

# Diganta B Das

## List of Publications by Year in descending order

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111  
papers

3,457  
citations

117571

34  
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168321

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115  
all docs

115  
docs citations

115  
times ranked

3092  
citing authors

#	ARTICLE	IF	CITATIONS
1	Advancements in modification of membrane materials over membrane separation for biomedical applications-Review. Environmental Research, 2022, 204, 112045.	3.7	12
2	Swellable microneedles based transdermal drug delivery: Mathematical model development and numerical experiments. Chemical Engineering Science, 2022, 247, 117005.	1.9	12
3	Improving the assessment of polluted sites using an integrated bio-physico-chemical monitoring framework. Chemosphere, 2022, 290, 133344.	4.2	8
4	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
5	Biocompatibility of hydroxyethyl cellulose/glycine/RuO <sub>2</sub> composite scaffolds for neural-like cells. International Journal of Biological Macromolecules, 2022, 209, 2097-2108.	3.6	7
6	Potential of Microneedle Systems for COVID-19 Vaccination: Current Trends and Challenges. Pharmaceutics, 2022, 14, 1066.	2.0	11
7	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
8	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
9	Augmented biohydrogen production from rice mill wastewater through nano-metal oxides assisted dark fermentation. Bioresource Technology, 2021, 319, 124243.	4.8	74
10	On modelling of glucose transport in hollow fibre membrane bioreactor for growing three-dimensional tissue. Asia-Pacific Journal of Chemical Engineering, 2021, 16, e2565.	0.8	2
11	Artificial Neural Network (ANN)-Based Predictions of Bulk Permittivity of CO <sub>2</sub> -Water-Porous Media System. Advances in Geographical and Environmental Sciences, 2021, , 149-164.	0.4	0
12	Nanomaterials for Biomedical Applications: Production, Characterisations, Recent Trends and Difficulties. Molecules, 2021, 26, 1077.	1.7	72
13	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
14	Carbon Storage in Portland Cement Mortar: Influences of Hydration Stage, Carbonation Time and Aggregate Characteristics. Clean Technologies, 2021, 3, 563-580.	1.9	3
15	Translation of Polymeric Microneedles for Treatment of Human Diseases: Recent Trends, Progress, and Challenges. Pharmaceutics, 2021, 13, 1132.	2.0	27
16	Oil Spill Sorber Based on Extrinsicly Magnetizable Porous Geopolymer. Materials, 2021, 14, 5641.	1.3	11
17	Fundamentals of Physics for Environmental and Medical Professionals. , 2021, , 49-93.		0
18	Fundamentals of Chemistry for Environmental and Medical Professionals. , 2021, , 3-47.		0

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19	Lignocellulosic bioethanol production: prospects of emerging membrane technologies to improve the process – a critical review. <i>Reviews in Chemical Engineering</i> , 2020, 36, 333-367.	2.3	67
20	Cyclodextrine-glutaraldehyde cross-linked nanofiltration membrane for recovery of resveratrol from plant extract. <i>Journal of Environmental Chemical Engineering</i> , 2020, 8, 103620.	3.3	12
21	Mathematical and numerical modelling of a circular cross-flow filtration module. <i>Applied Mathematical Modelling</i> , 2020, 80, 84-98.	2.2	5
22	A Numerical Analysis of the Effects of Supercritical CO <sub>2</sub> Injection on CO <sub>2</sub> Storage Capacities of Geological Formations. <i>Clean Technologies</i> , 2020, 2, 333-364.	1.9	18
23	Recent progress in the fabrication techniques of 3D scaffolds for tissue engineering. <i>Materials Science and Engineering C</i> , 2020, 110, 110716.	3.8	106
24	Multifunctional magnetite nanoparticles for drug delivery: Preparation, characterisation, antibacterial properties and drug release kinetics. <i>International Journal of Pharmaceutics</i> , 2020, 587, 119658.	2.6	23
25	Mathematical Modelling, Simulation and Optimisation of Microneedles for Transdermal Drug Delivery: Trends and Progress. <i>Pharmaceutics</i> , 2020, 12, 693.	2.0	27
26	Geoelectrical characterisation of CO <sub>2</sub> -water systems in porous media: application to carbon sequestration. <i>Environmental Earth Sciences</i> , 2020, 79, 1.	1.3	4
27	Pharmaceutical Particulates and Membranes for the Delivery of Drugs and Bioactive Molecules. <i>Pharmaceutics</i> , 2020, 12, 412.	2.0	2
28	A review on design, material selection, mechanism, and modelling of permeable reactive barrier for community-scale groundwater treatment. <i>Environmental Technology and Innovation</i> , 2020, 19, 100917.	3.0	53
29	Preparation of nanoclay embedded polymeric membranes for the filtration of natural organic matter (NOM) in a circular crossflow filtration system. <i>Journal of Water Process Engineering</i> , 2020, 37, 101408.	2.6	14
30	Impacts of dynamic capillary pressure effects in supercritical CO <sub>2</sub> -Water flow: Experiments and numerical simulations. <i>Advances in Water Resources</i> , 2020, 136, 103504.	1.7	5
31	A Non-dimensional Analysis of Permeability Loss in Zero-Valent Iron Permeable Reactive Barrier (PRB). <i>Transport in Porous Media</i> , 2019, 126, 139-159.	1.2	24
32	Nanoparticle- and Nanoporous-Membrane-Mediated Delivery of Therapeutics. <i>Pharmaceutics</i> , 2019, 11, 294.	2.0	34
33	Removal of hazardous material from wastewater by using metal organic framework (MOF) embedded polymeric membranes. <i>Separation Science and Technology</i> , 2019, 54, 434-446.	1.3	56
34	Influence of Niobium Pentoxide Particulates on the Properties of Brushite/Gelatin/Alginate Membranes. <i>Journal of Pharmaceutical Sciences</i> , 2018, 107, 1361-1371.	1.6	11
35	Tracking CO <sub>2</sub> Migration in Storage Aquifer. , 2018, , .		1
36	Novel polysaccharide hybrid scaffold loaded with hydroxyapatite: Fabrication, bioactivity, and in vivo study. <i>Materials Science and Engineering C</i> , 2018, 93, 1-11.	3.8	30

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37	Effect of microneedles on transdermal permeation enhancement of amlodipine. Drug Delivery and Translational Research, 2017, 7, 383-394.	3.0	12
38	Effect of Microneedle Type on Transdermal Permeation of Rizatriptan. AAPS PharmSciTech, 2017, 18, 1495-1506.	1.5	20
39	Geo-electrical Characterisation for CO <sub>2</sub> Sequestration in Porous Media. Environmental Processes, 2017, 4, 303-317.	1.7	10
40	Microneedle-assisted transdermal delivery of Zolmitriptan: effect of microneedle geometry, <i>in vitro</i> permeation experiments, scaling analyses and numerical simulations. Drug Development and Industrial Pharmacy, 2017, 43, 1292-1303.	0.9	10
41	Lidocaine-loaded fish scale-nanocellulose biopolymer composite microneedles. AAPS PharmSciTech, 2017, 18, 1488-1494.	1.5	34
42	CO <sub>2</sub> Trapping in the Context of Geological Carbon Sequestration. , 2017, , 461-475.		11
43	Glucose diffusion in tissue engineering membranes and scaffolds. Reviews in Chemical Engineering, 2016, 32, .	2.3	10
44	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
45	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
46	Microneedles for drug delivery: trends and progress. Drug Delivery, 2016, 23, 2338-2354.	2.5	146
47	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
48	Glucose diffusivity in cell-seeded tissue engineering scaffolds. Biotechnology Letters, 2016, 38, 183-190.	1.1	10
49	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
50	Lidocaine carboxymethylcellulose with gelatine co-polymer hydrogel delivery by combined microneedle and ultrasound. Drug Delivery, 2016, 23, 658-669.	2.5	47
51	Membrane-Based Point-Of-Use Water Treatment (PoUWT) System in Emergency Situations. Separation and Purification Reviews, 2016, 45, 50-67.	2.8	16
52	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
53	Artificial Neural Network (ANN) For Evaluating Permeability Decline in Permeable Reactive Barrier (PRB). Environmental Processes, 2015, 2, 291-307.	1.7	18
54	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

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55	Spreading of a Lidocaine Formulation on Microneedle-Treated Skin. <i>Journal of Pharmaceutical Sciences</i> , 2015, 104, 4109-4116.	1.6	10
56	Potential of combined ultrasound and microneedles for enhanced transdermal drug permeation: A review. <i>European Journal of Pharmaceutics and Biopharmaceutics</i> , 2015, 89, 312-328.	2.0	108
57	On glucose diffusivity of tissue engineering membranes and scaffolds. <i>Chemical Engineering Science</i> , 2015, 126, 244-256.	1.9	26
58	Glucose diffusivity in cell culture medium. <i>Chemical Engineering Journal</i> , 2015, 269, 323-327.	6.6	27
59	Spreading of blood drops over dry porous substrate: Complete wetting case. <i>Journal of Colloid and Interface Science</i> , 2015, 446, 218-225.	5.0	26
60	Artificial Neural Network to Determine Dynamic Effect in Capillary Pressure Relationship for Two-Phase Flow in Porous Media with Micro-Heterogeneities. <i>Environmental Processes</i> , 2015, 2, 1-18.	1.7	23
61	Filtration of natural organic matter using ultrafiltration membranes for drinking water purposes: Circular cross-flow compared with stirred dead end flow. <i>Chemical Engineering Journal</i> , 2015, 276, 331-339.	6.6	81
62	A New Paradigm for Numerical Simulation of Microneedle-Based Drug Delivery Aided by Histology of Microneedle-Pierced Skin. <i>Journal of Pharmaceutical Sciences</i> , 2015, 104, 1993-2007.	1.6	7
63	Geoelectrical characterization of carbonate and silicate porous media in the presence of supercritical CO <sub>2</sub> water flow. <i>Geophysical Journal International</i> , 2015, 203, 79-91.	1.0	11
64	Delivery of large molecular protein using flat and short microneedles prepared using focused ion beam (FIB) as a skin ablation tool. <i>Drug Delivery and Translational Research</i> , 2015, 5, 462-467.	3.0	5
65	Geological Carbon Sequestration in the Context of Two-Phase Flow in Porous Media: A Review. <i>Critical Reviews in Environmental Science and Technology</i> , 2015, 45, 1105-1147.	6.6	71
66	Microneedle assisted micro-particle delivery by gene guns: Mathematical model formulation and experimental verification. <i>Chemical Engineering Science</i> , 2015, 125, 176-190.	1.9	5
67	Numerical simulation of coupled cell motion and nutrient transport in NASA's rotating bioreactor. <i>Chemical Engineering Journal</i> , 2015, 259, 961-971.	6.6	14
68	pH, geoelectrical and membrane flux parameters for the monitoring of water-saturated silicate and carbonate porous media contaminated by CO <sub>2</sub> . <i>Chemical Engineering Journal</i> , 2015, 262, 1208-1217.	6.6	11
69	Microneedle-assisted microparticle delivery by gene guns: experiments and modeling on the effects of particle characteristics. <i>Drug Delivery</i> , 2015, 22, 335-350.	2.5	11
70	Scale dependent dynamic capillary pressure effect for two-phase flow in porous media. <i>Advances in Water Resources</i> , 2014, 74, 212-230.	1.7	52
71	Effect of Force of Microneedle Insertion on the Permeability of Insulin in Skin. <i>Journal of Diabetes Science and Technology</i> , 2014, 8, 444-452.	1.3	71
72	Microneedle-Assisted Permeation of Lidocaine Carboxymethylcellulose with Gelatine Co-polymer Hydrogel. <i>Pharmaceutical Research</i> , 2014, 31, 1170-1184.	1.7	46

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73	Potential of microneedle-assisted micro-particle delivery by gene guns: a review. <i>Drug Delivery</i> , 2014, 21, 571-587.	2.5	53
74	Microneedle Assisted Micro-Particle Delivery from Gene Guns: Experiments Using Skin-Mimicking Agarose Gel. <i>Journal of Pharmaceutical Sciences</i> , 2014, 103, 613-627.	1.6	66
75	Glass capillary microfluidics for production of monodispersed poly (dl-lactic acid) and polycaprolactone microparticles: Experiments and numerical simulations. <i>Journal of Colloid and Interface Science</i> , 2014, 418, 163-170.	5.0	55
76	A numerical study of capillary pressure-saturation relationship for supercritical carbon dioxide (CO <sub>2</sub> ) injection in deep saline aquifer. <i>Chemical Engineering Research and Design</i> , 2014, 92, 3017-3030.	2.7	23
77	Influence of haematocrit level on the kinetics of blood spreading on thin porous medium during dried blood spot sampling. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2014, 451, 38-47.	2.3	40
78	A numerical study of dynamic capillary pressure effect for supercritical carbon dioxide-water flow in porous domain. <i>AIChE Journal</i> , 2014, 60, 4266-4278.	1.8	18
79	Potential of biodegradable microneedles as a transdermal delivery vehicle for lidocaine. <i>Biotechnology Letters</i> , 2013, 35, 1351-1363.	1.1	39
80	Experimental investigation of hysteretic dynamic effect in capillary pressure-saturation relationship for two-phase flow in porous media. <i>AIChE Journal</i> , 2013, 59, 3958-3974.	1.8	27
81	Experimental measurement of dynamic effect in capillary pressure relationship for two-phase flow in weakly layered porous media. <i>AIChE Journal</i> , 2013, 59, 1723-1734.	1.8	28
82	Influence of Array Interspacing on the Force Required for Successful Microneedle Skin Penetration: Theoretical and Practical Approaches. <i>Journal of Pharmaceutical Sciences</i> , 2013, 102, 1209-1221.	1.6	165
83	Artificial neural network (ANN) modeling of dynamic effects on two-phase flow in homogenous porous media. <i>Journal of Hydroinformatics</i> , 2013, 15, 540-554.	1.1	32
84	Permeability Enhancement for Transdermal Delivery of Large Molecule Using Low-Frequency Sonophoresis Combined with Microneedles. <i>Journal of Pharmaceutical Sciences</i> , 2013, 102, 3614-3622.	1.6	76
85	An Experimental Study of Microneedle-Assisted Microparticle Delivery. <i>Journal of Pharmaceutical Sciences</i> , 2013, 102, 3632-3644.	1.6	19
86	Solid Waste Management. <i>Environmental Science and Engineering</i> , 2012, , .	0.1	105
87	Dynamic effects on capillary pressure-saturation relationships for two-phase porous flow: Implications of temperature. <i>AIChE Journal</i> , 2012, 58, 1951-1965.	1.8	36
88	Dynamic effects in capillary pressure relationships for two-phase flow in porous media: Experiments and numerical analyses. <i>AIChE Journal</i> , 2012, 58, 3891-3903.	1.8	58
89	Modelling Transdermal Drug Delivery Using Microneedles: Effect of Geometry on Drug Transport Behaviour. <i>Journal of Pharmaceutical Sciences</i> , 2012, 101, 164-175.	1.6	46
90	Numerical analyses of bubble point tests used for membrane characterisation: model development and experimental validation. <i>Asia-Pacific Journal of Chemical Engineering</i> , 2011, 6, 850-862.	0.8	7

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91	Optimizing microneedle arrays for transdermal drug delivery: Extension to non-square distribution of microneedles. <i>Journal of Drug Targeting</i> , 2009, 17, 108-122.	2.1	36
92	Transdermal Drug Delivery by Microneedles: Does Skin Metabolism Matter?. <i>International Journal of Chemical Reactor Engineering</i> , 2009, 7, .	0.6	5
93	Transdermal drug delivery by coated microneedles: geometry effects on drug concentration in blood. <i>Asia-Pacific Journal of Chemical Engineering</i> , 2009, 4, 845-857.	0.8	30
94	Solute Transport in Intervertebral Disc. <i>Annals of the New York Academy of Sciences</i> , 2009, 1161, 44-61.	1.8	11
95	Optimizing Microneedle Arrays to Increase Skin Permeability for Transdermal Drug Delivery. <i>Annals of the New York Academy of Sciences</i> , 2009, 1161, 83-94.	1.8	68
96	Optimization of square microneedle arrays for increasing drug permeability in skin. <i>Chemical Engineering Science</i> , 2008, 63, 2523-2535.	1.9	56
97	Transdermal drug delivery by coated microneedles: Geometry effects on effective skin thickness and drug permeability. <i>Chemical Engineering Research and Design</i> , 2008, 86, 1196-1206.	2.7	127
98	Modelling transdermal delivery of high molecular weight drugs from microneedle systems. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2007, 365, 2951-2967.	1.6	41
99	Dynamic effects for two-phase flow in porous media: Fluid property effects. <i>AIChE Journal</i> , 2007, 53, 2505-2520.	1.8	48
100	Dynamic effects in capillary pressure-saturations relationships for two-phase flow in 3D porous media: Implications of micro-heterogeneities. <i>Chemical Engineering Science</i> , 2007, 62, 1927-1947.	1.9	85
101	Dynamics of fluid circulation in coupled free and heterogeneous porous domains. <i>Chemical Engineering Science</i> , 2007, 62, 3549-3573.	1.9	10
102	Multiscale simulation of nutrient transport in hollow fibre membrane bioreactor for growing bone tissue: Sub-cellular scale and beyond. <i>Chemical Engineering Science</i> , 2007, 62, 3627-3639.	1.9	25
103	Non-uniqueness in capillary pressure-saturation-relative permeability relationships for two-phase flow in porous media: Interplay between intensity and distribution of random micro-heterogeneities. <i>Chemical Engineering Science</i> , 2006, 61, 6786-6803.	1.9	44
104	Modelling nutrient transport in hollow fibre membrane bioreactors for growing three-dimensional bone tissue. <i>Journal of Membrane Science</i> , 2006, 272, 169-178.	4.1	71
105	Analysis of hydrodynamic conditions in adjacent free and heterogeneous porous flow domains. <i>Hydrological Processes</i> , 2005, 19, 2775-2799.	1.1	15
106	A Numerical Study of Micro-Heterogeneity Effects on Upscaled Properties of Two-Phase Flow in Porous Media. <i>Transport in Porous Media</i> , 2004, 56, 329-350.	1.2	32
107	Hydrodynamic modelling for groundwater flow through permeable reactive barriers. <i>Hydrological Processes</i> , 2002, 16, 3393-3418.	1.1	23
108	Hydrodynamic modelling for groundwater flow through permeable reactive barriers. , 2002, 16, 3393.		1

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109	Development of a new mathematical model for subsurface water quality management. <i>Water Science and Technology</i> , 2002, 45, 301-7.	1.2	2
110	LANDFLOW: a 3D finite volume model of combined free and porous flow of water in contaminated land sites. <i>Water Science and Technology</i> , 2001, 43, 55-64.	1.2	13
111	LANDFLOW: a 3D finite volume model of combined free and porous flow of water in contaminated land sites. <i>Water Science and Technology</i> , 2001, 43, 55-64.	1.2	1