Don DeVoe

List of Publications by Citations

141 papers	5,508 citations	40 h-index	70 g-index
155 ext. papers	6,174 ext. citations	5.2 avg, IF	5.75 L-index

#	Paper	IF	Citations
141	Bonding of thermoplastic polymer microfluidics. *Microfluidics and Nanofluidics*, **2009**, 6, 1-16	2.8	415
140	Microfluidic directed formation of liposomes of controlled size. *Langmuir*, **2007**, 23, 6289-93	4	275
139	Microfluidic mixing and the formation of nanoscale lipid vesicles. *ACS Nano*, **2010**, 4, 2077-87	16.7	261
138	Modeling and optimal design of piezoelectric cantilever microactuators. *Journal of Microelectromechanical Systems*, **1997**, 6, 266-270	2.5	237
137	Microhotplate platforms for chemical sensor research. *Sensors and Actuators B: Chemical*, **2001**, 77, 579-591	3.5	220
136	Low temperature bonding of PMMA and COC microfluidic substrates using UV/ozone surface treatment. *Lab on A Chip*, **2007**, 7, 499-505	7.2	194
135	Preparation of nanoparticles by continuous-flow microfluidics. *Journal of Nanoparticle Research*, **2008**, 10, 925-934	2.3	184
134	Integration of isoelectric focusing with parallel sodium dodecyl sulfate gel electrophoresis for multidimensional protein separations in a plastic microfluidic [correction of microfludic] network. *Analytical Chemistry*, **2004**, 76, 742-8	7.8	138
133	Piezoelectric thin film micromechanical beam resonators. *Sensors and Actuators A: Physical*, **2001**, 88, 263-272	3.9	137
132	Capillary isoelectric focusing-based multidimensional concentration/separation platform for proteome analysis. *Analytical Chemistry*, **2003**, 75, 3145-52	7.8	133
131	Characterization of the human salivary proteome by capillary isoelectric focusing/nanoreversed-phase liquid chromatography coupled with ESI-tandem MS. *Journal of Proteome Research*, **2006**, 5, 1469-78	5.6	126
130	Proteome analysis of microdissected formalin-fixed and paraffin-embedded tissue specimens. *Journal of Histochemistry and Cytochemistry*, **2007**, 55, 763-72	3.4	119
129	An electrohydrodynamic polarization micropump for electronic cooling. *Journal of Microelectromechanical Systems*, **2001**, 10, 98-106	2.5	100
128	Polymer microchips integrating solid-phase extraction and high-performance liquid chromatography using reversed-phase polymethacrylate monoliths. *Analytical Chemistry*, **2009**, 81, 2545-54	7.8	98
127	Microfluidic preparation of liposomes to determine particle size influence on cellular uptake mechanisms. *Pharmaceutical Research*, **2014**, 31, 401-13	4.5	91
126	Nanoparticle-functionalized porous polymer monolith detection elements for surface-enhanced Raman scattering. *Analytical Chemistry*, **2011**, 83, 2119-24	7.8	91
125	Large-force electrothermal linear micromotors. *Journal of Micromechanics and Microengineering*, **2004**, 14, 226-234	2	87

124	Surface micromachined piezoelectric accelerometers (PiXLs). *Journal of Microelectromechanical Systems*, **2001**, 10, 180-186	2.5	80
123	Proteome analysis of microdissected tumor tissue using a capillary isoelectric focusing-based multidimensional separation platform coupled with ESI-tandem MS. *Analytical Chemistry*, **2005**, 77, 6549-56	7.8	78
122	High-Throughput Continuous Flow Production of Nanoscale Liposomes by Microfluidic Vertical Flow Focusing. *Small*, **2015**, 11, 5790-9	11	77
121	Nanoparticle engineering and control of tin oxide microstructures for chemical microsensor applications. *Nanotechnology*, **2001**, 12, 336-349	3.4	73
120	Efficient electrospray ionization from polymer microchannels using integrated hydrophobic membranes. *Lab on A Chip*, **2004**, 4, 363-7	7.2	67
119	Comparison of electrokinetics-based multidimensional separations coupled with electrospray ionization-tandem mass spectrometry for characterization of human salivary proteins. *Analytical Chemistry*, **2007**, 79, 5785-92	7.8	60
118	Surface micromachined piezoelectric resonant beam filters. *Sensors and Actuators A: Physical*, **2001**, 91, 313-320	3.9	60
117	Microfluidic technologies for MALDI-MS in proteomics. *Electrophoresis*, **2006**, 27, 3559-68	3.6	57
116	Integration of polymeric membranes with microfluidic networks for bioanalytical applications. *Electrophoresis*, **2001**, 22, 3857-67	3.6	56
115	Microfluidic synthesis of monodisperse PDMS microbeads as discrete oxygen sensors. *Soft Matter*, **2012**, 8, 923-926	3.6	54
114	Microfluidic remote loading for rapid single-step liposomal drug preparation. *Lab on A Chip*, **2014**, 14, 3359-67	7.2	53
113	Membrane proteome analysis of microdissected ovarian tumor tissues using capillary isoelectric focusing/reversed-phase liquid chromatography-tandem MS. *Analytical Chemistry*, **2007**, 79, 1002-9	7.8	53
112	A facile route to the synthesis of monodisperse nanoscale liposomes using 3D microfluidic hydrodynamic focusing in a concentric capillary array. *Lab on A Chip*, **2014**, 14, 2403-9	7.2	48
111	Polyacrylamide gel plugs enabling 2-D microfluidic protein separations via isoelectric focusing and multiplexed sodium dodecyl sulfate gel electrophoresis. *Electrophoresis*, **2008**, 29, 2241-50	3.6	48
110	Field-effect flow control in a polydimethylsiloxane-based microfluidic system. *Electrophoresis*, **2001**, 22, 3902-7	3.6	48
109	Microfluidic synthesis of PEG- and folate-conjugated liposomes for one-step formation of targeted stealth nanocarriers. *Pharmaceutical Research*, **2013**, 30, 1597-607	4.5	47
108	Parametric identification of piezoelectric microscale resonators. *Journal of Micromechanics and Microengineering*, **2006**, 16, 1593-1601	2	45
107	DNA mutation detection in a polymer microfluidic network using temperature gradient gel electrophoresis. *Analytical Chemistry*, **2004**, 76, 874-81	7.8	44

106	Dynamic analyte introduction and focusing in plastic microfluidic devices for proteomic analysis. *Electrophoresis*, **2003**, 24, 193-9	3.6	44
105	High-pressure needle interface for thermoplastic microfluidics. *Lab on A Chip*, **2009**, 9, 50-5	7.2	42
104	Polymer nanochannels fabricated by thermomechanical deformation for single-molecule analysis. *Analytical Chemistry*, **2005**, 77, 2252-8	7.8	42
103	Dynamic electrowetting on nanofilament silicon for matrix-free laser desorption/ionization mass spectrometry. *Analytical Chemistry*, **2008**, 80, 2973-81	7.8	41
102	Catalytic Propulsion and Magnetic Steering of Soft, Patchy Microcapsules: Ability to Pick-Up and Drop-Off Microscale Cargo. *ACS Applied Materials & Interfaces*, **2016**, 8, 15676-83	9.5	40
101	Single molecule measurements within individual membrane-bound ion channels using a polymer-based bilayer lipid membrane chip. *Lab on A Chip*, **2008**, 8, 602-8	7.2	39
100	Integrated microfluidic UV absorbance detector with attomol-level sensitivity for BSA. *Lab on A Chip*, **2006**, 6, 115-20	7.2	39
99	Integrated thin-film piezoelectric traveling wave ultrasonic motors. *Sensors and Actuators A: Physical*, **2012**, 188, 305-311	3.9	38
98	Microfluidic 2-D PAGE using multifunctional in situ polyacrylamide gels and discontinuous buffers. *Lab on A Chip*, **2009**, 9, 592-9	7.2	38
97	Induced pressure pumping in polymer microchannels via field-effect flow control. *Analytical Chemistry*, **2004**, 76, 1942-7	7.8	37
96	Development of a microchip Europium nanoparticle immunoassay for sensitive point-of-care HIV detection. *Biosensors and Bioelectronics*, **2014**, 61, 177-83	11.8	35
95	High-pressure on-chip mechanical valves for thermoplastic microfluidic devices. *Lab on A Chip*, **2009** , 9, 3511-6	7.2	34
94	Integrated capillary isoelectric focusing/nano-reversed phase liquid chromatography coupled with ESI-MS for characterization of intact yeast proteins. *Journal of Proteome Research*, **2005**, 4, 36-42	5.6	34
93	Proteomic analysis of steroid-triggered autophagic programmed cell death during Drosophila development. *Cell Death and Differentiation*, **2007**, 14, 916-23	12.7	31
92	Millimeter-Scale Traveling Wave Rotary Ultrasonic Motors. *Journal of Microelectromechanical Systems*, **2015**, 24, 108-114	2.5	28
91	Flow-through immunosensors using antibody-immobilized polymer monoliths. *Biosensors and Bioelectronics*, **2010**, 26, 182-8	11.8	28
90	Electrospray interfacing of polymer microfluidics to MALDI-MS. *Electrophoresis*, **2005**, 26, 3631-40	3.6	27
89	Microfluidic on-demand droplet generation, storage, retrieval, and merging for single-cell pairing. *Lab on A Chip*, **2019**, 19, 493-502	7.2	26

88	Glycomic analysis by glycoprotein immobilization for glycan extraction and liquid chromatography on microfluidic chip. *Analytical Chemistry*, **2013**, 85, 10117-25	7.8	26
87	Micromechanism fabrication using silicon fusion bonding. *Robotics and Computer-Integrated Manufacturing*, **2001**, 17, 131-137	9.2	26
86	Rapid real-time PCR and high resolution melt analysis in a self-filling thermoplastic chip. *Lab on A Chip*, **2016**, 16, 3524-31	7.2	25
85	Capillary separations enabling tissue proteomics-based biomarker discovery. *Electrophoresis*, **2006**, 27, 3523-32	3.6	25
84	High Throughput Nanoliposome Formation Using 3D Printed Microfluidic Flow Focusing Chips. *Advanced Materials Technologies*, **2019**, 4, 1800511	6.8	24
83	Microfluidic-enabled liposomes elucidate size-dependent transdermal transport. *PLoS ONE*, **2014**, 9, e92978	3.7	23
82	Pen microfluidics: rapid desktop manufacturing of sealed thermoplastic microchannels. *Lab on A Chip*, **2013**, 13, 1102-8	7.2	23
81	Microfluidics: A New Approach to In-Situ Micromanufacturing—Microfluidic Fabrication of Magnetic and Fluorescent Chains Using Chitosan Microparticles as Building Blocks (Small 17/2011). *Small*, **2011**, 7, 2469-2469	11	23
80	Mixed-mode electrokinetic and chromatographic peptide separations in a microvalve-integrated polymer chip. *Lab on A Chip*, **2010**, 10, 2122-9	7.2	23
79	Sensitivity, selectivity and stability of tin oxide nanostructures on large area arrays of microhotplates. *Nanotechnology*, **2006**, 17, 415-425	3.4	23
78	Integrated microfluidic gas sensor for detection of volatile organic compounds in water. *Sensors and Actuators B: Chemical*, **2007**, 121, 679-688	8.5	22
77	High-power optical microswitch based on direct fiber actuation. *Sensors and Actuators A: Physical*, **2005**, 119, 512-519	3.9	22
76	Microfluidic device fabrication by thermoplastic hot-embossing. *Methods in Molecular Biology*, **2013**, 949, 115-23	1.4	22
75	Nonlinear oscillations of piezoelectric microresonators with curved cross-sections. *Sensors and Actuators A: Physical*, **2008**, 144, 194-200	3.9	21
74	Denaturing gradient-based two-dimensional gene mutation scanning in a polymer microfluidic network. *Lab on A Chip*, **2005**, 5, 392-400	7.2	21
73	Interfacing microfluidics to LDI-MS by automatic robotic spotting. *Microfluidics and Nanofluidics*, **2010**, 8, 777-787	2.8	19
72	Young's Modulus Measurements in Standard IC CMOS Processes Using MEMS Test Structures. *IEEE Electron Device Letters*, **2007**, 28, 960-963	4.4	19
71	Microfluidic generation of uniform water droplets using gas as the continuous phase. *Journal of Colloid and Interface Science*, **2015**, 448, 275-9	9.3	18

70	Transverse Interdigitated Electrode Actuation of Homogeneous Bulk PZT. *Journal of Microelectromechanical Systems*, **2012**, 21, 1513-1518	2.5	18
69	A new approach to in-situ "micromanufacturing": microfluidic fabrication of magnetic and fluorescent chains using chitosan microparticles as building blocks. *Small*, **2011**, 7, 2470-6	11	18
68	Controlled droplet discretization and manipulation using membrane displacement traps. *Lab on A Chip*, **2017**, 17, 3717-3724	7.2	17
67	Light-Directed Self-Assembly of Robust Alginate Gels at Precise Locations in Microfluidic Channels. *ACS Applied Materials & Interfaces*, **2016**, 8, 17529-38	9.5	17
66	Modeling and design of composite free-free beam piezoelectric resonators. *Sensors and Actuators A: Physical*, **2005**, 118, 63-69	3.9	17
65	Microfluidic assembly of Janus-like dimer capsules. *Langmuir*, **2013**, 29, 13624-9	4	15
64	Microscale patterning of thermoplastic polymer surfaces by selective solvent swelling. *Langmuir*, **2012**, 28, 12923-9	4	15
63	Sacrificial etching of AlxGa1-xAs for III-V MEMS surface micromachining. *Applied Physics A: Materials Science and Processing*, **2007**, 88, 711-714	2.6	15
62	Ex Situ Integration of Multifunctional Porous Polymer Monoliths into Thermoplastic Microfluidic Chips. *Sensors and Actuators B: Chemical*, **2014**, 202, 866-872	8.5	14
61	Microfluidic synthesis of macroporous polymer immunobeads. *Polymer*, **2012**, 53, 5469-5475	3.9	14
60	Sol-Gel PZT for MEMS Applications. *Integrated Ferroelectrics*, **2002**, 42, 25-37	0.8	14
59	Capturing rare cells from blood using a packed bed of custom-synthesized chitosan microparticles. *Journal of Materials Chemistry B*, **2013**, 1, 4313-4319	7.3	13
58	A chitosan coated monolith for nucleic acid capture in a thermoplastic microfluidic chip. *Biomicrofluidics*, **2014**, 8, 044109	3.2	13
57	Microfabrication of bulk PZT transducers by dry film photolithography and micro powder blasting. *Journal of Micromechanics and Microengineering*, **2012**, 22, 085017	2	12
56	Polyelectrolyte Multilayer-Treated Electrodes for Real-Time Electronic Sensing of Cell Proliferation. *Journal of Research of the National Institute of Standards and Technology*, **2010**, 115, 61-73	1.3	11
55	Optimization of sample transfer in two-dimensional microfluidic separation systems. *Lab on A Chip*, **2008**, 8, 1145-52	7.2	11
54	Piezoelectric AlGaAs bimorph microactuators. *Journal of Micromechanics and Microengineering*, **2006**, 16, 1062-1066	2	11
53	Fabrication of piezoelectric Al0.3Ga0.7As microstructures. *Sensors and Actuators A: Physical*, **2004**, 115, 96-103	3.9	11

52	Fabrication of suspended piezoelectric microresonators. *Integrated Ferroelectrics*, **1999**, 24, 147-154	0.8	11
51	Optical detection enhancement in porous volumetric microfluidic capture elements using refractive index matching fluids. *Analyst, The*, **2015**, 140, 5724-31	5	10
50	Novel functionalities of hybrid paper-polymer centrifugal devices for assay performance enhancement. *Biomicrofluidics*, **2017**, 11, 054101	3.2	10
49	Rapid microfluidic perfusion enabling kinetic studies of lipid ion channels in a bilayer lipid membrane chip. *Annals of Biomedical Engineering*, **2011**, 39, 2242-51	4.7	10
48	Dynamics of ceramide channels detected using a microfluidic system. *PLoS ONE*, **2012**, 7, e43513	3.7	10
47	Miniature bulk PZT traveling wave ultrasonic motors for low-speed high-torque rotary actuation. *Journal of Microelectromechanical Systems*, **2018**, 27, 547-554	2.5	10
46	Large Vertical Displacement Electrostatic Zipper Microstage Actuators. *Journal of Microelectromechanical Systems*, **2015**, 24, 896-903	2.5	9
45	Single-use thermoplastic microfluidic burst valves enabling on-chip reagent storage. *Microfluidics and Nanofluidics*, **2015**, 18, 1045-1053	2.8	9
44	Isolation of intact bacteria from blood by selective cell lysis in a microfluidic porous silica monolith. *Microsystems and Nanoengineering*, **2019**, 5, 30	7.7	9
43	Droplet formation from hydrodynamically coupled capillaries for parallel microfluidic contact spotting. *Journal of Micromechanics and Microengineering*, **2008**, 18, 025013	2	9
42	Moving reflector type micro optical switch for high-power transfer in a MEMS-based safety and arming system. *Journal of Micromechanics and Microengineering*, **2004**, 14, 138-146	2	9
41	Screw-actuated displacement micropumps for thermoplastic microfluidics. *Lab on A Chip*, **2016**, 16, 3940-3946	7.2	8
40	Active flow control using microelectromechanical systems **2000**,		8
39	Staggered trap arrays for robust microfluidic sample digitization. *Lab on A Chip*, **2017**, 17, 4105-4112	7.2	7
38	Soft lithography microfabrication of functionalized thermoplastics by solvent casting. *Journal of Polymer Science, Part B: Polymer Physics*, **2015**, 53, 1315-1323	2.6	7
37	High-power optical microswitch fabricated by deep reactive ion etching (DRIE) **2003**, 4983, 75		7
36	Analysis of an optical energy interrupter for MEMS-based safety and arming systems **1999**, 3880, 101		7
35	Programmable digital droplet microfluidics using a multibarrel capillary bundle. *Sensors and Actuators B: Chemical*, **2015**, 220, 992-999	8.5	6

34	Miniaturization of Hydrocyclones by High-Resolution 3D Printing for Rapid Microparticle Separation. *Advanced Materials Technologies*, **2020**, 5, 1901105	6.8	6
33	Piezoelectric Al/sub 0.3/Ga/sub 0.7/As longitudinal mode bar resonators. *Journal of Microelectromechanical Systems*, **2006**, 15, 465-470	2.5	6
32	Electrical contact resistance force sensing in SOI-DRIE MEMS. *Sensors and Actuators A: Physical*, **2018**, 269, 474-482	3.9	5
31	Piezoelectric Disk Resonators Based on Epitaxial AlGaAs Films. *Journal of Microelectromechanical Systems*, **2007**, 16, 155-162	2.5	5
30	Large-displacement microactuators in deep reactive ion-etched single-crystal silicon **2001**, 4559, 138		5
29	Microhotplate gas sensor arrays **1999**, 3857, 38		5
28	Micromachined Array Studies of Tin Oxide Films: Nucleation, Structure and Gas Sensing Characteristics. *Materials Research Society Symposia Proceedings*, **1999**, 574, 213		5
27	Impedimetric Immunosensing in a Porous Volumetric Microfluidic Detector. *Sensors and Actuators B: Chemical*, **2016**, 234, 493-497	8.5	5
26	Electro-optical BLM chips enabling dynamic imaging of ordered lipid domains. *Lab on A Chip*, **2012**, 12, 3142-9	7.2	4
25	Mass spectrometry-based tissue proteomics for cancer biomarker discovery. *Personalized Medicine*, **2007**, 4, 45-58	2.2	4
24	Piezoelectric Disc Transformer Modeling Utilizing Extended Hamilton's Principle. *IEEE Transactions on Power Electronics*, **2019**, 34, 6583-6592	7.2	4
23	Flow-through microfluidic immunosensors with refractive index-matched silica monoliths as volumetric optical detection elements. *Sensors and Actuators B: Chemical*, **2018**, 254, 878-886	8.5	4
22	Enhanced sample filling and discretization in thermoplastic 2D microwell arrays using asymmetric contact angles. *Biomicrofluidics*, **2020**, 14, 014113	3.2	3
21	Thin-film piezoelectric traveling wave ultrasonic rotary motor **2012**,		3
20	Traveling wave annular ultrasonic micromotors using bulk PZT **2012**,		3
19	Visualizing the growth and dynamics of liquid-ordered domains during lipid bilayer folding in a microfluidic chip. *Small*, **2012**, 8, 3613-9	11	3
18	Nanofilament silicon for matrix-free laser desorption/ionization mass spectrometry. *Methods in Molecular Biology*, **2011**, 790, 183-9	1.4	3
17	Nano-printed miniature compound refractive lens for desktop hard x-ray microscopy. *PLoS ONE*, **2018**, 13, e0203319	3.7	3

List of Publications

16	Annular ultrasonic micromotors fabricated from bulk PZT **2017**,		2
15	Microfluidic formation of nanoscale liposomes for passive transdermal drug delivery **2013**,		2
14	Modeling and Analysis of Microfabricated Bulk Piezoelectric Disc Transformers **2017**,		2
13	Microfabricated sequential-leaf time-delay mechanisms. *Journal of Microelectromechanical Systems*, **2005**, 14, 1051-1060	2.5	2
12	In situ photografting during direct laser writing in thermoplastic microchannels. *Scientific Reports*, **2021**, 11, 10980	4.9	2
11	Active or Passive On-Demand Droplet Merging in a Microfluidic Valve-Based Trap. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2018**, 2018, 5350-5353	0.9	2
10	A programmable microfluidic platform for multisample injection, discretization, and droplet manipulation. *Biomicrofluidics*, **2020**, 14, 014112	3.2	1
9	A Silicon Microfluidic Multiplexer Using Field Effect Flow Control **2001**, 187-188		1
8	Integrated Thin Film Temperature Sensors for Polycarbonate Microfluidics **2002**, 724-726		1
7	Plasma Isolation in a Syringe by Conformal Integration of Inertial Microfluidics. *Annals of Biomedical Engineering*, **2021**, 49, 139-148	4.7	1
6	Reagent integration and controlled release for multiplexed nucleic acid testing in disposable thermoplastic 2D microwell arrays. *Biomicrofluidics*, **2021**, 15, 014103	3.2	1
5	A Microfabricated Flow Controller for Refrigerant Expansion. *Journal of Microelectromechanical Systems*, **2007**, 16, 1106-1112	2.5	
4	Microfluidics-Based Proteome Analysis **2006**, 205-223		
3	SOI/DRIE all-fiber optical switch for high-power applications **2003**, 4983, 65		
2	Capillary Electrophoretic Separations for Clinical Proteomics73-88		
1	A Scalable Random Access Micro-traps Array for Formation, Selective Retrieval and Capturing of Individual Droplets. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2019**, 2019, 1054-1057	0.9	