Francesco Sciortino

List of Publications by Citations

424 papers	25,992 citations	87 h-index	145 g-index
441 ext. papers	27,650 ext. citations	5.6 avg, IF	7.15 L-index

#	Paper	IF	Citations
424	Phase behaviour of metastable water. *Nature*, **1992**, 360, 324-328	50.4	1465
423	Long-range correlations in nucleotide sequences. *Nature*, **1992**, 356, 168-70	50.4	1119
422	Gelation of particles with short-range attraction. *Nature*, **2008**, 453, 499-503	50.4	700
421	Relation between the Widom line and the dynamic crossover in systems with a liquid-liquid phase transition. *Proceedings of the National Academy of Sciences of the United States of America*, **2005**, 102, 16558-62	11.5	622
420	Singularity-free interpretation of the thermodynamics of supercooled water. *Physical Review E*, **1996**, 53, 6144-6154	2.4	452
419	Phase diagram of patchy colloids: towards empty liquids. *Physical Review Letters*, **2006**, 97, 168301	7.4	432
418	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
417	Inherent Structure Entropy of Supercooled Liquids. *Physical Review Letters*, **1999**, 83, 3214-3217	7.4	379
416	Effect of hydrogen bonds on the thermodynamic behavior of liquid water. *Physical Review Letters*, **1994**, 73, 1632-1635	7.4	364
415	Higher-order glass-transition singularities in colloidal systems with attractive interactions. *Physical Review E*, **2001**, 63, 011401	2.4	343
414	Fragile-to-strong transition and polyamorphism in the energy landscape of liquid silica. *Nature*, **2001**, 412, 514-7	50.4	333
413	Configurational entropy and diffusivity of supercooled water. *Nature*, **2000**, 406, 166-9	50.4	308
412	Effect of defects on molecular mobility in liquid water. *Nature*, **1991**, 354, 218-221	50.4	302
411	Supercooled water and the kinetic glass transition. *Physical Review E*, **1996**, 54, 6331-6343	2.4	295
410	Observation of empty liquids and equilibrium gels in a colloidal clay. *Nature Materials*, **2011**, 10, 56-60	27	272
409	Slow dynamics of water molecules in supercooled states. *Physical Review Letters*, **1996**, 76, 2730-2733	7.4	259
408	Liquid-Liquid Phase Transition: Evidence from Simulations. *Physical Review Letters*, **1997**, 78, 2409-2412	7.4	244

407	Network defects and molecular mobility in liquid water. *Journal of Chemical Physics*, **1992**, 96, 3857-3865	3.9	237
406	Phase diagram of Janus particles. *Physical Review Letters*, **2009**, 103, 237801	7.4	227
405	Ideal glass-glass transitions and logarithmic decay of correlations in a simple system. *Physical Review E*, **1999**, 59, R1347-R1350	2.4	214
404	Glassy colloidal systems. *Advances in Physics*, **2005**, 54, 471-524	18.4	209
403	Interplay between time-temperature transformation and the liquid-liquid phase transition in water. *Physical Review Letters*, **2002**, 88, 195701	7.4	205
402	Dynamics of simulated water under pressure. *Physical Review E*, **1999**, 60, 6757-68	2.4	205
401	Computer simulations of liquid silica: equation of state and liquid-liquid phase transition. *Physical Review E*, **2001**, 63, 011202	2.4	204
400	Saddles in the energy landscape probed by supercooled liquids. *Physical Review Letters*, **2000**, 85, 5356-9	7.4	195
399	Spinodal of liquid water. *Physical Review E*, **1993**, 48, 3799-3817	2.4	188
398	Line of compressibility maxima in the phase diagram of supercooled water. *Physical Review E*, **1997**, 55, 727-737	2.4	186
397	Self-assembly of patchy particles into polymer chains: a parameter-free comparison between Wertheim theory and Monte Carlo simulation. *Journal of Chemical Physics*, **2007**, 126, 194903	3.9	183
396	Ground-state clusters for short-range attractive and long-range repulsive potentials. *Langmuir*, **2004**, 20, 10756-63	4	177
395	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
394	Density minimum and liquid–liquid phase transition. *Journal of Physics Condensed Matter*, **2005**, 17, L431-L437	2.8	167
393	Phase diagram for amorphous solid water. *Physical Review E*, **1993**, 48, 4605-4610	2.4	163
392	Hydrogen bond cooperativity in simulated water: Time dependence analysis of pair interactions. *Journal of Chemical Physics*, **1989**, 90, 2786-2792	3.9	155
391	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
390	Potential energy landscape description of supercooled liquids and glasses. *Journal of Statistical Mechanics: Theory and Experiment*, **2005**, 2005, P05015	1.9	151

389	Equation of state of supercooled water simulated using the extended simple point charge intermolecular potential. *Journal of Chemical Physics*, **1997**, 107, 7443-7450	3.9	146
388	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
387	Liquids more stable than crystals in particles with limited valence and flexible bonds. *Nature Physics* , **2013**, 9, 554-558	16.2	132
386	Colloidal systems with competing interactions: from an arrested repulsive cluster phase to a gel. *Soft Matter*, **2009**, 5, 2390	3.6	132
385	Confirmation of anomalous dynamical arrest in attractive colloids: a molecular dynamics study. *Physical Review E*, **2002**, 66, 041402	2.4	132
384	Lifetime of the bond network and gel-like anomalies in supercooled water. *Physical Review Letters*, **1990**, 64, 1686-1689	7.4	128
383	Molecular-dynamics study of incoherent quasielastic neutron-scattering spectra of supercooled water. *Physical Review E*, **1997**, 56, 4231-4243	2.4	127
382	Reversible gels of patchy particles: role of the valence. *Journal of Chemical Physics*, **2009**, 131, 014504	3.9	125
381	Supercooled water and the kinetic glass transition. II. Collective dynamics. *Physical Review E*, **1997**, 56, 5397-5404	2.4	125
380	Scaling of dynamics with the range of interaction in short-range attractive colloids. *Physical Review Letters*, **2005**, 94, 078301	7.4	122
379	Model for reversible colloidal gelation. *Physical Review Letters*, **2005**, 94, 218301	7.4	122
378	Extension of the Fluctuation-Dissipation Theorem to the Physical Aging of a Model Glass-Forming Liquid. *Physical Review Letters*, **2001**, 86, 107-110	7.4	120
377	Aging as dynamics in configuration space. *Europhysics Letters*, **2000**, 49, 590-596	1.6	120
376	Glass-transition temperature of water: a simulation study. *Physical Review Letters*, **2004**, 93, 047801	7.4	118
375	Patterning symmetry in the rational design of colloidal crystals. *Nature Communications*, **2012**, 3, 975	17.4	116
374	A numerical study of one-patch colloidal particles: from square-well to Janus. *Physical Chemistry Chemical Physics*, **2010**, 12, 11869-77	3.6	116
373	Phase behavior and critical activated dynamics of limited-valence DNA nanostars. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 15633-7	11.5	111
372	Model for single-particle dynamics in supercooled water. *Physical Review E*, **1999**, 59, 6708-14	2.4	111

371	Advances in Computational Studies of the Liquid-Liquid Transition in Water and Water-Like Models. *Chemical Reviews*, **2018**, 118, 9129-9151	68.1	110
370	Isochoric differential scattering functions in liquid water: The fifth neighbor as a network defect. *Physical Review Letters*, **1990**, 65, 3452-3455	7.4	110
369	Static and dynamic properties of water-in-oil microemulsions near the critical and percolation points. *Journal of Physics Condensed Matter*, **1994**, 6, 10855-10883	1.8	109
368	Free energy surface of ST2 water near the liquid-liquid phase transition. *Journal of Chemical Physics*, **2013**, 138, 034505	3.9	108
367	Vapor-liquid coexistence of patchy models: relevance to protein phase behavior. *Journal of Chemical Physics*, **2007**, 127, 084902	3.9	105
366	Asymmetric caging in soft colloidal mixtures. *Nature Materials*, **2008**, 7, 780-4	27	104
365	Modeling equilibrium clusters in lysozyme solutions. *Europhysics Letters*, **2007**, 77, 48004	1.6	103
364	Slow Dynamics of Water under Pressure. *Physical Review Letters*, **1999**, 82, 3629-3632	7.4	103
363	Phase diagram of a tetrahedral patchy particle model for different interaction ranges. *Journal of Chemical Physics*, **2010**, 132, 184501	3.9	102
362	Structural arrest in dense star-polymer solutions. *Physical Review Letters*, **2003**, 90, 238301	7.4	102
361	Debye-Waller factor of liquid silica: theory and simulation. *Physical Review Letters*, **2001**, 86, 648-51	7.4	102
360	Erasing no-man's land by thermodynamically stabilizing the liquid-liquid transition in tetrahedral particles. *Nature Physics*, **2014**, 10, 653-657	16.2	101
359	Effects of patch size and number within a simple model of patchy colloids. *Journal of Chemical Physics*, **2010**, 132, 174110	3.9	101
358	Evidence of a higher-order singularity in dense short-ranged attractive colloids. *Physical Review Letters*, **2003**, 91, 268301	7.4	101
357	Arrested phase separation in a short-ranged attractive colloidal system: a numerical study. *Journal of Chemical Physics*, **2005**, 122, 224903	3.9	100
356	Mechanical properties of a model of attractive colloidal solutions. *Physical Review E*, **2001**, 63, 031501	2.4	100
355	Crystallization of tetrahedral patchy particles in silico. *Journal of Chemical Physics*, **2011**, 134, 174502	3.9	99
354	Cluster-driven dynamical arrest in concentrated lysozyme solutions. *Journal of Physical Chemistry B*, **2011**, 115, 7227-37	3.4	99

353	Free energy and configurational entropy of liquid silica: fragile-to-strong crossover and polyamorphism. *Physical Review E*, **2004**, 69, 041503	2.4	98
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351	Study of the ST2 model of water close to the liquid-liquid critical point. *Physical Chemistry Chemical Physics*, **2011**, 13, 19759-64	3.6	96
350	Reentrant phase diagram of network fluids. *Physical Review Letters*, **2011**, 106, 085703	7.4	96
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346	Harmonic Dynamics in Supercooled Liquids: The Case of Water. *Physical Review Letters*, **1997**, 78, 2385-2388	7.4	92
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343	alpha-Relaxation processes in binary hard-sphere mixtures. *Physical Review E*, **2004**, 69, 011505	2.4	89
342	Second critical point in two realistic models of water. *Science*, **2020**, 369, 289-292	33.3	89
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339	Reversible gels of patchy particles. *Current Opinion in Solid State and Materials Science*, **2011**, 15, 246-253	12	86
338	Molecular mode-coupling theory for supercooled liquids: application to water. *Physical Review E*, **1999**, 60, 5768-77	2.4	84
337	Sound propagation in liquid water: The puzzle continues. *Journal of Chemical Physics*, **1994**, 100, 3881-3893	3.9	83
336	No evidence of gas-liquid coexistence in dipolar hard spheres. *Physical Review Letters*, **2011**, 107, 237801	7.4	82

335	Gel to glass transition in simulation of a valence-limited colloidal system. *Journal of Chemical Physics*, **2006**, 124, 124908	3.9	80
334	Landscapes and fragilities. *Journal of Chemical Physics*, **2004**, 120, 10666-80	3.9	79
333	Tuning the Liquid-Liquid Transition by Modulating the Hydrogen-Bond Angular Flexibility in a Model for Water. *Physical Review Letters*, **2015**, 115, 015701	7.4	78
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330	Mixing effects for the structural relaxation in binary hard-sphere liquids. *Physical Review Letters*, **2003**, 91, 085701	7.4	78
329	Patchy particle model for vitrimers. *Physical Review Letters*, **2013**, 111, 188002	7.4	75
328	Supercooled and glassy water: Metastable liquid(s), amorphous solid(s), and a no-man's land. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 13336-13344	11.5	75
327	Thermodynamic and structural aspects of the potential energy surface of simulated water. *Physical Review E*, **2001**, 63, 041201	2.4	75
326	Instantaneous normal mode analysis of supercooled water. *Physical Review Letters*, **2000**, 84, 4605-8	7.4	75
325	Structural properties of the dipolar hard-sphere fluid at low temperatures and densities. *Soft Matter*, **2012**, 8, 6310	3.6	74
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323	Dynamical behavior near a liquid-liquid phase transition in simulations of supercooled water. *Journal of Physical Chemistry B*, **2011**, 115, 14176-83	3.4	73
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318	Potential energy landscape equation of state. *Physical Review Letters*, **2002**, 88, 225701	7.4	67

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316	Nonmonotonic magnetic susceptibility of dipolar hard-spheres at low temperature and density. *Physical Review Letters*, **2013**, 110, 148306	7.4	66
315	Phase diagram of silica from computer simulation. *Physical Review E*, **2004**, 70, 061507	2.4	66
314	Physics of the liquid-liquid critical point. *Physical Review Letters*, **2003**, 91, 155701	7.4	66
313	Gelation as arrested phase separation in short-ranged attractive colloid-polymer mixtures. *Journal of Physics Condensed Matter*, **2008**, 20, 494242	1.8	65
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311	Tailoring the flow of soft glasses by soft additives. *Physical Review Letters*, **2005**, 95, 268301	7.4	65
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309	Gels of DNA nanostars never crystallize. *ACS Nano*, **2014**, 8, 3567-74	16.7	63
308	Self-Assembly of Bifunctional Patchy Particles with Anisotropic Shape into Polymers Chains: Theory, Simulations, and Experiments. *Macromolecules*, **2012**, 45, 1090-1106	5.5	63
307	Gel-forming patchy colloids and network glass formers: thermodynamic and dynamic analogies. *European Physical Journal B*, **2008**, 64, 505-509	1.2	61
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300	Dynamics of uniaxial hard ellipsoids. *Physical Review Letters*, **2007**, 98, 265702	7.4	56

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298	Phase diagram of one-patch colloids forming tubes and lamellae. *Journal of Physical Chemistry B*, **2013**, 117, 9540-7	3.4	55
297	Free energy surface of supercooled water. *Physical Review E*, **2000**, 62, 8016-20	2.4	54
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289	Self-assembly of short DNA duplexes: from a coarse-grained model to experiments through a theoretical link. *Soft Matter*, **2012**, 8, 8388	3.6	51
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270	Equilibrium self-assembly of colloids with distinct interaction sites: thermodynamics, percolation, and cluster distribution functions. *Journal of Chemical Physics*, **2010**, 132, 234502	3.9	42
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243	Dynamic arrest in a liquid of symmetric dumbbells: reorientational hopping for small molecular elongations. *Journal of Chemical Physics*, **2005**, 123, 204505	3.9	33
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