Zhonghua Ni

List of Publications by Citations

126 papers	1,362 citations	21 h-index	29 g-index
137 ext. papers	1,805 ext. citations	4.2 avg, IF	5.23 L-index

#	Paper	IF	Citations
126	Fundamentals of elasto-inertial particle focusing in curved microfluidic channels. *Lab on A Chip*, **2016**, 16, 2626-35	7.2	70
125	Microfluidic Impedance Cytometer with Inertial Focusing and Liquid Electrodes for High-Throughput Cell Counting and Discrimination. *Analytical Chemistry*, **2017**, 89, 3154-3161	7.8	50
124	Precise Size-Based Cell Separation via the Coupling of Inertial Microfluidics and Deterministic Lateral Displacement. *Analytical Chemistry*, **2019**, 91, 10328-10334	7.8	50
123	High-throughput blood cell focusing and plasma isolation using spiral inertial microfluidic devices. *Biomedical Microdevices*, **2015**, 17, 110	3.7	46
122	Visual detection of mixed organophosphorous pesticide using QD-AChE aerogel based microfluidic arrays sensor. *Biosensors and Bioelectronics*, **2019**, 136, 112-117	11.8	41
121	Automated Microfluidic Instrument for Label-Free and High-Throughput Cell Separation. *Analytical Chemistry*, **2018**, 90, 4212-4220	7.8	37
120	High-throughput inertial particle focusing in a curved microchannel: Insights into the flow-rate regulation mechanism and process model. *Biomicrofluidics*, **2013**, 7, 44116	3.2	37
119	A passive flow regulator with low threshold pressure for high-throughput inertial isolation of microbeads. *Lab on A Chip*, **2015**, 15, 3473-80	7.2	33
118	Improved understanding of particle migration modes in spiral inertial microfluidic devices. *RSC Advances*, **2015**, 5, 77264-77273	3.7	33
117	Concentration-controlled particle focusing in spiral elasto-inertial microfluidic devices. *Electrophoresis*, **2018**, 39, 417-424	3.6	31
116	Inertia-induced focusing dynamics of microparticles throughout a curved microfluidic channel. *Microfluidics and Nanofluidics*, **2015**, 18, 29-39	2.8	30
115	Inertial Microfluidic Syringe Cell Concentrator. *Analytical Chemistry*, **2018**, 90, 9515-9522	7.8	30
114	Numerical simulation of particle focusing in a symmetrical serpentine microchannel. *RSC Advances*, **2016**, 6, 57647-57657	3.7	28
113	Quantitative characterization of the focusing process and dynamic behavior of differently sized microparticles in a spiral microchannel. *Microfluidics and Nanofluidics*, **2013**, 14, 89-99	2.8	28
112	Nanopore detection of DNA molecules in magnesium chloride solutions. *Nanoscale Research Letters* , **2013**, 8, 245	5	27
111	Cobalt functionalized MoS2/carbon nanotubes scaffold for enzyme-free glucose detection with extremely low detection limit. *Sensors and Actuators B: Chemical*, **2019**, 293, 122-128	8.5	25
110	Drastically Reduced Ion Mobility in a Nanopore Due to Enhanced Pairing and Collisions between Dehydrated Ions. *Journal of the American Chemical Society*, **2019**, 141, 4264-4272	16.4	25

109	Flow stabilizer on a syringe tip for hand-powered microfluidic sample injection. *Lab on A Chip*, **2019**, 19, 214-222	7.2	24
108	Paper-based graphene oxide biosensor coupled with smartphone for the quantification of glucose in oral fluid. *Biomedical Microdevices*, **2018**, 20, 89	3.7	24
107	A low cost and quasi-commercial polymer film chip for high-throughput inertial cell isolation. *RSC Advances*, **2016**, 6, 9734-9742	3.7	22
106	Inertial microfluidic cube for automatic and fast extraction of white blood cells from whole blood. *Lab on A Chip*, **2020**, 20, 244-252	7.2	22
105	Surface enhanced Raman scattering of aged graphene: Effects of annealing in vacuum. *Applied Physics Letters*, **2011**, 99, 233103	3.4	20
104	Dielectrophoretic manipulation of nanomaterials: A review. *Electrophoresis*, **2019**, 40, 873-889	3.6	20
103	A Multilayer Polymer-Film Inertial Microfluidic Device for High-Throughput Cell Concentration. *Analytical Chemistry*, **2019**, 91, 5461-5468	7.8	19
102	Microfluidics for label-free sorting of rare circulating tumor cells. *Analyst, The*, **2020**, 145, 7103-7124	5	19
101	An approach to mapping machining feature to manufacturing feature volume based on geometric reasoning for process planning. *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, **2017**, 231, 1204-1216	2.4	18
100	Inexpensive, rapid fabrication of polymer-film microfluidic autoregulatory valve for disposable microfluidics. *Biomedical Microdevices*, **2017**, 19, 21	3.7	18
99	Application of ant colony optimization algorithm in integrated process planning and scheduling. *International Journal of Advanced Manufacturing Technology*, **2016**, 84, 393-404	3.2	18
98	Simple and sensitive colorimetric detection of a trace amount of 2,4,6-trinitrotoluene (TNT) with QD multilayer-modified microchannel assays. *Materials Chemistry Frontiers*, **2019**, 3, 193-198	7.8	17
97	Temperature effects on the friction characteristics of graphene. *Applied Physics Letters*, **2015**, 107, 011601	3.4	17
96	Step emulsification: high-throughput production of monodisperse droplets. *BioTechniques*, **2020**, 68, 114-116	2.5	17
95	A 3D porous graphene aerogel@GOx based microfluidic biosensor for electrochemical glucose detection. *Analyst, The*, **2020**, 145, 5141-5147	5	16
94	Combining Inertial Microfluidics with Cross-Flow Filtration for High-Fold and High-Throughput Passive Volume Reduction. *Analytical Chemistry*, **2020**, 92, 6770-6776	7.8	16
93	Rapid separation of human breast cancer cells from blood using a simple spiral channel device. *Analytical Methods*, **2016**, 8, 5940-5948	3.2	15
92	Passive flow regulator for precise high-throughput flow rate control in microfluidic environments. *RSC Advances*, **2016**, 6, 31639-31646	3.7	15

91	Microfluidic Approaches Toward the Isolation and Detection of Exosome Nanovesicles. *IEEE Access*, **2019**, 7, 45080-45098	3.5	14
90	A polymer-film inertial microfluidic sorter fabricated by jigsaw puzzle method for precise size-based cell separation. *Analytica Chimica Acta*, **2021**, 1143, 306-314	6.6	14
89	Detection of short single-strand DNA homopolymers with ultrathin Si3N4 nanopores. *Physical Review E*, **2015**, 92, 022719	2.4	13
88	Tribological Properties of Stearic Acid Modified Multi-Walled Carbon Nanotubes in Water. *Journal of Tribology*, **2013**, 135,	1.8	12
87	Droplet-based microreactor for the production of micro/nano-materials. *Electrophoresis*, **2020**, 41, 833-851	3.6	12
86	Assembly process modeling mechanism based on the product hierarchy. *International Journal of Advanced Manufacturing Technology*, **2016**, 82, 391-405	3.2	11
85	Dynamics simulation of positioning and assembling multi-microparticles utilizing optoelectronic tweezers. *Microfluidics and Nanofluidics*, **2012**, 12, 529-544	2.8	11
84	Microfluidic impedance cytometry for single-cell sensing: Review on electrode configurations. *Talanta*, **2021**, 233, 122571	6.2	11
83	Circular-channel particle focuser utilizing viscoelastic focusing. *Microfluidics and Nanofluidics*, **2019**, 23, 1	2.8	10
82	A Novel Geometric Tolerance Modeling Inspired by Parametric Space Envelope. *IEEE Transactions on Automation Science and Engineering*, **2018**, 15, 1386-1398	4.9	10
81	A new method of reusing the manufacturing information for the slightly changed 3D CAD model. *Journal of Intelligent Manufacturing*, **2018**, 29, 1827-1844	6.7	10
80	Lattice Boltzmann numerical simulation and experimental research of dynamic flow in an expansion-contraction microchannel. *Biomicrofluidics*, **2013**, 7, 34113	3.2	10
79	Novel PS Composites by Using Artificial Lamellar Hybrid from Octa(Ɛchloroaminopropyl) POSS and Surfactant. *Polymer-Plastics Technology and Engineering*, **2011**, 50, 73-79		10
78	A systematic method for the automatic update and propagation of the machining process models in the process modification. *International Journal of Advanced Manufacturing Technology*, **2016**, 82, 473-487	3.2	9
77	Dynamic self-assembly of particles in an expanding channel flow. *Applied Physics Letters*, **2013**, 103, 071905	3.4	9
76	Microfluidic on-demand engineering of longitudinal dynamic self-assembly of particles. *Analyst, The* , **2020**, 145, 5128-5133	5	8
75	Screen-printed electrochemical biosensor based on a ternary Co@MoS/rGO functionalized electrode for high-performance non-enzymatic glucose sensing. *Biomedical Microdevices*, **2020**, 22, 17	3.7	8
74	Study on ultrasonic spray technology for the coating of vascular stent. *Science China Technological Sciences*, **2011**, 54, 3358-3370	3.5	8

73	A microfluidic gas damper for stabilizing gas pressure in portable microfluidic systems. *Biomicrofluidics*, **2016**, 10, 054123	3.2	8
72	A poly(L-lactic acid) monofilament with high mechanical properties for application in biodegradable biliary stents. *Journal of Applied Polymer Science*, **2021**, 138, 49656	2.9	8
71	Visual detection of glucose based on quantum dots aerogel in microfluidic chips. *Analytical Methods* , **2018**, 10, 5749-5754	3.2	8
70	An algorithm of mapping the protrusion feature on the slanting face to its manufacturing feature volume in the process planning. *International Journal of Advanced Manufacturing Technology*, **2015**, 79, 361-376	3.2	7
69	The design and fabrication of a low-field NMR probe based on a multilayer planar microcoil. *Microsystem Technologies*, **2014**, 20, 419-425	1.7	7
68	Separation of nanocolloids driven by dielectrophoresis: A molecular dynamics simulation. *Science in China Series D: Earth Sciences*, **2009**, 52, 1874-1881		7
67	Preparation and Characterizations of Novel PS Composites Containing OctaTMA-POSS-based Lamellar Hybrids. *International Journal of Polymeric Materials and Polymeric Biomaterials*, **2011**, 60, 947-958	3	7
66	A generic integrated approach of assembly tolerance analysis based on skin model shapes. *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, **2021**, 235, 689-704	2.4	7
65	Effects of annealing temperature on both radial supporting performance and axial flexibility of poly(L-lactic acid) braided stents. *Journal of Applied Polymer Science*, **2021**, 138, 50517	2.9	7
64	Design of a multilayer Halbach permanent magnet for human finger NMR detection. *International Journal of Applied Electromagnetics and Mechanics*, **2017**, 54, 315-327	0.4	6
63	A portable single-cell analysis system integrating hydrodynamic trapping with broadband impedance spectroscopy. *Science China Technological Sciences*, **2017**, 60, 1707-1715	3.5	6
62	Measurement of thermal boundary conductance between metal and dielectric materials using femtosecond laser transient thermoreflectance technique. *Science China Technological Sciences*, **2012**, 55, 1044-1049	3.5	6
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60	Layer-by-layer self-assembly of MoS2/PDDA hybrid film in microfluidic chips for ultrasensitive electrochemical immunosensing of alpha-fetoprotein. *Microchemical Journal*, **2020**, 158, 105209	4.8	6
59	Inertial microfluidics for high-throughput cell analysis and detection: a review. *Analyst, The*, **2021**, 146, 6064-6083	5	5
58	Colorimetric detection of urine glucose using a C/CdTe QDs-GOx aerogel based on a microfluidic assay sensor. *Journal of Materials Chemistry B*, **2020**, 8, 7160-7165	7.3	4
57	Integrating modeling mechanism for three-dimensional casting process model based on MBD. *International Journal of Advanced Manufacturing Technology*, **2018**, 94, 3145-3162	3.2	4
56	Miniature nuclear magnetic resonance spectrometer using a partially enclosed permanent magnet. *Instrumentation Science and Technology*, **2017**, 45, 324-337	1.4	4

55	Low-cost multi-core inertial microfluidic centrifuge for high-throughput cell concentration. *Electrophoresis*, **2020**, 41, 875-882	3.6	4
54	Poly(l-lactic acid) monofilaments for biodegradable braided self-expanding stent. *Journal of Materials Science*, **2021**, 56, 12383-12393	4.3	4
53	Secondary-flow-aided single-train elastic-inertial focusing in low elasticity viscoelastic fluids. *Electrophoresis*, **2021**, 42, 2256-2263	3.6	4
52	Focusing dynamics of finite-sized particles in confined microfluidic channels. *Applied Physics Express* , **2016**, 9, 027001	2.4	4
51	In vitro release study of sirolimus from a PDLLA matrix on a bioresorbable drug-eluting stent. *Journal of Drug Delivery Science and Technology*, **2018**, 48, 88-95	4.5	4
50	Electricity-free hand-held inertial microfluidic sorter for size-based cell sorting. *Talanta*, **2021**, 235, 122807	6.2	4
49	Numerical and Experimental Study of the Solo Duck Wave Energy Converter. *Energies*, **2019**, 12, 1941	3.1	3
48	Wafer-level site-controlled growth of silicon nanowires by Cu pattern dewetting. *Nano Research*, **2015**, 8, 2646-2653	10	3
47	The effect of intrinsic characteristics on mechanical properties of poly(l-lactic acid) bioresorbable vascular stents. *Medical Engineering and Physics*, **2020**, 81, 118-124	2.4	3
46	An assembling algorithm for fixture in an assembly process planning system. *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, **2020**, 234, 1133-1155	2.4	3
45	Optimization and experimental test of a miniature permanent magnet structure for a microfluidic magnetic resonance chip. *International Journal of Applied Electromagnetics and Mechanics*, **2013**, 42, 479-489	0.4	3
44	Rapid prediction method for nonlinear expansion process of medical vascular stent. *Science in China Series D: Earth Sciences*, **2009**, 52, 1323-1330		3
43	Molecular dynamics simulation for aggregation phenomena of nanocolloids. *Science in China Series D: Earth Sciences*, **2009**, 52, 484-490		3
42	Research on critical technology of micro/nano bioparticles manipulation platform based on light-induced dielectrophoresis. *Science in China Series D: Earth Sciences*, **2009**, 52, 2831-2839		3
41	Surface Defect Classification of Steel Strip with Few Samples Based on Dual-Stream Neural Network. *Steel Research International*,2100554	1.6	3
40	An NMR Relaxation Method of Characterizing Hydrogen-Bearing Crystalline Solid Phases in Hydrated Cement Paste. *IEEE Transactions on Instrumentation and Measurement*, **2021**, 1-1	5.2	3
39	Effects of annealing constraint methods on poly(L-lactic acid) monofilaments for application in stents annealing. *Polymers for Advanced Technologies*, **2021**, 32, 2378-2385	3.2	3
38	Effects of constraint between filaments on the radial compression properties of poly (l-lactic acid) self-expandable braided stents. *Polymer Testing*, **2021**, 93, 106963	4.5	3

37	Low-field nuclear magnetic resonance spectrometer for non-invasive monitoring of fluctuations in blood glucose in the human finger. *Spectroscopy Letters*, **2018**, 51, 395-401	1.1	3
36	An easy-fabricated and disposable polymer-film microfluidic impedance cytometer for cell sensing. *Analytica Chimica Acta*, **2021**, 1175, 338759	6.6	3
35	On the Design of an Integrated System for Wave Energy Conversion Purpose with the Reaction Mass on Board. *Sustainability*, **2020**, 12, 2865	3.6	2
34	Effect of flow on the apparent transverse relaxation time in a microfluidic nuclear magnetic resonance chip. *Spectroscopy Letters*, **2018**, 51, 74-80	1.1	2
33	Imaging the condensation and evaporation of molecularly thin ethanol films with surface forces apparatus. *Review of Scientific Instruments*, **2014**, 85, 013702	1.7	2
32	Theoretical and experimental studies on ionic currents in nanopore-based biosensors. *IET Nanobiotechnology*, **2014**, 8, 247-56	2	2
31	Directed transport and location-designated rotation of nanowires using ac electric fields. *Microfluidics and Nanofluidics*, **2014**, 16, 237-246	2.8	2
30	Cost-effective portable microfluidic impedance cytometer for broadband impedance cell analysis based on viscoelastic focusing.. *Talanta*, **2022**, 242, 123274	6.2	2
29	Stackable micromixer with modular design for efficient mixing over wide Reynold numbers. *International Journal of Heat and Mass Transfer*, **2022**, 183, 122129	4.9	2
28	Ultrahigh throughput beehive-like device for blood plasma separation. *Electrophoresis*, **2020**, 41, 2136	3.6	2
27	A single-view field filter device for rare tumor cell filtration and enumeration. *Electrophoresis*, **2020**, 41, 2000-2006	3.6	2
26	Deformability cytometry for high-throughput cell mechanical phenotyping. *Science Bulletin*, **2020**, 65, 2045-2047	10.6	1
25	A Fixture Design Retrieving Method Based on Constrained Maximum Common Subgraph. *IEEE Transactions on Automation Science and Engineering*, **2018**, 15, 692-704	4.9	1
24	Light-induced electro-rotation: Microspheres spin in micro-manipulation using light-induced dielectrophoresis. *Science China Technological Sciences*, **2011**, 54, 3035-3046	3.5	1
23	Graph-in-Graph Convolutional Network for Ultrasonic Guided Wave-Based Damage Detection and Localization. *IEEE Transactions on Instrumentation and Measurement*, **2022**, 1-1	5.2	1
22	Portable and Intelligent Urine Glucose Analyzer Based on a CdTe QDs@GOx Aerogel Circular Array Sensor.. *ACS Omega*, **2021**, 6, 32655-32662	3.9	1
21	Developing a versatile electrochemical platform with optimized electrode configuration through screen-printing technology toward glucose detection. *Biomedical Microdevices*, **2020**, 22, 74	3.7	1
20	Intelligent design based on holographic model using parametric design method. *Journal of Ambient Intelligence and Humanized Computing*, **2019**, 10, 1241-1255	3.7	1

19	A study of the radial and bending performance for poly (L-lactic acid) braided stents with innovative runners. *Polymers for Advanced Technologies*, **2021**, 32, 4690	3.2	1
18	Lung detection and severity prediction of pneumonia patients based on COVID-19 DET-PRE network.. *Expert Review of Medical Devices*, **2021**, 1-10	3.5	1
17	Discrimination of tumor cell type based on cytometric detection of dielectric properties.. *Talanta*, **2022**, 246, 123524	6.2	1
16	Power Generation from Salinity Gradient by Reverse Electrodialysis in Silicon Nitride Nanopores. *Nano*, **2020**, 15, 2050148	1.1	0
15	Early Stage Variation Simulation and Visualization of Compliant Part Based on Parametric Space Envelope. *IEEE Transactions on Automation Science and Engineering*, **2021**, 18, 1505-1515	4.9	0
14	A poly(l-lactic acid) braided stent with high mechanical properties during in vitro degradation in bile. *Journal of Applied Polymer Science*, **2022**, 139, 51685	2.9	0
13	Glucose sensing on screen-printed electrochemical electrodes based on porous graphene aerogel @prussian blue.. *Biomedical Microdevices*, **2022**, 24, 14	3.7	0
12	Evaluation of poly (L-lactic acid) monofilaments with high mechanical performance in vitro degradation. *Journal of Materials Science*, **2022**, 57, 6361-6371	4.3	0
11	Mixed-braided stent: An effective way to improve comprehensive mechanical properties of poly (L-lactic acid) self-expandable braided stent.. *Journal of the Mechanical Behavior of Biomedical Materials*, **2022**, 128, 105123	4.1	0
10	Improved mechanical properties of poly(l -lactic acid) stent coated by poly(d , l -lactic acid) and poly(l -lactic-co-glycolic acid) biopolymer blend. *Polymers for Advanced Technologies*, **2022**, 33, 1109-1115	3.2	0
9	Reliability and Life Prediction Algorithms of Insulated Cables Based on Wireless Network Communication. *Wireless Communications and Mobile Computing*, **2022**, 2022, 1-12	1.9	
8	Optimized radio frequency coil for noninvasive magnetic resonance relaxation detection of human finger.. *Journal of Magnetic Resonance*, **2021**, 335, 107125	3	
7	Inertial Microfluidics for Single-Cell Manipulation and Analysis **2020**, 1-30		
6	Inertial Microfluidics for Single-Cell Manipulation and Analysis **2022**, 155-184		
5	Evaluation of mechanical properties of poly(L -lactic acid) braided stents with axial stiffeners. *Journal of Applied Polymer Science*,52242	2.9	
4	The elevation of serum uric acid depends on insulin resistance but not fasting plasma glucose in hyperuricaemia. *Clinical and Experimental Rheumatology*, **2022**, 40, 613-619	2.2	
3	A novel inversion method of 2D TD-NMR signals based on realizing unconstrained maximization of objective function.. *Journal of Magnetic Resonance*, **2022**, 337, 107168	3	
2	A Low-cost Low-field Nuclear Magnetic Resonance Cryoporometry System for Nanopore Size Measurement. *IEEE Transactions on Instrumentation and Measurement*, **2022**, 1-1	5.2	

1 Different properties of poly(L-lactic acid) monofilaments and its corresponding braided springs after constrained and unconstrained annealing. *Journal of Biomaterials Applications*,088532822210959 2.9