Michael C Mcalpine

List of Publications by Year
in descending order

69	10,633	61984 43	98798 67
papers	citations	h-index	g-index

76	76	76	14963
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Highly ordered nanowire arrays on plastic substrates for ultrasensitive flexible chemical sensors. Nature Materials, 2007, 6, 379-384.	27.5	900
2	Graphene-based wireless bacteria detection on tooth enamel. Nature Communications, 2012, 3, 763.	12.8	806
3	3D Printed Bionic Ears. Nano Letters, 2013, 13, 2634-2639.	9.1	762
4	Enhanced Piezoelectricity and Stretchability in Energy Harvesting Devices Fabricated from Buckled PZT Ribbons. Nano Letters, 2011, 11, 1331-1336.	9.1	452
5	Piezoelectric Ribbons Printed onto Rubber for Flexible Energy Conversion. Nano Letters, 2010, 10, 524-528.	9.1	451
6	3D Printed Quantum Dot Light-Emitting Diodes. Nano Letters, 2014, 14, 7017-7023.	9.1	371
7	Nanoscale Flexoelectricity. Advanced Materials, 2013, 25, 946-974.	21.0	362
8	Nanotechnology-enabled flexible and biocompatible energy harvesting. Energy and Environmental Science, 2010, 3, 1275.	30.8	345
9	Scalable Interconnection and Integration of Nanowire Devices without Registration. Nano Letters, 2004, 4, 915-919.	9.1	337
10	3D Printed Stretchable Tactile Sensors. Advanced Materials, 2017, 29, 1701218.	21.0	336
11	Silkâ€Based Conformal, Adhesive, Edible Food Sensors. Advanced Materials, 2012, 24, 1067-1072.	21.0	335
12	High-Performance Nanowire Electronics and Photonics on Glass and Plastic Substrates. Nano Letters, 2003, 3, 1531-1535.	9.1	322
13	Electrical detection of pathogenic bacteria via immobilized antimicrobial peptides. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 19207-19212.	7.1	317
14	High-speed integrated nanowire circuits. Nature, 2005, 434, 1085-1085.	27.8	305
15	Flexible Piezoelectric PMNâ€“PT Nanowire-Based Nanocomposite and Device. Nano Letters, 2013, 13, 2393-2398.	9.1	290
16	Si/a-Si Core/Shell Nanowires as Nonvolatile Crossbar Switches. Nano Letters, 2008, 8, 386-391.	9.1	231
17	3D Printed Anatomical Nerve Regeneration Pathways. Advanced Functional Materials, 2015, 25, 6205-6217.	14.9	228
18	Chemical Functionalization of Graphene Enabled by Phage Displayed Peptides. Nano Letters, 2010, 10, 4559-4565.	9.1	190

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19	3D Bioprinted In Vitro Metastatic Models via Reconstruction of Tumor Microenvironments. Advanced Materials, 2019, 31, e1806899.	21.0	178
20	In Situ Expansion, Differentiation, and Electromechanical Coupling of Human Cardiac Muscle in a 3D Bioprinted, Chambered Organoid. Circulation Research, 2020, 127, 207-224.	4.5	174
21	3D Printed Stemâ€Cell Derived Neural Progenitors Generate Spinal Cord Scaffolds. Advanced Functional Materials, 2018, 28, 1801850.	14.9	173
22	Preferential Binding of Peptides to Graphene Edges and Planes. Journal of the American Chemical Society, 2011, 133, 14480-14483.	13.7	165
23	Nanoimprint Lithography for Hybrid Plastic Electronics. Nano Letters, 2003, 3, 443-445.	9.1	153
24	Piezoelectric nanoribbons for monitoring cellular deformations. Nature Nanotechnology, 2012, 7, 587-593.	31.5	153
25	3D printed nervous system on a chip. Lab on A Chip, 2016, 16, 1393-1400.	6.0	150
26	The Role of Nanoparticle Design in Determining Analytical Performance of Lateral Flow Immunoassays. Nano Letters, 2017, 17, 7207-7212.	9.1	149
27	3D Printed Functional and Biological Materials on Moving Freeform Surfaces. Advanced Materials, 2018, 30, e1707495.	21.0	147
28	3D Printed Programmable Release Capsules. Nano Letters, 2015, 15, 5321-5329.	9.1	140
29	3D-printed multifunctional materials enabled by artificial-intelligence-assisted fabrication technologies. Nature Reviews Materials, 2021, 6, 27-47.	48.7	140
30	3D extrusion bioprinting. Nature Reviews Methods Primers, 2021, 1, .	21.2	127
31	3D printed deformable sensors. Science Advances, 2020, 6, eaba5575.	10.3	118
32	3D printed bionic nanodevices. Nano Today, 2016, 11, 330-350.	11.9	116
33	3D Printed Polymer Photodetectors. Advanced Materials, 2018, 30, e1803980.	21.0	113
34	3D printed electrically-driven soft actuators. Extreme Mechanics Letters, 2018, 21, 1-8.	4.1	100
35	The 2021 flexible and printed electronics roadmap. Flexible and Printed Electronics, 2021, 6, 023001.	2.7	100
36	Biomimetic Peptide Nanosensors. Accounts of Chemical Research, 2012, 45, 696-704.	15.6	96

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37	Peptideâ€"Nanowire Hybrid Materials for Selective Sensing of Small Molecules. Journal of the American Chemical Society, 2008, 130, 9583-9589.	13.7	94
38	3D Printed Neural Regeneration Devices. Advanced Functional Materials, 2020, 30, 1906237.	14.9	76
39	3D printed self-supporting elastomeric structures for multifunctional microfluidics. Science Advances, 2020, 6, .	10.3	72
40	Development of ultra-high density silicon nanowire arrays for electronics applications. Nano Research, 2008, 1, 9-21.	10.4	59
41	3D Printed Organ Models for Surgical Applications. Annual Review of Analytical Chemistry, 2018, 11, 287-306.	5.4	58
42	3D Printed Organ Models with Physical Properties of Tissue and Integrated Sensors. Advanced Materials Technologies, 2018, 3, 1700235.	5.8	50
43	3D-printed flexible organic light-emitting diode displays. Science Advances, 2022, 8, eabl8798.	10.3	50
44	Wafer-Scale Nanopatterning and Translation into High-Performance Piezoelectric Nanowires. Nano Letters, 2010, 10, 4595-4599.	9.1	44
45	Biotemplated Synthesis of PZT Nanowires. Nano Letters, 2013, 13, 6197-6202.	9.1	35
46	3D printed patient-specific aortic root models with internal sensors for minimally invasive applications. Science Advances, 2020, 6, eabb4641.	10.3	34
47	Rapid, multiplexed microfluidic phage display. Lab on A Chip, 2012, 12, 562-565.	6.0	30
48	Recognition of Patterned Molecular Ink with Phage Displayed Peptides. Journal of the American Chemical Society, 2010, 132, 1204-1205.	13.7	29
49	Optimal Learning in Experimental Design Using the Knowledge Gradient Policy with Application to Characterizing Nanoemulsion Stability. SIAM-ASA Journal on Uncertainty Quantification, 2015, 3, 320-345.	2.0	25
50	Conduction Cooling and Plasmonic Heating Dramatically Increase Droplet Vitrification Volumes for Cell Cryopreservation. Advanced Science, 2021, 8, 2004605.	11.2	22
51	Tension-induced neurite growth in microfluidic channels. Lab on A Chip, 2013, 13, 3735.	6.0	21
52	Pyro-paraelectricity. Extreme Mechanics Letters, 2015, 2, 20-27.	4.1	12
53	3D printed electronic materials and devices. , 2019, , 309-334.		11
54	3D Printed Skinâ€Interfaced UVâ€Visible Hybrid Photodetectors. Advanced Science, 2022, 9, .	11.2	11

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55	Wireless biomechanical power harvesting via flexible magnetostrictive ribbons. Energy and Environmental Science, 2014, 7, 2243.	30.8	7
56	Peptide interactions with zigzag edges in graphene. Biointerphases, 2016, 11, 041003.	1.6	6
57	From print to patient: 3D-printed personalized nerve regeneration. Biochemist, 2016, 38, 28-31.	0.5	4
58	A flexible barium strontium titanate photodetector array. Extreme Mechanics Letters, 2016, 8, 47-54.	4.1	3
59	Sensing gastrointestinal motility. Nature Biomedical Engineering, 2017, 1, 775-776.	22.5	3
60	Enhanced piezoelectricity and stretchability in energy harvesting devices fabricated from buckled PZT ribbons (Withdrawal Notice). , 2011, , .		2
61	3D Printing a Susceptibility Assay for Multidrug-Resistant Bacteria. CheM, 2016, 1, 346-348.	11.7	2
62	Spinal Cord Scaffolds: 3D Printed Stem-Cell Derived Neural Progenitors Generate Spinal Cord Scaffolds (Adv. Funct. Mater. 39/2018). Advanced Functional Materials, 2018, 28, 1870283.	14.9	2
63	3D piezoelectric microsystems pop up. Nature Electronics, 2019, 2, 15-16.	26.0	1
64	Biophysical sensing in deep tissue via MRI. Nature Biomedical Engineering, 2019, 3, 11-12.	22.5	1
65	Pyro-paraelectricity: a new effect in hetergeneous material architectures. Proceedings of SPIE, 2015, , .	0.8	0
66	Bioprinting: 3D Printed Organ Models with Physical Properties of Tissue and Integrated Sensors (Adv.) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	5.8	0
67	3D Printing: 3D Printed Functional and Biological Materials on Moving Freeform Surfaces (Adv. Mater.) Tj ETQq1 1 0.784314 rgBT /Ov	21.0	0
68	First Principles Molecular Modeling of Sensing Material Selection for Hybrid Biomimetic Nanosensors. , 2009, , 135-148.		0
69	Bionic Graphene Nanosensors. Springer Series in Biomaterials Science and Engineering, 2016, , 269-297.	1.0	0