of gene constructs into zebrafish embryos using microfabricated interfaces. Biomedical Microdevices, 2009, 11, 633-641.	2.8	16

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73	Charge-pumping in a synthetic leaf for harvesting energy from evaporation-driven flows. Applied Physics Letters, 2009, 95, .	3.3	44
74	Electrostatically-driven elastomer components for user-reconfigurable high density microfluidics. Lab on A Chip, 2009, 9, 1274.	6.0	25
75	A high-yield method for generating mass-transfer gradients in elastomer microfluidics using impermeable capillaries. Biomedical Microdevices, 2008, 10, 807-811.	2.8	9
76	A class of low voltage, elastomerâ€“metal â€˜wetâ€™ actuators for use in high-density microfluidics. Lab on A Chip, 2007, 7, 164-166.	6.0	11
77	Can we build synthetic, multicellular systems by controlling developmental signaling in space and time?. Current Opinion in Chemical Biology, 2007, 11, 604-611.	6.1	13
78	A microsystem for sensing and patterning oxidative microgradients during cell culture. Lab on A Chip, 2006, 6, 611.	6.0	67
79	Transpiration actuation: the design, fabrication and characterization of biomimetic microactuators driven by the surface tension of water. Journal of Micromechanics and Microengineering, 2006, 16, 2375-2383.	2.6	33
80	Microbioreactor arrays with parametric control for high-throughput experimentation. Biotechnology and Bioengineering, 2004, 85, 376-381.	3.3	104
81	Microbioreactor arrays with parametric control for high-throughput experimentation. Biotechnology and Bioengineering, 2004, 86, 485-90.	3.3	21