Michael J Higgins

List of Publications by Year
in descending order

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101 papers	4,495 citations	87888 38 h-index	110387 64 g-index
108 all docs	108 docs citations	108 times ranked	6162 citing authors

#	Article	IF	Citations
1	Interactions between Liquid Metal Droplets and Bacterial, Fungal, and Mammalian Cells. Advanced Materials Interfaces, 2022, 9, .	3.7	19
2	Surface Charge-Mediated Cellâ€“Surface Interaction on Piezoelectric Materials. ACS Applied Materials & Interfaces, 2020, 12, 191-199.	8.0	23
3	Surface Diffusion of Dendronized Polymers Correlates with Their Transfection Potential. Langmuir, 2020, 36, 9074-9080.	3.5	9
4	Nanoscale piezoelectric effect of biodegradable PLA-based composite fibers by piezoresponse force microscopy. Nanotechnology, 2020, 31, 375708.	2.6	15
5	Fungal spore adhesion on glycidoxypropyltrimethoxy silane modified silica nanoparticle surfaces as revealed by single cell force spectroscopy. Biointerphases, 2020, 15, 031012.	1.6	3
6	Molecular interactions and forces of adhesion between single human neural stem cells and gelatin methacrylate hydrogels of varying stiffness. Acta Biomaterialia, 2020, 106, 156-169.	8.3	31
7	Carboxybetaine functionalized nanosilicas as protein resistant surface coatings. Biointerphases, 2020, 15, 011001.	1.6	5
8	Modified silica nanoparticle coatings: Dual antifouling effects of self-assembled quaternary ammonium and zwitterionic silanes. Biointerphases, 2020, 15, 021009.	1.6	6
9	Zwitterion Functionalized Silica Nanoparticle Coatings: The Effect of Particle Size on Protein, Bacteria, and Fungal Spore Adhesion. Langmuir, 2019, 35, 1335-1345.	3.5	35
10	Patterning and process parameter effects in 3D suspension near-field electrospinning of nanoarrays. Nanotechnology, 2019, 30, 495301.	2.6	9
11	Effect of monophasic pulsed stimulation on live single cell de-adhesion on conducting polymers with adsorbed fibronectin as revealed by single cell force spectroscopy. Biointerphases, 2019, 14, 021003.	1.6	4
12	Public Health Risks Associated with Heavy Metal and Microbial Contamination of Drinking Water in Australia. International Journal of Environmental Research and Public Health, 2019, 16, 3982.	2.6	3
13	A direct 3D suspension near-field electrospinning technique for the fabrication of polymer nanoarrays. Nanotechnology, 2019, 30, 195301.	2.6	7
14	Dynamics of Inter-Molecular Interactions Between Single AÎ²42 Oligomeric and Aggregate Species by High-Speed Atomic Force Microscopy. Journal of Molecular Biology, 2019, 431, 2687-2699.	4.2	14
15	The effect of nanoscale surface electrical properties of partially biodegradable PEDOT-co-PDLLA conducting polymers on protein adhesion investigated by atomic force microscopy. Materials Science and Engineering C, 2019, 99, 468-478.	7.3	13
16	Melt electrowriting of electroactive poly(vinylidene difluoride) fibers. Polymer International, 2019, 68, 735-745.	3.1	42
17	Hydration Layer Structure of Biofouling-Resistant Nanoparticles. ACS Nano, 2018, 12, 11610-11624.	14.6	70
18	Fabrication of soft, stimulus-responsive structures with sub-micron resolution via two-photon polymerization of poly(ionic liquid)s. Materials Today, 2018, 21, 807-816.	14.2	57

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19	Nanocrystalline Cellulose for Anisotropic Magnetoelectric Composites. Macromolecular Materials and Engineering, 2018, 303, 1800099.	3.6	10
20	Magnetoelectric coupling in nanoscale 0â€“1 connectivity. Nanoscale, 2018, 10, 17370-17377.	5.6	8
21	Effect of electrochemical oxidation and reduction on cell de-adhesion at the conducting polymerâ€“live cell interface as revealed by single cell force spectroscopy. Biointerphases, 2018, 13, 041004.	1.6	5
22	Local probing of magnetoelectric properties of PVDF/Fe₃O₄electrospun nanofibers by piezoresponse force microscopy. Nanotechnology, 2017, 28, 065707.	2.6	38
23	Construction of 2D lateral pseudoheterostructures by strain engineering. 2D Materials, 2017, 4, 025102.	4.4	31
24	Electro-mechano responsive properties of gelatin methacrylate (GelMA) hydrogel on conducting polymer electrodes quantified using atomic force microscopy. Soft Matter, 2017, 13, 4761-4772.	2.7	15
25	Silica Nanoparticles Functionalized with Zwitterionic Sulfobetaine Siloxane for Application as a Versatile Antifouling Coating System. ACS Applied Materials & Interfaces, 2017, 9, 18584-18594.	8.0	87
26	Enhancement of charge separation in ferroelectric heterogeneous photocatalyst Bi₄(SiO₄)₃/Bi₂SiO₅ nanostructures. Dalton Transactions, 2017, 46, 15582-15588.	3.3	25
27	Structural Analysis and Protein Functionalization of Electroconductive Polypyrrole Films Modified by Plasma Immersion Ion Implantation. ACS Biomaterials Science and Engineering, 2017, 3, 2247-2258.	5.2	10
28	Human skin interactive self-powered wearable piezoelectric bio-e-skin by electrospun poly-<scp>l</scp>-lactic acid nanofibers for non-invasive physiological signal monitoring. Journal of Materials Chemistry B, 2017, 5, 7352-7359.	5.8	104
29	Cellulose-based magnetoelectric composites. Nature Communications, 2017, 8, 38.	12.8	53
30	A virtual instrument to standardise the calibration of atomic force microscope cantilevers. Review of Scientific Instruments, 2016, 87, 093711.	1.3	114
31	Synthesis of highly magnetostrictive nanostructures and their application in a polymer-based magnetoelectric sensing device. European Polymer Journal, 2016, 84, 685-692.	5.4	26
32	Diatom Adhesives: Molecular and Mechanical Properties. , 2016, , 57-86.		6
33	Development of in situ soft colloidal probe atomic force microscopy for probing the adhesion between wood extractives and model surfaces. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2016, 500, 203-213.	4.7	1
34	Probing the PEDOT:PSS/cell interface with conductive colloidal probe AFM-SECM. Nanoscale, 2016, 8, 4475-4481.	5.6	27
35	The study of deposition of wood extractives and model compound colloids onto chromium and cellulose surfaces using quartz crystal microbalance with dissipation (QCM-D). Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2016, 491, 1-11.	4.7	5
36	Quantifying Molecular-Level Cell Adhesion on Electroactive Conducting Polymers using Electrochemical-Single Cell Force Spectroscopy. Scientific Reports, 2015, 5, 13334.	3.3	20

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37	Effect of heat treatment on fouling resistance and the rejection of small and neutral solutes by reverse osmosis membranes. Water Science and Technology: Water Supply, 2015, 15, 510-516.	2.1	14
38	Conductive surfaces with dynamic switching in response to temperature and salt. Journal of Materials Chemistry B, 2015, 3, 9285-9294.	5.8	30
39	Highly stretchable reduced graphene oxide (rGO)/single-walled carbon nanotubes (SWNTs) electrodes for energy storage devices. Electrochimica Acta, 2015, 163, 149-160.	5.2	37
40	Influence of biopolymer loading on the physiochemical and electrochemical properties of inherently conducting polymer biomaterials. Synthetic Metals, 2015, 200, 40-47.	3.9	11
41	Protein nanorings organized by poly(styrene-block-ethylene oxide) self-assembled thin films. Nanoscale, 2015, 7, 19940-19948.	5.6	11
42	Dynamic Electrochemical Properties of Extremely Stretchable Electrochemical Capacitor Using Reduced Graphene Oxide/Single-Wall Carbon Nanotubes Composite. Journal of the Electrochemical Society, 2015, 162, A2351-A2355.	2.9	4
43	Electrical Stimulation Using Conductive Polymer Polypyrrole Promotes Differentiation of Human Neural Stem Cells: A Biocompatible Platform for Translational Neural Tissue Engineering. Tissue Engineering - Part C: Methods, 2015, 21, 385-393.	2.1	146
44	Electroactive Anti-microbial Surfaces. , 2015, , 41-60.		0
45	Influence of Biodopants on PEDOT Biomaterial Polymers: Using QCMâ€Ð to Characterize Polymer Interactions with Proteins and Living Cells. Advanced Materials Interfaces, 2014, 1, 1300122.	3.7	47
46	Liquid Ink Deposition from an Atomic Force Microscope Tip: Deposition Monitoring and Control of Feature Size. Langmuir, 2014, 30, 2712-2721.	3.5	46
47	Inkâ€onâ€Probe Hydrodynamics in Atomic Force Microscope Deposition of Liquid Inks. Small, 2014, 10, 3717-3728.	10.0	22
48	Nanoscopic polypyrrole AFMâ€“SECM probes enabling force measurements under potential control. Nanoscale, 2014, 6, 2255.	5.6	16
49	Maintaining Cytocompatibility of Biopolymers Through a Graphene Layer for Electrical Stimulation of Nerve Cells. Advanced Functional Materials, 2014, 24, 769-776.	14.9	42
50	Capacitive behavior of latex/single-wall carbon nanotube stretchable electrodes. Electrochimica Acta, 2014, 137, 372-380.	5.2	19
51	Significant tunability of thin film functionalities enabled by manipulating magnetic and structural nano-domains. Applied Surface Science, 2014, 311, 549-557.	6.1	19
52	Surface and Biomolecular Forces of Conducting Polymers. Polymer Reviews, 2013, 53, 506-526.	10.9	30
53	Synthesis and optimization of PEDOT:PSS based ink for printing nanoarrays using Dip-Pen Nanolithography. Synthetic Metals, 2013, 181, 64-71.	3.9	9
54	Optical switching of protein interactions on photosensitiveâ€“electroactive polymers measured by atomic force microscopy. Journal of Materials Chemistry B, 2013, 1, 2162.	5.8	9

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55	In vitro growth and differentiation of primary myoblasts on thiophene based conducting polymers. Biomaterials Science, 2013, 1, 983.	5.4	14
56	Quantifying fibronectin adhesion with nanoscale spatial resolution on glycosaminoglycan doped polypyrrole using Atomic Force Microscopy. Biochimica Et Biophysica Acta - General Subjects, 2013, 1830, 4305-4313.	2.4	12
57	Resolving Subâ€Molecular Binding and Electrical Switching Mechanisms of Single Proteins at Electroactive Conducting Polymers. Small, 2013, 9, 393-401.	10.0	28
58	Surface Properties and Interaction Forces of Biopolymer-Doped Conductive Polypyrrole Surfaces by Atomic Force Microscopy. Langmuir, 2013, 29, 6099-6108.	3.5	21
59	Nanoscale platinum printing on insulating substrates. Nanotechnology, 2013, 24, 505301.	2.6	8
60	Vapor Phase Polymerization of EDOT from Submicrometer Scale Oxidant Patterned by Dip-Pen Nanolithography. Langmuir, 2012, 28, 9953-9960.	3.5	28
61	Liquid Deposition Patterning of Conducting Polymer Ink onto Hard and Soft Flexible Substrates via Dip-Pen Nanolithography. Langmuir, 2012, 28, 804-811.	3.5	45
62	Attractive and Repulsive Interactions Originating from Lateral Nanometer Variations in Surface Charge/Energy of Hyaluronic Acid and Chondroitin Sulfate Doped Polypyrrole Observed Using Atomic Force Microscopy. Journal of Physical Chemistry B, 2012, 116, 13498-13505.	2.6	9
63	Amyloid beta selectively modulates neuronal TrkB alternative transcript expression with implications for Alzheimer's disease. Neuroscience, 2012, 210, 363-374.	2.3	33
64	Cell patterning via linker-free protein functionalization of an organic conducting polymer (polypyrrole) electrode. Acta Biomaterialia, 2012, 8, 2538-2548.	8.3	40
65	Fibronectin and Bovine Serum Albumin Adsorption and Conformational Dynamics on Inherently Conducting Polymers: A QCM-D Study. Langmuir, 2012, 28, 8433-8445.	3.5	134
66	Organic Conducting Polymerâ€"Protein Interactions. Chemistry of Materials, 2012, 24, 828-839.	6.7	79
67	Organic Bionics: A New Dimension in Neural Communications. Advanced Functional Materials, 2012, 22, 2003-2014.	14.9	55
68	Nanobionics: the impact of nanotechnology on implantable medical bionic devices. Nanoscale, 2012, 4, 4327.	5.6	64
69	Reversible Shape Memory of Nanoscale Deformations in Inherently Conducting Polymers without Reprogramming. Journal of Physical Chemistry B, 2011, 115, 3371-3378.	2.6	15
70	A Multiswitchable Poly(terthiophene) Bearing a Spiropyran Functionality: Understanding Photo- and Electrochemical Control. Journal of the American Chemical Society, 2011, 133, 5453-5462.	13.7	96
71	Domain wall conductivity in oxygen deficient multiferroic YMnO3 single crystals. Applied Physics Letters, 2011, 99, .	3.3	49
72	Conducting polymers with immobilised fibrillar collagen for enhanced neural interfacing. Biomaterials, 2011, 32, 7309-7317.	11.4	105

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73	Fabrication and Characterization of Cytocompatible Polypyrrole Films Inkjet Printed from Nanoformulations Cytocompatible, Inkjetâ€Printed Polypyrrole Films. Small, 2011, 7, 3434-3438.	10.0	18
74	Cellsnake: A new active contour technique for cell/fibre segmentation. , 2011, , .		1
75	The Role of Atomic Force Microscopy in Advancing Diatom Research into the Nanotechnology Era. , 2011, , 405-420.		0
76	Physical surface and electromechanical properties of doped polypyrrole biomaterials. Biomaterials, 2010, 31, 1974-1983.	11.4	130
77	Guidance of neurite outgrowth on aligned electrospun polypyrrole/poly(styreneâ€Î²â€isobutyleneâ€Î²â€styrene) fiber platforms. Journal of Biomedical Materials Research - Part A, 2010, 94A, 1004-1011.	4.0	39
78	Creating conductive structures for cell growth: Growth and alignment of myogenic cell types on polythiophenes. Journal of Biomedical Materials Research - Part A, 2010, 95A, 256-268.	4.0	62
79	Normal stiffness calibration of microfabricated tri-layer conducting polymer actuators. Smart Materials and Structures, 2009, 18, 065013.	3.5	24
80	Electrochemical AFM. Imaging & Microscopy, 2009, 11, 40-43.	0.1	2
81	Skeletal muscle cell proliferation and differentiation on polypyrrole substrates doped with extracellular matrix components. Biomaterials, 2009, 30, 5292-5304.	11.4	207
82	Carbon nanotube biogels. Carbon, 2009, 47, 1282-1291.	10.3	50
83	Visualizing Dynamic Actuation of Ultrathin Polypyrrole Films. Langmuir, 2009, 25, 3627-3633.	3.5	29
84	Stiffness characterisation of microcantilevers based on conducting polymers. , 2008, , .		1
85	Direct Imaging of Lipid-Ion Network Formation under Physiological Conditions by Frequency Modulation Atomic Force Microscopy. Physical Review Letters, 2007, 98, 106101.	7.8	154
86	Direct Imaging of Individual Intrinsic Hydration Layers on Lipid Bilayers at Ã...ngstrom Resolution. Biophysical Journal, 2007, 92, 3603-3609.	0.5	182
87	Nanoscale Mechanical Characterisation of Amyloid Fibrils Discovered in a Natural Adhesive. Journal of Biological Physics, 2007, 32, 393-401.	1.5	105
88	Frequency Modulation Atomic Force Microscopy Reveals Individual Intermediates Associated with each Unfolded I27 Titin Domain. Biophysical Journal, 2006, 90, 640-647.	0.5	38
89	Structured Water Layers Adjacent to Biological Membranes. Biophysical Journal, 2006, 91, 2532-2542.	0.5	145
90	AFM in Liquid. Imaging & Microscopy, 2006, 8, 47-49.	0.1	2

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91	Quantitative force measurements using frequency modulation atomic force microscopy?theoretical foundations. Nanotechnology, 2005, 16, S94-S101.	2.6	137
92	Frequency modulation atomic force microscopy: a dynamic measurement technique for biological systems. Nanotechnology, 2005, 16, S85-S89.	2.6	38
93	Quantitative measurement of solvation shells using frequency modulated atomic force microscopy. Nanotechnology, 2005, 16, S49-S53.	2.6	64
94	Quantitative force measurements in liquid using frequency modulation atomic force microscopy. Applied Physics Letters, 2004, 85, 3575-3577.	3.3	44
95	THE COMPLEX POLYSACCHARIDES OF THE RAPHID DIATOM PINNULARIA VIRIDIS (BACILLARIOPHYCEAE)1. Journal of Phycology, 2003, 39, 543-554.	2.3	78
96	PROBING THE SURFACE OF LIVING DIATOMS WITH ATOMIC FORCE MICROSCOPY: THE NANOSTRUCTURE AND NANOMECHANICAL PROPERTIES OF THE MUCILAGE LAYER1. Journal of Phycology, 2003, 39, 722-734.	2.3	81
97	THE STRUCTURE AND NANOMECHANICAL PROPERTIES OF THE ADHESIVE MUCILAGE THAT MEDIATES DIATOM-SUBSTRATUM ADHESION AND MOTILITY1. Journal of Phycology, 2003, 39, 1181-1193.	2.3	110
98	Characterization of the Adhesive Mucilages Secreted by Live Diatom Cells using Atomic Force Microscopy. Protist, 2002, 153, 25-38.	1.5	105
99	NANOSTRUCTURE OF THE DIATOM FRUSTULE AS REVEALED BY ATOMIC FORCE AND SCANNING ELECTRON MICROSCOPY. Journal of Phycology, 2001, 37, 543-554.	2.3	209
100	The application of atomic force microscopy to topographical studies and force measurements on the secreted adhesive of the green alga Enteromorpha. Planta, 2000, 211, 641-647.	3.2	75
101	The topography of soft, adhesive diatom â€˜trailsâ€™ as observed by Atomic Force Microscopy. Biofouling, 2000, 16, 133-139.	2.2	36