Shyam Kattel

List of Publications by Year
in descending order

70	9,037	57758 44	85541 71
papers	citations	h-index	g-index

73	73	73	9100
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Active sites for CO ₂ hydrogenation to methanol on Cu/ZnO catalysts. Science, 2017, 355, 1296-1299.	12.6	1,180
2	Tuning Selectivity of CO₂ Hydrogenation Reactions at the Metal/Oxide Interface. Journal of the American Chemical Society, 2017, 139, 9739-9754.	13.7	823
3	Optimizing Binding Energies of Key Intermediates for CO₂ Hydrogenation to Methanol over Oxide-Supported Copper. Journal of the American Chemical Society, 2016, 138, 12440-12450.	13.7	565
4	Mechanistic Insights into Electrochemical Nitrogen Reduction Reaction on Vanadium Nitride Nanoparticles. Journal of the American Chemical Society, 2018, 140, 13387-13391.	13.7	438
5	Electrochemical reduction of CO₂to synthesis gas with controlled CO/H₂ratios. Energy and Environmental Science, 2017, 10, 1180-1185.	30.8	341
6	Reaction Pathway for Oxygen Reduction on FeN₄ Embedded Graphene. Journal of Physical Chemistry Letters, 2014, 5, 452-456.	4.6	307
7	Catalytic activity of Coâ€“N_x/C electrocatalysts for oxygen reduction reaction: a density functional theory study. Physical Chemistry Chemical Physics, 2013, 15, 148-153.	2.8	303
8	CO₂ Hydrogenation over Oxideâ€Supported PtCo Catalysts: The Role of the Oxide Support in Determining the Product Selectivity. Angewandte Chemie - International Edition, 2016, 55, 7968-7973.	13.8	261
9	Exploring the ternary interactions in Cuâ€“ZnOâ€“ZrO2 catalysts for efficient CO2 hydrogenation to methanol. Nature Communications, 2019, 10, 1166.	12.8	258
10	A density functional theory study of oxygen reduction reaction on Meâ€“N4 (Me = Fe, Co, or Ni) clusters between graphitic pores. Journal of Materials Chemistry A, 2013, 1, 10790.	10.3	253
11	CO2 hydrogenation on Pt, Pt/SiO2 and Pt/TiO2: Importance of synergy between Pt and oxide support. Journal of Catalysis, 2016, 343, 115-126.	6.2	250
12	Electrochemical Conversion of CO₂ to Syngas with Controllable CO/H₂ Ratios over Co and Ni Singleâ€Atom Catalysts. Angewandte Chemie - International Edition, 2020, 59, 3033-3037.	13.8	203
13	Low Pressure CO₂ Hydrogenation to Methanol over Gold Nanoparticles Activated on a CeO_{<i>x</i>}/TiO₂ Interface. Journal of the American Chemical Society, 2015, 137, 10104-10107.	13.7	200
14	Stability, Electronic and Magnetic Properties of In-Plane Defects in Graphene: A First-Principles Study. Journal of Physical Chemistry C, 2012, 116, 8161-8166.	3.1	187
15	Accelerating CO₂ Electroreduction to CO Over Pd Singleâ€Atom Catalyst. Advanced Functional Materials, 2020, 30, 2000407.	14.9	173
16	A density functional theory study of oxygen reduction reaction on non-PGM Feâ€“Nxâ€“C electrocatalysts. Physical Chemistry Chemical Physics, 2014, 16, 13800.	2.8	170
17	Tuning the activity and selectivity of electroreduction of CO2 to synthesis gas using bimetallic catalysts. Nature Communications, 2019, 10, 3724.	12.8	156
18	Electrochemical and Computational Study of Oxygen Reduction Reaction on Nonprecious Transition Metal/Nitrogen Doped Carbon Nanofibers in Acid Medium. Journal of Physical Chemistry C, 2016, 120, 1586-1596.	3.1	148

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19	Shapeâ€Controlled CO₂ Electrochemical Reduction on Nanosized Pd Hydride Cubes and Octahedra. Advanced Energy Materials, 2019, 9, 1802840.	19.5	132
20	Dry reforming of methane over CeO2-supported Pt-Co catalysts with enhanced activity. Applied Catalysis B: Environmental, 2018, 236, 280-293.	20.2	131
21	Carbon dioxide reduction in tandem with light-alkane dehydrogenation. Nature Reviews Chemistry, 2019, 3, 638-649.	30.2	124
22	Enhancing Activity and Reducing Cost for Electrochemical Reduction of CO₂ by Supporting Palladium on Metal Carbides. Angewandte Chemie - International Edition, 2019, 58, 6271-6275.	13.8	123
23	Density Functional Theory Study of Niâ€"N_{<i>x</i>}/C Electrocatalyst for Oxygen Reduction in Alkaline and Acidic Media. Journal of Physical Chemistry C, 2012, 116, 17378-17383.	3.1	120
24	Reducing Iridium Loading in Oxygen Evolution Reaction Electrocatalysts Using Coreâ€"Shell Particles with Nitride Cores. ACS Catalysis, 2018, 8, 2615-2621.	11.2	117
25	Tuning CO2 hydrogenation selectivity via metal-oxide interfacial sites. Journal of Catalysis, 2019, 374, 60-71.	6.2	115
26	Combining CO2 reduction with propane oxidative dehydrogenation over bimetallic catalysts. Nature Communications, 2018, 9, 1398.	12.8	113
27	Active sites for tandem reactions of CO ₂ reduction and ethane dehydrogenation. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 8278-8283.	7.1	105
28	Dry Reforming of Ethane and Butane with CO₂ over PtNi/CeO₂ Bimetallic Catalysts. ACS Catalysis, 2016, 6, 7283-7292.	11.2	103
29	Density functional theory studies of transition metal carbides and nitrides as electrocatalysts. Chemical Society Reviews, 2021, 50, 12338-12376.	38.1	103
30	SO₂-Induced Selectivity Change in CO₂ Electroreduction. Journal of the American Chemical Society, 2019, 141, 9902-9909.	13.7	102
31	Identifying Different Types of Catalysts for CO₂ Reduction by Ethane through Dry Reforming and Oxidative Dehydrogenation. Angewandte Chemie - International Edition, 2015, 54, 15501-15505.	13.8	99
32	Density functional theory study of the oxygen reduction reaction mechanism in a BN co-doped graphene electrocatalyst. Journal of Materials Chemistry A, 2014, 2, 10273.	10.3	88
33	Quantification of Active Sites and Elucidation of the Reaction Mechanism of the Electrochemical Nitrogen Reduction Reaction on Vanadium Nitride. Angewandte Chemie - International Edition, 2019, 58, 13768-13772.	13.8	86
34	Enhancing Câ€"C Bond Scission for Efficient Ethanol Oxidation using PtIr Nanocube Electrocatalysts. ACS Catalysis, 2019, 9, 7618-7625.	11.2	79
35	Understanding the Role of Functional Groups in Polymeric Binder for Electrochemical Carbon Dioxide Reduction on Gold Nanoparticles. Advanced Functional Materials, 2018, 28, 1804762.	14.9	76
36	Oxygen Reduction at Very Low Overpotential on Nanoporous Ag Catalysts. Advanced Energy Materials, 2015, 5, 1500149.	19.5	68

#	Article	IF	Citations
37	Insight into the synergistic effect between nickel and tungsten carbide for catalyzing urea electrooxidation in alkaline electrolyte. Applied Catalysis B: Environmental, 2018, 232, 365-370.	20.2	68
38	Beneficial compressive strain for oxygen reduction reaction on Pt (111) surface. Journal of Chemical Physics, 2014, 141, 124713.	3.0	66
39	Direct Epoxidation of Propylene over Stabilized Cu⁺ Surface Sites on Titaniumâ€Modified Cu₂O. Angewandte Chemie - International Edition, 2015, 54, 11946-11951.	13.8	62
40	Density Functional Theory Study of an Oxygen Reduction Reaction on a Pt₃Ti Alloy Electrocatalyst. Journal of Physical Chemistry C, 2013, 117, 7107-7113.	3.1	61
41	Interfacial Active Sites for CO2 Assisted Selective Cleavage of Câ€"C/Câ€"H Bonds in Ethane. CheM, 2020, 6, 2703-2716.	11.7	57
42	Three-dimensional ruthenium-doped TiO₂ sea urchins for enhanced visible-light-responsive H₂ production. Physical Chemistry Chemical Physics, 2016, 18, 15972-15979.	2.8	56
43	Reactions of CO2 and ethane enable CO bond insertion for production of C3 oxygenates. Nature Communications, 2020, 11, 1887.	12.8	49
44	Electrochemical reduction of acetonitrile to ethylamine. Nature Communications, 2021, 12, 1949.	12.8	47
45	CO 2 Hydrogenation over Oxideâ€Supported PtCo Catalysts: The Role of the Oxide Support in Determining the Product Selectivity. Angewandte Chemie, 2016, 128, 8100-8105.	2.0	41
46	Achieving complete electrooxidation of ethanol by single atomic Rh decoration of Pt nanocubes. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2112109119.	7.1	40
47	Response to Comment on â€œActive sites for CO ₂ hydrogenation to methanol on Cu/ZnO catalystsâ€ Science, 2017, 357, .	12.6	37
48	Oxidative dehydrogenation and dry reforming of n-butane with CO2 over NiFe bimetallic catalysts. Applied Catalysis B: Environmental, 2018, 231, 213-223.	20.2	33
49	Boosting Activity and Selectivity of CO₂ Electroreduction by Preâ€Hydridizing Pd Nanocubes. Small, 2020, 16, e2005305.	10.0	32
50	Enhancing Activity and Reducing Cost for Electrochemical Reduction of CO₂ by Supporting Palladium on Metal Carbides. Angewandte Chemie, 2019, 131, 6337-6341.	2.0	31
51	Electrochemical CO₂ Reduction Reaction over Cu Nanoparticles with Tunable Activity and Selectivity Mediated by Functional Groups in Polymeric Binder. Jacs Au, 2022, 2, 214-222.	7.9	29
52	Selective hydrogenation of biomass-derived 2(5H)-furanone over Pt-Ni and Pt-Co bimetallic catalysts: From model surfaces to supported catalysts. Journal of Catalysis, 2016, 344, 148-156.	6.2	26
53	Mechanistic study of dry reforming of ethane by CO₂ on a bimetallic PtNi(111) model surface. Catalysis Science and Technology, 2018, 8, 3748-3758.	4.1	24
54	Quantification of Active Sites and Elucidation of the Reaction Mechanism of the Electrochemical Nitrogen Reduction Reaction on Vanadium Nitride. Angewandte Chemie, 2019, 131, 13906-13910.	2.0	24

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55	Selectivity of Cobalt-Based Non-Platinum Oxygen Reduction Catalysts in the Presence of Methanol and Formic Acid. Journal of Physical Chemistry C, 2010, 114, 15190-15195.	3.1	19
56	Prussian blue analogues as platform materials for understanding and developing oxygen evolution reaction electrocatalysts. Journal of Catalysis, 2021, 393, 390-398.	6.2	19
57	Au-Doped Stable L1₀ Structured Platinum Cobalt Ordered Intermetallic Nanoparticle Catalysts for Enhanced Electrocatalysis. ACS Applied Energy Materials, 2018, 1, 3771-3777.	5.1	16
58	L-Phenylalanine-Templated Platinum Catalyst with Enhanced Performance for Oxygen Reduction Reaction. ACS Applied Materials & Interfaces, 2018, 10, 21321-21327.	8.0	15
59	Magnetic properties of 3d transition metals and nitrogen functionalized armchair graphene nanoribbon. RSC Advances, 2013, 3, 21110.	3.6	10
60	Enhancing glycerol electrooxidation from synergistic interactions of platinum and transition metal carbides. Applied Catalysis B: Environmental, 2022, 316, 121648.	20.2	10
61	Imaging the ordering of a weakly adsorbed two-dimensional condensate: ambient-pressure microscopy and spectroscopy of CO₂ molecules on rutile TiO₂(110). Physical Chemistry Chemical Physics, 2018, 20, 13122-13126.	2.8	9
62	Transition metal oxynitride catalysts for electrochemical reduction of nitrogen to ammonia. Materials Advances, 2021, 2, 1263-1270.	5.4	9
63	Pt- and Pd-modified transition metal nitride catalysts for the hydrogen evolution reaction. Physical Chemistry Chemical Physics, 2022, 24, 12149-12157.	2.8	9
64	Machine Learning Prediction of Surface Segregation Energies on Low Index Bimetallic Surfaces. Energies, 2020, 13, 2182.	3.1	8
65	Identifying Different Types of Catalysts for CO 2 Reduction by Ethane through Dry Reforming and Oxidative Dehydrogenation. Angewandte Chemie, 2015, 127, 15721-15725.	2.0	7
66	A Study on CO₂ Hydrogenation Using a Ceriaâ€“Zirconia Mixed Oxide (Ce_{<i>x</i>}Zr_{1â€“<i>x</i>}O₂)-Supported Fe Catalyst. Industrial & Engineering Chemistry Research, 2021, 60, 14410-14423.	3.7	3
67	Frontispiece: Direct Epoxidation of Propylene over Stabilized Cu+Surface Sites on Titanium-Modified Cu2O. Angewandte Chemie - International Edition, 2015, 54, n/a-n/a.	13.8	1
68	Growth of carbonaceous material on silicon surface: Case study of 1,3-butadiene molecule. Chemical Physics Letters, 2020, 745, 137248.	2.6	1
69	Frontispiz: Direct Epoxidation of Propylene over Stabilized Cu+Surface Sites on Titanium-Modified Cu2O. Angewandte Chemie, 2015, 127, n/a-n/a.	2.0	0
70	Titelbild: Quantification of Active Sites and Elucidation of the Reaction Mechanism of the Electrochemical Nitrogen Reduction Reaction on Vanadium Nitride (Angew. Chem. 39/2019). Angewandte Chemie, 2019, 131, 13733-13733.	2.0	0