Yi-Chung Tung

List of Publications by Citations

85 papers	4,247 citations	30 h-index	64 g-index
101 ext. papers	4,849 ext. citations	6.1 avg, IF	5.25 L-index

#	Paper	IF	Citations
85	High-throughput 3D spheroid culture and drug testing using a 384 hanging drop array. *Analyst, The*, **2011**, 136, 473-8	5	658
84	Acoustically detectable cellular-level lung injury induced by fluid mechanical stresses in microfluidic airway systems. *Proceedings of the National Academy of Sciences of the United States of America*, **2007**, 104, 18886-91	11.5	365
83	Microfluidic endothelium for studying the intravascular adhesion of metastatic breast cancer cells. *PLoS ONE*, **2009**, 4, e5756	3.7	252
82	Microfluidic system for formation of PC-3 prostate cancer co-culture spheroids. *Biomaterials*, **2009**, 30, 3020-7	15.6	238
81	Integrated Elastomeric Components for Autonomous Regulation of Sequential and Oscillatory Flow Switching in Microfluidic Devices. *Nature Physics*, **2010**, 6, 433-437	16.2	195
80	Characterization and resolution of evaporation-mediated osmolality shifts that constrain microfluidic cell culture in poly(dimethylsiloxane) devices. *Analytical Chemistry*, **2007**, 79, 1126-34	7.8	181
79	Combination of fluid and solid mechanical stresses contribute to cell death and detachment in a microfluidic alveolar model. *Lab on A Chip*, **2011**, 11, 609-19	7.2	170
78	PDMS-based opto-fluidic micro flow cytometer with two-color, multi-angle fluorescence detection capability using PIN photodiodes. *Sensors and Actuators B: Chemical*, **2004**, 98, 356-367	8.5	153
77	Generation of oxygen gradients in microfluidic devices for cell culture using spatially confined chemical reactions. *Lab on A Chip*, **2011**, 11, 3626-33	7.2	129
76	MCT-1/miR-34a/IL-6/IL-6R signaling axis promotes EMT progression, cancer stemness and M2 macrophage polarization in triple-negative breast cancer. *Molecular Cancer*, **2019**, 18, 42	42.1	124
75	Drug testing and flow cytometry analysis on a large number of uniform sized tumor spheroids using a microfluidic device. *Scientific Reports*, **2016**, 6, 21061	4.9	122
74	384 hanging drop arrays give excellent Z-factors and allow versatile formation of co-culture spheroids. *Biotechnology and Bioengineering*, **2012**, 109, 1293-304	4.9	102
73	Fabrication of two-layered channel system with embedded electrodes to measure resistance across epithelial and endothelial barriers. *Analytical Chemistry*, **2010**, 82, 2505-11	7.8	101
72	Individually programmable cell stretching microwell arrays actuated by a Braille display. *Biomaterials*, **2008**, 29, 2646-55	15.6	99
71	A polydimethylsiloxane-polycarbonate hybrid microfluidic device capable of generating perpendicular chemical and oxygen gradients for cell culture studies. *Lab on A Chip*, **2014**, 14, 3762-72	7.2	92
70	Hard top soft bottom microfluidic devices for cell culture and chemical analysis. *Analytical Chemistry*, **2009**, 81, 3714-22	7.8	92
69	Integrated ionic liquid-based electrofluidic circuits for pressure sensing within polydimethylsiloxane microfluidic systems. *Lab on A Chip*, **2011**, 11, 1740-6	7.2	89

68	Micro-ring structures stabilize microdroplets to enable long term spheroid culture in 384 hanging drop array plates. *Biomedical Microdevices*, **2012**, 14, 313-23	3.7	82
67	Use of Air-Liquid Two-Phase Flow in Hydrophobic Microfluidic Channels for Disposable Flow Cytometers. *Biomedical Microdevices*, **2002**, 4, 141-149	3.7	79
66	A microfluidic device for uniform-sized cell spheroids formation, culture, harvesting and flow cytometry analysis. *Biomicrofluidics*, **2013**, 7, 54114	3.2	74
65	A microfluidic cell culture array with various oxygen tensions. *Lab on A Chip*, **2013**, 13, 3239-45	7.2	68
64	Electrofluidic pressure sensor embedded microfluidic device: a study of endothelial cells under hydrostatic pressure and shear stress combinations. *Lab on A Chip*, **2013**, 13, 1743-53	7.2	67
63	Flexible Localized Surface Plasmon Resonance Sensor with Metal-Insulator-Metal Nanodisks on PDMS Substrate. *Scientific Reports*, **2018**, 8, 11812	4.9	44
62	Differentiation of lung stem/progenitor cells into alveolar pneumocytes and induction of angiogenesis within a 3D gelatin--microbubble scaffold. *Biomaterials*, **2014**, 35, 5660-9	15.6	41
61	Multiplexed hydraulic valve actuation using ionic liquid filled soft channels and Braille displays. *Applied Physics Letters*, **2007**, 90, 033505	3.4	39
60	Single channel layer, single sheath-flow inlet microfluidic flow cytometer with three-dimensional hydrodynamic focusing. *Lab on A Chip*, **2012**, 12, 3135-41	7.2	36
59	Patterned electrode-based amperometric gas sensor for direct nitric oxide detection within microfluidic devices. *Analytical Chemistry*, **2010**, 82, 3300-5	7.8	35
58	Nanoimprinted strain-controlled elastomeric gratings for optical wavelength tuning. *Applied Physics Letters*, **2005**, 86, 161113	3.4	33
57	Optofluidic detection for cellular phenotyping. *Lab on A Chip*, **2012**, 12, 3552-65	7.2	30
56	Small volume low mechanical stress cytometry using computer-controlled Braille display microfluidics. *Lab on A Chip*, **2007**, 7, 1497-503	7.2	30
55	Migration and vascular lumen formation of endothelial cells in cancer cell spheroids of various sizes. *Biomicrofluidics*, **2014**, 8, 052109	3.2	29
54	Electrically Programmable Surfaces for Configurable Patterning of Cells. *Advanced Materials*, **2008**, 20, 1418-1423	24	28
53	Design of a MEMS Tunable Polymer Grating for Single Detector Spectroscopy. *International Journal of Optomechatronics*, **2008**, 2, 75-87	3.5	21
52	A single-layer PDMS-on-silicon hybrid microactuator with multi-axis out-of-plane motion capabilities-part II: fabrication and characterization. *Journal of Microelectromechanical Systems*, **2005**, 14, 558-566	2.5	21
51	A single-layer PDMS-on-silicon hybrid microactuator with multi-axis out-of-plane motion capabilities-Part i: design and analysis. *Journal of Microelectromechanical Systems*, **2005**, 14, 548-557	2.5	21

50	Electro-elastic characteristics of asymmetric rectangular piezoelectric laminae. *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, **1999**, 46, 950-60	3.2	19
49	Microfluidic Collective Cell Migration Assay for Study of Endothelial Cell Proliferation and Migration under Combinations of Oxygen Gradients, Tensions, and Drug Treatments. *Scientific Reports*, **2019**, 9, 8234	4.9	18
48	Interaction between lung cancer cell and myofibroblast influenced by cyclic tensile strain. *Lab on A Chip*, **2013**, 13, 1114-20	7.2	18
47	Magnet-assisted device-level alignment for the fabrication of membrane-sandwiched polydimethylsiloxane microfluidic devices. *Journal of Micromechanics and Microengineering*, **2012**, 22, 075006	2	16
46	A low sample volume particle separation device with electrokinetic pumping based on circular travelling-wave electroosmosis. *Lab on A Chip*, **2013**, 13, 3082-9	7.2	15
45	Electrofluidic Circuit-Based Microfluidic Viscometer for Analysis of Newtonian and Non-Newtonian Liquids under Different Temperatures. *Analytical Chemistry*, **2018**, 90, 2317-2325	7.8	14
44	Review of microfluidic cell culture devices for the control of gaseous microenvironments in vitro. *Journal of Micromechanics and Microengineering*, **2018**, 28, 043001	2	13
43	Multiplexed spectral signature detection for microfluidic color-coded bioparticle flow. *Analytical Chemistry*, **2010**, 82, 9506-12	7.8	12
42	Study of oxygen tension variation within live tumor spheroids using microfluidic devices and multi-photon laser scanning microscopy.. *RSC Advances*, **2018**, 8, 30320-30329	3.7	12
41	Polydimethylsiloxane SlipChip for mammalian cell culture applications. *Analyst, The*, **2015**, 140, 7355-65	5	11
40	Integrated electrofluidic circuits: pressure sensing with analog and digital operation functionalities for microfluidics. *Lab on A Chip*, **2012**, 12, 3943-51	7.2	9
39	A Flexible Nanograting Integrated Onto Silicon Micromachines by Soft Lithographic Replica Molding and Assembly. *Journal of Microelectromechanical Systems*, **2008**, 17, 393-401	2.5	9
38	Two dimensional thermoelectric platforms for thermocapillary droplet actuation. *RSC Advances*, **2012**, 2, 1639-1642	3.7	8
37	High-speed tuning of visible laser wavelength using a nanoimprinted grating optical tunable filter. *Applied Physics Letters*, **2009**, 95, 211106	3.4	8
36	High-speed deformation of soft lithographic nanograting patterns for ultrasensitive optical spectroscopy. *Applied Physics Letters*, **2008**, 92, 051116	3.4	8
35	Measurement of in-plane elasticity of live cell layers using a pressure sensor embedded microfluidic device. *Scientific Reports*, **2016**, 6, 36425	4.9	7
34	A Low-Power CMOS Microfluidic Pump Based on Travelling-Wave Electroosmosis for Diluted Serum Pumping. *Scientific Reports*, **2019**, 9, 14794	4.9	7
33	External compression-induced fracture patterning on the surface of poly(dimethylsiloxane) cubes and microspheres. *Langmuir*, **2009**, 25, 3102-7	4	7

32	A frequency-control particle separation device based on resultant effects of electroosmosis and dielectrophoresis. *Applied Physics Letters*, **2016**, 109, 053701	3.4	7
31	Widefield frequency domain fluorescence lifetime imaging microscopy (FD-FLIM) for accurate measurement of oxygen gradients within microfluidic devices. *Analyst, The*, **2019**, 144, 3494-3504	5	6
30	Dynamically programmable surface micro-wrinkles on PDMS-SMA composite. *Smart Materials and Structures*, **2014**, 23, 115007	3.4	6
29	Generation of nitric oxide gradients in microfluidic devices for cell culture using spatially controlled chemical reactions. *Biomicrofluidics*, **2013**, 7, 64104	3.2	6
28	Comparison of VEGF-A secretion from tumor cells under cellular stresses in conventional monolayer culture and microfluidic three-dimensional spheroid models. *PLoS ONE*, **2020**, 15, e0240833	3.7	6
27	Polydimethylsiloxane-polycarbonate Microfluidic Devices for Cell Migration Studies Under Perpendicular Chemical and Oxygen Gradients. *Journal of Visualized Experiments*, **2017**,	1.6	5
26	A PDMS-on-Silicon Deformable Grating for Spectral Differentiation of Mixed Wavelength Signals **2007**,		5
25	Evaluation of Nanoparticle Penetration in the Tumor Spheroid Using Two-Photon Microscopy. *Biomedicines*, **2020**, 9,	4.8	5
24	A sheathless inertial focusing technique for optofluidic devices. *Microfluidics and Nanofluidics*, **2019** , 23, 1	2.8	4
23	Flip channel: A microfluidic device for uniform-sized embryoid body formation and differentiation. *Biomicrofluidics*, **2015**, 9, 054111	3.2	4
22	Effects of hydraulic pressure on cardiomyoblasts in a microfluidic device. *Biomicrofluidics*, **2015**, 9, 024113	3.2	4
21	Increased vasculogenesis of endothelial cells in hyaluronic acid augmented fibrin-based natural hydrogels - from in vitro to in vivo models. *European Cells and Materials*, **2020**, 40, 133-145	4.3	4
20	Plasmonic gel films for time-lapse LSPR detection of hydrogen peroxide secreted from living cells. *Sensors and Actuators B: Chemical*, **2021**, 336, 129725	8.5	4
19	An in-situ filtering pump for particle-sample filtration based on low-voltage electrokinetic mechanism. *Sensors and Actuators B: Chemical*, **2017**, 238, 809-816	8.5	3
18	MEMS tunable polymer grating for advantageous spectroscopic measurements **2007**,		3
17	A novel design of piezo-driven dual-dimension optical scanning mechanism. *Review of Scientific Instruments*, **1998**, 69, 3277-3282	1.7	3
16	Fully disposable and optically transparent microfluidic viscometer based on electrofluidic pressure sensor **2017**,		2
15	Multi-axis single-layer PDMS-on-silicon micro optical reflector **2004**,		2

14	Study 3D Endothelial Cell Network Formation under Various Oxygen Microenvironment and Hydrogel Composition Combinations Using Upside-Down Microfluidic Devices. *Small*, **2021**, 17, e2006091	11	2
13	Single step sequential polydimethylsiloxane wet etching to fabricate a microfluidic channel with various cross-sectional geometries. *Journal of Micromechanics and Microengineering*, **2017**, 27, 115003	2	1
12	Study Effects of Drug Treatment and Physiological Physical Stimulation on Surfactant Protein Expression of Lung Epithelial Cells Using a Biomimetic Microfluidic Cell Culture Device. *Micromachines*, **2019**, 10,	3.3	1
11	A microfluidic device to study effects of physical stimulation and steroid treatment on lung epithelial cell surfactant protein expression **2017**,		1
10	Interfacial adhesion and superhydrophobicity modulated with polymeric nanopillars using integrated nanolithography. *Journal of Micromechanics and Microengineering*, **2012**, 22, 125026	2	1
9	A seamlessly integrated microfluidic pressure sensor based on an ionic liquid electrofluidic circuit **2011**,		1
8	A metal-coated polymer micromirror for strain-driven high-speed multiaxis optical scanning. *IEEE Photonics Technology Letters*, **2005**, 17, 1193-1195	2.2	1
7	Epidermal growth factor-like repeats of SCUBE1 derived from platelets are critical for thrombus formation. *Cardiovascular Research*, **2020**, 116, 193-201	9.9	1
6	Identifying distinct oxygen diffusivity through type I pneumocyte-like cell layers using microfluidic device. *Talanta*, **2022**, 236, 122882	6.2	0
5	Comparison of Hydrogen Peroxide Secretion From Living Cells Cultured in Different Formats Using Hydrogel-Based LSPR Substrates.. *Frontiers in Bioengineering and Biotechnology*, **2022**, 10, 869184	5.8	0
4	Ionic Liquids for Microfluidic Actuation. *ACS Symposium Series*, **2010**, 157-173	0.4	
3	Design Optimization of a Novel, Large-Displacement, Multi-Axis, Silicon/Polymer Hybrid Actuator for Micro Optics **2003**, 197		
2	Multiscale, Hierarchical Integration of Soft Polymer Micro- and Nanostructures into Optical MEMS **2012**, 491-518		
1	Microfluidic Devices: Study 3D Endothelial Cell Network Formation under Various Oxygen Microenvironment and Hydrogel Composition Combinations Using Upside-Down Microfluidic Devices (Small 15/2021). *Small*, **2021**, 17, 2170069	11	