

# Thomas Richter

## List of Publications by Year in descending order

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79  
papers

1,185  
citations

394286

19  
h-index

434063

31  
g-index

85  
all docs

85  
docs citations

85  
times ranked

748  
citing authors

#	ARTICLE	IF	CITATIONS
1	Finite elements for fluid-structure interaction in ALE and fully Eulerian coordinates. Computer Methods in Applied Mechanics and Engineering, 2010, 199, 2633-2642.	3.4	101
2	Fluid-structure Interactions. Lecture Notes in Computational Science and Engineering, 2017, , .	0.1	81
3	A Fully Eulerian formulation for fluid-structure-interaction problems. Journal of Computational Physics, 2013, 233, 227-240.	1.9	78
4	Solutions of 3D Navier-Stokes benchmark problems with adaptive finite elements. Computers and Fluids, 2006, 35, 372-392.	1.3	67
5	Variational localizations of the dual weighted residual estimator. Journal of Computational and Applied Mathematics, 2015, 279, 192-208.	1.1	67
6	Goal-oriented error estimation for fluid-structure interaction problems. Computer Methods in Applied Mechanics and Engineering, 2012, 223-224, 28-42.	3.4	52
7	Post-Turing tissue pattern formation: Advent of mechanochemistry. PLoS Computational Biology, 2018, 14, e1006259.	1.5	46
8	A Locally Modified Parametric Finite Element Method for Interface Problems. SIAM Journal on Numerical Analysis, 2014, 52, 2315-2334.	1.1	43
9	A monolithic geometric multigrid solver for fluid-structure interactions in ALE formulation. International Journal for Numerical Methods in Engineering, 2015, 104, 372-390.	1.5	37
10	Mathematical modeling and simulation of the evolution of plaques in blood vessels. Journal of Mathematical Biology, 2016, 72, 973-996.	0.8	34
11	<i>a posteriori</i> error estimation and anisotropy detection with the dual-weighted residual method. International Journal for Numerical Methods in Fluids, 2010, 62, 90-118.	0.9	31
12	Long-term simulation of large deformation, mechano-chemical fluid-structure interactions in ALE and fully Eulerian coordinates. Journal of Computational Physics, 2016, 321, 874-891.	1.9	31
13	Beyond Turing: mechanochemical pattern formation in biological tissues. Biology Direct, 2016, 11, 22.	1.9	26
14	Efficient numerical realization of discontinuous Galerkin methods for temporal discretization of parabolic problems. Numerische Mathematik, 2013, 124, 151-182.	0.9	24
15	Modeling and Computing of Deformation Dynamics of Inhomogeneous Biological Surfaces. SIAM Journal on Applied Mathematics, 2013, 73, 1768-1792.	0.8	23
16	A posteriori error estimation for the fractional step theta discretization of the incompressible Navier-Stokes equations. Computer Methods in Applied Mechanics and Engineering, 2015, 288, 45-59.	3.4	23
17	A modified global Newton solver for viscous-plastic sea ice models. Ocean Modelling, 2017, 116, 96-107.	1.0	23
18	Stabilized finite elements for 3D reactive flows. International Journal for Numerical Methods in Fluids, 2006, 51, 981-999.	0.9	20

#	ARTICLE	IF	CITATIONS
19	Optimal Control and Parameter Estimation for Stationary Fluid-Structure Interaction Problems. SIAM Journal of Scientific Computing, 2013, 35, B1085-B1104.	1.3	20
20	A Parallel Newton Multigrid Framework for Monolithic Fluid-Structure Interactions. Journal of Scientific Computing, 2020, 82, 1.	1.1	20
21	Goal-Oriented Error Estimation for the Fractional Step Theta Scheme. Computational Methods in Applied Mathematics, 2014, 14, 203-230.	0.4	19
22	Simulating Linear Kinematic Features in Viscous-Plastic Sea Ice Models on Quadrilateral and Triangular Grids With Different Variable Staggering. Journal of Advances in Modeling Earth Systems, 2021, 13, e2021MS002523.	1.3	18
23	Falling balls in a viscous fluid with contact: Comparing numerical simulations with experimental data. Physics of Fluids, 2021, 33, .	1.6	17
24	On Time Discretizations of Fluid-Structure Interactions. Contributions in Mathematical and Computational Sciences, 2015, , 377-400.	0.3	15
25	A neural network multigrid solver for the Navier-Stokes equations. Journal of Computational Physics, 2022, 460, 110983.	1.9	15
26	A second order time-stepping scheme for parabolic interface problems with moving interfaces. ESAIM: Mathematical Modelling and Numerical Analysis, 2017, 51, 1539-1560.	0.8	14
27	An unfitted Eulerian finite element method for the time-dependent Stokes problem on moving domains. IMA Journal of Numerical Analysis, 2022, 42, 2505-2544.	1.5	13
28	Efficient Approximation of Flow Problems With Multiple Scales in Time. Multiscale Modeling and Simulation, 2020, 18, 942-969.	0.6	13
29	An ALE approach to mechano-chemical processes in fluid-structure interactions. International Journal for Numerical Methods in Fluids, 2017, 84, 199-220.	0.9	12
30	Towards a complete numerical description of lubricant film dynamics in ball bearings. Computational Mechanics, 2014, 53, 239-255.	2.2	11
31	Optimal Microstructures Drag Reducing Mechanism of Riblets. Journal of Mathematical Fluid Mechanics, 2011, 13, 429-447.	0.4	10
32	On the Impact of Fluid Structure Interaction in Blood Flow Simulations. Vietnam Journal of Mathematics, 2021, 49, 169-187.	0.4	10
33	Sorting Mechanisms and Communication in Phase-Separating Coupled Monolayers. Journal of Physical Chemistry B, 2011, 115, 11739-11745.	1.2	9
34	Parallel multigrid method for finite element simulations of complex flow problems on locally refined meshes. Numerical Linear Algebra With Applications, 2011, 18, 615-636.	0.9	9
35	A Newton multigrid framework for optimal control of fluid-structure interactions. Optimization and Engineering, 2020, , 1.	1.3	9
36	Settling of spherical particles in the transitional regime. International Journal of Multiphase Flow, 2021, 138, 103589.	1.6	9

#	ARTICLE	IF	CITATIONS
37	Implementation of REDIM reduced chemistry to model an axisymmetric laminar diffusion methane-air flame. <i>Combustion Theory and Modelling</i> , 2011, 15, 299-323.	1.0	8
38	Eulerian Techniques for Fluid-Structure Interactions: Part II Applications. <i>Lecture Notes in Computational Science and Engineering</i> , 2015, , 755-762.	0.1	7
39	A Study of Shark Skin and Its Drag Reducing Mechanism. , 2009, , 271-285.		6
40	Axisymmetric Stokes flow due to a point-force singularity acting between two coaxially positioned rigid no-slip disks. <i>Journal of Fluid Mechanics</i> , 2020, 904, .	1.4	6
41	Second Order Pressure Estimates for the Crank-Nicolson Discretization of the Incompressible Navier-Stokes Equations. <i>SIAM Journal on Numerical Analysis</i> , 2020, 58, 375-409.	1.1	6
42	An averaging scheme for the efficient approximation of time-periodic flow problems. <i>Computers and Fluids</i> , 2021, 214, 104769.	1.3	6
43	Steady azimuthal flow field induced by a rotating sphere near a rigid disk or inside a gap between two coaxially positioned rigid disks. <i>Physics of Fluids</i> , 2021, 33, 082011.	1.6	6
44	Local Projection Stabilization for the Stokes System on Anisotropic Quadrilateral Meshes. , 2006, , 770-778.		6
45	An Adaptive Finite Element Method for Fluid-Structure Interaction Problems Based on a Fully Eulerian Formulation. <i>Lecture Notes in Computational Science and Engineering</i> , 2011, , 159-191.	0.1	5
46	A finite element multigrid-framework to solve the sea ice momentum equation. <i>Journal of Computational Physics</i> , 2017, 348, 847-861.	1.9	5
47	An Optimization Framework for the Computation of Time-Periodic Solutions of Partial Differential Equations. <i>Vietnam Journal of Mathematics</i> , 2018, 46, 949-966.	0.4	5
48	Adaptive time-step control for a monolithic multirate scheme coupling the heat and wave equation. <i>BIT Numerical Mathematics</i> , 2021, 61, 1367-1396.	1.0	5
49	Solving Multidimensional Reactive Flow Problems with Adaptive Finite Elements. , 2007, , 93-112.		5
50	An adaptive homotopy multi-grid method for molecule orientations of high dimensional liquid crystals. <i>Journal of Computational Physics</i> , 2007, 225, 2069-2082.	1.9	4
51	Quasi-random discrete ordinates method for neutron transport problems. <i>Annals of Nuclear Energy</i> , 2019, 133, 275-282.	0.9	4
52	Mesh and Model Adaptivity for Flow Problems. , 2007, , 47-75.		4
53	Parallel Multigrid on Locally Refined Meshes. , 2007, , 77-92.		4
54	3. An accurate Eulerian approach for fluid-structure interactions. , 2017, , 69-126.		3

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55	Low-rank linear fluid-structure interaction discretizations. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2020, 100, e201900205.	0.9	3
56	A goal oriented error estimator and mesh adaptivity for sea ice simulations. Ocean Modelling, 2020, 154, 101684.	1.0	3
57	Parallel time-stepping for fluid-structure interactions. Mathematical Modelling of Natural Phenomena, 2021, 16, 20.	0.9	3
58	A Finite Element/Neural Network Framework for Modeling Suspensions of Non-spherical Particles. Vietnam Journal of Mathematics, 2021, 49, 207-235.	0.4	3
59	LocModFE: Locally modified finite elements for approximating interface problems in deal.II. Software Impacts, 2021, 8, 100070.	0.8	3
60	Using a deep neural network to predict the motion of underresolved triangular rigid bodies in an incompressible flow. International Journal for Numerical Methods in Fluids, 2021, 93, 3364-3383.	0.9	3
61	2. The locally adapted parametric finite element method for interface problems on triangular meshes. , 2017, , 41-68.		3
62	Coupled Fluid-structure Interactions. Lecture Notes in Computational Science and Engineering, 2017, , 79-115.	0.1	2
63	Error Estimation and Adaptivity for Differential Equations with Multiple Scales in Time. Computational Methods in Applied Mathematics, 2021, 21, 841-861.	0.4	2
64	On temporal homogenization in the numerical simulation of atherosclerotic plaque growth. Proceedings in Applied Mathematics and Mechanics, 2021, 21, .	0.2	2
65	Fluid-Structure Interactions in ALE and Fully Eulerian Coordinates. Proceedings in Applied Mathematics and Mechanics, 2010, 10, 487-488.	0.2	1
66	Fluid Structure Interactions in Eulerian Coordinates. Proceedings in Applied Mathematics and Mechanics, 2012, 12, 827-830.	0.2	1
67	Numerical benchmarking of fluid-rigid body interactions. Computers and Fluids, 2019, 193, 104290.	1.3	1
68	The Candy Wrapper Problem: A Temporal Multiscale Approach for PDE/PDE Systems. Lecture Notes in Computational Science and Engineering, 2021, , 17-33.	0.1	1
69	Error Estimation and Adaptivity. Lecture Notes in Computational Science and Engineering, 2017, , 307-353.	0.1	0
70	Linear Solvers for Fluid-structure Interactions. Lecture Notes in Computational Science and Engineering, 2017, , 281-305.	0.1	0
71	Mechano-Chemical Fluid-structure Interactions and Active Materials. Lecture Notes in Computational Science and Engineering, 2017, , 371-386.	0.1	0
72	Discretization. Lecture Notes in Computational Science and Engineering, 2017, , 117-199.	0.1	0

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73	Fully Eulerian Formulation for Fluid-structure Interactions. Lecture Notes in Computational Science and Engineering, 2017, , 255-279.	0.1	0
74	Optimization with Fluid-structure Interactions. Lecture Notes in Computational Science and Engineering, 2017, , 357-369.	0.1	0
75	Fluid-structure Interaction with Contact. Lecture Notes in Computational Science and Engineering, 2017, , 399-416.	0.1	0
76	ALE Formulation for Fluid-structure Interactions. Lecture Notes in Computational Science and Engineering, 2017, , 203-254.	0.1	0
77	Non-stationary Dynamics and Coupled Oscillations. Lecture Notes in Computational Science and Engineering, 2017, , 387-397.	0.1	0
78	Linear Low-Rank Parameter-Dependent Fluid-Structure Interaction Discretization in 2D. Proceedings in Applied Mathematics and Mechanics, 2018, 18, e201800178.	0.2	0
79	Finite Element Error Estimates on Geometrically Perturbed Domains. Journal of Scientific Computing, 2020, 84, 1.	1.1	0