

# 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	Migration-assisted, moisture gradient process for ultrafast, continuous CO <sub>2</sub> capture from dilute sources at ambient conditions. <i>Energy and Environmental Science</i> , 2022, 15, 680-692.	30.8	25
2	Autocatalysis and Oriented Attachment Direct the Synthesis of a Metal-Organic Framework. <i>Jacs Au</i> , 2022, 2, 453-462.	7.9	14
3	Machine Learning-Driven, Sensor-Integrated Microfluidic Device for Monitoring and Control of Supersaturation for Automated Screening of Crystalline Materials. <i>ACS Sensors</i> , 2022, 7, 797-805.	7.8	9
4	Patterned microfluidic devices for rapid screening of metal-organic frameworks yield insights into polymorphism and non-monotonic growth. <i>Lab on A Chip</i> , 2022, 22, 211-224.	6.0	7
5	Selective desolvation in two-step nucleation mechanism steers crystal structure formation. <i>Nanoscale</i> , 2022, 14, 1723-1732.	5.6	4
6	On-the-spot quenching for effective implementation of cooling crystallization in a continuous-flow microfluidic device. <i>Reaction Chemistry and Engineering</i> , 2022, 7, 1179-1190.	3.7	3
7	Sustainable Routes for Photo-Electrochemical Synthesis of Ammonia Using Various Nitrogen Precursors. <i>ACS ES&amp;T Engineering</i> , 2022, 2, 1080-1087.	7.6	9
8	Three-Step Mechanism of Antisolvent Crystallization. <i>Crystal Growth and Design</i> , 2022, 22, 3119-3127.	3.0	14
9	In-line measurement of liquid-liquid phase separation boundaries using a turbidity-sensor-integrated continuous-flow microfluidic device. <i>Lab on A Chip</i> , 2022, 22, 2299-2306.	6.0	2
10	Solar-driven electrochemical synthesis of ammonia using nitrate with 11% solar-to-fuel efficiency at ambient conditions. <i>Energy and Environmental Science</i> , 2021, 14, 6349-6359.	30.8	70
11	Fundamental insight into electrochemical oxidation of methane towards methanol on transition metal oxides. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	7.1	40
12	2D High-Entropy Transition Metal Dichalcogenides for Carbon Dioxide Electrocatalysis. <i>Advanced Materials</i> , 2021, 33, e2100347.	21.0	93
13	Temperature-induced pH changes govern hydrate transformation during cooling crystallization of potassium acid phthalate. <i>Chemical Engineering Research and Design</i> , 2021, 174, 463-470.	5.6	2
14	Advanced continuous-flow microfluidic device for parallel screening of crystal polymorphs, morphology, and kinetics at controlled supersaturation. <i>Lab on A Chip</i> , 2021, 21, 2333-2342.	6.0	16
15	(Invited) H <sub>2</sub> -Free, Highly-Selective Electrocatalytic Reduction of Nitrates to Ammonia with Solar-to-Ammonia Efficiency > 5%. <i>ECS Meeting Abstracts</i> , 2021, MA2021-02, 1544-1544.	0.0	0
16	Competing Effects of pH, Cation Identity, H <sub>2</sub> O Saturation, and N <sub>2</sub> Concentration on the Activity and Selectivity of Electrochemical Reduction of N <sub>2</sub> to NH <sub>3</sub> on Electrodeposited Cu at Ambient Conditions. <i>ACS Catalysis</i> , 2020, 10, 14592-14603.	11.2	43
17	Constitutive relationship and governing physical properties for magnetophoresis. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 30208-30214.	7.1	10
18	Organophilicity of Graphene Oxide for Enhanced Wettability of ZnO Nanorods. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 39772-39780.	8.0	7

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19	An Experimental- and Simulation-Based Evaluation of the CO <sub>2</sub> Utilization Efficiency of Aqueous-Based Electrochemical CO <sub>2</sub> Reduction Reactors with Ion-Selective Membranes. ACS Applied Energy Materials, 2019, 2, 5843-5850.	5.1	51
20	Modeling and Simulation of Crystallization of Metal-Organic Frameworks. Processes, 2019, 7, 527.	2.8	14
21	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
22	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
23	Assessment of Artificial Photosynthetic Systems for Integrated Carbon Capture and Conversion. ACS Sustainable Chemistry and Engineering, 2019, 7, 5993-6003.	6.7	25
24	Cellular Obstruction Clearance in Proximal Ventricular Catheters Using Low-Voltage Joule Heating. IEEE Transactions on Biomedical Engineering, 2018, 65, 2503-2511.	4.2	2
25	Chapter 13. Continuum-scale Modeling of Solar Water-splitting Devices. RSC Energy and Environment Series, 2018, , 500-536.	0.5	3
26	Evaluation of flow schemes for near-neutral pH electrolytes in solar-fuel generators. Sustainable Energy and Fuels, 2017, 1, 458-466.	4.9	36
27	Mechanistic insights into electrochemical reduction of CO <sub>2</sub> 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
28	Effects of temperature and gas-liquid mass transfer on the operation of small electrochemical cells for the quantitative evaluation of CO <sub>2</sub> reduction electrocatalysts. Physical Chemistry Chemical Physics, 2016, 18, 26777-26785.	2.8	138
29	Modellierung, Simulation und Implementierung von Zellen für die solarbetriebene Wasserspaltung. Angewandte Chemie, 2016, 128, 13168-13183.	2.0	10
30	Hydrolysis of Electrolyte Cations Enhances the Electrochemical Reduction of CO <sub>2</sub> over Ag and Cu. Journal of the American Chemical Society, 2016, 138, 13006-13012.	13.7	640
31	Modeling, Simulation, and Implementation of Solar-Driven Water-Splitting Devices. Angewandte Chemie - International Edition, 2016, 55, 12974-12988.	13.8	119
32	Ambient-Pressure XPS Study of a Ni-Fe Electrocatalyst for the Oxygen Evolution Reaction. Journal of Physical Chemistry C, 2016, 120, 2247-2253.	3.1	336
33	Design of an artificial photosynthetic system for production of alcohols in high concentration from CO <sub>2</sub> . Energy and Environmental Science, 2016, 9, 193-199.	30.8	47
34	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
35	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
36	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

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37	Differential Electrochemical Mass Spectrometer Cell Design for Online Quantification of Products Produced during Electrochemical Reduction of CO <sub>2</sub> . Analytical Chemistry, 2015, 87, 8013-8020.	6.5	83
38	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
39	Dispersions in crystal nucleation and growth rates: Implications of fluctuation in supersaturation. Chemical Engineering Science, 2014, 107, 102-113.	3.8	16
40	Design of Membrane-Encapsulated Wireless Photoelectrochemical Cells for Hydrogen Production. Journal of the Electrochemical Society, 2014, 161, E3283-E3296.	2.9	19
41	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
42	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
43	Population Balance Modeling: Current Status and Future Prospects. Annual Review of Chemical and Biomolecular Engineering, 2014, 5, 123-146.	6.8	193
44	A Comprehensive Approach to Predicting Crystal Morphology Distributions with Population Balances. Crystal Growth and Design, 2013, 13, 1397-1411.	3.0	32
45	Screening Crystal Morphologies from Crystal Structure. Crystal Growth and Design, 2013, 13, 1390-1396.	3.0	21
46	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
47	Modeling of crystal morphology distributions. Towards crystals with preferred asymmetry. Chemical Engineering Science, 2010, 65, 5676-5686.	3.8	15
48	Influence of Cryogenic Grinding on Release of Protein and DNA from Saccharomyces cerevisiae. International Journal of Food Engineering, 2009, 5, .	1.5	0