

# Winnifried Wollner

## List of Publications by Citations

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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.

91  
papers

1,982  
citations

22  
h-index

42  
g-index

93  
ext. papers

2,352  
ext. citations

2.3  
avg, IF

6.09  
L-index

#	Paper	IF	Citations
91	A primal-dual active set method and predictor-corrector mesh adaptivity for computing fracture propagation using a phase-field approach. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2015</b> , 290, 466-495	5.7	200
90	An augmented-Lagrangian method for the phase-field approach for pressurized fractures. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2014</b> , 271, 69-85	5.7	175
89	Pressure and fluid-driven fracture propagation in porous media using an adaptive finite element phase field model. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2016</b> , 305, 111-132	5.7	161
88	A Phase-Field Method for Propagating Fluid-Filled Fractures Coupled to a Surrounding Porous Medium. <i>Multiscale Modeling and Simulation</i> , <b>2015</b> , 13, 367-398	1.8	148
87	Fluid-structure interactions using different mesh motion techniques. <i>Computers and Structures</i> , <b>2011</b> , 89, 1456-1467	4.5	90
86	A quasi-static phase-field approach to pressurized fractures. <i>Nonlinearity</i> , <b>2015</b> , 28, 1371-1399	1.7	81
85	Modified Newton methods for solving fully monolithic phase-field quasi-static brittle fracture propagation. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2017</b> , 325, 577-611	5.7	77
84	Adaptive Finite Elements for Elliptic Optimization Problems with Control Constraints. <i>SIAM Journal on Control and Optimization</i> , <b>2008</b> , 47, 509-534	1.9	72
83	Phase-field modeling of proppant-filled fractures in a poroelastic medium. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2016</b> , 312, 509-541	5.7	66
82	Iterative coupling of flow, geomechanics and adaptive phase-field fracture including level-set crack width approaches. <i>Journal of Computational and Applied Mathematics</i> , <b>2017</b> , 314, 40-60	2.4	58
81	Variational localizations of the dual weighted residual estimator. <i>Journal of Computational and Applied Mathematics</i> , <b>2015</b> , 279, 192-208	2.4	49
80	Goal functional evaluations for phase-field fracture using PU-based DWR mesh adaptivity. <i>Computational Mechanics</i> , <b>2016</b> , 57, 1017-1035	4	45
79	An Error-Oriented Newton/Inexact Augmented Lagrangian Approach for Fully Monolithic Phase-Field Fracture Propagation. <i>SIAM Journal of Scientific Computing</i> , <b>2017</b> , 39, B589-B617	2.6	41
78	An adaptive global/local approach for phase-field modeling of anisotropic brittle fracture. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2020</b> , 361, 112744	5.7	41
77	Flapping and contact FSI computations with the fluid/solid interface-tracking/interface-capturing technique and mesh adaptivity. <i>Computational Mechanics</i> , <b>2014</b> , 53, 29-43	4	39
76	Phase-Field Modeling of Two Phase Fluid Filled Fractures in a Poroelastic Medium. <i>Multiscale Modeling and Simulation</i> , <b>2018</b> , 16, 1542-1580	1.8	38
75	A posteriori error estimates for a finite element discretization of interior point methods for an elliptic optimization problem with state constraints. <i>Computational Optimization and Applications</i> , <b>2010</b> , 47, 133-159	1.4	31

74	A global-local approach for hydraulic phase-field fracture in poroelastic media. <i>Computers and Mathematics With Applications</i> , <b>2021</b> , 91, 99-121	2.7	26
73	Modeling fluid injection in fractures with a reservoir simulator coupled to a boundary element method. <i>Computational Geosciences</i> , <b>2014</b> , 18, 613-624	2.7	24
72	Coupling fluid-structure interaction with phase-field fracture. <i>Journal of Computational Physics</i> , <b>2016</b> , 327, 67-96	4.1	24
71	Parallel solution, adaptivity, computational convergence, and open-source code of 2d and 3d pressurized phase-field fracture problems. <i>Proceedings in Applied Mathematics and Mechanics</i> , <b>2018</b> , 18, e201800353	0.2	24
70	A phase-field description for pressurized and non-isothermal propagating fractures. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2019</b> , 351, 860-890	5.7	22
69	Adaptive Optimal Control of the Obstacle Problem. <i>SIAM Journal of Scientific Computing</i> , <b>2015</b> , 37, A918-A945	2.0	22
68	The Length of the Primal-Dual Path in Moreau--Yosida-Based Path-Following Methods for State Constrained Optimal Control. <i>SIAM Journal on Optimization</i> , <b>2014</b> , 24, 108-126	2	22
67	Initialization of phase-field fracture propagation in porous media using probability maps of fracture networks.. <i>Mechanics Research Communications</i> , <b>2017</b> , 80, 16-23	2.2	22
66	Adaptive finite element solution of eigenvalue problems: Balancing of discretization and iteration error. <i>Journal of Numerical Mathematics</i> , <b>2010</b> , 18,	3.4	22
65	IPACS: Integrated Phase-Field Advanced Crack Propagation Simulator. An adaptive, parallel, physics-based-discretization phase-field framework for fracture propagation in porous media. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2020</b> , 367, 113124	5.7	21
64	Barrier Methods for Optimal Control Problems with Convex Nonlinear Gradient State Constraints. <i>SIAM Journal on Optimization</i> , <b>2011</b> , 21, 269-286	2	20
63	A Partition-of-Unity Dual-Weighted Residual Approach for Multi-Objective Goal Functional Error Estimation Applied to Elliptic Problems. <i>Computational Methods in Applied Mathematics</i> , <b>2017</b> , 17, 575-592	1.2	16
62	Adaptive time-step control for nonlinear fluid-structure interaction. <i>Journal of Computational Physics</i> , <b>2018</b> , 366, 448-477	4.1	15
61	Finite-Rank ADI Iteration for Operator Lyapunov Equations. <i>SIAM Journal on Control and Optimization</i> , <b>2013</b> , 51, 4084-4117	1.9	15
60	A priori error estimates for optimal control problems with pointwise constraints on the gradient of the state. <i>Numerische Mathematik</i> , <b>2011</b> , 118, 587-600	2.2	15
59	An Optimal Control Problem Governed by a Regularized Phase-Field Fracture Propagation Model. <i>SIAM Journal on Control and Optimization</i> , <b>2017</b> , 55, 2271-2288	1.9	14
58	A phase-field model for fractures in nearly incompressible solids. <i>Computational Mechanics</i> , <b>2020</b> , 65, 61-78	4	14
57	On the pressure approximation in nonstationary incompressible flow simulations on dynamically varying spatial meshes. <i>International Journal for Numerical Methods in Fluids</i> , <b>2012</b> , 69, 1045-1064	1.9	13

56	The damped Crank-Nicolson time-marching scheme for the adaptive solution of the Black-Scholes equation. <i>Journal of Computational Finance</i> , <b>2015</b> , 18, 1-37	1.7	13
55	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
54	Optimal L2 velocity error estimate for a modified pressure-robust Crouzeix-Raviart Stokes element. <i>IMA Journal of Numerical Analysis</i> , <b>2017</b> , 37, 354-374	1.8	11
53	Mesh adaptivity for quasi-static phase-field fractures based on a residual-type a posteriori error estimator. <i>GAMM Mitteilungen</i> , <b>2020</b> , 43, e202000003	1.8	11
52	An iterative staggered scheme for phase field brittle fracture propagation with stabilizing parameters. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2020</b> , 361, 112752	5.7	11
51	An Optimal Control Problem Governed by a Regularized Phase-Field Fracture Propagation Model. Part II: The Regularization Limit. <i>SIAM Journal on Control and Optimization</i> , <b>2019</b> , 57, 1672-1690	1.9	9
50	A Stochastic Gradient Method With Mesh Refinement for PDE-Constrained Optimization Under Uncertainty. <i>SIAM Journal of Scientific Computing</i> , <b>2020</b> , 42, A2750-A2772	2.6	9
49	Fluid-Structure Interaction <b>2017</b> ,		9
48	Numerical Methods for Power-Law Diffusion Problems. <i>SIAM Journal of Scientific Computing</i> , <b>2017</b> , 39, A681-A710	2.6	7
47	Optimal Control of Elliptic Equations with Pointwise Constraints on the Gradient of the State in Nonsmooth Polygonal Domains. <i>SIAM Journal on Control and Optimization</i> , <b>2012</b> , 50, 2117-2129	1.9	7
46	A priori error estimates for the finite element discretization of optimal distributed control problems governed by the biharmonic operator. <i>Calcolo</i> , <b>2013</b> , 50, 165-193	1.5	7
45	Higher regularity for solutions to elliptic systems in divergence form subject to mixed boundary conditions. <i>Annali Di Matematica Pura Ed Applicata</i> , <b>2019</b> , 198, 1227-1241	0.8	7
44	Bayesian inversion for unified ductile phase-field fracture. <i>Computational Mechanics</i> , <b>2021</b> , 68, 943-980	4	7
43	pfm-cracks: A parallel-adaptive framework for phase-field fracture propagation. <i>Software Impacts</i> , <b>2020</b> , 6, 100045	1.8	6
42	A Priori Error Estimates for a Finite Element Discretization of Parabolic Optimization Problems with Pointwise Constraints in Time on Mean Values of the Gradient of the State. <i>SIAM Journal on Control and Optimization</i> , <b>2015</b> , 53, 745-770	1.9	5
41	Optimization with nonstationary, nonlinear monolithic fluid-structure interaction. <i>International Journal for Numerical Methods in Engineering</i> , <b>2020</b> , 122, 5430	2.4	5
40	Computational Aspects of Pseudospectra in Hydrodynamic Stability Analysis. <i>Journal of Mathematical Fluid Mechanics</i> , <b>2012</b> , 14, 661-692	1.4	5
39	Goal-Oriented Mesh Adaptivity for Fluid-Structure Interaction with Application to Heart-Valve Settings. <i>Archive of Mechanical Engineering</i> , <b>2012</b> , 59, 73-99		5

38	Duality based error estimation in the presence of discontinuities. <i>Applied Numerical Mathematics</i> , <b>2019</b> , 144, 83-99	2.5	4
37	A decomposition method for MINLPs with Lipschitz continuous nonlinearities. <i>Mathematical Programming</i> , <b>2019</b> , 178, 449-483	2.1	4
36	Optimal control of the temperature in a catalytic converter. <i>Computers and Mathematics With Applications</i> , <b>2014</b> , 67, 1521-1544	2.7	4
35	A Posteriori Error Estimation in PDE-constrained Optimization with Pointwise Inequality Constraints. <i>International Series of Numerical Mathematics</i> , <b>2012</b> , 349-373	0.4	4
34	An Optimization Framework for the Computation of Time-Periodic Solutions of Partial Differential Equations. <i>Vietnam Journal of Mathematics</i> , <b>2018</b> , 46, 949-966	0.5	4
33	Bayesian inversion for anisotropic hydraulic phase-field fracture. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2021</b> , 386, 114118	5.7	4
32	Dual-weighted residual adaptivity for phase-field fracture propagation. <i>Proceedings in Applied Mathematics and Mechanics</i> , <b>2015</b> , 15, 619-620	0.2	3
31	Goal-Oriented Adaptivity for Optimization of Elliptic Systems subject to Pointwise Inequality Constraints: Application to Free Material Optimization. <i>Proceedings in Applied Mathematics and Mechanics</i> , <b>2010</b> , 10, 669-672	0.2	3
30	Quasi-best approximation in optimization with PDE constraints. <i>Inverse Problems</i> , <b>2020</b> , 36, 014004	2.3	3
29	A conjugate direction method for linear systems in Banach spaces. <i>Journal of Inverse and Ill-Posed Problems</i> , <b>2017</b> , 25, 553-572	1.3	2
28	On the Differentiability of Fluid-Structure Interaction Problems with Respect to the Problem Data. <i>Journal of Mathematical Fluid Mechanics</i> , <b>2019</b> , 21, 1	1.4	2
27	A Priori Error Estimates for State-Constrained Semilinear Parabolic Optimal Control Problems. <i>Journal of Optimization Theory and Applications</i> , <b>2018</b> , 178, 317-348	1.6	2
26	Adaptive FEM for PDE Constrained Optimization with Pointwise Constraints on the Gradient of the State. <i>Proceedings in Applied Mathematics and Mechanics</i> , <b>2008</b> , 8, 10873-10874	0.2	2
25	Dynamic and Weighted Stabilizations of the L-scheme Applied to a Phase-Field Model for Fracture Propagation. <i>Lecture Notes in Computational Science and Engineering</i> , <b>2021</b> , 1177-1184	0.3	2
24	A Priori Error Estimates for Optimal Control Problems with Constraints on the Gradient of the State on Nonsmooth Polygonal Domains. <i>International Series of Numerical Mathematics</i> , <b>2013</b> , 193-215	0.4	2
23	A priori error estimates for a linearized fracture control problem. <i>Optimization and Engineering</i> , <b>2020</b> , 1	2.1	2
22	Dual-Weighted Residual A Posteriori Error Estimates for a Penalized Phase-Field Slit Discontinuity Problem. <i>Computational Methods in Applied Mathematics</i> , <b>2021</b> ,	1.2	2
21	Mesh adaptivity and error estimates applied to a regularized p-Laplacian constrained optimal control problem for multiple quantities of interest. <i>Proceedings in Applied Mathematics and Mechanics</i> , <b>2019</b> , 19, e201900231	0.2	2

20	A phase-field multirate scheme with stabilized iterative coupling for pressure driven fracture propagation in porous media. <i>Computers and Mathematics With Applications</i> , <b>2021</b> , 91, 176-191	2.7	2
19	Crack path comparisons of a mixed phase-field fracture model and experiments in punctured EPDM strips. <i>Proceedings in Applied Mathematics and Mechanics</i> , <b>2021</b> , 20, e202000335	0.2	2
18	A priori ( $L^2$ )-discretization error estimates for the state in elliptic optimization problems with pointwise inequality state constraints. <i>Numerische Mathematik</i> , <b>2018</b> , 138, 273-299	2.2	2
17	Multiple goal-oriented error estimates applied to 3d non-linear problems. <i>Proceedings in Applied Mathematics and Mechanics</i> , <b>2018</b> , 18, e201800048	0.2	2
16	A comparative review of peridynamics and phase-field models for engineering fracture mechanics. <i>Computational Mechanics</i> ,1	4	2
15	A Posteriori Estimator for the Adaptive Solution of a Quasi-Static Fracture Phase-Field Model with Irreversibility Constraints. <i>SIAM Journal of Scientific Computing</i> , <b>2022</b> , 44, B479-B505	2.6	2
14	A One Dimensional Elliptic Distributed Optimal Control Problem with Pointwise Derivative Constraints. <i>Numerical Functional Analysis and Optimization</i> , <b>2020</b> , 41, 1549-1563	1	1
13	Finite element methods for one dimensional elliptic distributed optimal control problems with pointwise constraints on the derivative of the state. <i>Optimization and Engineering</i> , <b>2020</b> , 1	2.1	1
12	Adaptive Numerical Simulation of a Phase-Field Fracture Model in Mixed Form Tested on an L-shaped Specimen with High Poisson Ratios. <i>Lecture Notes in Computational Science and Engineering</i> , <b>2021</b> , 1185-1193	0.3	1
11	OPTPDE: A Collection of Problems in PDE-Constrained Optimization. <i>International Series of Numerical Mathematics</i> , <b>2014</b> , 539-543	0.4	1
10	Discontinuous and Enriched Galerkin Methods for Phase-Field Fracture Propagation in Elasticity. <i>Lecture Notes in Computational Science and Engineering</i> , <b>2016</b> , 195-203	0.3	1
9	Multigoal-oriented optimal control problems with nonlinear PDE constraints. <i>Computers and Mathematics With Applications</i> , <b>2020</b> , 79, 3001-3026	2.7	1
8	Parallel Matrix-Free Higher-Order Finite Element Solvers for Phase-Field Fracture Problems. <i>Mathematical and Computational Applications</i> , <b>2020</b> , 25, 40	1	1
7	A mixed phase-field fracture model for crack propagation in punctured EPDM strips. <i>Theoretical and Applied Fracture Mechanics</i> , <b>2021</b> , 115, 103076	3.7	1
6	Optimizing Fracture Propagation Using a Phase-Field Approach. <i>International Series of Numerical Mathematics</i> , <b>2022</b> , 329-351	0.4	1
5	Optimal Control for Phase-Field Fracture: Algorithmic Concepts and Computations <b>2022</b> , 247-255		1
4	The cost of not knowing enough: mixed-integer optimization with implicit Lipschitz nonlinearities. <i>Optimization Letters</i> ,1	1.1	0
3	Optimality Conditions for Convex Stochastic Optimization Problems in Banach Spaces with Almost Sure State Constraints. <i>SIAM Journal on Optimization</i> , <b>2021</b> , 31, 2455-2480	2	0

- 2 Coupling Fluid-Structure Interaction with Phase-Field Fracture: Modeling and a Numerical Example. *Lecture Notes in Computational Science and Engineering*, **2016**, 401-409 0.3 0
- 1 A priori error estimates for nonstationary optimal control problems with gradient state constraints. *Proceedings in Applied Mathematics and Mechanics*, **2015**, 15, 611-612 0.2