## Svitlana Pylypenko

List of Publications by Year in descending order

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Version: 2024-02-01

117 papers 6,341 citations

94433 37 h-index 77 g-index

121 all docs 121 docs citations

times ranked

121

8813 citing authors

#	Article	IF	CITATIONS
1	Optimization of Extended-Surface PtNi Nanowire Oxygen Reduction Electrocatalysts Produced via Atomic Layer Deposition. ACS Applied Energy Materials, 2022, 5, 4587-4602.	5.1	7
2	Multi-Scale Multi-Technique Characterization Approach for Analysis of PEM Electrolyzer Catalyst Layer Degradation. Journal of the Electrochemical Society, 2022, 169, 064502.	2.9	18
3	Exploring the Interface of Skinâ€Layered Titanium Fibers for Electrochemical Water Splitting. Advanced Energy Materials, 2021, 11, 2002926.	19.5	48
4	Operando X-ray Tomography Imaging of Solid-State Electrolyte Response to Li Evolution under Realistic Operating Conditions. ACS Applied Energy Materials, 2021, 4, 1346-1355.	5.1	11
5	Toward Optimizing Electrospun Nanofiber Fuel Cell Catalyst Layers: Microstructure and Pt Accessibility. ACS Applied Energy Materials, 2021, 4, 3341-3351.	5.1	21
6	Visualization, understanding, and mitigation of process-induced-membrane irregularities in gas diffusion electrode-based polymer electrolyte membrane fuel cells. International Journal of Hydrogen Energy, 2021, 46, 14699-14712.	7.1	20
7	Editors' Choiceâ€"Examining Performance and Durability of Anion Exchange Membrane Fuel Cells with Novel Spirocyclic Anion Exchange Membranes. Journal of the Electrochemical Society, 2021, 168, 044525.	2.9	14
8	Physicochemical Properties of ECS Supports and Pt/ECS Catalysts. ACS Applied Energy Materials, 2021, 4, 9111-9123.	5.1	4
9	Development of high-performance roll-to-roll-coated gas-diffusion-electrode-based fuel cells. Journal of Power Sources, 2021, 506, 230039.	7.8	36
10	Periodic Trends behind the Stability of Metal Catalysts Supported on Graphene with Graphitic Nitrogen Defects. ACS Omega, 2021, 6, 28215-28228.	3.5	5
11	Decarboxylation of stearic acid over Ni/MOR catalysts. Journal of Chemical Technology and Biotechnology, 2020, 95, 102-110.	3.2	9
12	Mass transport characterization of platinum group metal-free polymer electrolyte fuel cell electrodes using a differential cell with an integrated electrochemical sensor. Journal of Power Sources, 2020, 450, 227655.	7.8	17
13	Surface and bulk characterization of reservoir and cap-rocks: Past, present, and future. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2020, 38, 050801.	2.1	1
14	Microscopy-based Multi-technique, Multi-scale Characterization of Polymer Electrolyte Membrane Devices. Microscopy and Microanalysis, 2020, 26, 772-774.	0.4	0
15	Tuning Gas Adsorption Selectivity and Diffusion Rates in Zeolites with Phosphonic Acid Monolayers. Cell Reports Physical Science, 2020, 1, 100036.	5 <b>.</b> 6	3
16	Utilizing ink composition to tune bulk-electrode gas transport, performance, and operational robustness for a Fe–N–C catalyst in polymer electrolyte fuel cell. Nano Energy, 2020, 75, 104943.	16.0	60
17	X-ray photoelectron spectroscopy and rotating disk electrode measurements of smooth sputtered Fe-N-C films. Applied Surface Science, 2020, 515, 146012.	6.1	11
18	Platinum–Nickel Nanowires with Improved Hydrogen Evolution Performance in Anion Exchange Membrane-Based Electrolysis. ACS Catalysis, 2020, 10, 9953-9966.	11.2	19

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19	Characterizing Complex Gas–Solid Interfaces with in Situ Spectroscopy: Oxygen Adsorption Behavior on Fe–N–C Catalysts. Journal of Physical Chemistry C, 2020, 124, 16529-16543.	3.1	20
20	3D Atomic Understanding of Functionalized Carbon Nanostructures for Energy Applications. ACS Applied Nano Materials, 2020, 3, 1600-1611.	5.0	7
21	Thermal Activation of a Copper-Loaded Covalent Organic Framework for Near-Ambient Temperature Hydrogen Storage and Delivery., 2020, 2, 227-232.		21
22	Fabrication of high-performance gas-diffusion-electrode based membrane-electrode assemblies. Journal of Power Sources, 2020, 450, 227581.	7.8	33
23	Improving the bulk gas transport of Fe-N-C platinum group metal-free nanofiber electrodes via electrospinning for fuel cell applications. Nano Energy, 2020, 73, 104791.	16.0	47
24	Impact of electrode thick spot irregularities on polymer electrolyte membrane fuel cell initial performance. Journal of Power Sources, 2020, 466, 228344.	7.8	12
25	ZIF 67 Based Highly Active Electrocatalysts as Oxygen Electrodes in Water Electrolyzer. ACS Applied Energy Materials, 2019, 2, 5568-5576.	5.1	35
26	Impact of Microporous Layer Roughness on Gas-Diffusion-Electrode-Based Polymer Electrolyte Membrane Fuel Cell Performance. ACS Applied Energy Materials, 2019, 2, 7757-7761.	5.1	46
27	Investigation of the Microstructure and Rheology of Iridium Oxide Catalyst Inks for Low-Temperature Polymer Electrolyte Membrane Water Electrolyzers. ACS Applied Materials & Samp; Interfaces, 2019, 11, 45068-45079.	8.0	34
28	Improved durability and activity of Pt/C catalysts through atomic layer deposition of tungsten nitride and subsequent thermal treatment. Applied Catalysis B: Environmental, 2019, 254, 587-593.	20.2	33
29	Characterization of Complex Interactions at the Gas–Solid Interface with in Situ Spectroscopy: The Case of Nitrogen-Functionalized Carbon. Journal of Physical Chemistry C, 2019, 123, 9074-9086.	3.1	17
30	Hydrocarbon catalyzed-selective catalytic reduction catalysts using core-shell atomic layer deposited CeO2 and ZrO2. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2019, 37, 020919.	2.1	3
31	The Roles of Oxide Growth and Sub-Surface Facets in Oxygen Evolution Activity of Iridium and Its Impact on Electrolysis. Journal of the Electrochemical Society, 2019, 166, F1243-F1252.	2.9	25
32	Dictating Pt-Based Electrocatalyst Performance in Polymer Electrolyte Fuel Cells, from Formulation to Application. ACS Applied Materials & Samp; Interfaces, 2019, 11, 46953-46964.	8.0	80
33	Three-dimensional electronic resistivity mapping of solid electrolyte interphase on Si anode materials. Nano Energy, 2019, 55, 477-485.	16.0	56
34	2D and 3D Characterization of PtNi Nanowire Electrode Composition and Structure. ACS Applied Nano Materials, 2019, 2, 525-534.	5.0	10
35	Direct synthesis of Fe rich SBA-15†at low pH by in-situ formation of iron phosphate phase. Microporous and Mesoporous Materials, 2019, 276, 270-279.	4.4	10
36	Iridium-Based Nanowires as Highly Active, Oxygen Evolution Reaction Electrocatalysts. ACS Catalysis, 2018, 8, 2111-2120.	11.2	166

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37	Role of Surface Chemistry on Catalyst/Ionomer Interactions for Transition Metal–Nitrogen–Carbon Electrocatalysts. ACS Applied Energy Materials, 2018, 1, 68-77.	5.1	44
38	Control of interfacial acid–metal catalysis with organic monolayers. Nature Catalysis, 2018, 1, 148-155.	34.4	74
39	Fuel Cell Performance Implications of Membrane Electrode Assembly Fabrication with Platinum-Nickel Nanowire Catalysts. Journal of the Electrochemical Society, 2018, 165, F238-F245.	2.9	39
40	Deep eutectic solvent approach towards nickel/nickel nitride nanocomposites. Catalysis Today, 2018, 306, 9-15.	4.4	28
41	Strong Metal–Support Interactions of TiN– and TiO <sub>2</sub> –Nickel Nanocomposite Catalysts. Journal of Physical Chemistry C, 2018, 122, 339-348.	3.1	22
42	Toward All-Solid-State Lithium Batteries: Three-Dimensional Visualization of Lithium Migration in β-Li <sub>3</sub> PS <sub>4</sub> Ceramic Electrolyte. Journal of the Electrochemical Society, 2018, 165, A3732-A3737.	2.9	46
43	Extended Thin-Film Electrocatalyst Structures via Pt Atomic Layer Deposition. ACS Applied Nano Materials, 2018, 1, 6150-6158.	5.0	7
44	Mechanical Properties and Chemical Reactivity of Li <sub><i>x</i></sub> SiO <sub><i>y</i></sub> Thin Films. ACS Applied Materials & Interfaces, 2018, 10, 38558-38564.	8.0	21
45	Palladium Intercalated into the Walls of Mesoporous Silica as Robust and Regenerable Catalysts for Hydrodeoxygenation of Phenolic Compounds. ACS Omega, 2018, 3, 7681-7691.	3.5	23
46	La and Al co-doped CaMnO3 perovskite oxides: From interplay of surface properties to anion exchange membrane fuel cell performance. Journal of Power Sources, 2018, 375, 265-276.	7.8	23
47	Atomic layer deposition of TiO2 for stabilization of Pt nanoparticle oxygen reduction reaction catalysts. Journal of Applied Electrochemistry, 2018, 48, 973-984.	2.9	16
48	Effects of Metal Composition and Ratio on Peptide-Templated Multimetallic PdPt Nanomaterials. ACS Applied Materials & Discrete Applied & Discrete Applied Materials & Discrete Applied & Discrete A	8.0	19
49	Platinum group metal-free electrocatalysts: Effects of synthesis on structure and performance in proton-exchange membrane fuel cell cathodes. Journal of Power Sources, 2017, 348, 30-39.	7.8	60
50	Exceptional Oxygen Reduction Reaction Activity and Durability of Platinum–Nickel Nanowires through Synthesis and Post-Treatment Optimization. ACS Omega, 2017, 2, 1408-1418.	3.5	53
51	Study of Lithium Silicide Nanoparticles as Anode Materials for Advanced Lithium Ion Batteries. ACS Applied Materials & Description (1988).	8.0	47
52	Multi-Component Fe–Ni Hydroxide Nanocatalyst for Oxygen Evolution and Methanol Oxidation Reactions under Alkaline Conditions. ACS Catalysis, 2017, 7, 365-379.	11.2	154
53	Fabrication of a mesoporous  Ba <sub>0.5</sub> Sr <sub>0.5</sub> Co <sub>0.8</sub> Fe <sub>0.2</sub> O <sub>3â^î</sub> perovskite as a low-cost and efficient catalyst for oxygen reduction. Dalton Transactions, 2017, 46, 13903-13911.	3.3	18
54	Spectroscopic investigation of nitrogenâ€functionalized carbon materials. Surface and Interface Analysis, 2016, 48, 283-292.	1.8	16

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55	Core Level Shifts of Hydrogenated Pyridinic and Pyrrolic Nitrogen in the Nitrogen-Containing Graphene-Based Electrocatalysts: In-Plane vs Edge Defects. Journal of Physical Chemistry C, 2016, 120, 29225-29232.	3.1	123
56	Synthesis of a mixed-valent tin nitride and considerations of its possible crystal structures. Journal of Chemical Physics, 2016, 144, 144201.	3.0	29
57	Activity and Durability of Iridium Nanoparticles in the Oxygen Evolution Reaction. Journal of the Electrochemical Society, 2016, 163, F3105-F3112.	2.9	154
58	Application of thiolate self-assembled monolayers in selective alcohol oxidation for suppression of Pd catalyst deactivation. Journal of Catalysis, 2016, 344, 722-728.	6.2	13
59	Synthesis of high surface area $CaxLa(1a^2x)Al(1a^2x)MnxO(3a^2l)$ perovskite oxides for oxygen reduction electrocatalysis in alkaline media. Catalysis Science and Technology, 2016, 6, 7744-7751.	4.1	12
60	Synthesis of Porous Crystalline Doped Titania Photocatalysts Using Modified Precursor Strategy. Chemistry of Materials, 2016, 28, 7878-7888.	6.7	23
61	Mechanistic Study of Shape-Anisotropic Nanomaterials Synthesized via Spontaneous Galvanic Displacement. Journal of Physical Chemistry C, 2016, 120, 25053-25060.	3.1	5
62	Direct Conversion of Hydride- to Siloxane-Terminated Silicon Quantum Dots. Journal of Physical Chemistry C, 2016, 120, 25822-25831.	3.1	9
63	Oxidation of Platinum Nickel Nanowires to Improve Durability of Oxygen-Reducing Electrocatalysts. Journal of the Electrochemical Society, 2016, 163, F296-F301.	2.9	22
64	Organometallic Complexes Anchored to Conductive Carbon for Electrocatalytic Oxidation of Methane at Low Temperature. Journal of the American Chemical Society, 2016, 138, 116-125.	13.7	34
65	A review on direct methanol fuel cells–In the perspective of energy and sustainability. MRS Energy & Sustainability, 2015, 2, 1.	3.0	135
66	Nitrogen Post Modification of PtRu/Carbon Catalysts for Improved Methanol Oxidation Reaction Performance in Alkaline Media. Journal of the Electrochemical Society, 2015, 162, F913-F918.	2.9	2
67	Single-step non-thermal plasma synthesis of 3C-SiC nanoparticles. Materials Research Express, 2015, 2, 015019.	1.6	4
68	Bandgap Tuning of Silicon Quantum Dots by Surface Functionalization with Conjugated Organic Groups. Nano Letters, 2015, 15, 3657-3663.	9.1	64
69	Molybdenum incorporated mesoporous silica catalyst for production of biofuels and value-added chemicals via catalytic fast pyrolysis. Green Chemistry, 2015, 17, 3035-3046.	9.0	45
70	Oxygen Reduction Reaction Measurements on Platinum Electrocatalysts Utilizing Rotating Disk Electrode Technique. Journal of the Electrochemical Society, 2015, 162, F1384-F1396.	2.9	211
71	Activity and Durability of Iridium Nanoparticles in the Oxygen Evolution Reaction. ECS Transactions, 2015, 69, 883-892.	0.5	14
72	Benchmarking the oxygen reduction reaction activity of Pt-based catalysts using standardized rotating disk electrode methods. International Journal of Hydrogen Energy, 2015, 40, 16820-16830.	7.1	47

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73	Platinum Nickel Nanowires as Methanol Oxidation Electrocatalysts. Journal of the Electrochemical Society, 2015, 162, F1299-F1304.	2.9	15
74	Improvement in direct methanol fuel cell performance by treating the anode at high anodic potential. Journal of Power Sources, 2014, 245, 37-47.	7.8	11
75	Enhanced metal loading in SBA-15-type catalysts facilitated by salt addition: Synthesis, characterization and catalytic epoxide alcoholysis activity of molybdenum incorporated porous silica. Applied Catalysis A: General, 2014, 475, 469-476.	4.3	12
76	Single-Step Plasma Synthesis of Carbon-Coated Silicon Nanoparticles. ACS Applied Materials & Samp; Interfaces, 2014, 6, 19026-19034.	8.0	27
77	Universal and Versatile Route for Selective Covalent Tethering of Single-Site Catalysts and Functional Groups on the Surface of Ordered Mesoporous Carbons. Chemistry of Materials, 2014, 26, 2873-2882.	6.7	16
78	Recent progress on nitrogen/carbon structures designed for use in energy and sustainability applications. Energy and Environmental Science, 2014, 7, 1212-1249.	30.8	559
79	Platinum-Coated Nickel Nanowires as Oxygen-Reducing Electrocatalysts. ACS Catalysis, 2014, 4, 1114-1119.	11.2	79
80	Platinum-Coated Cobalt Nanowires as Oxygen Reduction Reaction Electrocatalysts. ACS Catalysis, 2014, 4, 2680-2686.	11.2	59
81	Deactivation and stability of K-CoMoSx mixed alcohol synthesis catalysts. Journal of Catalysis, 2014, 309, 199-208.	6.2	28
82	Highâ€Performance Alkaline Direct Methanol Fuel Cell using a Nitrogenâ€Postdoped Anode. ChemSusChem, 2014, 7, 1854-1857.	6.8	15
83	Effect of nitrogen post-doping on a commercial platinum–ruthenium/carbon anode catalyst. Journal of Power Sources, 2014, 248, 296-306.	7.8	15
84	Microfluidic Synthesis of Monodisperse Nanoporous Oxide Particles and Control of Hierarchical Pore Structure. ACS Applied Materials & Samp; Interfaces, 2013, 5, 3524-3529.	8.0	16
85	Non-aqueous thermolytic route to oxynitride photomaterials using molecular precursors Ti(OtBu)4 and Nî€,Mo(OtBu)3. Journal of Materials Chemistry A, 2013, 1, 14066.	10.3	2
86	Nitrogen: unraveling the secret to stable carbon-supported Pt-alloy electrocatalysts. Energy and Environmental Science, 2013, 6, 2957.	30.8	99
87	Enhanced Stability of PtRu Supported on N-Doped Carbon for the Anode of a DMFC. Journal of the Electrochemical Society, 2012, 159, F768-F778.	2.9	19
88	In situ small-angle x-ray scattering analysis of improved catalystâ€"support interactions through nitrogen modification. MRS Communications, 2012, 2, 85-89.	1.8	10
89	Use of digital image processing of microscopic images and multivariate analysis for quantitative correlation of morphology, activity and durability of electrocatalysts. RSC Advances, 2012, 2, 4304.	3.6	20
90	Effect of Halide-Modified Model Carbon Supports on Catalyst Stability. ACS Applied Materials & Amp; Interfaces, 2012, 4, 6728-6734.	8.0	22

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91	Aligned carbon nanotube array functionalization for enhanced atomic layer deposition of platinum electrocatalysts. Applied Surface Science, 2012, 258, 5212-5221.	6.1	52
92	Structure-to-property relationships in fuel cell catalyst supports: Correlation of surface chemistry and morphology with oxidation resistance of carbon blacks. Journal of Power Sources, 2012, 214, 303-313.	7.8	67
93	Hierarchically Structured Pt–Alloy Ethanol Oxidation Electrocatalysts. Electrocatalysis, 2012, 3, 334-345.	3.0	3
94	Tuning Carbon-Based Fuel Cell Catalyst Support Structures via Nitrogen Functionalization. I. Investigation of Structural and Compositional Modification of Highly Oriented Pyrolytic Graphite Model Catalyst Supports as a Function of Nitrogen Implantation Dose. Journal of Physical Chemistry C, 2011, 115, 13667-13675.	3.1	76
95	Tuning Carbon-Based Fuel Cell Catalyst Support Structures via Nitrogen Functionalization. II. Investigation of Durability of Pt–Ru Nanoparticles Supported on Highly Oriented Pyrolytic Graphite Model Catalyst Supports As a Function of Nitrogen Implantation Dose. Journal of Physical Chemistry C. 2011. 115. 13676-13684.	3.1	54
96	Ptâ€"Ru Alloyed Fuel Cell Catalysts Sputtered from a Single Alloyed Target. ACS Catalysis, 2011, 1, 1307-1315.	11.2	32
97	N-Modified Carbon Supported Pt-Ru Direct Methanol Fuel Cell Catalyst Performance and Durability. ECS Meeting Abstracts, 2011, , .	0.0	1
98	Functional DMFC Cathode Catalysts and Supports Based on Niobium Oxide Phase. Journal of the Electrochemical Society, 2011, 158, B485.	2.9	7
99	Application of XPS spectral subtraction and multivariate analysis for the characterization of Ar+ ion beam modified polyimide surfaces. Applied Surface Science, 2010, 256, 3204-3210.	6.1	24
100	The Role of Nitrogen Doping on Durability in the Pt-Ru/HOPG System. ECS Transactions, 2010, 33, 351-357.	0.5	4
101	The Influence of Surfaces and Deposition Processes on Pt Structure and Properties. ECS Transactions, 2010, 33, 221-228.	0.5	1
102	Atomic Layer Deposition of Platinum onto Functionalized Aligned MWNT Arrays for Fuel Cell Application. ECS Transactions, 2010, 33, 89-96.	0.5	3
103	Bifunctional Oxygen Reduction Reaction Mechanism on Non-Platinum Catalysts Derived from Pyrolyzed Porphyrins. Journal of the Electrochemical Society, 2010, 157, B54.	2.9	180
104	Droplet Based Microfluidics for Synthesis of Mesoporous Silica Microspheres. Materials Research Society Symposia Proceedings, 2010, 1272, 1.	0.1	1
105	Effect of Alloying Pd with Oxophillic Metals on Electro-Oxidation of Alcohols in Alkaline Media. ECS Transactions, 2010, 33, 1655-1663.	0.5	0
106	Enhancement of Pt and Pt-alloy fuel cell catalyst activity and durability via nitrogen-modified carbon supports. Energy and Environmental Science, 2010, 3, 1437.	30.8	586
107	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
108	Synthesis by Spray Pyrolysis of Mesoporous NbRuyOz as Electrocatalyst Supports in Fuel Cells. ACS Applied Materials & Samp; Interfaces, 2010, 2, 86-95.	8.0	16

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109	Anion-Exchange Membrane Fuel Cells: Dual-Site Mechanism of Oxygen Reduction Reaction in Alkaline Media on Cobaltâ^'Polypyrrole Electrocatalysts. Journal of Physical Chemistry C, 2010, 114, 5049-5059.	3.1	255
110	Templated Platinum/Carbon Oxygen Reduction Fuel Cell Electrocatalysts. Journal of Physical Chemistry C, 2010, 114, 4200-4207.	3.1	30
111	Microparticles with Bimodal Nanoporosity Derived by Microemulsion Templating. Langmuir, 2009, 25, 13540-13544.	3.5	44
112	Composition- and Morphology-Dependent Corrosion Stability of Ruthenium Oxide Materials. ACS Applied Materials & Samp; Interfaces, 2009, 1, 604-611.	8.0	23
113	Cross-Laboratory Experimental Study of Non-Noble-Metal Electrocatalysts for the Oxygen Reduction Reaction. ACS Applied Materials & Samp; Interfaces, 2009, 1, 1623-1639.	8.0	655
114	Non-platinum oxygen reduction electrocatalysts based on pyrolyzed transition metal macrocycles. Electrochimica Acta, 2008, 53, 7875-7883.	5 <b>.</b> 2	241
115	Direct Spectroscopic Observation of the Structural Origin of Peroxide Generation from Co-Based Pyrolyzed Porphyrins for ORR Applications. Journal of Physical Chemistry C, 2008, 112, 8839-8849.	3.1	215
116	Predictive Modeling of Electrocatalyst Structure Based on Structure-to-Property Correlations of X-ray Photoelectron Spectroscopic and Electrochemical Measurements. Langmuir, 2008, 24, 9082-9088.	3 <b>.</b> 5	84
117	Potential-Directed Assembly of Aryl Iodonium Salts onto Silicon {100} Hydride Terminated and Platinum Surfaces. Langmuir, 2005, 21, 10899-10901.	3.5	26