Mathis Riehle

List of Publications by Year
in descending order

126 papers	9,955 citations	66234 42 h-index	33814 99 g-index
135 all docs	135 docs citations	135 times ranked	10624 citing authors

#	Article	IF	Citations
1	Bandpass sorting of heterogeneous cells using a single surface acoustic wave transducer pair. Biomicrofluidics, 2021, 15, 014105.	1.2	7
2	Human Platelet Lysate Acts Synergistically With Laminin to Improve the Neurotrophic Effect of Human Adipose-Derived Stem Cells on Primary Neurons in vitro. Frontiers in Bioengineering and Biotechnology, 2021, 9, 658176.	2.0	7
3	Human platelet lysate as a potential clinical-translatable supplement to support the neurotrophic properties of human adipose-derived stem cells. Stem Cell Research and Therapy, 2020, 11, 432.	2.4	19
4	A novel poly-Îµ-lysine based implant, ProliferateÂ®, for promotion of CNS repair following spinal cord injury. Biomaterials Science, 2020, 8, 3611-3627.	2.6	4
5	Capsule Endoscopy Compatible Fluorescence Imager Demonstrated Using Bowel Cancer Tumours. IEEE Sensors Journal, 2020, 20, 9763-9771.	2.4	9
6	Numerical Determination of the Secondary Acoustic Radiation Force on a Small Sphere in a Plane Standing Wave Field. Micromachines, 2019, 10, 431.	1.4	13
7	Theoretical Framework of Radiation Force in Surface Acoustic Waves for Modulated Particle Sorting. Periodica Polytechnica Electrical Engineering and Computer Science, 2019, 63, 77-84.	0.6	3
8	Piezoelectric plastic compressed collagen-mesh scaffold for artificial skin. , 2019, , .		1
9	Monte-Carlo Based Sensitivity Analysis of Acoustic Sorting Methods. Periodica Polytechnica Electrical Engineering and Computer Science, 2019, 63, 68-76.	0.6	2
10	The Prismatic Topography of Pinctada maxima Shell Retains Stem Cell Multipotency and Plasticity In Vitro. Advanced Biology, 2018, 2, 1800012.	3.0	6
11	Numerical Simulation of Particle Motion in a Phase Modulated Surface Acoustic Wave Microfluidic Device. , 2018, , .		0
12	Controlling fluid flow to improve cell seeding uniformity. PLoS ONE, 2018, 13, e0207211.	1.1	11
13	The biomechanical role of overall-shape transformation in a primitive multicellular organism: A case study of dimorphism in the filamentous cyanobacterium Arthrospira platensis. PLoS ONE, 2018, 13, e0196383.	1.1	8
14	Particle separation in surface acoustic wave microfluidic devices using reprogrammable, pseudo-standing waves. Applied Physics Letters, 2018, 113, .	1.5	26
15	Synthesis and cellular penetration properties of new phosphonium based cationic amphiphilic peptides. MedChemComm, 2018, 9, 982-987.	3.5	6
16	Mechanical behaviour of biodegradable AZ31 magnesium alloy after long term in vitro degradation. Materials Science and Engineering C, 2017, 77, 1135-1144.	3.8	31
17	Particle separation by phase modulated surface acoustic waves. Biomicrofluidics, 2017, 11, 054115.	1.2	34
18	Microtopographical cues promote peripheral nerve regeneration via transient mTORC2 activation. Acta Biomaterialia, 2017, 60, 220-231.	4.1	51

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19	Nacre Topography Produces Higher Crystallinity in Bone than Chemically Induced Osteogenesis. ACS Nano, 2017, 11, 6717-6727.	7.3	40
20	When the going gets rough â€“ studying the effect of surface roughness on the adhesive abilities of tree frogs. Beilstein Journal of Nanotechnology, 2016, 7, 2116-2131.	1.5	25
21	Production of Nanoscale Vibration for Stimulation of Human Mesenchymal Stem Cells. Journal of Biomedical Nanotechnology, 2016, 12, 1478-1488.	0.5	11
22	Contactless Acoustic Manipulation and Sorting of Particles by Dynamic Acoustic Fields. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2016, 63, 1593-1600.	1.7	15
23	A deterministic method for particle sorting by dynamic acoustic fields. , 2016, , .		0
24	Dynamic acoustic field for tuneable and scalable particle sorting. , 2015, , .		1
25	Acoustic tweezing for patterning and discriminating particles. , 2015, , .		0
26	Dynamic acoustic field activated cell separation (DAFACS). Lab on A Chip, 2015, 15, 802-810.	3.1	22
27	Towards a biodegradable, electro-active nerve repair conduit. , 2015, , .		0
28	Hybridising photonic and biotechnologies to CMOS. , 2015, , .		0
29	Directed Nerve Regeneration Enabled by Wirelessly Powered Electrodes Printed on a Biodegradable Polymer. Advanced Healthcare Materials, 2014, 3, 1001-1006.	3.9	18
30	Controlling acoustic streaming in an ultrasonic heptagonal tweezers with application to cell manipulation. Ultrasonics, 2014, 54, 268-274.	2.1	58
31	Poly(Nâ€acryloylmorpholine): A simple hydrogel system for temporal and spatial control over cell adhesion. Journal of Biomedical Materials Research - Part A, 2014, 102, 1809-1815.	2.1	23
32	Cell patterning with a heptagon acoustic tweezer â€“ application in neurite guidance. Lab on A Chip, 2014, 14, 2266-2275.	3.1	89
33	Development of a Novel 3D Culture System for Screening Features of a Complex Implantable Device for CNS Repair. Molecular Pharmaceutics, 2014, 11, 2143-2150.	2.3	6
34	Protein-mediated dethreading of a biotin-functionalised pseudorotaxane. Organic and Biomolecular Chemistry, 2014, 12, 511-516.	1.5	2
35	The Development of a É›-Polycaprolactone Scaffold for Central Nervous System Repair. Tissue Engineering - Part A, 2013, 19, 497-507.	1.6	32
36	Label-Free Segmentation of Co-cultured Cells on a Nanotopographical Gradient. Nano Letters, 2013, 13, 570-576.	4.5	27

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37	Development of a conducting polymer cell impedance sensor. Sensors and Actuators B: Chemical, 2013, 176, 667-674.	4.0	31
38	Influence of variable substrate geometry on wettability and cellular responses. Journal of Colloid and Interface Science, 2013, 394, 582-589.	5.0	24
39	Osteogenesis of Mesenchymal Stem Cells by Nanoscale Mechanotransduction. ACS Nano, 2013, 7, 2758-2767.	7.3	114
40	Modulation of alignment and differentiation of skeletal myoblasts by biomimetic materials. Integrative Biology (United Kingdom), 2012, 4, 1299.	0.6	8
41	High-Speed Imaging of 2-D Ionic Diffusion Using a 16$,imes,$16 Pixel CMOS ISFET Array on the Microfluidic Scale. IEEE Sensors Journal, 2012, 12, 2744-2749.	2.4	25
42	A miniaturized bioreactor system for the evaluation of cell interaction with designed substrates in perfusion culture. Journal of Tissue Engineering and Regenerative Medicine, 2012, 6, s4-s14.	1.3	5
43	A Dual Gradient Assay for the Parametric Analysis of Cellâ€“Surface Interactions. Small, 2012, 8, 2541-2547.	5.2	27
44	Direct patterning of mammalian cells in an ultrasonic heptagon stencil. Biomedical Microdevices, 2012, 14, 559-564.	1.4	27
45	The role of microtopography in cellular mechanotransduction. Biomaterials, 2012, 33, 2835-2847.	5.7	139
46	The development of a rat in vitro model of spinal cord injury demonstrating the additive effects of rho and ROCK inhibitors on neurite outgrowth and myelination. Glia, 2012, 60, 441-456.	2.5	42
47	Polyelectrolyte multilayers generated in a microfluidic device with pH gradients direct adhesion and movement of cells. Lab on A Chip, 2011, 11, 3326.	3.1	38
48	Two-dimensional manipulation of micro particles by acoustic radiation pressure in a heptagon cell. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2011, 58, 2132-2138.	1.7	23
49	The interactions of astrocytes and fibroblasts with defined pore structures in static and perfusion cultures. Biomaterials, 2011, 32, 2021-2031.	5.7	21
50	Preventing and troubleshooting artefacts in saturation labelled fluorescence 2â€Ð difference gel electrophoresis (saturation DiGE). Proteomics, 2011, 11, 4610-4621.	1.3	12
51	Can common adhesion molecules and microtopography affect cellular elasticity? A combined atomic force microscopy and optical study. Medical and Biological Engineering and Computing, 2010, 48, 1043-1053.	1.6	27
52	Effects of a surface topography composite with puerariae radix on human STRO-1-positive stem cells. Acta Biomaterialia, 2010, 6, 3694-3703.	4.1	19
53	A Biodegradable and Biocompatible Regular Nanopattern for Largeâ€Scale Selective Cell Growth. Small, 2010, 6, 2755-2761.	5.2	43
54	Microcontact Printing of Fibronectin on a Biodegradable Polymeric Surface for Skeletal Muscle Cell Orientation. International Journal of Artificial Organs, 2010, 33, 535-543.	0.7	50

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55	Fluorescence two-dimensional difference gel electrophoresis for biomaterial applications. Journal of the Royal Society Interface, 2010, 7, S107-18.	1.5	28
56	Mechanical Gradient Cues for Guided Cell Motility and Control of Cell Behavior on Uniform Substrates. Advanced Functional Materials, 2009, 19, 2961-2968.	7.8	55
57	Micropatterned Surfaces with Covalently Grafted Unsymmetrical Polyoxometalate-Hybrid Clusters Lead to Selective Cell Adhesion. Journal of the American Chemical Society, 2009, 131, 1340-1341.	6.6	153
58	A Hierarchical Response of Cells to Perpendicular Micro- and Nanometric Textural Cues. IEEE Transactions on Nanobioscience, 2009, 8, 219-225.	2.2	14
59	Fixation and Drying Protocols for the Preparation of Cell Samples for Time-of-Flight Secondary Ion Mass Spectrometry Analysis. Analytical Chemistry, 2009, 81, 7197-7205.	3.2	87
60	Nanomaterials for Neural Interfaces: Emerging New Function and Potential Applications. Nanostructure Science and Technology, 2009, , 277-286.	0.1	2
61	Biodegradable polymer tubes with lithographically controlled 3D micro- and nanotopography. Microelectronic Engineering, 2008, 85, 1350-1354.	1.1	42
62	DLVO interaction energy between a sphere and a nano-patterned plate. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2008, 318, 45-52.	2.3	91
63	A 16Ã—16 CMOS Proton Camera Array for Direct Extracellular Imaging of Hydrogen-Ion Activity. , 2008, , .		6
64	Optimizing substrate disorder for bone tissue engineering of mesenchymal stem cells. Journal of Vacuum Science & Technology B, 2008, 26, 2554-2557.	1.3	13
65	A Hybrid Three-Dimensional Nanofabrication Method for Producing Vascular Tissue Engineering Scaffold. Japanese Journal of Applied Physics, 2008, 47, 7415-7419.	0.8	7
66	3D fabrication methods for producing tissue engineering scaffolds. , 2007, , .		1
67	Microtopography of metal surfaces influence fibroblast growth by modifying cell shape, cytoskeleton, and adhesion. Journal of Orthopaedic Research, 2007, 25, 1523-1533.	1.2	50
68	Long-term neurite orientation on astrocyte monolayers aligned by microtopography. Biomaterials, 2007, 28, 5498-5508.	5.7	59
69	The control of human mesenchymal cell differentiation using nanoscale symmetry and disorder. Nature Materials, 2007, 6, 997-1003.	13.3	2,177
70	Observation of durotaxis on a well-defined continuous gradient of stiffness. Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology, 2007, 146, S192.	0.8	3
71	Is surface chemical composition important for orthopaedic implant materials?. Journal of Materials Science: Materials in Medicine, 2007, 18, 405-413.	1.7	21
72	Nanoparticle Targeting at Cells. Langmuir, 2006, 22, 3286-3293.	1.6	102

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73	Chondrocyte Aggregation on Micrometric Surface Topography: A Time-lapse Study. Tissue Engineering, 2006, 12, 189-199.	4.9	21
74	Fluorescent Aromatic Platforms for Cell Patterning. Langmuir, 2006, 22, 5528-5532.	1.6	19
75	Air-Trapping on Biocompatible Nanopatterns. Langmuir, 2006, 22, 11230-11233.	1.6	28
76	Applications of nano-patterning to tissue engineering. Microelectronic Engineering, 2006, 83, 1577-1581.	1.1	71
77	3D polymer scaffolds for tissue engineering. Nanomedicine, 2006, 1, 281-296.	1.7	64
78	Optical heating for short hot embossing cycle times. Microelectronic Engineering, 2006, 83, 859-863.	1.1	19
79	Progress towards tubes with regular nanopatterned inner surfaces. Journal of Vacuum Science & Technology B, 2006, 24, 3258.	1.3	5
80	Nano Patterned Surfaces for Biomaterial Applications. Advances in Science and Technology, 2006, 53, 107-115.	0.2	12
81	Chondrocyte Aggregation on Micrometric Surface Topography: A Time-lapse Study. Tissue Engineering, 2006, .	4.9	0
82	Nano- and micrometric structures for cell and tissue engineering. , 2006, , .		0
83	A large transistor-based sensor array chip for direct extracellular imaging. Sensors and Actuators B: Chemical, 2005, 111-112, 347-353.	4.0	54
84	Effects of mechanical forces engineering reactions at the cellular level. Medical Engineering and Physics, 2005, 27, 729.	0.8	0
85	Articular chondrocyte passage number: Influence on adhesion, migration, cytoskeletal organisation and phenotype in response to nano- and micro-metric topography. Cell Biology International, 2005, 29, 408-421.	1.4	43
86	The response of primary articular chondrocytes to micrometric surface topography and sulphated hyaluronic acid-based matrices. Cell Biology International, 2005, 29, 605-615.	1.4	32
87	Superhydrophobicity and Superhydrophilicity of Regular Nanopatterns. Nano Letters, 2005, 5, 2097-2103.	4.5	477
88	The plastidic DNA replication enzyme complex of Plasmodium falciparum. Molecular and Biochemical Parasitology, 2005, 141, 145-153.	0.5	88
89	Human fibroblast reactions to standard and electropolished titanium and Ti-6Al-7Nb, and electropolished stainless steel. Journal of Biomedical Materials Research - Part A, 2005, 75A, 541-555.	2.1	45
90	Quantum Dots Protected with Tiopronin: A New Fluorescence System for Cell-Biology Studies. ChemBioChem, 2005, 6, 989-991.	1.3	33

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91	Utilizing atomic number contrast for FESEM imaging of colloidal nanotopography underlying biological cells. Nanotechnology, 2005, 16, 1433-1439.	1.3	6
92	Use of nanotopography to study mechanotransduction in fibroblasts â€“ methods and perspectives. European Journal of Cell Biology, 2004, 83, 159-169.	1.6	146
93	Rapid fibroblast adhesion to 27nm high polymer demixed nano-topography. Biomaterials, 2004, 25, 77-83.	5.7	218
94	Tubes with Controllable Internal Nanotopography. Advanced Materials, 2004, 16, 1857-1860.	11.1	38
95	Fibroblast response to a controlled nanoenvironment produced by colloidal lithography. Journal of Biomedical Materials Research Part B, 2004, 69A, 314-322.	3.0	100
96	Investigating the limits of filopodial sensing: a brief report using SEM to image the interaction between 10 nm high nano-topography and fibroblast filopodia. Cell Biology International, 2004, 28, 229-236.	1.4	262
97	Changes in fibroblast morphology in response to nano-columns produced by colloidal lithography. Biomaterials, 2004, 25, 5415-5422.	5.7	223
98	Cells React to Nanoscale Order and Symmetry in Their Surroundings. IEEE Transactions on Nanobioscience, 2004, 3, 61-65.	2.2	268
99	Investigating filopodia sensing using arrays of defined nano-pits down to 35 nm diameter in size. International Journal of Biochemistry and Cell Biology, 2004, 36, 2005-2015.	1.2	264
100	Attempted endocytosis of nano-environment produced by colloidal lithography by human fibroblasts. Experimental Cell Research, 2004, 295, 387-394.	1.2	129
101	Nonadhesive nanotopography: Fibroblast response to poly(n-butyl methacrylate)-poly(styrene) demixed surface features. Journal of Biomedical Materials Research Part B, 2003, 67A, 1025-1032.	3.0	71
102	Fibroblast reaction to island topography: changes in cytoskeleton and morphology with time. Biomaterials, 2003, 24, 927-935.	5.7	248
103	Cell behaviour of rat calvaria bone cells on surfaces with random nanometric features. Materials Science and Engineering C, 2003, 23, 337-340.	3.8	50
104	Nucleus alignment and cell signaling in fibroblasts: response to a micro-grooved topography. Experimental Cell Research, 2003, 284, 272-280.	1.2	358
105	Nanofabrication of structures for cell engineering. , 2003, , .		2
106	A Direct Pyrophosphatase-coupled Assay Provides New Insights into the Activation of the Secreted Adenylate Cyclase from Bordetella pertussis by Calmodulin. Journal of Biological Chemistry, 2002, 277, 22289-22296.	1.6	8
107	Patterning colloidal nanotopographies. Nanotechnology, 2002, 13, 605-609.	1.3	44
108	Increasing Fibroblast Response to Materials Using Nanotopography: Morphological and Genetic Measurements of Cell Response to 13-nm-High Polymer Demixed Islands. Experimental Cell Research, 2002, 276, 1-9.	1.2	337

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109	Polymer-Demixed Nanotopography: Control of Fibroblast Spreading and Proliferation. Tissue Engineering, 2002, 8, 1099-1108.	4.9	251
110	An Integrative Study of Insect Adhesion: Mechanics and Wet Adhesion of Pretarsal Pads in Ants. Integrative and Comparative Biology, 2002, 42, 1100-1106.	0.9	316
111	Interactions of human blood and tissue cell types with 95-nm-high nanotopography. IEEE Transactions on Nanobioscience, 2002, 1, 18-23.	2.2	42
112	Fibroblast signaling events in response to nanotopography: a gene array study. IEEE Transactions on Nanobioscience, 2002, 1, 12-17.	2.2	38
113	Interaction of animal cells with ordered nanotopography. IEEE Transactions on Nanobioscience, 2002, 1, 24-28.	2.2	128
114	The use of materials patterned on a nano- and micro-metric scale in cellular engineering. Materials Science and Engineering C, 2002, 19, 263-269.	3.8	244
115	In vitro reaction of endothelial cells to polymer demixed nanotopography. Biomaterials, 2002, 23, 2945-2954.	5.7	442
116	IMMUNOGOLD LABELLING OF FIBROBLAST FOCAL ADHESION SITES VISUALISED IN FIXED MATERIAL USING SCANNING ELECTRON MICROSCOPY, AND LIVING, USING INTERNAL REFLECTION MICROSCOPY. Cell Biology International, 2001, 25, 1237-1249.	1.4	42
117	Tissue engineering: the biophysical background. Physics in Medicine and Biology, 2001, 46, R47-R65.	1.6	177
118	Measuring particle-substrate distance with surface plasmon resonance microscopy. Journal of Optics, 2001, 3, 333-337.	1.5	16
119	Glimepiride (Hoe490) inhibits the rilmakalim induced decrease in intracellular free calcium and contraction of isolated heart muscle cells from guinea pigs to a lesser extent than glibenclamide. International Journal of Cardiology, 1999, 72, 53-63.	0.8	7
120	Cell behaviour in tubes. Experimental Biology Online, 1998, 3, 1-15.	1.0	6
121	Preliminary study on the suitability of a pharmacological bio-assay based on cardiac myocytes cultured over microfabricated microelectrode arrays. Medical and Biological Engineering and Computing, 1998, 36, 638-644.	1.6	44
122	Synergistic and Hierarchical Adhesive and Topographic Guidance of BHK Cells. Experimental Cell Research, 1996, 228, 313-325.	1.2	166
123	Subtraction scanning acoustic microscopy reveals motility domains in cells in vitro. Cytoskeleton, 1994, 29, 231-240.	4.4	16
124	In vitro Approach to â€˜Uremic Cardiomyopathyâ€™. Nephron, 1993, 65, 392-400.	0.9	39
125	Distortion of f-actin and focal contacts of animal cells upon ordered nanotopography. , 0, , .		0
126	Bioengineered nerve conduits and wraps for peripheral nerve repair of the upper limb. The Cochrane Library, 0, , .	1.5	3