## Vikas Mittal

## List of Publications by Year in descending order

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133 papers 4,556 citations

34 h-index 60 g-index

292 all docs

292 docs citations

times ranked

292

5899 citing authors

#	Article	IF	CITATIONS
1	Two-Dimensional Materials for Sensing: Graphene and Beyond. Electronics (Switzerland), 2015, 4, 651-687.	1.8	310
2	Polyurethane Adhesive Nanocomposites as Gas Permeation Barrier. Macromolecules, 2003, 36, 9851-9858.	2.2	290
3	Polymer Layered Silicate Nanocomposites: A Review. Materials, 2009, 2, 992-1057.	1.3	245
4	Polymer membranes for acid gas removal from natural gas. Separation and Purification Technology, 2016, 158, 333-356.	3.9	195
5	Epoxy-Layered Silicate Nanocomposites and Their Gas Permeation Properties. Macromolecules, 2004, 37, 7250-7257.	2.2	156
6	Recent progress on synthetic strategies and applications of transition metal phosphides in energy storage and conversion. Ceramics International, 2021, 47, 4404-4425.	2.3	131
7	Functional Polymer Nanocomposites with Graphene: A Review. Macromolecular Materials and Engineering, 2014, 299, 906-931.	1.7	128
8	The Aspect Ratio and Gas Permeation in Polymer-Layered Silicate Nanocomposites. Macromolecular Rapid Communications, 2004, 25, 1145-1149.	2.0	124
9	Polyurethane-Grafted Chitosan as New Biomaterials for Controlled Drug Delivery. Macromolecules, 2015, 48, 2654-2666.	2.2	95
10	Mechanical, Thermal, Rheological and Morphological Properties of Binary and Ternary Blends of PLA, TPS and PCL. Macromolecular Materials and Engineering, 2015, 300, 423-435.	1.7	82
11	Tailored electrical conductivity, electromagnetic shielding and thermal transport in polymeric blends with graphene sheets decorated with nickel nanoparticles. Physical Chemistry Chemical Physics, 2015, 17, 14922-14930.	1.3	76
12	Polypropylene-Layered Silicate Nanocomposites: Filler Matrix Interactions and Mechanical Properties. Journal of Thermoplastic Composite Materials, 2007, 20, 575-599.	2.6	74
13	Poly(propylene)-Layered Silicate Nanocomposites: Gas Permeation Properties and Clay Exfoliation. Macromolecular Chemistry and Physics, 2007, 208, 68-75.	1.1	70
14	Processable conductive graphene/polyethylene nanocomposites: Effects of graphene dispersion and polyethylene blending with oxidized polyethylene on rheology and microstructure. Polymer, 2016, 98, 143-155.	1.8	70
15	Natural antioxidants-based edible active food packaging: An overview of current advancements. Food Bioscience, 2021, 43, 101251.	2.0	70
16	Gas permeation and mechanical properties of polypropylene nanocomposites with thermally-stable imidazolium modified clay. European Polymer Journal, 2007, 43, 3727-3736.	2.6	67
17	Highâ€density polyethylene nanocomposites using masterbatches of chlorinated polyethylene/graphene oxide. Polymer Engineering and Science, 2013, 53, 78-88.	1.5	67
18	H2S adsorption on graphene in the presence of sulfur: A density functional theory study. Computational Materials Science, 2016, 117, 110-119.	1.4	65

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19	Cu- and Zr-based metal organic frameworks and their composites with graphene oxide for capture of acid gases at ambient temperature. Journal of Solid State Chemistry, 2018, 266, 233-243.	1.4	64
20	Mechanical and gas permeation properties of compatibilized polypropylene–layered silicate nanocomposites. Journal of Applied Polymer Science, 2008, 107, 1350-1361.	1.3	62
21	Effect of date fruit waste extract as an antioxidant additive on the properties of active gelatin films. Food Chemistry, 2021, 355, 129631.	4.2	55
22	Mechanical and Thermal Properties of Thermoset–Graphene Nanocomposites. Macromolecular Materials and Engineering, 2016, 301, 231-259.	1.7	52
23	Role of Enhanced Hydrogen Bonding of Selectively Reduced Graphite Oxide in Fabrication of Poly(vinyl alcohol) Nanocomposites in Water as EMI Shielding Material. Journal of Physical Chemistry C, 2016, 120, 17011-17023.	1.5	50
24	Polymer chains grafted "to―and "from―layered silicate clay platelets. Journal of Colloid and Interface Science, 2007, 314, 141-151.	5.0	49
25	Polymer – graphene nanocomposites: effect of polymer matrix and filler amount on properties. Macromolecular Materials and Engineering, 2015, 300, 510-521.	1.7	49
26	Mechanically and Thermally Enhanced Multiwalled Carbon Nanotube–Graphene Hybrid filled Thermoplastic Polyurethane Nanocomposites. Macromolecular Materials and Engineering, 2015, 300, 346-357.	1.7	45
27	Modification of montmorillonites with thermally stable phosphonium cations and comparison with alkylammonium montmorillonites. Applied Clay Science, 2012, 56, 103-109.	2.6	44
28	Biorenewable blends of polyamideâ€4,10 and polyamideâ€6,10. Journal of Applied Polymer Science, 2016, 133, .	1.3	44
29	PLA, TPS and PCL binary and ternary blends: structural characterization and time-dependent morphological changes. Colloid and Polymer Science, 2015, 293, 573-585.	1.0	41
30	Blends of biorenewable polyamide-11 and polyamide-6,10. Polymer, 2013, 54, 6961-6970.	1.8	40
31	Biopolymer – Thermally reduced graphene nanocomposites: Structural characterization and properties. Materials Chemistry and Physics, 2014, 147, 319-332.	2.0	40
32	Anti-corrosion behavior of layer by layer coatings of cross-linked chitosan and poly(vinyl butyral) on carbon steel. Cellulose, 2015, 22, 3275-3290.	2.4	40
33	Correcting for a Density Distribution: Particle Size Analysis of Core–Shell Nanocomposite Particles Using Disk Centrifuge Photosedimentometry. Langmuir, 2012, 28, 2536-2544.	1.6	36
34	Ab initio study on gas sensing properties of group III (B, Al and Ga) doped graphene. Computational Condensed Matter, 2016, 9, 40-55.	0.9	36
35	Nano nickel ferrite (NiFe2O4) as anti-corrosion pigment for API 5L X-80 steel: An electrochemical study in acidic and saline media. Dyes and Pigments, 2015, 118, 18-26.	2.0	35
36	Toughened Isotactic Polypropylene: Phase Behavior and Mechanical Properties of Blends with Strategically Designed Random Copolymer Modifiers. Macromolecules, 2016, 49, 6497-6506.	2.2	35

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37	Synthesis of temperature responsive polymer brushes from polystyrene latex particles functionalized with ATRP initiator. European Polymer Journal, 2007, 43, 4868-4881.	2.6	34
38	Epoxyâ€"Vermiculite Nanocomposites as Gas Permeation Barrier. Journal of Composite Materials, 2008, 42, 2829-2839.	1.2	34
39	Block Copolymer Micelle Toughened Isotactic Polypropylene. Macromolecules, 2017, 50, 6421-6432.	2.2	31
40	Effect of Graphene on Polypropylene/Maleic Anhydride- <i>graft</i> -Ethylene–Vinyl Acetate (PP/EVA- <i>g</i> -MA) Blend: Mechanical, Thermal, Morphological, and Rheological Properties. Industrial & Department of the Mechanical Chemistry Research, 2018, 57, 7834-7845.	1.8	31
41	"True―biocomposites with biopolyesters and date seed powder: Mechanical, thermal, and degradation properties. Journal of Applied Polymer Science, 2014, 131, .	1.3	28
42	Inhibition and promotion of electrochemical reactions by graphene in organic coatings. RSC Advances, 2015, 5, 80365-80368.	1.7	28
43	Facile In Situ Fabrication of Nanostructured Graphene–CuO Hybrid with Hydrogen Sulfide Removal Capacity. Nano-Micro Letters, 2016, 8, 312-319.	14.4	28
44	Self-healing protective coatings of polyvinyl butyral/polypyrrole-carbon black composite on carbon steel. RSC Advances, 2016, 6, 43237-43249.	1.7	28
45	Physical adsorption of organic molecules on the surface of layered silicate clay platelets: A thermogravimetric study. Journal of Colloid and Interface Science, 2008, 327, 295-301.	5.0	27
46	Montmorillonite–multiwalled carbon nanotube nanoarchitecture reinforced thermoplastic polyurethane. Polymer Composites, 2016, 37, 1775-1785.	2.3	27
47	Functionalized polystyrene latex particles as substrates for ATRP: Surface and colloidal characterization. Polymer, 2007, 48, 2806-2817.	1.8	26
48	Esterification reactions on the surface of layered silicate clay platelets. Journal of Colloid and Interface Science, 2007, 315, 135-141.	5.0	26
49	Enhancement of electrical and thermal conductivity of Su-8 photocrosslinked coatings containing graphene. Progress in Organic Coatings, 2015, 86, 143-146.	1.9	25
50	In situ formed graphene/ZnO nanostructured composites for low temperature hydrogen sulfide removal from natural gas. RSC Advances, 2016, 6, 81142-81150.	1.7	25
51	Facile synthesis of thermally reduced graphene oxide-sepiolite nanohybrid via intercalation and thermal reduction method. Applied Clay Science, 2017, 135, 510-515.	2.6	23
52	Analytical Ultracentrifugation of Model Nanoparticles: Comparison of Different Analysis Methods. Macromolecular Bioscience, 2010, 10, 754-762.	2.1	22
53	Assembly of layered double hydroxide on multiâ€walled carbon nanotubes as reinforcing hybrid nanofiller in thermoplastic polyurethane/nitrile butadiene rubber blends. Polymer International, 2016, 65, 93-101.	1.6	22
54	Bioâ€polyester–date seed powder composites: Morphology and component migration. Polymer Engineering and Science, 2015, 55, 877-888.	1.5	21

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55	Enzymatically degradable and flexible bio-nanocomposites derived from PHBV and PBAT blend: assessing thermal, morphological, mechanical, and biodegradation properties. Colloid and Polymer Science, 2015, 293, 2921-2930.	1.0	21
56	Molecular and morphological studies to understand slow crack growth (SCG) of polyethylene. Colloid and Polymer Science, 2016, 294, 1269-1280.	1.0	20
57	Polyethylene/graphene nanocomposites: effect of molecular weight on mechanical, thermal, rheological and morphological properties. Colloid and Polymer Science, 2016, 294, 691-704.	1.0	20
58	Binary Cu/ZnO decorated graphene nanocomposites as an efficient anode for lithium ion batteries. Journal of Industrial and Engineering Chemistry, 2018, 59, 108-114.	2.9	20
59	Silver-sepiolite (Ag-Sep) hybrid reinforced active gelatin/date waste extract (DSWE) blend composite films for food packaging application. Food Chemistry, 2022, 369, 130983.	4.2	20
60	Facile noncovalent assembly of MWCNT-LDH and CNF-LDH as reinforcing hybrid fillers in thermoplastic polyurethane/nitrile butadiene rubber blends. Journal of Polymer Research, 2016, 23, 1.	1.2	19
61	Recent Trends in the Use of Three-Dimensional Graphene Structures for Supercapacitors. ACS Applied Electronic Materials, 2021, 3, 574-596.	2.0	19
62	Process intensification of copper chromite (CuCr2O4) nanoparticle production using continuous flow microreactor. Chemical Engineering and Processing: Process Intensification, 2015, 89, 28-34.	1.8	18
63	Effect of graphene oxide nanoplatelets on electrochemical properties of steel substrate in saline media. Materials Chemistry and Physics, 2015, 163, 130-137.	2.0	18
64	Energetic Stabilities, Structural and Electronic Properties of Monolayer Graphene Doped with Boron and Nitrogen Atoms. Electronics (Switzerland), 2016, 5, 91.	1.8	18
65	Characteristics of biodegradable poly(butylene succinate) nanocomposites with thermally reduced graphene nanosheets. Polymer Composites, 2017, 38, E42.	2.3	18
66	Polymer composites with functionalized natural fibers. , 2018, , 157-186.		17
67	PE/Chlorinatedâ€PE Blends and PE/Chlorinatedâ€PE/Graphene Oxide Nanocomposites: Morphology, Phase Miscibility, and Interfacial Interactions. Macromolecular Chemistry and Physics, 2014, 215, 255-268.	1.1	16
68	Effect of amphiphilic compatibilizers on the filler dispersion and properties of polyethyleneâ€"thermally reduced graphene nanocomposites. Journal of Applied Polymer Science, 2015, 132, .	1.3	16
69	Crystallization, mechanical, and fracture behavior of mullite fiberâ€reinforced polypropylene nanocomposites. Journal of Applied Polymer Science, 2016, 133, .	1.3	16
70	Analytical Imaging Techniques for Soft Matter Characterization. Engineering Materials, 2012, , .	0.3	16
71	Functional Polymer Blends. , 2012, , 1-26.		16
72	Clay exfoliation in polymer nanocomposites: Specific chemical reactions and exchange of specialty modifications on clay surface. Philosophical Magazine, 2010, 90, 2489-2506.	0.7	13

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73	Swelling Deswelling Behavior of PSâ€PNIPAAM Copolymer Particles and PNIPAAM Brushes Grafted from Polystyrene Particles & Monoliths. Macromolecular Materials and Engineering, 2008, 293, 491-502.	1.7	11
74	Modelling and Prediction of Barrier Properties of Polymer Layered Silicate Nanocomposites. Polymers and Polymer Composites, 2013, 21, 509-518.	1.0	11
75	Degradable polyethylene nanocomposites with silica, silicate and thermally reduced graphene using oxo-degradable pro-oxidant. Heliyon, 2015, 1, e00050.	1.4	11
76	Photolatent base catalyzed Michael-addition and concomitant in situ graphene oxide reduction to obtain electrically and thermally conductive UV-cured composite. Polymer, 2017, 108, 251-256.	1.8	11
77	Sedimentation measurements with the analytical ultracentrifuge with absorption optics: influence of Mie scattering and absorption of the particles. Colloid and Polymer Science, 2011, 289, 1145-1155.	1.0	10
78	Crystallinity, mechanical property and oxygen permeability of polypropylene. Journal of Thermoplastic Composite Materials, 2013, 26, 1407-1423.	2.6	10
79	Blends of high-density polyethylene with chlorinated polyethylene: Morphology, thermal, rheological, and mechanical properties. Polymer Engineering and Science, 2014, 54, 85-95.	1.5	10
80	Synthesis of Environmentally Responsive Polymers by Atom Transfer Radical Polymerization: Generation of Reversible Hydrophilic and Hydrophobic Surfaces. Polymers, 2010, 2, 40-56.	2.0	9
81	Compatibilized polyethyleneâ€"thermally reduced graphene nanocomposites: Interfacial interactions and hyperspectral mapping for component distribution. Colloid and Polymer Science, 2014, 292, 2509-2518.	1.0	9
82	Electromagnetic–mechanical desalination: Mathematical modeling. Desalination, 2016, 380, 75-84.	4.0	9
83	Impedance response of nanocomposite coatings comprising of polyvinyl butyral and Haydale's plasma processed graphene. Progress in Organic Coatings, 2017, 110, 97-103.	1.9	9
84	Comparison of Anti-Corrosion Performance of Polyaniline Modified Ferrites. Journal of Dispersion Science and Technology, 2012, 33, 1452-1457.	1.3	8
85	Polypropylene/phosphazene nanotube nanocomposites: Thermal, mechanical, and flame retardation studies. Journal of Applied Polymer Science, 2020, 137, 49525.	1.3	8
86	PE-CPE blends and their graphene oxide nanocomposites with reduced low temperature brittleness. Colloid and Polymer Science, 2013, 291, 1949-1961.	1.0	7
87	Evaluation of crystallinity variation and phase dispersion in polymer blends and nanocomposites by Raman mapping. Journal of Polymer Research, 2015, 22, 1.	1.2	7
88	Polyethylene-thermally reduced graphene nanocomposites: comparison of masterbatch and direct melt mixing approaches on mechanical, thermal, rheological, and morphological properties. Colloid and Polymer Science, 2016, 294, 1659-1670.	1.0	7
89	Biodegradation properties of melt processed <scp>PBS</scp> /chitosan bioâ€nanocomposites with silica, silicate, and thermally reduced graphene. Polymer Composites, 2018, 39, 386-397.	2.3	7
90	Bio-nanocomposites: future high-value materials. , 2011, , 1-27.		7

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91	PNIPAAM Grafted Polymeric Monoliths Synthesized by the Reactive Gelation Process and their Swelling/Deswelling Characteristics. Macromolecular Reaction Engineering, 2008, 2, 215-221.	0.9	6
92	Dielectric Relaxation Spectroscopy for Polymer Nanocomposites. , 2012, , 167-184.		6
93	An Analytical Technique to Extract Surface Information of Negatively Stained or Heavy-Metal Shadowed Organic Materials within the TEM. Microscopy and Microanalysis, 2013, 19, 642-651.	0.2	6
94	Optimizing mechanical properties of injection-molded long fiber-reinforced polypropylene. Journal of Thermoplastic Composite Materials, 2015, 28, 849-862.	2.6	6
95	Polypropylene nanocomposites with oxoâ€degradable proâ€oxidant: Mechanical, thermal, rheological, and photoâ€degradation performance. Polymer Engineering and Science, 2016, 56, 1229-1239.	1.5	6
96	Organic functionalization of thermally reduced graphene oxide nanoplatelets by adsorption: structural and morphological characterization. Philosophical Magazine, 2016, 96, 2143-2160.	0.7	6
97	Twoâ€dimensional mullite nanostructure: Synthesis and reinforcement effect on polypropylene/maleic anhydride graft ethylene vinyl acetate matrix. Journal of Applied Polymer Science, 2019, 136, 48233.	1.3	6
98	UV Aging Behavior of Functionalized Mullite Nanofiber-Reinforced Polypropylene. ACS Omega, 2020, 5, 27083-27093.	1.6	6
99	Surface modification of layered silicates. II. Factors affecting thermal stability. Philosophical Magazine, 2012, 92, 4518-4535.	0.7	5
100	Ethylene-co-Vinyl Acetate/MWCNTs/Hectorite Elastomeric Nanocomposites: Characterization and Electrical Properties. Journal of Nanoscience and Nanotechnology, 2018, 18, 4057-4064.	0.9	5
101	Sedimentation analysis of organic–inorganic hybrid colloids. Colloid and Polymer Science, 2010, 288, 621-630.	1.0	4
102	Modeling and prediction of tensile modulus and oxygen permeation properties of polyethylene – layered silicate nanocomposites: Factorial and mixture designs. Journal of Reinforced Plastics and Composites, 2013, 32, 258-272.	1.6	4
103	<i>In situ</i> Determination and Imaging of Physical Properties of Soft Organic Materials by Analytical Transmission Electron Microscopy. Microscopy and Microanalysis, 2014, 20, 916-923.	0.2	4
104	Polyolefin/Graphene Nanocomposite Materials. , 2015, , 129-154.		4
105	Evaluation of Ni <sub>0.5</sub> Zn <sub>0.5</sub> Fe <sub>2</sub> O <sub>4</sub> nanoparticles as anti-corrosion pigment in organic coatings for carbon steel. Anti-Corrosion Methods and Materials, 2017, 64, 644-653.	0.6	4
106	Magnesium Aluminium Layered Double Hydroxide Assisted Dispersion of Multiwalled Carbon Nanotubes for Enhanced Reinforcement of Ethylene-co-Vinyl Acetate Matrix. Macromolecular Research, 2018, 26, 868-871.	1.0	4
107	Barrier Resistance Generation in Polymer Nanocomposites. , 0, , 173-193.		3
108	Polypropylene nanocomposites with thermally stable phosphonium- and pyridinium-modified layered silicates. Journal of Thermoplastic Composite Materials, 2013, 26, 1082-1099.	2.6	3

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109	Characterization of advanced morphologies in polymer dispersions by AUC and HDC. Colloid and Polymer Science, 2010, 288, 25-35.	1.0	2
110	Modeling of tensile modulus of polyolefin-layered silicate nanocomposites: modified micro-mechanical and statistical methods. Journal of Polymer Engineering, 2012, 32, 519-529.	0.6	2
111	High CEC generation and surface modification in mica and vermiculite minerals. Philosophical Magazine, 2013, 93, 777-793.	0.7	2
112	Biodegradable polyester nanocomposites: Phase miscibility and properties. Journal of Applied Polymer Science, 2013, 130, 516-525.	1.3	2
113	Hyperbranched Polymers as Clay Surface Modifications for Nanocomposites., 2013,, 147-163.		2
114	Polyurethane–Bentonite Nanocomposites: Morphology and Oxygen Permeation. Advances in Polymer Technology, 2014, 33, .	0.8	2
115	Polyolefin ―Graphene Oxide Nanocomposites: Interfacial Interactions and Low Temperature Brittleness Reduction. Macromolecular Symposia, 2014, 340, 37-43.	0.4	2
116	Molecular Weight Distributions of Polymer Solutions: Combination of Field Flow Fractionation (FFF) and Analytical Ultracentrifugation (AUC). Journal of Dispersion Science and Technology, 2012, 33, 631-638.	1.3	1
117	Modeling of Tensile Modulus of Polyolefin-Layered Silicate Nanocomposites: Modified Halpin Tsai Models. Advanced Composites Letters, 2012, 21, 096369351202100.	1.3	1
118	Reptation Model for the Dynamics and Rheology of Particle Reinforced Polymer Chains., 2013,, 63-94.		1
119	Optimal mechanical and gas permeation properties of polypropylene-organically modified montmorillonite (PP-OMMT) nanocomposites. Journal of Polymer Engineering, 2014, 34, 501-509.	0.6	1
120	Characterization of polyethylene-based multiphase systems containing zero- and two-dimensional nanoparticulate reinforcement materials by analytical electron and atomic force microscopy. Journal of Thermoplastic Composite Materials, 2014, 27, 845-864.	2.6	1
121	Biopolymerâ€Nanocomposites with Silica, Aluminoâ€Silicate and Graphene: Structural Characterization and Properties. Macromolecular Symposia, 2015, 354, 221-229.	0.4	1
122	Development of Polymer-Based Composite Coatings for the Gas Exploration Industry: Polyoxometalate Doped Conducting Polymer Based Self-Healing Pigment for Polymer Coatings. Materials Science Forum, 2016, 879, 60-65.	0.3	1
123	Editorial to surface tailored innovative materials and technologies for wastewater treatment. Environmental Pollution, 2021, 284, 117436.	3.7	1
124	Polymer nanocomposites., 0,, 3-28.		0
125	Surface modification of layered silicates. I. Factors affecting thermal stability. Philosophical Magazine, 2012, 92, 4498-4517.	0.7	0
126	Interactions Between Components. Engineering Materials, 2012, , 163-181.	0.3	0

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127	Nano to Micro and Macro Characterization. Engineering Materials, 2012, , 183-197.	0.3	0
128	Epoxy-layered silicate nanocomposites: effect of cross-linking amines and fillers on curing, morphology and oxygen permeation. Journal of Reinforced Plastics and Composites, 2012, 31, 739-747.	1.6	0
129	Melting and crystallization transitions in organically modified layered silicates studied with differential scanning calorimetry. Philosophical Magazine, 2012, 92, 3968-3982.	0.7	0
130	Microscopic analysis of the surface functionalization of polymer particles and subsequent grafting of polymer chains from the surface. Journal of Electron Microscopy, 2012, 61, 367-380.	0.9	0
131	Molecular Oxygen Adsorbed on Gallium Doped Graphene: A First-Principles Study. Materials Science Forum, 0, 890, 117-120.	0.3	0
132	Morphology in Organic–Inorganic Composites. Engineering Materials, 2012, , 97-114.	0.3	0
133	Evaluation of Iron Nickel Oxide Nanopowder as Corrosion Inhibitor: Effect of Metallic Cations on Carbon Steel in Aqueous NaCl. Corrosion Science and Technology, 2016, 15, 13-17.	0.2	O