Vinothan N Manoharan

List of Publications by Year
in descending order

103 papers	9,727 citations	53751 45 h-index	36008 97 g-index
107 all docs	107 docs citations	107 times ranked	10140 citing authors

#	Article	IF	Citations
1	Voltage-tunable elastomer composites that use shape instabilities for rapid structural color changes. Materials Horizons, 2022, 9, 1954-1961.	6.4	7
2	Programming Directed Motion with DNA-Grafted Particles. ACS Nano, 2022, 16, 9195-9202.	7.3	3
3	Polyhedral plasmonic nanoclusters through multi-step colloidal chemistry. Materials Horizons, 2021, 8, 565-570.	6.4	3
4	A field guide to angle-independent structural color. Physics Today, 2021, 74, 62-63.	0.3	4
5	Improving holographic particle characterization by modeling spherical aberration. Optics Express, 2021, 29, 18212.	1.7	8
6	Investigating the trade-off between color saturation and angle-independence in photonic glasses. Optics Express, 2021, 29, 21212.	1.7	16
7	Designing angle-independent structural colors using Monte Carlo simulations of multiple scattering. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	44
8	Self-Assembly of Patchy Colloidal Rods into Photonic Crystals Robust to Stacking Faults. ACS Nano, 2021, 15, 2668-2678.	7.3	28
9	Geometrical Frustration and Defect Formation in Growth of Colloidal Nanoparticle Crystals on a Cylinder: Implications for Assembly of Chiral Nanomaterials. ACS Applied Nano Materials, 2021, 4, 10682-10691.	2.4	6
10	Holographic Microscopy With Python and HoloPy. Computing in Science and Engineering, 2020, 22, 72-82.	1.2	23
11	Modulating and addressing interactions in polymer colloids using light. Materials Horizons, 2020, 7, 586-591.	6.4	1
12	Precise measurements in digital holographic microscopy by modeling the optical train. Journal of Applied Physics, 2020, 128, 060902.	1.1	10
13	Controlled Assembly of Icosahedral Colloidal Clusters for Structural Coloration. Chemistry of Materials, 2020, 32, 9704-9712.	3.2	23
14	Tracking and Analyzing the Brownian Motion of Nano-objects Inside Hollow Core Fibers. ACS Sensors, 2020, 5, 879-886.	4.0	29
15	Effects of multiple scattering on angle-independent structural color in disordered colloidal materials. Physical Review E, 2020, 101, 012614.	0.8	41
16	Large depth-of-field tracking of colloidal spheres in holographic microscopy by modeling the objective lens. Optics Express, 2020, 28, 1061.	1.7	12
17	Before the breach: Interactions between colloidal particles and liquid interfaces at nanoscale separations. Physical Review E, 2019, 100, 042605.	0.8	9
18	Random sequential adsorption of spheres on a cylinder. Europhysics Letters, 2019, 127, 38004.	0.7	6

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19	Measurements of the self-assembly kinetics of individual viral capsids around their RNA genome. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 22485-22490.	3.3	67
20	Solutionâ€Processable Photonic Inks of Mieâ€Resonant Hollow Carbonâ€"Silica Nanospheres. Small, 2019, 15, 1900931.	5.2	22
21	Active colloidal particles in emulsion droplets: a model system for the cytoplasm. European Physical Journal: Special Topics, 2019, 227, 2413-2424.	1.2	2
22	Using DNA strand displacement to control interactions in DNA-grafted colloids. Soft Matter, 2018, 14, 969-984.	1.2	22
23	Physical interpretation of the partition function for colloidal clusters. Physical Review E, 2018, 98, .	0.8	5
24	Colloidal Alchemy: Conversion of Polystyrene Nanoclusters into Gold. ChemNanoMat, 2017, 3, 160-163.	1.5	11
25	Coreâ€"shell colloidal particles with dynamically tunable scattering properties. Soft Matter, 2017, 13, 6293-6296.	1.2	3
26	Effects of Contact-Line Pinning on the Adsorption of Nonspherical Colloids at Liquid Interfaces. Physical Review Letters, 2017, 119, 108004.	2.9	27
27	<i>Colloquium</i> : Toward living matter with colloidal particles. Reviews of Modern Physics, 2017, 89, .	16.4	34
28	Inverse Photonic Glasses by Packing Bidisperse Hollow Microspheres with Uniform Cores. ACS Applied Materials & Interfaces, 2017, 9, 24155-24160.	4.0	48
29	Photonic-crystal hydrogels with a rapidly tunable stop band and high reflectivity across the visible. Optical Materials Express, 2017, 7, 253.	1.6	31
30	Nanoparticle Assembly:A Perspective and some Unanswered Questions. Current Science, 2017, 112, 1635.	0.4	13
31	Tracking E coli runs and tumbles with scattering solutions and digital holographic microscopy. Optics Express, 2016, 24, 23719.	1.7	37
32	Bayesian approach to analyzing holograms of colloidal particles. Optics Express, 2016, 24, 24045.	1.7	20
33	Modeling and Theory: general discussion. Faraday Discussions, 2016, 186, 371-398.	1.6	1
34	Dynamic Measurements of the Position, Orientation, and DNA Content of Individual Unlabeled Bacteriophages. Journal of Physical Chemistry B, 2016, 120, 6130-6138.	1.2	25
35	Synthesis of Nanoparticle Assemblies: general discussion. Faraday Discussions, 2016, 186, 123-152.	1.6	0
36	Applications to Soft Matter: general discussion. Faraday Discussions, 2016, 186, 503-527.	1.6	1

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37	Contact-line pinning controls how quickly colloidal particles equilibrate with liquid interfaces. Soft Matter, 2016, 12, 8958-8967.	1.2	38
38	Templated growth of gold satellites on dimpled silica cores. Faraday Discussions, 2016, 191, 105-116.	1.6	16
39	Using DNA to program the self-assembly of colloidal nanoparticles and microparticles. Nature Reviews Materials, 2016, 1, .	23.3	281
40	Colloidal particle adsorption at liquid interfaces: capillary driven dynamics and thermally activated kinetics. Soft Matter, 2016, 12, 6365-6372.	1.2	24
41	Segregation of â€œisotopeâ€• particles within colloidal molecules. Soft Matter, 2016, 12, 2868-2876.	1.2	13
42	Charged hydrophobic colloids at an oilâ€“aqueous phase interface. Physical Review E, 2015, 92, 062306.	0.8	33
43	Two-Dimensional Clusters of Colloidal Spheres: Ground States, Excited States, and Structural Rearrangements. Physical Review Letters, 2015, 114, 228301.	2.9	43
44	Osmotic-Pressure-Mediated Control of Structural Colors of Photonic Capsules. Chemistry of Materials, 2015, 27, 1014-1020.	3.2	59
45	Programming colloidal phase transitions with DNA strand displacement. Science, 2015, 347, 639-642.	6.0	179
46	A Simple RNA-DNA Scaffold Templates the Assembly of Monofunctional Virus-Like Particles. Journal of the American Chemical Society, 2015, 137, 7584-7587.	6.6	34
47	Celebrating <i>Soft Matter</i>'s 10th anniversary: Testing the foundations of classical entropy: colloid experiments. Soft Matter, 2015, 11, 6538-6546.	1.2	34
48	Colloidal matter: Packing, geometry, and entropy. Science, 2015, 349, 1253751.	6.0	372
49	Pinned down. Nature Materials, 2015, 14, 869-870.	13.3	21
50	Fast, Label-Free Tracking of Single Viruses and Weakly Scattering Nanoparticles in a Nanofluidic Optical Fiber. ACS Nano, 2015, 9, 12349-12357.	7.3	112
51	Random-subset fitting of digital holograms for fast three-dimensional particle tracking [Invited]. Applied Optics, 2014, 53, G177.	0.9	14
52	Breaking trade-offs between translucency and diffusion in particle-doped films. Optical Materials Express, 2014, 4, 2621.	1.6	2
53	Absence of red structural color in photonic glasses, bird feathers, and certain beetles. Physical Review E, 2014, 90, 062302.	0.8	116
54	Using the discrete dipole approximation and holographic microscopy to measure rotational dynamics of non-spherical colloidal particles. Journal of Quantitative Spectroscopy and Radiative Transfer, 2014, 146, 499-509.	1.1	55

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55	Elastic Instability of a Crystal Growing on a Curved Surface. Science, 2014, 343, 634-637.	6.0	205
56	Fullâ€Spectrum Photonic Pigments with Nonâ€iridescent Structural Colors through Colloidal Assembly. Angewandte Chemie - International Edition, 2014, 53, 2899-2903.	7.2	206
57	Osmotic-pressure-controlled concentration of colloidal particles in thin-shelled capsules. Nature Communications, 2014, 5, 3068.	5.8	152
58	Synchronized reinjection and coalescence of droplets in microfluidics. Lab on A Chip, 2014, 14, 509-513.	3.1	50
59	Size limits of self-assembled colloidal structures made using specific interactions. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 15918-15923.	3.3	79
60	Ultrasmooth, Highly Spherical Monocrystalline Gold Particles for Precision Plasmonics. ACS Nano, 2013, 7, 11064-11070.	7.3	125
61	Glycans pattern the phase behaviour of lipid membranes. Nature Materials, 2013, 12, 128-133.	13.3	41
62	Tetrahedral Colloidal Clusters from Random Parking of Bidisperse Spheres. Physical Review Letters, 2013, 110, 148303.	2.9	80
63	Holographic measurements of anisotropic three-dimensional diffusion of colloidal clusters. Physical Review E, 2013, 88, 020302.	0.8	34
64	Generalization of the optical theorem for light scattering from a particle at a planar interface. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2013, 30, 2519.	0.8	20
65	Relaxation dynamics of colloidal particles at liquid interfaces. , 2013, , .		6
66	Discovering colloid-interface interactions with digital holographic microscopy. , 2013, , .		0
67	Disordered packings of core-shell particles with angle-independent structural colors. Optical Materials Express, 2012, 2, 1343.	1.6	55
68	Imaging multiple colloidal particles by fitting electromagnetic scattering solutions to digital holograms. Journal of Quantitative Spectroscopy and Radiative Transfer, 2012, 113, 2482-2489.	1.1	54
69	Real-space studies of the structure and dynamics of self-assembled colloidal clusters. Faraday Discussions, 2012, 159, 211.	1.6	48
70	Colloids with valence and specific directional bonding. Nature, 2012, 491, 51-55.	13.7	908
71	Plasmonic Mode Engineering with Templated Self-Assembled Nanoclusters. Nano Letters, 2012, 12, 5318-5324.	4.5	108
72	Physical ageing of the contact line on colloidal particles at liquid interfaces. Nature Materials, 2012, 11, 138-142.	13.3	258

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73	DNA-Enabled Self-Assembly of Plasmonic Nanoclusters. Nano Letters, 2011, 11, 4859-4864.	4.5	136
74	Deriving Finite Sphere Packings. SIAM Journal on Discrete Mathematics, 2011, 25, 1860-1901.	0.4	43
75	Measuring translational, rotational, and vibrational dynamics in colloids with digital holographic microscopy. Optics Express, 2011, 19, 8051.	1.7	78
76	Self-Assembled Plasmonic Nanoparticle Clusters. Science, 2010, 328, 1135-1138.	6.0	1,362
77	Colloidal self-assembly at an interface. Materials Today, 2010, 13, 34-42.	8.3	198
78	Fano-like Interference in Self-Assembled Plasmonic Quadrumer Clusters. Nano Letters, 2010, 10, 4680-4685.	4.5	343
79	Bulk Synthesis of Polymerâ^'Inorganic Colloidal Clusters. Langmuir, 2010, 26, 18669-18675.	1.6	11
80	The Free-Energy Landscape of Clusters of Attractive Hard Spheres. Science, 2010, 327, 560-563.	6.0	258
81	A Simple, Inexpensive Holographic Microscope. , 2010, , .		6
82	Minimal Energy Clusters of Hard Spheres with Short Range Attractions. Physical Review Letters, 2009, 103, 118303.	2.9	95
83	RNA Folding and Hydrolysis Terms Explain ATP Independence of RNA Interference in Human Systems. Oligonucleotides, 2009, 19, 341-346.	2.7	1
84	Design and Synthesis of Model Transparent Aqueous Colloids with Optimal Scattering Properties. Langmuir, 2009, 25, 11295-11298.	1.6	38
85	Surfactant-Assisted Synthesis of Uniform Titania Microspheres and Their Clusters. Chemistry of Materials, 2008, 20, 2704-2710.	3.2	54
86	Self-Assembly of Polyhedral Hybrid Colloidal Particles. Materials Research Society Symposia Proceedings, 2008, 1135, 60801.	0.1	0
87	Measuring Dynamics and Interactions of Colloidal Particles with Digital Holographic Microscopy. , 2008, , .		3
88	Colloidal spheres confined by liquid droplets: Geometry, physics, and physical chemistry. Solid State Communications, 2006, 139, 557-561.	0.9	69
89	Synthesis of Spherical Polymer and Titania Photonic Crystallites. Langmuir, 2005, 21, 6669-6674.	1.6	47
90	Self-Organization of Bidisperse Colloids in Water Droplets. Journal of the American Chemical Society, 2005, 127, 15968-15975.	6.6	209

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91	Swelling-Based Method for Preparing Stable, Functionalized Polymer Colloids. Journal of the American Chemical Society, 2005, 127, 1592-1593.	6.6	86
92	Building Materials by Packing Spheres. MRS Bulletin, 2004, 29, 91-95.	1.7	64
93	Colloidal Clusters of Silica or Polymer Microspheres. Advanced Materials, 2004, 16, 1204-1208.	11.1	137
94	Preparation of monodisperse PMMA microspheres in nonpolar solvents by dispersion polymerization with a macromonomeric stabilizer. Colloid and Polymer Science, 2003, 282, 7-13.	1.0	108
95	Generation of Uniform Colloidal Assemblies in Soft Microfluidic Devices. Advanced Materials, 2003, 15, 1300-1304.	11.1	136
96	Generation of uniform photonic balls by template-assisted colloidal crystallization. Synthetic Metals, 2003, 139, 803-806.	2.1	58
97	Dense Packing and Symmetry in Small Clusters of Microspheres. Science, 2003, 301, 483-487.	6.0	966
98	Packings of Uniform Microspheres with Ordered Macropores Fabricated by Double Templating. Journal of the American Chemical Society, 2002, 124, 13354-13355.	6.6	59
99	Monodisperse Micrometer-Scale Spherical Assemblies of Polymer Particles. Advanced Materials, 2002, 14, 1137.	11.1	112
100	Photonic Crystals from Emulsion Templates. Advanced Materials, 2001, 13, 447-450.	11.1	118
101	<title>Ordered macroporous rutile titanium dioxide by emulsion templating</title>. , 2000, , .		1
102	Ordered Macroporous Materials by Colloidal Assembly: A Possible Route to Photonic Bandgap Materials. Advanced Materials, 1999, 11, 1261-1265.	11.1	281
103	Reactions of nitric oxide with phenolic antioxidants and phenoxyl radicals. Journal of Organic Chemistry, 1993, 58, 3597-3599.	1.7	107