Mark Ming-Cheng Cheng

List of Publications by Year
in descending order

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77 papers	4,698 citations	201385 27 h-index	114278 63 g-index
78 all docs	78 docs citations	78 times ranked	8242 citing authors

#	Article	IF	Citations
1	Mesoporous silicon particles as a multistage delivery system for imaging and therapeutic applications. Nature Nanotechnology, 2008, 3, 151-157.	15.6	637
2	Carbon dioxide gas sensor using a graphene sheet. Sensors and Actuators B: Chemical, 2011, 157, 310-313.	4.0	617
3	Nanotechnologies for biomolecular detection and medical diagnostics. Current Opinion in Chemical Biology, 2006, 10, 11-19.	2.8	448
4	High Mobility WSe₂ p- and n-Type Field-Effect Transistors Contacted by Highly Doped Graphene for Low-Resistance Contacts. Nano Letters, 2014, 14, 3594-3601.	4.5	399
5	Improved Carrier Mobility in Few-Layer MoS₂ Field-Effect Transistors with Ionic-Liquid Gating. ACS Nano, 2013, 7, 4449-4458.	7.3	301
6	The effect of shape on the margination dynamics of non-neutrally buoyant particles in two-dimensional shear flows. Journal of Biomechanics, 2008, 41, 2312-2318.	0.9	281
7	Generalized parityâ€“time symmetry condition for enhanced sensor telemetry. Nature Electronics, 2018, 1, 297-304.	13.1	186
8	Mobility enhancement and highly efficient gating of monolayer MoS₂ transistors with polymer electrolyte. Journal Physics D: Applied Physics, 2012, 45, 345102.	1.3	130
9	Electro-synthesis of 3D porous hierarchical Niâ€“Fe phosphate film/Ni foam as a high-efficiency bifunctional electrocatalyst for overall water splitting. Journal of Materials Chemistry A, 2016, 4, 13866-13873.	5.2	124
10	Selective binding and enrichment for low-molecular weight biomarker molecules in human plasma after exposure to nanoporous silica particles. Proteomics, 2006, 6, 3243-3250.	1.3	84
11	Nanoporous Surfaces as Harvesting Agents for Mass Spectrometric Analysis of Peptides in Human Plasma. Journal of Proteome Research, 2006, 5, 1261-1266.	1.8	71
12	Physicochemically modified silicon as a substrate for protein microarrays. Biomaterials, 2007, 28, 550-558.	5.7	66
13	Room-temperature high on/off ratio in suspended graphene nanoribbon field-effect transistors. Nanotechnology, 2011, 22, 265201.	1.3	64
14	New Valve and Bonding Designs for Microfluidic Biochips Containing Proteins. Analytical Chemistry, 2007, 79, 994-1001.	3.2	60
15	Thermally oxidized 2D TaS ₂ as a high- Îº gate dielectric for MoS ₂ field-effect transistors. 2D Materials, 2017, 4, 031002.	2.0	60
16	A silicon microspeaker for hearing instruments. Journal of Micromechanics and Microengineering, 2004, 14, 859-866.	1.5	55
17	Edge Effects on the pH Response of Graphene Nanoribbon Field Effect Transistors. Journal of Physical Chemistry C, 2013, 117, 27155-27160.	1.5	50
18	Effects of graphene and carbon coating modifications on electrochemical performance of silicon nanoparticle/graphene composite anode. Journal of Power Sources, 2014, 246, 335-345.	4.0	50

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19	A silicon nanoparticle/reduced graphene oxide composite anode with excellent nanoparticle dispersion to improve lithium ion battery performance. Journal of Materials Science, 2013, 48, 4823-4833.	1.7	49
20	Ultrasensitive, Parityâ€“Time-Symmetric Wireless Reactive and Resistive Sensors. IEEE Sensors Journal, 2018, 18, 9548-9555.	2.4	47
21	High capacity silicon nitride-based composite anodes for lithium ion batteries. Journal of Materials Chemistry A, 2014, 2, 14577-14584.	5.2	46
22	Mirror-backed Dark Alumina: A Nearly Perfect Absorber for Thermoelectronics and Thermophotovotaics. Scientific Reports, 2016, 6, 19984.	1.6	44
23	Controlled-release microchips. Expert Opinion on Drug Delivery, 2006, 3, 379-394.	2.4	42
24	Plasma enhanced chemical vapor deposition silicon nitride for a high-performance lithium ion battery anode. Journal of Power Sources, 2014, 269, 520-525.	4.0	38
25	Approaching the intrinsic band gap in suspended high-mobility graphene nanoribbons. Physical Review B, 2011, 84, .	1.1	36
26	Chemical-sensitive graphene modulator with a memory effect for internet-of-things applications. Microsystems and Nanoengineering, 2016, 2, 16018.	3.4	36
27	Fractionation of Serum Components Using Nanoporous Substrates. Bioconjugate Chemistry, 2006, 17, 654-661.	1.8	35
28	Fabrication of a fluid encapsulated dermal patch using multilayered SU-8. Sensors and Actuators A: Physical, 2004, 114, 478-485.	2.0	30
29	Fluidic encapsulation in SU-8Î¼-reservoirs with Î¼-fluidic through-chip channels. Sensors and Actuators A: Physical, 2005, 120, 172-183.	2.0	27
30	Multiscale modeling of protein transport in silicon membrane nanochannels. Part 1. Derivation of molecular parameters from computer simulations. Biomedical Microdevices, 2006, 8, 277-290.	1.4	27
31	A sandwich substrate for ultrasensitive and label-free SERS spectroscopic detection of folic acid / methotrexate. Biomedical Microdevices, 2014, 16, 673-679.	1.4	27
32	Biomedical Nanotechnology for Cancer. Medical Clinics of North America, 2007, 91, 899-927.	1.1	26
33	Hydrogenated amorphous silicon thin film anode for proton conducting batteries. Journal of Power Sources, 2016, 302, 31-38.	4.0	26
34	Electrowetting on dielectric experiments using graphene. Nanotechnology, 2012, 23, 375501.	1.3	25
35	A flexible and implantable microelectrode arrays using high-temperature grown vertical carbon nanotubes and a biocompatible polymer substrate. Nanotechnology, 2015, 26, 125301.	1.3	25
36	Graphene Sensing Modulator: Toward Low-Noise, Self-Powered Wireless Microsensors. IEEE Sensors Journal, 2017, 17, 7239-7247.	2.4	24

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37	Versatile Miniature Tunable Liquid Lenses Using Transparent Graphene Electrodes. Langmuir, 2016, 32, 1658-1665.	1.6	23
38	Miniature Optical Fiber Pressure Sensor With Exfoliated Graphene Diaphragm. IEEE Sensors Journal, 2019, 19, 5621-5631.	2.4	23
39	Effects of transition metal cation additives on the passivation of lithium metal anode in Liâ€“S batteries. Electrochimica Acta, 2019, 319, 511-517.	2.6	21
40	Structured Titanium Nitride Nanotube Arrays/Sulfur Composite as Cathode Materials for Advanced Lithium Sulfur Battery. Journal of the Electrochemical Society, 2018, 165, A1011-A1018.	1.3	20
41	Multiscale modeling of protein transport in silicon membrane nanochannels. Part 2. From molecular parameters to a predictive continuum diffusion model. Biomedical Microdevices, 2006, 8, 291-298.	1.4	19
42	Low-Pressure Carbon Dioxide Enhanced Polymer Chain Mobility below the Bulk Glass Transition Temperature. Macromolecules, 2007, 40, 1108-1111.	2.2	19
43	Embossing of high-aspect-ratio-microstructures using sacrificial templates and fast surface heating. Polymer Engineering and Science, 2007, 47, 830-840.	1.5	19
44	Ultrathin and Atomically Flat Transition-Metal Oxide: Promising Building Blocks for Metalâ€“Insulator Electronics. ACS Applied Materials & Interfaces, 2016, 8, 34552-34558.	4.0	19
45	Examining the inflammatory response to nanopatterned polydimethylsiloxane using organotypic brain slice methods. Journal of Neuroscience Methods, 2013, 217, 17-25.	1.3	17
46	Toward individually tunable compound eyes with transparent graphene electrode. Bioinspiration and Biomimetics, 2017, 12, 046002.	1.5	17
47	Compact, Flexible Harmonic Transponder Sensor With Multiplexed Sensing Capabilities for Rapid, Contactless Microfluidic Diagnosis. IEEE Transactions on Microwave Theory and Techniques, 2020, 68, 4846-4854.	2.9	17
48	Solution-processed vanadium oxides as a hole-transport layer for Sb2Se3 thin-film solar cells. Solar Energy, 2022, 231, 1-7.	2.9	17
49	Application of Physicochemically Modified Silicon Substrates as Reverse-Phase Protein Microarrays. Journal of Proteome Research, 2009, 8, 1247-1254.	1.8	16
50	Penetrating glassy carbon neural electrode arrays for brain-machine interfaces. Biomedical Microdevices, 2020, 22, 43.	1.4	14
51	Ultrasensitive and Selective Bacteria Sensors Based on Functionalized Graphene Transistors. IEEE Sensors Journal, 2022, 22, 5514-5520.	2.4	14
52	Microwave Gas Sensor based on Graphene-loaded Substrate Integrated Waveguide Cavity Resonator. , 2016, , .		13
53	Induced nanoscale roughness of current collectors enhances lithium ion battery performances. Journal of Power Sources, 2019, 430, 169-174.	4.0	12
54	Cathode Framework of Nanostructured Titanium Nitride/Graphene for Advanced Lithiumâ€“Sulfur Batteries. ChemElectroChem, 2019, 6, 2796-2804.	1.7	12

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55	Flexible 3D carbon nanotubes cuff electrodes as a peripheral nerve interface. Biomedical Microdevices, 2018, 20, 21.	1.4	11
56	Electrical transport properties of graphene nanoribbons produced from sonicating graphite in solution. Nanotechnology, 2011, 22, 325201.	1.3	9
57	3D carbon nanofiber microelectrode arrays fabricated by plasma-assisted pyrolysis to enhance sensitivity and stability of real-time dopamine detection. Biomedical Microdevices, 2016, 18, 112.	1.4	9
58	A Zero-Power Ubiquitous Wireless Liquid-Level Sensor Based on Microfluidic-Integrated Microstrip Antenna. IEEE Journal of Radio Frequency Identification, 2020, 4, 265-274.	1.5	9
59	A novel fabrication method of carbon electrodes using 3D printing and chemical modification process. Biomedical Microdevices, 2018, 20, 4.	1.4	8
60	Nanoantenna harmonic sensor: theoretical analysis of contactless detection of molecules with light. Nanotechnology, 2015, 26, 415201.	1.3	7
61	Individually tunable liquid lens arrays using transparent graphene. , 2016, , .		7
62	Design of advanced thick anode for Li-ion battery by inserting a graphite/polymer buffer layer: An in-situ mechanical study. Electrochimica Acta, 2018, 281, 282-291.	2.6	6
63	Wireless and continuous intraocular pressure sensors using transparent graphene. , 2016, , .		4
64	Motion detection based on 3D-printed compound eyes. OSA Continuum, 2020, 3, 2553.	1.8	4
65	X-ray photoelectron spectroscopy depth profile of chemically modified porous silicon. Journal of Vacuum Science & Technology B, 2006, 24, 852.	1.3	3
66	A high-throughput microfluidic chip for size sorting of cells. , 2011, , .		3
67	Control and enhancement of graphene sensitivity by engineering edge defects. , 2012, , .		3
68	Carbon multiâ€electrode arrays as peripheral nerve interface for neural recording and nerve stimulation. Medical Devices & Sensors, 2019, 2, e10026.	2.7	3
69	Anodic bonding using Gorilla Glasses. , 2017, , .		2
70	Titanium Nitride Nanotubes Electrodes for Chronic Neural Stimulation. , 2019, , .		2
71	A flexible biocompatible graphene sensor for real-time monitoring of PH and protein. , 2011, , .		1
72	Prosthetic arachnoid granulations using 3D printing technology. , 2017, , .		1

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73	Fabrication of Biomimetic Artificial Compound Eyes. , 2019, , .		1
74	In-situ monitor electrochemical processes in batteries using vibrating microcantilevers. , 2014, , .		0
75	Micromachining of gorilla glass. , 2017, , .		0
76	Micro-Cavity Fiber-Optic Pressure Sensor with Graphene Diaphragm. , 2018, , .		0
77	Sensors and Sensor Networks in Agriculture, Architecture, and Civil Engineering. International Journal of Distributed Sensor Networks, 2015, 11, 839167.	1.3	0