Oliver Weeger

List of Publications by Year
in descending order

32 papers	**907** citations	471371 **17** h-index	454834 **30** g-index
32 all docs	**32** docs citations	**32** times ranked	**698** citing authors

#	Article	IF	Citations
1	4D rods: 3D structures via programmable 1D composite rods. Materials and Design, 2018, 137, 256-265.	3.3	110
2	Isogeometric analysis of nonlinear Euler–Bernoulli beam vibrations. Nonlinear Dynamics, 2013, 72, 813-835.	2.7	76
3	Isogeometric collocation methods for Cosserat rods and rod structures. Computer Methods in Applied Mechanics and Engineering, 2017, 316, 100-122.	3.4	75
4	Polyconvex anisotropic hyperelasticity with neural networks. Journal of the Mechanics and Physics of Solids, 2022, 159, 104703.	2.3	55
5	Digital design and nonlinear simulation for additive manufacturing of soft lattice structures. Additive Manufacturing, 2019, 25, 39-49.	1.7	53
6	On the use of modal derivatives for nonlinear model order reduction. International Journal for Numerical Methods in Engineering, 2016, 108, 1579-1602.	1.5	46
7	Isogeometric shape optimization of nonlinear, curved 3D beams and beam structures. Computer Methods in Applied Mechanics and Engineering, 2019, 345, 26-51.	3.4	46
8	Multiscale modelling of soft lattice metamaterials: Micromechanical nonlinear buckling analysis, experimental verification, and macroscale constitutive behaviour. International Journal of Mechanical Sciences, 2020, 188, 105956.	3.6	46
9	Prediction of mechanical properties of knitted fabrics under tensile and shear loading: Mesoscale analysis using representative unit cells and its validation. Composites Part B: Engineering, 2018, 148, 81-92.	5.9	43
10	Combined Level-Set-XFEM-Density Topology Optimization of Four-Dimensional Printed Structures Undergoing Large Deformation. Journal of Mechanical Design, Transactions of the ASME, 2019, 141, .	1.7	40
11	An isogeometric collocation method for frictionless contact of Cosserat rods. Computer Methods in Applied Mechanics and Engineering, 2017, 321, 361-382.	3.4	30
12	Anisotropic hyperelastic constitutive models for finite deformations combining material theory and data-driven approaches with application to cubic lattice metamaterials. Computational Mechanics, 2021, 67, 653-677.	2.2	30
13	Optimal Design and Manufacture of Active Rod Structures with Spatially Variable Materials. 3D Printing and Additive Manufacturing, 2016, 3, 204-215.	1.4	27
14	Nonlinear Multi-Scale Modelling, Simulation and Validation of 3D Knitted Textiles. Applied Composite Materials, 2018, 25, 797-810.	1.3	25
15	Numerical homogenization of second gradient, linear elastic constitutive models for cubic 3D beam-lattice metamaterials. International Journal of Solids and Structures, 2021, 224, 111037.	1.3	25
16	Nonlinear frequency response analysis of structural vibrations. Computational Mechanics, 2014, 54, 1477-1495.	2.2	24
17	Isogeometric collocation for nonlinear dynamic analysis of Cosserat rods with frictional contact. Nonlinear Dynamics, 2018, 91, 1213-1227.	2.7	20
18	Material modeling for parametric, anisotropic finite strain hyperelasticity based on machine learning with application in optimization of metamaterials. International Journal for Numerical Methods in Engineering, 2022, 123, 577-609.	1.5	19

#	Article	IF	Citations
19	Fully isogeometric modeling and analysis of nonlinear 3D beams with spatially varying geometric and material parameters. Computer Methods in Applied Mechanics and Engineering, 2018, 342, 95-115.	3.4	16
20	Nonlinear isogeometric multiscale simulation for design and fabrication of functionally graded knitted textiles. Composites Part B: Engineering, 2020, 202, 108416.	5.9	13
21	Heat conduction combined grid-based optimization method for reconfigurable pavement sweeping robot path planning. Robotics and Autonomous Systems, 2022, 152, 104063.	3.0	13
22	Controllable helical deformations on printed anisotropic composite soft actuators. Applied Physics Letters, 2018, 112, 181905.	1.5	12
23	Nonlinear multiscale simulation of elastic beam lattices with anisotropic homogenized constitutive models based on artificial neural networks. Computational Mechanics, 2021, 68, 1111-1130.	2.2	12
24	Isogeometric sizing and shape optimization of 3D beams and lattice structures at large deformations. Structural and Multidisciplinary Optimization, 2022, 65, 1.	1.7	12
25	Isogeometric technique for dynamic instability analysis of nanocomposite folded plates based on higher-order shear deformation theory. Thin-Walled Structures, 2022, 177, 109467.	2.7	11
26	KnitKit. ACM Transactions on Graphics, 2021, 40, 1-16.	4.9	8
27	Tailoring of functionally graded hyperelastic materials via grayscale mask stereolithography 3D printing. Additive Manufacturing, 2021, 47, 102108.	1.7	8
28	The Isogeometric Segmentation Pipeline. Lecture Notes in Computational Science and Engineering, 2015, , 51-72.	0.1	4
29	Combined grid and heat conduction optimization for staircase cleaning robot path planning. Automation in Construction, 2022, 141, 104447.	4.8	4
30	Path Planning for Reconfigurable hTetro Robot Combining Heat Conduction-Based and Discrete Optimization. IEEE Access, 2021, 9, 127019-127036.	2.6	3
31	Nonlinear multiscale simulation of instabilities due to growth of an elastic film on a microstructured substrate. Archive of Applied Mechanics, 2020, 90, 2397-2412.	1.2	1
32	Effective Integration of Sophisticated Operators in Isogeometric Analysis with igatools. Lecture Notes in Computational Science and Engineering, 2015, , 209-230.	0.1	0