Jens Glaser

List of Publications by Citations

109 papers	8,335 citations	37 h-index	91 g-index
116 ext. papers	9,466 ext. citations	8.1 avg, IF	6.58 L-index

#	Paper	IF	Citations
109	Anisotropy of building blocks and their assembly into complex structures. *Nature Materials*, **2007**, 6, 557-62	27	2201
108	Self-assembly of CdTe nanocrystals into free-floating sheets. *Science*, **2006**, 314, 274-8	33.3	772
107	Predictive self-assembly of polyhedra into complex structures. *Science*, **2012**, 337, 453-7	33.3	746
106	Self-Assembly of Patchy Particles. *Nano Letters*, **2004**, 4, 1407-1413	11.5	631
105	Strong scaling of general-purpose molecular dynamics simulations on GPUs. *Computer Physics Communications*, **2015**, 192, 97-107	4.2	441
104	Competition of shape and interaction patchiness for self-assembling nanoplates. *Nature Chemistry*, **2013**, 5, 466-73	17.6	253
103	Understanding shape entropy through local dense packing. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, E4812-21	11.5	159
102	Crystalline assemblies and densest packings of a family of truncated tetrahedra and the role of directional entropic forces. *ACS Nano*, **2012**, 6, 609-14	16.7	155
101	Entropically patchy particles: engineering valence through shape entropy. *ACS Nano*, **2014**, 8, 931-40	16.7	143
100	Rigid body constraints realized in massively-parallel molecular dynamics on graphics processing units. *Computer Physics Communications*, **2011**, 182, 2307-2313	4.2	125
99	Clathrate colloidal crystals. *Science*, **2017**, 355, 931-935	33.3	121
98	Pseudo-random number generation for Brownian Dynamics and Dissipative Particle Dynamics simulations on GPU devices. *Journal of Computational Physics*, **2011**, 230, 7191-7201	4.1	115
97	HOOMD-blue: A Python package for high-performance molecular dynamics and hard particle Monte Carlo simulations. *Computational Materials Science*, **2020**, 173, 109363	3.2	115
96	Shape-dependent ordering of gold nanocrystals into large-scale superlattices. *Nature Communications*, **2017**, 8, 14038	17.4	114
95	Role of isostaticity and load-bearing microstructure in the elasticity of yielded colloidal gels. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 16029-34	11.5	111
94	Computational self-assembly of a one-component icosahedral quasicrystal. *Nature Materials*, **2015**, 14, 109-16	27	110
93	Glass transition and rheological redundancy in F-actin solutions. *Proceedings of the National Academy of Sciences of the United States of America*, **2007**, 104, 20199-203	11.5	107

92	Quasicrystalline nanocrystal superlattice with partial matching rules. *Nature Materials*, **2017**, 16, 214-219	27	96
91	Shape alloys of nanorods and nanospheres from self-assembly. *Nano Letters*, **2013**, 13, 4980-8	11.5	87
90	Universality of block copolymer melts. *Physical Review Letters*, **2014**, 113, 068302	7.4	84
89	Terminal supraparticle assemblies from similarly charged protein molecules and nanoparticles. *Nature Communications*, **2014**, 5, 3593	17.4	81
88	A directional entropic force approach to assemble anisotropic nanoparticles into superlattices. *Angewandte Chemie - International Edition*, **2013**, 52, 13980-4	16.4	80
87	Supercomputer-Based Ensemble Docking Drug Discovery Pipeline with Application to Covid-19. *Journal of Chemical Information and Modeling*, **2020**, 60, 5832-5852	6.1	71
86	Universal Phenomenology of Symmetric Diblock Copolymers near the Order-Disorder Transition. *Macromolecules*, **2015**, 48, 819-839	5.5	69
85	Phase diagram of hard tetrahedra. *Journal of Chemical Physics*, **2011**, 135, 194101	3.9	67
84	Simple data and workflow management with the signac framework. *Computational Materials Science*, **2018**, 146, 220-229	3.2	62
83	The glassy wormlike chain. *New Journal of Physics*, **2007**, 9, 416-416	2.9	60
82	Simultaneous Nano- and Microscale Control of Nanofibrous Microspheres Self-Assembled from Star-Shaped Polymers. *Advanced Materials*, **2015**, 27, 3947-52	24	55
81	Scalable Metropolis Monte Carlo for simulation of hard shapes. *Computer Physics Communications*, **2016**, 204, 21-30	4.2	50
80	Massively parallel Monte Carlo for many-particle simulations on GPUs. *Journal of Computational Physics*, **2013**, 254, 27-38	4.1	48
79	Supercharging enables organized assembly of synthetic biomolecules. *Nature Chemistry*, **2019**, 11, 204-212	17.6	48
78	Why large icosahedral viruses need scaffolding proteins. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, 10971-10976	11.5	47
77	Collective and Single-Chain Correlations in Disordered Melts of Symmetric Diblock Copolymers: Quantitative Comparison of Simulations and Theory. *Macromolecules*, **2014**, 47, 851-869	5.5	44
76	freud: A software suite for high throughput analysis of particle simulation data. *Computer Physics Communications*, **2020**, 254, 107275	4.2	42
75	Stability of the double gyroid phase to nanoparticle polydispersity in polymer-tethered nanosphere systems. *Soft Matter*, **2010**, 6, 1693	3.6	40

74	Entropic colloidal crystallization pathways via fluid-fluid transitions and multidimensional prenucleation motifs. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 14843-14851	11.5	38
73	Shape and Symmetry Determine Two-Dimensional Melting Transitions of Hard Regular Polygons. *Physical Review X*, **2017**, 7,	9.1	38
72	Efficient neighbor list calculation for molecular simulation of colloidal systems using graphics processing units. *Computer Physics Communications*, **2016**, 203, 45-52	4.2	35
71	Capping Ligand Vortices as "Atomic Orbitals" in Nanocrystal Self-Assembly. *ACS Nano*, **2017**, 11, 11273-11282	14.7	33
70	Colloidal fibers and rings by cooperative assembly. *Nature Communications*, **2019**, 10, 3936	17.4	31
69	Rational design of nanomaterials from assembly and reconfigurability of polymer-tethered nanoparticles. *MRS Communications*, **2015**, 5, 397-406	2.7	30
68	Test of a scaling hypothesis for the structure factor of disordered diblock copolymer melts. *Soft Matter*, **2012**, 8, 11310	3.6	30
67	Metastable orientational order of colloidal discoids. *Nature Communications*, **2015**, 6, 8507	17.4	28
66	Binding kinetics of lock and key colloids. *Journal of Chemical Physics*, **2015**, 142, 174909	3.9	28
65	Tube width fluctuations in F-actin solutions. *Physical Review Letters*, **2010**, 105, 037801	7.4	27
64	GPU accelerated Discrete Element Method (DEM) molecular dynamics for conservative, faceted particle simulations. *Journal of Computational Physics*, **2017**, 334, 460-467	4.1	26
63	Generalised Einstein relation for hot Brownian motion. *Europhysics Letters*, **2011**, 96, 60009	1.6	26
62	Inverse design of simple pair potentials for the self-assembly of complex structures. *Journal of Chemical Physics*, **2018**, 149, 204102	3.9	24
61	Using depletion to control colloidal crystal assemblies of hard cuboctahedra. *Soft Matter*, **2016**, 12, 5199-5204	3.8	23
60	Influence of Softness on the Stability of Binary Colloidal Crystals. *ACS Nano*, **2019**, 13, 13829-13842	16.7	23
59	Efficient Phase Diagram Sampling by Active Learning. *Journal of Physical Chemistry B*, **2020**, 124, 1275-1284	3.4	22
58	The entropic bond in colloidal crystals. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 16703-16710	11.5	21
57	Non-close-packed three-dimensional quasicrystals. *Journal of Physics Condensed Matter*, **2017**, 29, 234005	2.8	18

56	Thermal and athermal three-dimensional swarms of self-propelled particles. *Physical Review E*, **2012**, 86, 011136	2.4	17
55	Shape allophiles improve entropic assembly. *Soft Matter*, **2015**, 11, 7250-6	3.6	13
54	Supraparticle Nanoassemblies with Enzymes. *Chemistry of Materials*, **2019**, 31, 7493-7500	9.6	13
53	A parallel algorithm for implicit depletant simulations. *Journal of Chemical Physics*, **2015**, 143, 184110	3.9	13
52	Identity crisis in alchemical space drives the entropic colloidal glass transition. *Nature Communications*, **2019**, 10, 64	17.4	12
51	Tube-width fluctuations of entangled stiff polymers. *Physical Review E*, **2011**, 84, 051801	2.4	11
50	The emergence of valency in colloidal crystals through electron equivalents.. *Nature Materials*, **2022**,	27	10
49	Dendrimer Ligand Directed Nanoplate Assembly. *ACS Nano*, **2019**, 13, 14241-14251	16.7	10
48	Effect of Defective Microstructure and Film Thickness on the Reflective Structural Color of Self-Assembled Colloidal Crystals. *ACS Applied Materials & Interfaces*, **2020**, 12, 9842-9850	9.5	9
47	Dynamic structure factor of a stiff polymer in a glassy solution. *European Physical Journal E*, **2008**, 26, 123-36	1.5	9
46	Pressure in rigid body molecular dynamics. *Computational Materials Science*, **2020**, 173, 109430	3.2	9
45	Universal folding pathways of polyhedron nets. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, E6690-E6696	11.5	9
44	Phase separation and state oscillation of active inertial particles. *Soft Matter*, **2020**, 16, 2847-2853	3.6	8
43	Folding and stability of helical bundle proteins from coarse-grained models. *Proteins: Structure, Function and Bioinformatics*, **2013**, 81, 1200-11	4.2	8
42	Strain fields in repulsive colloidal crystals. *Physical Review Materials*, **2018**, 2,	3.2	8
41	Tunable emergent structures and traveling waves in mixtures of passive and contact-triggered-active particles. *Soft Matter*, **2017**, 13, 6332-6339	3.6	7
40	Alchemical molecular dynamics for inverse design. *Molecular Physics*, **2019**, 117, 3968-3980	1.7	7
39	FCC <-ʊBCC Phase Transitions in Convex and Concave Hard Particle Systems. *Journal of Physical Chemistry B*, **2019**, 123, 9038-9043	3.4	6

38	Phase behavior and design rules for plastic colloidal crystals of hard polyhedra via consideration of directional entropic forces. *Soft Matter*, **2019**, 15, 5380-5389	3.6	6
37	Shapes within shapes: how particles arrange inside a cavity. *Soft Matter*, **2018**, 14, 3012-3017	3.6	6
36	Implementation of metal-friendly EAM/FS-type semi-empirical potentials in HOOMD-blue: A GPU-accelerated molecular dynamics software. *Journal of Computational Physics*, **2018**, 359, 352-360	4.1	6
35	How to Professionally Develop Reusable Scientific Software—And When Not To. *Computing in Science and Engineering*, **2019**, 21, 66-79	1.5	6
34	Supercomputing Pipelines Search for Therapeutics Against COVID-19. *Computing in Science and Engineering*, **2021**, 23, 7-16	1.5	6
33	Open-source molecular modeling software in chemical engineering focusing on the Molecular Simulation Design Framework. *AICHE Journal*, **2021**, 67, e17206	3.6	6
32	Ordered Networks of Gold Nanoparticles Crosslinked by Dithiol-Oligomers. *Particle and Particle Systems Characterization*, **2018**, 35, 1800097	3.1	5
31	Anisotropic nanocrystal shape and ligand design for co-assembly. *Science Advances*, **2021**, 7,	14.3	5
30	Calculation of critical nucleation rates by the persistent embryo method: application to quasi hard sphere models. *Soft Matter*, **2018**, 14, 9185-9193	3.6	5
29	Designing active particles for colloidal microstructure manipulation via strain field alchemy. *Soft Matter*, **2019**, 15, 6086-6096	3.6	4
28	rowan: A Python package for working with quaternions. *Journal of Open Source Software*, **2018**, 3, 787	5.2	4
27	Unified memory in HOOMD-blue improves node-level strong scaling. *Computational Materials Science*, **2020**, 173, 109359	3.2	4
26	Moving beyond the constraints of chemistry via crystal structure discovery with isotropic multiwell pair potentials. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	4
25	Hierarchical self-assembly of hard cube derivatives. *Soft Matter*, **2019**, 15, 3733-3739	3.6	3
24	Assembly of nanocrystal clusters by solvent evaporation: icosahedral order and the breakdown of the Maxwell regime. *Soft Matter*, **2020**, 16, 7350-7358	3.6	3
23	Shape-driven entropic self-assembly of an open, reconfigurable, binary host-guest colloidal crystal. *Soft Matter*, **2021**, 17, 2840-2848	3.6	3
22	Principle of corresponding states for hard polyhedron fluids. *Molecular Physics*, **2019**, 117, 3518-3526	1.7	2
21	The alchemical energy landscape for a pentameric cluster. *Journal of Chemical Physics*, **2020**, 152, 014106	3.9	2

20	Effect of Particles of Irregular Size on the Microstructure and Structural Color of Self-Assembled Colloidal Crystals. *Langmuir*, **2021**, 37, 13300-13308	4	2
19	On the Thermodynamic Stability of Binary Superlattices of Polystyrene-Functionalized Nanocrystals. *Macromolecules*, **2020**, 53, 9929-9942	5.5	2
18	A mean-field approach to simulating anisotropic particles. *Journal of Chemical Physics*, **2020**, 153, 084106	3.9	2
17	High-throughput virtual laboratory for drug discovery using massive datasets. *International Journal of High Performance Computing Applications*, **2021**, 35, 452-468	1.8	2
16	Topological order in densely packed anisotropic colloids. *Physical Review E*, **2019**, 100, 032608	2.4	2
15	Sculpting crystals one Burgers vector at a time: Toward colloidal lattice robot swarms. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	2
14	Scale-free, programmable design of morphable chain loops of kilobots and colloidal motors. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 8700-8710	11.5	1
13	Fluctuations of Stiff Polymers and Cell Mechanics **2010**,		1
12	Accelerated annealing of colloidal crystal monolayers by means of cyclically applied electric fields. *Scientific Reports*, **2021**, 11, 11042	4.9	1
11	Unexpected Dependence of Photonic Band Gap Size on Randomness in Self-Assembled Colloidal Crystals. *Physical Review Letters*, **2021**, 126, 208002	7.4	1
10	Pinning dislocations in colloidal crystals with active particles that seek stacking faults. *Soft Matter*, **2020**, 16, 4182-4191	3.6	1
9	Particle shape tunes fragility in hard polyhedron glass-formers. *Soft Matter*, **2021**, 17, 600-610	3.6	1
8	Thermodynamic Equilibrium of Binary Nanocrystal Superlattices. *Journal of Physical Chemistry C*, **2021**, 125, 18936-18945	3.8	1
7	Hit Expansion of a Noncovalent SARS-CoV-2 Main Protease Inhibitor.. *ACS Pharmacology and Translational Science*, **2022**, 5, 255-265	5.9	1
6	Inverse design of isotropic pair potentials using digital alchemy with a generalized Fourier potential. *European Physical Journal B*, **2021**, 94, 1	1.2	0
5	Formation of a single quasicrystal upon collision of multiple grains. *Nature Communications*, **2021**, 12, 5790	17.4	0
4	The role of complementary shape in protein dimerization. *Soft Matter*, **2021**, 17, 7376-7383	3.6	0
3	Tuning Stoichiometry to Promote Formation of Binary Colloidal Superlattices.. *Physical Review Letters*, **2022**, 128, 188001	7.4	0

2	Synthesizable nanoparticle eigenshapes for colloidal crystals. *Nanoscale*, **2021**, 13, 13301-13309	7.7
1	Scaling SQL to the Supercomputer for Interactive Analysis of Simulation Data. *Communications in Computer and Information Science*, **2022**, 327-339	0.3