Idan Tuval

List of Publications by Year
in descending order

52 papers	3,384 citations	236612 25 h-index	197535 49 g-index
53 all docs	53 docs citations	53 times ranked	2785 citing authors

#	Article	IF	Citations
1	Bacterial swimming and oxygen transport near contact lines. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 2277-2282.	3.3	539
2	Chlamydomonas Swims with Two â€œGearsâ€•in a Eukaryotic Version of Run-and-Tumble Locomotion. Science, 2009, 325, 487-490.	6.0	371
3	Direct Measurement of the Flow Field around Swimming Microorganisms. Physical Review Letters, 2010, 105, 168101.	2.9	339
4	DancingVolvox: Hydrodynamic Bound States of Swimming Algae. Physical Review Letters, 2009, 102, 168101.	2.9	291
5	Noise and Synchronization in Pairs of Beating Eukaryotic Flagella. Physical Review Letters, 2009, 103, 168103.	2.9	191
6	Fluid-dynamical basis of the embryonic development of left-right asymmetry in vertebrates. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 7234-7239.	3.3	177
7	On the Necessary Conditions for Non-Equivalent Solutions of the Rotlet-Induced Stokes Flow in a Sphere: Towards a Minimal Model for Fluid Flow in the Kupfferâ€™s Vesicle. Mathematics, 2020, 8, 1.	1.1	173
8	Frontiers of chaotic advection. Reviews of Modern Physics, 2017, 89, .	16.4	146
9	Fidelity of adaptive phototaxis. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 11171-11176.	3.3	123
10	Microfluidics of cytoplasmic streaming and its implications for intracellular transport. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 3663-3667.	3.3	102
11	Ostwald Ripening, Chiral Crystallization, and the Common-Ancestor Effect. Physical Review Letters, 2007, 98, 165501.	2.9	78
12	Microalgae Scatter off Solid Surfaces by Hydrodynamic and Contact Forces. Physical Review Letters, 2015, 115, 258102.	2.9	69
13	Chiral Symmetry Breaking during Crystallization: An Advection-Mediated Nonlinear Autocatalytic Process. Physical Review Letters, 2004, 93, 035502.	2.9	65
14	Fluid dynamics in developmental biology: Moving fluids that shape ontogeny. HFSP Journal, 2009, 3, 77-93.	2.5	63
15	Emergence of Synchronized Beating during the Regrowth of Eukaryotic Flagella. Physical Review Letters, 2011, 107, 148103.	2.9	59
16	Antiphase Synchronization in a Flagellar-Dominance Mutant ofChlamydomonas. Physical Review Letters, 2013, 111, 158101.	2.9	57
17	Embryonic nodal flow and the dynamics of nodal vesicular parcels. Journal of the Royal Society Interface, 2007, 4, 49-56.	1.5	46
18	Phototaxis beyond turning: persistent accumulation and response acclimation of the microalga Chlamydomonas reinhardtii. Scientific Reports, 2017, 7, 3447.	1.6	44

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19	Natureâ€™s Microfluidic Transporter: Rotational Cytoplasmic Streaming at High PÃ©clet Numbers. Physical Review Letters, 2008, 101, 178102.	2.9	39
20	Anchor Ice and Benthic Disturbance in Shallow Antarctic Waters: Interspecific Variation in Initiation and Propagation of Ice Crystals. Biological Bulletin, 2011, 221, 155-163.	0.7	35
21	Dynamic modeling of the electric transportation network. Europhysics Letters, 2005, 71, 318-324.	0.7	33
22	Brinicles as a Case of Inverse Chemical Gardens. Langmuir, 2013, 29, 7655-7660.	1.6	33
23	Control of Particles in Microelectrode Devices. Physical Review Letters, 2005, 95, 236002.	2.9	29
24	Bailout Embeddings and Neutrally Buoyant Particles in Three-Dimensional Flows. Physical Review Letters, 2002, 89, 264501.	2.9	28
25	Opening up fractal structures of three-dimensional flows via leaking. Europhysics Letters, 2004, 65, 633-639.	0.7	25
26	Fluid dynamics of nodal flow and leftâ€“right patterning in development. Developmental Dynamics, 2008, 237, 3477-3490.	0.8	24
27	Collective sinking promotes selective cell pairing in planktonic pennate diatoms. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 15997-16002.	3.3	21
28	Phytoplankton Orientation in a Turbulent Ocean: A Microscale Perspective. Frontiers in Marine Science, 2020, 7, .	1.2	18
29	Light Control of Localized Photobioconvection. Physical Review Letters, 2019, 123, 158101.	2.9	16
30	Chemosensing versus mechanosensing in nodal and Kupffer's vesicle cilia and in other leftâ€“right organizer organs. Philosophical Transactions of the Royal Society B: Biological Sciences, 2020, 375, 20190566.	1.8	16
31	Microscale Patches of Nonmotile Phytoplankton. Physical Review Letters, 2015, 114, 128102.	2.9	15
32	Advection by ocean currents modifies phytoplankton size structure. Journal of the Royal Society Interface, 2017, 14, 20170046.	1.5	13
33	Geometric Mixing, Peristalsis, and the Geometric Phase of the Stomach. PLoS ONE, 2015, 10, e0130735.	1.1	12
34	Turbulence induces clustering and segregation of non-motile, buoyancy-regulating phytoplankton. Journal of the Royal Society Interface, 2019, 16, 20190324.	1.5	12
35	Dynamics of tidal synchronization and orbit circularization of celestial bodies. Physical Review E, 2008, 78, 036216.	0.8	10
36	Photo-bioconvection: towards light control of flows in active suspensions. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190523.	1.6	10

#	Article	IF	Citations
37	Sperm chemotaxis is driven by the slope of the chemoattractant concentration field. ELife, 2020, 9, .	2.8	10
38	Analysis of sperm chemotaxis. Methods in Cell Biology, 2019, 151, 473-486.	0.5	9
39	On the fate of sinking diatoms: the transport of active buoyancy-regulating cells in the ocean. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190529.	1.6	8
40	Method for the determination of preferential orientation of marine particles from laser diffraction measurements. Optics Express, 2020, 28, 14085.	1.7	7
41	Fluid dynamics of establishing leftâ€“right patterning in development. Birth Defects Research Part C: Embryo Today Reviews, 2008, 84, 95-101.	3.6	6
42	Microbial narrow-escape is facilitated by wall interactions. Physical Review Research, 2022, 4, .	1.3	6
43	Bubbling and on-off intermittency in bailout embeddings. Physical Review E, 2003, 68, 016217.	0.8	5
44	Chapter 12 Motility and Guidance of Sea Urchin Sperm. , 2020, , 249-276.		3
45	NOISE-INDUCED ORDER OUT OF CHAOS BY BAILOUT EMBEDDING. Fluctuation and Noise Letters, 2002, 02, R161-R174.	1.0	2
46	Geometric phases in discrete dynamical systems. Physics Letters, Section A: General, Atomic and Solid State Physics, 2016, 380, 3485-3489.	0.9	2
47	Runaway Electrification of Friable Self-Replicating Granular Matter. Langmuir, 2013, 29, 12874-12878.	1.6	1
48	Synchronized Cell Motion without Fluid Interactions. Physics Magazine, 2015, 8, .	0.1	1
49	Geometric mixing. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20200168.	1.6	1
50	Pelagic diatoms communicate through synchronized beacon natural fluorescence signaling. Science Advances, 2021, 7, eabj5230.	4.7	1
51	Bailout Embedding as a Blowout Bifurcation. Progress of Theoretical Physics Supplement, 2003, 150, 465-468.	0.2	0
52	AC Electrokinetic Stirring and Focusing of Nanoparticles. , 2006, , 243-255.		0