

# Mark A Burns

## List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

113  
papers

4,681  
citations

40  
h-index

66  
g-index

115  
ext. papers

5,272  
ext. citations

6.7  
avg, IF

5.62  
L-index

#	Paper	IF	Citations
113	Tuneable elastomeric nanochannels for nanofluidic manipulation. <i>Nature Materials</i> , <b>2007</b> , 6, 424-8	27	301
112	Thermocapillary pumping of discrete drops in microfabricated analysis devices. <i>AIChE Journal</i> , <b>1999</b> , 45, 350-366	3.6	217
111	Electrokinetic protein preconcentration using a simple glass/poly(dimethylsiloxane) microfluidic chip. <i>Analytical Chemistry</i> , <b>2006</b> , 78, 4779-85	7.8	197
110	PCR in a Rayleigh-BBard convection cell. <i>Science</i> , <b>2002</b> , 298, 793	33.3	194
109	Integrated microsystems for controlled drug delivery. <i>Advanced Drug Delivery Reviews</i> , <b>2004</b> , 56, 185-98	18.5	156
108	Next-generation integrated microfluidic circuits. <i>Lab on A Chip</i> , <b>2011</b> , 11, 2813-8	7.2	148
107	Flexible casting of modular self-aligning microfluidic assembly blocks. <i>Lab on A Chip</i> , <b>2011</b> , 11, 1679-87	7.2	126
106	Isotachophoretic separations on a microchip. Normal Raman spectroscopy detection. <i>Analytical Chemistry</i> , <b>1998</b> , 70, 3766-9	7.8	118
105	Microdroplet-enabled highly parallel co-cultivation of microbial communities. <i>PLoS ONE</i> , <b>2011</b> , 6, e17019	3.7	116
104	Nanopore sequencing technology: research trends and applications. <i>Trends in Biotechnology</i> , <b>2006</b> , 24, 580-6	15.1	107
103	Phase change microvalve for integrated devices. <i>Analytical Chemistry</i> , <b>2004</b> , 76, 3740-8	7.8	107
102	Rapid, continuous additive manufacturing by volumetric polymerization inhibition patterning. <i>Science Advances</i> , <b>2019</b> , 5, eaau8723	14.3	106
101	Nanopore sequencing technology: nanopore preparations. <i>Trends in Biotechnology</i> , <b>2007</b> , 25, 174-81	15.1	105
100	Continuous affinity chromatography using a magnetically stabilized fluidized bed. <i>Biotechnology Progress</i> , <b>1985</b> , 1, 95-103	2.8	102
99	Analysis of non-Newtonian liquids using a microfluidic capillary viscometer. <i>Analytical Chemistry</i> , <b>2006</b> , 78, 1690-6	7.8	95
98	Nanoliter viscometer for analyzing blood plasma and other liquid samples. <i>Analytical Chemistry</i> , <b>2005</b> , 77, 383-92	7.8	93
97	Microfluidic pneumatic logic circuits and digital pneumatic microprocessors for integrated microfluidic systems. <i>Lab on A Chip</i> , <b>2009</b> , 9, 3131-43	7.2	84

96	Microfluidic assembly blocks. <i>Lab on A Chip</i> , <b>2008</b> , 8, 1365-73	7.2	78
95	Reactions and fluidics in miniaturized natural convection systems. <i>Analytical Chemistry</i> , <b>2004</b> , 76, 6254-65.8		76
94	Microfabricated reaction and separation systems. <i>Current Opinion in Biotechnology</i> , <b>2001</b> , 12, 92-8	11.4	75
93	Push-pull perfusion sampling with segmented flow for high temporal and spatial resolution in vivo chemical monitoring. <i>Analytical Chemistry</i> , <b>2011</b> , 83, 5207-13	7.8	74
92	Microfluidic chemical analysis systems. <i>Annual Review of Chemical and Biomolecular Engineering</i> , <b>2011</b> , 2, 325-53	8.9	70
91	Advances in on-chip photodetection for applications in miniaturized genetic analysis systems. <i>Journal of Micromechanics and Microengineering</i> , <b>2004</b> , 14, 81-90	2	67
90	Asynchronous magnetic bead rotation (AMBR) biosensor in microfluidic droplets for rapid bacterial growth and susceptibility measurements. <i>Lab on A Chip</i> , <b>2011</b> , 11, 2604-11	7.2	65
89	Programmable fluidic production of microparticles with configurable anisotropy. <i>Journal of the American Chemical Society</i> , <b>2008</b> , 130, 1335-40	16.4	62
88	Electrophoresis in microfabricated devices using photopolymerized polyacrylamide gels and electrode-defined sample injection. <i>Electrophoresis</i> , <b>2001</b> , 22, 300-11	3.6	61
87	Low-power concentration and separation using temperature gradient focusing via Joule heating. <i>Analytical Chemistry</i> , <b>2006</b> , 78, 8028-35	7.8	58
86	Electrostretching DNA molecules using polymer-enhanced media within microfabricated devices. <i>Analytical Chemistry</i> , <b>2002</b> , 74, 3378-85	7.8	57
85	Dried calcium alginate/magnetite spheres: A new support for chromatographic separations and enzyme immobilization. <i>Biotechnology and Bioengineering</i> , <b>1985</b> , 27, 137-45	4.9	52
84	Continuous protein separations in a magnetically stabilized fluidized bed using nonmagnetic supports. <i>Biotechnology and Bioengineering</i> , <b>1991</b> , 38, 963-71	4.9	50
83	Monitoring the growth and drug susceptibility of individual bacteria using asynchronous magnetic bead rotation sensors. <i>Biosensors and Bioelectronics</i> , <b>2011</b> , 26, 2751-5	11.8	49
82	Performance of nanoliter-sized droplet-based microfluidic PCR. <i>Biomedical Microdevices</i> , <b>2009</b> , 11, 1071-80	3.9	48
81	Analytic chemistry. Everyone's a (future) chemist. <i>Science</i> , <b>2002</b> , 296, 1818-9	33.3	46
80	Electronic drop sensing in microfluidic devices: automated operation of a nanoliter viscometer. <i>Lab on A Chip</i> , <b>2006</b> , 6, 744-51	7.2	45
79	Asynchronous magnetic bead rotation microviscometer for rapid, sensitive, and label-free studies of bacterial growth and drug sensitivity. <i>Analytical Chemistry</i> , <b>2012</b> , 84, 5250-6	7.8	44

78	Drop mixing in a microchannel for lab-on-a-chip platforms. <i>Langmuir</i> , <b>2008</b> , 24, 590-601	4	44
77	Electrodeless direct current dielectrophoresis using reconfigurable field-shaping oil barriers. <i>Electrophoresis</i> , <b>2007</b> , 28, 4572-81	3.6	44
76	DNA molecular configurations in an evaporating droplet near a glass surface. <i>Journal of Rheology</i> , <b>2003</b> , 47, 1111-1132	4.1	43
75	Temperature-programmed natural convection for micromixing and biochemical reaction in a single microfluidic chamber. <i>Analytical Chemistry</i> , <b>2009</b> , 81, 4510-6	7.8	42
74	Polymerase chain reaction in high surface-to-volume ratio SiO <sub>2</sub> microstructures. <i>Analytical Chemistry</i> , <b>2004</b> , 76, 6588-93	7.8	41
73	Fluidic assembly and packing of microspheres in confined channels. <i>Langmuir</i> , <b>2008</b> , 24, 3661-70	4	40
72	Heat-transfer analysis of microfabricated thermocapillary pumping and reaction devices. <i>Journal of Micromechanics and Microengineering</i> , <b>2000</b> , 10, 42-55	2	39
71	Transpiration-based micropump for delivering continuous ultra-low flow rates. <i>Journal of Micromechanics and Microengineering</i> , <b>2003</b> , 13, 261-271	2	37
70	Surface-modified polyolefin microfluidic devices for liquid handling. <i>Journal of Micromechanics and Microengineering</i> , <b>2005</b> , 15, 2156-2162	2	37
69	Microfluidic pressure sensing using trapped air compression. <i>Lab on A Chip</i> , <b>2007</b> , 7, 633-7	7.2	33
68	A versatile microfabricated platform for electrophoresis of double- and single-stranded DNA. <i>Electrophoresis</i> , <b>2003</b> , 24, 151-7	3.6	32
67	Optimization of dielectrophoretic DNA stretching in microfabricated devices. <i>Analytical Chemistry</i> , <b>2006</b> , 78, 2939-47	7.8	31
66	Viscosity Measurements Using Microfluidic Droplet Length. <i>Analytical Chemistry</i> , <b>2017</b> , 89, 3996-4006	7.8	30
65	A Drinking Water Sensor for Lead and Other Heavy Metals. <i>Analytical Chemistry</i> , <b>2017</b> , 89, 8748-8756	7.8	30
64	Addressable electric fields for size-fractionated sample extraction in microfluidic devices. <i>Analytical Chemistry</i> , <b>2005</b> , 77, 4338-47	7.8	30
63	Cell affinity separations using magnetically stabilized fluidized beds: erythrocyte subpopulation fractionation utilizing a lectin-magnetite support. <i>Biotechnology and Bioengineering</i> , <b>2003</b> , 81, 650-65	4.9	30
62	Nanoliter droplet viscometer with additive-free operation. <i>Lab on A Chip</i> , <b>2013</b> , 13, 297-301	7.2	29
61	Selective extraction of size-fractionated DNA samples in microfabricated electrophoresis devices. <i>Journal of Chromatography A</i> , <b>2003</b> , 1010, 255-68	4.5	28

60	Mobility, diffusion and dispersion of single-stranded DNA in sequencing gels. <i>Electrophoresis</i> , <b>2001</b> , 22, 1046-62	3.6	27
59	STRUCTURAL STUDIES OF A LIQUID-FLUIDIZED MAGNETICALLY STABILIZED BED. <i>Chemical Engineering Communications</i> , <b>1988</b> , 67, 315-330	2.2	27
58	Continuous cell suspension processing using magnetically stabilized fluidized beds. <i>Biotechnology and Bioengineering</i> , <b>1991</b> , 37, 110-20	4.9	26
57	Acoustically driven programmable liquid motion using resonance cavities. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2009</b> , 106, 12617-22	11.5	25
56	Cost-effective thermal isolation techniques for use on microfabricated DNA amplification and analysis devices. <i>Journal of Micromechanics and Microengineering</i> , <b>2005</b> , 15, 221-230	2	25
55	Microfabricated electrophoresis systems for DNA sequencing and genotyping applications: current technology and future directions. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , <b>2004</b> , 362, 1105-29	3	24
54	Cross-linked polyacrylamide gel electrophoresis of single-stranded DNA for microfabricated genomic analysis systems. <i>Electrophoresis</i> , <b>2002</b> , 23, 1450-9	3.6	23
53	Light-induced molecular cutting: localized reaction on a single DNA molecule. <i>Analytical Chemistry</i> , <b>2003</b> , 75, 4188-94	7.8	21
52	Microstencils for the patterning of nontraditional materials. <i>Langmuir</i> , <b>2006</b> , 22, 5392-7	4	20
51	Magnetically Stabilized Fluidized Bed for Gas Separations: Olefin-Paraffin Separations by $\pi$ -Complexation. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>1995</b> , 34, 2873-2880	3.9	20
50	Volumetric Photopolymerization Confinement through Dual-Wavelength Photoinitiation and Photoinhibition. <i>ACS Macro Letters</i> , <b>2019</b> , 8, 899-904	6.6	19
49	Microdevice-based measurements of diffusion and dispersion in cross-linked and linear polyacrylamide DNA sequencing gels. <i>Electrophoresis</i> , <b>2002</b> , 23, 2777-87	3.6	19
48	Predicting the filtration of noncoagulating particles in depth filters. <i>Chemical Engineering Science</i> , <b>1997</b> , 52, 93-105	4.4	18
47	Continuous Cell Debris Filtration Using A Magnetically Stabilized Fluidized Bed. <i>Biotechnology Progress</i> , <b>1989</b> , 5, 98-104	2.8	18
46	Simulation of fluidized beds and other fluid-particle systems using statistical mechanics. <i>AIChE Journal</i> , <b>1996</b> , 42, 660-670	3.6	16
45	Asynchronous Magnetic Bead Rotation (AMBR) Microviscometer for Label-Free DNA Analysis. <i>Biosensors</i> , <b>2014</b> , 4, 76-89	5.9	14
44	Multiphase bioreaction microsystem with automated on-chip droplet operation. <i>Lab on A Chip</i> , <b>2010</b> , 10, 1308-15	7.2	13
43	Simulation of structural phenomena in mixed-particle fluidized beds. <i>AIChE Journal</i> , <b>1998</b> , 44, 528-537	3.6	13

42	An electronic Venturi-based pressure microregulator. <i>Lab on A Chip</i> , <b>2007</b> , 7, 1791-9	7.2	13
41	Toward Assembly of Non-close-packed Colloidal Structures from Anisotropic Pentamer Particles. <i>Macromolecular Rapid Communications</i> , <b>2010</b> , 31, 196-201	4.8	12
40	Microfabricated valveless devices for thermal bioreactions based on diffusion-limited evaporation. <i>Lab on A Chip</i> , <b>2008</b> , 8, 88-97	7.2	12
39	A light writable microfluidic "flash memory": optically addressed actuator array with latched operation for microfluidic applications. <i>Lab on A Chip</i> , <b>2008</b> , 8, 488-91	7.2	12
38	Super-resolution imaging of PDMS nanochannels by single-molecule micelle-assisted blink microscopy. <i>Journal of Physical Chemistry B</i> , <b>2013</b> , 117, 4406-11	3.4	11
37	Multifunctional Water Sensors for pH, ORP, and Conductivity Using Only Microfabricated Platinum Electrodes. <i>Sensors</i> , <b>2017</b> , 17,	3.8	11
36	Electrophoretic separations using sweeping fields. <i>Electrophoresis</i> , <b>1998</b> , 19, 1388-93	3.6	9
35	Low-power micro-fabricated liquid flow-rate sensor. <i>Analytical Methods</i> , <b>2015</b> , 7, 3981-3987	3.2	8
34	Effect of hydrodynamic and magnetic stabilization on fluidized-Bed adsorption. <i>Biotechnology Progress</i> , <b>1998</b> , 14, 749-55	2.8	8
33	Integrated plastic microfluidic device for ssDNA separation. <i>Sensors and Actuators B: Chemical</i> , <b>2007</b> , 125, 343-351	8.5	8
32	Self-contained actuation of phase-change pistons in microchannels. <i>Journal of Micromechanics and Microengineering</i> , <b>2006</b> , 16, 786-793	2	8
31	A droplet-based microfluidic viscometer for the measurement of blood coagulation. <i>Biomicrofluidics</i> , <b>2020</b> , 14, 014109	3.2	7
30	Droplet-based microsystem for multi-step bioreactions. <i>Biomedical Microdevices</i> , <b>2010</b> , 12, 533-41	3.7	7
29	Simple transporter trafficking model for amphetamine-induced dopamine efflux. <i>Synapse</i> , <b>2007</b> , 61, 500-14	2.4	7
28	Bead mediated separation of microparticles in droplets. <i>PLoS ONE</i> , <b>2017</b> , 12, e0173479	3.7	7
27	Modeling and Correcting Cure-Through in Continuous Stereolithographic 3D Printing. <i>Advanced Materials Technologies</i> , <b>2019</b> , 4, 1900700	6.8	6
26	Co-cultivation of microbial sub-communities in microfluidic droplets facilitates high-resolution genomic dissection of microbial Dark matter. <i>Integrative Biology (United Kingdom)</i> , <b>2020</b> , 12, 263-274	3.7	6
25	A Variable Height Microfluidic Device for Multiplexed Immunoassay Analysis of Traumatic Brain Injury Biomarkers. <i>Biosensors</i> , <b>2021</b> , 11,	5.9	6

24	Asymmetric traps array for particle transport. <i>RSC Advances</i> , <b>2015</b> , 5, 3358-3364	3.7	5
23	Selective arraying of complex particle patterns. <i>Lab on A Chip</i> , <b>2010</b> , 10, 1142-7	7.2	5
22	Application of membrane-based preferential transport to whole broth processing. <i>Biotechnology and Bioengineering</i> , <b>1997</b> , 55, 581-91	4.9	5
21	Modeling ssDNA electrophoretic migration with band broadening in an entangled or cross-linked network. <i>Electrophoresis</i> , <b>2007</b> , 28, 2783-800	3.6	5
20	Micro-Particle Operations Using Asymmetric Traps. <i>Scientific Reports</i> , <b>2019</b> , 9, 1278	4.9	4
19	Variable-height channels for microparticle characterization and display. <i>Lab on A Chip</i> , <b>2020</b> , 20, 2510-2519	4.9	4
18	Recuperative parametric pumping in adsorptive membranes. <i>AIChE Journal</i> , <b>1996</b> , 42, 131-146	3.6	4
17	The Magnetically Stabilized Fluidized Bed as a Biochemical Processing Tool. <i>Annals of the New York Academy of Sciences</i> , <b>1987</b> , 501, 103-107	6.5	4
16	One-Way Particle Transport Using Oscillatory Flow in Asymmetric Traps. <i>Small</i> , <b>2018</b> , 14, 1702724	11	3
15	A Venturi microregulator array module for distributed pressure control. <i>Microfluidics and Nanofluidics</i> , <b>2010</b> , 9, 671-680	2.8	3
14	Effect of buffer flow on DNA separation in a microfabricated electrophoresis system. <i>Electrophoresis</i> , <b>2005</b> , 26, 4718-28	3.6	3
13	Selective extraction using preferential transport through adsorptive membranes. <i>Biotechnology and Bioengineering</i> , <b>1996</b> , 52, 539-48	4.9	3
12	Solute focusing techniques for bioseparations. <i>Nature Biotechnology</i> , <b>1995</b> , 13, 46-52	44.5	3
11	Detection and quantification of vitamins in microliter volumes of biological samples by LC-MS for clinical screening. <i>AIChE Journal</i> , <b>2018</b> , 64, 3709-3718	3.6	3
10	Accuracy Evaluation of a Tetrabromophenolphthalein Ethyl Ester Colorimetric Assay for Urinary Albumin. <i>Journal of Applied Laboratory Medicine</i> , <b>2019</b> , 4, 201-213	2	2
9	Active control of nanolitre droplet contents with convective concentration gradients across permeable walls. <i>Lab on A Chip</i> , <b>2011</b> , 11, 4022-8	7.2	2
8	A novel strategy for the design of multiple reaction systems for genetic analysis. <i>Sensors and Actuators A: Physical</i> , <b>2002</b> , 95, 250-258	3.9	2
7	Countercurrent gradient chromatography: A continuous focusing technique. <i>Biotechnology and Bioengineering</i> , <b>1995</b> , 48, 461-75	4.9	2

- 6 The Current State of Traumatic Brain Injury Biomarker Measurement Methods. *Biosensors*, **2021**, 11, 5.9 2
- 5 Application of magnetically stabilized fluidized beds to bioseparations. *Reactive Polymers, Ion Exchangers, Sorbents*, **1987**, 6, 45-50 1
- 4 The development of microfabricated devices for influenza A detection and genotyping. *International Congress Series*, **2004**, 1263, 367-371 0
- 3 Transverse imaging and simulation of dsDNA electrophoresis in microfabricated glass channels. *Electrophoresis*, **2008**, 29, 4768-74 3.6
- 2 Theoretical considerations for counting nucleic acid molecules in microdevices. *Journal of Micromechanics and Microengineering*, **2005**, 15, N6-N10 2
- 1 Cell Affinity Chromatography. *Journal of Chromatography Library*, **2000**, 61, 667-702