

# Stefan Kollmannsberger

## 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.

73  
papers

1,397  
citations

22  
h-index

35  
g-index

83  
ext. papers

1,776  
ext. citations

3.3  
avg, IF

4.98  
L-index

#	Paper	IF	Citations
73	Point cloud-based elastic reverse time migration for ultrasonic imaging of components with vertical surfaces. <i>Mechanical Systems and Signal Processing</i> , <b>2022</b> , 163, 108144	7.8	1
72	An accurate strategy for computing reaction forces and fluxes on trimmed locally refined meshes. <i>Journal of Mechanics</i> , <b>2022</b> , 38, 60-76	1	0
71	The finite cell method with least squares stabilized Nitsche boundary conditions. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2022</b> , 393, 114792	5.7	0
70	Enforcing essential boundary conditions on domains defined by point clouds. <i>Computers and Mathematics With Applications</i> , <b>2022</b> , 113, 13-23	2.7	
69	The Finite Cell Method for Simulation of Additive Manufacturing. <i>Lecture Notes in Applied and Computational Mechanics</i> , <b>2022</b> , 355-375	0.3	
68	Numerical evaluation of high cycle fatigue life for additively manufactured stainless steel 316L lattice structures: Preliminary considerations. <i>Material Design and Processing Communications</i> , <b>2021</b> , 3, e249	0.9	
67	Image-based numerical characterization and experimental validation of tensile behavior of octet-truss lattice structures. <i>Additive Manufacturing</i> , <b>2021</b> , 41, 101949	6.1	13
66	Bending behavior of octet-truss lattice structures: Modelling options, numerical characterization and experimental validation. <i>Materials and Design</i> , <b>2021</b> , 205, 109693	8.1	11
65	A Selection of Benchmark Problems in Solid Mechanics and Applied Mathematics. <i>Archives of Computational Methods in Engineering</i> , <b>2021</b> , 28, 713-751	7.8	12
64	Physics-Informed Neural Networks. <i>Studies in Computational Intelligence</i> , <b>2021</b> , 55-84	0.8	0
63	Deep Energy Method. <i>Studies in Computational Intelligence</i> , <b>2021</b> , 85-91	0.8	
62	An immersed boundary approach for residual stress evaluation in selective laser melting processes. <i>Additive Manufacturing</i> , <b>2021</b> , 46, 102077	6.1	3
61	Uncertainty quantification of microstructure variability and mechanical behavior of additively manufactured lattice structures. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2021</b> , 385, 114049	5.7	1
60	Hierarchical multigrid approaches for the finite cell method on uniform and multi-level hp-refined grids. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2021</b> , 386, 114075	5.7	1
59	Fundamental Concepts of Machine Learning. <i>Studies in Computational Intelligence</i> , <b>2021</b> , 5-18	0.8	
58	Machine Learning in Physics and Engineering. <i>Studies in Computational Intelligence</i> , <b>2021</b> , 47-54	0.8	
57	Numerical Evaluation of Advanced Laser Control Strategies Influence on Residual Stresses for Laser Powder Bed Fusion Systems. <i>Integrating Materials and Manufacturing Innovation</i> , <b>2020</b> , 9, 435-445	2.9	7

56	Hierarchically refined isogeometric analysis of trimmed shells. <i>Computational Mechanics</i> , <b>2020</b> , 66, 431-447	4.7	9
55	A 3D benchmark problem for crack propagation in brittle fracture. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2020</b> , 364, 112905	5.7	8
54	Finite cell method for functionally graded materials based on V-models and homogenized microstructures. <i>Advanced Modeling and Simulation in Engineering Sciences</i> , <b>2020</b> , 7,	2.7	2
53	Spline- and hp-basis functions of higher differentiability in the finite cell method. <i>GAMM Mitteilungen</i> , <b>2020</b> , 43, e202000004	1.8	6
52	Modeling and experimental validation of an immersed thermo-mechanical part-scale analysis for laser powder bed fusion processes. <i>Additive Manufacturing</i> , <b>2020</b> , 36, 101498	6.1	8
51	Image-based material characterization of complex microarchitected additively manufactured structures. <i>Computers and Mathematics With Applications</i> , <b>2020</b> , 80, 2462-2480	2.7	13
50	Direct structural analysis of domains defined by point clouds. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2020</b> , 358, 112581	5.7	7
49	Robust and parallel scalable iterative solutions for large-scale finite cell analyses. <i>Finite Elements in Analysis and Design</i> , <b>2019</b> , 163, 14-30	2.2	25
48	An Immersed Boundary Approach for the Numerical Analysis of Objects Represented by Oriented Point Clouds. <i>Lecture Notes in Computer Science</i> , <b>2019</b> , 33-41	0.9	
47	Accurate Prediction of Melt Pool Shapes in Laser Powder Bed Fusion by the Non-Linear Temperature Equation Including Phase Changes. <i>Integrating Materials and Manufacturing Innovation</i> , <b>2019</b> , 8, 167-177	2.9	20
46	Integrating CAD and numerical analysis: Dirty geometry handling using the Finite Cell Method. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2019</b> , 351, 808-835	5.7	13
45	A mortar formulation including viscoelastic layers for vibration analysis. <i>Computational Mechanics</i> , <b>2019</b> , 63, 23-33	4	1
44	Additive manufacturing in construction: A review on processes, applications, and digital planning methods. <i>Additive Manufacturing</i> , <b>2019</b> , 30, 100894	6.1	114
43	A posteriori error control for the finite cell method. <i>Proceedings in Applied Mathematics and Mechanics</i> , <b>2019</b> , 19, e201900419	0.2	4
42	Residual stresses in metal deposition modeling: Discretizations of higher order. <i>Computers and Mathematics With Applications</i> , <b>2019</b> , 78, 2247-2266	2.7	5
41	Phase-field modeling of brittle fracture with multi-level hp-FEM and the finite cell method. <i>Computational Mechanics</i> , <b>2019</b> , 63, 1283-1300	4	28
40	Multi-level hp-finite cell method for embedded interface problems with application in biomechanics. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , <b>2018</b> , 34, e2951	2.6	22
39	Multi-level B-šier extraction for hierarchical local refinement of Isogeometric Analysis. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2018</b> , 328, 147-174	5.7	27

38	Image-based mesh generation of tubular geometries under circular motion in refractive environments. <i>Machine Vision and Applications</i> , <b>2018</b> , 29, 719-733	2.8	5
37	BIM gestützte strukturdynamische Analyse mit Volumenelementen höherer Ordnung/BIM-based structural dynamic analysis using higher-order volumetric finite elements. <i>Bauingenieur</i> , <b>2018</b> , 93, 160-166	1.7	2
36	Direct Numerical Analysis of Historical Structures Represented by Point Clouds. <i>Lecture Notes in Computer Science</i> , <b>2018</b> , 64-75	0.9	
35	A hierarchical computational model for moving thermal loads and phase changes with applications to selective laser melting. <i>Computers and Mathematics With Applications</i> , <b>2018</b> , 75, 1483-1497	2.7	30
34	Weak imposition of frictionless contact constraints on automatically recovered high-order, embedded interfaces using the finite cell method. <i>Computational Mechanics</i> , <b>2018</b> , 61, 385-407	4	11
33	Parallelization of the multi-level hp-adaptive finite cell method. <i>Computers and Mathematics With Applications</i> , <b>2017</b> , 74, 126-142	2.7	11
32	From geometric design to numerical analysis: A direct approach using the Finite Cell Method on Constructive Solid Geometry. <i>Computers and Mathematics With Applications</i> , <b>2017</b> , 74, 1703-1726	2.7	24
31	Biofabricated soft network composites for cartilage tissue engineering. <i>Biofabrication</i> , <b>2017</b> , 9, 025014	10.5	100
30	A high-order finite element model for vibration analysis of cross-laminated timber assemblies. <i>Building Acoustics</i> , <b>2017</b> , 24, 135-158	1	10
29	Numerical integration of discontinuous functions: moment fitting and smart octree. <i>Computational Mechanics</i> , <b>2017</b> , 60, 863-881	4	26
28	An Integrated Design, Material, and Fabrication Platform for Engineering Biomechanically and Biologically Functional Soft Tissues. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2017</b> , 9, 29430-29437	9.5	66
27	Multi-level hp-adaptivity for cohesive fracture modeling. <i>International Journal for Numerical Methods in Engineering</i> , <b>2017</b> , 109, 1723-1755	2.4	17
26	Multi-level hp-adaptivity and explicit error estimation. <i>Advanced Modeling and Simulation in Engineering Sciences</i> , <b>2016</b> , 3,	2.7	6
25	Smart octrees: Accurately integrating discontinuous functions in 3D. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2016</b> , 306, 406-426	5.7	72
24	An easy treatment of hanging nodes in . <i>Finite Elements in Analysis and Design</i> , <b>2016</b> , 121, 101-117	2.2	19
23	The multi-level hp-method for three-dimensional problems: Dynamically changing high-order mesh refinement with arbitrary hanging nodes. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2016</b> , 310, 252-277	5.7	40
22	A high-order enrichment strategy for the finite cell method. <i>Proceedings in Applied Mathematics and Mechanics</i> , <b>2015</b> , 15, 207-208	0.2	2
21	Finite Cell Method: High-Order Structural Dynamics for Complex Geometries. <i>International Journal of Structural Stability and Dynamics</i> , <b>2015</b> , 15, 1540018	1.9	17

20	Parameter-free, weak imposition of Dirichlet boundary conditions and coupling of trimmed and non-conforming patches. <i>International Journal for Numerical Methods in Engineering</i> , <b>2015</b> , 101, 670-699	2.4	31
19	Normal contact with high order finite elements and a fictitious contact material. <i>Computers and Mathematics With Applications</i> , <b>2015</b> , 70, 1370-1390	2.7	12
18	Efficient and accurate numerical quadrature for immersed boundary methods. <i>Advanced Modeling and Simulation in Engineering Sciences</i> , <b>2015</b> , 2,	2.7	49
17	Multi-level hp-adaptivity: high-order mesh adaptivity without the difficulties of constraining hanging nodes. <i>Computational Mechanics</i> , <b>2015</b> , 55, 499-517	4	51
16	On the natural stabilization of convection dominated problems using high order Bubnov-Galerkin finite elements. <i>Computers and Mathematics With Applications</i> , <b>2014</b> , 66, 2545-2558	2.7	8
15	FCMLab: A finite cell research toolbox for MATLAB. <i>Advances in Engineering Software</i> , <b>2014</b> , 74, 49-63	3.6	25
14	A new mortar formulation for modeling elastomer bedded structures with modal-analysis in 3D. <i>Advanced Modeling and Simulation in Engineering Sciences</i> , <b>2014</b> , 1,	2.7	1
13	TUM.GeoFrame: automated high-order hexahedral mesh generation for shell-like structures. <i>Engineering With Computers</i> , <b>2014</b> , 30, 41-56	4.5	9
12	The Finite Cell Method for linear thermoelasticity. <i>Computers and Mathematics With Applications</i> , <b>2012</b> , 64, 3527-3541	2.7	46
11	Geometric modeling, isogeometric analysis and the finite cell method. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2012</b> , 249-252, 104-115	5.7	109
10	An efficient integration technique for the voxel-based finite cell method. <i>International Journal for Numerical Methods in Engineering</i> , <b>2012</b> , 91, 457-471	2.4	60
9	Shell Finite Cell Method: A high order fictitious domain approach for thin-walled structures. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2011</b> , 200, 3200-3209	5.7	48
8	Non-standard bone simulation: interactive numerical analysis by computational steering. <i>Computing and Visualization in Science</i> , <b>2011</b> , 14, 207-216	1	36
7	An Explicit Model for Three-Dimensional Fluid-Structure Interaction using LBM and p-FEM. <i>Lecture Notes in Computational Science and Engineering</i> , <b>2011</b> , 285-325	0.3	2
6	The finite cell method for geometrically nonlinear problems of solid mechanics. <i>IOP Conference Series: Materials Science and Engineering</i> , <b>2010</b> , 10, 012170	0.4	21
5	Fixed-grid fluid-structure interaction in two dimensions based on a partitioned Lattice Boltzmann and p-FEM approach. <i>International Journal for Numerical Methods in Engineering</i> , <b>2009</b> , 79, 817-845	2.4	58
4	FSI Based on Bidirectional Coupling of High Order Solids to a Lattice-Boltzmann Method <b>2006</b> , 419		1
3	Thin Solids for Fluid-Structure Interaction <b>2006</b> , 294-335		7

2	On accurate time integration for temperature evolutions in additive manufacturing. <i>GAMM Mitteilungen</i> ,e202100019	1.8	1
1	Multiscale Analysis of High Damping Composites Using the Finite Cell and the Mortar Method. <i>International Journal of Structural Stability and Dynamics</i> ,2150149	1.9	0