# Alexander Leshansky

List of Publications by Year
in descending order



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|---|---|---|---|
| 65 papers | 3,228 citations | 201385 27 h-index | 149479 56 g-index |
| 67 all docs | 67 docs citations | 67 times ranked | 3253 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Swimming by reciprocal motion at low Reynolds number. Nature Communications, 2014, 5, 5119. | 5.8 | 349 |
| 2 | Chaos and threshold for irreversibility in sheared suspensions. Nature, 2005, 438, 997-1000. | 13.7 | 286 |
| 3 | Nanopropellers and Their Actuation in Complex Viscoelastic Media. ACS Nano, 2014, 8, 8794-8801. | 7.3 | 286 |
| 4 | Tunable Nonlinear Viscoelastic â€œFocusingâ€•in a Microfluidic Device. Physical Review Letters, 2007, 98, 234501. | 2.9 | 259 |
| 5 | Highly Efficient Freestyle Magnetic Nanoswimmer. Nano Letters, 2017, 17, 5092-5098. | 4.5 | 182 |
| 6 | Breakup of drops in a microfluidic T junction. Physics of Fluids, 2009, 21, . | 1.6 | 176 |
| 7 | Enhanced low-Reynolds-number propulsion in heterogeneous viscous environments. Physical Review E, 2009, 80, 051911. | 0.8 | 129 |
| 8 | The chiral magnetic nanomotors. Nanoscale, 2014, 6, 1580-1588. | 2.8 | 111 |
| 9 | Step-emulsification in a microfluidic device. Lab on A Chip, 2015, 15, 1023-1031. | 3.1 | 96 |
| 10 | Obstructed Breakup of Slender Drops in a Microfluidic<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>T</mml:mi></mml:math>Junction. Physical Review Letters, 2012, 108, 264502. | 2.9 | 93 |
| 11 | Optimal Length of Low Reynolds Number Nanopropellers. Nano Letters, 2015, 15, 4412-4416. | 4.5 | 78 |
| 12 | Numerical investigation of elongated drops in a microfluidic T-junction. Physics of Fluids, 2011, 23, . | 1.6 | 72 |
| 13 | A frictionless microswimmer. New Journal of Physics, 2007, 9, 145-145. | 1.2 | 67 |
| 14 | Helical Nanomachines as Mobile Viscometers. Advanced Functional Materials, 2018, 28, 1705687. | 7.8 | 63 |
| 15 | Surface tank treading: Propulsion of Purcellâ€™s toroidal swimmer. Physics of Fluids, 2008, 20, 063104. | 1.6 | 59 |
| 16 | Dynamics of arbitrary shaped propellers driven by a rotating magnetic field. Physical Review Fluids, 2017, 2, . | 1.0 | 59 |
| 17 | Droplets in Microchannels: Dynamical Properties of the Lubrication Film. Physical Review Letters, 2015, 115, 064501. | 2.9 | 58 |
| 18 | Spray-Coating Route for Highly Aligned and Large-Scale Arrays of Nanowires. ACS Nano, 2012, 6, 4702-4712. | 7.3 | 54 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Undulatory locomotion of finite filaments: lessons fromCaenorhabditis elegans. New Journal of Physics, 2013, 15, 075022. | 1.2 | 48 |
| 20 | Droplet generation at Hele-Shaw microfluidic T-junction. Physics of Fluids, 2019, 31, . | 1.6 | 47 |
| 21 | Direct Measurement of Helical Cell Motion of the Spirochete Leptospira. Biophysical Journal, 2014, 106, 47-54. | 0.2 | 43 |
| 22 | On the forced convective heat transport in a droplet-laden flow in microchannels. Microfluidics and Nanofluidics, 2008, 4, 533-542. | 1.0 | 42 |
| 23 | Autonomous bacterial nanoswimmers target cancer. Journal of Controlled Release, 2017, 257, 68-75. | 4.8 | 39 |
| 24 | Dynamics and polarization of superparamagnetic chiral nanomotors in a rotating magnetic field. Nanoscale, 2014, 6, 12142-12150. | 2.8 | 38 |
| 25 | Geometric constraints and optimization in externally driven propulsion. Science Robotics, 2018, 3, . | 9.9 | 34 |
| 26 | Dynamic structure factor study of diffusion in strongly sheared suspensions. Journal of Fluid Mechanics, 2005, 527, 141-169. | 1.4 | 30 |
| 27 | Microfluidic step-emulsification in axisymmetric geometry. Lab on A Chip, 2017, 17, 3609-3620. | 3.1 | 30 |
| 28 | Efficiency of cargo towing by a microswimmer. Physical Review E, 2008, 77, 055305. | 0.8 | 27 |
| 29 | Do small swimmers mix the ocean?. Physical Review E, 2010, 82, 025301. | 0.8 | 27 |
| 30 | Role of symmetry in driven propulsion at low Reynolds number. Physical Review E, 2018, 98, . | 0.8 | 27 |
| 31 | Thermocapillary interaction between a solid particle and a liquid-gas interface. Physics of Fluids, 1997, 9, 2818-2827. | 1.6 | 21 |
| 32 | Collective diffusion in sheared colloidal suspensions. Journal of Fluid Mechanics, 2008, 597, 305-341. | 1.4 | 21 |
| 33 | Phytoplankton's motion in turbulent ocean. Physical Review E, 2015, 92, 013017. | 0.8 | 19 |
| 34 | Spontaneous thermocapillary interaction of drops, bubbles and particles: Unsteady convective effects at low Peclet numbers. Physics of Fluids, 1999, 11, 1768-1780. | 1.6 | 16 |
| 35 | Thermocapillary migration of bubbles: convective effects at low PÃ©clet number. Journal of Fluid Mechanics, 2001, 443, 377-401. | 1.4 | 15 |
| 36 | Double emulsions with ultrathin shell by microfluidic step-emulsification. Lab on A Chip, 2021, 21, 1613-1622. | 3.1 | 15 |

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|---|---|---|---|
| 37 | Printing Nanostructures with a Propelled Antiâ€Pinning Ink Droplet. Advanced Functional Materials, 2015, 25, 2411-2419. | 7.8 | 14 |
| 38 | Fundamental solution of unsteady Stokes equations and force on an oscillating sphere near a wall. Physical Review E, 2018, 98, . | 0.8 | 14 |
| 39 | Thermocapillary Alignment of Gas Bubbles Induced by Convective Transport. Journal of Colloid and Interface Science, 2001, 240, 544-551. | 5.0 | 13 |
| 40 | Modeling and analysis of hydrodynamic and physico-chemical effects in bacterial deposition on surfaces. Biofouling, 2013, 29, 977-989. | 0.8 | 13 |
| 41 | On the influence of mass transfer on coalescence of bubbles. International Journal of Multiphase Flow, 2001, 27, 189-196. | 1.6 | 12 |
| 42 | The rheologic properties of erythrocytes: a study using an automated rheoscope. Rheologica Acta, 2007, 46, 621-627. | 1.1 | 12 |
| 43 | Towards focusing of a swarm of magnetic micro/nanomotors. Physical Chemistry Chemical Physics, 2020, 22, 16407-16420. | 1.3 | 11 |
| 44 | Spontaneous Interaction of Drops, Bubbles and Particles in Viscous Fluid Driven by Capillary Inhomogeneities. Industrial & Engineering Chemistry Research, 2002, 41, 357-366. | 1.8 | 10 |
| 45 | Unidirectional Propulsion of Planar Magnetic Nanomachines. Physical Review Applied, 2019, 12, . | 1.5 | 10 |
| 46 | Actin-based propulsion of a microswimmer. Physical Review E, 2006, 74, 012901. | 0.8 | 9 |
| 47 | Shape-controlled anisotropy of superparamagnetic micro-/nanohelices. Nanoscale, 2016, 8, 14127-14138. | 2.8 | 9 |
| 48 | Photonics of Template-Mediated Lattices of Colloidal Clusters. Langmuir, 2019, 35, 3987-3991. | 1.6 | 9 |
| 49 | Dynamics of Thin Liquid Films with Nonsoluble Surfactants:Â Weakly Nonlinear Analysis. Langmuir, 2000, 16, 2049-2051. | 1.6 | 7 |
| 50 | The leading effect of fluid inertia on the motion of rigid bodies at low Reynolds number. Journal of Fluid Mechanics, 2004, 505, 235-248. | 1.4 | 7 |
| 51 | Nonlinear rupture of thin liquid films on solid surfaces. Physical Review E, 2005, 71, 040601. | 0.8 | 6 |
| 52 | Controlling Marangoni flow directionality: patterning nano-materials using sessile and sliding volatile droplets. European Physical Journal: Special Topics, 2017, 226, 1307-1324. | 1.2 | 6 |
| 53 | The weakly inertial settling of particles in a viscous fluid. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2003, 459, 3079-3098. | 1.0 | 5 |
| 54 | Convective stability of turbulent Boussinesq flow in the dissipative range and flow around small particles. Physical Review E, 2014, 90, 053002. | 0.8 | 5 |

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|---|---|---|---|
| 55 | Fluid-Mediated Force on a Particle Due to an Oscillating Plate and Its Effect on Deposition Measurements by a Quartz Crystal Microbalance. Physical Review Letters, 2020, 125, 144501. | 2.9 | 5 |
| 56 | Force on a sphere via the generalized reciprocal theorem. Physics of Fluids, 2004, 16, 843-844. | 1.6 | 4 |
| 57 | Flexible helical yarn swimmers. European Physical Journal E, 2016, 39, 87. | 0.7 | 4 |
| 58 | Modeling Propulsion of Soft Magnetic Nanowires. Frontiers in Robotics and AI, 2020, 7, 595777. | 2.0 | 4 |
| 59 | Theory of hydrodynamic interaction of two spheres in wall-bounded shear flow. Physical Review Fluids, 2020, 5, . | 1.0 | 4 |
| 60 | Rupture of thin liquid films: Generalization of weakly nonlinear theory. Physical Review E, 2011, 83, 031603. | 0.8 | 3 |
| 61 | Integral representation of channel flow with interacting particles. Physical Review E, 2017, 96, 063110. | 0.8 | 3 |
| 62 | Mobility of a Slender Object in Entangled Polymer Solution. Macromolecules, 0, , . | 2.2 | 3 |
| 63 | Biphasic co-flow through a sudden expansion or contraction of a Hele-Shaw channel. Physical Review Fluids, 2021, 6, . | 1.0 | 2 |
| 64 | Thermocapillary motion of a slender viscous droplet in a channel. Physics of Fluids, 2012, 24, 022102. | 1.6 | 1 |
| 65 | The Oseen problem for a finite collection of spheres settling in a viscous liquid. European Journal of Mechanics, B/Fluids, 2012, 31, 71-79. | 1.2 | 1 |