

# Pietro Tierno

## List of Publications by Citations

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93  
papers

2,273  
citations

29  
h-index

44  
g-index

100  
ext. papers

2,558  
ext. citations

6.5  
avg, IF

5.61  
L-index

#	Paper	IF	Citations
93	Controlled swimming in confined fluids of magnetically actuated colloidal rotors. <i>Physical Review Letters</i> , <b>2008</b> , 101, 218304	7.4	198
92	Recent advances in anisotropic magnetic colloids: realization, assembly and applications. <i>Physical Chemistry Chemical Physics</i> , <b>2014</b> , 16, 23515-28	3.6	107
91	Magnetically actuated colloidal microswimmers. <i>Journal of Physical Chemistry B</i> , <b>2008</b> , 112, 16525-8	3.4	101
90	Colloidal Microworms Propelling via a Cooperative Hydrodynamic Conveyor Belt. <i>Physical Review Letters</i> , <b>2015</b> , 115, 138301	7.4	81
89	Colloidal transport on magnetic garnet films. <i>Physical Chemistry Chemical Physics</i> , <b>2009</b> , 11, 9615-25	3.6	79
88	Viscoelasticity of dynamically self-assembled paramagnetic colloidal clusters. <i>Physical Review Letters</i> , <b>2007</b> , 98, 028301	7.4	78
87	Magnetic Propulsion of Self-Assembled Colloidal Carpets: Efficient Cargo Transport via a Conveyor-Belt Effect. <i>Physical Review Applied</i> , <b>2015</b> , 3,	4.3	76
86	Localized and delocalized motion of colloidal particles on a magnetic bubble lattice. <i>Physical Review Letters</i> , <b>2007</b> , 99, 038303	7.4	66
85	Overdamped dynamics of paramagnetic ellipsoids in a precessing magnetic field. <i>Physical Review E</i> , <b>2009</b> , 79, 021501	2.4	57
84	Depinning and collective dynamics of magnetically driven colloidal monolayers. <i>Physical Review Letters</i> , <b>2012</b> , 109, 198304	7.4	53
83	Using electroless deposition for the preparation of micron sized polymer/metal core/shell particles and hollow metal spheres. <i>Journal of Physical Chemistry B</i> , <b>2006</b> , 110, 3043-50	3.4	53
82	Propulsion of flexible polymer structures in a rotating magnetic field. <i>Journal of Physics Condensed Matter</i> , <b>2009</b> , 21, 204110	1.8	51
81	Giant transversal particle diffusion in a longitudinal magnetic ratchet. <i>Physical Review Letters</i> , <b>2010</b> , 105, 230602	7.4	49
80	Engineering of frustration in colloidal artificial ices realized on microfeatured grooved lattices. <i>Nature Communications</i> , <b>2016</b> , 7, 10575	17.4	47
79	Reconfigurable swarms of nematic colloids controlled by photoactivated surface patterns. <i>Angewandte Chemie - International Edition</i> , <b>2014</b> , 53, 10696-700	16.4	45
78	Controlled propulsion in viscous fluids of magnetically actuated colloidal doublets. <i>Physical Review E</i> , <b>2010</b> , 81, 011402	2.4	45
77	Transport of loaded and unloaded microcarriers in a colloidal magnetic shift register. <i>Journal of Physical Chemistry B</i> , <b>2007</b> , 111, 13479-82	3.4	45

76	Emergent hydrodynamic bound states between magnetically powered micropropellers. <i>Science Advances</i> , <b>2018</b> , 4, eaap9379	14.3	38
75	Magnetically driven Janus micro-ellipsoids realized via asymmetric gathering of the magnetic charge. <i>Advanced Materials</i> , <b>2011</b> , 23, 3674-9	24	38
74	Magnetically tunable bidirectional locomotion of a self-assembled nanorod-sphere propeller. <i>Nature Communications</i> , <b>2018</b> , 9, 1663	17.4	37
73	AC electrophoresis of microdroplets in anisotropic liquids: transport, assembling and reaction. <i>Soft Matter</i> , <b>2013</b> , 9, 7999	3.6	37
72	Transport and separation of biomolecular cargo on paramagnetic colloidal particles in a magnetic ratchet. <i>Journal of Physical Chemistry B</i> , <b>2008</b> , 112, 3833-7	3.4	36
71	Dipolar Rings of Microscopic Ellipsoids: Magnetic Manipulation and Cell Entrapment. <i>Physical Review Applied</i> , <b>2016</b> , 6,	4.3	35
70	Orientalional dynamics of colloidal ribbons self-assembled from microscopic magnetic ellipsoids. <i>Soft Matter</i> , <b>2016</b> , 12, 3688-95	3.6	33
69	Tunable self-healing of magnetically propelling colloidal carpets. <i>Nature Communications</i> , <b>2019</b> , 10, 2444	17.4	32
68	Assembly and Transport of Microscopic Cargos via Reconfigurable Photoactivated Magnetic Microdocking. <i>Small</i> , <b>2017</b> , 13, 1603449	11	31
67	Autonomously moving catalytic microellipsoids dynamically guided by external magnetic fields. <i>Small</i> , <b>2010</b> , 6, 1749-52	11	31
66	Magnetically driven colloidal microstirrer. <i>Journal of Physical Chemistry B</i> , <b>2007</b> , 111, 3077-80	3.4	30
65	Formation of metastable phases by spinodal decomposition. <i>Nature Communications</i> , <b>2016</b> , 7, 13067	17.4	29
64	Colloidal assembly on magnetically vibrated stripes. <i>Physical Review Letters</i> , <b>2008</b> , 100, 148304	7.4	28
63	Magnetic Propulsion of Recyclable Catalytic Nanocleaners for Pollutant Degradation. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2017</b> , 9, 23859-23868	9.5	27
62	Colloquium: Ice rule and emergent frustration in particle ice and beyond. <i>Reviews of Modern Physics</i> , <b>2019</b> , 91,	40.5	27
61	Dynamics of a paramagnetic colloidal particle driven on a magnetic-bubble lattice. <i>Physical Review E</i> , <b>2008</b> , 77, 060401	2.4	24
60	Geometric Frustration of Colloidal Dimers on a Honeycomb Magnetic Lattice. <i>Physical Review Letters</i> , <b>2016</b> , 116, 038303	7.4	23
59	Landscape-inversion phase transition in dipolar colloids: tuning the structure and dynamics of 2D crystals. <i>Physical Review Letters</i> , <b>2014</b> , 113, 198301	7.4	23

58	Synchronous vs. asynchronous transport of a paramagnetic particle in a modulated ratchet potential. <i>Europhysics Letters</i> , <b>2013</b> , 103, 28001	1.6	23
57	Rupture and healing of one-dimensional chains in a parametric magnetic ratchet potential. <i>Physical Review E</i> , <b>2007</b> , 75, 041404	2.4	22
56	Defect Dynamics in Artificial Colloidal Ice: Real-Time Observation, Manipulation, and Logic Gate. <i>Physical Review Letters</i> , <b>2016</b> , 117, 168001	7.4	22
55	Clogging and jamming of colloidal monolayers driven across disordered landscapes. <i>Communications Physics</i> , <b>2018</b> , 1,	5.4	22
54	Excluded volume causes integer and fractional plateaus in colloidal ratchet currents. <i>Physical Review Letters</i> , <b>2014</b> , 112, 048302	7.4	17
53	Tunable interactions between paramagnetic colloidal particles driven in a modulated ratchet potential. <i>Soft Matter</i> , <b>2014</b> , 10, 3915-25	3.6	17
52	Magnetically reconfigurable colloidal patterns arranged from arrays of self-assembled microscopic dimers. <i>Soft Matter</i> , <b>2012</b> , 8, 11443	3.6	16
51	Dynamic colloidal sorting on a magnetic bubble lattice. <i>Applied Physics Letters</i> , <b>2008</b> , 93, 214102	3.4	16
50	Active apolar doping determines routes to colloidal clusters and gels. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2018</b> , 115, 10618-10623	11.5	16
49	Ice rule fragility via topological charge transfer in artificial colloidal ice. <i>Nature Communications</i> , <b>2018</b> , 9, 4146	17.4	16
48	Reconfigurable Swarms of Nematic Colloids Controlled by Photoactivated Surface Patterns. <i>Angewandte Chemie</i> , <b>2014</b> , 126, 10872-10876	3.6	15
47	Propulsion and hydrodynamic particle transport of magnetically twisted colloidal ribbons. <i>New Journal of Physics</i> , <b>2017</b> , 19, 103031	2.9	14
46	Role of anisotropy in electrodynamically induced colloidal aggregates. <i>Langmuir</i> , <b>2012</b> , 28, 5981-6	4	13
45	Collective Directional Locking of Colloidal Monolayers on a Periodic Substrate. <i>Physical Review Letters</i> , <b>2020</b> , 124, 058002	7.4	12
44	Bidirectional particle transport and size selective sorting of Brownian particles in a flashing spatially periodic energy landscape. <i>Physical Chemistry Chemical Physics</i> , <b>2016</b> , 18, 26353-26357	3.6	12
43	Antipersistent random walk in a two state flashing magnetic potential. <i>Physical Review Letters</i> , <b>2012</b> , 109, 070601	7.4	12
42	Mixed-order phase transition in a colloidal crystal. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2017</b> , 114, 12906-12909	11.5	11
41	Using paramagnetic particles as repulsive templates for the preparation of membranes of controlled porosity. <i>Langmuir</i> , <b>2005</b> , 21, 9476-81	4	11

40	Enhanced diffusion and anomalous transport of magnetic colloids driven above a two-state flashing potential. <i>Soft Matter</i> , <b>2016</b> , 12, 3398-405	3.6	10
39	Nematic colloidal swarms assembled and transported on photosensitive surfaces. <i>IEEE Transactions on Nanobioscience</i> , <b>2015</b> , 14, 267-71	3.4	10
38	Shape discrimination with hexapole-dipole interactions in magic angle spinning colloidal magnetic resonance. <i>Journal of the American Chemical Society</i> , <b>2009</b> , 131, 5366-7	16.4	10
37	Particle-assisted wetting. <i>Journal of Physics Condensed Matter</i> , <b>2005</b> , 17, S465-S476	1.8	10
36	Transport and selective chaining of bidisperse particles in a travelling wave potential. <i>European Physical Journal E</i> , <b>2016</b> , 39, 54	1.5	10
35	Assembly and transport of nematic colloidal swarms above photo-patterned defects and surfaces. <i>New Journal of Physics</i> , <b>2018</b> , 20, 075006	2.9	10
34	Curvature driven transport of mouse macrophages in a pulsating magnetic garnet film ratchet. <i>Journal of Physical Chemistry B</i> , <b>2007</b> , 111, 13097-100	3.4	9
33	Enhancing Nanoparticle Diffusion on a Unidirectional Domain Wall Magnetic Ratchet. <i>Nano Letters</i> , <b>2019</b> , 19, 433-440	11.5	9
32	Magnetic assembly and annealing of colloidal lattices and superlattices. <i>Langmuir</i> , <b>2014</b> , 30, 7670-5	4	8
31	Direct measurement of Lighthill's energetic efficiency of a minimal magnetic microswimmer. <i>Nanoscale</i> , <b>2019</b> , 11, 18723-18729	7.7	8
30	Laning, thinning and thickening of sheared colloids in a two-dimensional Taylor-Couette geometry. <i>Soft Matter</i> , <b>2018</b> , 14, 5121-5129	3.6	8
29	Functional colloidal micro-sieves assembled and guided above a channel-free magnetic striped film. <i>Lab on A Chip</i> , <b>2015</b> , 15, 1765-71	7.2	7
28	Fast and rewritable colloidal assembly via field synchronized particle swapping. <i>Applied Physics Letters</i> , <b>2014</b> , 104, 174102	3.4	6
27	Collective dynamics and conformal ordering in electrophoretically driven nematic colloids. <i>Physical Review Research</i> , <b>2019</b> , 1,	3.9	6
26	Propulsion and energetics of a minimal magnetic microswimmer. <i>Soft Matter</i> , <b>2020</b> , 16, 6673-6682	3.6	5
25	Dynamical regimes of a paramagnetic particle circulating a magnetic bubble domain. <i>Physical Review E</i> , <b>2009</b> , 80, 052401	2.4	5
24	Control of particle assisted wetting by an external magnetic field. <i>Journal of Chemical Physics</i> , <b>2005</b> , 122, 094712	3.9	5
23	Energetics and the ground state quest in an artificial triangular colloidal ice. <i>Physical Review Materials</i> , <b>2018</b> , 2,	3.2	5

22	Transport and Assembly of Magnetic Surface Rotors**. <i>ChemNanoMat</i> , <b>2021</b> , 7, 881-893	3.5	5
21	Regulating wave front dynamics from the strongly discrete to the continuum limit in magnetically driven colloidal systems. <i>Scientific Reports</i> , <b>2016</b> , 6, 19932	4.9	5
20	Competing orders in colloidal kagome ice: Importance of the in-trap motion of the particles. <i>Physical Review B</i> , <b>2019</b> , 99,	3.3	4
19	Topology Restricts Quasidegeneracy in Sheared Square Colloidal Ice. <i>Physical Review Letters</i> , <b>2020</b> , 124, 238003	7.4	4
18	Evidence of Rouse-like dynamics in magnetically ratchetting colloidal chains. <i>Soft Matter</i> , <b>2011</b> , 7, 7944	3.6	4
17	Leap-frog transport of magnetically driven anisotropic colloidal rotors. <i>Journal of Chemical Physics</i> , <b>2019</b> , 150, 164901	3.9	3
16	Reconfigurable Swarms of Colloidal Particles Electrophoretically Driven in Nematic Liquid Crystals. <i>Molecular Crystals and Liquid Crystals</i> , <b>2015</b> , 610, 163-172	0.5	3
15	A Tunable Magnetic Domain Wall Conduit Regulating Nanoparticle Diffusion. <i>Nano Letters</i> , <b>2016</b> , 16, 5169-75	11.5	3
14	Unconventional dynamic hysteresis in a periodic assembly of paramagnetic colloids. <i>Physical Review E</i> , <b>2013</b> , 87, 062301	2.4	3
13	Synchronization and beating in dipolarly coupled colloidal rotators. <i>Journal of Physical Chemistry B</i> , <b>2011</b> , 115, 23-6	3.4	3
12	Field synchronized bidirectional current in confined driven colloids. <i>Physical Review Research</i> , <b>2020</b> , 2,	3.9	3
11	Inhomogeneous assembly of driven nematic colloids. <i>Soft Matter</i> , <b>2019</b> , 15, 312-320	3.6	3
10	Dynamics and clogging of colloidal monolayers magnetically driven through a heterogeneous landscape. <i>Soft Matter</i> , <b>2020</b> , 16, 6985-6992	3.6	2
9	Arrested phase separation in chiral fluids of colloidal spinners. <i>Physical Review Research</i> , <b>2021</b> , 3,	3.9	2
8	Topological Boundary Constraints in Artificial Colloidal Ice. <i>Physical Review Letters</i> , <b>2021</b> , 126, 188001	7.4	2
7	Emergent collective colloidal currents generated via exchange dynamics in a broken dimer state. <i>Science Advances</i> , <b>2020</b> , 6, eaaz2257	14.3	1
6	DYNAMICS OF A CLASSICAL PARTICLE EXTERNALLY DRIVEN ON A MAGNETIC BUBBLE LATTICE. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , <b>2010</b> , 20, 391-395	2	1
5	Thermally active nanoparticle clusters enslaved by engineered domain wall traps. <i>Nature Communications</i> , <b>2021</b> , 12, 5813	17.4	1

4	Dynamical modes of sheared confined microscale matter. <i>Soft Matter</i> , <b>2020</b> , 16, 9423-9435	3.6	1
3	Collective hydrodynamic transport of magnetic microrollers. <i>Soft Matter</i> , <b>2021</b> , 17, 8605-8611	3.6	1
2	Dynamics and interactions of magnetically driven colloidal microrotors. <i>Applied Physics Letters</i> , <b>2022</b> , 120, 081601	3.4	1
1	Hydrodynamic Interactions Can Induce Jamming in Flow-Driven Systems. <i>Physical Review Letters</i> , <b>2021</b> , 127, 214501	7.4	0