

Lisa J Fauci

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

64
papers

3,020
citations

29
h-index

54
g-index

65
ext. papers

3,370
ext. citations

3.6
avg, IF

5.35
L-index

#	Paper	IF	Citations
64	Resilience of neural networks for locomotion. <i>Journal of Physiology</i> , 2021 , 599, 3825-3840	3.9	2
63	Flexible filaments buckle into helicoidal shapes in strong compressional flows. <i>Nature Physics</i> , 2020 , 16, 689-694	16.2	17
62	Effects of cell morphology and attachment to a surface on the hydrodynamic performance of unicellular choanoflagellates. <i>Journal of the Royal Society Interface</i> , 2019 , 16, 20180736	4.1	8
61	Complex dynamics of long, flexible fibers in shear. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2019 , 269, 73-81	2.7	14
60	Elastohydrodynamics of swimming helices: Effects of flexibility and confinement. <i>Physical Review Fluids</i> , 2019 , 4,	2.8	6
59	Mixing and pumping by pairs of helices in a viscous fluid. <i>Physical Review E</i> , 2018 , 97, 023101	2.4	7
58	Bistability in the synchronization of actuated microfilaments. <i>Journal of Fluid Mechanics</i> , 2018 , 836, 304-323	3.7	24
57	The role of curvature feedback in the energetics and dynamics of lamprey swimming: A closed-loop model. <i>PLoS Computational Biology</i> , 2018 , 14, e1006324	5	12
56	A Model for the Acrosome Reaction in Mammalian Sperm. <i>Bulletin of Mathematical Biology</i> , 2018 , 80, 2481-2501	2.1	9
55	Swimming performance, resonance and shape evolution in heaving flexible panels. <i>Journal of Fluid Mechanics</i> , 2018 , 847, 386-416	3.7	25
54	Dynamics of a macroscopic elastic fibre in a polymeric cellular flow. <i>Journal of Fluid Mechanics</i> , 2017 , 817, 388-405	3.7	4
53	Interaction of toroidal swimmers in Stokes flow. <i>Physical Review E</i> , 2017 , 95, 043102	2.4	7
52	Role of body stiffness in undulatory swimming: Insights from robotic and computational models. <i>Physical Review Fluids</i> , 2016 , 1,	2.8	36
51	Enhanced flagellar swimming through a compliant viscoelastic network in Stokes flow. <i>Journal of Fluid Mechanics</i> , 2016 , 792, 775-797	3.7	25
50	Regularized image system for Stokes flow outside a solid sphere. <i>Journal of Computational Physics</i> , 2016 , 317, 165-184	4.1	10
49	A fully three-dimensional model of the interaction of driven elastic filaments in a Stokes flow with applications to sperm motility. <i>Journal of Biomechanics</i> , 2015 , 48, 1639-51	2.9	26
48	A model of Stokesian peristalsis and vesicle transport in a three-dimensional closed cavity. <i>Journal of Biomechanics</i> , 2015 , 48, 1631-8	2.9	20

47	Flow Induced by Bacterial Carpets and Transport of Microscale Loads. <i>The IMA Volumes in Mathematics and Its Applications</i> , 2015 , 35-53	0.5	5
46	The effect of intrinsic muscular nonlinearities on the energetics of locomotion in a computational model of an anguilliform swimmer. <i>Journal of Theoretical Biology</i> , 2015 , 385, 119-29	2.3	22
45	Hydrodynamic interactions of sheets vs filaments: Synchronization, attraction, and alignment. <i>Physics of Fluids</i> , 2015 , 27, 121901	4.4	20
44	Hydrodynamics of diatom chains and semiflexible fibres. <i>Journal of the Royal Society Interface</i> , 2014 , 11, 20140314	4.1	27
43	The dynamics of sperm detachment from epithelium in a coupled fluid-biochemical model of hyperactivated motility. <i>Journal of Theoretical Biology</i> , 2014 , 354, 81-94	2.3	30
42	Computing Flows Around Microorganisms: Slender-Body Theory and Beyond. <i>American Mathematical Monthly</i> , 2014 , 121, 810	0.3	6
41	Modeling viscoelastic networks in Stokes flow. <i>Physics of Fluids</i> , 2014 , 26, 113102	4.4	11
40	The role of mechanical resonance in the neural control of swimming in fishes. <i>Zoology</i> , 2014 , 117, 48-56	1.7	30
39	Error estimation for immersed interface solutions. <i>Discrete and Continuous Dynamical Systems - Series B</i> , 2012 , 17, 1185-1203	1.3	1
38	Hydrodynamic effects of spines: A different spin. <i>Limnology & Oceanography Fluids & Environments</i> , 2011 , 1, 110-119		17
37	The action of waving cylindrical rings in a viscous fluid. <i>Journal of Fluid Mechanics</i> , 2011 , 671, 574-586	3.7	17
36	Shape oscillations of a droplet in an Oldroyd-B fluid. <i>Physica D: Nonlinear Phenomena</i> , 2011 , 240, 1593-1601	3.1	20
35	Coupling biochemistry and hydrodynamics captures hyperactivated sperm motility in a simple flagellar model. <i>Journal of Theoretical Biology</i> , 2011 , 283, 203-16	2.3	50
34	Stokesian peristaltic pumping in a three-dimensional tube with a phase-shifted asymmetry. <i>Physics of Fluids</i> , 2011 , 23, 081901	4.4	15
33	Peristaltic Pumping of Solid Particles Immersed in a Viscoelastic Fluid. <i>Mathematical Modelling of Natural Phenomena</i> , 2011 , 6, 67-83	3	22
32	Mathematical modeling of calcium signaling during sperm hyperactivation. <i>Molecular Human Reproduction</i> , 2011 , 17, 500-10	4.4	32
31	Viscoelastic fluid response can increase the speed and efficiency of a free swimmer. <i>Physical Review Letters</i> , 2010 , 104, 038101	7.4	192
30	Interactions between internal forces, body stiffness, and fluid environment in a neuromechanical model of lamprey swimming. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010 , 107, 19832-7	11.5	194

29	Using Lagrangian coherent structures to analyze fluid mixing by cilia. <i>Chaos</i> , 2010 , 20, 017511	3.3	36
28	A model of CatSper channel mediated calcium dynamics in mammalian spermatozoa. <i>Bulletin of Mathematical Biology</i> , 2010 , 72, 1925-46	2.1	28
27	Nutrient transport and acquisition by diatom chains in a moving fluid. <i>Journal of Fluid Mechanics</i> , 2009 , 638, 401-421	3.7	40
26	EVALUATION OF INTERFACIAL FLUID DYNAMICAL STRESSES USING THE IMMERSED BOUNDARY METHOD. <i>Discrete and Continuous Dynamical Systems - Series B</i> , 2009 , 11, 519-540	1.3	10
25	Peristaltic pumping and irreversibility of a Stokesian viscoelastic fluid. <i>Physics of Fluids</i> , 2008 , 20, 073101	4.4	44
24	An integrative computational model of multiciliary beating. <i>Bulletin of Mathematical Biology</i> , 2008 , 70, 1192-215	2.1	49
23	Fluid dynamic models of flagellar and ciliary beating. <i>Annals of the New York Academy of Sciences</i> , 2007 , 1101, 494-505	6.5	55
22	Rotational dynamics of a superhelix towed in a Stokes fluid. <i>Physics of Fluids</i> , 2007 , 19, 103105	4.4	37
21	BIOFLUIDMECHANICS OF REPRODUCTION. <i>Annual Review of Fluid Mechanics</i> , 2006 , 38, 371-394	2.2	302
20	Sperm Motility and Multiciliary Beating: An Integrative Mechanical Model. <i>Computers and Mathematics With Applications</i> , 2006 , 52, 749-758	2.7	22
19	Modeling physiological resistance in bacterial biofilms. <i>Bulletin of Mathematical Biology</i> , 2005 , 67, 831-53	3.1	56
18	The method of regularized Stokeslets in three dimensions: Analysis, validation, and application to helical swimming. <i>Physics of Fluids</i> , 2005 , 17, 031504	4.4	263
17	A computational model of the mechanics of growth of the villous trophoblast bilayer. <i>Bulletin of Mathematical Biology</i> , 2004 , 66, 199-232	2.1	40
16	Simulation of swimming organisms: coupling internal mechanics with external fluid dynamics. <i>Computing in Science and Engineering</i> , 2004 , 6, 38-45	1.5	56
15	A computational model of the collective fluid dynamics of motile micro-organisms. <i>Journal of Fluid Mechanics</i> , 2002 , 455, 149-174	3.7	56
14	A Fluid-Structure Interaction Model of Ciliary Beating. <i>The IMA Volumes in Mathematics and Its Applications</i> , 2001 , 71-79	0.5	
13	A microscale model of bacterial and biofilm dynamics in porous media 2000 , 68, 536-547		35
12	An integrative model of internal axoneme mechanics and external fluid dynamics in ciliary beating. <i>Journal of Theoretical Biology</i> , 2000 , 207, 415-30	2.3	70

11	A computational model of ameboid deformation and locomotion. <i>European Biophysics Journal</i> , 1998 , 27, 532-9	1.9	57
10	Modeling Biofilm Processes Using the Immersed Boundary Method. <i>Journal of Computational Physics</i> , 1996 , 129, 57-73	4.1	109
9	A Computational Model of the Fluid Dynamics of Undulatory and Flagellar Swimming. <i>American Zoologist</i> , 1996 , 36, 599-607		22
8	Sperm motility in the presence of boundaries. <i>Bulletin of Mathematical Biology</i> , 1995 , 57, 679-99	2.1	142
7	A microscale model of bacterial swimming, chemotaxis and substrate transport. <i>Journal of Theoretical Biology</i> , 1995 , 177, 325-40	2.3	71
6	A Microscale Model of Microbial Transport in Porous Media. <i>Water Science and Technology Library</i> , 1994 , 441-448	0.3	2
5	Truncated newton methods and the modeling of complex immersed elastic structures. <i>Communications on Pure and Applied Mathematics</i> , 1993 , 46, 787-818	2.5	63
4	Computational modeling of the swimming of biflagellated algal cells. <i>Contemporary Mathematics</i> , 1993 , 91-102	1.6	14
3	Peristaltic pumping of solid particles. <i>Computers and Fluids</i> , 1992 , 21, 583-598	2.8	49
2	Interaction of oscillating filaments: A computational study. <i>Journal of Computational Physics</i> , 1990 , 86, 294-313	4.1	89
1	A computational model of aquatic animal locomotion. <i>Journal of Computational Physics</i> , 1988 , 77, 85-108	4.1	240