

Viswanath Balakrishnan

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

74
papers

1,954
citations

25
h-index

43
g-index

79
ext. papers

2,200
ext. citations

5.2
avg, IF

5.17
L-index

#	Paper	IF	Citations
74	Scalable Approach to Develop High Performance Chemiresistive Nitric Oxide Sensor. <i>IEEE Nanotechnology Magazine</i> , 2022 , 1-1	2.6	4
73	Effect of chemical doping on memristive behavior of VO ₂ microcrystals. <i>Applied Physics Letters</i> , 2022 , 120, 062101	3.4	1
72	Fracture toughness of VO ₂ microcrystals across metal-insulator transition. <i>Materials Letters</i> , 2022 , 315, 132006	3.3	1
71	Dynamic mechanical response of VO ₂ - UHMWPE polymer composite across the phase transition. <i>Materials Today Communications</i> , 2021 , 26, 102003	2.5	0
70	Charge Pumping by Contact Electrification Using Electrostatic Force Microscopy in Bi- and Trilayered MoS ₂ Nanosheets. <i>Journal of Physical Chemistry C</i> , 2021 , 125, 12155-12165	3.8	0
69	Nickel decorated MoO ₃ single crystal microflakes with multi-site functionality for enhanced hydrogen evolution reaction. <i>International Journal of Hydrogen Energy</i> , 2021 , 46, 1945-1954	6.7	4
68	A light-fostered supercapacitor performance of multi-layered ReS ₂ grown on conducting substrates. <i>Nanoscale Advances</i> , 2021 , 3, 2089-2102	5.1	3
67	WS ₂ Monolayer for PiezoPhototronic Dye Degradation and Bacterial Disinfection. <i>ACS Applied Nano Materials</i> , 2021 , 4, 7879-7887	5.6	5
66	Layer number dependent optical and electrical properties of CVD grown two-dimensional anisotropic WS ₂ . <i>Surfaces and Interfaces</i> , 2021 , 26, 101308	4.1	6
65	Upscaling mechanical properties of Al ₂ O ₃ coated VACNT forest architecture under compression. <i>Materials Characterization</i> , 2020 , 170, 110687	3.9	1
64	Phase selective CVD growth and photoinduced 1T -v1H phase transition in a WS ₂ monolayer. <i>Journal of Materials Chemistry C</i> , 2020 , 8, 10438-10447	7.1	6
63	Fabrication of iron oxide-CNT based flexible asymmetric solid state supercapacitor device with high cyclic stability. <i>Nanotechnology</i> , 2020 , 31, 435402	3.4	8
62	Polymorphic In-Plane Heterostructures of Monolayer WS ₂ for Light-Triggered Field-Effect Transistors. <i>ACS Applied Nano Materials</i> , 2020 , 3, 3750-3759	5.6	3
61	Selective Oxidation of WS ₂ Defect Domain with Sub-Monolayer Thickness Leads to Multifold Enhancement in Photoluminescence. <i>Advanced Materials Interfaces</i> , 2019 , 6, 1900962	4.6	4
60	Tuning the Wettability of Vertically Aligned CNT//iO ₂ Hybrid Electrodes for Enhanced Supercapacitor Performance. <i>Advanced Materials Interfaces</i> , 2019 , 6, 1801842	4.6	16
59	Thermally driven reversible photoluminescence modulation in WS ₂ /VO ₂ heterostructure. <i>Applied Surface Science</i> , 2019 , 480, 680-688	6.7	3
58	Aligned CNT Forests on Stainless Steel Mesh for Flexible Supercapacitor Electrode with High Capacitance and Power Density. <i>ACS Applied Nano Materials</i> , 2019 , 2, 1484-1495	5.6	22

57	Switchable Friction across InsulatorMetal Transition in VO ₂ . <i>Advanced Engineering Materials</i> , 2019 , 21, 1900616	3.5	4
56	Thermal expansion coefficient and phonon dynamics in coexisting allotropes of monolayer WS probed by Raman scattering. <i>Journal of Physics Condensed Matter</i> , 2019 , 31, 505403	1.8	6
55	Candle soot: Journey from a pollutant to a functional material. <i>Carbon</i> , 2019 , 144, 684-712	10.4	57
54	Gram scale synthesis of monoclinic VO ₂ microcrystals by hydrothermal and argon annealing treatment. <i>Ceramics International</i> , 2019 , 45, 3554-3562	5.1	7
53	In situ thermo-mechanical bending behavior of VO ₂ microcantilevers across the phase transition. <i>Journal of Micromechanics and Microengineering</i> , 2019 , 29, 015002	2	4
52	Electroless Growth of High Surface Area Au Dendrites with Corrugated Edge Structure for Hybrid Supercapacitor Applications. <i>ChemistrySelect</i> , 2018 , 3, 3866-3870	1.8	0
51	Nanosculpting of Atomically Thin 2D Materials for Site-Specific Photoluminescence Modulation. <i>Advanced Optical Materials</i> , 2018 , 6, 1701284	8.1	7
50	Phase engineering of seamless heterophase homojunctions with co-existing 3R and 2H phases in WS monolayers. <i>Nanoscale</i> , 2018 , 10, 3320-3330	7.7	20
49	Growth and microstructural evolution of WS ₂ nanostructures with tunable field and light modulated electrical transport. <i>Applied Surface Science</i> , 2018 , 436, 846-853	6.7	15
48	Controlled sulfurization of DC sputtered Mo and W thin films for CVD growth of MoS ₂ /WS ₂ heterostructures. <i>Materials Research Express</i> , 2018 , 5, 086405	1.7	0
47	Photocatalytic Water Disinfection of CVD Grown WS ₂ Monolayer Decorated with Ag Nanoparticles. <i>ChemistrySelect</i> , 2018 , 3, 7648-7655	1.8	9
46	A new insight on the role of 1-D and 2-D reinforcements in TiC during high temperature plastic deformation. <i>Ceramics International</i> , 2018 , 44, 18389-18399	5.1	2
45	Scalable faceted voids with luminescent enhanced edges in WS monolayers. <i>Nanoscale</i> , 2018 , 10, 16321-16331	7.7	17
44	Competing thermal expansion mismatch and lattice strain engineered growth of crack free WS ₂ in-plane heterostructures. <i>Journal of Materials Chemistry C</i> , 2018 , 6, 11407-11415	7.1	12
43	Nanomechanical behavior of Pb(Fe _{0.5} Sc _x Nb _{0.5})O ₃ multiferroic ceramics. <i>Materials Research Express</i> , 2018 , 5, 116303	1.7	3
42	In situ nanomechanical behaviour of coexisting insulating and metallic domains in VO ₂ microbeams. <i>Journal of Materials Science</i> , 2017 , 52, 5589-5599	4.3	15
41	Magnetoresistance across metalInsulator transition in VO ₂ micro crystals. <i>Materials Letters</i> , 2017 , 196, 248-251	3.3	3
40	Direct measurement of nanomechanical actuation across phase transition in VO ₂ crystals. <i>Scripta Materialia</i> , 2017 , 141, 24-27	5.6	5

39	Horizontally and vertically aligned growth of strained MoS ₂ layers with dissimilar wetting and catalytic behaviors. <i>CrystEngComm</i> , 2017 , 19, 5068-5078	3.3	29
38	Effect of Sulfur Evaporation Rate on Screw Dislocation Driven Growth of MoS ₂ with High Atomic Step Density. <i>Crystal Growth and Design</i> , 2016 , 16, 7145-7154	3.5	32
37	Measurement of the Dewetting, Nucleation, and Deactivation Kinetics of Carbon Nanotube Population Growth by Environmental Transmission Electron Microscopy. <i>Chemistry of Materials</i> , 2016 , 28, 3804-3813	9.6	31
36	Effect of crystal structure and cationic order on phonon modes across ferroelectric phase transformation in Pb(Fe _{0.5-x} Sc _x Nb _{0.5})O ₃ bulk ceramics. <i>AIP Advances</i> , 2016 , 6, 015116	1.5	3
35	High-speed roll-to-roll manufacturing of graphene using a concentric tube CVD reactor. <i>Scientific Reports</i> , 2015 , 5, 10257	4.9	113
34	Direct fabrication of graphene on SiO ₂ enabled by thin film stress engineering. <i>Scientific Reports</i> , 2014 , 4, 5049	4.9	40
33	Visualizing Phase Transition Induced Actuation in Vanadium Dioxide in a Transmission Electron Microscope. <i>Microscopy and Microanalysis</i> , 2014 , 20, 1888-1889	0.5	
32	Direct in situ observation of structural transition driven actuation in VO ₂ utilizing electron transparent cantilevers. <i>Nanoscale</i> , 2013 , 5, 7484-92	7.7	21
31	In situ stress relaxation and diffraction studies across the metal-insulator transition in epitaxial and polycrystalline SmNiO ₃ thin films. <i>Scripta Materialia</i> , 2012 , 66, 463-466	5.6	3
30	In situ studies on twinning and cracking proximal to insulator-metal transition in self-supported VO ₂ / Si ₃ N ₄ membranes. <i>Journal of Materials Research</i> , 2012 , 27, 1476-1481	2.5	16
29	Hydrothermal synthesis of a monoclinic VO ₂ nanotube-graphene hybrid for use as cathode material in lithium ion batteries. <i>Carbon</i> , 2012 , 50, 4839-4846	10.4	85
28	Fabrication and physical properties of thin Ti _x O _y membranes from single crystal TiO ₂ . <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2012 , 30, 021601	2.9	2
27	Electrothermal actuation of metal-insulator transition in SmNiO ₃ thin film devices above room temperature. <i>Journal of Applied Physics</i> , 2012 , 111, 124501	2.5	5
26	Thermoelastic switching with controlled actuation in VO ₂ thin films. <i>Scripta Materialia</i> , 2011 , 64, 490-493	3.6	27
25	Porous, catalytically active palladium nanostructures by tuning nanoparticle interactions in an organic medium. <i>Nanoscale</i> , 2011 , 3, 725-30	7.7	57
24	Nanoporous alloy aggregates: synthesis and electrocatalytic activity. <i>Journal of Materials Chemistry</i> , 2011 , 21, 8721		30
23	Epitaxy, strain, and composition effects on metal-insulator transition characteristics of SmNiO ₃ thin films. <i>Journal of Applied Physics</i> , 2011 , 109, 124110	2.5	31
22	Size effects on stress relaxation across the metal-insulator transition in VO ₂ thin films. <i>Journal of Materials Research</i> , 2011 , 26, 1384-1387	2.5	10

21	Thickness-dependent orientation evolution in nickel thin films grown on yttria-stabilized zirconia single crystals. <i>Philosophical Magazine</i> , 2011 , 91, 4311-4323	1.6	3
20	Functional nanoporous structures by partial sintering of nanorod assemblies. <i>Journal Physics D: Applied Physics</i> , 2010 , 43, 455301	3	8
19	Active low temperature oxidation as a route to minimize electrodeoxide interface reactions in nanoscale capacitors. <i>Journal of Applied Physics</i> , 2010 , 108, 024106	2.5	7
18	Symmetry and shape issues in nanostructure growth. <i>Journal of Materials Chemistry</i> , 2010 , 20, 4763		41
17	Nanoscale heterostructures with molecular-scale single-crystal metal wires. <i>Journal of the American Chemical Society</i> , 2010 , 132, 20-1	16.4	33
16	Surface diffusion driven nanoshell formation by controlled sintering of mesoporous nanoparticle aggregates. <i>Nanoscale</i> , 2010 , 2, 1423-5	7.7	23
15	High-surface step density on dendritic pd leads to exceptional catalytic activity for formic acid oxidation. <i>ACS Applied Materials & Interfaces</i> , 2010 , 2, 2965-9	9.5	53
14	Exfoliation of alpha-hydroxides of nickel and cobalt in water. <i>Journal of Colloid and Interface Science</i> , 2010 , 345, 109-15	9.3	28
13	Effect of calcium deficiency on the mechanical properties of hydroxyapatite crystals. <i>Acta Materialia</i> , 2010 , 58, 4841-4848	8.4	26
12	Formation of two-dimensional structures by tuning the driving force of chemical reactions: an interpretation of kinetic control. <i>Journal of Colloid and Interface Science</i> , 2009 , 330, 211-9	9.3	19
11	Nanoporous Pt with high surface area by reaction-limited aggregation of nanoparticles. <i>Langmuir</i> , 2009 , 25, 3115-21	4	57
10	Mechanistic Aspects of Shape Selection and Symmetry Breaking during Nanostructure Growth by Wet Chemical Methods. <i>Journal of Physical Chemistry C</i> , 2009 , 113, 16866-16883	3.8	124
9	Predicting the growth of two-dimensional nanostructures. <i>Nanotechnology</i> , 2008 , 19, 195603	3.4	48
8	Low-Temperature Selective Catalytic Reduction of NO with NH ₃ over Ti _{0.9} M _{0.1} O _{2-x} (M = Cr, Mn, Fe, Co, Cu). <i>Journal of Physical Chemistry C</i> , 2008 , 112, 6002-6012	3.8	208
7	Mechanical properties of tricalcium phosphate single crystals grown by molten salt synthesis. <i>Acta Biomaterialia</i> , 2008 , 4, 1448-54	10.8	41
6	Controlled synthesis of plate-shaped hydroxyapatite and implications for the morphology of the apatite phase in bone. <i>Biomaterials</i> , 2008 , 29, 4855-63	15.6	138
5	The production of smectite clay/graphene composites through delamination and co-stacking. <i>Carbon</i> , 2008 , 46, 1773-1781	10.4	71
4	Mechanical properties and anisotropy in hydroxyapatite single crystals. <i>Scripta Materialia</i> , 2007 , 57, 361-364	3.64	122

- 3 Porous biphasic scaffolds and coatings for biomedical applications via morphology transition of nanorods. *Nanotechnology*, **2007**, 18, 475604 3.4 12
- 2 Interfacial reactions in hydroxyapatite/alumina nanocomposites. *Scripta Materialia*, **2006**, 55, 863-866 5.6 84
- 1 Biphasic composite of Tricalcium phosphate reinforced with Hydroxyapatite Whiskers. *Materials Research Society Symposia Proceedings*, **2005**, 898, 1 4