Emanuela Zaccarelli

List of Publications by Citations

152 papers	8,410 citations	47 h-index	89 g-index
161 ext. papers	9,278 ext. citations	6.2 avg, IF	6.31 L-index

#	Paper	IF	Citations
152	Gelation of particles with short-range attraction. *Nature*, **2008**, 453, 499-503	50.4	700
151	Colloidal gels: equilibrium and non-equilibrium routes. *Journal of Physics Condensed Matter*, **2007**, 19, 323101	1.8	447
150	Phase diagram of patchy colloids: towards empty liquids. *Physical Review Letters*, **2006**, 97, 168301	7.4	432
149	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	7.4	405
148	Higher-order glass-transition singularities in colloidal systems with attractive interactions. *Physical Review E*, **2001**, 63, 011401	2.4	343
147	A fresh look at the Laponite phase diagram. *Soft Matter*, **2011**, 7, 1268	3.6	288
146	Observation of empty liquids and equilibrium gels in a colloidal clay. *Nature Materials*, **2011**, 10, 56-60	27	272
145	Ground-state clusters for short-range attractive and long-range repulsive potentials. *Langmuir*, **2004**, 20, 10756-63	4	177
144	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, 21942-53	3.4	169
143	Crystallization of hard-sphere glasses. *Physical Review Letters*, **2009**, 103, 135704	7.4	160
142	Hard spheres: crystallization and glass formation. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2009**, 367, 4993-5011	3	155
141	Phase equilibria and glass transition in colloidal systems with short-ranged attractive interactions: application to protein crystallization. *Physical Review E*, **2002**, 65, 031407	2.4	154
140	Theoretical and numerical study of the phase diagram of patchy colloids: ordered and disordered patch arrangements. *Journal of Chemical Physics*, **2008**, 128, 144504	3.9	134
139	Colloidal systems with competing interactions: from an arrested repulsive cluster phase to a gel. *Soft Matter*, **2009**, 5, 2390	3.6	132
138	Confirmation of anomalous dynamical arrest in attractive colloids: a molecular dynamics study. *Physical Review E*, **2002**, 66, 041402	2.4	132
137	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, 15203-8	11.5	127
136	The physics of protein self-assembly. *Current Opinion in Colloid and Interface Science*, **2016**, 22, 73-79	7.6	125

135	Model for reversible colloidal gelation. *Physical Review Letters*, **2005**, 94, 218301	7.4	122
134	Fluid□olid transitions in soft-repulsive colloids. *Soft Matter*, **2013**, 9, 3000	3.6	109
133	Asymmetric caging in soft colloidal mixtures. *Nature Materials*, **2008**, 7, 780-4	27	104
132	Modeling equilibrium clusters in lysozyme solutions. *Europhysics Letters*, **2007**, 77, 48004	1.6	103
131	Structural arrest in dense star-polymer solutions. *Physical Review Letters*, **2003**, 90, 238301	7.4	102
130	Evidence of a higher-order singularity in dense short-ranged attractive colloids. *Physical Review Letters*, **2003**, 91, 268301	7.4	101
129	Mechanical properties of a model of attractive colloidal solutions. *Physical Review E*, **2001**, 63, 031501	2.4	100
128	Cluster-driven dynamical arrest in concentrated lysozyme solutions. *Journal of Physical Chemistry B*, **2011**, 115, 7227-37	3.4	99
127	Static and dynamic anomalies in a repulsive spherical ramp liquid: theory and simulation. *Physical Review E*, **2005**, 72, 021501	2.4	94
126	Evidence for an unusual dynamical-arrest scenario in short-ranged colloidal systems. *Physical Review E*, **2002**, 65, 050802	2.4	94
125	Anomalous dynamics of intruders in a crowded environment of mobile obstacles. *Nature Communications*, **2016**, 7, 11133	17.4	88
124	Reversible gels of patchy particles. *Current Opinion in Solid State and Materials Science*, **2011**, 15, 246-253	12	86
123	Glass-glass transition during aging of a colloidal clay. *Nature Communications*, **2014**, 5, 4049	17.4	84
122	Gel to glass transition in simulation of a valence-limited colloidal system. *Journal of Chemical Physics*, **2006**, 124, 124908	3.9	80
121	Effective interactions between soft-repulsive colloids: experiments, theory, and simulations. *Journal of Chemical Physics*, **2014**, 140, 094901	3.9	78
120	Synthesis of Microgel Particles. *Macromolecules*, **2017**, 50, 8777-8786	5.5	76
119	Competing interactions in arrested States of colloidal clays. *Physical Review Letters*, **2010**, 104, 085701	7.4	71
118	Characterizing concentrated, multiply scattering, and actively driven fluorescent systems with confocal differential dynamic microscopy. *Physical Review Letters*, **2012**, 108, 218103	7.4	71

117	On the molecular origin of the cooperative coil-to-globule transition of poly(N-isopropylacrylamide) in water. *Physical Chemistry Chemical Physics*, **2018**, 20, 9997-10010	3.6	66
116	Gelation as arrested phase separation in short-ranged attractive colloid–polymer mixtures. *Journal of Physics Condensed Matter*, **2008**, 20, 494242	1.8	65
115	Tailoring the flow of soft glasses by soft additives. *Physical Review Letters*, **2005**, 95, 268301	7.4	65
114	Starlike micelles with starlike interactions: a quantitative evaluation of structure factors and phase diagram. *Physical Review Letters*, **2005**, 94, 195504	7.4	63
113	A new look at effective interactions between microgel particles. *Nature Communications*, **2018**, 9, 5039	17.4	62
112	Crystallization mechanism of hard sphere glasses. *Physical Review Letters*, **2011**, 106, 215701	7.4	59
111	Numerical modelling of non-ionic microgels: an overview. *Soft Matter*, **2019**, 15, 1108-1119	3.6	55
110	Is there a reentrant glass in binary mixtures?. *Physical Review Letters*, **2004**, 92, 225703	7.4	53
109	Microgels Adsorbed at Liquid-Liquid Interfaces: A Joint Numerical and Experimental Study. *ACS Nano*, **2019**, 13, 4548-4559	16.7	52
108	The microscopic role of deformation in the dynamics of soft colloids. *Nature Physics*, **2019**, 15, 683-688	16.2	52
107	Routes to colloidal gel formation. *Computer Physics Communications*, **2005**, 169, 166-171	4.2	48
106	Gaussian density fluctuations and mode coupling theory for supercooled liquids. *Europhysics Letters* , **2001**, 55, 157-163	1.6	48
105	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	11.5	45
104	On polydispersity and the hard sphere glass transition. *Soft Matter*, **2015**, 11, 324-30	3.6	42
103	Multiple Glass Transitions in Star Polymer Mixtures: Insights from Theory and Simulations. *Macromolecules*, **2009**, 42, 423-434	5.5	42
102	Effect of bond lifetime on the dynamics of a short-range attractive colloidal system. *Physical Review E*, **2004**, 70, 041401	2.4	40
101	Ultrasoft colloid-polymer mixtures: structure and phase diagram. *Physical Review Letters*, **2011**, 106, 228301	7.4	39
100	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	7.4	39

99	Energy landscape of a simple model for strong liquids. *Physical Review Letters*, **2005**, 95, 157802	7.4	38
98	Dynamic phase diagram of soft nanocolloids. *Nanoscale*, **2015**, 7, 13924-34	7.7	37
97	A molecular dynamics study of chemical gelation in a patchy particle model. *Soft Matter*, **2008**, 4, 1173-1177	3.7	37
96	Equilibrium gels of limited valence colloids. *Current Opinion in Colloid and Interface Science*, **2017**, 30, 90-96	7.6	35
95	Asymmetric poly(ethylene-alt-propylene)-poly(ethylene oxide) micelles: a system with starlike morphology and interactions. *Physical Review E*, **2007**, 76, 041503	2.4	34
94	How fluorescent labelling alters the solution behaviour of proteins. *Physical Chemistry Chemical Physics*, **2015**, 17, 31177-87	3.6	33
93	Structural and microscopic relaxations in a colloidal glass. *Soft Matter*, **2015**, 11, 466-71	3.6	32
92	Viscoelasticity and Stokes-Einstein relation in repulsive and attractive colloidal glasses. *Journal of Chemical Physics*, **2007**, 127, 144906	3.9	32
91	Connecting Elasticity and Effective Interactions of Neutral Microgels: The Validity of the Hertzian Model. *Macromolecules*, **2019**, 52, 4895-4906	5.5	31
90	Connecting irreversible to reversible aggregation: time and temperature. *Journal of Physical Chemistry B*, **2009**, 113, 1233-6	3.4	31
89	Validity of the Stokes-Einstein Relation in Soft Colloids up to the Glass Transition. *Physical Review Letters*, **2015**, 115, 128302	7.4	30
88	Small-angle X-ray scattering and light scattering on lysozyme and sodium glycocholate micelles. *Journal of Physical Chemistry B*, **2005**, 109, 23857-69	3.4	30
87	Kinetic Arrest Originating in Competition Between Attractive Interaction and Packing Force. *Journal of Statistical Physics*, **2000**, 100, 363-376	1.5	29
86	Aging in short-ranged attractive colloids: a numerical study. *Journal of Chemical Physics*, **2004**, 120, 8824-30	3.9	28
85	Modeling Microgels with a Controlled Structure across the Volume Phase Transition. *Macromolecules*, **2019**, 52, 7584-7592	5.5	27
84	Casimir-like forces at the percolation transition. *Nature Communications*, **2014**, 5, 3267	17.4	27
83	How soft repulsion enhances the depletion mechanism. *Soft Matter*, **2015**, 11, 692-700	3.6	26
82	Gravitational collapse of depletion-induced colloidal gels. *Soft Matter*, **2016**, 12, 4300-8	3.6	26

81	Numerical investigation of glassy dynamics in low-density systems. *Physical Review Letters*, **2008**, 100, 195701	7.4	26
80	From compact to fractal crystalline clusters in concentrated systems of monodisperse hard spheres. *Soft Matter*, **2012**, 8, 4960	3.6	24
79	Modeling the crossover between chemically and diffusion-controlled irreversible aggregation in a small-functionality gel-forming system. *Journal of Physical Chemistry B*, **2010**, 114, 3769-75	3.4	24
78	Viscoelastic properties of attractive and repulsive colloidal glasses. *Journal of Physics Condensed Matter*, **2005**, 17, L271-7	1.8	24
77	A Colloid Approach to Self-Assembling Antibodies. *Molecular Pharmaceutics*, **2019**, 16, 2394-2404	5.6	23
76	Internal structure and swelling behaviour of in silico microgel particles. *Journal of Physics Condensed Matter*, **2018**, 30, 044001	1.8	23
75	Static and dynamical correlation functions behaviour in attractive colloidal systems from theory and simulation. *Journal of Physics Condensed Matter*, **2003**, 15, S367-S374	1.8	23
74	Disconnected glass-glass transitions and diffusion anomalies in a model with two repulsive length scales. *Physical Review Letters*, **2010**, 104, 145701	7.4	22
73	Crystal-to-Crystal Transition of Ultrasoft Colloids under Shear. *Physical Review Letters*, **2018**, 120, 078003	7.4	21
72	How properties of interacting depletant particles control aggregation of hard-sphere colloids. *Soft Matter*, **2012**, 8, 1991-1996	3.6	21
71	The nature of the colloidal 'glass' transition. *Faraday Discussions*, **2003**, 123, 13-26; discussion 75-97, 419-26	3.6	21
70	Evidence of a low-temperature dynamical transition in concentrated microgels. *Science Advances*, **2018**, 4, eaat5895	14.3	21
69	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	3.9	20
68	Numerical study of theglass□glasstransition in short-ranged attractive colloids. *Journal of Physics Condensed Matter*, **2004**, 16, S4849-S4860	1.8	20
67	Modelling realistic microgels in an explicit solvent. *Scientific Reports*, **2018**, 8, 14426	4.9	20
66	Water-Polymer Coupling Induces a Dynamical Transition in Microgels. *Journal of Physical Chemistry Letters*, **2019**, 10, 870-876	6.4	19
65	Correlation between structure and rheology of a model colloidal glass. *Journal of Chemical Physics*, **2009**, 131, 144903	3.9	19
64	A spherical model with directional interactions. I. Static properties. *Journal of Chemical Physics*, **2007**, 127, 174501	3.9	19

63	Dynamics of supercooled liquids: density fluctuations and mode coupling theory. *Journal of Physics Condensed Matter*, **2002**, 14, 2413-2437	1.8	19
62	Mode-coupling theory of colloids with short-range attractions. *Journal of Physics Condensed Matter*, **2001**, 13, 9113-9126	1.8	19
61	Rheological transitions in asymmetric colloidal star mixtures. *Rheologica Acta*, **2007**, 46, 611-619	2.3	18
60	Interaction between charged colloids in a low dielectric constant solvent. *Europhysics Letters*, **2007**, 78, 38002	1.6	17
59	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	6	17
58	On the effect of the thermostat in non-equilibrium molecular dynamics simulations. *European Physical Journal E*, **2018**, 41, 80	1.5	16
57	Multiple glass singularities and isodynamics in a core-softened model for glass-forming systems. *Physical Review Letters*, **2014**, 113, 258302	7.4	16
56	Dynamical and structural signatures of the glass transition in emulsions. *Journal of Statistical Mechanics: Theory and Experiment*, **2016**, 2016, 094003	1.9	15
55	Crystallization and aging in hard-sphere glasses. *Journal of Physics Condensed Matter*, **2011**, 23, 194117	1.8	14
54	Universality behaviour in ideal dynamical arrest transitions of a lattice glass model. *Physica A: Statistical Mechanics and Its Applications*, **2002**, 316, 115-134	3.3	14
53	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	3.3	14
52	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	3.9	13
51	Tuning effective interactions close to the critical point in colloidal suspensions. *Journal of Chemical Physics*, **2012**, 137, 084903	3.9	13
50	Dynamical arrest in dense short-ranged attractive colloids. *Journal of Physics Condensed Matter*, **2004**, 16, S3791-S3806	1.8	13
49	Microgels at Interfaces Behave as 2D Elastic Particles Featuring Reentrant Dynamics. *Physical Review X*, **2020**, 10,	9.1	13
48	Effect of Chain Polydispersity on the Elasticity of Disordered Polymer Networks. *Macromolecules*, **2021**, 54, 3769-3779	5.5	13
47	Universality class of the motility-induced critical point in large scale off-lattice simulations of active particles. *Soft Matter*, **2021**, 17, 3807-3812	3.6	13
46	Unveiling the complex glassy dynamics of square shoulder systems: simulations and theory. *Journal of Chemical Physics*, **2013**, 138, 134501	3.9	12

45	Short-ranged attractive colloids: What is the gel state? **2004**, 181-194		12
44	Gellan Gum Microgels as Effective Agents for a Rapid Cleaning of Paper. *ACS Applied Polymer Materials*, **2020**, 2, 2791-2801	4.3	11
43	Different scenarios of dynamic coupling in glassy colloidal mixtures. *Physical Chemistry Chemical Physics*, **2018**, 20, 18630-18638	3.6	10
42	On the Role of Competing Interactions in Charged Colloids with Short-Range Attraction. *Annual Review of Condensed Matter Physics*, **2021**, 12, 51-70	19.7	10
41	Chain dynamics in nonentangled polymer melts: A first-principle approach for the role of intramolecular barriers. *Soft Matter*, **2011**, 7, 1364	3.6	9
40	Mode-coupling theory predictions for a limited valency attractive square well model. *Journal of Physics Condensed Matter*, **2006**, 18, S2373-S2382	1.8	9
39	Slowed relaxational dynamics beyond the fluctuation□dissipation theorem. *Physica A: Statistical Mechanics and Its Applications*, **2002**, 307, 15-26	3.3	9
38	Effect of Internal Architecture on the Assembly of Soft Particles at Fluid Interfaces. *ACS Nano*, **2021** ,	16.7	9
37	Exposing a dynamical signature of the freezing transition through the sound propagation gap. *Nature Communications*, **2014**, 5, 5503	17.4	8
36	Ideal glass in attractive systems with different potentials. *Journal of Physics Condensed Matter*, **2002**, 14, 2223-2235	1.8	8
35	Tuning the rheological behavior of colloidal gels through competing interactions. *Physical Review Materials*, **2020**, 4,	3.2	8
34	Numerical insights on ionic microgels: structure and swelling behaviour. *Soft Matter*, **2019**, 15, 8113-8128	3.6	8
33	Effective potentials induced by self-assembly of patchy particles. *Soft Matter*, **2017**, 13, 6051-6058	3.6	7
32	Silica through the eyes of colloidal models--when glass is a gel. *Journal of Physics Condensed Matter*, **2011**, 23, 285101	1.8	7
31	A parameter-free description of the kinetics of formation of loop-less branched structures and gels. *Soft Matter*, **2009**,	3.6	6
30	Binary mixtures of sticky spheres using Percus-Yevick theory **2000**, 371-375		6
29	Rheological investigation of gels formed by competing interactions: A numerical study. *Journal of Chemical Physics*, **2019**, 150, 024905	3.9	6
28	Atomic scale investigation of the volume phase transition in concentrated PNIPAM microgels. *Journal of Chemical Physics*, **2020**, 152, 204904	3.9	5

27	Patchy Particle Models to Understand Protein Phase Behavior. *Methods in Molecular Biology*, **2019**, 2039, 187-208	1.4	5
26	A spherical model with directional interactions: II. Dynamics and landscape properties. *Journal of Physics Condensed Matter*, **2010**, 22, 104110	1.8	5
25	Volume fraction determination of microgel composed of interpenetrating polymer networks of PNIPAM and polyacrylic acid. *Journal of Physics Condensed Matter*, **2021**, 33,	1.8	5
24	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,	11.5	5
23	Observation of empty liquids and equilibrium gels in a colloidal clay **2013**,		4
22	Interaction between charged colloids in a low dielectric constant solvent. *Europhysics Letters*, **2008**, 81, 59901	1.6	4
21	Static and dynamic properties of block copolymer based grafted nanoparticles across the non-ergodicity transition. *Physics of Fluids*, **2020**, 32, 127101	4.4	4
20	Molecular insights on poly(-isopropylacrylamide) coil-to-globule transition induced by pressure. *Physical Chemistry Chemical Physics*, **2021**, 23, 5984-5991	3.6	4
19	Proteinlike dynamical transition of hydrated polymer chains. *Physical Review Research*, **2021**, 3,	3.9	4
18	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	9.3	4
17	Charge affinity and solvent effects in numerical simulations of ionic microgels. *Journal of Physics Condensed Matter*, **2021**, 33, 084001	1.8	3
16	Glass and Jamming Rheology in Soft Particles Made of PNIPAM and Polyacrylic Acid. *International Journal of Molecular Sciences*, **2021**, 22,	6.3	3
15	Coincidence of the freezing and the onset of caging in hard sphere and Lennard-Jones fluids. *Journal of Chemical Physics*, **2019**, 151, 104501	3.9	2
14	Multi-particle collision dynamics for a coarse-grained model of soft colloids. *Journal of Chemical Physics*, **2019**, 151, 074902	3.9	2
13	Crystallization and aging in hard-sphere glasses. *Journal of Physics Condensed Matter*, **2011**, 23, 319501	1.8	2
12	Gel Formation in Reversibly Cross-Linking Polymers. *Macromolecules*, **2021**, 54, 6613-6627	5.5	2
11	Discontinous change from thermally- to geometrically-dominated effective interactions in colloidal solutions. *Soft Matter*, **2016**, 12, 9649-9656	3.6	2
10	Modeling Solution Behavior of Poly(-isopropylacrylamide): A Comparison between Water Models.. *Journal of Physical Chemistry B*, **2022**,	3.4	2

9	The vibrational motions of particle gels. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, **2001**, 183-185, 327-334	5.1	1
8	Onset of criticality in hyper-auxetic polymer networks.. *Nature Communications*, **2022**, 13, 527	17.4	1
7	Crowding in the Eye Lens: Modeling the Multisubunit Protein Crystallin with a Colloidal Approach. *Biophysical Journal*, **2020**, 119, 2483-2496	2.9	1
6	Dynamical properties of different models of elastic polymer rings: Confirming the link between deformation and fragility. *Journal of Chemical Physics*, **2021**, 154, 154901	3.9	1
5	Are particle gels glasses **2001**, 221-225		1
4	Critical active dynamics is captured by a colored-noise driven field theory. *Communications Physics*, **2022**, 5,	5.4	1
3	Effective potentials induced by mixtures of patchy and hard co-solutes. *Journal of Chemical Physics*, **2021**, 155, 064901	3.9	0
2	Link between Morphology, Structure, and Interactions of Composite Microgels.. *Macromolecules*, **2022**, 55, 1834-1843	5.5	0
1	The role of polymer structure on water confinement in poly(N-isopropylacrylamide) dispersions. *Journal of Molecular Liquids*, **2022**, 355, 118924	6	0