Ashis Sen

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/501426/publications.pdf

Version: 2024-02-01

111 papers	2,770 citations	218677 26 h-index	223800 46 g-index
119 all docs	119 docs citations	119 times ranked	3079 citing authors

#	Article	IF	Citations
1	Particle separation and sorting in microfluidic devices: a review. Microfluidics and Nanofluidics, 2014, 17, 1-52.	2.2	586
2	Effect of surface energy and roughness on cell adhesion and growth â€“ facile surface modification for enhanced cell culture. RSC Advances, 2021, 11, 15467-15476.	3.6	124
3	Facile Fabrication and Characterization of a PDMS-Derived Candle Soot Coated Stable Biocompatible Superhydrophobic and Superhemophobic Surface. ACS Applied Materials & Interfaces, 2017, 9, 31170-31180.	8.0	105
4	Analytical modeling, simulations and experimental studies of a PZT actuated planar valveless PDMS micropump. Sensors and Actuators A: Physical, 2015, 225, 81-94.	4.1	80
5	Localized surface plasmon resonance (LSPR) biosensor based on thermally annealed silver nanostructures with on-chip blood-plasma separation for the detection of dengue non-structural protein NS1 antigen. Biosensors and Bioelectronics, 2019, 132, 38-46.	10.1	71
6	Capillary flow-driven microfluidic device with wettability gradient and sedimentation effects for blood plasma separation. Scientific Reports, 2017, 7, 43457.	3.3	68
7	Self-driven droplet transport: Effect of wettability gradient and confinement. Physics of Fluids, 2019, 31, .	4.0	63
8	Hydrodynamic resistance and mobility of deformable objects in microfluidic channels. Biomicrofluidics, 2014, 8, 054112.	2.4	54
9	Acoustic impedance-based size-independent isolation of circulating tumour cells from blood using acoustophoresis. Lab on A Chip, 2018, 18, 3802-3813.	6.0	50
10	Flow-induced deformation of compliant microchannels and its effect on pressureâ€“flow characteristics. Microfluidics and Nanofluidics, 2016, 20, 1.	2.2	44
11	A combined experimental and theoretical approach towards mechanophenotyping of biological cells using a constricted microchannel. Lab on A Chip, 2017, 17, 3704-3716.	6.0	43
12	Facile fabrication and mechanistic understanding of a transparent reversible superhydrophobic â€“ superhydrophilic surface. Scientific Reports, 2018, 8, 18018.	3.3	43
13	Droplet ejection performance of a monolithic thermal inkjet print head. Journal of Micromechanics and Microengineering, 2007, 17, 1420-1427.	2.6	37
14	Shape evolution and splitting of ferrofluid droplets on a hydrophobic surface in the presence of a magnetic field. Soft Matter, 2018, 14, 2915-2922.	2.7	36
15	Characterization and sorting of cells based on stiffness contrast in a microfluidic channel. RSC Advances, 2016, 6, 74704-74714.	3.6	34
16	Rapid measurement of hydrogen sulphide in human blood plasma using a microfluidic method. Scientific Reports, 2019, 9, 3258.	3.3	34
17	Capillary flow-driven blood plasma separation and on-chip analyte detection in microfluidic devices. Microfluidics and Nanofluidics, 2017, 21, 1.	2.2	32
18	Capillary flow of blood in a microchannel with differential wetting for blood plasma separation and on-chip glucose detection. Biomicrofluidics, 2016, 10, 054108.	2.4	31

#	Article	IF	Citations
19	Magnetic field assisted droplet manipulation on a soot-wax coated superhydrophobic surface of a PDMS-iron particle composite substrate. Sensors and Actuators B: Chemical, 2017, 239, 816-823.	7.8	30
20	Simulation and parametric study of a novel multi-spray emitter for ESIâ€“MS applications. Microfluidics and Nanofluidics, 2007, 3, 283-298.	2.2	29
21	Analytical, numerical and experimental investigations of mixing fluids in microchannel. Microsystem Technologies, 2012, 18, 823-832.	2.0	28
22	Capillary flow enhancement in rectangular polymer microchannels with a deformable wall. Physical Review E, 2015, 92, 013024.	2.1	28
23	Improved Understanding of Acoustophoresis and Development of an Acoustofluidic Device for Blood Plasma Separation. Physical Review Applied, 2018, 10, .	3.8	27
24	Understanding of the role of dilution on evaporative deposition patterns of blood droplets over hydrophilic and hydrophobic substrates. Journal of Colloid and Interface Science, 2020, 579, 541-550.	9.4	27
25	Cassieâ€“Wenzel wetting transition on nanostructured superhydrophobic surfaces induced by surface acoustic waves. Applied Physics Letters, 2020, 116, .	3.3	27
26	Direct and rapid measurement of hydrogen peroxide in human blood using a microfluidic device. Scientific Reports, 2021, 11, 2960.	3.3	27
27	Investigations into mixing of fluids in microchannels with lateral obstructions. Microsystem Technologies, 2013, 19, 493-501.	2.0	26
28	A microfluidic device with focusing and spacing control for resistance-based sorting of droplets and cells. Lab on A Chip, 2015, 15, 3738-3748.	6.0	26
29	Dynamics of Aqueous Droplets at the Interface of Coflowing Immiscible Oils in a Microchannel. Langmuir, 2016, 32, 2136-2143.	3.5	26
30	Droplet Demulsification Using Ultralow Voltage-Based Electrocoalescence. Langmuir, 2018, 34, 1520-1527.	3.5	26
31	Pressure-driven flow through PDMS-based flexible microchannels and their applications in microfluidics. Microfluidics and Nanofluidics, 2018, 22, 1.	2.2	26
32	Development of a microfluidic device for cell concentration and blood cell-plasma separation. Biomedical Microdevices, 2015, 17, 115.	2.8	24
33	Aggregation of a dense suspension of particles in a microwell using surface acoustic wave microcentrifugation. Microfluidics and Nanofluidics, 2019, 23, 1.	2.2	24
34	Transport of a Sessile Aqueous Droplet over Spikes of Oil Based Ferrofluid in the Presence of a Magnetic Field. Langmuir, 2019, 35, 8238-8245.	3.5	23
35	Interparticle acoustic radiation force between a pair of spherical particles in a liquid exposed to a standing bulk acoustic wave. Physics of Fluids, 2020, 32, .	4.0	23
36	Evaporation-induced transport of a pure aqueous droplet by an aqueous mixture droplet. Physics of Fluids, 2020, 32, .	4.0	23

#	Article	IF	Citations
37	Dynamics of a Water Droplet over a Sessile Oil Droplet: Compound Droplets Satisfying a Neumann Condition. Langmuir, 2017, 33, 5713-5723.	3.5	22
38	Modeling and Optimization of a Microscale Capacitive Humidity Sensor for HVAC Applications. IEEE Sensors Journal, 2008, 8, 333-340.	4.7	21
39	Entry and passage behavior of biological cells in a constricted compliant microchannel. RSC Advances, 2018, 8, 20884-20893.	3.6	21
40	Non-inertial lift induced migration for label-free sorting of cells in a co-flowing aqueous two-phase system. Analyst, The, 2019, 144, 2574-2583.	3.5	21
41	Self-Transport and Manipulation of Aqueous Droplets on Oil-Submerged Diverging Groove. Langmuir, 2018, 34, 12359-12368.	3.5	20
42	Cross-stream migration and coalescence of droplets in a microchannel co-flow using magnetophoresis. Physics of Fluids, 2019, 31, .	4.0	20
43	Use of nanoporous alumina surface for desorption electrospray ionization mass spectrometry in proteomic analysis. Biomedical Microdevices, 2008, 10, 531-538.	2.8	19
44	Analysis and Simulation of a Micro Hydrocyclone Device for Particle Liquid Separation. Journal of Fluids Engineering, Transactions of the ASME, 2012, 134, .	1.5	19
45	Single step fabrication and characterization of PDMS micro lens and its use in optocapillary flow manipulation. Sensors and Actuators B: Chemical, 2016, 227, 383-392.	7.8	19
46	Evaporation and morphological patterns of bi-dispersed colloidal droplets on hydrophilic and hydrophobic surfaces. Soft Matter, 2018, 14, 9901-9909.	2.7	19
47	Improved understanding of the acoustophoretic focusing of dense suspensions in a microchannel. Physical Review E, 2017, 96, 052606.	2.1	19
48	Alternating and merged droplets in a double T-junction microchannel. Biochip Journal, 2015, 9, 16-26.	4.9	18
49	Role of shear induced diffusion in acoustophoretic focusing of dense suspensions. Applied Physics Letters, 2016, 109, .	3.3	18
50	Experimental and numerical studies of a microfluidic device with compliant chambers for flow stabilization. Journal of Micromechanics and Microengineering, 2015, 25, 075003.	2.6	17
51	Coalescence of Droplets in a Microwell Driven by Surface Acoustic Waves. Langmuir, 2021, 37, 1578-1587.	3.5	17
52	Elastocapillary powered manipulation of liquid plug in microchannels. Applied Physics Letters, 2015, 107, 261601.	3.3	16
53	Soft Lithography, Molding, and Micromachining Techniques for Polymer Micro Devices. Methods in Molecular Biology, 2019, 1906, 13-54.	0.9	16
54	Shape evolution of drops on surfaces of different wettability gradients. Chemical Engineering Science, 2021, 229, 116136.	3.8	16

#	Article	IF	Citations
55	Hydrodynamic focusing and interdistance control of particle-laden flow for microflow cytometry. Microfluidics and Nanofluidics, 2016, 20, 1.	2.2	15
56	Understanding wetting dynamics and stability of aqueous droplet over superhydrophilic spot surrounded by superhydrophobic surface. Journal of Colloid and Interface Science, 2020, 565, 582-591.	9.4	15
57	Substrate stiffness affects particle distribution pattern in a drying suspension droplet. Applied Physics Letters, 2019, 114, .	3.3	14
58	Continuous Droplet Coalescence in a Microchannel Coflow Using Bulk Acoustic Waves. Physical Review Applied, 2019, 12, .	3.8	14
59	Droplet generation in a microchannel with a controllable deformable wall. Microfluidics and Nanofluidics, 2016, 20, 1.	2.2	13
60	Manipulation of magnetocapillary flow of ferrofluid in a microchannel. Sensors and Actuators B: Chemical, 2017, 246, 487-496.	7.8	13
61	Droplet encapsulation of particles in different regimes and sorting of particle-encapsulating-droplets from empty droplets. Biomicrofluidics, 2019, 13, 034108.	2.4	13
62	Relocation of coflowing immiscible liquids under acoustic field in a microchannel. Europhysics Letters, 2019, 125, 54002.	2.0	13
63	Elastocapillary flow driven lab-on-a-membrane device based on differential wetting and sedimentation effect for blood plasma separation. Journal of Micromechanics and Microengineering, 2019, 29, 065001.	2.6	13
64	Autonomous transport and splitting of a droplet on an open surface. Physical Review Fluids, 2021, 6, .	2.5	13
65	Development of a solenoid actuated planar valveless micropump with single and multiple inletâ€“outlet arrangements. Journal of Micromechanics and Microengineering, 2016, 26, 075013.	2.6	12
66	Dynamics of aqueous ferrofluid droplets at coflowing liquid-liquid interface under a non-uniform magnetic field. Applied Physics Letters, 2018, 113, 143702.	3.3	12
67	Lateral migration of viscoelastic droplets in a viscoelastic confined flow: role of discrete phase viscoelasticity. Soft Matter, 2019, 15, 9003-9010.	2.7	12
68	Particle encapsulation in aqueous ferrofluid drops and sorting of particle-encapsulating drops from empty drops using a magnetic field. Soft Matter, 2021, 17, 6020-6028.	2.7	12
69	Dynamics of capillary flow in an open superoleophilic microchannel and its application to sensing of oil. Microfluidics and Nanofluidics, 2018, 22, 1.	2.2	11
70	Acoustic Behavior of a Dense Suspension in an Inhomogeneous Flow in a Microchannel. Physical Review Applied, 2019, 12, .	3.8	11
71	Trapping and Coalescence of Diamagnetic Aqueous Droplets Using Negative Magnetophoresis. Langmuir, 2020, 36, 5960-5966.	3.5	11
72	Drop Impact on a Superhydrophilic Spot Surrounded by a Superhydrophobic Surface. Langmuir, 2021, 37, 14195-14204.	3.5	11

#	Article	IF	Citations
73	Microfluidic System for Rapid Enumeration and Detection of Microparticles. Journal of Fluids Engineering, Transactions of the ASME, 2012, 134, .	1.5	10
74	Dynamics of rigid microparticles at the interface of co-flowing immiscible liquids in a microchannel. Journal of Colloid and Interface Science, 2017, 493, 317-326.	9.4	10
75	Bio-inspired liquid transport via elastocapillary interaction of a thin membrane with a liquid meniscus. Soft Matter, 2017, 13, 6858-6869.	2.7	10
76	Elastocapillarity-based transport of liquids in flexible confinements and over soft substrates. Microfluidics and Nanofluidics, 2019, 23, 1.	2.2	10
77	An optomicrofluidic device for the detection and isolation of drop-encapsulated target cells in single-cell format. Analyst, The, 2021, 146, 95-108.	3.5	10
78	Reversible Stream Drop Transition in a Microfluidic Coflow System via On Demand Exposure to Acoustic Standing Waves. Physical Review Letters, 2021, 127, 134501.	7.8	10
79	Isotachophoresis with emulsions. Biomicrofluidics, 2013, 7, 044103.	2.4	9
80	Interaction of elastocapillary flows in parallel microchannels across a thin membrane. Applied Physics Letters, 2016, 109, 141601.	3.3	9
81	Flotation of Denser Liquid Drops on Lighter Liquids in Non-Neumann Condition: Role of Line Tension. Langmuir, 2016, 32, 10276-10283.	3.5	9
82	Continuous electrical lysis of cancer cells in a microfluidic device with passivated interdigitated electrodes. Biomicrofluidics, 2020, 14, 064101.	2.4	9
83	Cross-stream migration of droplets in a confined shear-thinning viscoelastic flow: Role of shear-thinning induced lift. Physics of Fluids, 2020, 32, .	4.0	9
84	Dynamical motion of a pair of microparticles at the acoustic pressure nodal plane under the combined effect of axial primary radiation and interparticle forces. Journal of the Acoustical Society of America, 2021, 150, 307-320.	1.1	9
85	Continuous splitting of aqueous droplets at the interface of co-flowing immiscible oil streams in a microchannel. Soft Matter, 2018, 14, 725-733.	2.7	8
86	Electrokinetic transport and separation of droplets in a microchannel. Microfluidics and Nanofluidics, 2014, 17, 97-106.	2.2	7
87	Electrospray performance of interacting multi-capillary emitters in a linear array. Journal of Micromechanics and Microengineering, 2018, 28, 035005.	2.6	7
88	Attraction and Repulsion between Liquid Droplets over a Liquid-Impregnated Surface. Journal of Physical Chemistry Letters, 2020, 11, 10001-10006.	4.6	6
89	Combined acoustic relocation and acoustophoretic migration for particle transfer between co-flowing fluids in a microchannel. Physical Review Fluids, 2021, 6, .	2.5	6
90	Dynamics of rigid particles in a confined flow of viscoelastic and strongly shear-thinning fluid at very small Reynolds numbers. Physics of Fluids, 2021, 33, .	4.0	6

#	Article	IF	Citations
91	PDMS membrane-based flexible bi-layer microfluidic device for blood oxygenation. Journal of Micromechanics and Microengineering, 2022, 32, 094001.	2.6	6
92	Acoustic particle trapping driven by axial primary radiation force in shaped traps. Physical Review E, 2022, 105, 035103.	2.1	5
93	Trapping of Aqueous Droplets under Surface Acoustic Wave-Driven Streaming in Oil-Filled Microwells. Langmuir, 2022, 38, 4763-4773.	3.5	5
94	Aerosol Formation in Electrospray Ionization Using a Microfluidic Emitter. IEEE Sensors Journal, 2011, 11, 2335-2341.	4.7	4
95	Electronically-tuned triarylmethine scaffolds for fast and continuous monitoring of H₂S levels in biological samples. Analyst, The, 2019, 144, 4210-4218.	3.5	4
96	Microfluidics Technology for Label-Free Isolation of Circulating Tumor Cells. Journal of the Institution of Engineers (India): Series C, 2020, 101, 1051-1071.	1.2	4
97	Autonomous droplet transport on a chemically homogenous superhydrophilic surface. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2022, 643, 128798.	4.7	4
98	LSPR based on-chip detection of dengue NS1 antigen in whole blood. RSC Advances, 2021, 11, 33770-33780.	3.6	3
99	Localized Surface Plasmon Resonance Sensors for Biomarker Detection with On-Chip Microfluidic Devices in Point-of-Care Diagnostics. Materials Horizons, 2022, , 199-223.	0.6	2
100	A wettability pattern-mediated trapped bubble removal from a horizontal liquidâ€“liquid interface. Physics of Fluids, 2022, 34, .	4.0	2
101	Interaction between droplets and co-flow interface in a microchannel: Droplet migration and interfacial deformation. Physical Review Fluids, 2022, 7, .	2.5	2
102	Applications of Microfluidics. , 2022, , 15-50.		2
103	Droplet Microfluidicsâ€”A Tool for Biosensing and Bioengineering Applications. Materials Horizons, 2022, , 145-171.	0.6	1
104	Elastocapillary interaction between a long rectangular membrane and a liquid drop. Soft Matter, 2021, 18, 228-235.	2.7	1
105	Experimental investigation of flame propagation in a meso-combustor. Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy, 2020, 234, 1131-1146.	1.4	0
106	Advances in Microfluidic Techniques for Detection and Isolation of Circulating Tumor Cells. Materials Horizons, 2022, , 173-198.	0.6	0
107	The Microflow Cytometer. Energy, Environment, and Sustainability, 2018, , 371-387.	1.0	0
108	10.1063/1.5123533.2. , 2019, , .		0

#	Article	IF	Citations
109	10.1063/1.5139002.6. , 2020, , .		0
110	10.1063/1.5139002.4. , 2020, , .		0
111	10.1063/1.5145282.1. , 2020, , .		0