Amir D Gat

List of Publications by Year
in descending order

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42 papers	496 citations	567247 15 h-index	752679 20 g-index
42 all docs	42 docs citations	42 times ranked	385 citing authors

#	ARTICLE	IF	CITATIONS
1	Understanding Inchworm Crawling for Soft-Robotics. IEEE Robotics and Automation Letters, 2020, 5, 1397-1404.	5.1	35
2	Dynamics of Elastic Beams with Embedded Fluid-Filled Parallel-Channel Networks. Soft Robotics, 2015, 2, 42-47.	8.0	32
3	Dynamics of viscous liquid within a closed elastic cylinder subject to external forces with application to soft robotics. Journal of Fluid Mechanics, 2014, 758, 221-237.	3.4	26
4	Single-Input Control of Multiple Fluid-Driven Elastic Actuators via Interaction Between Bistability and Viscosity. Soft Robotics, 2020, 7, 259-265.	8.0	26
5	Microscale Hydrodynamic Cloaking and Shielding via Electro-Osmosis. Physical Review Letters, 2021, 126, 184502.	7.8	25
6	Leveraging Internal Viscous Flow to Extend the Capabilities of Beam-Shaped Soft Robotic Actuators. Soft Robotics, 2017, 4, 126-134.	8.0	23
7	Axial creeping flow in the gap between a rigid cylinder and a concentric elastic tube. Journal of Fluid Mechanics, 2016, 806, 580-602.	3.4	22
8	Flow patterning in Hele-Shaw configurations using non-uniform electro-osmotic slip. Physics of Fluids, 2015, 27, 102001.	4.0	21
9	Underactuated fluidic control of a continuous multistable membrane. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 5217-5221.	7.1	21
10	Interaction Between Inertia, Viscosity, and Elasticity in Soft Robotic Actuator With Fluidic Network. IEEE Transactions on Robotics, 2018, 34, 81-90.	10.3	19
11	Valveless microliter combustion for densely packed arrays of powerful soft actuators. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	19
12	Fluid Mechanics of Pneumatic Soft Robots. Soft Robotics, 2021, 8, 519-530.	8.0	18
13	Viscous-elastic dynamics of power-law fluids within an elastic cylinder. Physical Review Fluids, 2017, 2, .	2.5	18
14	Elastic deformations driven by non-uniform lubrication flows. Journal of Fluid Mechanics, 2017, 812, 841-865.	3.4	17
15	Elastohydrodynamics of a pre-stretched finite elastic sheet lubricated by a thin viscous film with application to microfluidic soft actuators. Journal of Fluid Mechanics, 2019, 862, 732-752.	3.4	15
16	Nonuniform Electro-osmotic Flow Drives Fluid-Structure Instability. Physical Review Letters, 2020, 124, 024501.	7.8	15
17	Elasto-capillary coalescence of multiple parallel sheets. Journal of Fluid Mechanics, 2013, 723, 692-705.	3.4	12
18	Transient gas flow in elastic microchannels. Journal of Fluid Mechanics, 2018, 846, 460-481.	3.4	12

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19	Leveraging Viscous Peeling to Create and Activate Soft Actuators and Microfluidic Devices. Soft Robotics, 2020, 7, 76-84.	8.0	11
20	Transient dynamics of an elastic Hele-Shaw cell dueÂto external forces with application to impactÂmitigation. Journal of Fluid Mechanics, 2016, 800, 517-530.	3.4	10
21	A higher-order Hele-Shaw approximation with application to gas flows through shallow micro-channels. Journal of Fluid Mechanics, 2009, 638, 141-160.	3.4	9
22	Wicking of a liquid bridge connected to a moving porous surface. Journal of Fluid Mechanics, 2012, 703, 315-325.	3.4	9
23	Viscousâ€“poroelastic interaction as mechanism toÂcreate adhesion in frogsâ€™ toe pads. Journal of Fluid Mechanics, 2015, 775, 288-303.	3.4	9
24	Interaction forces between microfluidic droplets in a Hele-Shaw cell. Journal of Fluid Mechanics, 2016, 800, 264-277.	3.4	7
25	Dynamic Inchworm Crawling: Performance Analysis and Optimization of a Three-Link Robot. IEEE Robotics and Automation Letters, 2021, 6, 111-118.	5.1	7
26	Asymmetric wicking and reduced evaporation time of droplets penetrating a thin double-layered porous material. Applied Physics Letters, 2013, 103, 134104.	3.3	6
27	On the inflation and deflation dynamics of liquid-filled, hyperelastic balloons. Journal of Fluids and Structures, 2020, 94, 102936.	3.4	6
28	Propulsion and maneuvering of an artificial microswimmer by two closely spaced waving elastic filaments. Physical Review Fluids, 2018, 3, .	2.5	6
29	Flow of power-law liquids in a Hele-Shaw cell driven by non-uniform electro-osmotic slip in the case of strong depletion. Journal of Fluid Mechanics, 2016, 807, 235-257.	3.4	5
30	Interfacial instability of thin films in soft microfluidic configurations actuated by electro-osmotic flow. Physical Review Fluids, 2020, 5, .	2.5	5
31	A metafluid with multistable density and internal energy states. Nature Communications, 2022, 13, 1810.	12.8	5
32	Forced motion of a cylinder within a liquid-filled elastic tube â€" a model of minimally invasive medical procedures. Journal of Fluid Mechanics, 2019, 881, 1048-1072.	3.4	4
33	Frequency response and resonance of a thin fluid film bounded by elastic sheets with application to mechanical filters. Journal of Sound and Vibration, 2019, 438, 83-98.	3.9	4
34	Fluid-Driven Traveling Waves in Soft Robots. Soft Robotics, 2022, 9, 1134-1143.	8.0	4
35	Compressible flows through micro-channels with sharp edged turns and bifurcations. Microfluidics and Nanofluidics, 2010, 8, 619-629.	2.2	3
36	Gas flows through shallow T-junctions and parallel microchannel networks. Physics of Fluids, 2010, 22, 092001.	4.0	3

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37	Shaping liquid films by dielectrophoresis. Flow, 2021, 1, .	2.6	3
38	Dynamics of an elastic sphere containing a thin creeping region and immersed in an acoustic region for similar viscous-elastic and acoustic time and length scales. Journal of Fluid Mechanics, 2017, 818, 100-115.	3.4	1
39	Forced vibrations as a mechanism to suppress flutterâ€"An aeroelastic Kapitzaâ€™s pendulum. Journal of Fluids and Structures, 2019, 85, 138-148.	3.4	1
40	On non-Newtonian effects in fluidic shock-absorbers. Applied Physics Letters, 2020, 117, 153701.	3.3	1
41	Viscous flow fields in hyperelastic chambers. Journal of Fluid Mechanics, 2022, 937, .	3.4	1
42	Modelling the fluid mechanics in single-flow batteries with an adjacent channel for improved reactant transport. Flow, 2022, 2, .	2.6	0