

# Dipankar Bandyopadhyay

## List of Publications by Year in descending order

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107  
papers

1,923  
citations

257101

24  
h-index

329751

37  
g-index

107  
all docs

107  
docs citations

107  
times ranked

1456  
citing authors

#	ARTICLE	IF	CITATIONS
1	Control of morphology in pattern directed dewetting of thin polymer films. <i>Soft Matter</i> , 2008, 4, 2086.	1.2	111
2	The pH Taxis of an Intelligent Catalytic Microbot. <i>Small</i> , 2013, 9, 1916-1920.	5.2	102
3	Instability and Dynamics of Thin Liquid Bilayers. <i>Industrial &amp; Engineering Chemistry Research</i> , 2005, 44, 1259-1272.	1.8	98
4	Nano-enabled paper humidity sensor for mobile based point-of-care lung function monitoring. <i>Biosensors and Bioelectronics</i> , 2017, 94, 544-551.	5.3	74
5	Paper-based $\alpha$ -amylase detector for point-of-care diagnostics. <i>Biosensors and Bioelectronics</i> , 2016, 78, 447-453.	5.3	60
6	Electric-Field-Induced Interfacial Instabilities and Morphologies of Thin Viscous and Elastic Bilayers. <i>Langmuir</i> , 2009, 25, 9108-9118.	1.6	54
7	Nonlinear instabilities and pathways of rupture in thin liquid bilayers. <i>Journal of Chemical Physics</i> , 2006, 125, 054711.	1.2	50
8	Multimodal chemo-magnetic control of self-propelling microbots. <i>Nanoscale</i> , 2014, 6, 1398-1405.	2.8	46
9	Magnetic Field Guided Chemotaxis of iMushbots for Targeted Anticancer Therapeutics. <i>ACS Biomaterials Science and Engineering</i> , 2017, 3, 1627-1640.	2.6	46
10	Graphene based multifunctional superbots. <i>Carbon</i> , 2015, 89, 31-40.	5.4	44
11	Dynamics of deformation and pinch-off of a migrating compound droplet in a tube. <i>Physical Review E</i> , 2018, 97, 043112.	0.8	39
12	Mechanisms of humidity sensing on a CdS nanoparticle coated paper sensor. <i>Sensors and Actuators A: Physical</i> , 2019, 285, 241-247.	2.0	38
13	Multiscale Pattern Generation in Viscoelastic Polymer Films by Spatiotemporal Modulation of Electric Field and Control of Rheology. <i>Advanced Functional Materials</i> , 2011, 21, 324-335.	7.8	36
14	Self-spinning nanoparticle laden microdroplets for sensing and energy harvesting. <i>Nanoscale</i> , 2016, 8, 6118-6128.	2.8	35
15	Self-Organized Microstructures in Thin Bilayers on Chemically Patterned Substrates. <i>Journal of Physical Chemistry C</i> , 2010, 114, 2237-2247.	1.5	33
16	Point-of-care-testing of $\alpha$ -amylase activity in human blood serum. <i>Biosensors and Bioelectronics</i> , 2019, 124-125, 75-81.	5.3	31
17	Dewetting Pathways and Morphology of Unstable Thin Liquid Bilayers. <i>Journal of Physical Chemistry B</i> , 2008, 112, 11564-11572.	1.2	30
18	Self-Organized Ordered Arrays of Core-Shell Columns in Viscous Bilayers Formed by Spatially Varying Electric Fields. <i>Journal of Physical Chemistry C</i> , 2010, 114, 21020-21028.	1.5	30

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19	Microdroplet based disposable sensor patch for detection of $\alpha$ -amylase in human blood serum. <i>Biosensors and Bioelectronics</i> , 2020, 165, 112333.	5.3	30
20	Parametric study on instabilities in a two-layer electromagnetohydrodynamic channel flow confined between two parallel electrodes. <i>Physical Review E</i> , 2011, 83, 036313.	0.8	29
21	Electric field mediated spraying of miniaturized droplets inside microchannel. <i>Electrophoresis</i> , 2017, 38, 1450-1457.	1.3	28
22	Electric field induced microstructures in thin films on physicochemically heterogeneous and patterned substrates. <i>Journal of Chemical Physics</i> , 2010, 132, 174703.	1.2	26
23	Surface instability of a thin electrolyte film undergoing coupled electroosmotic and electrophoretic flows in a microfluidic channel. <i>Electrophoresis</i> , 2011, 32, 3257-3267.	1.3	26
24	Discrete electric field mediated droplet splitting in microchannels: Fission, Cascade, and Rayleigh modes. <i>Electrophoresis</i> , 2017, 38, 278-286.	1.3	24
25	Capillary force mediated flow patterns and non-monotonic pressure drop characteristics of oil-water microflows. <i>Canadian Journal of Chemical Engineering</i> , 2015, 93, 1736-1743.	0.9	23
26	Paper-Sensors for Point-of-Care Monitoring of Drinking Water Quality. <i>IEEE Sensors Journal</i> , 2019, 19, 7936-7941.	2.4	23
27	Magnetically guided chemical locomotion of self-propelling paperbots. <i>RSC Advances</i> , 2015, 5, 64444-64449.	1.7	22
28	Solvent vapour mediated spontaneous healing of self-organized defects of liquid crystal films. <i>Soft Matter</i> , 2015, 11, 139-146.	1.2	22
29	Formation of liquid drops at an orifice and dynamics of pinch-off in liquid jets. <i>Physical Review E</i> , 2017, 96, 013115.	0.8	22
30	Magnetotactic T-Budbots to Kill-n-Clean Biofilms. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 43352-43364.	4.0	21
31	Dynamics of drop formation from submerged orifices under the influence of electric field. <i>Physics of Fluids</i> , 2018, 30, 122104.	1.6	20
32	Flexible Paper Touchpad for Parkinson's Hand Tremor Detection. <i>Sensors and Actuators A: Physical</i> , 2019, 294, 164-172.	2.0	20
33	Pattern-Directed Ordering of Spin-Dewetted Liquid Crystal Micro- or Nanodroplets as Pixelated Light Reflectors and Locomotives. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 1066-1076.	4.0	19
34	Paper Based Enzymatic Chemiresistor for POC Detection of Ethanol in Human Breath. <i>IEEE Sensors Journal</i> , 2020, 20, 2278-2286.	2.4	19
35	Magnetically Actuated Carbon Soot Nanoparticle-Based Catalytic CARBOts Coated with Ni/Pt Nanofilms for Water Detoxification and Oil-Spill Recovery. <i>ACS Applied Nano Materials</i> , 2020, 3, 3459-3470.	2.4	19
36	Electro-magnetic-field-induced flow and interfacial instabilities in confined stratified liquid layers. <i>Theoretical and Computational Fluid Dynamics</i> , 2012, 26, 23-28.	0.9	18

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37	Reusable nano-BG-FET for point-of-care estimation of ammonia and urea in human urine. <i>Nanotechnology</i> , 2019, 30, 145502.	1.3	18
38	Electric-Field-Induced Instabilities in Thin Liquid Trilayers Confined between Patterned Electrodes. <i>Journal of Physical Chemistry C</i> , 2012, 116, 22847-22858.	1.5	16
39	Electric field induced instabilities of thin leaky bilayers: Pathways to unique morphologies and miniaturization. <i>Journal of Chemical Physics</i> , 2013, 138, 024705.	1.2	16
40	From finite-amplitude equilibrium structures to dewetting in thin polymer films on chemically patterned substrates. <i>Soft Matter</i> , 2012, 8, 10394.	1.2	15
41	Localized electric field induced transition and miniaturization of two-phase flow patterns inside microchannels. <i>Electrophoresis</i> , 2014, 35, 2930-2937.	1.3	15
42	Digitization of two-phase flow patterns in a microchannel induced by an external AC field. <i>RSC Advances</i> , 2015, 5, 29545-29551.	1.7	15
43	Electric field mediated squeezing to bending transitions of interfacial instabilities for digitization and mixing of two-phase microflows. <i>Physics of Fluids</i> , 2019, 31, .	1.6	15
44	Electric field mediated von Kármán vortices in stratified microflows: transition from linear instabilities to coherent mixing. <i>Journal of Fluid Mechanics</i> , 2019, 865, 169-211.	1.4	15
45	Microfluidic Immunosensor for Point-of-Care-Testing of Beta-2-Microglobulin in Tear. <i>ACS Sustainable Chemistry and Engineering</i> , 2020, 8, 9268-9276.	3.2	15
46	Electric-field- and contact-force-induced tunable patterns in slipping soft elastic films. <i>Europhysics Letters</i> , 2010, 89, 36002.	0.7	14
47	Embedded Microstructures by Electric-Field-Induced Pattern Formation in Interacting Thin Layers. <i>Langmuir</i> , 2010, 26, 10943-10952.	1.6	14
48	Self-Organized Large-Scale Integration of Mesoscale-Ordered Heterojunctions for Process-Intensified Photovoltaics. <i>Physical Review Applied</i> , 2018, 10, .	1.5	14
49	Unexplored Pathways To Charge Storage in Supercapacitors. <i>Journal of Physical Chemistry C</i> , 2019, 123, 195-204.	1.5	14
50	Instability and dewetting of ultrathin solid viscoelastic films on homogeneous and heterogeneous substrates. <i>Journal of Chemical Physics</i> , 2011, 134, 064705.	1.2	13
51	Electric field and van der Waals force induced instabilities in thin viscoelastic bilayers. <i>Physics of Fluids</i> , 2012, 24, .	1.6	13
52	Steady and Oscillatory Lorentz-Force-Induced Transport and Digitization of Two-Phase Microflows. <i>Physical Review Applied</i> , 2018, 10, .	1.5	13
53	Electroosmosis with Augmented Mixing in Rigid to Flexible Microchannels with Surface Patterns. <i>Industrial &amp; Engineering Chemistry Research</i> , 2020, 59, 3717-3729.	1.8	13
54	Switching of interfacial instabilities from the liquid/air interface to the liquid/liquid interface in a polymer bilayer. <i>Soft Matter</i> , 2011, 7, 8056.	1.2	12

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55	Field induced anomalous spreading, oscillation, ejection, spinning, and breaking of oil droplets on a strongly slipping water surface. <i>Faraday Discussions</i> , 2017, 199, 115-128.	1.6	12
56	RGO-Paper Sensor for Point-of-Care Detection of Lipase in Blood Serum. , 2018, 2, 1-4.		12
57	Graphene oxide nanohybrids for electron transfer-mediated antimicrobial activity. <i>Nanoscale Advances</i> , 2019, 1, 3727-3740.	2.2	12
58	Influence of the mutable kinetic parameters on the adhesion and debonding of thin viscoelastic films. <i>Journal of Colloid and Interface Science</i> , 2016, 477, 109-122.	5.0	11
59	Microfluidic Electrolyzers for Production and Separation of Hydrogen from Sea Water using Naturally Abundant Solar Energy. <i>Energy Technology</i> , 2017, 5, 1208-1217.	1.8	11
60	Formic acid powered reusable autonomous ferrobots for efficient hydrogen generation under ambient conditions. <i>Journal of Materials Chemistry A</i> , 2018, 6, 9209-9219.	5.2	11
61	Multimodal chemo-/magneto-/phototaxis of 3G CNT-bots to power fuel cells. <i>Microsystems and Nanoengineering</i> , 2020, 6, 19.	3.4	11
62	Micro-patterning of coatings on a fiber surface exploiting the contact instabilities of thin viscoelastic films. <i>Physics of Fluids</i> , 2018, 30, 114101.	1.6	10
63	Noninvasive Point-of-Care Nanobiosensing of Cervical Cancer as an Auxiliary to Pap-Smear Test. <i>ACS Applied Bio Materials</i> , 2021, 4, 5378-5390.	2.3	10
64	Electrodynamic-contact-line-lithography with nematic liquid crystals for template-less E-writing of mesopatterns on soft surfaces. <i>Nanoscale</i> , 2019, 11, 16523-16533.	2.8	9
65	Acoustic Propulsion of Vitamin C Loaded Teabots for Targeted Oxidative Stress and Amyloid Therapeutics. <i>ACS Applied Bio Materials</i> , 2019, 2, 4571-4582.	2.3	9
66	Electric Field Induced Patterning of Thin Coatings on Fiber Surfaces. <i>Journal of Physical Chemistry C</i> , 2012, 116, 6215-6221.	1.5	8
67	Magnetic field induced push&pull motility of liquibots. <i>RSC Advances</i> , 2016, 6, 107049-107056.	1.7	8
68	Acoustic Wave Catalyzed Urea Detection Utilizing a Pulsatile Microdroplet Sensor. <i>ACS Sustainable Chemistry and Engineering</i> , 0, , .	3.2	8
69	Dipolar Alignment in a Ferroelectric Dielectric Layer of FeFETs to Boost Charge Mobility and Nonvolatile Memory. <i>ACS Applied Electronic Materials</i> , 2020, 2, 3187-3198.	2.0	8
70	Paper-Based Sensors for Point-of-Care Kidney Function Monitoring. <i>IEEE Sensors Journal</i> , 2020, 20, 9644-9651.	2.4	8
71	Graphite/RGO coated paper $\frac{1}{4}$ -electrolyzers for production and separation of hydrogen and oxygen. <i>Energy</i> , 2021, 228, 120490.	4.5	8
72	Single and double toroid formation during oil droplet impact on an air&water interface at low Reynolds number. <i>Physics of Fluids</i> , 2022, 34, .	1.6	8

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73	Pattern-Directed Phase Transitions and VOC Sensing of Liquid Crystal Films. <i>Industrial &amp; Engineering Chemistry Research</i> , 2020, 59, 1902-1913.	1.8	7
74	A coupled continuum-statistical model to predict interfacial deformation under an external field. <i>Journal of Colloid and Interface Science</i> , 2021, 587, 864-875.	5.0	7
75	Electric-field-mediated instability modes and Fréedericksz transition of thin nematic films. <i>Journal of Fluid Mechanics</i> , 2018, 834, 464-509.	1.4	6
76	Microfluidic Schottky-junction photovoltaics with superior efficiency stimulated by plasmonic nanoparticles and streaming potential. <i>Nanoscale Advances</i> , 2019, 1, 1155-1164.	2.2	6
77	Effects of Fluid-Structure-Interaction and Surface Heterogeneity on the Electrophoresis of Microparticles. <i>Industrial &amp; Engineering Chemistry Research</i> , 2019, 58, 6756-6766.	1.8	6
78	Functional liquid droplets for analyte sensing and energy harvesting. <i>Advances in Colloid and Interface Science</i> , 2021, 294, 102453.	7.0	6
79	Hierarchical micro- and nanofabrication by pattern-directed contact instabilities of thin viscoelastic films. <i>Physical Review Fluids</i> , 2017, 2, .	1.0	6
80	Pathways to community transmission of COVID-19 due to rapid evaporation of respiratory virulets. <i>Journal of Colloid and Interface Science</i> , 2022, 619, 229-245.	5.0	6
81	Electric field mediated separation of water-ethanol mixtures in carbon-nanotubes integrated in nanoporous graphene membranes. <i>Faraday Discussions</i> , 2018, 209, 259-271.	1.6	5
82	Boolean-chemotaxis of logibots deciphering the motions of self-propelling microorganisms. <i>Soft Matter</i> , 2018, 14, 3182-3191.	1.2	5
83	Fabrication of pixelated liquid crystal nanostructures employing the contact line instabilities of droplets. <i>Nanoscale</i> , 2019, 11, 1680-1691.	2.8	5
84	Self-organized spreading of droplets to fluid toroids. <i>Journal of Colloid and Interface Science</i> , 2020, 578, 738-748.	5.0	5
85	Multifunctional liquid marbles to stabilize and transport reactive fluids. <i>Soft Matter</i> , 2021, 17, 5084-5095.	1.2	5
86	Influence of the pre-impact shape of an oil droplet on the post-impact flow dynamics at air-water interface. <i>Soft Matter</i> , 2022, 18, 4102-4117.	1.2	5
87	UV-Ozone mediated miniaturization of dewetted polymeric nanostructures on graphene-oxide-flakes for enhanced Raman scattering. <i>Carbon</i> , 2017, 121, 612-624.	5.4	4
88	Microdroplet photofuel cells to harvest high-density energy and dye degradation. <i>Nanoscale Advances</i> , 2020, 2, 1613-1624.	2.2	4
89	Giant Slip Induced Anomalous Dewetting of an Ultrathin Film on a Viscous Sublayer. <i>Scientific Reports</i> , 2017, 7, 14776.	1.6	3
90	Electric field mediated elastic contact lithography of thin viscoelastic films for miniaturized and multiscale patterns. <i>Soft Matter</i> , 2018, 14, 3963-3977.	1.2	3

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91	Genesis of electric field assisted microparticle assemblage in a dielectric fluid. Journal of Fluid Mechanics, 2021, 915, .	1.4	3
92	Self-organization of random copolymers to nanopatterns by localized e-beam dosing. Nanotechnology, 2021, 32, 285302.	1.3	3
93	Multifunctional gold nanoparticles for biosensing. , 2021, , 331-366.		3
94	A computational study on osmotic chemotaxis of a reactive Janusbot. Physics of Fluids, 2020, 32, 112018.	1.6	3
95	Magnetotactic curcumin iButtonbots as efficient bactericidal agents. Bulletin of Materials Science, 2020, 43, 1.	0.8	2
96	Electric-Discharge-Mediated Jetting, Crowning, Bursting, and Atomization of a Droplet. Physical Review Applied, 2021, 15, .	1.5	2
97	Physicochemical defect guided dewetting of ultrathin films to fabricate nanoscale patterns. Nanotechnology, 2021, 32, 195303.	1.3	2
98	Electric Field-Induced Bridging of a Droplet Twin. Langmuir, 2022, 38, 7146-7156.	1.6	2
99	Detection of organic vapours employing droplets having nanoparticles. , 2016, , .		1
100	Electric field assisted multicomponent reaction in a microfluidic reactor for superior conversion and yield. Electrophoresis, 2019, 40, 401-409.	1.3	1
101	Conductive Polymer Nanobiosensors. Environmental Chemistry for A Sustainable World, 2021, , 85-118.	0.3	1
102	Self-Organized Implanting of Micro/Nanofiltration Membranes in Advanced Flow $\frac{1}{4}$ -Reactors. ACS Applied Materials & Interfaces, 2021, 13, 19430-19442.	4.0	1
103	Real-time transport kinetics of drug encapsulated nanoparticles into apoptotic cancer cells inside microchannels. Nanotechnology, 2021, 32, 505704.	1.3	1
104	Advances in Materials, Methods, and Principles of Modern Biosensing Tools. , 2022, , 33-57.		1
105	Self-Organized Liquid Crystal Droplets as Phototunable Softmasks. ACS Applied Materials & Interfaces, 2021, 13, 60697-60712.	4.0	1
106	Organic vapour detection with nanoparticle suspended salt solution droplet and the effect of viscosity and vapour-source distance. , 2016, , .		0
107	Paper Based Flexible Carbon-FET Devices by Embedding Si Nanoparticles in Graphite Channel. , 2017, , .		0