

# Jakob Kibsgaard

## List of Publications by Year in descending order

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Version: 2024-02-01

69  
papers

24,115  
citations

71102

41  
h-index

91884

69  
g-index

72  
all docs

72  
docs citations

72  
times ranked

23471  
citing authors

#	ARTICLE	IF	CITATIONS
1	Combining theory and experiment in electrocatalysis: Insights into materials design. <i>Science</i> , 2017, 355, .	12.6	7,837
2	Engineering the surface structure of MoS <sub>2</sub> to preferentially expose active edge sites for electrocatalysis. <i>Nature Materials</i> , 2012, 11, 963-969.	27.5	2,896
3	Catalyzing the Hydrogen Evolution Reaction (HER) with Molybdenum Sulfide Nanomaterials. <i>ACS Catalysis</i> , 2014, 4, 3957-3971.	11.2	1,355
4	Electrocatalytic Conversion of Carbon Dioxide to Methane and Methanol on Transition Metal Surfaces. <i>Journal of the American Chemical Society</i> , 2014, 136, 14107-14113.	13.7	1,253
5	Two-Dimensional Molybdenum Carbide (MXene) as an Efficient Electrocatalyst for Hydrogen Evolution. <i>ACS Energy Letters</i> , 2016, 1, 589-594.	17.4	1,100
6	A rigorous electrochemical ammonia synthesis protocol with quantitative isotope measurements. <i>Nature</i> , 2019, 570, 504-508.	27.8	1,006
7	Molybdenum Phosphosulfide: An Active, Acid-Stable, Earth-Abundant Catalyst for the Hydrogen Evolution Reaction. <i>Angewandte Chemie - International Edition</i> , 2014, 53, 14433-14437.	13.8	908
8	Designing an improved transition metal phosphide catalyst for hydrogen evolution using experimental and theoretical trends. <i>Energy and Environmental Science</i> , 2015, 8, 3022-3029.	30.8	851
9	Considerations for the scaling-up of water splitting catalysts. <i>Nature Energy</i> , 2019, 4, 430-433.	39.5	759
10	Building an appropriate active-site motif into a hydrogen-evolution catalyst with thiomolybdate [Mo <sub>3</sub> S <sub>13</sub> ]2 <sup>-</sup> clusters. <i>Nature Chemistry</i> , 2014, 6, 248-253.	13.6	730
11	Size-dependent structure of MoS <sub>2</sub> nanocrystals. <i>Nature Nanotechnology</i> , 2007, 2, 53-58.	31.5	638
12	Location and coordination of promoter atoms in Co- and Ni-promoted MoS <sub>2</sub> -based hydrotreating catalysts. <i>Journal of Catalysis</i> , 2007, 249, 220-233.	6.2	428
13	Impact of nanoparticle size and lattice oxygen on water oxidation on NiFeOxHy. <i>Nature Catalysis</i> , 2018, 1, 820-829.	34.4	344
14	Ammonia synthesis from N <sub>2</sub> and H <sub>2</sub> O using a lithium cycling electrification strategy at atmospheric pressure. <i>Energy and Environmental Science</i> , 2017, 10, 1621-1630.	30.8	342
15	Is There Anything Better than Pt for HER?. <i>ACS Energy Letters</i> , 2021, 6, 1175-1180.	17.4	304
16	Recent STM, DFT and HAADF-STEM studies of sulfide-based hydrotreating catalysts: Insight into mechanistic, structural and particle size effects. <i>Catalysis Today</i> , 2008, 130, 86-96.	4.4	265
17	Meso-Structured Platinum Thin Films: Active and Stable Electrocatalysts for the Oxygen Reduction Reaction. <i>Journal of the American Chemical Society</i> , 2012, 134, 7758-7765.	13.7	195
18	Cluster-Support Interactions and Morphology of MoS <sub>2</sub> Nanoclusters in a Graphite-Supported Hydrotreating Model Catalyst. <i>Journal of the American Chemical Society</i> , 2006, 128, 13950-13958.	13.7	172

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19	Size Threshold in the Dibenzothiophene Adsorption on MoS <sub>2</sub> Nanoclusters. ACS Nano, 2010, 4, 4677-4682.	14.6	158
20	Designing Active and Stable Silicon Photocathodes for Solar Hydrogen Production Using Molybdenum Sulfide Nanomaterials. Advanced Energy Materials, 2014, 4, 1400739.	19.5	158
21	Tweaking the composition of NiMoZn alloy electrocatalyst for enhanced hydrogen evolution reaction performance. Nano Energy, 2015, 12, 9-18.	16.0	139
22	Engineering Cobalt Phosphide (CoP) Thin Film Catalysts for Enhanced Hydrogen Evolution Activity on Silicon Photocathodes. Advanced Energy Materials, 2016, 6, 1501758.	19.5	134
23	Increasing stability, efficiency, and fundamental understanding of lithium-mediated electrochemical nitrogen reduction. Energy and Environmental Science, 2020, 13, 4291-4300.	30.8	124
24	Enhancement of lithium-mediated ammonia synthesis by addition of oxygen. Science, 2021, 374, 1593-1597.	12.6	123
25	The Difficulty of Proving Electrochemical Ammonia Synthesis. ACS Energy Letters, 2019, 4, 2986-2988.	17.4	122
26	Effects of Gold Substrates on the Intrinsic and Extrinsic Activity of High-Loading Nickel-Based Oxyhydroxide Oxygen Evolution Catalysts. ACS Catalysis, 2017, 7, 5399-5409.	11.2	120
27	Comparative atomic-scale analysis of promotional effects by late 3d-transition metals in MoS <sub>2</sub> hydrotreating catalysts. Journal of Catalysis, 2010, 272, 195-203.	6.2	108
28	Monitoring oxygen production on mass-selected iridium-tantalum oxide electrocatalysts. Nature Energy, 2022, 7, 55-64.	39.5	108
29	A Versatile Method for Ammonia Detection in a Range of Relevant Electrolytes via Direct Nuclear Magnetic Resonance Techniques. ACS Catalysis, 2019, 9, 5797-5802.	11.2	97
30	Investigating Catalyst-Support Interactions To Improve the Hydrogen Evolution Reaction Activity of Thiomolybdate [Mo <sub>3</sub> S <sub>13</sub> ] <sup>2+</sup> Nanoclusters. ACS Catalysis, 2017, 7, 7126-7130.	11.2	76
31	A Highly Active Molybdenum Phosphide Catalyst for Methanol Synthesis from CO and CO <sub>2</sub> . Angewandte Chemie - International Edition, 2018, 57, 15045-15050.	13.8	69
32	Atomic-Scale Structure of Mo <sub>6</sub> S <sub>6</sub> Nanowires. Nano Letters, 2008, 8, 3928-3931.	9.1	68
33	High-quality Fe-doped TiO <sub>2</sub> films with superior visible-light performance. Journal of Materials Chemistry, 2012, 22, 23755.	6.7	68
34	Atomic-scale insight into the origin of pyridine inhibition of MoS <sub>2</sub> -based hydrotreating catalysts. Journal of Catalysis, 2010, 271, 280-289.	6.2	67
35	The Predominance of Hydrogen Evolution on Transition Metal Sulfides and Phosphides under CO <sub>2</sub> Reduction Conditions: An Experimental and Theoretical Study. ACS Energy Letters, 2018, 3, 1450-1457.	17.4	66
36	Particle Size Effect on Platinum Dissolution: Considerations for Accelerated Stability Testing of Fuel Cell Catalysts. ACS Catalysis, 2020, 10, 6281-6290.	11.2	65

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37	Scanning tunneling microscopy studies of TiO <sub>2</sub> -supported hydrotreating catalysts: Anisotropic particle shapes by edge-specific MoS <sub>2</sub> support bonding. <i>Journal of Catalysis</i> , 2009, 263, 98-103.	6.2	61
38	Cobalt growth on two related close-packed noble metal surfaces. <i>Surface Science</i> , 2007, 601, 1967-1972.	1.9	54
39	Polymer Electrolyte Membrane Electrolyzers Utilizing Nonprecious Mo-based Hydrogen Evolution Catalysts. <i>ChemSusChem</i> , 2015, 8, 3512-3519.	6.8	51
40	Increasing Current Density of Li-Mediated Ammonia Synthesis with High Surface Area Copper Electrodes. <i>ACS Energy Letters</i> , 2022, 7, 36-41.	17.4	45
41	Origins of the Instability of Nonprecious Hydrogen Evolution Reaction Catalysts at Open-Circuit Potential. <i>ACS Energy Letters</i> , 2021, 6, 2268-2274.	17.4	44
42	Highly active, selective, and stable Pd single-atom catalyst anchored on N-doped hollow carbon sphere for electrochemical H <sub>2</sub> O <sub>2</sub> synthesis under acidic conditions. <i>Journal of Catalysis</i> , 2021, 393, 313-323.	6.2	43
43	Mesoporous Ruthenium/Ruthenium Oxide Thin Films: Active Electrocatalysts for the Oxygen Evolution Reaction. <i>ChemElectroChem</i> , 2017, 4, 2480-2485.	3.4	39
44	A spin promotion effect in catalytic ammonia synthesis. <i>Nature Communications</i> , 2022, 13, 2382.	12.8	38
45	The low overpotential regime of acidic water oxidation part II: trends in metal and oxygen stability numbers. <i>Energy and Environmental Science</i> , 2022, 15, 1988-2001.	30.8	35
46	The Dissolution Dilemma for Low Pt Loading Polymer Electrolyte Membrane Fuel Cell Catalysts. <i>Journal of the Electrochemical Society</i> , 2020, 167, 164501.	2.9	32
47	Towards understanding of electrolyte degradation in lithium-mediated non-aqueous electrochemical ammonia synthesis with gas chromatography-mass spectrometry. <i>RSC Advances</i> , 2021, 11, 31487-31498.	3.6	30
48	Restructuring of Cobalt Nanoparticles Induced by Formation and Diffusion of Monodisperse Metal-Sulfur Complexes. <i>Physical Review Letters</i> , 2008, 100, 116104.	7.8	28
49	Mesoporous platinum nickel thin films with double gyroid morphology for the oxygen reduction reaction. <i>Nano Energy</i> , 2016, 29, 243-248.	16.0	26
50	The low overpotential regime of acidic water oxidation part I: the importance of O <sub>2</sub> detection. <i>Energy and Environmental Science</i> , 2022, 15, 1977-1987.	30.8	23
51	Engineering Ni-MoS Nanoparticles for Hydrodesulfurization. <i>Nano Letters</i> , 2018, 18, 3454-3460.	9.1	21
52	The Importance of Potential Control for Accurate Studies of Electrochemical CO Reduction. <i>ACS Energy Letters</i> , 2021, 6, 1879-1885.	17.4	20
53	Transition Metal Arsenide Catalysts for the Hydrogen Evolution Reaction. <i>Journal of Physical Chemistry C</i> , 2019, 123, 24007-24012.	3.1	18
54	Electrolyte acidification from anode reactions during lithium mediated ammonia synthesis. <i>Electrochemistry Communications</i> , 2022, 134, 107186.	4.7	18

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55	Oxygen-Enhanced Chemical Stability of Lithium-Mediated Electrochemical Ammonia Synthesis. Journal of Physical Chemistry Letters, 2022, 13, 4605-4611.	4.6	18
56	A Highly Active Molybdenum Phosphide Catalyst for Methanol Synthesis from CO and CO <sub>2</sub> . Angewandte Chemie, 2018, 130, 15265-15270.	2.0	15
57	Rapid Synthesis of Porous, Mixed Phase Titania Films with Tailored Orientation of Rutile for Enhanced Photocatalytic Performance. Journal of Physical Chemistry C, 2013, 117, 27039-27046.	3.1	10
58	Polyol Synthesis of Cobalt-Copper Alloy Catalysts for Higher Alcohol Synthesis from Syngas. Catalysis Letters, 2017, 147, 2352-2359.	2.6	10
59	Tracking oxygen atoms in electrochemical CO oxidation - Part II: Lattice oxygen reactivity in oxides of Pt and Ir. Electrochimica Acta, 2021, 374, 137844.	5.2	9
60	Quantitative Operando Detection of Electro Synthesized Ammonia Using Mass Spectrometry. ChemElectroChem, 2022, 9, .	3.4	9
61	Electrocatalysis of Water Oxidation by H <sub>2</sub> O-Capped Iridium-Oxide Nanoparticles Electrodeposited on Spectroscopic Graphite. ChemPhysChem, 2014, 15, 2844-2850.	2.1	8
62	Trace anodic migration of iridium and titanium ions and subsequent cathodic selectivity degradation in acid electrolysis systems. Materials Today Energy, 2019, 14, 100352.	4.7	8
63	<i>In Situ</i> Analysis of the Facets of Cu-Based Electrocatalysts in Alkaline Media Using Pb Underpotential Deposition. Langmuir, 2022, 38, 1514-1521.	3.5	8
64	Nanostructuring MoS <sub>2</sub> for photoelectrochemical water splitting. , 2010, , .		7
65	Transients in Electrochemical CO Reduction Explained by Mass Transport of Buffers. ACS Catalysis, 2022, 12, 5155-5161.	11.2	7
66	Ambient Pressure Hydrodesulfurization of Refractory Sulfur Compounds in Highly Sensitive $\frac{1}{4}$ -Reactor Platform Coupled to a Time-of-Flight Mass Spectrometer. Journal of Physical Chemistry C, 2018, 122, 1699-1705.	3.1	6
67	Tracking oxygen atoms in electrochemical CO oxidation - Part I: Oxygen exchange via $\text{CO}_2$ hydration. Electrochimica Acta, 2021, 374, 137842.	5.2	6
68	Dynamic Interfacial Reaction Rates from Electrochemistry-Mass Spectrometry. Analytical Chemistry, 2021, 93, 7022-7028.	6.5	5
69	Nanostructured MoS <sub>2</sub> for Solar Hydrogen Production. ECS Meeting Abstracts, 2010, , .	0.0	0