

Jaganathan Madhavan

List of Publications by Year in descending order

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84
papers

5,433
citations

87843

38
h-index

82499

72
g-index

89
all docs

89
docs citations

89
times ranked

5647
citing authors

#	ARTICLE	IF	CITATIONS
1	A review on BiVO ₄ photocatalyst: Activity enhancement methods for solar photocatalytic applications. Applied Catalysis A: General, 2018, 555, 47-74.	2.2	512
2	Fundamental aspects and recent advances in transition metal nitrides as electrocatalysts for hydrogen evolution reaction: A review. Current Opinion in Solid State and Materials Science, 2020, 24, 100805.	5.6	262
3	Combined advanced oxidation processes for the synergistic degradation of ibuprofen in aqueous environments. Journal of Hazardous Materials, 2010, 178, 202-208.	6.5	241
4	Physical and chemical effects of acoustic cavitation in selected ultrasonic cleaning applications. Ultrasonics Sonochemistry, 2016, 29, 568-576.	3.8	212
5	Heteroatom-doped graphene-based materials for sustainable energy applications: A review. Renewable and Sustainable Energy Reviews, 2021, 143, 110849.	8.2	192
6	Synthesis of a visible-light active V ₂ O ₅ /g-C ₃ N ₄ heterojunction as an efficient photocatalytic and photoelectrochemical material. New Journal of Chemistry, 2015, 39, 1367-1374.	1.4	183
7	Recent progress and emerging challenges of transition metal sulfides based composite electrodes for electrochemical supercapacitive energy storage. Ceramics International, 2020, 46, 14317-14345.	2.3	183
8	Recent advances in hydrogen evolution reaction catalysts on carbon/carbon-based supports in acid media. Journal of Power Sources, 2018, 398, 9-26.	4.0	163
9	Sonoelectrochemistry for energy and environmental applications. Ultrasonics Sonochemistry, 2020, 63, 104960.	3.8	154
10	Recent Progress in Non-Platinum Counter Electrode Materials for Dye-Sensitized Solar Cells. ChemElectroChem, 2015, 2, 928-945.	1.7	147
11	Recent development on carbon based heterostructures for their applications in energy and environment: A review. Journal of Industrial and Engineering Chemistry, 2018, 64, 16-59.	2.9	146
12	Insights on Tafel Constant in the Analysis of Hydrogen Evolution Reaction. Journal of Physical Chemistry C, 2018, 122, 23943-23949.	1.5	136
13	Ultrasound assisted photocatalytic degradation of diclofenac in an aqueous environment. Chemosphere, 2010, 80, 747-752.	4.2	133
14	Degradation of orange-G by advanced oxidation processes. Ultrasonics Sonochemistry, 2010, 17, 338-343.	3.8	122
15	Photocatalytic degradation of Acid Red 88 using Au-TiO ₂ nanoparticles in aqueous solutions. Water Research, 2008, 42, 4878-4884.	5.3	109
16	Highly active MoS ₂ /carbon electrocatalysts for the hydrogen evolution reaction – insight into the effect of the internal resistance and roughness factor on the Tafel slope. Physical Chemistry Chemical Physics, 2017, 19, 1988-1998.	1.3	108
17	Degradation of acid red 88 by the combination of sonolysis and photocatalysis. Separation and Purification Technology, 2010, 74, 336-341.	3.9	101
18	Synthesis of Hierarchical Cobalt Phosphate Nanoflakes and Their Enhanced Electrochemical Performances for Supercapacitor Applications. ChemistrySelect, 2017, 2, 201-210.	0.7	100

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19	A low cost additive-free facile synthesis of BiFeWO ₆ /BiVO ₄ nanocomposite with enhanced visible-light induced photocatalytic activity. <i>Journal of Colloid and Interface Science</i> , 2017, 506, 553-563.	5.0	95
20	A robust visible-light driven BiFeWO ₆ /BiOI nano hybrid with efficient photocatalytic and photoelectrochemical performance. <i>Applied Surface Science</i> , 2017, 412, 85-95.	3.1	93
21	Sonophotocatalytic degradation of monocrotophos using TiO ₂ and Fe ³⁺ . <i>Journal of Hazardous Materials</i> , 2010, 177, 944-949.	6.5	92
22	Synthesis of Ni ₃ V ₂ O ₈ @graphene oxide nanocomposite as an efficient electrode material for supercapacitor applications. <i>Journal of Solid State Electrochemistry</i> , 2018, 22, 527-536.	1.2	92
23	Highly Electroactive Ni Pyrophosphate/Pt Catalyst toward Hydrogen Evolution Reaction. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 4969-4982.	4.0	84
24	Sonophotocatalytic degradation of paracetamol using TiO ₂ and Fe ³⁺ . <i>Separation and Purification Technology</i> , 2013, 103, 114-118.	3.9	73
25	An efficient visible light driven bismuth ferrite incorporated bismuth oxyiodide (BiFeO ₃ /BiOI) composite photocatalytic material for degradation of pollutants. <i>Optical Materials</i> , 2018, 84, 227-235.	1.7	73
26	Hybrid Advanced Oxidation Processes Involving Ultrasound: An Overview. <i>Molecules</i> , 2019, 24, 3341.	1.7	73
27	Effect of tetrabutylammonium iodide content on PVDF-PMMA polymer blend electrolytes for dye-sensitized solar cells. <i>Ionics</i> , 2015, 21, 2889-2896.	1.2	65
28	Nanofiber NiMoO ₄ /g-C ₃ N ₄ Composite Electrode Materials for Redox Supercapacitor Applications. <i>Nanomaterials</i> , 2020, 10, 392.	1.9	63
29	Synthesis and characterization of (Ni ^{1-x} Cox)Se ₂ based ternary selenides as electrocatalyst for triiodide reduction in dye-sensitized solar cells. <i>Journal of Solid State Chemistry</i> , 2016, 238, 113-120.	1.4	62
30	A straightforward synthesis of visible light driven BiFeO ₃ /AgVO ₃ nanocomposites with improved photocatalytic activity. <i>Environmental Pollution</i> , 2021, 269, 116067.	3.7	61
31	Facile synthesis of γ -Fe ₂ O ₃ /WO ₃ composite with an enhanced photocatalytic and photo-electrochemical performance. <i>Ionics</i> , 2018, 24, 3673-3684.	1.2	59
32	Synthesis of BiFeWO ₆ /WO ₃ nanocomposite and its enhanced photocatalytic activity towards degradation of dye under irradiation of light. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2018, 559, 83-91.	2.3	54
33	Electrochemical decolorization and biodegradation of tannery effluent for reduction of chemical oxygen demand and hexavalent chromium. <i>Journal of Water Process Engineering</i> , 2017, 20, 22-28.	2.6	53
34	An overview of cephalosporin antibiotics as emerging contaminants: a serious environmental concern. <i>3 Biotech</i> , 2019, 9, 231.	1.1	50
35	Fabrication of novel AgVO ₃ /BiOI nanocomposite photocatalyst with photoelectrochemical activity towards the degradation of Rhodamine B under visible light irradiation. <i>Environmental Research</i> , 2021, 200, 111365.	3.7	50
36	Single-Step Electrodeposited Molybdenum Incorporated Nickel Sulfide Thin Films from Low-Cost Precursors as Highly Efficient Hydrogen Evolution Electrocatalysts in Acid Medium. <i>Journal of Physical Chemistry C</i> , 2017, 121, 11108-11116.	1.5	42

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37	Hydrothermally synthesized nickel molybdenum selenide composites as cost-effective and efficient trifunctional electrocatalysts for water splitting reactions. <i>International Journal of Hydrogen Energy</i> , 2019, 44, 22796-22805.	3.8	42
38	Synthesis of various carbon incorporated flower-like MoS ₂ microspheres as counter electrode for dye-sensitized solar cells. <i>Journal of Solid State Electrochemistry</i> , 2017, 21, 581-590.	1.2	40
39	Anthracene-based fluorescent probe: Synthesis, characterization, aggregation-induced emission, mechanochromism, and sensing of nitroaromatics in aqueous media. <i>Environmental Research</i> , 2021, 194, 110741.	3.7	40
40	Metal-doped molybdenum nitride films for enhanced hydrogen evolution in near-neutral strongly buffered aerobic media. <i>Electrochimica Acta</i> , 2018, 283, 1525-1533.	2.6	39
41	Carbon supported nickel phosphide as efficient electrocatalyst for hydrogen and oxygen evolution reactions. <i>International Journal of Hydrogen Energy</i> , 2021, 46, 622-632.	3.8	39
42	Bioengineered silver nanoparticles as potent anti-corrosive inhibitor for mild steel in cooling towers. <i>Environmental Science and Pollution Research</i> , 2018, 25, 5412-5420.	2.7	38
43	Superior Oxide Ion Conductivity of Novel Acceptor Doped Cerium Oxide Electrolytes for Intermediate-Temperature Solid Oxide Fuel Cell Applications. <i>Journal of Physical Chemistry C</i> , 2016, 120, 18452-18461.	1.5	33
44	Iron and iron oxide nanoparticles are highly toxic to <i>Culex quinquefasciatus</i> with little non-target effects on larvivorous fishes. <i>Environmental Science and Pollution Research</i> , 2018, 25, 10504-10514.	2.7	33
45	Electrochemical deposition of carbon materials incorporated nickel sulfide composite as counter electrode for dye-sensitized solar cells. <i>Ionics</i> , 2017, 23, 1017-1025.	1.2	32
46	Studies of solvent effect on the conductivity of 2-mercaptopyridine-doped solid polymer blend electrolytes and its application in dye-sensitized solar cells. <i>Journal of Applied Polymer Science</i> , 2015, 132, .	1.3	29
47	Synthesis of γ -Mo ₂ C by Carburization of γ -MoO ₃ Nanowires and Its Electrocatalytic Activity towards Tri-iodide Reduction for Dye-Sensitized Solar Cells. <i>Journal of Materials Science and Technology</i> , 2016, 32, 1339-1344.	5.6	29
48	Performance characteristics of guanine incorporated PVDF-HFP/PEO polymer blend electrolytes with binary iodide salts for dye-sensitized solar cells. <i>Optical Materials</i> , 2016, 58, 357-364.	1.7	28
49	A study of photocatalytic and photoelectrochemical activity of as-synthesized WO ₃ /g-C ₃ N ₄ composite photocatalysts for AO7 degradation. <i>Materials Science for Energy Technologies</i> , 2020, 3, 43-50.	1.0	28
50	Cost-Effective Synthesis of Efficient CoWO ₄ /Ni Nanocomposite Electrode Material for Supercapacitor Applications. <i>Nanomaterials</i> , 2020, 10, 2195.	1.9	28
51	Carbon supported Ni ₃ N/Ni heterostructure for hydrogen evolution reaction in both acid and alkaline media. <i>International Journal of Hydrogen Energy</i> , 2021, 46, 30739-30749.	3.8	28
52	A sensitive electrochemical detection of hydroquinone using newly synthesized γ -Fe ₂ O ₃ -graphene oxide nanocomposite as an electrode material. <i>Journal of Materials Science: Materials in Electronics</i> , 2017, 28, 10081-10091.	1.1	26
53	Electrodeposited carbon-supported nickel sulfide thin films with enhanced stability in acid medium as hydrogen evolution reaction electrocatalyst. <i>Journal of Solid State Electrochemistry</i> , 2018, 22, 365-374.	1.2	26
54	Organic dopant added polyvinylidene fluoride based solid polymer electrolytes for dye-sensitized solar cells. <i>Journal of Physics and Chemistry of Solids</i> , 2016, 89, 78-83.	1.9	24

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55	Role of thermophilic bacteria (<i>Bacillus</i> and <i>Geobacillus</i>) on crude oil degradation and biocorrosion in oil reservoir environment. <i>3 Biotech</i> , 2019, 9, 79.	1.1	24
56	Role of Bacterial Plasmid on Biofilm Formation and Its Influence on Corrosion of Engineering Materials. <i>Journal of Bio- and Tribo-Corrosion</i> , 2016, 2, 1.	1.2	22
57	Fabrication of visible-light active BiFeWO ₆ /ZnO nanocomposites with enhanced photocatalytic activity. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2020, 586, 124294.	2.3	22
58	Simple and low cost electrode material based on Ca ₂ V ₂ O ₇ /PANI nanoplatelets for supercapacitor applications. <i>Journal of Materials Science: Materials in Electronics</i> , 2017, 28, 17354-17362.	1.1	21
59	Enhancement of hydrogen evolution activities of low-cost transition metal electrocatalysts in near-neutral strongly buffered aerobic media. <i>Electrochemistry Communications</i> , 2017, 83, 6-10.	2.3	20
60	Complete photocatalytic degradation of tetracycline by carbon doped TiO ₂ supported with stable metal nitrate hydroxide. <i>Environmental Research</i> , 2022, 207, 112188.	3.7	20
61	N-doped carbon embedded Ni ₃ S ₂ electrocatalyst material towards efficient hydrogen evolution reaction in broad pH range. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2020, 603, 125194.	2.3	19
62	Synthesis of new series of quinoline derivatives with insecticidal effects on larval vectors of malaria and dengue diseases. <i>Scientific Reports</i> , 2022, 12, 4765.	1.6	19
63	Highly Water Dispersible Polymer Acid-Doped Polyanilines as Low-Cost, Nafion-Free Ionomers for Hydrogen Evolution Reaction. <i>ACS Applied Energy Materials</i> , 2018, 1, 1512-1521.	2.5	18
64	Highly efficient Ni _{0.5} Fe _{0.5} Se ₂ /MWCNT electrocatalyst for hydrogen evolution reaction in acid media. <i>International Journal of Hydrogen Energy</i> , 2020, 45, 7838-7847.	3.8	18
65	Phosphorus co-doped reduced graphene oxide embedded flower-like CoS/CoS ₂ heterostructure as an efficient electrocatalyst for hydrogen evolution reaction in acidic media. <i>Journal of Alloys and Compounds</i> , 2022, 907, 164506.	2.8	18
66	Degradation of formetanate hydrochloride by combined advanced oxidation processes. <i>Separation and Purification Technology</i> , 2010, 73, 409-414.	3.9	17
67	Synthesis of W, Nb and Ta doped \pm -Mo ₂ C and Their Application as Counter Electrode in Dye-sensitized Solar Cells. <i>Materials Today: Proceedings</i> , 2016, 3, S65-S72.	0.9	16
68	Influence of pyrazole on the photovoltaic performance of dye-sensitized solar cell with polyvinylidene fluoride polymer electrolytes. <i>Ionics</i> , 2016, 22, 425-433.	1.2	16
69	High performance dye-sensitized solar cell based on 2-mercaptobenzimidazole doped poly(vinylidene fluoride-co-hexafluoropropylene) based polymer electrolyte. <i>Journal of Macromolecular Science - Pure and Applied Chemistry</i> , 2016, 53, 245-251.	1.2	15
70	Application of derivative voltammetry in the quantitative determination of alloxan at single-walled carbon nanotubes modified electrode. <i>Electrochimica Acta</i> , 2019, 317, 182-190.	2.6	15
71	Electrodeposited Co _{1-x} MoxS thin films as highly efficient electrocatalysts for hydrogen evolution reaction in acid medium. <i>Journal of Solid State Electrochemistry</i> , 2018, 22, 2641-2647.	1.2	14
72	Kinetics of the sonophotocatalytic degradation of orange G in presence of Fe ³⁺ . <i>Water Science and Technology</i> , 2009, 60, 2195-2202.	1.2	13

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73	One-pot synthesis of bismuth yttrium tungstate nanosheet decorated 3D-BiOBr nanoflower heterostructure with enhanced visible light photocatalytic activity. <i>Chemosphere</i> , 2022, 297, 133993.	4.2	12
74	Graphene supported flower-like NiS ₂ /MoS ₂ mixed phase nano-composites as a low cost electrode material for hydrogen evolution reaction in alkaline media. <i>Materials Chemistry and Physics</i> , 2022, 280, 125839.	2.0	11
75	Ultra-efficient, low-cost and carbon-supported transition metal sulphide as a platinum free electrocatalyst towards hydrogen evolution reaction at alkaline medium. <i>International Journal of Hydrogen Energy</i> , 2022, 47, 41974-41983.	3.8	10
76	Solution Combustion Synthesis of Hierarchically Structured V ₂ O ₅ Nanoflakes: Efficacy Against Plasmodium falciparum, Plasmodium berghei and the Malaria Vector Anopheles stephensi. <i>Journal of Cluster Science</i> , 2017, 28, 2337-2348.	1.7	9
77	Bismuth Oxyiodide Nanoflakes Showed Toxicity Against the Malaria Vector Anopheles stephensi and In Vivo Antiplasmodial Activity. <i>Journal of Cluster Science</i> , 2018, 29, 337-344.	1.7	7
78	Effect of nano-zerovalent iron incorporated polyvinyl-alginate hybrid hydrogel matrix on inhibition of corrosive bacteria in a cooling tower water environment. <i>SN Applied Sciences</i> , 2019, 1, 1.	1.5	7
79	Effect of MWCNTs on Improvement of Fracture Toughness of Spark Plasma Sintered SiC Nano-Composites. <i>Current Analytical Chemistry</i> , 2021, 17, 849-856.	0.6	7
80	Insecticidal Activity of Nanoparticles and Mechanism of Action. , 2020, , 243-266.		5
81	One-step synthesis of rod-on-plate like 1D/2D-NiMoO ₄ /BiOI nanocomposite for an efficient visible light driven photocatalyst for pollutant degradation. <i>Environmental Science and Pollution Research</i> , 2022, 29, 65222-65232.	2.7	4
82	Surface tuning and interface engineering of advanced materials for detection and removal of toxic pollutants from industrial wastewater. <i>Environmental Research</i> , 2022, 210, 112950.	3.7	1
83	Future prospects of oxide-free materials for energy-related applications. , 2022, , 451-466.		0
84	Multijunction solar cells based on III-V and II-VI semiconductors. , 2022, , 307-328.		0