

# Chia-Fu Chou

## List of Publications by Citations

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92  
papers

3,461  
citations

36  
h-index

58  
g-index

109  
ext. papers

3,791  
ext. citations

6.1  
avg, IF

5.21  
L-index

#	Paper	IF	Citations
92	Electrodeless dielectrophoresis of single- and double-stranded DNA. <i>Biophysical Journal</i> , <b>2002</b> , 83, 2170-9	9.9	328
91	Fabrication of Size-Controllable Nanofluidic Channels by Nanoimprinting and Its Application for DNA Stretching. <i>Nano Letters</i> , <b>2004</b> , 4, 69-73	11.5	262
90	Electrohydrodynamic Stretching of DNA in Confined Environments. <i>Physical Review Letters</i> , <b>1998</b> , 80, 2737-2740	7.4	210
89	Fabrication and characterization of novel nano-biocomposite scaffold of chitosan-gelatin-alginate-hydroxyapatite for bone tissue engineering. <i>Materials Science and Engineering C</i> , <b>2016</b> , 64, 416-427	8.3	184
88	Sorting by diffusion: an asymmetric obstacle course for continuous molecular separation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>1999</b> , 96, 13762-5	11.5	173
87	Electrokinetic preconcentration and detection of neuropeptides at patterned graphene-modified electrodes in a nanochannel. <i>Analytical Chemistry</i> , <b>2014</b> , 86, 4120-5	7.8	164
86	Surface modification of nanofibrous polycaprolactone/gelatin composite scaffold by collagen type I grafting for skin tissue engineering. <i>Materials Science and Engineering C</i> , <b>2014</b> , 34, 402-9	8.3	143
85	Aptamer-functionalized nanoparticles for surface immobilization-free electrochemical detection of cortisol in a microfluidic device. <i>Biosensors and Bioelectronics</i> , <b>2016</b> , 78, 244-252	11.8	123
84	Separation of 100-kilobase DNA molecules in 10 seconds. <i>Analytical Chemistry</i> , <b>2001</b> , 73, 6053-6	7.8	116
83	Electrodeless dielectrophoresis for micro total analysis systems. <i>IEEE Engineering in Medicine and Biology Magazine</i> , <b>2003</b> , 22, 62-7		90
82	Fabrication and characterization of PCL/gelatin/chitosan ternary nanofibrous composite scaffold for tissue engineering applications. <i>Journal of Materials Science</i> , <b>2014</b> , 49, 1076-1089	4.3	80
81	Ultrafast immunoassays by coupling dielectrophoretic biomarker enrichment in nanoslit channel with electrochemical detection on graphene. <i>Lab on A Chip</i> , <b>2015</b> , 15, 4563-70	7.2	78
80	Nanoscale molecular traps and dams for ultrafast protein enrichment in high-conductivity buffers. <i>Journal of the American Chemical Society</i> , <b>2012</b> , 134, 8742-5	16.4	73
79	Enhancing DNA hybridization kinetics through constriction-based dielectrophoresis. <i>Lab on A Chip</i> , <b>2009</b> , 9, 3212-20	7.2	66
78	Thermal management of BioMEMS: temperature control for ceramic-based PCR and DNA detection devices. <i>IEEE Transactions on Components and Packaging Technologies</i> , <b>2003</b> , 26, 309-316		62
77	Sorting biomolecules with microdevices. <i>Electrophoresis</i> , <b>2000</b> , 21, 81-90	3.6	61
76	Near-field scanner for moving molecules. <i>Physical Review Letters</i> , <b>2001</b> , 86, 1378-81	7.4	60

75	Multiple-step melting in two-dimensional hexatic liquid-crystal films. <i>Science</i> , <b>1998</b> , 280, 1424-6	33.3	56
74	Entropy-driven single molecule tug-of-war of DNA at micro-nanofluidic interfaces. <i>Nano Letters</i> , <b>2012</b> , 12, 1597-602	11.5	55
73	Scaling down constriction-based (electrodeless) dielectrophoresis devices for trapping nanoscale bioparticles in physiological media of high-conductivity. <i>Electrophoresis</i> , <b>2013</b> , 34, 1097-104	3.6	54
72	Nano-constriction device for rapid protein preconcentration in physiological media through a balance of electrokinetic forces. <i>Electrophoresis</i> , <b>2012</b> , 33, 1958-66	3.6	52
71	A miniaturized cyclic PCR device modeling and experiments. <i>Microelectronic Engineering</i> , <b>2002</b> , 61-62, 921-925	2.5	52
70	Floating-electrode enhanced constriction dielectrophoresis for biomolecular trapping in physiological media of high conductivity. <i>Biomicrofluidics</i> , <b>2012</b> , 6, 12806-1280614	3.2	47
69	Frequency-selective electrokinetic enrichment of biomolecules in physiological media based on electrical double-layer polarization. <i>Nanoscale</i> , <b>2017</b> , 9, 12124-12131	7.7	45
68	Interplay of electrical forces for alignment of sub-100 nm electrospun nanofibers on insulator gap collectors. <i>Langmuir</i> , <b>2010</b> , 26, 19022-6	4	45
67	Nanofiber size-dependent sensitivity of fibroblast directionality to the methodology for scaffold alignment. <i>Acta Biomaterialia</i> , <b>2012</b> , 8, 3982-90	10.8	41
66	Two-potential electrochemical probe for study of DNA immobilization. <i>Langmuir</i> , <b>2005</b> , 21, 1937-41	4	41
65	A simple polysilsesquioxane sealing of nanofluidic channels below 10 nm at room temperature. <i>Lab on A Chip</i> , <b>2007</b> , 7, 1198-201	7.2	40
64	Gelatin-polycaprolactone-nanohydroxyapatite electrospun nanocomposite scaffold for bone tissue engineering. <i>Materials Science and Engineering C</i> , <b>2021</b> , 119, 111588	8.3	39
63	Asymmetric cancer-cell filopodium growth induced by electric-fields in a microfluidic culture chip. <i>Lab on A Chip</i> , <b>2011</b> , 11, 695-9	7.2	38
62	Nature of the smectic-A-hexatic-B-crystal-B transitions of a liquid-crystal compound. <i>Physical Review E</i> , <b>1996</b> , 53, 3639-3646	2.4	38
61	Nature of Layer-by-Layer Freezing in Free-Standing 4O.8 Films. <i>Physical Review Letters</i> , <b>1996</b> , 77, 2750-2753	2.5	38
60	Effects of Topology and Ionic Strength on Double-Stranded DNA Confined in Nanoslits. <i>Macromolecules</i> , <b>2012</b> , 45, 2920-2927	5.5	37
59	Gelatin-alginate-cerium oxide nanocomposite scaffold for bone regeneration. <i>Materials Science and Engineering C</i> , <b>2020</b> , 116, 111111	8.3	36
58	Low-copy number protein detection by electrode nanogap-enabled dielectrophoretic trapping for surface-enhanced Raman spectroscopy and electronic measurements. <i>Nano Letters</i> , <b>2014</b> , 14, 2242-50	11.5	36

57	Calorimetric and structural characterization of thin liquid-crystal films exhibiting the smectic-A-hexatic-B-crystal-B transitions. <i>Physical Review Letters</i> , <b>1995</b> , 74, 4863-4866	7.4	36
56	Aptamer-functionalized graphene-gold nanocomposites for label-free detection of dielectrophoretic-enriched neuropeptide Y. <i>Electrochemistry Communications</i> , <b>2016</b> , 72, 144-147	5.1	33
55	Scaling of 6n-fold bond-orientational order parameters in a hexatic liquid-crystal thin film. <i>Physical Review Letters</i> , <b>1996</b> , 76, 4556-4559	7.4	30
54	Generalized ForceExtension Relation for Wormlike Chains in Slit Confinement. <i>Macromolecules</i> , <b>2010</b> , 43, 10204-10207	5.5	25
53	Biosensor-compatible encapsulation for pre-functionalized nanofluidic channels using asymmetric plasma treatment. <i>Sensors and Actuators B: Chemical</i> , <b>2012</b> , 161, 805-810	8.5	22
52	Surface-Freezing Transitions and Novel Tilted Hexatic Phases in Smectic Liquid-Crystal Films. <i>Physical Review Letters</i> , <b>1997</b> , 78, 2581-2584	7.4	17
51	Microfluidic devices for the study of actin cytoskeleton in constricted environments: Evidence for podosome formation in endothelial cells exposed to a confined slit. <i>Methods</i> , <b>2016</b> , 94, 65-74	4.6	14
50	Scaling Theory of Stretched Polymers in Nanoslits. <i>Macromolecules</i> , <b>2013</b> , 46, 7989-8002	5.5	14
49	Direct optical mapping of transcription factor binding sites on field-stretched DNA in nanofluidic devices. <i>Nucleic Acids Research</i> , <b>2014</b> , 42, e85	20.1	13
48	Electron-diffraction study of a one-layer free-standing hexatic liquid-crystal film. <i>Physical Review E</i> , <b>1997</b> , 56, 592-594	2.4	13
47	Stability and phase transitions of single-molecular-layer free-standing liquid-crystal films. <i>Physical Review E</i> , <b>1997</b> , 56, 2298-2301	2.4	13
46	Nanoslit design for ion conductivity gradient enhanced dielectrophoresis for ultrafast biomarker enrichment in physiological media. <i>Biomicrofluidics</i> , <b>2016</b> , 10, 033109	3.2	13
45	Comparison of the anti-amyloidogenic effect of O-mannosylation, O-galactosylation, and O-GalNAc glycosylation. <i>Carbohydrate Research</i> , <b>2014</b> , 387, 46-53	2.9	12
44	Biofunctionalized nanoslits for wash-free and spatially resolved real-time sensing with full target capture. <i>Biomicrofluidics</i> , <b>2015</b> , 9, 034103	3.2	12
43	10 nm deep, sub-nanoliter fluidic nanochannels on germanium for attenuated total reflection infrared (ATR-IR) spectroscopy. <i>Analyst, The</i> , <b>2017</b> , 142, 273-278	5	10
42	Induced hexatic phase in a free-standing two-layer N-(4-n-butoxybenzylidene)-4-n-octylaniline film. <i>Physical Review E</i> , <b>1997</b> , 55, R6337-R6339	2.4	10
41	Nanofluidic Fluorescence Microscopy (NFM) for real-time monitoring of protein binding kinetics and affinity studies. <i>Biosensors and Bioelectronics</i> , <b>2017</b> , 88, 25-33	11.8	8
40	High aspect ratio nanoimprinted grooves of poly(lactic-co-glycolic acid) control the length and direction of retraction fibers during fibroblast cell division. <i>Biointerphases</i> , <b>2015</b> , 10, 041008	1.8	8

39	Crowding-facilitated macromolecular transport in attractive micropost arrays. <i>Scientific Reports</i> , <b>2017</b> , 7, 1340	4.9	7
38	DNA combing on low-pressure oxygen plasma modified polysilsesquioxane substrates for single-molecule studies. <i>Biomicrofluidics</i> , <b>2014</b> , 8, 052102	3.2	7
37	Morphological plasticity of bacteria-Open questions. <i>Biomicrofluidics</i> , <b>2016</b> , 10, 031501	3.2	6
36	Tandem array of nanoelectronic readers embedded coplanar to a fluidic nanochannel for correlated single biopolymer analysis. <i>Biomicrofluidics</i> , <b>2014</b> , 8, 016501	3.2	5
35	Ceramic magnetohydrodynamic (MHD) micropump <b>2001</b> ,		5
34	Sizing, Fractionation and Mixing of Biological Objects Via Microfabricated Devices <b>1998</b> , 193-198		5
33	Selection of aptamers for AMACR detection from DNA libraries with different primers.. <i>RSC Advances</i> , <b>2018</b> , 8, 19067-19074	3.7	5
32	Structural characterization of surface hexatic behavior in free-standing 40.8 liquid-crystal films. <i>Physical Review E</i> , <b>2000</b> , 62, R1485-8	2.4	4
31	Novel Self-Directing Single-Polymer Jet Developing Layered-Like 3D Buckled Microfibrous Scaffolds for Tissue Engineering Applications. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2021</b> , 13, 9691-9701	8.5	4
30	Bacteria under the physical constraints of periodic micro-nanofluidic junctions reveal morphological plasticity and dynamic shifting of Min patterns. <i>Biomicrofluidics</i> , <b>2014</b> , 8, 041103	3.2	3
29	Nanopatterned structures for biomolecular analysis toward genomic and proteomic applications <b>2005</b> ,		3
28	CHARACTERIZATION SEVERAL NOVEL PHASE TRANSITIONS IN A UNIQUE LOWER DIMENSION SYSTEM OF FREE-STANDING LIQUID-CRYSTAL FILMS. <i>Modern Physics Letters B</i> , <b>1996</b> , 10, 269-277	1.6	3
27	A Miniaturized Cyclic PCR Device <b>2001</b> , 151-152		3
26	Nanoconfinement-Induced DNA Reptating Motion and Analogy to Fluctuating Interfaces. <i>Macromolecules</i> , <b>2020</b> , 53, 1001-1013	5.5	3
25	Two-photon microscopy at >500 volumes/second		3
24	Multiplexed immunosensing and kinetics monitoring in nanofluidic devices with highly enhanced target capture efficiency. <i>Biomicrofluidics</i> , <b>2016</b> , 10, 034114	3.2	3
23	Ultrasensitive and Low-Cost Paper-Based Graphene Oxide Nanobiosensor for Monitoring Water-Borne Bacterial Contamination. <i>ACS Sensors</i> , <b>2021</b> , 6, 3214-3223	9.2	3
22	Impedimetric aptasensing using a symmetric Randles circuit model. <i>Electrochimica Acta</i> , <b>2020</b> , 337, 135750	9.2	2

21	Nanofluidic fluorescence microscopy with integrated concentration gradient generation for one-shot parallel kinetic assays. <i>Sensors and Actuators B: Chemical</i> , <b>2018</b> , 274, 338-342	8.5	2
20	Diffusion impedance modeling for interdigitated array electrodes by conformal mapping and cylindrical finite length approximation. <i>Electrochimica Acta</i> , <b>2019</b> , 320, 134629	6.7	2
19	Multiple electron diffraction and two-dimensional crystalline order in liquid-crystal thin films. <i>Physical Review Letters</i> , <b>2003</b> , 91, 125504	7.4	2
18	Add Ceramic MEMS to the Pallet of MicroSystems Technologies. <i>Materials Research Society Symposia Proceedings</i> , <b>2001</b> , 687, 1		2
17	Sensing of diseased mitochondria proportion by DEP at the organelle level of intact cells <b>2020</b> ,		2
16	Cell Migration in Microfluidic Devices: Invadosomes Formation in Confined Environments. <i>Advances in Experimental Medicine and Biology</i> , <b>2019</b> , 1146, 79-103	3.6	2
15	Electrodeless Dielectrophoretic Trapping and Separation of Cells <b>2002</b> , 25-27		2
14	Frequency modulation of the Min-protein oscillator by nucleoid-associated factors in <i>Escherichia coli</i> . <i>Biochemical and Biophysical Research Communications</i> , <b>2020</b> , 525, 857-862	3.4	2
13	Spectral contrast imaging method for mapping transmission surface plasmon images in metallic nanostructures. <i>Biosensors and Bioelectronics</i> , <b>2019</b> , 142, 111545	11.8	1
12	Thermal management of BioMEMS		1
11	Cusp electron emission in 1.4 MeV u-1Xe26+on Ar collisions as a function of the projectile final charge state. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , <b>1992</b> , 25, 3505-3512	1.3	1
10	Multiplexed assessment of engineered bacterial constructs for intracellular $\beta$ -galactosidase expression by redox amplification on catechol-chitosan modified nanoporous gold. <i>Mikrochimica Acta</i> , <b>2021</b> , 189, 4	5.8	1
9	DNA dynamics and organization in sub-micron scale: Bacterial chromosomes and plasmids in vivo and in vitro. <i>Chinese Journal of Physics</i> , <b>2020</b> , 66, 82-90	3.5	0
8	Preface to Special Topic: Selected Papers from the Advances in Microfluidics and Nanofluidics 2014 Conference in Honor of Professor Hsueh-Chia Chang's 60th Birthday. <i>Biomicrofluidics</i> , <b>2014</b> , 8, 051901	3.2	
7	Scaling of Bond-Orientational Order Parameters in A 54COOBC Two-Dimensional Film. <i>Molecular Crystals and Liquid Crystals</i> , <b>1997</b> , 303, 373-378		
6	Electron-Diffraction Studies of Phase Transitions in 40.8 Free-Standing Thin Films. <i>Molecular Crystals and Liquid Crystals</i> , <b>1997</b> , 301, 123-128		
5	Device Structure for enhancement of DNA hybridization kinetics by Electrodeless Dielectrophoresis. <i>Materials Research Society Symposia Proceedings</i> , <b>2007</b> , 1064, 6081		
4	Unusual Multiple Electron Scattering in Ultrathin Free-Standing Crystal-B Films. <i>Molecular Crystals and Liquid Crystals</i> , <b>2004</b> , 412, 1-8	0.5	

3 Integrating nano-optical biosensors into nucleic acid testing devices **2004**, 5363, 45

2 Electron-Diffraction Study on Surface Hexatic Behavior in Free-Standing 4O.8 Liquid-Crystal Films.  
*Molecular Crystals and Liquid Crystals*, **2001**, 365, 515-522

1 STUDIES OF SURFACE-INDUCED LAYER-BY-LAYER TWO-STAGE PHASE TRANSFORMATIONS.  
*Modern Physics Letters B*, **1996**, 10, 765-770

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