

Sumita Pennathur

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

62
papers

1,639
citations

21
h-index

39
g-index

69
ext. papers

1,808
ext. citations

5.6
avg, IF

4.94
L-index

#	Paper	IF	Citations
62	Electrokinetic transport in nanochannels. 1. Theory. <i>Analytical Chemistry</i> , 2005 , 77, 6772-81	7.8	216
61	Electrokinetic transport in nanochannels. 2. Experiments. <i>Analytical Chemistry</i> , 2005 , 77, 6782-9	7.8	190
60	Nanofluidic technology for biomolecule applications: a critical review. <i>Lab on A Chip</i> , 2010 , 10, 957-85	7.2	181
59	Energy conversion in microsystems: is there a role for micro/nanofluidics?. <i>Lab on A Chip</i> , 2007 , 7, 1234-7	7.2	155
58	Free-solution oligonucleotide separation in nanoscale channels. <i>Analytical Chemistry</i> , 2007 , 79, 8316-22	7.8	68
57	Distinct conformations of DNA-stabilized fluorescent silver nanoclusters revealed by electrophoretic mobility and diffusivity measurements. <i>Langmuir</i> , 2011 , 27, 8923-33	4	61
56	Flow control in microfluidics: are the workhorse flows adequate?. <i>Lab on A Chip</i> , 2008 , 8, 383-7	7.2	47
55	Separation of ions in nanofluidic channels with combined pressure-driven and electro-osmotic flow. <i>Analytical Chemistry</i> , 2013 , 85, 2991-8	7.8	42
54	Surface-dependent chemical equilibrium constants and capacitances for bare and 3-cyanopropyltrimethylchlorosilane coated silica nanochannels. <i>Journal of Colloid and Interface Science</i> , 2011 , 353, 301-10	9.3	42
53	Optofluidics: field or technique?. <i>Lab on A Chip</i> , 2008 , 8, 1856-63	7.2	40
52	Efficiently accounting for ion correlations in electrokinetic nanofluidic devices using density functional theory. <i>Journal of Colloid and Interface Science</i> , 2011 , 359, 520-9	9.3	38
51	Streaming current and wall dissolution over 48 h in silica nanochannels. <i>Journal of Colloid and Interface Science</i> , 2011 , 360, 262-71	9.3	38
50	Simulation tools for lab on a chip research: advantages, challenges, and thoughts for the future. <i>Lab on A Chip</i> , 2008 , 8, 1424-31	7.2	33
49	Improving fluorescence detection in lab on chip devices. <i>Lab on A Chip</i> , 2008 , 8, 649-52	7.2	32
48	A universal design for a DNA probe providing ratiometric fluorescence detection by generation of silver nanoclusters. <i>Nanoscale</i> , 2016 , 8, 14489-96	7.7	31
47	DNA-Stabilized Silver Nanoclusters as Specific, Ratiometric Fluorescent Dopamine Sensors. <i>ACS Chemical Neuroscience</i> , 2018 , 9, 849-857	5.7	30
46	Hydronium-dominated ion transport in carbon-dioxide-saturated electrolytes at low salt concentrations in nanochannels. <i>Physical Review E</i> , 2011 , 83, 056307	2.4	25

45	Multiphase flow in lab on chip devices: a real tool for the future?. <i>Lab on A Chip</i> , 2008 , 8, 1010-4	7.2	25
44	Quantitative characterization of the colloidal stability of metallic nanoparticles using UV-vis absorbance spectroscopy. <i>Langmuir</i> , 2015 , 31, 3577-86	4	24
43	Experimental study of the separation behavior of nanoparticles in micro- and nanochannels. <i>Microfluidics and Nanofluidics</i> , 2011 , 10, 69-80	2.8	23
42	How to exploit the features of microfluidics technology. <i>Lab on A Chip</i> , 2008 , 8, 20-2	7.2	23
41	Changes in Spectra and Conformation of Hairpin DNA-Stabilized Silver Nanoclusters Induced by Stem Sequence Perturbations. <i>Langmuir</i> , 2016 , 32, 569-76	4	19
40	Oligonucleotide hybridization and free-solution electrokinetic separation in a nanofluidic device. <i>Lab on A Chip</i> , 2009 , 9, 2933-40	7.2	19
39	Fluorescence-Based Observation of Transient Electrochemical and Electrokinetic Effects at Nanoconfined Bipolar Electrodes. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 13777-13786	9.5	16
38	Field-amplified sample stacking and focusing in nanofluidic channels. <i>Physics of Fluids</i> , 2010 , 22, 112003	4.4	16
37	Electrophoretic mobility of a spherical nanoparticle in a nanochannel. <i>Physics of Fluids</i> , 2014 , 26, 112002	4.4	14
36	A repeatable and scalable fabrication method for sharp, hollow silicon microneedles. <i>Journal of Micromechanics and Microengineering</i> , 2018 , 28, 035007	2	13
35	Modeling Faradaic Reactions and Electrokinetic Phenomena at a Nanochannel-Confined Bipolar Electrode. <i>Journal of Physical Chemistry C</i> , 2019 , 123, 5353-5364	3.8	12
34	An Experimental Approach to Systematically Probe Charge Inversion in Nanofluidic Channels. <i>Nano Letters</i> , 2018 , 18, 1191-1195	11.5	12
33	(Almost) Stationary Isotachophoretic Concentration Boundary in a Nanofluidic Channel Using Charge Inversion. <i>Analytical Chemistry</i> , 2016 , 88, 6145-50	7.8	12
32	Electrokinetic characterization of individual nanoparticles in nanofluidic channels. <i>Microfluidics and Nanofluidics</i> , 2012 , 12, 411-421	2.8	12
31	Molecular Design of a New Diboronic Acid for the Electrohydrodynamic Monitoring of Glucose. <i>Angewandte Chemie - International Edition</i> , 2019 , 58, 10612-10615	16.4	10
30	A simple microfluidic aggregation analyzer for the specific, sensitive and multiplexed quantification of proteins in a serum environment. <i>Biosensors and Bioelectronics</i> , 2016 , 77, 1062-9	11.8	10
29	Fluorescent silver nanocluster DNA probes for multiplexed detection using microfluidic capillary electrophoresis. <i>Analyst, The</i> , 2015 , 140, 1609-15	5	9
28	Separation behavior of short single- and double-stranded DNA in 1 micron and 100 nm glass channels. <i>Electrophoresis</i> , 2014 , 35, 412-8	3.6	9

27	Analyte preconcentration in nanofluidic channels with nonuniform zeta potential. <i>Physical Review Fluids</i> , 2017 , 2,	2.8	9
26	Two-Dimensional Electric Double Layer Structure with Heterogeneous Surface Charge. <i>Langmuir</i> , 2017 , 33, 5642-5651	4	8
25	A model for inertial particles in curvilinear flows. <i>Microfluidics and Nanofluidics</i> , 2019 , 23, 1	2.8	7
24	Numerical investigation of micro- and nanochannel deformation due to discontinuous electroosmotic flow. <i>Microfluidics and Nanofluidics</i> , 2016 , 20, 1	2.8	7
23	Method to determine the effective ζ potential in a microchannel with an embedded gate electrode. <i>Electrophoresis</i> , 2011 , 32, 3295-304	3.6	7
22	A novel fabrication method for centimeter-long surface-micromachined nanochannels. <i>Journal of Micromechanics and Microengineering</i> , 2010 , 20, 015040	2	7
21	A process to fabricate fused silica nanofluidic devices with embedded electrodes using an optimized room temperature bonding technique. <i>Applied Physics Letters</i> , 2017 , 110, 181605	3.4	6
20	Inertial particle dynamics in the presence of a secondary flow. <i>Physical Review Fluids</i> , 2017 , 2,	2.8	5
19	Electrophoretic mobility of spherical particles in bounded domain. <i>Journal of Colloid and Interface Science</i> , 2016 , 461, 32-38	9.3	4
18	Hybridization thermodynamics of DNA oligonucleotides during microchip capillary electrophoresis. <i>Analytical Chemistry</i> , 2015 , 87, 2811-8	7.8	4
17	Confinement effects on DNA hybridization in electrokinetic micro- and nanofluidic systems. <i>Electrophoresis</i> , 2019 , 40, 792-798	3.6	4
16	Electrocavitation in nanofluidics: unique phenomenon and fundamental platform. <i>Lab on A Chip</i> , 2015 , 15, 3980-3	7.2	3
15	Optimal MEMS device for mobility and zeta potential measurements using DC electrophoresis. <i>Electrophoresis</i> , 2017 , 38, 1245-1250	3.6	2
14	. <i>IEEE Transactions on Nanobioscience</i> , 2019 , 18, 214-215	3.4	2
13	Energy Harvesting with a Liquid-Metal Microfluidic Influence Machine. <i>Physical Review Applied</i> , 2018 , 9,	4.3	2
12	Accounting for electric double layer and pressure gradient-induced dispersion effects in microfluidic current monitoring. <i>Microfluidics and Nanofluidics</i> , 2016 , 20, 1	2.8	2
11	Olive oil density characterization through microfluidic detection using acoustic signatures (MIDAS). <i>Analytical Methods</i> , 2016 , 8, 7673-7677	3.2	2
10	Enhanced Ratiometric Detection using a Buried Dual Junction Diode for Wearable Optofluidic Biosensing Application 2019 ,		1

- 9 A linearised model for calculating inertial forces on a particle in the presence of a permeate flow. *Journal of Fluid Mechanics*, **2019**, 861, 253-274 3.7 1
- 8 Molecular Design of a New Diboronic Acid for the Electrohydrodynamic Monitoring of Glucose. *Angewandte Chemie*, **2019**, 131, 10722-10725 3.6 1
- 7 Label free detection of nucleic acids by modulating nanochannel surfaces. *Chemical Communications*, **2015**, 51, 2335-8 5.8 1
- 6 Discharging behavior of confined bipolar electrodes: Coupled electrokinetic and electrochemical dynamics. *Electrochimica Acta*, **2020**, 330, 135275 6.7 1
- 5 Microfluidic detection with acoustic spectroscopy (MIDAS) for analysis of insulin formulation stability. *Analytical Methods*, **2017**, 9, 6124-6130 3.2
- 4 Low Temperature Fabrication and Surface Modification Methods for Fused Silica Micro- and Nanochannels. *Materials Research Society Symposia Proceedings*, **2014**, 1659, 15-26
- 3 The Measurement of Diffusion Coefficient Using Nanofluidic Channels **2007**, 957
- 2 Electrophoresis in Nanochannels **2006**, 589
- 1 Integration of buried dual-junction photodetection with ratiometric FRET-based biosensing: Results and design considerations. *Sensors and Actuators A: Physical*, **2020**, 315, 112364 3.9