Meenesh R Singh

List of Publications by Year
in descending order

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48 papers	3,159 citations	304743 22 h-index	223800 46 g-index
48 all docs	48 docs citations	48 times ranked	4345 citing authors

#	Article	IF	Citations
1	Hydrolysis of Electrolyte Cations Enhances the Electrochemical Reduction of CO₂ over Ag and Cu. Journal of the American Chemical Society, 2016, 138, 13006-13012.	13.7	640
2	Ambient-Pressure XPS Study of a Niâ€“Fe Electrocatalyst for the Oxygen Evolution Reaction. Journal of Physical Chemistry C, 2016, 120, 2247-2253.	3.1	336
3	Effects of electrolyte, catalyst, and membrane composition and operating conditions on the performance of solar-driven electrochemical reduction of carbon dioxide. Physical Chemistry Chemical Physics, 2015, 17, 18924-18936.	2.8	312
4	Mechanistic insights into electrochemical reduction of CO ₂ over Ag using density functional theory and transport models. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E8812-E8821.	7.1	219
5	Population Balance Modeling: Current Status and Future Prospects. Annual Review of Chemical and Biomolecular Engineering, 2014, 5, 123-146.	6.8	193
6	An experimental and modeling/simulation-based evaluation of the efficiency and operational performance characteristics of an integrated, membrane-free, neutral pH solar-driven water-splitting system. Energy and Environmental Science, 2014, 7, 3371-3380.	30.8	152
7	Effects of temperature and gasâ€“liquid mass transfer on the operation of small electrochemical cells for the quantitative evaluation of CO₂reduction electrocatalysts. Physical Chemistry Chemical Physics, 2016, 18, 26777-26785.	2.8	138
8	Modeling, Simulation, and Implementation of Solarâ€Driven Waterâ€Splitting Devices. Angewandte Chemie - International Edition, 2016, 55, 12974-12988.	13.8	119
9	Thermodynamic and achievable efficiencies for solar-driven electrochemical reduction of carbon dioxide to transportation fuels. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E6111-8.	7.1	103
10	2D Highâ€Entropy Transition Metal Dichalcogenides for Carbon Dioxide Electrocatalysis. Advanced Materials, 2021, 33, e2100347.	21.0	93
11	Differential Electrochemical Mass Spectrometer Cell Design for Online Quantification of Products Produced during Electrochemical Reduction of CO₂. Analytical Chemistry, 2015, 87, 8013-8020.	6.5	83
12	An electrochemical engineering assessment of the operational conditions and constraints for solar-driven water-splitting systems at near-neutral pH. Energy and Environmental Science, 2015, 8, 2760-2767.	30.8	82
13	Solar-driven electrochemical synthesis of ammonia using nitrate with 11% solar-to-fuel efficiency at ambient conditions. Energy and Environmental Science, 2021, 14, 6349-6359.	30.8	70
14	An Experimental- and Simulation-Based Evaluation of the CO₂ Utilization Efficiency of Aqueous-Based Electrochemical CO₂ Reduction Reactors with Ion-Selective Membranes. ACS Applied Energy Materials, 2019, 2, 5843-5850.	5.1	51
15	Image-Analysis-Based Method for 3D Crystal Morphology Measurement and Polymorph Identification Using Confocal Microscopy. Crystal Growth and Design, 2012, 12, 3735-3748.	3.0	50
16	Design of an artificial photosynthetic system for production of alcohols in high concentration from CO₂. Energy and Environmental Science, 2016, 9, 193-199.	30.8	47
17	Competing Effects of pH, Cation Identity, H₂O Saturation, and N₂ Concentration on the Activity and Selectivity of Electrochemical Reduction of N₂ to NH₃ on Electrodeposited Cu at Ambient Conditions. ACS Catalysis, 2020, 10, 14592-14603.	11.2	43
18	Fundamental insight into electrochemical oxidation of methane towards methanol on transition metal oxides. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	40

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19	Evaluation of flow schemes for near-neutral pH electrolytes in solar-fuel generators. Sustainable Energy and Fuels, 2017, 1, 458-466.	4.9	36
20	A Comprehensive Approach to Predicting Crystal Morphology Distributions with Population Balances. Crystal Growth and Design, 2013, 13, 1397-1411.	3.0	32
21	Assessment of Artificial Photosynthetic Systems for Integrated Carbon Capture and Conversion. ACS Sustainable Chemistry and Engineering, 2019, 7, 5993-6003.	6.7	25
22	Migration-assisted, moisture gradient process for ultrafast, continuous CO₂ capture from dilute sources at ambient conditions. Energy and Environmental Science, 2022, 15, 680-692.	30.8	25
23	Continuous-flow, well-mixed, microfluidic crystallization device for screening of polymorphs, morphology, and crystallization kinetics at controlled supersaturation. Lab on A Chip, 2019, 19, 2373-2382.	6.0	24
24	Screening Crystal Morphologies from Crystal Structure. Crystal Growth and Design, 2013, 13, 1390-1396.	3.0	21
25	Design of Membrane-Encapsulated Wireless Photoelectrochemical Cells for Hydrogen Production. Journal of the Electrochemical Society, 2014, 161, E3283-E3296.	2.9	19
26	Improving the Gas Barrier Properties of Nafion via Thermal Annealing: Evidence for Diffusion through Hydrophilic Channels and Matrix. Macromolecules, 2015, 48, 3303-3309.	4.8	19
27	Dispersions in crystal nucleation and growth rates: Implications of fluctuation in supersaturation. Chemical Engineering Science, 2014, 107, 102-113.	3.8	16
28	Solvent fluctuations in the solvation shell determine the activation barrier for crystal growth rates. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 23954-23959.	7.1	16
29	Advanced continuous-flow microfluidic device for parallel screening of crystal polymorphs, morphology, and kinetics at controlled supersaturation. Lab on A Chip, 2021, 21, 2333-2342.	6.0	16
30	Modeling of crystal morphology distributions. Towards crystals with preferred asymmetry. Chemical Engineering Science, 2010, 65, 5676-5686.	3.8	15
31	Measurement of Polar Plots of Crystal Dissolution Rates Using Hot-Stage Microscopy. Some Further Insights into Dissolution Morphologies. Crystal Growth and Design, 2014, 14, 5647-5661.	3.0	14
32	Modeling and Simulation of Crystallization of Metalâ€“Organic Frameworks. Processes, 2019, 7, 527.	2.8	14
33	Autocatalysis and Oriented Attachment Direct the Synthesis of a Metalâ€“Organic Framework. Jacs Au, 2022, 2, 453-462.	7.9	14
34	Three-Step Mechanism of Antisolvent Crystallization. Crystal Growth and Design, 2022, 22, 3119-3127.	3.0	14
35	Modellierung, Simulation und Implementierung von Zellen fÃ¼r die solargetriebene Wasserspaltung. Angewandte Chemie, 2016, 128, 13168-13183.	2.0	10
36	Constitutive relationship and governing physical properties for magnetophoresis. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 30208-30214.	7.1	10

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37	Machine Learning-Driven, Sensor-Integrated Microfluidic Device for Monitoring and Control of Supersaturation for Automated Screening of Crystalline Materials. ACS Sensors, 2022, 7, 797-805.	7.8	9
38	Sustainable Routes for Photo-Electrochemical Synthesis of Ammonia Using Various Nitrogen Precursors. ACS ES&T Engineering, 2022, 2, 1080-1087.	7.6	9
39	Organophilicity of Graphene Oxide for Enhanced Wettability of ZnO Nanorods. ACS Applied Materials & Interfaces, 2020, 12, 39772-39780.	8.0	7
40	Patterned microfluidic devices for rapid screening of metalâ€“organic frameworks yield insights into polymorphism and non-monotonic growth. Lab on A Chip, 2022, 22, 211-224.	6.0	7
41	Selective desolvation in two-step nucleation mechanism steers crystal structure formation. Nanoscale, 2022, 14, 1723-1732.	5.6	4
42	Chapter 13. Continuum-scale Modeling of Solar Water-splitting Devices. RSC Energy and Environment Series, 2018, , 500-536.	0.5	3
43	On-the-spot quenching for effective implementation of cooling crystallization in a continuous-flow microfluidic device. Reaction Chemistry and Engineering, 2022, 7, 1179-1190.	3.7	3
44	Cellular Obstruction Clearance in Proximal Ventricular Catheters Using Low-Voltage Joule Heating. IEEE Transactions on Biomedical Engineering, 2018, 65, 2503-2511.	4.2	2
45	Temperature-induced pH changes govern hydrate transformation during cooling crystallization of potassium acid phthalate. Chemical Engineering Research and Design, 2021, 174, 463-470.	5.6	2
46	In-line measurement of liquidâ€“liquid phase separation boundaries using a turbidity-sensor-integrated continuous-flow microfluidic device. Lab on A Chip, 2022, 22, 2299-2306.	6.0	2
47	Influence of Cryogenic Grinding on Release of Protein and DNA from Saccharomyces cerevisiae. International Journal of Food Engineering, 2009, 5, .	1.5	0
48	(Invited) H2-Free, Highly-Selective Electrocatalytic Reduction of Nitrates to Ammonia with Solar-to-Ammonia Efficiency >5%. ECS Meeting Abstracts, 2021, MA2021-02, 1544-1544.	0.0	0