

# Nikolaos Bouklas

## List of Publications by Year in descending order

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36  
papers

1,078  
citations

516710

16  
h-index

414414

32  
g-index

37  
all docs

37  
docs citations

37  
times ranked

890  
citing authors

#	ARTICLE	IF	CITATIONS
1	Understanding the inelastic response of collagen fibrils: A viscoelastic-plastic constitutive model. <i>Acta Biomaterialia</i> , 2023, 163, 78-90.	8.3	3
2	Tissue Engineering with Mechanically Induced Solidâ€Fluid Transitions. <i>Advanced Materials</i> , 2022, 34, e2106149.	21.0	3
3	Local approximate Gaussian process regression for data-driven constitutive models: development and comparison with neural networks. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2022, 388, 114217.	6.6	32
4	The mixed Deep Energy Method for resolving concentration features in finite strain hyperelasticity. <i>Journal of Computational Physics</i> , 2022, 451, 110839.	3.8	46
5	Non-intrusive reduced order modeling of natural convection in porous media using convolutional autoencoders: Comparison with linear subspace techniques. <i>Advances in Water Resources</i> , 2022, 160, 104098.	3.8	32
6	Interval and fuzzy physics-informed neural networks for uncertain fields. <i>Probabilistic Engineering Mechanics</i> , 2022, 68, 103240.	2.7	11
7	On physics-informed data-driven isotropic and anisotropic constitutive models through probabilistic machine learning and space-filling sampling. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2022, 394, 114915.	6.6	44
8	An adhesive and resilient hydrogel for the sealing and treatment of gastric perforation. <i>Bioactive Materials</i> , 2022, 14, 52-60.	15.6	20
9	Machine-learning convex and texture-dependent macroscopic yield from crystal plasticity simulations. <i>Materialia</i> , 2022, 23, 101446.	2.7	19
10	Stabilized formulation for phaseâ€field fracture in nearly incompressible hyperelasticity. <i>International Journal for Numerical Methods in Engineering</i> , 2022, 123, 4655-4673.	2.8	7
11	Simple synthesis of soft, tough, and cytocompatible biohybrid composites. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, .	7.1	4
12	A framework for upscaling and modelling fluid flow for discrete fractures using conditional generative adversarial networks. <i>Advances in Water Resources</i> , 2022, 166, 104264.	3.8	3
13	A model for 3D deformation and reconstruction of contractile microtissues. <i>Soft Matter</i> , 2021, 17, 10198-10209.	2.7	7
14	X-ray Nanoimaging of Crystal Defects in Single Grains of Solid-State Electrolyte $\text{Li}_{0.3}\text{Al}_{0.7}\text{La}_{0.3}\text{Zr}_{0.2}\text{O}_{12}$ . <i>Nano Letters</i> , 2021, 21, 4570-4576.	9.1	13
15	Data-driven reduced order modeling of poroelasticity of heterogeneous media based on a discontinuous Galerkin approximation. <i>GEM - International Journal on Geomathematics</i> , 2021, 12, 1.	1.6	9
16	Engineered Extracellular Matrices with Integrated Wireless Microactuators to Study Mechanobiology. <i>Advanced Materials</i> , 2021, 33, e2102641.	21.0	19
17	Affine and non-affine microsphere models for chain scission in polydisperse elastomer networks. <i>Mechanics of Materials</i> , 2021, 160, 103857.	3.2	13
18	Model-data-driven constitutive responses: Application to a multiscale computational framework. <i>International Journal of Engineering Science</i> , 2021, 167, 103522.	5.0	32

#	ARTICLE	IF	CITATIONS
19	Rate-Dependent Damage Mechanics of Polymer Networks with Reversible Bonds. <i>Macromolecules</i> , 2021, 54, 10801-10813.	4.8	20
20	A framework for data-driven solution and parameter estimation of PDEs using conditional generative adversarial networks. <i>Nature Computational Science</i> , 2021, 1, 819-829.	8.0	44
21	A variational phase-field model for brittle fracture in polydisperse elastomer networks. <i>International Journal of Solids and Structures</i> , 2020, 182-183, 193-204.	2.7	43
22	Effect of elastocapillarity on the swelling kinetics of hydrogels. <i>Journal of the Mechanics and Physics of Solids</i> , 2020, 145, 104132.	4.8	14
23	An Adhesive Hydrogel with “Load-Sharing” Effect as Tissue Bandages for Drug and Cell Delivery. <i>Advanced Materials</i> , 2020, 32, e2001628.	21.0	128
24	Coupled flow and deformation fields due to a line load on a poroelastic half space: effect of surface stress and surface bending. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2020, 476, 20190761.	2.1	6
25	Poroelastic Effects on the Time- and Rate-Dependent Fracture of Polymer Gels. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2020, 87, .	2.2	12
26	Surface and Bulk Stresses Drive Morphological Changes in Fibrous Microtissues. <i>Biophysical Journal</i> , 2019, 117, 975-986.	0.5	14
27	Engineering transferrable microvascular meshes for subcutaneous islet transplantation. <i>Nature Communications</i> , 2019, 10, 4602.	12.8	63
28	A model for cellular mechanotransduction and contractility at finite strain. <i>ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik</i> , 2018, 98, 2047-2047.	1.6	0
29	A model for cellular mechanotransduction and contractility at finite strain. <i>ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik</i> , 2018, 98, 1754-1770.	1.6	3
30	A Linear Poroelastic Analysis of Time-Dependent Crack-Tip Fields in Polymer Gels. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2018, 85, .	2.2	12
31	Onset of swell-induced surface instability of hydrogel layers with depth-wise graded material properties. <i>Mechanics of Materials</i> , 2017, 105, 138-147.	3.2	17
32	Effect of Solvent Diffusion on Crack-Tip Fields and Driving Force for Fracture of Hydrogels. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2015, 82, .	2.2	55
33	A nonlinear, transient finite element method for coupled solvent diffusion and large deformation of hydrogels. <i>Journal of the Mechanics and Physics of Solids</i> , 2015, 79, 21-43.	4.8	102
34	Swell-induced surface instability of hydrogel layers with material properties varying in thickness direction. <i>International Journal of Solids and Structures</i> , 2013, 50, 578-587.	2.7	73
35	Swelling kinetics of polymer gels: comparison of linear and nonlinear theories. <i>Soft Matter</i> , 2012, 8, 8194.	2.7	146
36	The Role of Buckling Instabilities in the Global and Local Mechanical Response in Porous Collagen Scaffolds. <i>Experimental Mechanics</i> , 0, , .	2.0	2