

Viswanath Balakrishnan

List of Publications by Citations

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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 | Low-Temperature Selective Catalytic Reduction of NO with NH ₃ over Ti _{0.9} M _{0.1} O ₂ (M = Cr, Mn, Fe, Co, Cu). <i>Journal of Physical Chemistry C</i> , 2008 , 112, 6002-6012 | 3.8 | 208 |
| 73 | 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 |
| 72 | 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 |
| 71 | Mechanical properties and anisotropy in hydroxyapatite single crystals. <i>Scripta Materialia</i> , 2007 , 57, 361-364 | 3.64 | 122 |
| 70 | High-speed roll-to-roll manufacturing of graphene using a concentric tube CVD reactor. <i>Scientific Reports</i> , 2015 , 5, 10257 | 4.9 | 113 |
| 69 | 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 |
| 68 | Interfacial reactions in hydroxyapatite/alumina nanocomposites. <i>Scripta Materialia</i> , 2006 , 55, 863-866 | 5.6 | 84 |
| 67 | The production of smectite clay/graphene composites through delamination and co-stacking. <i>Carbon</i> , 2008 , 46, 1773-1781 | 10.4 | 71 |
| 66 | Porous, catalytically active palladium nanostructures by tuning nanoparticle interactions in an organic medium. <i>Nanoscale</i> , 2011 , 3, 725-30 | 7.7 | 57 |
| 65 | Nanoporous Pt with high surface area by reaction-limited aggregation of nanoparticles. <i>Langmuir</i> , 2009 , 25, 3115-21 | 4 | 57 |
| 64 | Candle soot: Journey from a pollutant to a functional material. <i>Carbon</i> , 2019 , 144, 684-712 | 10.4 | 57 |
| 63 | 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 |
| 62 | Predicting the growth of two-dimensional nanostructures. <i>Nanotechnology</i> , 2008 , 19, 195603 | 3.4 | 48 |
| 61 | Symmetry and shape issues in nanostructure growth. <i>Journal of Materials Chemistry</i> , 2010 , 20, 4763 | | 41 |
| 60 | Mechanical properties of tricalcium phosphate single crystals grown by molten salt synthesis. <i>Acta Biomaterialia</i> , 2008 , 4, 1448-54 | 10.8 | 41 |
| 59 | Direct fabrication of graphene on SiO ₂ enabled by thin film stress engineering. <i>Scientific Reports</i> , 2014 , 4, 5049 | 4.9 | 40 |
| 58 | Nanoscale heterostructures with molecular-scale single-crystal metal wires. <i>Journal of the American Chemical Society</i> , 2010 , 132, 20-1 | 16.4 | 33 |

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| 57 | 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 |
| 56 | 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 |
| 55 | 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 |
| 54 | Nanoporous alloy aggregates: synthesis and electrocatalytic activity. <i>Journal of Materials Chemistry</i> , 2011 , 21, 8721 | | 30 |
| 53 | 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 |
| 52 | 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 |
| 51 | Thermoelastic switching with controlled actuation in VO ₂ thin films. <i>Scripta Materialia</i> , 2011 , 64, 490-493 | 3.6 | 27 |
| 50 | Effect of calcium deficiency on the mechanical properties of hydroxyapatite crystals. <i>Acta Materialia</i> , 2010 , 58, 4841-4848 | 8.4 | 26 |
| 49 | Surface diffusion driven nanoshell formation by controlled sintering of mesoporous nanoparticle aggregates. <i>Nanoscale</i> , 2010 , 2, 1423-5 | 7.7 | 23 |
| 48 | 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 |
| 47 | 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 |
| 46 | 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 |
| 45 | 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 |
| 44 | 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 |
| 43 | 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 |
| 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 | 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 |
| 40 | Porous biphasic scaffolds and coatings for biomedical applications via morphology transition of nanorods. <i>Nanotechnology</i> , 2007 , 18, 475604 | 3.4 | 12 |

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| 39 | 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 |
| 38 | 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 |
| 37 | Photocatalytic Water Disinfection of CVD Grown WS ₂ Monolayer Decorated with Ag Nanoparticles. <i>ChemistrySelect</i> , 2018 , 3, 7648-7655 | 1.8 | 9 |
| 36 | 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 |
| 35 | Functional nanoporous structures by partial sintering of nanorod assemblies. <i>Journal Physics D: Applied Physics</i> , 2010 , 43, 455301 | 3 | 8 |
| 34 | Nanosculpting of Atomically Thin 2D Materials for Site-Specific Photoluminescence Modulation. <i>Advanced Optical Materials</i> , 2018 , 6, 1701284 | 8.1 | 7 |
| 33 | Scalable faceted voids with luminescent enhanced edges in WS monolayers. <i>Nanoscale</i> , 2018 , 10, 16321-16331 | 7.7 | 7 |
| 32 | Active low temperature oxidation as a route to minimize electrode-electrolyte interface reactions in nanoscale capacitors. <i>Journal of Applied Physics</i> , 2010 , 108, 024106 | 2.5 | 7 |
| 31 | 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 |
| 30 | 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 |
| 29 | 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 |
| 28 | 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 |
| 27 | Direct measurement of nanomechanical actuation across phase transition in VO ₂ crystals. <i>Scripta Materialia</i> , 2017 , 141, 24-27 | 5.6 | 5 |
| 26 | 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 |
| 25 | WS ₂ Monolayer for Piezophototronic Dye Degradation and Bacterial Disinfection. <i>ACS Applied Nano Materials</i> , 2021 , 4, 7879-7887 | 5.6 | 5 |
| 24 | 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 |
| 23 | Switchable Friction across Insulator-Metal Transition in VO ₂ . <i>Advanced Engineering Materials</i> , 2019 , 21, 1900616 | 3.5 | 4 |
| 22 | Biphasic composite of Tricalcium phosphate reinforced with Hydroxyapatite Whiskers. <i>Materials Research Society Symposia Proceedings</i> , 2005 , 898, 1 | | 4 |

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| 21 | Scalable Approach to Develop High Performance Chemiresistive Nitric Oxide Sensor. <i>IEEE Nanotechnology Magazine</i> , 2022 , 1-1 | 2.6 | 4 |
| 20 | 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 |
| 19 | 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 |
| 18 | Magnetoresistance across metal-insulator transition in VO ₂ micro crystals. <i>Materials Letters</i> , 2017 , 196, 248-251 | 3.3 | 3 |
| 17 | Thermally driven reversible photoluminescence modulation in WS ₂ /VO ₂ heterostructure. <i>Applied Surface Science</i> , 2019 , 480, 680-688 | 6.7 | 3 |
| 16 | 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 |
| 15 | 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 |
| 14 | 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 |
| 13 | 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 |
| 12 | 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 |
| 11 | Nanomechanical behavior of Pb(Fe _{0.5-x} Sc _x Nb _{0.5})O ₃ multiferroic ceramics. <i>Materials Research Express</i> , 2018 , 5, 116303 | 1.7 | 3 |
| 10 | 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 |
| 9 | 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 |
| 8 | Upscaling mechanical properties of Al ₂ O ₃ coated VACNT forest architecture under compression. <i>Materials Characterization</i> , 2020 , 170, 110687 | 3.9 | 1 |
| 7 | Effect of chemical doping on memristive behavior of VO ₂ microcrystals. <i>Applied Physics Letters</i> , 2022 , 120, 062101 | 3.4 | 1 |
| 6 | Fracture toughness of VO ₂ microcrystals across metal-insulator transition. <i>Materials Letters</i> , 2022 , 315, 132006 | 3.3 | 1 |
| 5 | 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 |
| 4 | 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 |

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| 3 | Dynamic mechanical response of VO ₂ - UHMWPE polymer composite across the phase transition. <i>Materials Today Communications</i> , 2021 , 26, 102003 | 2.5 | ○ |
| 2 | 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 | ○ |
| 1 | Visualizing Phase Transition Induced Actuation in Vanadium Dioxide in a Transmission Electron Microscope. <i>Microscopy and Microanalysis</i> , 2014 , 20, 1888-1889 | 0.5 | |