

# Tza-Huei Wang

## List of Publications by Year in descending order

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135  
papers

4,933  
citations

117453

34  
h-index

102304

66  
g-index

142  
all docs

142  
docs citations

142  
times ranked

6635  
citing authors

#	ARTICLE	IF	CITATIONS
1	Emerging platforms for high-throughput enzymatic bioassays. Trends in Biotechnology, 2023, 41, 120-133.	4.9	4
2	Magnetofluidic immuno-PCR for point-of-care COVID-19 serological testing. Biosensors and Bioelectronics, 2022, 195, 113656.	5.3	18
3	Bridging the gap between development of point-of-care nucleic acid testing and patient care for sexually transmitted infections. Lab on A Chip, 2022, 22, 476-511.	3.1	13
4	Combinatorial nanodroplet platform for screening antibiotic combinations. Lab on A Chip, 2022, 22, 621-631.	3.1	12
5	Point-of-Care Platform for Rapid Multiplexed Detection of SARS-CoV-2 Variants and Respiratory Pathogens. Advanced Materials Technologies, 2022, 7, 2101013.	3.0	18
6	Filtration-assisted magnetofluidic cartridge platform for HIV RNA detection from blood. Lab on A Chip, 2022, 22, 945-953.	3.1	11
7	Droplet Magnetofluidic Assay Platform for Quantitative Methylation-Specific PCR. Methods in Molecular Biology, 2022, 2394, 199-209.	0.4	2
8	A Cascaded Droplet Microfluidic Platform Enables High-Throughput Single Cell Antibiotic Susceptibility Testing at Scale. Small Methods, 2022, 6, e2101254.	4.6	17
9	Combating Antimicrobial Resistance via Single-Cell Diagnostic Technologies Powered by Droplet Microfluidics. Accounts of Chemical Research, 2022, 55, 123-133.	7.6	19
10	A Portable Droplet Magnetofluidic Device for Point-of-Care Detection of Multidrug-Resistant Candida auris. Frontiers in Bioengineering and Biotechnology, 2022, 10, 826694.	2.0	3
11	Robotic Printed Combinatorial Droplet (RoboDrop) for Antibiotic Combination Screening. , 2022, , .		0
12	Digital CRISPR/Cas-Assisted Assay for Rapid and Sensitive Detection of SARS-CoV-2. Advanced Science, 2021, 8, 2003564.	5.6	116
13	Digital electrical impedance analysis for single bacterium sensing and antimicrobial susceptibility testing. Lab on A Chip, 2021, 21, 1073-1083.	3.1	18
14	Single-cell transcriptomic reveals molecular diversity and developmental heterogeneity of human stem cell-derived oligodendrocyte lineage cells. Nature Communications, 2021, 12, 652.	5.8	47
15	High resolution estimates of relative gene abundance with quantitative ratiometric regression PCR (qRR-PCR). Analyst, The, 2021, 146, 6463-6469.	1.7	13
16	Droplet-Based Single-Cell Measurements of 16S rRNA Enable Integrated Bacteria Identification and Phenotypic Molecular Antimicrobial Susceptibility Testing from Clinical Samples in 30 min. Advanced Science, 2021, 8, 2003419.	5.6	29
17	A portable magnetofluidic platform for detecting sexually transmitted infections and antimicrobial susceptibility. Science Translational Medicine, 2021, 13, .	5.8	41
18	A Vacuum-Driven Microfluidic Array for Multi-Step Sample Digitalization. , 2021, , .		0

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19	Portable Magnetofluidic Device for Point-of-Need Detection of African Swine Fever. <i>Analytical Chemistry</i> , 2021, 93, 10940-10946.	3.2	13
20	A Rapid Single-Cell Antimicrobial Susceptibility Testing Workflow for Bloodstream Infections. <i>Biosensors</i> , 2021, 11, 288.	2.3	10
21	Point-of-care CRISPR-Cas-assisted SARS-CoV-2 detection in an automated and portable droplet magnetofluidic device. <i>Biosensors and Bioelectronics</i> , 2021, 190, 113390.	5.3	65
22	Ligation-Enabled Fluorescence-Coding PCR for High-Dimensional Fluorescence-Based Nucleic Acid Detection. <i>Analytical Chemistry</i> , 2021, 93, 2351-2358.	3.2	7
23	Facile syringe filter-enabled bacteria separation, enrichment, and buffer exchange for clinical isolation-free digital detection and characterization of bacterial pathogens in urine. <i>Analyst</i> , The, 2021, 146, 2475-2483.	1.7	11
24	Toward Decentralizing Antibiotic Susceptibility Testing via Ready-to-Use Microwell Array and Resazurin-Aided Colorimetric Readout. <i>Analytical Chemistry</i> , 2021, 93, 1260-1265.	3.2	17
25	Antimicrobial Susceptibility Testing of <i>Neisseria gonorrhoeae</i> using a Phenotypic-Molecular Assay and Lyophilized Antimicrobials. <i>Diagnostic Microbiology and Infectious Disease</i> , 2021, 102, 115590.	0.8	1
26	A vacuum-assisted, highly parallelized microfluidic array for performing multi-step digital assays. <i>Lab on A Chip</i> , 2021, 21, 4716-4724.	3.1	7
27	High-throughput sample processing for methylation analysis in an automated, enclosed environment. <i>SLAS Technology</i> , 2021, , .	1.0	1
28	A Novel Platform Using RNA Signatures To Accelerate Antimicrobial Susceptibility Testing in <i>Neisseria gonorrhoeae</i> . <i>Journal of Clinical Microbiology</i> , 2020, 58, .	1.8	8
29	ddRFC: A scalable multiplexed droplet digital nucleic acid amplification test platform. <i>Biosensors and Bioelectronics</i> , 2020, 167, 112499.	5.3	8
30	Leveraging locus-specific epigenetic heterogeneity to improve the performance of blood-based DNA methylation biomarkers. <i>Clinical Epigenetics</i> , 2020, 12, 154.	1.8	5
31	Facile Coupling of Droplet Magnetofluidic-Enabled Automated Sample Preparation for Digital Nucleic Acid Amplification Testing and Analysis. <i>Analytical Chemistry</i> , 2020, 92, 13254-13261.	3.2	11
32	Detection of Promoter DNA Methylation in Urine and Plasma Aids the Detection of Non-“Small Cell Lung Cancer. <i>Clinical Cancer Research</i> , 2020, 26, 4339-4348.	3.2	57
33	Applying biosensor development concepts to improve preamplification-free CRISPR/Cas12a-Dx. <i>Analyst</i> , The, 2020, 145, 4880-4888.	1.7	30
34	RNA markers for ultra-rapid molecular antimicrobial susceptibility testing in fluoroquinolone-treated <i>Klebsiella pneumoniae</i> . <i>Journal of Antimicrobial Chemotherapy</i> , 2020, 75, 1747-1755.	1.3	10
35	Investigating cone photoreceptor development using patient-derived NRL null retinal organoids. <i>Communications Biology</i> , 2020, 3, 82.	2.0	62
36	Electrode-Free Concentration and Recovery of DNA at Physiologically Relevant Ionic Concentrations. <i>Analytical Chemistry</i> , 2020, 92, 6150-6157.	3.2	4

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37	A Programmable Nanodroplet Device with Direct Sample-to-Droplet Interface toward High-Throughput Screening. , 2020, , .		1
38	Rapid generation of chemical combinations on a magnetic digital microfluidic array. RSC Advances, 2019, 9, 21741-21747.	1.7	13
39	Highly Efficient Real-Time Droplet Analysis Platform for High-Throughput Interrogation of DNA Sequences by Melt. Analytical Chemistry, 2019, 91, 11275-11282.	3.2	14
40	Customizing droplet contents and dynamic ranges via integrated programmable picodroplet assembler. Microsystems and Nanoengineering, 2019, 5, 22.	3.4	20
41	Technological Advances in Multiscale Analysis of Single Cells in Biomedicine. Advanced Biology, 2019, 3, 1900138.	3.0	7
42	Rab8 GTPase regulates Klotho-mediated inhibition of cell growth and progression by directly modulating its surface expression in human non-small cell lung cancer. EBioMedicine, 2019, 49, 118-132.	2.7	14
43	Ratiometric Multiplexed PCR Assay on a Portable Platform for Bacterial Identification from Urine. , 2019, , .		1
44	Rapid Pathogen Detection and Antimicrobial Susceptibility Assessment from Urine Samples Via Amplification-Free Detection of Ribosomal RNA of Single-Bacteria. , 2019, , .		1
45	Nanoarray Digital Polymerase Chain Reaction with High-Resolution Melt for Enabling Broad Bacteria Identification and Phenotypic Molecular Antimicrobial Susceptibility Test. Analytical Chemistry, 2019, 91, 12784-12792.	3.2	63
46	Versatile Analysis of DNA-Biomolecule Interactions in Solution by Hydrodynamic Separation and Single Molecule Detection. Analytical Chemistry, 2019, 91, 2822-2830.	3.2	9
47	Optimizing peptide nucleic acid probes for hybridization-based detection and identification of bacterial pathogens. Analyst, The, 2019, 144, 1565-1574.	1.7	27
48	Widespread gene transfer to malignant gliomas with In vitro-to-In vivo correlation. Journal of Controlled Release, 2019, 303, 1-11.	4.8	21
49	Emerging Analytical Techniques for Rapid Pathogen Identification and Susceptibility Testing. Annual Review of Analytical Chemistry, 2019, 12, 41-67.	2.8	45
50	Nanotube assisted microwave electroporation for single cell pathogen identification and antimicrobial susceptibility testing. Nanomedicine: Nanotechnology, Biology, and Medicine, 2019, 17, 246-253.	1.7	21
51	Prognostic Value of Survival of MicroRNAs Signatures in Non-small Cell Lung Cancer. Journal of Cancer, 2019, 10, 5793-5804.	1.2	22
52	Long Interspersed Nuclear Element 1 Retrotransposons Become Deregulated during the Development of Ovarian Cancer Precursor Lesions. American Journal of Pathology, 2019, 189, 513-520.	1.9	35
53	A Biomimetic Nanodecoy Traps Zika Virus To Prevent Viral Infection and Fetal Microcephaly Development. Nano Letters, 2019, 19, 2215-2222.	4.5	69
54	Programmable microfluidic genotyping of plant DNA samples for marker-assisted selection. Microsystems and Nanoengineering, 2018, 4, .	3.4	11

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55	A sample-to-answer droplet magnetofluidic assay platform for quantitative methylation-specific PCR. <i>Biomedical Microdevices</i> , 2018, 20, 31.	1.4	12
56	Healthcare Worker Feedback on a Prototype Smartphone-Based Point-of-Care Test Platform for Use in Episodic Care. <i>Point of Care</i> , 2018, 17, 63-65.	0.5	4
57	Facile profiling of molecular heterogeneity by microfluidic digital melt. <i>Science Advances</i> , 2018, 4, eaat6459.	4.7	37
58	Ratiometric Fluorescence Coding for Multiplex Nucleic Acid Amplification Testing. <i>Analytical Chemistry</i> , 2018, 90, 12180-12186.	3.2	16
59	Droplet microfluidics for high sensitivity and high throughput detection and screening of disease biomarkers. <i>Wiley Interdisciplinary Reviews: Nanomedicine and Nanobiotechnology</i> , 2018, 10, e1522.	3.3	60
60	Simple and Precise Counting of Viable Bacteria by Resazurin-Amplified Picoarray Detection. <i>Analytical Chemistry</i> , 2018, 90, 9449-9456.	3.2	65
61	Sample-to-Answer Droplet Magnetofluidic Platform for Point-of-Care Hepatitis C Viral Load Quantitation. <i>Scientific Reports</i> , 2018, 8, 9793.	1.6	49
62	Fluorescence spectroscopic detection and measurement of single telomere molecules. <i>Nucleic Acids Research</i> , 2018, 46, e117-e117.	6.5	10
63	Direct-qPCR Assay for Coupled Identification and Antimicrobial Susceptibility Testing of <i>Neisseria gonorrhoeae</i> . <i>ACS Infectious Diseases</i> , 2018, 4, 1377-1384.	1.8	20
64	A "Culture-Shift": Broad Bacterial Detection, Identification, and Antimicrobial Susceptibility Testing Directly from Whole Blood. <i>Clinical Chemistry</i> , 2018, 64, 1453-1462.	1.5	21
65	New and developing diagnostic technologies for urinary tract infections. <i>Nature Reviews Urology</i> , 2017, 14, 296-310.	1.9	195
66	Integrated Bacterial Identification and Antimicrobial Susceptibility Testing Using PCR and High-Resolution Melt. <i>Analytical Chemistry</i> , 2017, 89, 11529-11536.	3.2	61
67	Impedance feedback control of microfluidic valves for reliable post processing combinatorial droplet injection. <i>Biomedical Microdevices</i> , 2017, 19, 61.	1.4	6
68	Spatially encoded picoliter droplet groups for high-throughput combinatorial analysis. , 2017, , .		1
69	Molecular rheotaxis directs DNA migration and concentration against a pressure-driven flow. <i>Nature Communications</i> , 2017, 8, 1213.	5.8	41
70	Accelerating bacterial growth detection and antimicrobial susceptibility assessment in integrated picoliter droplet platform. <i>Biosensors and Bioelectronics</i> , 2017, 97, 260-266.	5.3	112
71	A Multiplex Ligation Assay for miRNA Copy Number Profiling. <i>Methods in Molecular Biology</i> , 2017, 1509, 185-193.	0.4	2
72	Defining, distinguishing and detecting the contribution of heterogeneous methylation to cancer heterogeneity. <i>Seminars in Cell and Developmental Biology</i> , 2017, 64, 5-17.	2.3	19

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73	Early Detection of Lung Cancer Using DNA Promoter Hypermethylation in Plasma and Sputum. <i>Clinical Cancer Research</i> , 2017, 23, 1998-2005.	3.2	193
74	A portable droplet magnetofluidic platform for automated RNA quantification and analysis. , 2017, , .		0
75	Determination of absolute expression profiles using multiplexed miRNA analysis. <i>PLoS ONE</i> , 2017, 12, e0180988.	1.1	14
76	DNA Extraction: A Simple Thermoplastic Substrate Containing Hierarchical Silica Lamellae for Highâ€Molecularâ€Weight DNA Extraction ( <i>Adv. Mater.</i> 48/2016). <i>Advanced Materials</i> , 2016, 28, 10810-10810.	11.1	0
77	Nested Machine Learning Facilitates Increased Sequence Content for Large-Scale Automated High Resolution Melt Genotyping. <i>Scientific Reports</i> , 2016, 6, 19218.	1.6	34
78	In-line DNA preconcentration, size separation, and single molecule detection without applied electric fields. , 2016, , .		0
79	A Simple Thermoplastic Substrate Containing Hierarchical Silica Lamellae for Highâ€Molecularâ€Weight DNA Extraction. <i>Advanced Materials</i> , 2016, 28, 10630-10636.	11.1	17
80	Cancer Cell Membraneâ€Coated Upconversion Nanoprobes for Highly Specific Tumor Imaging. <i>Advanced Materials</i> , 2016, 28, 3460-3466.	11.1	420
81	A parallelized microfluidic DNA bisulfite conversion module for streamlined methylation analysis. <i>Biomedical Microdevices</i> , 2016, 18, 5.	1.4	22
82	Analysis of single nucleic acid molecules in micro- and nano-fluidics. <i>Lab on A Chip</i> , 2016, 16, 790-811.	3.1	29
83	Single Molecule Hydrodynamic Separation Allows Sensitive and Quantitative Analysis of DNA Conformation and Binding Interactions in Free Solution. <i>Journal of the American Chemical Society</i> , 2016, 138, 319-327.	6.6	19
84	Droplet Digital Enzyme-Linked Oligonucleotide Hybridization Assay for Absolute RNA Quantification. <i>Scientific Reports</i> , 2015, 5, 13795.	1.6	28
85	Efficient synthesis of stably adenylated DNA and RNA adapters for microRNA capture using T4 RNA ligase 1. <i>Scientific Reports</i> , 2015, 5, 15620.	1.6	13
86	Red Blood Cell Membrane as a Biomimetic Nanocoating for Prolonged Circulation Time and Reduced Accelerated Blood Clearance. <i>Small</i> , 2015, 11, 6225-6236.	5.2	353
87	Enhancing Throughput of Combinatorial Droplet Devices via Droplet Bifurcation, Parallelized Droplet Fusion, and Parallelized Detection. <i>Micromachines</i> , 2015, 6, 1490-1504.	1.4	6
88	A Barcode-Free Combinatorial Screening Platform for Matrix Metalloproteinase Screening. <i>Analytical Chemistry</i> , 2015, 87, 1950-1956.	3.2	33
89	Ultra-thin, evaporation-resistant PDMS devices for absolute quantification of DNA using digital PCR. , 2015, , .		6
90	DREAMing: a simple and ultrasensitive method for assessing intratumor epigenetic heterogeneity directly from liquid biopsies. <i>Nucleic Acids Research</i> , 2015, 43, e154-e154.	6.5	48

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91	Microfluidic continuous flow digital loop-mediated isothermal amplification (LAMP). <i>Lab on A Chip</i> , 2015, 15, 776-782.	3.1	122
92	Magnetic Droplet Manipulation Platforms for Nucleic Acid Detection at the Point of Care. <i>Annals of Biomedical Engineering</i> , 2014, 42, 2289-2302.	1.3	48
93	Droplet Array Platform for High-Resolution Melt Analysis of DNA Methylation Density. <i>Journal of the Association for Laboratory Automation</i> , 2014, 19, 304-312.	2.8	9
94	Pressure induced lung injury in a novel in vitro model of the alveolar interface: Protective effect of dexamethasone. <i>Journal of Pediatric Surgery</i> , 2014, 49, 61-65.	0.8	10
95	Direct Interrogation of DNA Content Distribution in Nanoparticles by a Novel Microfluidics-Based Single-Particle Analysis. <i>Nano Letters</i> , 2014, 14, 4729-4735.	4.5	25
96	Novel droplet platforms for the detection of disease biomarkers. <i>Expert Review of Molecular Diagnostics</i> , 2014, 14, 787-801.	1.5	30
97	A droplet microfluidic approach to single-stream nucleic acid isolation and mutation detection. <i>Microfluidics and Nanofluidics</i> , 2014, 17, 425-430.	1.0	22
98	Elimination of Ligation Dependent Artifacts in T4 RNA Ligase to Achieve High Efficiency and Low Bias MicroRNA Capture. <i>PLoS ONE</i> , 2014, 9, e94619.	1.1	33
99	Trainable High Resolution Melt Curve Machine Learning Classifier for Large-Scale Reliable Genotyping of Sequence Variants. <i>PLoS ONE</i> , 2014, 9, e109094.	1.1	47
100	Extraction and processing of circulating DNA from large sample volumes using methylation on beads for the detection of rare epigenetic events. <i>Clinica Chimica Acta</i> , 2013, 425, 169-175.	0.5	45
101	Novel Methylation Biomarker Panel for the Early Detection of Pancreatic Cancer. <i>Clinical Cancer Research</i> , 2013, 19, 6544-6555.	3.2	129
102	Full-Range Magnetic Manipulation of Droplets via Surface Energy Traps Enables Complex Bioassays. <i>Advanced Materials</i> , 2013, 25, 2903-2908.	11.1	118
103	A microfluidic droplet platform for multiplexed single nucleotide polymorphism analysis of an array plant genomic DNA samples. , 2013, , .		1
104	Topography-assisted electromagnetic platform for blood-to-PCR in a droplet. <i>Biosensors and Bioelectronics</i> , 2013, 50, 91-99.	5.3	89
105	Flip-drop: Droplet array created by surface energy trap for combinatorial screening. , 2013, , .		0
106	Discerning single molecule interactions of DNA and quantum dots. <i>Biotechnology Journal</i> , 2013, 8, 15-16.	1.8	9
107	Universal digital high-resolution melt: a novel approach to broad-based profiling of heterogeneous biological samples. <i>Nucleic Acids Research</i> , 2013, 41, e175-e175.	6.5	32
108	All-in-one droplet platform for multiplexed genetic detection in blood. , 2013, , .		0

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109	Micro and Nanotechnologies Enhanced Biomolecular Sensing. Biosensors, 2013, 3, 283-285.	2.3	4
110	A Serial Sample Loading System: Interfacing Multiwell Plates with Microfluidic Devices. Journal of the Association for Laboratory Automation, 2012, 17, 370-377.	2.8	23
111	Quantum dot electrophoretic mobility shift assay and its application to the measurement of exonuclease activity. , 2012, , .		0
112	Quantum dot FRET linker probes for highly sensitive DNA methylation detection. , 2012, , .		2
113	Microfluidic platform for on-demand generation of spatially indexed combinatorial droplets. Lab on A Chip, 2012, 12, 3055.	3.1	53
114	Droplet microfluidics for amplification-free genetic detection of single cells. Lab on A Chip, 2012, 12, 3341.	3.1	81
115	A surface topography assisted droplet manipulation platform for biomarker detection and pathogen identification. Lab on A Chip, 2011, 11, 398-406.	3.1	155
116	Quantum dots-enabled high resolution analysis of gene copy number variation. , 2011, , .		0
117	Single-Molecule Analysis Enables Free Solution Hydrodynamic Separation Using Yoctomole Levels of DNA. Journal of the American Chemical Society, 2011, 133, 6898-6901.	6.6	33
118	Quantum Dots-Enabled High-Resolution Analysis of Gene Copy Number Variation. IEEE Nanotechnology Magazine, 2011, 5, 23-27.	0.9	1
119	Advances in microfluidic PCR for point-of-care infectious disease diagnostics. Biotechnology Advances, 2011, 29, 830-839.	6.0	256
120	An active gyroscopic magnetic micromixer for rapid fluid mixing in droplet based microfluidic systems. , 2011, , .		0
121	An all-in-one microfluidic device for parallel DNA extraction and gene analysis. Biomedical Microdevices, 2010, 12, 1043-1049.	1.4	58
122	Decoding Circulating Nucleic Acids in Human Serum Using Microfluidic Single Molecule Spectroscopy. Journal of the American Chemical Society, 2010, 132, 5793-5798.	6.6	50
123	An automated all-in-one microfluidic device for parallel solid phase DNA extraction and droplet-in-oil PCR analysis. , 2010, , .		1
124	High throughput DNA methylation analysis on a droplet-in-oil polymerase chain reaction array. , 2009, , .		0
125	Cylindrical Illumination Confocal Spectroscopy: Rectifying the Limitations of Confocal Single Molecule Spectroscopy through One-Dimensional Beam Shaping. Biophysical Journal, 2008, 95, 2964-2975.	0.2	34
126	Detect the dots. IEEE Nanotechnology Magazine, 2008, 2, 15-16.	0.9	0



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127	Quantitative kinetic analysis of DNA nanocomplex self-assembly with Quantum Dots FRET in a microfluidic device. Proceedings of the IEEE International Conference on Micro Electro Mechanical Systems (MEMS), 2008, , .	0.0	1
128	Multiplexed Detection of Anthrax Sequences with Quantum Dot Nanoprobes. , 2006, , .		0
129	High-Degree Concentration of Bio-agents using Electrokinetic Manipulations. , 2006, , .		1
130	Single-Molecule Tracing on a Fluidic Microchip for Quantitative Detection of Low-Abundance Nucleic Acids. Journal of the American Chemical Society, 2005, 127, 5354-5359.	6.6	114
131	Electrokinetics in Micro Devices for Biotechnology Applications. IEEE/ASME Transactions on Mechatronics, 2004, 9, 366-376.	3.7	210
132	Nano/micro technologies for single molecule manipulation and detection. , 0, , .		2
133	An AC electroosmotic processor for biomolecules. , 0, , .		7
134	Single bio-molecule detection with quantum dots in a microchannel. , 0, , .		1
135	Ratiometric PCR in a Portable Sample-to-Result Device for Broad-Based Pathogen Identification. Analytical Chemistry, 0, , .	3.2	4