Diganta B Das

List of Publications by Year
in descending order

111 papers	3,457 citations	117571 34 h-index	168321 53 g-index
115 all docs	115 docs citations	115 times ranked	3092 citing authors

#	Article	IF	Citations
1	Influence of Array Interspacing on the Force Required for Successful Microneedle Skin Penetration: Theoretical and Practical Approaches. Journal of Pharmaceutical Sciences, 2013, 102, 1209-1221.	1.6	165
2	Microneedles for drug delivery: trends and progress. Drug Delivery, 2016, 23, 2338-2354.	2.5	146
3	Transdermal drug delivery by coated microneedles: Geometry effects on effective skin thickness and drug permeability. Chemical Engineering Research and Design, 2008, 86, 1196-1206.	2.7	127
4	Potential of combined ultrasound and microneedles for enhanced transdermal drug permeation: A review. European Journal of Pharmaceutics and Biopharmaceutics, 2015, 89, 312-328.	2.0	108
5	Recent progress in the fabrication techniques of 3D scaffolds for tissue engineering. Materials Science and Engineering C, 2020, 110, 110716.	3.8	106
6	Solid Waste Management. Environmental Science and Engineering, 2012, , .	0.1	105
7	Dynamic effects in capillary pressureâ€“saturations relationships for two-phase flow in 3D porous media: Implications of micro-heterogeneities. Chemical Engineering Science, 2007, 62, 1927-1947.	1.9	85
8	Filtration of natural organic matter using ultrafiltration membranes for drinking water purposes: Circular cross-flow compared with stirred dead end flow. Chemical Engineering Journal, 2015, 276, 331-339.	6.6	81
9	Permeability Enhancement for Transdermal Delivery of Large Molecule Using Low-Frequency Sonophoresis Combined with Microneedles. Journal of Pharmaceutical Sciences, 2013, 102, 3614-3622.	1.6	76
10	Augmented biohydrogen production from rice mill wastewater through nano-metal oxides assisted dark fermentation. Bioresource Technology, 2021, 319, 124243.	4.8	74
11	Nanomaterials for Biomedical Applications: Production, Characterisations, Recent Trends and Difficulties. Molecules, 2021, 26, 1077.	1.7	72
12	Modelling nutrient transport in hollow fibre membrane bioreactors for growing three-dimensional bone tissue. Journal of Membrane Science, 2006, 272, 169-178.	4.1	71
13	Effect of Force of Microneedle Insertion on the Permeability of Insulin in Skin. Journal of Diabetes Science and Technology, 2014, 8, 444-452.	1.3	71
14	Geological Carbon Sequestration in the Context of Two-Phase Flow in Porous Media: A Review. Critical Reviews in Environmental Science and Technology, 2015, 45, 1105-1147.	6.6	71
15	Optimizing Microneedle Arrays to Increase Skin Permeability for Transdermal Drug Delivery. Annals of the New York Academy of Sciences, 2009, 1161, 83-94.	1.8	68
16	Lignocellulosic bioethanol production: prospects of emerging membrane technologies to improve the process â€“ a critical review. Reviews in Chemical Engineering, 2020, 36, 333-367.	2.3	67
17	Microneedle Assisted Micro-Particle Delivery from Gene Guns: Experiments Using Skin-Mimicking Agarose Gel. Journal of Pharmaceutical Sciences, 2014, 103, 613-627.	1.6	66
18	Dynamic effects in capillary pressure relationships for twoâ€phase flow in porous media: Experiments and numerical analyses. AICHE Journal, 2012, 58, 3891-3903.	1.8	58

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19	Optimization of square microneedle arrays for increasing drug permeability in skin. Chemical Engineering Science, 2008, 63, 2523-2535.	1.9	56
20	Removal of hazardous material from wastewater by using metal organic framework (MOF) embeddedpolymeric membranes. Separation Science and Technology, 2019, 54, 434-446.	1.3	56
21	Glass capillary microfluidics for production of monodispersed poly (dl-lactic acid) and polycaprolactone microparticles: Experiments and numerical simulations. Journal of Colloid and Interface Science, 2014, 418, 163-170.	5.0	55
22	Potential of microneedle-assisted micro-particle delivery by gene guns: a review. Drug Delivery, 2014, 21, 571-587.	2.5	53
23	A review on design, material selection, mechanism, and modelling of permeable reactive barrier for community-scale groundwater treatment. Environmental Technology and Innovation, 2020, 19, 100917.	3.0	53
24	Scale dependent dynamic capillary pressure effect for two-phase flow in porous media. Advances in Water Resources, 2014, 74, 212-230.	1.7	52
25	Dynamic effects for twoâ€phase flow in porous media: Fluid property effects. AICHE Journal, 2007, 53, 2505-2520.	1.8	48
26	Lidocaine carboxymethylcellulose with gelatine co-polymer hydrogel delivery by combined microneedle and ultrasound. Drug Delivery, 2016, 23, 658-669.	2.5	47
27	Modelling Transdermal Drug Delivery Using Microneedles: Effect of Geometry on Drug Transport Behaviour. Journal of Pharmaceutical Sciences, 2012, 101, 164-175.	1.6	46
28	Microneedle-Assisted Permeation of Lidocaine Carboxymethylcellulose with Gelatine Co-polymer Hydrogel. Pharmaceutical Research, 2014, 31, 1170-1184.	1.7	46
29	Non-uniqueness in capillary pressureâ€“saturationâ€“relative permeability relationships for two-phase flow in porous media: Interplay between intensity and distribution of random micro-heterogeneities. Chemical Engineering Science, 2006, 61, 6786-6803.	1.9	44
30	Modelling transdermal delivery of high molecular weight drugs from microneedle systems. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2007, 365, 2951-2967.	1.6	41
31	Influence of haematocrit level on the kinetics of blood spreading on thin porous medium during dried blood spot sampling. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2014, 451, 38-47.	2.3	40
32	Potential of biodegradable microneedles as a transdermal delivery vehicle for lidocaine. Biotechnology Letters, 2013, 35, 1351-1363.	1.1	39
33	Optimizing microneedle arrays for transdermal drug delivery: Extension to non-square distribution of microneedles. Journal of Drug Targeting, 2009, 17, 108-122.	2.1	36
34	Dynamic effects on capillary pressureâ€“Saturation relationships for twoâ€phase porous flow: Implications of temperature. AICHE Journal, 2012, 58, 1951-1965.	1.8	36
35	Lidocaine-loaded fish scale-nanocellulose biopolymer composite microneedles. AAPS PharmSciTech, 2017, 18, 1488-1494.	1.5	34
36	Nanoparticle- and Nanoporous-Membrane-Mediated Delivery of Therapeutics. Pharmaceutics, 2019, 11, 294.	2.0	34

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37	A Numerical Study of Micro-Heterogeneity Effects on Upscaled Properties of Two-Phase Flow in Porous Media. Transport in Porous Media, 2004, 56, 329-350.	1.2	32
38	Artificial neural network (ANN) modeling of dynamic effects on two-phase flow in homogenous porous media. Journal of Hydroinformatics, 2013, 15, 540-554.	1.1	32
39	Transdermal drug delivery by coated microneedles: geometry effects on drug concentration in blood. Asia-Pacific Journal of Chemical Engineering, 2009, 4, 845-857.	0.8	30
40	Novel polysaccharide hybrid scaffold loaded with hydroxyapatite: Fabrication, bioactivity, and in vivo study. Materials Science and Engineering C, 2018, 93, 1-11.	3.8	30
41	Experimental measurement of dynamic effect in capillary pressure relationship for twoâ€phase flow in weakly layered porous media. AICHE Journal, 2013, 59, 1723-1734.	1.8	28
42	Experimental investigation of hysteretic dynamic effect in capillary pressureâ€“saturation relationship for twoâ€phase flow in porous media. AICHE Journal, 2013, 59, 3958-3974.	1.8	27
43	Glucose diffusivity in cell culture medium. Chemical Engineering Journal, 2015, 269, 323-327.	6.6	27
44	Mathematical Modelling, Simulation and Optimisation of Microneedles for Transdermal Drug Delivery: Trends and Progress. Pharmaceutics, 2020, 12, 693.	2.0	27
45	Translation of Polymeric Microneedles for Treatment of Human Diseases: Recent Trends, Progress, and Challenges. Pharmaceutics, 2021, 13, 1132.	2.0	27
46	On glucose diffusivity of tissue engineering membranes and scaffolds. Chemical Engineering Science, 2015, 126, 244-256.	1.9	26
47	Spreading of blood drops over dry porous substrate: Complete wetting case. Journal of Colloid and Interface Science, 2015, 446, 218-225.	5.0	26
48	Multiscale simulation of nutrient transport in hollow fibre membrane bioreactor for growing bone tissue: Sub-cellular scale and beyond. Chemical Engineering Science, 2007, 62, 3627-3639.	1.9	25
49	A Non-dimensional Analysis of Permeability Loss in Zero-Valent Iron Permeable Reactive Barrier (PRB). Transport in Porous Media, 2019, 126, 139-159.	1.2	24
50	Hydrodynamic modelling for groundwater flow through permeable reactive barriers. Hydrological Processes, 2002, 16, 3393-3418.	1.1	23
51	A numerical study of capillary pressureâ€“saturation relationship for supercritical carbon dioxide (CO2) injection in deep saline aquifer. Chemical Engineering Research and Design, 2014, 92, 3017-3030.	2.7	23
52	Artificial Neural Network to Determine Dynamic Effect in Capillary Pressure Relationship for Two-Phase Flow in Porous Media with Micro-Heterogeneities. Environmental Processes, 2015, 2, 1-18.	1.7	23
53	Scale dependency of dynamic relative permeabilityâ€“satuartion curves in relation with fluid viscosity and dynamic capillary pressure effect. Environmental Fluid Mechanics, 2016, 16, 945-963.	0.7	23
54	Multifunctional magnetite nanoparticles for drug delivery: Preparation, characterisation, antibacterial properties and drug release kinetics. International Journal of Pharmaceutics, 2020, 587, 119658.	2.6	23

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55	Artificial neural network modeling of scale-dependent dynamic capillary pressure effects in two-phase flow in porous media. Journal of Hydroinformatics, 2015, 17, 446-461.	1.1	20
56	Effect of Microneedle Type on Transdermal Permeation of Rizatriptan. AAPS PharmSciTech, 2017, 18, 1495-1506.	1.5	20
57	An Experimental Study of Microneedle-Assisted Microparticle Delivery. Journal of Pharmaceutical Sciences, 2013, 102, 3632-3644.	1.6	19
58	A numerical study of dynamic capillary pressure effect for supercritical carbon dioxideâ€water flow in porous domain. AICHE Journal, 2014, 60, 4266-4278.	1.8	18
59	Artificial Neural Network (ANN) For Evaluating Permeability Decline in Permeable Reactive Barrier (PRB). Environmental Processes, 2015, 2, 291-307.	1.7	18
60	A Numerical Analysis of the Effects of Supercritical CO2 Injection on CO2 Storage Capacities of Geological Formations. Clean Technologies, 2020, 2, 333-364.	1.9	18
61	Novel zinc-silver nanocages for drug delivery and wound healing: Preparation, characterization and antimicrobial activities. International Journal of Pharmaceutics, 2022, 616, 121559.	2.6	18
62	Simultaneous spreading and imbibition of blood droplets over porous substrates in the case of partial wetting. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2016, 505, 9-17.	2.3	17
63	Membrane-Based Point-Of-Use Water Treatment (PoUWT) System in Emergency Situations. Separation and Purification Reviews, 2016, 45, 50-67.	2.8	16
64	Analysis of hydrodynamic conditions in adjacent free and heterogeneous porous flow domains. Hydrological Processes, 2005, 19, 2775-2799.	1.1	15
65	Numerical simulation of coupled cell motion and nutrient transport in NASAâ€™s rotating bioreactor. Chemical Engineering Journal, 2015, 259, 961-971.	6.6	14
66	Preparation of nanoclay embedded polymeric membranes for the filtration of natural organic matter (NOM) in a circular crossflow filtration system. Journal of Water Process Engineering, 2020, 37, 101408.	2.6	14
67	LANDFLOW: a 3D finite volume model of combined free and porous flow of water in contaminated land sites. Water Science and Technology, 2001, 43, 55-64.	1.2	13
68	Effect of microneedles on transdermal permeation enhancement of amlodipine. Drug Delivery and Translational Research, 2017, 7, 383-394.	3.0	12
69	Cyclodextrine-glutaraldehyde cross-linked nanofiltration membrane for recovery of resveratrol from plant extract. Journal of Environmental Chemical Engineering, 2020, 8, 103620.	3.3	12
70	Advancements in modification of membrane materials over membrane separation for biomedical applications-Review. Environmental Research, 2022, 204, 112045.	3.7	12
71	Swellable microneedles based transdermal drug delivery: Mathematical model development and numerical experiments. Chemical Engineering Science, 2022, 247, 117005.	1.9	12
72	Solute Transport in Intervertebral Disc. Annals of the New York Academy of Sciences, 2009, 1161, 44-61.	1.8	11

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73	Geoelectrical characterization of carbonate and silicate porous media in the presence of supercritical CO2â€“water flow. Geophysical Journal International, 2015, 203, 79-91.	1.0	11
74	pH, geoelectrical and membrane flux parameters for the monitoring of water-saturated silicate and carbonate porous media contaminated by CO2. Chemical Engineering Journal, 2015, 262, 1208-1217.	6.6	11
75	Microneedle-assisted microparticle delivery by gene guns: experiments and modeling on the effects of particle characteristics. Drug Delivery, 2015, 22, 335-350.	2.5	11
76	Application of Microneedle Arrays for Enhancement of Transdermal Permeation of Insulin: In Vitro Experiments, Scaling Analyses and Numerical Simulations. AAPS PharmSciTech, 2016, 17, 915-922.	1.5	11
77	CO 2 Trapping in the Context of Geological Carbon Sequestration. , 2017, , 461-475.		11
78	Influence of Niobium Pentoxide Particulates on the Properties of Brushite/Gelatin/Alginate Membranes. Journal of Pharmaceutical Sciences, 2018, 107, 1361-1371.	1.6	11
79	Oil Spill Sorber Based on Extrinsically Magnetizable Porous Geopolymer. Materials, 2021, 14, 5641.	1.3	11
80	Potential of Microneedle Systems for COVID-19 Vaccination: Current Trends and Challenges. Pharmaceutics, 2022, 14, 1066.	2.0	11
81	Super-swelling hydrogel-forming microneedle based transdermal drug delivery: Mathematical modelling, simulation and experimental validation. International Journal of Pharmaceutics, 2022, 622, 121835.	2.6	11
82	Dynamics of fluid circulation in coupled free and heterogeneous porous domains. Chemical Engineering Science, 2007, 62, 3549-3573.	1.9	10
83	Lidocaine permeation from a lidocaine NaCMC/gel microgel formulation in microneedle-pierced skin: vertical (depth averaged) and horizontal permeation profiles. Drug Delivery and Translational Research, 2015, 5, 372-386.	3.0	10
84	Spreading of a Lidocaine Formulation on Microneedle-Treated Skin. Journal of Pharmaceutical Sciences, 2015, 104, 4109-4116.	1.6	10
85	Glucose diffusion in tissue engineering membranes and scaffolds. Reviews in Chemical Engineering, 2016, 32, .	2.3	10
86	Glucose diffusivity in cell-seeded tissue engineering scaffolds. Biotechnology Letters, 2016, 38, 183-190.	1.1	10
87	Geo-electrical Characterisation for CO2 Sequestration in Porous Media. Environmental Processes, 2017, 4, 303-317.	1.7	10
88	Microneedle-assisted transdermal delivery of Zolmitriptan: effect of microneedle geometry, in vitro permeation experiments, scaling analyses and numerical simulations. Drug Development and Industrial Pharmacy, 2017, 43, 1292-1303.	0.9	10
89	Effects of Scaffold Pore Morphologies on Glucose Transport Limitations in Hollow Fibre Membrane Bioreactor for Bone Tissue Engineering: Experiments and Numerical Modelling. Membranes, 2021, 11, 257.	1.4	10
90	Improving the assessment of polluted sites using an integrated bio-physico-chemical monitoring framework. Chemosphere, 2022, 290, 133344.	4.2	8

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91	Numerical analyses of bubble point tests used for membrane characterisation: model development and experimental validation. Asia-Pacific Journal of Chemical Engineering, 2011, 6, 850-862.	0.8	7
92	A New Paradigm for Numerical Simulation of Microneedle-Based Drug Delivery Aided by Histology of Microneedle-Pierced Skin. Journal of Pharmaceutical Sciences, 2015, 104, 1993-2007.	1.6	7
93	Biocompatibility of hydroxyethyl cellulose/glycine/RuO2 composite scaffolds for neural-like cells. International Journal of Biological Macromolecules, 2022, 209, 2097-2108.	3.6	7
94	A comparative study between stirred dead end and circular flow in microfiltration of China clay suspensions. Water Science and Technology: Water Supply, 2016, 16, 481-492.	1.0	6
95	Magnetic nanosystems substituted with zinc for enhanced antibacterial, drug delivery and cell viability behaviours. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2022, 650, 129629.	2.3	6
96	Transdermal Drug Delivery by Microneedles: Does Skin Metabolism Matter?. International Journal of Chemical Reactor Engineering, 2009, 7, .	0.6	5
97	Delivery of large molecular protein using flat and short microneedles prepared using focused ion beam (FIB) as a skin ablation tool. Drug Delivery and Translational Research, 2015, 5, 462-467.	3.0	5
98	Microneedle assisted micro-particle delivery by gene guns: Mathematical model formulation and experimental verification. Chemical Engineering Science, 2015, 125, 176-190.	1.9	5
99	Mathematical and numerical modelling of a circular cross-flow filtration module. Applied Mathematical Modelling, 2020, 80, 84-98.	2.2	5
100	Impacts of dynamic capillary pressure effects in supercritical CO2-Water flow: Experiments and numerical simulations. Advances in Water Resources, 2020, 136, 103504.	1.7	5
101	Geoelectrical characterisation of CO2â€“water systems in porous media: application to carbon sequestration. Environmental Earth Sciences, 2020, 79, 1.	1.3	4
102	Carbon Storage in Portland Cement Mortar: Influences of Hydration Stage, Carbonation Time and Aggregate Characteristics. Clean Technologies, 2021, 3, 563-580.	1.9	3
103	Pharmaceutical Particulates and Membranes for the Delivery of Drugs and Bioactive Molecules. Pharmaceutics, 2020, 12, 412.	2.0	2
104	On modelling of glucose transport in hollow fibre membrane bioreactor for growing threeâ€dimensional tissue. Asia-Pacific Journal of Chemical Engineering, 2021, 16, e2565.	0.8	2
105	Development of a new mathematical model for subsurface water quality management. Water Science and Technology, 2002, 45, 301-7.	1.2	2
106	Tracking CO2 Migration in Storage Aquifer. , 2018, , .		1
107	Hydrodynamic modelling for groundwater flow through permeable reactive barriers. , 2002, 16, 3393.		1
108	LANDFLOW: a 3D finite volume model of combined free and porous flow of water in contaminated land sites. Water Science and Technology, 2001, 43, 55-64.	1.2	1

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109	Artificial Neural Network (ANN)-Based Predictions of Bulk Permittivity of CO2-Water-Porous Media System. Advances in Geographical and Environmental Sciences, 2021, , 149-164.	0.4	0
110	Fundamentals of Physics for Environmental and Medical Professionals. , 2021, , 49-93.		0
111	Fundamentals of Chemistry for Environmental and Medical Professionals. , 2021, , 3-47.		0