

# Darrell Velegol

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/6804917/publications.pdf>

Version: 2024-02-01

91  
papers

10,470  
citations

87723

38  
h-index

48187

88  
g-index

93  
all docs

93  
docs citations

93  
times ranked

15716  
citing authors

#	ARTICLE	IF	CITATIONS
1	Understanding biophysicochemical interactions at the nano-bio interface. <i>Nature Materials</i> , 2009, 8, 543-557.	13.3	6,046
2	Chemotaxis of Nonbiological Colloidal Rods. <i>Physical Review Letters</i> , 2007, 99, 178103.	2.9	315
3	Boundaries can steer active Janus spheres. <i>Nature Communications</i> , 2015, 6, 8999.	5.8	290
4	Origins of concentration gradients for diffusiophoresis. <i>Soft Matter</i> , 2016, 12, 4686-4703.	1.2	241
5	Understanding the Efficiency of Autonomous Nano- and Microscale Motors. <i>Journal of the American Chemical Society</i> , 2013, 135, 10557-10565.	6.6	230
6	Biomimetic behavior of synthetic particles: from microscopic randomness to macroscopic control. <i>Physical Chemistry Chemical Physics</i> , 2010, 12, 1423-1435.	1.3	173
7	Enhanced Transport into and out of Dead-End Pores. <i>ACS Nano</i> , 2015, 9, 746-753.	7.3	153
8	Positive and negative chemotaxis of enzyme-coated liposome motors. <i>Nature Nanotechnology</i> , 2019, 14, 1129-1134.	15.6	152
9	Catalytic Micropumps: Microscopic Convective Fluid Flow and Pattern Formation. <i>Journal of the American Chemical Society</i> , 2005, 127, 17150-17151.	6.6	150
10	Chemo and phototactic nano/microbots. <i>Faraday Discussions</i> , 2009, 143, 15.	1.6	142
11	Cell Traction Forces on Soft Biomaterials. I. Microrheology of Type I Collagen Gels. <i>Biophysical Journal</i> , 2001, 81, 1786-1792.	0.2	131
12	Shape-directed rotation of homogeneous micromotors via catalytic self-electrophoresis. <i>Nature Communications</i> , 2019, 10, 495.	5.8	108
13	Nanoscale Functionalization and Site-Specific Assembly of Colloids by Particle Lithography. <i>Langmuir</i> , 2005, 21, 4813-4815.	1.6	96
14	AFM Imaging Artifacts due to Bacterial Cell Height and AFM Tip Geometry. <i>Langmuir</i> , 2003, 19, 851-857.	1.6	94
15	Self-Generated Diffusioosmotic Flows from Calcium Carbonate Micropumps. <i>Langmuir</i> , 2012, 28, 15491-15497.	1.6	88
16	Analytical Model for the Effect of Surface Charge Nonuniformity on Colloidal Interactions. <i>Langmuir</i> , 2001, 17, 7687-7693.	1.6	86
17	Measurements of Charge Nonuniformity on Polystyrene Latex Particles. <i>Langmuir</i> , 2002, 18, 3454-3458.	1.6	74
18	Van der Waals Dispersion Forces between Dielectric Nanoclusters. <i>Langmuir</i> , 2007, 23, 1735-1740.	1.6	73

#	ARTICLE	IF	CITATIONS
19	Oriented Adhesion of Escherichia coli to Polystyrene Particles. Applied and Environmental Microbiology, 2003, 69, 6515-6519.	1.4	69
20	Altering Surface Charge Nonuniformity on Individual Colloidal Particles. Langmuir, 2004, 20, 3090-3095.	1.6	66
21	Site-Specific Functionalization on Individual Colloids: Size Control, Stability, and Multilayers. Langmuir, 2007, 23, 9069-9075.	1.6	66
22	Importance of Molecular Details in Predicting Bacterial Adhesion to Hydrophobic Surfaces. Langmuir, 2004, 20, 10625-10629.	1.6	65
23	Transport of Rodlike Colloids through Packed Beds. Environmental Science & Technology, 2006, 40, 6336-6340.	4.6	64
24	Magnetic Enhancement of Phototaxing Catalytic Motors. Langmuir, 2010, 26, 6308-6313.	1.6	60
25	Antimicrobial Sand via Adsorption of Cationic Moringa oleifera Protein. Langmuir, 2012, 28, 2262-2268.	1.6	58
26	van der Waals forces between nanoclusters: Importance of many-body effects. Journal of Chemical Physics, 2006, 124, 074504.	1.2	57
27	Catalytically Driven Colloidal Patterning and Transport. Journal of Physical Chemistry B, 2006, 110, 24513-24521.	1.2	56
28	Motility of Enzyme-Powered Vesicles. Nano Letters, 2019, 19, 6019-6026.	4.5	52
29	Multi-ion diffusiophoresis. Journal of Colloid and Interface Science, 2014, 424, 120-123.	5.0	51
30	A Theory of Enzyme Chemotaxis: From Experiments to Modeling. Biochemistry, 2018, 57, 6256-6263.	1.2	51
31	Nanoscale van der Waals interactions. Molecular Simulation, 2009, 35, 849-866.	0.9	49
32	Fabrication of Colloidal Doublets by a Salting Out "Quenching" Fusing Technique. Langmuir, 2006, 22, 9135-9141.	1.6	46
33	Electrophoresis of Spheroidal Particles Having a Random Distribution of Zeta Potential. Langmuir, 2000, 16, 10315-10321.	1.6	44
34	Determining the Forces between Polystyrene Latex Spheres Using Differential Electrophoresis. Langmuir, 1996, 12, 4103-4110.	1.6	43
35	Localized Electroosmosis (LEO) Induced by Spherical Colloidal Motors. Langmuir, 2014, 30, 2600-2607.	1.6	41
36	Designing van der Waals Forces between Nanocolloids. Nano Letters, 2005, 5, 169-173.	4.5	40

#	ARTICLE	IF	CITATIONS
37	E. coli adhesion to silica in the presence of humic acid. <i>Colloids and Surfaces B: Biointerfaces</i> , 2004, 39, 45-51.	2.5	39
38	Reactive micromixing eliminates fouling and concentration polarization in reverse osmosis membranes. <i>Journal of Membrane Science</i> , 2017, 542, 8-17.	4.1	39
39	Electrophoresis of Spherical Particles with a Random Distribution of Zeta Potential or Surface Charge. <i>Journal of Colloid and Interface Science</i> , 2000, 230, 114-121.	5.0	37
40	Probing the Structure of Colloidal Doublets by Electrophoretic Rotation. <i>Langmuir</i> , 1996, 12, 675-685.	1.6	34
41	In-solution assembly of colloidal water. <i>Soft Matter</i> , 2009, 5, 1263-1268.	1.2	33
42	Diffusiophoresis contributes significantly to colloidal fouling in low salinity reverse osmosis systems. <i>Journal of Membrane Science</i> , 2015, 479, 67-76.	4.1	33
43	Particle Deposition on Microporous Membranes Can Be Enhanced or Reduced by Salt Gradients. <i>Langmuir</i> , 2014, 30, 793-799.	1.6	32
44	Particle Zeta Potentials Remain Finite in Saturated Salt Solutions. <i>Langmuir</i> , 2016, 32, 11837-11844.	1.6	31
45	Assembling colloidal devices by controlling interparticle forces. <i>Journal of Nanophotonics</i> , 2007, 1, 012502.	0.4	29
46	Scalable Manufacturing of Plasmonic Nanodisk Dimers and Cusp Nanostructures Using Salting-out Quenching Method and Colloidal Lithography. <i>ACS Nano</i> , 2011, 5, 5838-5847.	7.3	28
47	Chemotaxis of Molecular Dyes in Polymer Gradients in Solution. <i>Journal of the American Chemical Society</i> , 2017, 139, 15588-15591.	6.6	28
48	Polloidal Chains from Self-Assembly of Flattened Particles. <i>Langmuir</i> , 2013, 29, 10340-10345.	1.6	26
49	Fabrication of stable anisotropic microcapsules. <i>Soft Matter</i> , 2009, 5, 827.	1.2	25
50	Controlled Flats on Spherical Polymer Colloids. <i>Langmuir</i> , 2010, 26, 7644-7649.	1.6	24
51	Collagen Gel Anisotropy Measured by 2-D Laser Trap Microrheometry. <i>Annals of Biomedical Engineering</i> , 2007, 35, 1231-1246.	1.3	21
52	Modulation of Spatiotemporal Particle Patterning in Evaporating Droplets: Applications to Diagnostics and Materials Science. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 43352-43362.	4.0	21
53	Measuring Colloidal Forces Using Differential Electrophoresis. <i>Langmuir</i> , 2000, 16, 3372-3384.	1.6	20
54	Laser trap studies of end-on E. coli adhesion to glass. <i>Colloids and Surfaces B: Biointerfaces</i> , 2006, 50, 66-71.	2.5	18

#	ARTICLE	IF	CITATIONS
55	Simple Fabrication of Metallic Colloidal Doublets Having Electrical Connectivity. <i>Langmuir</i> , 2008, 24, 4335-4339.	1.6	18
56	Maskless Fabrication of Nanowells Using Chemically Reactive Colloids. <i>Nano Letters</i> , 2011, 11, 672-676.	4.5	18
57	Force Measurements between Weakly Attractive Polystyrene Particles. <i>Langmuir</i> , 2002, 18, 7328-7333.	1.6	17
58	Sediments of soft spheres arranged by effective density. <i>Nature Materials</i> , 2011, 10, 716-721.	13.3	17
59	7 Log Virus Removal in a Simple Functionalized Sand Filter. <i>Environmental Science &amp; Technology</i> , 2019, 53, 12706-12714.	4.6	17
60	Localized Functionalization of Individual Colloidal Carriers for Cell Targeting and Imaging. <i>Biomacromolecules</i> , 2007, 8, 1958-1965.	2.6	15
61	Self-Assembly of Doublets from Flattened Polymer Colloids. <i>Langmuir</i> , 2012, 28, 4086-4094.	1.6	15
62	Nonuniform Crowding Enhances Transport. <i>ACS Nano</i> , 2019, 13, 8946-8956.	7.3	15
63	Prolonging Density Gradient Stability. <i>Langmuir</i> , 2010, 26, 4725-4731.	1.6	14
64	Force Measurements between Colloidal Particles of Identical Zeta Potentials Using Differential Electrophoresis. <i>Langmuir</i> , 2003, 19, 4090-4095.	1.6	13
65	Three-body interactions involving clusters and films. <i>Physical Review B</i> , 2003, 68, .	1.1	13
66	Self-Generated Electrokinetic Fluid Flows during Pseudomorphic Mineral Replacement Reactions. <i>Langmuir</i> , 2016, 32, 5233-5240.	1.6	13
67	Charge nonuniformity light scattering. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2005, 267, 79-85.	2.3	12
68	Simple fabrication of snowman-like colloids. <i>Journal of Colloid and Interface Science</i> , 2012, 371, 28-33.	5.0	12
69	<i>Moringa oleifera</i> Seed Protein Adsorption to Silica: Effects of Water Hardness, Fractionation, and Fatty Acid Extraction. <i>Langmuir</i> , 2018, 34, 4852-4860.	1.6	12
70	Electrophoresis of randomly charged particles. <i>Electrophoresis</i> , 2002, 23, 2023.	1.3	11
71	Force Measurements between Sub-100 nm Colloidal Particles. <i>Langmuir</i> , 2007, 23, 1275-1280.	1.6	10
72	Rayleigh-Bénard Instability in Sedimentation. <i>Industrial &amp; Engineering Chemistry Research</i> , 2009, 48, 2414-2421.	1.8	10

#	ARTICLE	IF	CITATIONS
73	Localized Quorum Sensing in <i>Vibrio fischeri</i> . <i>Colloids and Surfaces B: Biointerfaces</i> , 2008, 62, 180-187.	2.5	9
74	Design and Characterization of Randomly Speckled Spheres. <i>Langmuir</i> , 2008, 24, 7618-7622.	1.6	9
75	Chemical Game Theory. <i>Industrial &amp; Engineering Chemistry Research</i> , 2018, 57, 13593-13607.	1.8	9
76	Differences between Chemisorbed and Physisorbed Biomolecules on Particle Deposition to Hydrophobic Surfaces. <i>Environmental Science &amp; Technology</i> , 2005, 39, 6371-6377.	4.6	7
77	Fully retarded van der Waals interaction between dielectric nanoclusters. <i>Journal of Chemical Physics</i> , 2006, 125, 174303.	1.2	7
78	Van der Waals energy of a 1-dimensional lattice. <i>Molecular Physics</i> , 2008, 106, 1587-1596.	0.8	7
79	Limitations of Differential Electrophoresis for Measuring Colloidal Forces: A Brownian Dynamics Study. <i>Langmuir</i> , 2005, 21, 10074-10081.	1.6	5
80	Evaluating Randomness of Charge Distribution on Colloidal Particles Using Stationary Electrophoresis Angles. <i>Langmuir</i> , 2003, 19, 4592-4596.	1.6	4
81	Functional colloidal trimers by quenched electrostatic assembly. <i>Physical Chemistry Chemical Physics</i> , 2010, 12, 11930.	1.3	4
82	Digitally Coupled Learning and Innovation Processes. <i>Industrial &amp; Engineering Chemistry Research</i> , 2019, 58, 22445-22455.	1.8	4
83	Measuring Particle Diameter and Particle~Particle Gap with Nanometer Precision Using an Optical Microscope. <i>Industrial &amp; Engineering Chemistry Research</i> , 2001, 40, 3042-3047.	1.8	3
84	Reducing Surface Charge Nonuniformity on Individual Particles through Annealing. <i>Industrial &amp; Engineering Chemistry Research</i> , 2004, 43, 3478-3483.	1.8	3
85	Microfactories for colloidal assemblies. <i>AIChE Journal</i> , 2010, 56, 564-569.	1.8	2
86	Modeling the formation of 2,3,7,8-tetrachlorodibenzo-p-dioxin in the historical manufacture of 2,4,5-trichlorophenol. <i>Environmental Forensics</i> , 2017, 18, 307-317.	1.3	2
87	Gambling on Innovation. <i>Industrial &amp; Engineering Chemistry Research</i> , 2021, 60, 7689-7699.	1.8	2
88	Orientation of irreversible adhesion of spherical particles on prolate spheroidal collectors. <i>Journal of Colloid and Interface Science</i> , 2006, 299, 696-702.	5.0	1
89	Brownian sampling in an unbounded space. <i>Journal of Colloid and Interface Science</i> , 2004, 274, 334-336.	5.0	0
90	The Design and Control of Catalytic Motors: Manipulating Colloids and Fluids with Self-Generated Forces. <i>Materials Research Society Symposia Proceedings</i> , 2006, 944, 1.	0.1	0

#	ARTICLE	IF	CITATIONS
91	Sustainable energy corps: Building a global collaboration to accelerate transition to a low carbon world. Chemical Engineering Science: X, 2021, 10, 100099.	1.5	0