

Shih-Kang Fan

List of Publications by Year in descending order

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113
papers

1,998
citations

236925

25
h-index

276875

41
g-index

115
all docs

115
docs citations

115
times ranked

2333
citing authors

#	ARTICLE	IF	CITATIONS
1	Determination of blood lithium-ion concentration using digital microfluidic whole-blood separation and preloaded paper sensors. <i>Biosensors and Bioelectronics</i> , 2022, 195, 113631.	10.1	17
2	Digital Microfluidics for Single Cell Manipulation and Analysis. , 2022, , 185-205.		1
3	Digital Microfluidic qPCR Cartridge for SARS-CoV-2 Detection. <i>Micromachines</i> , 2022, 13, 196.	2.9	16
4	Field-effect pump: liquid dielectrophoresis along a virtual microchannel with source-gate-drain electric fields. <i>Lab on A Chip</i> , 2021, 21, 2372-2382.	6.0	1
5	Microfluidics-Based Single-Cell Research for Intercellular Interaction. <i>Frontiers in Cell and Developmental Biology</i> , 2021, 9, 680307.	3.7	6
6	Liver-lobule-mimicking patterning via dielectrophoresis and hydrogel photopolymerization. <i>Sensors and Actuators B: Chemical</i> , 2021, 343, 130159.	7.8	12
7	Microstructure-based techniques for single-cell manipulation and analysis. <i>TrAC - Trends in Analytical Chemistry</i> , 2020, 129, 115940.	11.4	23
8	Study of vibrational droplet triboelectric nanogenerator on structural and operational parameters. <i>Nano Energy</i> , 2020, 70, 104473.	16.0	15
9	Optofluidic liquid sensing on electromicrofluidic devices. <i>Materials Research Express</i> , 2020, 7, 036407.	1.6	2
10	Liver microsystems in vitro for drug response. <i>Journal of Biomedical Science</i> , 2019, 26, 88.	7.0	27
11	Digital microfluidics for cell manipulation. <i>TrAC - Trends in Analytical Chemistry</i> , 2019, 117, 291-299.	11.4	34
12	Single-Cell-Derived Tumor-Sphere Formation and Drug-Resistance Assay Using an Integrated Microfluidics. <i>Analytical Chemistry</i> , 2019, 91, 8318-8325.	6.5	40
13	Adjustment and Measurement of Contact Angle with Electrowetting on a Quartz-Crystal Microbalance. <i>Inventions</i> , 2018, 3, 46.	2.5	3
14	Determination of Aqueous Two-Phase System Binodals and Tie-Lines by Electrowetting-Induced Dielectric Droplet Manipulation. <i>ChemBioChem</i> , 2018, 20, 270-275.	2.6	4
15	Energy Harvester and Cell Proliferation from Biocompatible PMLC Nanofibers Prepared Using Near-Field Electrospinning and Electrospray Technology. <i>Journal of Nanoscience and Nanotechnology</i> , 2018, 18, 156-164.	0.9	5
16	Genomic DNA extraction from whole blood using a digital microfluidic (DMF) platform with magnetic beads. <i>Microsystem Technologies</i> , 2017, 23, 313-320.	2.0	34
17	Cross-scale manipulations of heterogeneous components with arbitrary shapes. , 2017, , .		0
18	Cell coculture within electrically patterned cells and hydrogel structures. , 2017, , .		0

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19	Display medium with particle manipulations in an emulsion droplet array. , 2017, , .		0
20	Roadmap for optofluidics. Journal of Optics (United Kingdom), 2017, 19, 093003.	2.2	78
21	DNA stretching in surfactant-stabilized microchannel. , 2017, , .		0
22	Opto-Microfluidic Immunosensors: From Colorimetric to Plasmonic. Micromachines, 2016, 7, 29.	2.9	16
23	Microfluidic Surface Plasmon Resonance Sensors: From Principles to Point-of-Care Applications. Sensors, 2016, 16, 1175.	3.8	103
24	Three-dimensional biomimetic liver tissue platform for drug testing. , 2016, , .		0
25	A highly efficient bead extraction technique with low bead number for digital microfluidic immunoassay. Biomicrofluidics, 2016, 10, 011901.	2.4	21
26	Preface to Special Topic: Selected Papers from the 5th International Conference on Optofluidics. Biomicrofluidics, 2016, 10, 011701.	2.4	0
27	Constructing 3D heterogeneous hydrogels from electrically manipulated prepolymer droplets and crosslinked microgels. Science Advances, 2016, 2, e1600964.	10.3	70
28	Womb-on-a-chip biomimetic system for improved embryo culture and development. Sensors and Actuators B: Chemical, 2016, 226, 218-226.	7.8	17
29	Reconfigurable liquid-core/liquid-cladding optical waveguides with dielectrophoresis-driven virtual microchannels on an electromicrofluidic platform. Lab on A Chip, 2016, 16, 847-854.	6.0	24
30	2D35 Microfluidic Device for High Throughput Measurement of Mechanical Properties of Single Cells. The Proceedings of the Bioengineering Conference Annual Meeting of BED/J SME, 2016, 2016.28, _2D35-1_-_2D35-5_.	0.0	0
31	Digital Microfluidics for Manipulation and Analysis of a Single Cell. International Journal of Molecular Sciences, 2015, 16, 22319-22332.	4.1	53
32	AMPFLUID: Aggregation Magnified Post-Assay Fluorescence for Ultrasensitive Immunodetection on Digital Microfluidics. Proceedings of the IEEE, 2015, 103, 225-235.	21.3	15
33	Encoding and manipulating microcomponent on electromicrofluidic platform. , 2015, , .		0
34	Electromolding for 3D cell culture. , 2015, , .		0
35	Using gelatin methacrylate covering and dielectrophoresis force manipulating for lobule-mimicking culture chip in vitro. , 2015, , .		1
36	Constructung 3D cell-laden hydrogels on electromolding. , 2015, , .		0

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37	Fertilization of Mouse Gametes in Vitro Using a Digital Microfluidic System. IEEE Transactions on Nanobioscience, 2015, 14, 857-863.	3.3	11
38	Customizable Optical and Biofunctional Properties of a Medical Lens Based on Chemical Vapor Deposition Encapsulation of Liquids. Chemistry of Materials, 2015, 27, 7028-7033.	6.7	16
39	Embryo lab chip taking advantage of microfluidics and cell co-culturing. , 2015, , .		1
40	Digital Microfluidic Dynamic Culture of Mammalian Embryos on an Electrowetting on Dielectric (EWOD) Chip. PLoS ONE, 2015, 10, e0124196.	2.5	43
41	Teflon wetting and dewetting on EWOD device for chemiluminescence detector. , 2014, , .		1
42	Formation of suspended bilayer lipid membrane between electrowetting-driven encapsulated droplets. Biomicrofluidics, 2014, 8, 052006.	2.4	4
43	Recoverable electrowetting-on-dielectric device in chemiluminescence enzymatic detector. Japanese Journal of Applied Physics, 2014, 53, 060304.	1.5	8
44	Multiphase optofluidics on an electro-microfluidic platform powered by electrowetting and dielectrophoresis. Lab on A Chip, 2014, 14, 2728-2738.	6.0	20
45	A portable microfluidic device for the rapid diagnosis of cancer metastatic potential which is programmable for temperature and CO ₂ . Lab on A Chip, 2014, 14, 3621-3628.	6.0	21
46	EWOD microfluidic systems for biomedical applications. Microfluidics and Nanofluidics, 2014, 16, 965-987.	2.2	100
47	Mechatronic Systems in Digital Microfluidics. International Journal of Automation and Smart Technology, 2014, 4, 216-221.	0.4	1
48	Microfabrication of a digital microfluidic platform integrated with an on-chip electrochemical cell. Journal of Micromechanics and Microengineering, 2013, 23, 095025.	2.6	17
49	DNA diagnosis in a microseparator based on particle aggregation. Biosensors and Bioelectronics, 2013, 50, 8-13.	10.1	5
50	Label-free separation and sorting of human monocytes and T-cells by electrowetting and dielectrophoresis. , 2013, , .		2
51	Chemiluminescence detector based on a single planar transparent digital microfluidic device. Lab on A Chip, 2013, 13, 2714.	6.0	30
52	Thermally switchable adhesions of polystyrene-block-poly(n-isopropylacrylamide) copolymer pillar array mimicking climb attitude of geckos. Applied Physics Letters, 2012, 101, 123701.	3.3	9
53	Liquid Lenses and Driving Mechanisms: A Review. Journal of Adhesion Science and Technology, 2012, 26, 1773-1788.	2.6	67
54	Fabrication of 3D microfluidic chip integrating concentration gradient design and perfusion system for embryo coculture with stromal cells. , 2012, , .		0

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55	Electrorheological Operation of Low-/High-Permittivity Core/Shell SiO ₂ /Au Nanoparticle Microspheres for Display Media. ACS Applied Materials & Interfaces, 2012, 4, 5650-5661.	8.0	36
56	Development of microbead-based affinity biosensor by insulator-based dielectrophoresis. , 2012, , .		0
57	Microbubble and microplasma manipulations for gas analyses. , 2012, , .		0
58	Separation of dendritic and T cells using electrowetting and dielectrophoresis. , 2012, , .		3
59	A new supramolecular film formed from a silsesquioxane derivative for application in proton exchange membranes. Journal of Materials Chemistry, 2012, 22, 731-734.	6.7	23
60	Atmospheric-pressure microplasma in dielectrophoresis-driven bubbles for optical emission spectroscopy. Lab on A Chip, 2012, 12, 3694.	6.0	12
61	Electric manipulations of hydrogel on a digital microfluidic platform. , 2012, , .		1
62	Three-dimensional digital microfluidics and applications. , 2012, , .		3
63	Star Poly(N-isopropylacrylamide) Tethered to Polyhedral Oligomeric Silsesquioxane (POSS) Nanoparticles by a Combination of ATRP and Click Chemistry. Journal of Nanomaterials, 2012, 2012, 1-10.	2.7	12
64	pH-Responsive One-Dimensional Periodic Relief Grating of Polymer Brushâ€“Gold Nanoassemblies on Silicon Surface. ACS Applied Materials & Interfaces, 2012, 4, 1935-1947.	8.0	34
65	Particle chain display â€“ an optofluidic electronic paper. Lab on A Chip, 2012, 12, 4870.	6.0	7
66	Reversible Hydrophobic/Hydrophilic Adhesive of PS-b-PNIPAAm Copolymer Brush Nanopillar Arrays for Mimicking the Climbing Aptitude of Geckos. Journal of Physical Chemistry C, 2012, 116, 6980-6992.	3.1	39
67	A monolithic lab-on-a-chip for electrochemical detection. , 2012, , .		1
68	Dynamic embryo culture on a digital microfluidic chip. , 2012, , .		2
69	Using colloid lithography to fabricate silicon nanopillar arrays on silicon substrates. Journal of Colloid and Interface Science, 2012, 367, 40-48.	9.4	25
70	Digital Microfluidics with Bubble Manipulations by Dielectrophoresis. International Journal of Automation and Smart Technology, 2012, 2, 69-74.	0.4	3
71	Encapsulated droplets with metered and removable oil shells by electrowetting and dielectrophoresis. Lab on A Chip, 2011, 11, 2500.	6.0	42
72	Electroosmotic flow control in a virtual microchannel based on liquid dielectrophoresis. , 2011, , .		0

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73	Formation of droplets interface bilayer by coplanar EWOD device. , 2011, , .		0
74	Optical properties measurement of a dielectrophoresis-driven liquid-core/liquid-cladding optical waveguide. , 2011, , .		0
75	Electrowetting of Superhydrophobic ZnO Inverse Opals. Journal of the Electrochemical Society, 2011, 158, P93.	2.9	27
76	Pore-Spanning Lipid Membrane under Indentation by a Probe Tip: A Molecular Dynamics Simulation Study. Langmuir, 2011, 27, 11930-11942.	3.5	12
77	Droplet-on-a-wristband: Chip-to-chip digital microfluidic interfaces between replaceable and flexible electrowetting modules. Lab on A Chip, 2011, 11, 343-347.	6.0	59
78	Droplet routing in high-level synthesis of configurable digital microfluidic biochips based on microelectrode dot array architecture. Biochip Journal, 2011, 5, 343-352.	4.9	44
79	Digital microfluidic operations on micro-electrode array architecture. , 2011, , .		15
80	Microfluidic immunosensor based on insulator dielectrophoresis and electrowetting-on-dielectric. , 2010, , .		0
81	Transmittance tuning by particle chain polarization in electrowetting-driven droplets. Biomicrofluidics, 2010, 4, 43011.	2.4	16
82	Real time contact angle measurement by quartz crystal microbalance for EWOD studies. , 2010, , .		2
83	Formation, transportation, and evaporation of encapsulated droplets. , 2009, , .		2
84	AN AFFINITY SENSOR IMPROVED BY EWOD ACTUATOR-BASED MICROFLUIDIC CHIP. Biomedical Engineering - Applications, Basis and Communications, 2009, 21, 461-465.	0.6	0
85	Liquid-core liquid-cladding optical waveguide by liquid dielectrophoresis. , 2009, , .		1
86	The proximity between Cétermini of dimeric vacuolar H⁺-ATPase determined using atomic force microscopy and a gold nanoparticle technique. FEBS Journal, 2009, 276, 4381-4394.	4.7	14
87	Electrowetting on polymer dispersed liquid crystal. Applied Physics Letters, 2009, 94, .	3.3	20
88	Reconfigurable liquid pumping in electric-field-defined virtual microchannels by dielectrophoresis. Lab on A Chip, 2009, 9, 1590.	6.0	37
89	General digital microfluidic platform manipulating dielectric and conductive droplets by dielectrophoresis and electrowetting. Lab on A Chip, 2009, 9, 1236.	6.0	132
90	Electroosmotic flow in dielectrophoresis-formed microchannel. , 2009, , .		0

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91	Pj: Characterization and Packaging of Electronic Paper Display Based on Particle Polarization. Digest of Technical Papers SID International Symposium, 2009, 40, 1512-1515.	0.3	1
92	Cross-scale electric manipulations of cells and droplets by frequency-modulated dielectrophoresis and electrowetting. Lab on A Chip, 2008, 8, 1325.	6.0	138
93	Connecting interface for modularization of digital microfluidics. Proceedings of SPIE, 2008, , .	0.8	0
94	Droplet Manipulation by Electrowetting on Polymer Dispersed Liquid Crystal. , 2007, , .		1
95	Parallel Transportation of Droplets in a Multilayer Device by MEWOD. , 2007, , .		1
96	45.2: Reflective Electronic Paper Display Utilizing Electric Polarized Particle Chains. Digest of Technical Papers SID International Symposium, 2007, 38, 1466-1469.	0.3	3
97	Smart lens: tunable liquid lens for laser tracking. , 2007, , .		0
98	Enhanced Droplet Mixer by LDEP on Spiral Microelectrodes. , 2007, , .		4
99	Realizing Temperature-Controlled Digital Microfluidic Chips with Versatile Microelectrodes. , 2007, , .		4
100	Asymmetric electrowettingÉd; moving droplets by a square wave. Lab on A Chip, 2007, 7, 1330.	6.0	63
101	Differential response of vacuolar proton pumps to osmotica. Functional Plant Biology, 2006, 33, 195.	2.1	2
102	Integrated Digital and Analog Microfluidics by EWOD and LDEP. , 2006, , .		6
103	Dielectrophoretic Cell Concentrator on EWOD-Based Chips. , 2006, , .		5
104	3D Droplet Transportation by EWOD Actuations on Flexible Polymer Films. , 2005, , 249.		5
105	Development of Spin Coated Mesoporous Oxide Films for MEMS Structures. Journal of Electroceramics, 2004, 13, 423-428.	2.0	6
106	Micromachining of mesoporous oxide films for microelectromechanical system structures. Journal of Materials Research, 2002, 17, 2121-2129.	2.6	28
107	Preparation of Mesoporous Oxides for Mems Structures. Materials Research Society Symposia Proceedings, 2000, 657, 731.	0.1	1
108	MEMS with thin-film aerogel. , 0, , .		8

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109	Towards digital microfluidic circuits: creating, transporting, cutting and merging liquid droplets by electrowetting-based actuation. , 0, , .		37
110	Manipulation of multiple droplets on NÄ–M grid by cross-reference EWOD driving scheme and pressure-contact packaging. , 0, , .		31
111	Portable digital microfluidics platform with active but disposable Lab-On-Chip. , 0, , .		23
112	Droplets Oscillation and Continuous Pumping by Asymmetric Electrowetting. , 0, , .		4
113	Direct Handwriting Manipulation of Droplets by Self-Aligned Mirror-Ewod Across a Dielectric Sheet. , 0, , .		7