

Cheng-Hsien Liu

List of Publications by Year in descending order

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Version: 2024-02-01

103
papers

1,856
citations

331259

21
h-index

264894

42
g-index

105
all docs

105
docs citations

105
times ranked

2381
citing authors

#	ARTICLE	IF	CITATIONS
1	Rapid heterogeneous liver-cell on-chip patterning via the enhanced field-induced dielectrophoresis trap. <i>Lab on A Chip</i> , 2006, 6, 724.	3.1	272
2	Liver-cell patterning Lab Chip: mimicking the morphology of liver lobule tissue. <i>Lab on A Chip</i> , 2013, 13, 3578.	3.1	195
3	A high-precision, wide-bandwidth micromachined tunneling accelerometer. <i>Journal of Microelectromechanical Systems</i> , 2001, 10, 425-433.	1.7	128
4	Dielectrophoresis based-cell patterning for tissue engineering. <i>Biotechnology Journal</i> , 2006, 1, 949-957.	1.8	88
5	Dynamic manipulation and patterning of microparticles and cells by using TiOPc-based optoelectronic dielectrophoresis. <i>Optics Letters</i> , 2010, 35, 1959.	1.7	88
6	Characterization of a high-sensitivity micromachined tunneling accelerometer with micro-g resolution. <i>Journal of Microelectromechanical Systems</i> , 1998, 7, 235-244.	1.7	72
7	A microfluidic chip with a U-shaped microstructure array for multicellular spheroid formation, culturing and analysis. <i>Biofabrication</i> , 2014, 6, 015009.	3.7	72
8	Enhanced cell viability and cell adhesion using low conductivity medium for negative dielectrophoretic cell patterning. <i>Biotechnology Journal</i> , 2010, 5, 1005-1015.	1.8	68
9	A biologically inspired lung-on-a-chip device for the study of protein-induced lung inflammation. <i>Integrative Biology (United Kingdom)</i> , 2015, 7, 162-169.	0.6	55
10	Micromachined electrochemical T-switches for cell sorting applications. <i>Lab on A Chip</i> , 2005, 5, 1248.	3.1	53
11	A large-displacement thermal actuator designed for MEMS pitch-tunable grating. <i>Journal of Micromechanics and Microengineering</i> , 2009, 19, 015001.	1.5	53
12	A novel electrokinetic micromixer. <i>Sensors and Actuators A: Physical</i> , 2005, 118, 107-115.	2.0	44
13	Digital Microfluidic Dynamic Culture of Mammalian Embryos on an Electrowetting on Dielectric (EWOD) Chip. <i>PLoS ONE</i> , 2015, 10, e0124196.	1.1	43
14	An air-bubble-actuated micropump for on-chip blood transportation. <i>Lab on A Chip</i> , 2009, 9, 1524.	3.1	41
15	Fibrocyte trafficking in patients with chronic obstructive asthma and during an acute asthma exacerbation. <i>Journal of Allergy and Clinical Immunology</i> , 2015, 135, 1154-1162.e5.	1.5	40
16	Cancer immunotherapy $\hat{1}$ / ₄ -environment LabChip: taking advantage of optoelectronic tweezers. <i>Lab on A Chip</i> , 2018, 18, 106-114.	3.1	34
17	Simultaneous detection of two growth factors from human single-embryo culture medium by a bead-based digital microfluidic chip. <i>Biosensors and Bioelectronics</i> , 2020, 150, 111851.	5.3	28
18	A bubble-activated micropump with high-frequency flow reversal. <i>Sensors and Actuators A: Physical</i> , 2010, 163, 501-509.	2.0	27

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19	A microfluidic device mimicking acinar concentration gradients across the liver acinus. <i>Biomedical Microdevices</i> , 2013, 15, 767-780.	1.4	26
20	Cell patterning via diffraction-induced optoelectronic dielectrophoresis force on an organic photoconductive chip. <i>Lab on A Chip</i> , 2013, 13, 3893.	3.1	25
21	An Electrolysis-Bubble-Actuated Micropump Based on the Roughness Gradient Design of Hydrophobic Surface. <i>Journal of Microelectromechanical Systems</i> , 2007, 16, 1095-1105.	1.7	24
22	Structural and Mechanical Properties of <i>Klebsiella pneumoniae</i> Type 3 Fimbriae. <i>Journal of Bacteriology</i> , 2011, 193, 1718-1725.	1.0	21
23	A highly efficient bead extraction technique with low bead number for digital microfluidic immunoassay. <i>Biomicrofluidics</i> , 2016, 10, 011901.	1.2	21
24	A microfluidic approach towards hybridoma generation for cancer immunotherapy. <i>Oncotarget</i> , 2015, 6, 38764-38776.	0.8	19
25	Light-driven manipulation of picobubbles on a titanium oxide phthalocyanine-based optoelectronic chip. <i>Applied Physics Letters</i> , 2011, 98, .	1.5	18
26	Integration of organic opto-electrowetting and poly(ethylene) glycol diacrylate (PEGDA) microfluidics for droplets manipulation. <i>Sensors and Actuators B: Chemical</i> , 2013, 180, 35-42.	4.0	17
27	Womb-on-a-chip biomimetic system for improved embryo culture and development. <i>Sensors and Actuators B: Chemical</i> , 2016, 226, 218-226.	4.0	17
28	1 μ m rotary vertical micromirror for optical switching applications. , 2005, , .		16
29	A novel microfluidic driver via AC electrokinetics. <i>Lab on A Chip</i> , 2008, 8, 725.	3.1	16
30	Finger-powered agglutination lab chip with CMOS image sensing for rapid point-of-care diagnosis applications. <i>Lab on A Chip</i> , 2020, 20, 424-433.	3.1	15
31	Liquid Biopsy-Based Biosensors for MRD Detection and Treatment Monitoring in Non-Small Cell Lung Cancer (NSCLC). <i>Biosensors</i> , 2021, 11, 394.	2.3	15
32	Effects of Garlic Oil on the Migration of Neutrophil-Like Cell Studied by Using a Chemotactic Gradient Labchip. <i>Journal of Biomedicine and Biotechnology</i> , 2010, 2010, 1-9.	3.0	14
33	Electrodeless dielectrophoretic concentrator for analyte pre-concentration on poly-silicon nanowire field effect transistor. <i>Sensors and Actuators B: Chemical</i> , 2013, 178, 547-554.	4.0	14
34	A capillary-endothelium-mimetic microfluidic chip for the study of immune responses. <i>Sensors and Actuators B: Chemical</i> , 2015, 209, 470-477.	4.0	14
35	Liver-lobule-mimicking patterning via dielectrophoresis and hydrogel photopolymerization. <i>Sensors and Actuators B: Chemical</i> , 2021, 343, 130159.	4.0	12
36	A high throughput biocompatible insulator based dielectrophoretic (iDEP) lab chip for patterning and fusion of biological cells. <i>Sensors and Actuators B: Chemical</i> , 2022, 354, 131109.	4.0	11

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37	A lobster-sniffing-inspired method for micro-objects manipulation using electrostatic micro-actuators. <i>Journal of Micromechanics and Microengineering</i> , 2005, 15, 812-821.	1.5	10
38	A Capillary System With Thermal-Bubble-Actuated $1 \times N$ Microfluidic Switches via Time-Sequence Power Control for Continuous Liquid Handling. <i>Journal of Microelectromechanical Systems</i> , 2006, 15, 296-307.	1.7	10
39	A Bubble-Free AC Electrokinetic Micropump Using the Asymmetric Capacitance-Modulated Microelectrode Array for Microfluidic Flow Control. <i>Journal of Microelectromechanical Systems</i> , 2009, 18, 38-51.	1.7	10
40	Generation of nano-scaled DNA patterns through electro-beam induced charge trapping. <i>Nanotechnology</i> , 2006, 17, 4854-4858.	1.3	9
41	Culturing of transgenic mice liver tissue slices in three-dimensional microfluidic structures of PEG-DA (poly(ethylene glycol) diacrylate). <i>Sensors and Actuators B: Chemical</i> , 2013, 176, 1081-1089.	4.0	9
42	A Programmable Biochip for the Applications of Trapping and Adaptive Multisorting Using Dielectrophoresis Array. <i>Journal of Microelectromechanical Systems</i> , 2007, 16, 816-825.	1.7	8
43	Measurement of the adhesive force between a single <i>Klebsiella pneumoniae</i> type 3 fimbria and collagen IV using optical tweezers. <i>Biochemical and Biophysical Research Communications</i> , 2006, 350, 33-38.	1.0	7
44	Concentration of Magnetic Beads Utilizing Light-Induced Electro-Osmosis Flow. <i>IEEE Transactions on Magnetics</i> , 2011, 47, 2418-2421.	1.2	7
45	Rotary electrostatic micromirror switches using wafer-scale processing and assembly. <i>Microsystem Technologies</i> , 2006, 12, 1099-1108.	1.2	6
46	Moldless PEGDA-Based Optoelectrofluidic Platform for Microparticle Selection. <i>Advances in OptoElectronics</i> , 2011, 2011, 1-8.	0.6	6
47	Identification of Protein Domains on Major Pilin MrkA That Affects the Mechanical Properties of <i>Klebsiella pneumoniae</i> Type 3 Fimbriae. <i>Langmuir</i> , 2012, 28, 7428-7435.	1.6	6
48	An electrolysis-bubble-actuated micropump using electrowetting on dielectric (EWOD) for 1xN micro-sample switches. , 2009, , .		4
49	3D lobule-mimetic chip via positive Dielectrophoresis force with sinusoidal spacing poly (ethylene) Tj ETQq1 1 0.784314 rgBT ₄ /Overlo		
50	A Microfluidic Flip-Chip Combining Hydrodynamic Trapping and Gravitational Sedimentation for Cell Pairing and Fusion. <i>Cells</i> , 2021, 10, 2855.	1.8	4
51	Robust controller design via μ -synthesis for high-performance micromachined tunneling accelerometers. , 1999, , .		3
52	Design and fabrication of pitch-tunable blaze grating. , 2005, , .		3
53	A double trapped single cell contact and interaction system via movable poly (ethylene glycol) diacrylate (PEG-DA) microstructure for immune analysis. , 2011, , .		3
54	Integration of organic opto-electrowetting and poly(ethylene) glycol diacrylate (PEGDA) microfluidics for droplet manipulation. , 2011, , .		3

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55	A gel-free multi-well microfluidic device utilizing surface tension for cell culturing. <i>Sensors and Actuators B: Chemical</i> , 2013, 177, 295-307.	4.0	3
56	A microfluidic lab chip for the manipulation and co-culturing of embryos with stromal cells. <i>Sensors and Actuators B: Chemical</i> , 2021, 349, 130820.	4.0	3
57	Optofluidic thin-film lithography for photocrosslinking hydrogel-based microarchitectures and the assembling of modular cell-embedded microarchitectures. <i>Sensors and Actuators B: Chemical</i> , 2022, 352, 131048.	4.0	3
58	Microfluidic Microalgae System: A Review. <i>Molecules</i> , 2022, 27, 1910.	1.7	3
59	A novel electrokinetic micromixer. , 0, , .		2
60	A capillary system with 1Å–4 microflow switches via a micronozzleâ€“diffuser pump and hydrophobic-patch design for continuous liquid handling. <i>Sensors and Actuators A: Physical</i> , 2006, 130-131, 430-437.	2.0	2
61	Micro T-Switches for Cell Sorting Applications. , 2004, , 491.		1
62	A Novel Micro-Tissue Reactor for Maintaining Hepatocytes in Vitro. , 0, , .		1
63	In-Vitro Rapid Centimeter-Scale Reconstruction of Lobule-Mimetic Liver Tissue Employing Dielectrophoresis-Based Cell Patterning. , 2007, , .		1
64	An air-bubble-actuated micropump for on-chip blood transportation. , 2009, , .		1
65	Cryogenic frozen device for hepatocyte culture and responses. , 2012, , .		1
66	Experimental investigation of bulk response of cells on optoelectronic dielectrophoresis chip. , 2012, , .		1
67	3D microstructure integrated bioreactor system for transgenic mice thick liver tissue culture. , 2012, , .		1
68	3D biomimetic chip integrated with microvascular system for studying the liver specific functions. , 2012, , .		1
69	Using gelatin methacrylate covering and dielectrophoresis force manipulating for lobule-mimicking culture chip in vitro. , 2015, , .		1
70	Embryo lab chip taking advantage of microfluidics and cell co-culturing. , 2015, , .		1
71	Microfluidic chip of immunoassay system for kidney studies. , 2017, , .		1
72	An iDEP Based Single Cell Encapsulation Microfluidic Device Using Lift-Off Technique. , 2019, , .		1

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73	A capillary system with thermal-bubble-actuated 1-N micro flow switch via time-sequence power control for continuous liquid handling. , 0, , .		0
74	A cell separation chip using micro-structures filter and multi-frequencies dielectrophoresis. , 0, , .		0
75	An Electrolysis-Bubble-Actuated Micropump Based on the Roughness Gradient Design of Hydrophobic Surface. , 2006, , 249.		0
76	A Microsystem Chip for the Manipulation of Bio-Particles Via AC Electrokinetics Array. , 2007, , .		0
77	A novel electrolysis-bubble-actuated micropump. , 2007, , .		0
78	A Novel Electrolysis-Bubble-Actuated Micropump via Roughness Gradient Design of the Hydrophobic Lateral Breather. , 2007, , .		0
79	On-chip lobule-mimetic construction of heterogeneous cells and CO-culture via a logarithmical-concentration varying bioreactor. , 2009, , .		0
80	Microfluidic-driving multi-function manipulation array of micro-scale biological sample via ac electroosmosis. , 2009, , .		0
81	A novel optoelectrofluidic system for cells/particles manipulation and sorting. , 2010, , .		0
82	Organic photoconductive dielectrophoresis by using titanium oxide phthalocyanine for micro-particles manipulation. , 2010, , .		0
83	A 3-D capillary-endothelium-mimetic microfluidic chip for studying the extravasation behaviour of neutrophils. , 2011, , .		0
84	Difference proportional cell contact platform for 3D hepatocyte culture. , 2012, , .		0
85	Fabrication of 3D microfluidic chip integrating concentration gradient design and perfusion system for embryo coculture with stromal cells. , 2012, , .		0
86	PEGDA-based photocrosslinking platform for real time cell trapping. , 2012, , .		0
87	Microfluidic circulatory system for the raise of liver urea assay. , 2012, , .		0
88	An integration cell communication ration platform by PEGDA-base V-shaped barrier for rapid liver screening. , 2012, , .		0
89	Dielectrophoretic concentrator for enhanced performance of poly-silicon nanowire field effect transistor for biosensing application. , 2012, , .		0
90	The integration of TiOPc-based optoelectronic tweezers and optoelectrowetting with frequency modulation. , 2013, , .		0

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91	In vitro tumor model for evaluating the lung cancer induced tumor angiogenesis. , 2013, , .		0
92	Analysis of cell ratio and drug concentration influence in feigning lung cancer model. , 2013, , .		0
93	Four-leaf-clover-shaped immune response chip by using optoelectronic tweezers force. , 2015, , .		0
94	Microfluidic chip for rapid electrofusion of homogeneous and heterogeneous cells. , 2015, , .		0
95	A microfluidic labchip for angiogenesis inhibitor studies via multi-gradients of cancer and fibroblast stimuli. , 2015, , .		0
96	Using gradient micro-fluidics chips to optimize BG-11 medium for the growth of cyanobacteria <i>Synechococcus elongatus</i> PCC7942. , 2015, , .		0
97	Using magnetic marked PEGDA-based cell sheets for three dimensional lobule-mimicking chip. , 2015, , .		0
98	Lung cancer model on chip for drug testing. , 2015, , .		0
99	Three-dimensional biomimetic liver tissue platform for drug testing. , 2016, , .		0
100	A microfluidic device with automatic embryos trapping and co-culture with human stromal cells. , 2017, , .		0
101	A multifunctional embryos manipulative microfluidic chip with dynamic flow resistance trapping and CO-culture with stromal cells. , 2017, , .		0
102	A Microfluidic Approach for Studying Responses of Bronchial Smooth Muscle Cells Stretching. , 2018, , .		0
103	Selectively Capturing Monocyte from Whole Blood on Microfluidic Biochip for Sepsis Diagnosis. , 2018, , .		0