# Sanjoy Banerjee

List of Publications by Year
in descending order

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| 102 | 4,482 | 71102 | 110387 |
|---|---|---|---|
| papers | citations | 41 h-index | 64 g-index |

| 103 | 103 | 103 | 3785 |
|---|---|---|---|
| all docs | docs citations | times ranked | citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Regenerable Cu-intercalated MnO2 layered cathode for highly cyclable energy dense batteries. Nature Communications, 2017, 8, 14424. | 12.8 | 216 |
| 2 | Interfacial Rheology of Asphaltenes at Oilâ€“Water Interfaces and Interpretation of the Equation of State. Langmuir, 2013, 29, 4750-4759. | 3.5 | 212 |
| 3 | Adsorption Kinetics of Asphaltenes at the Oilâ€“Water Interface and Nanoaggregation in the Bulk. Langmuir, 2012, 28, 9986-9995. | 3.5 | 199 |
| 4 | Breaking the 2 V Barrier in Aqueous Zinc Chemistry: Creating 2.45 and 2.8 V MnO<sub>2</sub>â€“Zn Aqueous Batteries. ACS Energy Letters, 2019, 4, 2144-2146. | 17.4 | 142 |
| 5 | Free-surface microfluidic control of surface-enhanced Raman spectroscopy for the optimized detection of airborne molecules. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 18898-18901. | 7.1 | 139 |
| 6 | Zinc morphology in zincâ€“nickel flow assisted batteries and impact on performance. Journal of Power Sources, 2011, 196, 2340-2345. | 7.8 | 129 |
| 7 | Rechargeable Zinc Alkaline Anodes for Long-Cycle Energy Storage. Chemistry of Materials, 2017, 29, 4819-4832. | 6.7 | 120 |
| 8 | Turbulence modification by large-scale organized electrohydrodynamic flows. Physics of Fluids, 1998, 10, 1742-1756. | 4.0 | 114 |
| 9 | Studies on cocurrent gasâ€liquid flow in helically coiled tubes. I. Flow patterns, pressure drop and holdup. Canadian Journal of Chemical Engineering, 1969, 47, 445-453. | 1.7 | 109 |
| 10 | Direct numerical simulation of nearâ€interface turbulence in coupled gasâ€liquid flow. Physics of Fluids, 1996, 8, 1643-1665. | 4.0 | 108 |
| 11 | Film inversion of cocurrent two-phase flow in helical coils. AICHE Journal, 1967, 13, 189-191. | 3.6 | 107 |
| 12 | Mass Transfer to Falling Wavy Liquid Films in Turbulent Flow. Industrial & Engineering Chemistry Fundamentals, 1968, 7, 22-27. | 0.7 | 106 |
| 13 | Rechargeability and economic aspects of alkaline zincâ€“manganese dioxide cells for electrical storage and load leveling. Journal of Power Sources, 2015, 276, 7-18. | 7.8 | 104 |
| 14 | Overview of Asphaltene Nanostructures and Thermodynamic Applications. Energy & Fuels, 2020, 34, 15082-15105. | 5.1 | 101 |
| 15 | Surface divergence models for scalar exchange between turbulent streams. International Journal of Multiphase Flow, 2004, 30, 963-977. | 3.4 | 99 |
| 16 | Incorporating forcing terms in cascaded lattice Boltzmann approach by method of central moments. Physical Review E, 2009, 80, 036702. | 2.1 | 93 |
| 17 | Long-Term Adsorption Kinetics of Asphaltenes at the Oilâ€“Water Interface: A Random Sequential Adsorption Perspective. Langmuir, 2014, 30, 8381-8390. | 3.5 | 80 |
| 18 | Impact of anode substrates on electrodeposited zinc over cycling in zinc-anode rechargeable alkaline batteries. Electrochimica Acta, 2016, 212, 603-613. | 5.2 | 80 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Dynamic subgrid scale modeling of turbulent flows using lattice-Boltzmann method. Physica A: Statistical Mechanics and Its Applications, 2009, 388, 2640-2658. | 2.6 | 77 |
| 20 | Generalized lattice Boltzmann equation with forcing term for computation of wall-bounded turbulent flows. Physical Review E, 2009, 79, 026703. | 2.1 | 76 |
| 21 | Asphaltene-Laden Interfaces Form Soft Glassy Layers in Contraction Experiments: A Mechanism for Coalescence Blocking. Langmuir, 2014, 30, 12795-12803. | 3.5 | 71 |
| 22 | Leak detection in liquefied gas pipelines by artificial neural networks. AICHE Journal, 1998, 44, 2675-2688. | 3.6 | 67 |
| 23 | On the Three-Dimensional Central Moment Lattice Boltzmann Method. Journal of Statistical Physics, 2011, 143, 747-794. | 1.2 | 67 |
| 24 | Airâ€“water gas transfer and near-surface motions. Journal of Fluid Mechanics, 2013, 733, 588-624. | 3.4 | 64 |
| 25 | An indicator of zinc morphology transition in flowing alkaline electrolyte. Journal of Power Sources, 2012, 211, 119-128. | 7.8 | 63 |
| 26 | Electrodeposition of preferentially oriented zinc for flow-assisted alkaline batteries. Journal of Power Sources, 2014, 256, 145-152. | 7.8 | 63 |
| 27 | Hetaerolite Profiles in Alkaline Batteries Measured by High Energy EDXRD. Journal of the Electrochemical Society, 2015, 162, A162-A168. | 2.9 | 63 |
| 28 | A conversion-based highly energy dense Cu<sup>2+</sup> intercalated Bi-birnessite/Zn alkaline battery. Journal of Materials Chemistry A, 2017, 5, 15845-15854. | 10.3 | 63 |
| 29 | Going beyond Intercalation Capacity of Aqueous Batteries by Exploiting Conversion Reactions of Mn and Zn electrodes for Energyâ€Dense Applications. Advanced Energy Materials, 2019, 9, 1902270. | 19.5 | 59 |
| 30 | Interfacial Properties of Asphaltenes at Tolueneâ€“Water Interfaces. Langmuir, 2015, 31, 4878-4886. | 3.5 | 57 |
| 31 | Mixture Effect on the Dilatation Rheology of Asphaltenes-Laden Interfaces. Langmuir, 2017, 33, 1927-1942. | 3.5 | 56 |
| 32 | Applicability of the Langmuir Equation of State for Asphaltene Adsorption at the Oilâ€“Water Interface: Coal-Derived, Petroleum, and Synthetic Asphaltenes. Energy & Fuels, 2015, 29, 3584-3590. | 5.1 | 55 |
| 33 | Real-time materials evolution visualized within intact cycling alkaline batteries. Journal of Materials Chemistry A, 2014, 2, 2757-2764. | 10.3 | 53 |
| 34 | Development and testing of an economic grid-scale flow-assisted zinc/nickel-hydroxide alkaline battery. Journal of Power Sources, 2014, 264, 49-58. | 7.8 | 50 |
| 35 | A Lateral Microfluidic Cell for Imaging Electrodeposited Zinc near the Shorting Condition. Journal of the Electrochemical Society, 2010, 157, A1279. | 2.9 | 49 |
| 36 | A calcium hydroxide interlayer as a selective separator for rechargeable alkaline Zn/MnO2 batteries. Electrochemistry Communications, 2017, 81, 136-140. | 4.7 | 49 |

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| 37 | An In Situ Synchrotron Study of Zinc Anode Planarization by a Bismuth Additive. Journal of the Electrochemical Society, 2014, 161, A275-A284. | 2.9 | 48 |
| 38 | Void fraction, bubble size and interfacial area measurements in co-current downflow bubble column reactor with microbubble dispersion. Chemical Engineering Science, 2017, 168, 403-413. | 3.8 | 47 |
| 39 | Gas evolution in a flow-assisted zincâ€“nickel oxide battery. Journal of Power Sources, 2011, 196, 6583-6587. | 7.8 | 46 |
| 40 | Operando identification of the point of [Mn2]O4 spinel formation during Î³-MnO2 discharge within batteries. Journal of Power Sources, 2016, 321, 135-142. | 7.8 | 46 |
| 41 | Inertial flow transitions of a suspension in Taylorâ€“Couette geometry. Journal of Fluid Mechanics, 2018, 835, 936-969. | 3.4 | 43 |
| 42 | A measure of near-surface fluid motions that predicts air-water gas transfer in a wide range of conditions. Geophysical Research Letters, 2005, 32, n/a-n/a. | 4.0 | 42 |
| 43 | Comparison of void fraction measurements using different techniques in two-phase flow bubble column reactors. International Journal of Multiphase Flow, 2018, 102, 119-129. | 3.4 | 38 |
| 44 | A method for three-dimensional interfacial particle image velocimetry (3D-IPIV) of an airâ€“water interface. Measurement Science and Technology, 2009, 20, 045403. | 2.6 | 37 |
| 45 | Accessing the second electron capacity of MnO2 by exploring complexation and intercalation reactions in energy dense alkaline batteries. International Journal of Hydrogen Energy, 2018, 43, 8480-8487. | 7.1 | 36 |
| 46 | Multigrid lattice Boltzmann method for accelerated solution of elliptic equations. Journal of Computational Physics, 2014, 265, 172-194. | 3.8 | 32 |
| 47 | Transport phenomena at interfaces between turbulent fluids. AICHE Journal, 2008, 54, 344-349. | 3.6 | 31 |
| 48 | Studies on cocurrent gasâ€liquid flow in helically coiled tubes. II. Theory and experiments on turbulent mass transfer with and without chemical reaction. Canadian Journal of Chemical Engineering, 1970, 48, 542-551. | 1.7 | 30 |
| 49 | Rapid electrochemical synthesis of Î´-MnO2 from Î³-MnO2 and unleashing its performance as an energy dense electrode. Materials Today Energy, 2017, 6, 198-210. | 4.7 | 30 |
| 50 | Waveâ€“turbulence interaction in freeâ€surface channel flows. Physics of Fluids A, Fluid Dynamics, 1992, 4, 2727-2738. | 1.6 | 28 |
| 51 | TURBULENCE STRUCTURE AND TRANSPORT MECHANISMS AT INTERFACES. , 1990, , . | | 27 |
| 52 | Lagrangian simulation of turbulent particle dispersion in electrostatic precipitators. AICHE Journal, 1997, 43, 1403-1413. | 3.6 | 26 |
| 53 | Morphological Evolution of Nanocluster Aggregates and Single Crystals in Alkaline Zinc Electrodeposition. Journal of Physical Chemistry C, 2014, 118, 8656-8666. | 3.1 | 26 |
| 54 | Turbulence and heat exchange in condensing vapor-liquid flow. Physics of Fluids, 2008, 20, . | 4.0 | 25 |

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| 55 | Steady state convergence acceleration of the generalized lattice Boltzmann equation with forcing term through preconditioning. Journal of Computational Physics, 2009, 228, 746-769. | 3.8 | 25 |
| 56 | Upwellings, Downdrafts, and Whirlpools: Dominant Structures in Free Surface Turbulence. Applied Mechanics Reviews, 1994, 47, S166-S172. | 10.1 | 24 |
| 57 | Hydrodynamic Self-Consistent Field Theory for Inhomogeneous Polymer Melts. Physical Review Letters, 2006, 97, 114501. | 7.8 | 21 |
| 58 | Computation of turbulent flow and secondary motions in a square duct using a forced generalized lattice Boltzmann equation. Physical Review E, 2009, 79, 026704. | 2.1 | 21 |
| 59 | Zincate-Blocking-Functionalized Polysulfone Separators for Secondary Znâ€“MnO<sub>2</sub> Batteries. ACS Applied Materials & Interfaces, 2020, 12, 50406-50417. | 8.0 | 21 |
| 60 | An Operando Study of the Initial Discharge of Bi and Bi/Cu Modified MnO<sub>2</sub>. Journal of the Electrochemical Society, 2018, 165, A2935-A2947. | 2.9 | 20 |
| 61 | Electroactive ZnO: Mechanisms, Conductivity, and Advances in Zn Alkaline Battery Cycling. Advanced Energy Materials, 2022, 12, . | 19.5 | 20 |
| 62 | Direct simulation of turbulent particle transport in electrostatic precipitators. AICHE Journal, 1993, 39, 1910-1919. | 3.6 | 19 |
| 63 | Nanoscale velocityâ€“drag force relationship in thin liquid layers measured by atomic force microscopy. Applied Physics Letters, 2004, 85, 3881-3883. | 3.3 | 19 |
| 64 | Asphaltene Nanoscience and Reservoir Fluid Gradients, Tar Mat Formation, and the Oil-Water Interface. , 2013, , . | | 19 |
| 65 | Liquid-hexatic-solid phase transition of a hard-core lattice gas with third neighbor exclusion. Journal of Chemical Physics, 2019, 151, 104702. | 3.0 | 19 |
| 66 | An Improved Three-Dimensional Level Set Method for Gas-Liquid Two-Phase Flows. Journal of Fluids Engineering, Transactions of the ASME, 2004, 126, 578-585. | 1.5 | 18 |
| 67 | Sixth P. V. Danckwerts Memorial Lecture presented at Glazier's Hall, London, U.K.. Chemical Engineering Science, 1992, 47, 1793-1817. | 3.8 | 17 |
| 68 | Material Failure Mechanisms of Alkaline Zn Rechargeable Conversion Electrodes. ACS Applied Energy Materials, 2021, 4, 3381-3392. | 5.1 | 17 |
| 69 | Chemical hydrodynamics of a downward microbubble flow for intensification of gasâ€fed bioreactors. AICHE Journal, 2018, 64, 1399-1411. | 3.6 | 16 |
| 70 | Numerical method for hydrodynamic transport of inhomogeneous polymer melts. Journal of Computational Physics, 2007, 224, 681-698. | 3.8 | 14 |
| 71 | Structureâ€“Dynamic Function Relations of Asphaltenes. Energy & Fuels, 2021, 35, 13610-13632. | 5.1 | 14 |
| 72 | Scale-up of a downflow bubble column: Experimental investigations. Chemical Engineering Journal, 2020, 386, 121447. | 12.7 | 13 |

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| 73 | Nanoscale resolution microchannel flow velocimetry by atomic force microscopy. Applied Physics Letters, 2006, 89, 153123. | 3.3 | 11 |
| 74 | Non-equilibrium particle-field simulations of polymer-nanocomposite dynamics. Chemical Engineering Science, 2009, 64, 4754-4757. | 3.8 | 10 |
| 75 | The Air-Water Interface: Turbulence and Scalar Exchange. Environmental Science and Engineering, 2007, , 87-101. | 0.2 | 10 |
| 76 | Effect of Premixed Asphaltenes and Demulsifier on Oil-Water Interfacial Properties. Journal of Dispersion Science and Technology, 2015, 36, 1465-1472. | 2.4 | 9 |
| 77 | An Investigation of the Lattice Boltzmann Method for Large Eddy Simulation of Complex Turbulent Separated Flow. Journal of Fluids Engineering, Transactions of the ASME, 2013, 135, . | 1.5 | 8 |
| 78 | Driving Zn-MnO2 grid-scale batteries: A roadmap to cost-effective energy storage. MRS Energy & Sustainability, 2022, 9, 13-18. | 3.0 | 8 |
| 79 | Mass velocity measurement in steam-water flow by pitot tubes. AICHE Journal, 1977, 23, 385-387. | 3.6 | 7 |
| 80 | Modeling of Interphase Turbulent Transport Processes. Industrial & Engineering Chemistry Research, 2007, 46, 3063-3068. | 3.7 | 7 |
| 81 | Study of Asphaltene Deposition onto Stainless-Steel Surfaces Using Quartz Crystal Microbalance with Dissipation. Energy & Fuels, 2020, 34, 9283-9295. | 5.1 | 7 |
| 82 | Computation of transitional flow past a circular cylinder using multiblock lattice Boltzmann method with a dynamic subgrid scale model. Fluid Dynamics Research, 2013, 45, 055510. | 1.3 | 6 |
| 83 | Glassy dynamics and equilibrium state on the honeycomb lattice: Role of surface diffusion and desorption on surface crowding. Physical Review E, 2021, 103, 022801. | 2.1 | 6 |
| 84 | Adsorption kinetics and thermodynamic properties of a binary mixture of hard-core particles on a square lattice. Journal of Chemical Physics, 2021, 154, 074705. | 3.0 | 6 |
| 85 | Hydroxyl Conducting Hydrogels Enable Low-Maintenance Commercially Sized Rechargeable Znâ€“MnO2 Batteries for Use in Solar Microgrids. Polymers, 2022, 14, 417. | 4.5 | 6 |
| 86 | Modeling the Multicomponent Compositional Effects of Asphaltenes on Interfacial Phenomena. Energy & Fuels, 2020, 34, 13673-13685. | 5.1 | 5 |
| 87 | Reducing Zinc Redistribution and Extending Cycle Life Via Electrochemical Synthesis of Zinc/Zinc Oxide Anodes in Rechargeable Alkaline Batteries. Journal of the Electrochemical Society, 2021, 168, 040514. | 2.9 | 5 |
| 88 | ELECTRODEPOSITION MODELING USING COUPLED PHASE-FIELD AND LATTICE BOLTZMANN APPROACH. International Journal of Modern Physics C, 2014, 25, 1340018. | 1.7 | 4 |
| 89 | Hydrodynamics under the jet-array of a downflow microbubble column: Performance intensification. Chemical Engineering and Processing: Process Intensification, 2018, 130, 326-331. | 3.6 | 4 |
| 90 | The advent of membrane-less zinc-anode aqueous batteries with lithium battery-like voltage. Materials Horizons, 2022, 9, 2160-2171. | 12.2 | 4 |

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|---|---|---|---|
| 91 | Ion-Selective Graphene Oxide/Polyvinyl Alcohol Composite Membranes for Rechargeable Alkaline Zinc Manganese Dioxide Batteries. ACS Applied Energy Materials, 0, , . | 5.1 | 4 |
| 92 | Inertial Frame Independent Forcing for Discrete Velocity Boltzmann Equation: Implications for Filtered Turbulence Simulation. Communications in Computational Physics, 2012, 12, 732-766. | 1.7 | 3 |
| 93 | Numerical and Experimental Analysis of Single Phase Jet Interactions. , 2016, , . | | 3 |
| 94 | Symposium on Particle-Turbulence Interaction. Applied Mechanics Reviews, 1994, 47, S43-S43. | 10.1 | 2 |
| 95 | Numerical Simulations of Bubble Growth and Detachment in Microgravity and Normal Gravity Shear Flows. 880-02 Nihon Kikai Gakkai RonbunshÅ« Transactions of the Japan Society of Mechanical Engineers Series B B-hen, 2005, 71, 1256-1264. | 0.2 | 2 |
| 96 | Comparison of Gas Hold-Up Profiles in Co-Current, Counter-Current and Batch Bubble Column Reactors Measured Using Gamma Densitometry and Surface of Revolution Method. , 2016, , . | | 2 |
| 97 | Effect of Surfactant Addition on Void Fraction Distributions Measured by a Wire Mesh Sensor. , 2016, , . | | 2 |
| 98 | Rechargeable Zn-MnO<sub>2</sub> batteries for utility load management and renewable integration. , 2018, , . | | 2 |
| 99 | Aqueous Mn-Zn and Ni-Zn Batteries for Sustainable Energy Storage. , 2021, , 1-26. | | 1 |
| 100 | Conservative Implicit Method for Shock Wave Calculations. AIAA Journal, 1979, 17, 537-540. | 2.6 | 0 |
| 101 | Phase-field Modeling of Dendritic Zinc Deposition in Zinc-Nickel Flow Batteries. ECS Meeting Abstracts, 2011, , . | 0.0 | 0 |
| 102 | Application of Coupled Lattice Boltzmann and Phase-Field Methods for Multiphase Flow Simulations. , 2013, , . | | 0 |