

# Basile Audoly

## List of Publications by Year in descending order

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66  
papers

3,328  
citations

186265

28  
h-index

149698

56  
g-index

69  
all docs

69  
docs citations

69  
times ranked

2613  
citing authors

#	ARTICLE	IF	CITATIONS
1	Discrete elastic rods. ACM Transactions on Graphics, 2008, 27, 1-12.	7.2	393
2	Equilibrium physics breakdown reveals the active nature of red blood cell flickering. Nature Physics, 2016, 12, 513-519.	16.7	231
3	Buckling of a stiff film bound to a compliant substrateâ€™Part I.: Journal of the Mechanics and Physics of Solids, 2008, 56, 2401-2421.	4.8	202
4	Discrete viscous threads. ACM Transactions on Graphics, 2010, 29, 1-10.	7.2	201
5	Stability of Straight Delamination Blisters. Physical Review Letters, 1999, 83, 4124-4127.	7.8	195
6	Super-helices for predicting the dynamics of natural hair. ACM Transactions on Graphics, 2006, 25, 1180-1187.	7.2	189
7	Furrow Constriction in Animal Cell Cytokinesis. Biophysical Journal, 2014, 106, 114-123.	0.5	163
8	From Discrete to Continuum Models of Three-Dimensional Deformations in Epithelial Sheets. Biophysical Journal, 2015, 109, 154-163.	0.5	84
9	Buckling of a stiff film bound to a compliant substrateâ€™Part II.: Journal of the Mechanics and Physics of Solids, 2008, 56, 2422-2443.	4.8	81
10	Buckling of a stiff film bound to a compliant substrateâ€™Part III.: Journal of the Mechanics and Physics of Solids, 2008, 56, 2444-2458.	4.8	76
11	Instant fabrication and selection of folded structures using drop impact. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 10400-10404.	7.1	74
12	Shape-morphing architected sheets with non-periodic cut patterns. Soft Matter, 2018, 14, 9744-9749.	2.7	72
13	Solid Drops: Large Capillary Deformations of Immersed Elastic Rods. Physical Review Letters, 2013, 111, 114301.	7.8	71
14	Liquid Ropes: A Geometrical Model for Thin Viscous Jet Instabilities. Physical Review Letters, 2015, 114, 174501.	7.8	71
15	Fragmentation of Rods by Cascading Cracks: Why Spaghetti Does Not Break in Half. Physical Review Letters, 2005, 95, 095505.	7.8	68
16	â€™Wunderlich, Meet Kirchhoffâ€™: A General and Unified Description of Elastic Ribbons and Thin Rods. Journal of Elasticity, 2015, 119, 49-66.	1.9	66
17	Discrete viscous sheets. ACM Transactions on Graphics, 2012, 31, 1-7.	7.2	64
18	A discrete geometric approach for simulating the dynamics of thin viscous threads. Journal of Computational Physics, 2013, 253, 18-49.	3.8	61

#	ARTICLE	IF	CITATIONS
19	A nonlinear beam model of photomotile structures. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 9762-9770.	7.1	60
20	A non-linear rod model for folded elastic strips. Journal of the Mechanics and Physics of Solids, 2014, 62, 57-80.	4.8	57
21	Shape Transformations of Epithelial Shells. Biophysical Journal, 2016, 110, 1670-1678.	0.5	55
22	Super-helices for predicting the dynamics of natural hair. , 2006, , .		54
23	Analysis of necking based on a one-dimensional model. Journal of the Mechanics and Physics of Solids, 2016, 97, 68-91.	4.8	53
24	Elastic Knots. Physical Review Letters, 2007, 99, 164301.	7.8	46
25	Untangling the Mechanics and Topology in the Frictional Response of Long Overhand Elastic Knots. Physical Review Letters, 2015, 115, 118302.	7.8	46
26	Mechanical Response of Plectonemic DNA: An Analytical Solution. Macromolecules, 2008, 41, 4479-4483.	4.8	44
27	Elasticity and Electrostatics of Plectonemic DNA. Biophysical Journal, 2009, 96, 3716-3723.	0.5	36
28	Localization in spherical shell buckling. Journal of the Mechanics and Physics of Solids, 2020, 136, 103720.	4.8	35
29	Mode-dependent toughness and the delamination of compressed thin films. Journal of the Mechanics and Physics of Solids, 2000, 48, 2315-2332.	4.8	32
30	Asymptotic study of the interfacial crack with friction. Journal of the Mechanics and Physics of Solids, 2000, 48, 1851-1864.	4.8	30
31	Influence of Stratum Corneum on the entire skin mechanical properties, as predicted by a computational skin model. Skin Research and Technology, 2013, 19, 42-46.	1.6	27
32	Selection of hexagonal buckling patterns by the elastic Rayleigh-Taylor instability. Journal of the Mechanics and Physics of Solids, 2018, 121, 234-257.	4.8	27
33	Buckling of Naturally Curved Elastic Strips: The Ribbon Model Makes a Difference. Journal of Elasticity, 2015, 119, 293-320.	1.9	26
34	Matched asymptotic expansions for twisted elastic knots: A self-contact problem with non-trivial contact topology. Journal of the Mechanics and Physics of Solids, 2009, 57, 1623-1656.	4.8	25
35	One-dimensional modeling of necking in rate-dependent materials. Journal of the Mechanics and Physics of Solids, 2019, 123, 149-171.	4.8	25
36	A discrete, geometrically exact method for simulating nonlinear, elastic and inelastic beams. Computer Methods in Applied Mechanics and Engineering, 2020, 361, 112741.	6.6	24

#	ARTICLE	IF	CITATIONS
37	A one-dimensional model for elastic ribbons: A little stretching makes a big difference. <i>Journal of the Mechanics and Physics of Solids</i> , 2021, 153, 104457.	4.8	21
38	â€ˆRuban Ã godetsâ€™: an elastic model for ripples in plant leaves. <i>Comptes Rendus - Mecanique</i> , 2002, 330, 831-836.	2.1	16
39	Shape of an elastic loop strongly bent by surface tension: Experiments and comparison with theory. <i>Physical Review E</i> , 2012, 86, 026119.	2.1	16
40	Buckling of an Elastic Ridge: Competition between Wrinkles and Creases. <i>Physical Review Letters</i> , 2017, 118, 165501.	7.8	16
41	Bending Response of a Book with Internal Friction. <i>Physical Review Letters</i> , 2021, 126, 218004.	7.8	16
42	Elastic rods with incompatible strain: Macroscopic versus microscopic buckling. <i>Journal of the Mechanics and Physics of Solids</i> , 2017, 103, 40-71.	4.8	15
43	Self-Similar Curling of a Naturally Curved Elastica. <i>Physical Review Letters</i> , 2012, 108, 174302.	7.8	14
44	Capillary buckling of a thin film adhering to a sphere. <i>Journal of the Mechanics and Physics of Solids</i> , 2013, 61, 450-471.	4.8	14
45	Asymptotically exact strain-gradient models for nonlinear slender elastic structures: A systematic derivation method. <i>Journal of the Mechanics and Physics of Solids</i> , 2020, 136, 103730.	4.8	13
46	A one-dimensional model for elasto-capillary necking. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2020, 476, .	2.1	12
47	Asymptotic derivation of high-order rod models from non-linear 3D elasticity. <i>Journal of the Mechanics and Physics of Solids</i> , 2021, 148, 104264.	4.8	12
48	Discrete elastic rods. , 2008, , .		11
49	Linear and nonlinear stability of floating viscous sheets. <i>Journal of Fluid Mechanics</i> , 2011, 683, 112-148.	3.4	8
50	The elastic torus: anomalous stiffness of shells with mixed type. <i>Comptes Rendus - Mecanique</i> , 2002, 330, 425-432.	2.1	7
51	The surprising dynamics of a chain on a pulley: lift off and snapping. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2016, 472, 20160187.	2.1	7
52	Cracks in Tension-Field Elastic Sheets. <i>Physical Review Letters</i> , 2018, 121, 144301.	7.8	7
53	Buckling of a spinning elastic cylinder: linear, weakly nonlinear and post-buckling analyses. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2018, 474, 20180242.	2.1	6
54	Effective continuum models for the buckling of non-periodic architected sheets that display quasi-mechanism behaviors. <i>Journal of the Mechanics and Physics of Solids</i> , 2022, 166, 104934.	4.8	6

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55	Courbes rigidifiant les surfaces. Comptes Rendus Mathematique, 1999, 328, 313-316.	0.5	5
56	An introduction to the mechanics of the lasso. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2014, 470, 20140512.	2.1	5
57	The viscous curtain: General formulation and finite-element solution for the stability of flowing viscous sheets. Journal of the Mechanics and Physics of Solids, 2016, 96, 291-311.	4.8	3
58	Symmetry and Asymmetry in the Fluid Mechanical Sewing Machine. Symmetry, 2022, 14, 772.	2.2	3
59	Analytical results for the plectonemic response of supercoiled DNA. Journal of Computer-Aided Materials Design, 2007, 14, 95-101.	0.7	2
60	Buckling of Naturally Curved Elastic Strips: The Ribbon Model Makes a Difference. , 2016, , 293-320.		2
61	Wunderlich, Meet Kirchhoff A General and Unified Description of Elastic Ribbons and Thin Rods. , 2016, , 49-66.		2
62	The self-similar rippling of leaf edges and torn plastic sheets. Europhysics News, 2004, 35, 145-148.	0.3	2
63	Rupture des tiges en flexion. Mecanique Et Industries, 2005, 6, 365-368.	0.2	1
64	Cracking sheets: Oscillatory fracture paths in thin elastic sheets. Chaos, 2008, 18, 041108.	2.5	1
65	CHAPTER 1. Introduction to the Elasticity of Rods. RSC Soft Matter, 2015, , 1-24.	0.4	1
66	A convenient formulation of Sadowsky's model for elastic ribbons. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2021, 477, .	2.1	0