Alberto Fernandez-Nieves

List of Publications by Citations

180	7,388	43	82
papers	citations	h-index	g-index
200	8,098	6.3	6.01
ext. papers	ext. citations	avg, IF	L-index

#	Paper	IF	Citations
180	Dripping to jetting transitions in coflowing liquid streams. *Physical Review Letters*, **2007**, 99, 094502	7.4	621
179	Designer emulsions using microfluidics. *Materials Today*, **2008**, 11, 18-27	21.8	544
178	Soft colloids make strong glasses. *Nature*, **2009**, 462, 83-6	50.4	417
177	Dripping, Jetting, Drops, and Wetting: The Magic of Microfluidics. *MRS Bulletin*, **2007**, 32, 702-708	3.2	265
176	Fabrication of monodisperse gel shells and functional microgels in microfluidic devices. *Angewandte Chemie - International Edition*, **2007**, 46, 1819-22	16.4	257
175	Charge Controlled Swelling of Microgel Particles. *Macromolecules*, **2000**, 33, 2114-2118	5.5	199
174	Frustrated nematic order in spherical geometries. *Nature Physics*, **2011**, 7, 391-394	16.2	196
173	Structural modifications in the swelling of inhomogeneous microgels by light and neutron scattering. *Physical Review E*, **2002**, 66, 051803	2.4	190
172	Novel defect structures in nematic liquid crystal shells. *Physical Review Letters*, **2007**, 99, 157801	7.4	185
171	The polymer/colloid duality of microgel suspensions. *Annual Review of Physical Chemistry*, **2012**, 63, 25-43	15.7	171
170	Drops and shells of liquid crystal. *Colloid and Polymer Science*, **2011**, 289, 345-359	2.4	160
169	Absolute instability of a liquid jet in a coflowing stream. *Physical Review Letters*, **2008**, 100, 014502	7.4	143
168	Transition from turbulent to coherent flows in confined three-dimensional active fluids. *Science*, **2017**, 355,	33.3	140
167	Colloidal assembly route for responsive colloidosomes with tunable permeability. *Nano Letters*, **2007**, 7, 2876-80	11.5	130
166	Highly responsive hydrogel scaffolds formed by three-dimensional organization of microgel nanoparticles. *Nano Letters*, **2008**, 8, 168-72	11.5	128
165	Gels and microgels for nanotechnological applications. *Advances in Colloid and Interface Science*, **2009**, 147-148, 88-108	14.3	124
164	Nematic-smectic transition in spherical shells. *Physical Review Letters*, **2011**, 106, 247802	7.4	89

163	Temperature-controlled transitions between glass, liquid, and gel states in dense p-NIPA suspensions. *Advanced Materials*, **2010**, 22, 3441-5	24	82
162	Salt effects over the swelling of ionized mesoscopic gels. *Journal of Chemical Physics*, **2001**, 115, 7644-7649	3.9	81
161	Spontaneous emergence of chirality in achiral lyotropic chromonic liquid crystals confined to cylinders. *Nature Communications*, **2015**, 6, 8067	17.4	78
160	Stable nematic droplets with handles. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 9295-300	11.5	75
159	Generation and stability of toroidal droplets in a viscous liquid. *Physical Review Letters*, **2009**, 102, 234501	7.4	75
158	The CONTIN algorithm and its application to determine the size distribution of microgel suspensions. *Journal of Chemical Physics*, **2015**, 142, 234905	3.9	74
157	Osmotic de-swelling of ionic microgel particles. *Journal of Chemical Physics*, **2003**, 119, 10383-10388	3.9	74
156	Optically Anisotropic Colloids of Controllable Shape. *Advanced Materials*, **2005**, 17, 680-684	24	72
155	Reversible Inter- and Intra-Microgel Cross-Linking using Disulfides. *Macromolecules*, **2012**, 45, 39-45	5.5	70
154	Scaling the drop size in coflow experiments. *New Journal of Physics*, **2009**, 11, 075021	2.9	69
153	Curvature-induced defect unbinding and dynamics in active nematic toroids. *Nature Physics*, **2018**, 14, 85-90	16.2	64
152	Mechanics of fire ant aggregations. *Nature Materials*, **2016**, 15, 54-9	27	63
151	Origin of de-swelling and dynamics of dense ionic microgel suspensions. *Journal of Chemical Physics* , **2012**, 136, 124905	3.9	63
150	Single-platelet nanomechanics measured by high-throughput cytometry. *Nature Materials*, **2017**, 16, 230-235	27	61
149	Suppression of instabilities in multiphase flow by geometric confinement. *Physical Review E*, **2009**, 79, 056310	2.4	61
148	Deswelling Microgel Particles Using Hydrostatic Pressure. *Macromolecules*, **2009**, 42, 6225-6230	5.5	61
147	Topological changes in bipolar nematic droplets under flow. *Physical Review Letters*, **2007**, 98, 087801	7.4	60
146	Fabrication of Monodisperse Gel Shells and Functional Microgels in Microfluidic Devices. *Angewandte Chemie*, **2007**, 119, 1851-1854	3.6	56

145	The role of ions in the self-healing behavior of soft particle suspensions. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 5576-81	11.5	56
144	Reversible Aggregation of Soft Particles. *Langmuir*, **2001**, 17, 1841-1846	4	54
143	Electro-optics of bipolar nematic liquid crystal droplets. *Physical Review Letters*, **2004**, 92, 105503	7.4	52
142	Phase switching of ordered arrays of liquid crystal emulsions. *Applied Physics Letters*, **2003**, 82, 2610-2612	3.4	52
141	Topological transformations in bipolar shells of nematic liquid crystals. *Physical Review E*, **2009**, 79, 021707	2.4	47
140	Coupled deswelling of multiresponse microgels. *Journal of Physical Chemistry B*, **2008**, 112, 12195-200	3.4	45
139	The role of □potential in the colloidal stability of different TiO2/electrolyte solution interfaces. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, **1999**, 148, 231-243	5.1	44
138	Bulk modulus of poly(N-isopropylacrylamide) microgels through the swelling transition. *Physical Review E*, **2011**, 84, 011406	2.4	43
137	Defect trajectories in nematic shells: role of elastic anisotropy and thickness heterogeneity. *Physical Review E*, **2012**, 86, 020705	2.4	43
136	Bulk and shear moduli of compressed microgel suspensions. *Physical Review E*, **2011**, 84, 060402	2.4	42
135	Form factor of pNIPAM microgels in overpacked states. *Journal of Chemical Physics*, **2014**, 141, 034901	3.9	41
134	Macroscopically probing the entropic influence of ions: deswelling neutral microgels with salt. *Physical Review E*, **2007**, 75, 011801	2.4	41
133	Biofilm formation in geometries with different surface curvature and oxygen availability. *New Journal of Physics*, **2015**, 17, 033017	2.9	40
132	Impact of single-particle compressibility on the fluid-solid phase transition for ionic microgel suspensions. *Physical Review Letters*, **2015**, 114, 098303	7.4	39
131	Amplified Photon Upconversion by Photonic Shell of Cholesteric Liquid Crystals. *Journal of the American Chemical Society*, **2017**, 139, 5708-5711	16.4	37
130	Motion of microgel particles under an external electric field. *Journal of Physics Condensed Matter*, **2000**, 12, 3605-3614	1.8	36
129	Dynamic assembly of ultrasoft colloidal networks enables cell invasion within restrictive fibrillar polymers. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 885-890	11.5	35
128	Elasticity and dynamics of particle gels in non-Newtonian melts. *Rheologica Acta*, **2008**, 47, 989-997	2.3	35

127	Thermal control over the electrophoresis of soft colloidal particles. *Langmuir*, **2006**, 22, 3586-90	4	35
126	Whipping of electrified liquid jets. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 13763-7	11.5	34
125	Electrophoresis of ionic microgel particles: from charged hard spheres to polyelectrolyte-like behavior. *Journal of Chemical Physics*, **2005**, 122, 84702	3.9	34
124	Thermodynamics of ionic microgels. *Physical Review E*, **2002**, 65, 036143	2.4	34
123	Determination of the bulk modulus of microgel particles. *Colloid and Polymer Science*, **2011**, 289, 721-728	2.4	33
122	Swelling kinetics of poly(N-isopropylacrylamide) minigels. *Journal of Physical Chemistry B*, **2006**, 110, 25729-33	3.4	33
121	Mesoscale modeling of microgel mechanics and kinetics through the swelling transition. *Applied Mathematics and Mechanics (English Edition)*, **2018**, 39, 47-62	3.2	31
120	Static light scattering from microgel particles: model of variable dielectric permittivity. *Journal of Chemical Physics*, **2004**, 120, 374-8	3.9	31
119	Phase and non-equilibrium behaviour of microgel suspensions as a function of particle stiffness. *Soft Matter*, **2012**, 8, 4141	3.6	30
118	Fabrication of novel silicone capsules with tunable mechanical properties by microfluidic techniques. *ACS Applied Materials & Interfaces*, **2013**, 5, 5247-52	9.5	30
117	Swelling Kinetics of a Microgel Shell. *Macromolecules*, **2009**, 42, 9357-9365	5.5	28
116	Bivalent defect configurations in inhomogeneous nematic shells. *Soft Matter*, **2013**, 9, 4993	3.6	27
115	Current-voltage characteristic of electrospray processes in microfluidics. *Physical Review Letters*, **2010**, 105, 154503	7.4	27
114	Stability of toroidal droplets inside yield stress materials. *Physical Review E*, **2014**, 90, 021002	2.4	26
113	The reconstruction of optical angular momentum after distortion in amplitude, phase and polarization. *Journal of Optics*, **2004**, 6, S235-S238		25
112	Phase behavior of binary and polydisperse suspensions of compressible microgels controlled by selective particle deswelling. *Physical Review E*, **2017**, 96, 032609	2.4	24
111	Modular degradable hydrogels based on thiol-reactive oxanorbornadiene linkers. *Journal of the American Chemical Society*, **2015**, 137, 4984-7	16.4	24
110	The effect of hydrostatic pressure over the swelling of microgel particles. *Soft Matter*, **2011**, 7, 6370	3.6	24

109	Effect of added free polymer on the swelling of neutral microgel particles: a thermodynamic approach. *Journal of Physical Chemistry B*, **2006**, 110, 12721-7	3.4	24
108	Experimental Test of the Ion Condensation. *Langmuir*, **2000**, 16, 4090-4093	4	24
107	Structural properties of thermoresponsive poly(N-isopropylacrylamide)-poly(ethyleneglycol) microgels. *Journal of Chemical Physics*, **2012**, 136, 214903	3.9	23
106	Capillary-Based Microfluidics-Coflow, Flow-Focusing, Electro-Coflow, Drops, Jets, and Instabilities. *Small*, **2020**, 16, e1904344	11	23
105	Transient formation of bcc crystals in suspensions of poly(N-isopropylacrylamide)-based microgels. *Physical Review E*, **2013**, 88, 052308	2.4	22
104	Structural changes of poly(N-isopropylacrylamide)-based microgels induced by hydrostatic pressure and temperature studied by small angle neutron scattering. *Journal of Chemical Physics*, **2010**, 133, 034901	3.9	22
103	Geometrical Control of Active Turbulence in Curved Topographies. *Physical Review Letters*, **2019**, 122, 168002	7.4	20
102	Defect coalescence in spherical nematic shells. *Physical Review E*, **2012**, 86, 030702	2.4	20
101	Corrugated interfaces in multiphase core-annular flow. *Physics of Fluids*, **2010**, 22, 082002	4.4	20
100	Point of zero charge estimation for a TiO2/water interface **1998**, 21-24		20
99	Ultrathin Double-Shell Capsules for High Performance Photon Upconversion. *Advanced Materials*, **2017**, 29, 1606830	24	19
98	The role of polymer polydispersity in phase separation and gelation in colloid-polymer mixtures. *Langmuir*, **2010**, 26, 3174-8	4	19
97	Absorption Properties of Microgel-PVP Composite Nanofibers Made by Electrospinning. *Macromolecular Rapid Communications*, **2010**, 31, 183-9	4.8	19
96	Gravitational compression of colloidal gels. *European Physical Journal E*, **2009**, 28, 159-64	1.5	18
95	Fabrication of structured micro and nanofibers by coaxial electrospinning. *Journal of Physics: Conference Series*, **2008**, 127, 012008	0.3	18
94	Engineering colloids with optical and geometrical anisotropies: de-coupling size monodispersity and particle properties. *Soft Matter*, **2006**, 2, 105-108	3.6	18
93	Structure formation from mesoscopic soft particles. *Physical Review E*, **2001**, 64, 051603	2.4	18
92	Dynamics of oppositely charged emulsion droplets. *Physics of Fluids*, **2015**, 27, 082003	4.4	17

91	Polypropylene Carbonate-Based Adaptive Buffer Layer for Stable Interfaces of Solid Polymer Lithium Metal Batteries. *ACS Applied Materials & Interfaces*, **2019**, 11, 27906-27912	9.5	17
90	Motion of microgels in electric fields. *Advances in Colloid and Interface Science*, **2009**, 147-148, 178-85	14.3	17
89	Dynamic light scattering from high molecular weight poly-l-lysine molecules. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, **2005**, 270-271, 335-339	5.1	17
88	Spherical nematic shells with a threefold valence. *Physical Review E*, **2016**, 94, 012703	2.4	16
87	Crystal structure of highly concentrated, ionic microgel suspensions studied by neutron scattering. *Physical Review E*, **2009**, 79, 051403	2.4	16
86	Microgels and Their Synthesis: An Introduction **2011**, 1-32		16
85	Optical manipulation and rotation of liquid crystal drops using high-index fiber-optic tweezers. *Applied Physics Letters*, **2007**, 91, 091119	3.4	16
84	Polarization dependent Bragg diffraction and electro-optic switching of three-dimensional assemblies of nematic liquid crystal droplets. *Applied Physics Letters*, **2006**, 88, 121911	3.4	16
83	Computer simulations of nematic drops: coupling between drop shape and nematic order. *Journal of Chemical Physics*, **2012**, 137, 034505	3.9	15
82	Particle-counterion clustering in highly charge-asymmetric complex fluids. *Physical Review E*, **2001**, 63, 041404	2.4	15
81	Spontaneous deswelling of microgels controlled by counterion clouds. *Physical Review E*, **2019**, 99, 042602	2.4	14
80	Swelling thermodynamics and phase transitions of polymer gels. *Nano Futures*, **2019**, 3, 042001	3.6	14
79	Ionic correlations in highly charge-asymmetric colloidal liquids. *Journal of Chemical Physics*, **2005**, 123, 054905	3.9	14
78	Structurally Stable Attractive Nanoscale Emulsions with Dipole-Dipole Interaction-Driven Interdrop Percolation. *Chemistry - A European Journal*, **2017**, 23, 4292-4297	4.8	13
77	Reverse Janssen Effect in Narrow Granular Columns. *Physical Review Letters*, **2020**, 124, 128002	7.4	13
76	Crystal structure of highly concentrated, ionic microgel suspensions studied by small-angle x-ray scattering. *Physical Review E*, **2010**, 81, 052401	2.4	13
75	Curvature-Induced Twist in Homeotropic Nematic Tori. *Physical Review Letters*, **2018**, 121, 247803	7.4	12
74	Smectic shells. *Journal of Physics Condensed Matter*, **2012**, 24, 284122	1.8	11

73	Rheology of Industrially Relevant Microgels **2011**, 327-353		11
72	Behavior and mechanics of dense microgel suspensions. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 27096-27103	11.5	11
71	Exquisite regulation of supramolecular equilibrium polymers in water: chain stoppers control length, polydispersity and viscoelasticity. *Polymer Chemistry*, **2018**, 9, 5268-5277	4.9	11
70	Charge segregation in weakly ionized microgels. *Physical Review E*, **2017**, 95, 012608	2.4	10
69	Drop size control in electro-coflow. *Applied Physics Letters*, **2011**, 99, 021910	3.4	10
68	Activity-driven changes in the mechanical properties of fire ant aggregations. *Physical Review E*, **2017**, 96, 052601	2.4	9
67	Shrinking instability of toroidal droplets. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 2871-2875	11.5	8
66	Toroidal-droplet instabilities in the presence of charge. *Physical Review E*, **2017**, 95, 033122	2.4	7
65	Altering colloidal surface functionalization using DNA encapsulated inside monodisperse gelatin microsphere templates. *Langmuir*, **2013**, 29, 5534-9	4	7
64	Microgels in Drug Delivery **2011**, 375-405		7
63	Osmotic pressure of suspensions comprised of charged microgels. *Physical Review E*, **2021**, 103, 012609	2.4	7
62	Rheology of capillary foams. *Soft Matter*, **2020**, 16, 6725-6732	3.6	6
61	Optical Microscopy of Soft Matter Systems **2016**, 165-186		6
60	Segregation of mass at the periphery of N-isopropylacrylamide-co-acrylic-acid microgels at high temperatures. *Physical Review E*, **2015**, 92, 030302	2.4	6
59	Celloidosomes via glass-based microfluidics. *Journal Physics D: Applied Physics*, **2013**, 46, 114006	3	6
58	State diagram for the electrostatic adsorption of charged colloids on confining walls: simulation and theory. *Physical Review E*, **2007**, 76, 050403	2.4	6
57	Electrophoresis of large polyelectrolyte-coated colloidal particles. *Physical Review E*, **2005**, 71, 042401	2.4	6
56	The TiO2/Electrolyte Solution Interface: Calculation of Potential Using Non-Equilibrium Theories. *Journal of Non-Equilibrium Thermodynamics*, **1998**, 23,	3.8	6

55	Extreme thermodynamics with polymer gel tori: Harnessing thermodynamic instabilities to induce large-scale deformations. *Physical Review E*, **2018**, 98, 020501	2.4	6
54	Curved boundaries and chiral instabilities - two sources of twist in homeotropic nematic tori. *Soft Matter*, **2019**, 15, 1210-1214	3.6	5
53	Rheology of Soft Materials **2016**, 149-164		5
52	Melting and Geometric Frustration in Temperature-Sensitive Colloids **2011**, 229-281		5
51	Emission modes in electro co-flow. *Physics of Fluids*, **2019**, 31, 082009	4.4	4
50	Phagocyte-Inspired Smart Microcapsules. *ACS Macro Letters*, **2019**, 8, 421-426	6.6	4
49	Determination of Microgel Structure by Small-Angle Neutron Scattering **2011**, 117-132		4
48	Structure and Thermodynamics of Ionic Microgels **2011**, 163-193		4
47	Nonlinear effects in the stability of highly charged colloidal suspensions. *Physical Review E*, **2001**, 64, 032401	2.4	4
46	Colloidal Gelation **2016**, 279-292		4
45	Simulating optical polarizing microscopy textures using Jones calculus: a review exemplified with nematic liquid crystal tori. *Journal Physics D: Applied Physics*, **2019**, 52, 213001	3	3
44	Activity effects on the nonlinear mechanical properties of fire-ant aggregations. *Physical Review E*, **2020**, 102, 012602	2.4	3
43	Defect transitions in nematic liquid-crystal capillary bridges. *Physical Review E*, **2018**, 97, 040701	2.4	3
42	Crystals and Liquid Crystals Confined to Curved Geometries **2016**, 369-386		3
41	Charge-Induced Saffman-Taylor Instabilities in Toroidal Droplets. *Physical Review Letters*, **2017**, 118, 264501	7.4	3
40	Particle migration induced by confinement of colloidal suspensions along the gravitational direction. *Physical Review E*, **2006**, 74, 051404	2.4	3
39	Orientational Correlations in Active and Passive Nematic Defects. *Physical Review Letters*, **2021**, 127, 197801	7.4	3
38	Internal structure of ultralow-crosslinked microgels: From uniform deswelling to phase separation. *Physical Review E*, **2021**, 103, 022614	2.4	3

37	Teaching Rayleigh–Plateau instabilities in the laboratory. *European Journal of Physics*, **2015**, 36, 055023	0.8	2
36	Toroidal Droplets: Growth Rates, Dispersion Relations, and Behavior in the Thick-Torus Limit. *Langmuir*, **2018**, 34, 1218-1224	4	2
35	Colloidal Crystallization **2016**, 203-248		2
34	Yielding, Flow, and Slip in Microgel Suspensions: From Microstructure to Macroscopic Rheology **2011**, 283-309		2
33	Exploiting the Optical Properties of Microgels and Hydrogels as Microlenses and Photonic Crystals in Sensing Applications **2011**, 355-374		2
32	Microgels for Oil Recovery **2011**, 407-422		2
31	Polymerization Kinetics of Microgel Particles **2011**, 33-51		2
30	Coaxial Electrospinning for Nanostructured Advanced Materials. *Materials Research Society Symposia Proceedings*, **2006**, 948, 1		2
29	Scattering Techniques **2016**, 131-148		2
28	An Introduction to the Physics of Liquid Crystals **2016**, 307-340		2
27	Entangled Granular Media **2016**, 341-354		2
26	Nematics on Curved Surfaces: Computer Simulations of Nematic Shells **2016**, 387-402		2
25	Polarized epifluorescence microscopy and the imaging of nematic liquid crystals in highly curved geometries. *Physical Review E*, **2020**, 101, 052703	2.4	1
24	Coherence-enhanced diffusion filtering applied to partially-ordered fluids. *Molecular Physics*, **2020**, 118, e1725167	1.7	1
23	Breakup dynamics of toroidal droplets in shear-thinning fluids. *Physical Review E*, **2018**, 97, 021101	2.4	1
22	Elasticity of Soft Particles and Colloids near the Jamming Threshold **2011**, 195-206		1
21	Crystallization of Microgel Spheres **2011**, 207-228		1
20	Interactions and Colloid Stability of Microgel Particles **2011**, 133-162		1

19	New Functional Microgels from Microfluidics **2011**, 53-70		1
18	Electric Field Effects **2016**, 19-28		1
17	Particles in Electric Fields **2016**, 59-80		1
16	Structural modifications in the swelling of inhomogeneous microgels by light and neutron scattering. *Physical Review E*, **2002**, 66,	2.4	1
15	Complexation of Pluronic L62 (EO)-(PO)-(EO)/aerosol-OT (sodium bis(2-ethylhexyl)sulfosuccinate) in aqueous solutions investigated by small angle neutron scattering. *Physical Chemistry Chemical Physics*, **2020**, 22, 12524-12531	3.6	0
14	Fluctuations in Particle Sedimentation **2016**, 43-58		0
13	Study of Microemulsion Composition Effect over Phosphorescence Emission of a Polycyclic Aromatic Compound. *Polycyclic Aromatic Compounds*, **2003**, 23, 237-248	1.3	0
12	Emulsions **2016**, 293-306		0
11	Colloidal Dispersions in Shear Flow **2016**, 81-110		0
10	Colloidal Fluids **2016**, 187-202		
9	Drop Generation in Controlled Fluid Flows **2016**, 1-18		
8	Latex Dispersions, Emulsions, and Microgel Particles: Electrokinetic Behavior **2015**, 3614-3628		
7	Crystals of Microgel Particles **2012**, 337-368		
6	Mechanics of Single Microgel Particles **2011**, 311-325		
5	Applications of Biopolymer Microgels **2011**, 423-450		
4	Foams **2016**, 355-368		
3	Colloidal Interactions with Optical Fields: Optical Tweezers **2016**, 111-130		
2	The Glass Transition **2016**, 249-278		

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