Oleg Gang

List of Publications by Year
in descending order

101 papers	7,309 citations	71102 41 h-index	54911 84 g-index
102 all docs	102 docs citations	102 times ranked	6748 citing authors

#	Article	IF	Citations
1	DNA-guided crystallization of colloidal nanoparticles. Nature, 2008, 451, 549-552.	27.8	1,420
2	Diamond family of nanoparticle superlattices. Science, 2016, 351, 582-586.	12.6	331
3	Switching binary states of nanoparticle superlattices and dimer clusters by DNA strands. Nature Nanotechnology, 2010, 5, 116-120.	31.5	268
4	A general strategy for the DNA-mediated self-assembly of functional nanoparticles into heterogeneous systems. Nature Nanotechnology, 2013, 8, 865-872.	31.5	267
5	Surface patterning of nanoparticles with polymer patches. Nature, 2016, 538, 79-83.	27.8	257
6	Stepwise surface encoding for high-throughput assembly of nanoclusters. Nature Materials, 2009, 8, 388-391.	27.5	253
7	Prescribed nanoparticle cluster architectures and low-dimensional arrays built using octahedral DNA origami frames. Nature Nanotechnology, 2015, 10, 637-644.	31.5	243
8	Self-organized architectures from assorted DNA-framed nanoparticles. Nature Chemistry, 2016, 8, 867-873.	13.6	210
9	Lattice engineering through nanoparticleâ€“DNA frameworks. Nature Materials, 2016, 15, 654-661.	27.5	198
10	Superlattices assembled through shape-induced directional binding. Nature Communications, 2015, 6, 6912.	12.8	188
11	Ion-Mediated Gelation of Aqueous Suspensions of Cellulose Nanocrystals. Biomacromolecules, 2015, 16, 2455-2462.	5.4	173
12	Ordered three-dimensional nanomaterials using DNA-prescribed and valence-controlled material voxels. Nature Materials, 2020, 19, 789-796.	27.5	172
13	Shapeshifting: Reversible Shape Memory in Semicrystalline Elastomers. Macromolecules, 2014, 47, 1768-1776.	4.8	171
14	Regioselective surface encoding of nanoparticles for programmable self-assembly. Nature Materials, 2019, 18, 169-174.	27.5	153
15	Selective transformations between nanoparticle superlattices via the reprogramming of DNA-mediated interactions. Nature Materials, 2015, 14, 840-847.	27.5	126
16	Phase Behavior of Nanoparticles Assembled by DNA Linkers. Physical Review Letters, 2009, 102, 015504.	7.8	116
17	Continuous Phase Transformation in Nanocube Assemblies. Physical Review Letters, 2011, 107, 135701.	7.8	107
18	A Simple Method for Kinetic Control of DNA-Induced Nanoparticle Assembly. Journal of the American Chemical Society, 2006, 128, 14020-14021.	13.7	106

#	Article	IF	Citations
19	DNA origami protection and molecular interfacing through engineered sequence-defined peptoids. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 6339-6348.	7.1	99
20	Structural and Optical Properties of Self-Assembled Chains of Plasmonic Nanocubes. Nano Letters, 2014, 14, 6314-6321.	9.1	92
21	Binary Heterogeneous Superlattices Assembled from Quantum Dots and Gold Nanoparticles with DNA. Journal of the American Chemical Society, 2011, 133, 5252-5254.	13.7	88
22	DNAâ€Regulated Microâ€•and Nanoparticle Assembly. Small, 2007, 3, 1678-1682.	10.0	83
23	Photoluminescence enhancement in CdSe/ZnSâ€"DNA linkedâ€"Au nanoparticle heterodimers probed by single molecule spectroscopy. Chemical Communications, 2010, 46, 6111.	4.1	76
24	Two-Dimensional DNA-Programmable Assembly of Nanoparticles at Liquid Interfaces. Journal of the American Chemical Society, 2014, 136, 8323-8332.	13.7	73
25	DNA Linker-Mediated Crystallization of Nanocolloids. Journal of the American Chemical Society, 2008, 130, 2442-2443.	13.7	72
26	Linear Mesostructures in DNAâ€"Nanorod Self-Assembly. ACS Nano, 2013, 7, 5437-5445.	14.6	72
27	Assembly, Structure and Optical Response of Three-Dimensional Dynamically Tunable Multicomponent Superlattices. Nano Letters, 2010, 10, 4456-4462.	9.1	66
28	Shape-Specific Patterning of Polymer-Functionalized Nanoparticles. ACS Nano, 2017, 11, 4995-5002.	14.6	63
29	DNA-Based Approach for Interparticle Interaction Control. Langmuir, 2007, 23, 6305-6314.	3.5	61
30	Tunable Nanoparticle Arrays at Charged Interfaces. ACS Nano, 2014, 8, 9857-9866.	14.6	61
31	DNA-Functionalized Quantum Dots: Fabrication, Structural, and Physicochemical Properties. Langmuir, 2013, 29, 7038-7046.	3.5	59
32	Advancing Reversible Shape Memory by Tuning the Polymer Network Architecture. Macromolecules, 2016, 49, 1383-1391.	4.8	55
33	Designing DNA-grafted particles that self-assemble into desired crystalline structures using the genetic algorithm. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 18431-18435.	7.1	52
34	Surface Proton Transfer Promotes Four-Electron Oxygen Reduction on Gold Nanocrystal Surfaces in Alkaline Solution. Journal of the American Chemical Society, 2017, 139, 7310-7317.	13.7	51
35	Rationally Programming Nanomaterials with DNA for Biomedical Applications. Advanced Science, 2021, 8, 2003775.	11.2	51
36	Light-Harvesting Nanoparticle Coreâ€"Shell Clusters with Controllable Optical Output. ACS Nano, 2015, 9, 5657-5665.	14.6	50

#	Article	IF	Citations
37	Unusual packing of soft-shelled nanocubes. Science Advances, 2019, 5, eaaw2399.	10.3	50
38	Dynamic Tuning of DNA-Nanoparticle Superlattices by Molecular Intercalation of Double Helix. Journal of the American Chemical Society, 2015, 137, 4030-4033.	13.7	48
39	DNA-assembled superconducting 3D nanoscale architectures. Nature Communications, 2020, 11, 5697.	12.8	48
40	Periodic lattices of arbitrary nano-objects: modeling and applications for self-assembled systems. Journal of Applied Crystallography, 2014, 47, 118-129.	4.5	45
41	Resilient three-dimensional ordered architectures assembled from nanoparticles by DNA. Science Advances, 2021, 7, .	10.3	45
42	Engineering Organization of DNA Nano-Chambers through Dimensionally Controlled and Multi-Sequence Encoded Differentiated Bonds. Journal of the American Chemical Society, 2020, 142, 17531-17542.	13.7	44
43	Internal Structure of Nanoparticle Dimers Linked by DNA. ACS Nano, 2012, 6, 6793-6802.	14.6	43
44	Stoichiometric control of DNA-grafted colloid self-assembly. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 4982-4987.	7.1	42
45	Three-Dimensional Patterning of Nanoparticles by Molecular Stamping. ACS Nano, 2020, 14, 6823-6833.	14.6	42
46	Bottlebrush-Guided Polymer Crystallization Resulting in Supersoft and Reversibly Moldable Physical Networks. Macromolecules, 2017, 50, 2103-2111.	4.8	38
47	Valence-programmable nanoparticle architectures. Nature Communications, 2020, 11, 2279.	12.8	37
48	Designer Nanomaterials through Programmable Assembly. Angewandte Chemie - International Edition, 2022, 61, .	13.8	37
49	Rotator Phases and Surface Crystallization in Î±-Eicosene. Journal of Physical Chemistry B, 1998, 102, 2754-2758.	2.6	36
50	Shaping Phases by Phasing Shapes. ACS Nano, 2011, 5, 8459-8465.	14.6	35
51	Controllable Covalent-Bound Nanoarchitectures from DNA Frames. Journal of the American Chemical Society, 2019, 141, 6797-6801.	13.7	35
52	Polarized Single-Particle Quantum Dot Emitters through Programmable Cluster Assembly. ACS Nano, 2020, 14, 1369-1378.	14.6	34
53	Supra-Nanoparticle Functional Assemblies through Programmable Stacking. ACS Nano, 2017, 11, 7036-7048.	14.6	32
54	Light-Induced Reversible DNA Ligation of Gold Nanoparticle Superlattices. ACS Nano, 2019, 13, 5771-5777.	14.6	32

#	Article	IF	Citations
55	Three-dimensional molecular and nanoparticle crystallization by DNA nanotechnology. MRS Bulletin, 2017, 42, 904-912.	3.5	30
56	Super-compressible DNA nanoparticle lattices. Soft Matter, 2013, 9, 10452.	2.7	29
57	Three-dimensional visualization of nanoparticle lattices and multimaterial frameworks. Science, 2022, 376, 203-207.	12.6	27
58	Chain Conformation near the Buried Interface in Nanoparticle-Stabilized Polymer Thin Films. Macromolecules, 2017, 50, 7657-7665.	4.8	26
59	Cascaded Enzyme Reactions over a Three-Dimensional, Wireframe DNA Origami Scaffold. Jacs Au, 2022, 2, 357-366.	7.9	26
60	Designed and biologically active protein lattices. Nature Communications, 2021, 12, 3702.	12.8	25
61	Local Environment Affects the Activity of Enzymes on a 3D Molecular Scaffold. ACS Nano, 2020, 14, 14646-14654.	14.6	24
62	Site-Selective Binding of Nanoparticles to Double-Stranded DNA <i>via</i> Peptide Nucleic Acid â€œInvasionâ€. ACS Nano, 2011, 5, 2467-2474.	14.6	22
63	Microscale Colocalization of Cascade Enzymes Yields Activity Enhancement. ACS Nano, 2022, 16, 10383-10391.	14.6	21
64	DNA-programmable particle superlattices: Assembly, phases, and dynamic control. MRS Bulletin, 2016, 41, 381-387.	3.5	19
65	Directionally Interacting Spheres and Rods Form Ordered Phases. ACS Nano, 2017, 11, 4950-4959.	14.6	19
66	Directional Assembly of Nanoparticles by DNA Shapes: Towards Designed Architectures and Functionality. Topics in Current Chemistry, 2020, 378, 36.	5.8	18
67	Three-dimensional DNA-programmable nanoparticle superlattices. Current Opinion in Biotechnology, 2020, 63, 142-150.	6.6	17
68	Engineered Silicon Carbide Three-Dimensional Frameworks through DNA-Prescribed Assembly. Nano Letters, 2021, 21, 1863-1870.	9.1	16
69	Self-organization of nanoparticles and molecules in periodic Liesegang-type structures. Science Advances, 2021, 7, .	10.3	16
70	Combinatorial-Entropy-Driven Aggregation in DNA-Grafted Nanoparticles. ACS Nano, 2020, 14, 5628-5635.	14.6	15
71	Divalent Multilinking Bonds Control Growth and Morphology of Nanopolymers. Nano Letters, 2021, 21, 10547-10554.	9.1	15
72	Solvent mediated assembly of nanoparticles confined in mesoporous alumina. Physical Review B, 2006, 73, .	3.2	14

#	Article	IF	Citations
73	Nanoparticle assembly: from fundamentals to applications: concluding remarks. Faraday Discussions, 2016, 186, 529-537.	3.2	14
74	Liquid interfaces with pH-switchable nanoparticle arrays. Soft Matter, 2018, 14, 3929-3934.	2.7	14
75	Damping Off Terahertz Sound Modes of a Liquid upon Immersion of Nanoparticles. ACS Nano, 2018, 12, 8867-8874.	14.6	14
76	Impact of Electrostatic Interactions on the Self-Assembly of Charge-Neutral Block Copolyelectrolytes. Macromolecules, 2020, 53, 548-557.	4.8	14
77	Dualâ€Scale Nanostructures via Evaporative Assembly. Advanced Materials Interfaces, 2020, 7, 1901954.	3.7	14
78	Plasmonic response of DNA-assembled gold nanorods: Effect of DNA linker length, temperature and linker/nanoparticles ratio. Journal of Colloid and Interface Science, 2014, 433, 34-42.	9.4	13
79	Tailoring Surface Opening of Hollow Nanocubes and Their Application as Nanocargo Carriers. ACS Central Science, 2018, 4, 1742-1750.	11.3	13
80	Heterogeneous nanoclusters assembled by PNA-templated double-stranded DNA. Nanoscale, 2012, 4, 6722.	5.6	12
81	Sensing Nucleic Acids with Dimer Nanoclusters. Advanced Functional Materials, 2011, 21, 1051-1057.	14.9	11
82	Compact Peptoid Molecular Brushes for Nanoparticle Stabilization. Journal of the American Chemical Society, 2022, 144, 8138-8152.	13.7	11
83	<scp>SAS</scp>PDF: pair distribution function analysis of nanoparticle assemblies from small-angle scattering data. Journal of Applied Crystallography, 2020, 53, 699-709.	4.5	10
84	Controlled Organization of Inorganic Materials Using Biological Molecules for Activating Therapeutic Functionalities. ACS Applied Materials & Interfaces, 2021, 13, 39030-39041.	8.0	10
85	Two-Stage Assembly of Nanoparticle Superlattices with Multiscale Organization. Nano Letters, 2022, 22, 3809-3817.	9.1	10
86	Toward the observation of a liquid-liquid phase transition in patchy origami tetrahedra: a numerical study. European Physical Journal E, 2016, 39, 131.	1.6	9
87	Translating Thermal Response of Triblock Copolymer Assemblies in Dilute Solution to Macroscopic Gelation and Phase Separation. Angewandte Chemie - International Edition, 2017, 56, 1491-1494.	13.8	9
88	DNA origami based superconducting nanowires. AIP Advances, 2021, 11, .	1.3	7
89	Designer Nanomaterials through Programmable Assembly. Angewandte Chemie, 2022, 134, .	2.0	7
90	DNA Functionalization of Nanoparticles. Methods in Molecular Biology, 2017, 1500, 99-107.	0.9	5

#	Article	IF	Citations
91	The Stability of a Nanoparticle Diamond Lattice Linked by DNA. Nanomaterials, 2019, 9, 661.	4.1	5
92	Nanopolymers for magnetic applications: how to choose the architecture?. Nanoscale, 0, , .	5.6	5
93	Translating Thermal Response of Triblock Copolymer Assemblies in Dilute Solution to Macroscopic Gelation and Phase Separation. Angewandte Chemie, 2017, 129, 1513-1516.	2.0	4
94	Effect of mono- and multi-valent ionic environments on the in-lattice nanoparticle-grafted single-stranded DNA. Soft Matter, 2022, 18, 526-534.	2.7	4
95	Coherent amplification of X-ray scattering from meso-structures. IUCrJ, 2017, 4, 604-613.	2.2	3
96	The pathway to atomic alignment. Nature Materials, 2016, 15, 1225-1226.	27.5	2
97	Liquid adsorption at surfaces patterned with cylindrical nano-cavities. Soft Matter, 2013, 9, 10550.	2.7	1
98	Reactive polymers guide nanoparticle clustering. Science, 2020, 369, 1305-1306.	12.6	1
99	DNA assembles nano-objects. Physics Today, 2021, 74, 58-59.	0.3	1
100	Evaporative Assembly: Dualâ€Scale Nanostructures via Evaporative Assembly (Adv. Mater. Interfaces) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	3.7	0
101	Controlling the Emission Properties of Quantum Rods via Multiscale 3D Ordered Organization. Journal of Nanomaterials, 2021, 2021, 1-9.	2.7	0