

# Purushothaman Varadhan

## List of Publications by Year in descending order

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30  
papers

1,542  
citations

430442

18  
h-index

476904

29  
g-index

30  
all docs

30  
docs citations

30  
times ranked

2558  
citing authors

#	ARTICLE	IF	CITATIONS
1	Heteroatom-Mediated Interactions between Ruthenium Single Atoms and an MXene Support for Efficient Hydrogen Evolution. <i>Advanced Materials</i> , 2019, 31, e1903841.	11.1	363
2	Surface Passivation of GaN Nanowires for Enhanced Photoelectrochemical Water-Splitting. <i>Nano Letters</i> , 2017, 17, 1520-1528.	4.5	175
3	An efficient and durable trifunctional electrocatalyst for zinc-air batteries driven overall water splitting. <i>Applied Catalysis B: Environmental</i> , 2021, 297, 120405.	10.8	127
4	High performance, self-powered photodetectors based on a graphene/silicon Schottky junction diode. <i>Journal of Materials Chemistry C</i> , 2018, 6, 9545-9551.	2.7	126
5	An efficient and stable photoelectrochemical system with 9% solar-to-hydrogen conversion efficiency via InGaP/GaAs double junction. <i>Nature Communications</i> , 2019, 10, 5282.	5.8	98
6	Enhanced photoelectrochemical hydrogen production efficiency of MoS <sub>2</sub> -Si heterojunction. <i>Optics Express</i> , 2019, 27, A352.	1.7	91
7	Point defects assisted NH <sub>3</sub> gas sensing properties in ZnO nanostructures. <i>Sensors and Actuators B: Chemical</i> , 2015, 212, 10-17.	4.0	58
8	Over 17% Efficiency Stand-Alone Solar Water Splitting Enabled by Perovskite-Silicon Tandem Absorbers. <i>Advanced Energy Materials</i> , 2020, 10, 2000772.	10.2	58
9	Role of point defects on the enhancement of room temperature ferromagnetism in ZnO nanorods. <i>CrystEngComm</i> , 2012, 14, 4713.	1.3	49
10	Spontaneous solar water splitting with decoupling of light absorption and electrocatalysis using silicon back-buried junction. <i>Nature Communications</i> , 2020, 11, 3930.	5.8	45
11	Highly Efficient and Stable Photoelectrochemical Hydrogen Evolution with 2D-NbS <sub>2</sub> /Si Nanowire Heterojunction. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 44179-44185.	4.0	39
12	Improved performance and stability of photoelectrochemical water-splitting Si system using a bifacial design to decouple light harvesting and electrocatalysis. <i>Nano Energy</i> , 2020, 70, 104478.	8.2	37
13	Interplay of VLS and VS growth mechanism for GaN nanowires by a self-catalytic approach. <i>RSC Advances</i> , 2012, 2, 4802.	1.7	35
14	Structural Evolution and Growth Mechanism of Self-Assembled Wurtzite Gallium Nitride (GaN) Nanostructures by Chemical Vapor Deposition. <i>Journal of Physical Chemistry C</i> , 2013, 117, 7348-7357.	1.5	29
15	Structural and optical properties of GaN and InGaN nanoparticles by chemical co-precipitation method. <i>Materials Research Bulletin</i> , 2012, 47, 3323-3329.	2.7	25
16	The effect of nitridation temperature on the structural, optical and electrical properties of GaN nanoparticles. <i>CrystEngComm</i> , 2014, 16, 3584-3591.	1.3	21
17	Importance of Oxygen Measurements during Photoelectrochemical Water-Splitting Reactions. <i>ACS Energy Letters</i> , 2019, 4, 2712-2718.	8.8	21
18	Raman selection rule for surface optical phonons in ZnS nanobelts. <i>Nanoscale</i> , 2016, 8, 5954-5958.	2.8	18

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19	Raman scattering on intrinsic surface electron accumulation of InN nanowires. <i>Applied Physics Letters</i> , 2010, 97, .	1.5	17
20	Whiskered GaN nanowires by self-induced VLS approach using chemical vapor deposition. <i>CrystEngComm</i> , 2012, 14, 8390.	1.3	17
21	Hybrid electrolytes based on ionic liquids and amorphous porous silicon nanoparticles: Organization and electrochemical properties. <i>Applied Materials Today</i> , 2017, 9, 10-20.	2.3	16
22	Investigations on the role of Ni-catalyst for the VLS growth of quasi-aligned GaN nanowires by chemical vapor deposition. <i>Journal of Nanoparticle Research</i> , 2013, 15, 1.	0.8	15
23	Effect of vacuum annealing on the structural, optical, and electrical properties of spray-deposited Ga-doped ZnO thin films. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2012, 209, 1481-1486.	0.8	14
24	Surface-Structured Cocatalyst Foils Unraveling a Pathway to High-Performance Solar Water Splitting. <i>Advanced Energy Materials</i> , 2022, 12, 2102752.	10.2	11
25	Rational Design of Photoelectrodes for the Fully Integrated Polymer Electrode Membrane-Photoelectrochemical Water-Splitting System: A Case Study of Bismuth Vanadate. <i>ACS Applied Energy Materials</i> , 2021, 4, 9600-9610.	2.5	10
26	Ferromagnetism in undoped One-dimensional GaN Nanowires. <i>AIP Advances</i> , 2014, 4, .	0.6	8
27	Direct comparison on the structural and optical properties of metal-catalytic and self-catalytic assisted gallium nitride (GaN) nanowires by chemical vapor deposition. <i>RSC Advances</i> , 2014, 4, 45100-45108.	1.7	8
28	Photocatalytic dye degradation properties of wafer level GaN nanowires by catalytic and self-catalytic approach using chemical vapor deposition. <i>RSC Advances</i> , 2014, 4, 25569-25575.	1.7	7
29	Solar Water Splitting: Over 17% Efficiency Stand-Alone Solar Water Splitting Enabled by Perovskite-Silicon Tandem Absorbers ( <i>Adv. Energy Mater.</i> 28/2020). <i>Advanced Energy Materials</i> , 2020, 10, 2070122.	10.2	4
30	NanoCharacterization of Double PN Heterojunctions in Photoelectrochemical Devices. <i>Microscopy and Microanalysis</i> , 2020, 26, 1408-1410.	0.2	0