Emanuela Zaccarelli

List of Publications by Year
in descending order

159 papers	9,965 citations	38720 50 h-index	37183 96 g-index
161 all docs	161 docs citations	161 times ranked	5624 citing authors

#	Article	IF	Citations
1	Onset of criticality in hyper-auxetic polymer networks. Nature Communications, 2022, 13, 527.	5.8	5
2	Soft colloids for complex interfacial assemblies. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2122051119.	3.3	5
3	The Asakuraâ€"Oosawa theory: Entropic forces in physics, biology, and soft matter. Journal of Chemical Physics, 2022, 156, 080401.	1.2	19
4	Link between Morphology, Structure, and Interactions of Composite Microgels. Macromolecules, 2022, 55, 1834-1843.	2.2	6
5	Critical active dynamics is captured by a colored-noise driven field theory. Communications Physics, 2022, 5, .	2.0	12
6	The role of polymer structure on water confinement in poly(N-isopropylacrylamide) dispersions. Journal of Molecular Liquids, 2022, 355, 118924.	2.3	4
7	Modeling Solution Behavior of Poly(<i>N</i>-isopropylacrylamide): A Comparison between Water Models. Journal of Physical Chemistry B, 2022, 126, 3778-3788.	1.2	9
8	In-situ study of the impact of temperature and architecture on the interfacial structure of microgels. Nature Communications, 2022, 13, .	5.8	19
9	On the Role of Competing Interactions in Charged Colloids with Short-Range Attraction. Annual Review of Condensed Matter Physics, 2021, 12, 51-70.	5.2	32
10	Molecular insights on poly(<i>N</i>-isopropylacrylamide) coil-to-globule transition induced by pressure. Physical Chemistry Chemical Physics, 2021, 23, 5984-5991.	1.3	12
11	Proteinlike dynamical transition of hydrated polymer chains. Physical Review Research, 2021, 3, .	1.3	6
12	Glass and Jamming Rheology in Soft Particles Made of PNIPAM and Polyacrylic Acid. International Journal of Molecular Sciences, 2021, 22, 4032.	1.8	11
13	Dynamical properties of different models of elastic polymer rings: Confirming the link between deformation and fragility. Journal of Chemical Physics, 2021, 154, 154901.	1.2	3
14	Volume fraction determination of microgel composed of interpenetrating polymer networks of PNIPAM and polyacrylic acid. Journal of Physics Condensed Matter, 2021, 33, 174004.	0.7	11
15	Effect of Chain Polydispersity on the Elasticity of Disordered Polymer Networks. Macromolecules, 2021, 54, 3769-3779.	2.2	26
16	Gel Formation in Reversibly Cross-Linking Polymers. Macromolecules, 2021, 54, 6613-6627.	2.2	7
17	Effect of Internal Architecture on the Assembly of Soft Particles at Fluid Interfaces. ACS Nano, 2021, 15, 13105-13117.	7.3	28
18	Effective potentials induced by mixtures of patchy and hard co-solutes. Journal of Chemical Physics, 2021, 155, 064901.	1.2	4

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19	Two-step deswelling in the Volume Phase Transition of thermoresponsive microgels. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	25
20	Thermoresponsivity of poly(N-isopropylacrylamide) microgels in water-trehalose solution and its relation to protein behavior. Journal of Colloid and Interface Science, 2021, 604, 705-718.	5.0	9
21	Universality class of the motility-induced critical point in large scale off-lattice simulations of active particles. Soft Matter, 2021, 17, 3807-3812.	1.2	36
22	Charge affinity and solvent effects in numerical simulations of ionic microgels. Journal of Physics Condensed Matter, 2021, 33, 084001.	0.7	5
23	Molecular description of the coil-to-globule transition of Poly(N-isopropylacrylamide) in water/ethanol mixture at low alcohol concentration. Journal of Molecular Liquids, 2020, 297, 111928.	2.3	27
24	Microgels at Interfaces Behave as 2D Elastic Particles Featuring Reentrant Dynamics. Physical Review X, 2020, 10, .	2.8	22
25	Crowding in the Eye Lens: Modeling the Multisubunit Protein Î²-Crystallin with a Colloidal Approach. Biophysical Journal, 2020, 119, 2483-2496.	0.2	4
26	Gellan Gum Microgels as Effective Agents for a Rapid Cleaning of Paper. ACS Applied Polymer Materials, 2020, 2, 2791-2801.	2.0	24
27	Atomic scale investigation of the volume phase transition in concentrated PNIPAM microgels. Journal of Chemical Physics, 2020, 152, 204904.	1.2	7
28	Static and dynamic properties of block copolymer based grafted nanoparticles across the non-ergodicity transition. Physics of Fluids, 2020, 32, 127101.	1.6	6
29	Tuning the rheological behavior of colloidal gels through competing interactions. Physical Review Materials, 2020, 4, .	0.9	18
30	Patchy Particle Models to Understand Protein Phase Behavior. Methods in Molecular Biology, 2019, 2039, 187-208.	0.4	5
31	Multi-particle collision dynamics for a coarse-grained model of soft colloids. Journal of Chemical Physics, 2019, 151, 074902.	1.2	5
32	Coincidence of the freezing and the onset of caging in hard sphere and Lennard-Jones fluids. Journal of Chemical Physics, 2019, 151, 104501.	1.2	2
33	Modeling Microgels with a Controlled Structure across the Volume Phase Transition. Macromolecules, 2019, 52, 7584-7592.	2.2	44
34	Numerical modelling of non-ionic microgels: an overview. Soft Matter, 2019, 15, 1108-1119.	1.2	67
35	Connecting Elasticity and Effective Interactions of Neutral Microgels: The Validity of the Hertzian Model. Macromolecules, 2019, 52, 4895-4906.	2.2	47
36	A Colloid Approach to Self-Assembling Antibodies. Molecular Pharmaceutics, 2019, 16, 2394-2404.	2.3	36

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37	Microgels Adsorbed at Liquidâ€"Liquid Interfaces: A Joint Numerical and Experimental Study. ACS Nano, 2019, 13, 4548-4559.	7.3	84
38	The microscopic role of deformation in the dynamics of soft colloids. Nature Physics, 2019, 15, 683-688.	6.5	76
39	Waterâ€"Polymer Coupling Induces a Dynamical Transition in Microgels. Journal of Physical Chemistry Letters, 2019, 10, 870-876.	2.1	23
40	Numerical insights on ionic microgels: structure and swelling behaviour. Soft Matter, 2019, 15, 8113-8128.	1.2	13
41	Rheological investigation of gels formed by competing interactions: A numerical study. Journal of Chemical Physics, 2019, 150, 024905.	1.2	9
42	Internal structure and swelling behaviour of<i>in silico</i>microgel particles. Journal of Physics Condensed Matter, 2018, 30, 044001.	0.7	26
43	On the molecular origin of the cooperative coil-to-globule transition of poly(<i>N</i>-isopropylacrylamide) in water. Physical Chemistry Chemical Physics, 2018, 20, 9997-10010.	1.3	97
44	Crystal-to-Crystal Transition of Ultrasoft Colloids under Shear. Physical Review Letters, 2018, 120, 078003.	2.9	29
45	A new look at effective interactions between microgel particles. Nature Communications, 2018, 9, 5039.	5.8	92
46	Evidence of a low-temperature dynamical transition in concentrated microgels. Science Advances, 2018, 4, eaat5895.	4.7	28
47	Modelling realistic microgels in an explicit solvent. Scientific Reports, 2018, 8, 14426.	1.6	31
48	On the effect of the thermostat in non-equilibrium molecular dynamics simulations. European Physical Journal E, 2018, 41, 80.	0.7	24
49	Different scenarios of dynamic coupling in glassy colloidal mixtures. Physical Chemistry Chemical Physics, 2018, 20, 18630-18638.	1.3	14
50	Equilibrium gels of limited valence colloids. Current Opinion in Colloid and Interface Science, 2017, 30, 90-96.	3.4	53
51	<i>In Silico</i> Synthesis of Microgel Particles. Macromolecules, 2017, 50, 8777-8786.	2.2	105
52	Effective potentials induced by self-assembly of patchy particles. Soft Matter, 2017, 13, 6051-6058.	1.2	10
53	Discontinous change from thermally- to geometrically-dominated effective interactions in colloidal solutions. Soft Matter, 2016, 12, 9649-9656.	1.2	3
54	Dynamical and structural signatures of the glass transition in emulsions. Journal of Statistical Mechanics: Theory and Experiment, 2016, 2016, 094003.	0.9	20

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55	The physics of protein self-assembly. Current Opinion in Colloid and Interface Science, 2016, 22, 73-79.	3.4	188
56	Anomalous dynamics of intruders in a crowded environment of mobile obstacles. Nature Communications, 2016, 7, 11133.	5.8	114
57	Gravitational collapse of depletion-induced colloidal gels. Soft Matter, 2016, 12, 4300-4308.	1.2	43
58	Validity of the Stokes-Einstein Relation in Soft Colloids up to the Glass Transition. Physical Review Letters, 2015, 115, 128302.	2.9	35
59	How fluorescent labelling alters the solution behaviour of proteins. Physical Chemistry Chemical Physics, 2015, 17, 31177-31187.	1.3	47
60	Dynamic phase diagram of soft nanocolloids. Nanoscale, 2015, 7, 13924-13934.	2.8	46
61	Structural and microscopic relaxations in a colloidal glass. Soft Matter, 2015, 11, 466-471.	1.2	39
62	How soft repulsion enhances the depletion mechanism. Soft Matter, 2015, 11, 692-700.	1.2	31
63	On polydispersity and the hard sphere glass transition. Soft Matter, 2015, 11, 324-330.	1.2	59
64	Avalanches mediate crystallization in a hard-sphere glass. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 75-80.	3.3	52
65	Effective interactions between soft-repulsive colloids: Experiments, theory, and simulations. Journal of Chemical Physics, 2014, 140, 094901.	1.2	91
66	Exposing a dynamical signature of the freezing transition through the sound propagation gap. Nature Communications, 2014, 5, 5503.	5.8	8
67	Multiple Glass Singularities and Isodynamics in a Core-Softened Model for Glass-Forming Systems. Physical Review Letters, 2014, 113, 258302.	2.9	17
68	Casimir-like forces at the percolation transition. Nature Communications, 2014, 5, 3267.	5.8	35
69	Glassâ€"glass transition during aging of a colloidal clay. Nature Communications, 2014, 5, 4049.	5.8	101
70	Soft heaps and clumpy crystals. Nature, 2013, 493, 30-31.	13.7	21
71	Fluidâ€"solid transitions in soft-repulsive colloids. Soft Matter, 2013, 9, 3000.	1.2	123
72	Unveiling the complex glassy dynamics of square shoulder systems: Simulations and theory. Journal of Chemical Physics, 2013, 138, 134501.	1.2	17

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73	Observation of empty liquids and equilibrium gels in a colloidal clay. , 2013, , .		4
74	Characterizing Concentrated, Multiply Scattering, and Actively Driven Fluorescent Systems with Confocal Differential Dynamic Microscopy. Physical Review Letters, 2012, 108, 218103.	2.9	90
75	Tuning effective interactions close to the critical point in colloidal suspensions. Journal of Chemical Physics, 2012, 137, 084903.	1.2	14
76	How properties of interacting depletant particles control aggregation of hard-sphere colloids. Soft Matter, 2012, 8, 1991-1996.	1.2	24
77	From compact to fractal crystalline clusters in concentrated systems of monodisperse hard spheres. Soft Matter, 2012, 8, 4960.	1.2	27
78	Chain dynamics in nonentangled polymer melts: A first-principle approach for the role of intramolecular barriers. Soft Matter, 2011, 7, 1364.	1.2	9
79	A fresh look at the Laponite phase diagram. Soft Matter, 2011, 7, 1268.	1.2	348
80	From caging to Rouse dynamics in polymer melts with intramolecular barriers: A critical test of the mode coupling theory. Journal of Chemical Physics, 2011, 134, 024523.	1.2	16
81	Cluster-Driven Dynamical Arrest in Concentrated Lysozyme Solutions. Journal of Physical Chemistry B, 2011, 115, 7227-7237.	1.2	108
82	Crystallization and aging in hard-sphere glasses. Journal of Physics Condensed Matter, 2011, 23, 194117.	0.7	18
83	Ultrasoft Colloid-Polymer Mixtures: Structure and Phase Diagram. Physical Review Letters, 2011, 106, 228301.	2.9	44
84	Reversible gels of patchy particles. Current Opinion in Solid State and Materials Science, 2011, 15, 246-253.	5.6	106
85	Crystallization and aging in hard-sphere glasses. Journal of Physics Condensed Matter, 2011, 23, 319501.	0.7	2
86	Observation of empty liquids and equilibrium gels in a colloidal clay. Nature Materials, 2011, 10, 56-60.	13.3	307
87	Crystallization Mechanism of Hard Sphere Glasses. Physical Review Letters, 2011, 106, 215701.	2.9	65
88	Silica through the eyes of colloidal modelsâ€"when glass is a gel. Journal of Physics Condensed Matter, 2011, 23, 285101.	0.7	7
89	Competing Interactions in Arrested States of Colloidal Clays. Physical Review Letters, 2010, 104, 085701.	2.9	78
90	A spherical model with directional interactions: II. Dynamics and landscape properties. Journal of Physics Condensed Matter, 2010, 22, 104110.	0.7	5

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91	Disconnected Glass-Glass Transitions and Diffusion Anomalies in a Model with Two Repulsive Length Scales. Physical Review Letters, 2010, 104, 145701.	2.9	26
92	Modeling the Crossover between Chemically and Diffusion-Controlled Irreversible Aggregation in a Small-Functionality Gel-Forming System. Journal of Physical Chemistry B, 2010, 114, 3769-3775.	1.2	26
93	Colloidal glasses and gels: The interplay of bonding and caging. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 15203-15208.	3.3	150
94	Correlation between structure and rheology of a model colloidal glass. Journal of Chemical Physics, 2009, 131, 144903.	1.2	22
95	Multiple Glass Transitions in Star Polymer Mixtures: Insights from Theory and Simulations. Macromolecules, 2009, 42, 423-434.	2.2	46
96	Hard spheres: crystallization and glass formation. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2009, 367, 4993-5011.	1.6	191
97	Connecting Irreversible to Reversible Aggregation: Time and Temperature. Journal of Physical Chemistry B, 2009, 113, 1233-1236.	1.2	37
98	A parameter-free description of the kinetics of formation of loop-less branched structures and gels. Soft Matter, 2009, , .	1.2	7
99	Crystallization of Hard-Sphere Glasses. Physical Review Letters, 2009, 103, 135704.	2.9	174
100	Colloidal systems with competing interactions: from an arrested repulsive cluster phase to a gel. Soft Matter, 2009, 5, 2390.	1.2	143
101	Gelation of particles with short-range attraction. Nature, 2008, 453, 499-503.	13.7	811
102	Asymmetric caging in soft colloidal mixtures. Nature Materials, 2008, 7, 780-784.	13.3	116
103	Theoretical and numerical study of the phase diagram of patchy colloids: Ordered and disordered patch arrangements. Journal of Chemical Physics, 2008, 128, 144504.	1.2	150
104	A molecular dynamics study of chemical gelation in a patchy particle model. Soft Matter, 2008, 4, 1173.	1.2	42
105	Gelation as arrested phase separation in short-ranged attractive colloidâ€“polymer mixtures. Journal of Physics Condensed Matter, 2008, 20, 494242.	0.7	78
106	Numerical Investigation of Glassy Dynamics in Low-Density Systems. Physical Review Letters, 2008, 100, 195701.	2.9	27
107	Interaction between charged colloids in a low dielectric constant solvent. Europhysics Letters, 2008, 81, 59901.	0.7	4
108	Viscoelasticity and Stokes-Einstein relation in repulsive and attractive colloidal glasses. Journal of Chemical Physics, 2007, 127, 144906.	1.2	37

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109	Asymmetric poly(ethylene-alt-propylene)-poly(ethylene oxide) micelles: A system with starlike morphology and interactions. Physical Review E, 2007, 76, 041503.	0.8	37
110	A spherical model with directional interactions. I. Static properties. Journal of Chemical Physics, 2007, 127, 174501.	1.2	21
111	Interaction between charged colloids in a low dielectric constant solvent. Europhysics Letters, 2007, 78, 38002.	0.7	18
112	Colloidal gels: equilibrium and non-equilibrium routes. Journal of Physics Condensed Matter, 2007, 19, 323101.	0.7	513
113	Modeling equilibrium clusters in lysozyme solutions. Europhysics Letters, 2007, 77, 48004.	0.7	112
114	Rheological transitions in asymmetric colloidal star mixtures. Rheologica Acta, 2007, 46, 611-619.	1.1	18
115	Phase Diagram of Patchy Colloids: Towards Empty Liquids. Physical Review Letters, 2006, 97, 168301.	2.9	482
116	Gel to glass transition in simulation of a valence-limited colloidal system. Journal of Chemical Physics, 2006, 124, 124908.	1.2	85
117	Non-Gaussian energy landscape of a simple model for strong network-forming liquids: Accurate evaluation of the configurational entropy. Journal of Chemical Physics, 2006, 124, 204509.	1.2	24
118	Mode-coupling theory predictions for a limited valency attractive square well model. Journal of Physics Condensed Matter, 2006, 18, S2373-S2382.	0.7	9
119	Viscoelastic properties of attractive and repulsive colloidal glasses. Journal of Physics Condensed Matter, 2005, 17, L271-L277.	0.7	24
120	Energy Landscape of a Simple Model for Strong Liquids. Physical Review Letters, 2005, 95, 157802.	2.9	45
121	Routes to colloidal gel formation. Computer Physics Communications, 2005, 169, 166-171.	3.0	52
122	Model for Reversible Colloidal Gelation. Physical Review Letters, 2005, 94, 218301.	2.9	143
123	Static and dynamic anomalies in a repulsive spherical ramp liquid: Theory and simulation. Physical Review E, 2005, 72, 021501.	0.8	102
124	Starlike Micelles with Starlike Interactions: A Quantitative Evaluation of Structure Factors and Phase Diagram. Physical Review Letters, 2005, 94, 195504.	2.9	65
125	Tailoring the Flow of Soft Glasses by Soft Additives. Physical Review Letters, 2005, 95, 268301.	2.9	68
126	Small-Angle X-ray Scattering and Light Scattering on Lysozyme and Sodium Glycocholate Micelles. Journal of Physical Chemistry B, 2005, 109, 23857-23869.	1.2	32

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127	One-Dimensional Cluster Growth and Branching Gels in Colloidal Systems with Short-Range Depletion Attraction and Screened Electrostatic Repulsion. Journal of Physical Chemistry B, 2005, 109, 21942-21953.	1.2	179
128	Dynamical arrest in dense short-ranged attractive colloids. Journal of Physics Condensed Matter, 2004, 16, S3791-S3806.	0.7	15
129	Numerical study of theglassâ€"glasstransition in short-ranged attractive colloids. Journal of Physics Condensed Matter, 2004, 16, S4849-S4860.	0.7	22
130	Aging in short-ranged attractive colloids: A numerical study. Journal of Chemical Physics, 2004, 120, 8824-8830.	1.2	32
131	Is There a Reentrant Glass in Binary Mixtures?. Physical Review Letters, 2004, 92, 225703.	2.9	55
132	Effect of bond lifetime on the dynamics of a short-range attractive colloidal system. Physical Review E, 2004, 70, 041401.	0.8	47
133	Equilibrium Cluster Phases and Low-Density Arrested Disordered States: The Role of Short-Range Attraction and Long-Range Repulsion. Physical Review Letters, 2004, 93, 055701.	2.9	434
134	Ground-State Clusters for Short-Range Attractive and Long-Range Repulsive Potentials. Langmuir, 2004, 20, 10756-10763.	1.6	187
135	Short-ranged attractive colloids: What is the gel state?. , 2004, , 181-194.		13
136	Activated Bond-Breaking Processes Preempt the Observation of a Sharp Glass-Glass Transition in Dense Short-Ranged Attractive Colloids. Physical Review Letters, 2003, 91, 108301.	2.9	40
137	The nature of the colloidal â€˜glassâ€™ transition. Faraday Discussions, 2003, 123, 13-26.	1.6	21
138	Evidence of a Higher-Order Singularity in Dense Short-Ranged Attractive Colloids. Physical Review Letters, 2003, 91, 268301.	2.9	107
139	Structural Arrest in Dense Star-Polymer Solutions. Physical Review Letters, 2003, 90, 238301.	2.9	107
140	Static and dynamical correlation functions behaviour in attractive colloidal systems from theory and simulation. Journal of Physics Condensed Matter, 2003, 15, S367-S374.	0.7	25
141	Phase equilibria and glass transition in colloidal systems with short-ranged attractive interactions: Application to protein crystallization. Physical Review E, 2002, 65, 031407.	0.8	168
142	Evidence for an unusual dynamical-arrest scenario in short-ranged colloidal systems. Physical Review E, 2002, 65, 050802.	0.8	99
143	Confirmation of anomalous dynamical arrest in attractive colloids: A molecular dynamics study. Physical Review E, 2002, 66, 041402.	0.8	138
144	Dynamics of supercooled liquids: density fluctuations and mode coupling theory. Journal of Physics Condensed Matter, 2002, 14, 2413-2437.	0.7	20

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145	Ideal glass in attractive systems with different potentials. Journal of Physics Condensed Matter, 2002, 14, 2223-2235.	0.7	8
146	Universality behaviour in â€˜idealâ€™ dynamical arrest transitions of a lattice glass model. Physica A: Statistical Mechanics and Its Applications, 2002, 316, 115-134.	1.2	14
147	Slowed relaxational dynamics beyond the fluctuationâ€“dissipation theorem. Physica A: Statistical Mechanics and Its Applications, 2002, 307, 15-26.	1.2	10
148	Competition between crystallization and glassification for particles with short-ranged attraction. Possible applications to protein crystallization. Physica A: Statistical Mechanics and Its Applications, 2002, 314, 539-547.	1.2	14
149	Mode-coupling theory of colloids with short-range attractions. Journal of Physics Condensed Matter, 2001, 13, 9113-9126.	0.7	20
150	A mean-field theory of super-cooled liquids. AIP Conference Proceedings, 2001, , .	0.3	0
151	The vibrational motions of particle gels. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2001, 183-185, 327-334.	2.3	1
152	Gaussian density fluctuations and mode coupling theory for supercooled liquids. Europhysics Letters, 2001, 55, 157-163.	0.7	52
153	Mechanical properties of a model of attractive colloidal solutions. Physical Review E, 2001, 63, 031501.	0.8	106
154	Are particle gels â€œglassesâ€?. , 2001, , 221-225.		2
155	Kinetic Arrest Originating in Competition Between Attractive Interaction and Packing Force. Journal of Statistical Physics, 2000, 100, 363-376.	0.5	31
156	Higher-order glass-transition singularities in colloidal systems with attractive interactions. Physical Review E, 2000, 63, 011401.	0.8	367
157	Binary mixtures of sticky spheres using Percus-Yevick theory. , 2000, , 371-375.		6
158	Interactions in systems with short-range attractions and applications to protein crystallisation. , 0, , 104-109.		1
159	Impact of the Environment on the PNIPAM Dynamical Transition Probed by Elastic Neutron Scattering. Macromolecules, 0, , .	2.2	3