Tim Ricken

List of Publications by Year
in descending order

116 papers	947 citations	567281 15 h-index	501196 28 g-index
125 all docs	125 docs citations	125 times ranked	705 citing authors

#	Article	IF	Citations
1	Model order reduction for deformable porous materials in thin domains via asymptotic analysis. Archive of Applied Mechanics, 2022, 92, 597-618.	2.2	4
2	Magnetic Resonance Imaging–based biomechanical simulation of cartilage: A systematic review. Journal of the Mechanical Behavior of Biomedical Materials, 2022, 126, 104963.	3.1	6
3	Theoretical formulation and computational aspects of a two-scale homogenization scheme combining the TPM and FE<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" id="d1e1613" altimg="si2.svg"><mml:msup><mml:mrow /><mml:mrow><mml:mn>2</mml:mn></mml:mrow></mml:msup></mml:math> method for poro-elastic fluid-saturated porous media. International Journal of Solids and Structures, 2022, 241, 111412.	2.7	7
4	Editorial: Computational Modeling for Liver Surgery and Interventions. Frontiers in Physiology, 2022, 13, 859522.	2.8	0
5	Sensitivity Analysis of a Simulated Hydrogel. Proceedings in Applied Mathematics and Mechanics, 2021, 20, e202000317.	0.2	0
6	Modelling basal–cell carcinoma behaviour in avascular skin. Proceedings in Applied Mathematics and Mechanics, 2021, 20, e202000283.	0.2	2
7	In Silico Modeling of Coupled Physical–Biogeochemical (P–BGC) Processes in Antarctic Sea Ice. Proceedings in Applied Mathematics and Mechanics, 2021, 20, e202000308.	0.2	1
8	A Multiscale and Multiphase Model of Function–Perfusion Growth Processes in the Human Liver. Proceedings in Applied Mathematics and Mechanics, 2021, 20, e202000290.	0.2	4
9	Solving linear equation systems on noisy intermediate–scale quantum computers. Proceedings in Applied Mathematics and Mechanics, 2021, 20, e202000266.	0.2	1
10	Simulating vertebroplasty: A biomechanical challenge. Proceedings in Applied Mathematics and Mechanics, 2021, 20, e202000313.	0.2	0
11	Phase–field model for erosion processes. Proceedings in Applied Mathematics and Mechanics, 2021, 20, e202000282.	0.2	0
12	Optimization of the Groundwater Remediation Process Using a Coupled Genetic Algorithm-Finite Difference Method. Water (Switzerland), 2021, 13, 383.	2.7	12
13	Application of Magnetic Resonance Imaging in Liver Biomechanics: A Systematic Review. Frontiers in Physiology, 2021, 12, 733393.	2.8	13
14	Least Squares Finite Element Method for Hepatic Sinusoidal Blood Flow. Proceedings in Applied Mathematics and Mechanics, 2021, 20, e202000306.	0.2	0
15	Hepatectomy-Induced Alterations in Hepatic Perfusion and Function - Toward Multi-Scale Computational Modeling for a Better Prediction of Post-hepatectomy Liver Function. Frontiers in Physiology, 2021, 12, 733868.	2.8	21
16	Application of a continuum–mechanical tumour model to brain tissue. Proceedings in Applied Mathematics and Mechanics, 2021, 21, .	0.2	1
17	Semi–automated Data–driven FE Mesh Generation and Inverse Parameter Identification for a Multiscale and Multiphase Model of Function–Perfusion Processes in the Liver. Proceedings in Applied Mathematics and Mechanics, 2021, 21, .	0.2	0
18	Finite element analysis of a 2D cantilever on a noisy intermediate–scale quantum computer. Proceedings in Applied Mathematics and Mechanics, 2021, 21, .	0.2	0

#	ARTICLE	IF	CITATIONS
19	Data‐Driven Stress Prediction for Thermoplastic Materials. Proceedings in Applied Mathematics and Mechanics, 2021, 21, .	0.2	0
20	Surrogate Modeling of a Nonlinear, Biphasic Model of Articular Cartilage with Artificial Neural Networks. Proceedings in Applied Mathematics and Mechanics, 2021, 21, .	0.2	5
21	A biphasic model for full cycle simulation of the human heart aimed at rheumatic heart disease. Computers and Structures, 2020, 232, 105920.	4.4	2
22	Biological Driven Phase Transitions in Fully or Partly Saturated Porous Media: A Multi-Component FEM Simulation Based on the Theory of Porous Media. Advances in Mechanics and Mathematics, 2020, , 157-183.	0.7	2
23	Contaminant transport in soil: A comparison of the Theory of Porous Media approach with the microfluidic visualisation. Science of the Total Environment, 2019, 686, 1272-1281.	8.0	15
24	The Taylor‐least‐squares time integrator scheme applied to tracer equations of a sea ice model. Proceedings in Applied Mathematics and Mechanics, 2019, 19, e201900473.	0.2	2
25	On computational approaches of liver lobule function and perfusion simulation. GAMM Mitteilungen, 2019, 42, e201900016.	5.5	8
26	Challenges of order reduction techniques for problems involving polymorphic uncertainty. GAMM Mitteilungen, 2019, 42, e201900011.	5.5	5
27	Optimal remediation design and simulation of groundwater flow coupled to contaminant transport using genetic algorithm and radial point collocation method (RPCM). Science of the Total Environment, 2019, 669, 389-399.	8.0	38
28	Numerical studies of earth structure assessment via the theory of porous media using fuzzy probability based random field material descriptions. GAMM Mitteilungen, 2019, 42, e201900007.	5.5	11
29	Analysis of polymorphic data uncertainties in engineering applications. GAMM Mitteilungen, 2019, 42, e201900010.	5.5	3
30	Evaluating Artificial Neural Networks and Quantum Computing for Mechanics. Proceedings in Applied Mathematics and Mechanics, 2019, 19, e201900470.	0.2	7
31	Towards a physical model of Antarctic sea ice microstructure including biogeochemical processes using the extended Theory of Porous Media. Proceedings in Applied Mathematics and Mechanics, 2019, 19, e201900285.	0.2	2
32	Polymorphic Uncertainty Quantification of Computational Soil and Earth Structure Simulations via the Variational Sensitivity Analysis. Proceedings in Applied Mathematics and Mechanics, 2019, 19, e201900289.	0.2	1
33	Model Order Reduction (MOR) of Function‐Perfusion‐Growth Simulation in the Human Fatty Liver via Artificial Neural Network (ANN). Proceedings in Applied Mathematics and Mechanics, 2019, 19, e201900429.	0.2	3
34	On Osmotic Pressure in Hyperelastic Biphasic Fiber‐Reinforced Articular Cartilage. Proceedings in Applied Mathematics and Mechanics, 2019, 19, e201900355.	0.2	0
35	An Overview of Simulated Hydrogel Behaviour under Various Kinds of Stimulation. Proceedings in Applied Mathematics and Mechanics, 2019, 19, e201900487.	0.2	1
36	Comparative study on time-integrator schemes in a least-squares sea ice finite element formulation. , 2019, , 286-290.		0

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37	A hyperelastic biphasic fiber reinforced model of articular cartilage incorporating the influences of osmotic pressure and damage. , 2019, , 308-312.		1
38	Application of Artificial Neural Network accelerating a porous media FE 2 homogenization scheme. Proceedings in Applied Mathematics and Mechanics, 2019, 19, e201900381.	0.2	0
39	Image-Driven Constitutive Modeling for FE-Based Simulation of Soft Tissue Biomechanics. , 2018, , 55-76.		0
40	Numerical investigations of diffusion coefficients in the context of multiâ€component gas transport within the Theory of Porous Media. Proceedings in Applied Mathematics and Mechanics, 2018, 18, e201800446.	0.2	0
41	Combining Finite Elements and Random Fields to Quantify Uncertainty in a Multiâ€phase Structural Analysis. Proceedings in Applied Mathematics and Mechanics, 2018, 18, e201800333.	0.2	3
42	Investigating the effect of Nanoâ€silica on the depth of water penetration in concrete used in seawater: Case study of Caspian Sea. Proceedings in Applied Mathematics and Mechanics, 2018, 18, e201800378.	0.2	0
43	On efficient computation of 3â€d simulation within TPM 2 â€Framework. Proceedings in Applied Mathematics and Mechanics, 2018, 18, e201800332.	0.2	0
44	On a Multiâ€Scale and Multiâ€Phase Model of Paracetamolâ€induced Hepatotoxicity for Human Liver. Proceedings in Applied Mathematics and Mechanics, 2018, 18, e201800454.	0.2	2
45	On a leastâ€squares finite element formulation for sea ice dynamics. Proceedings in Applied Mathematics and Mechanics, 2018, 18, e201800156.	0.2	2
46	Behaviour of Anionic and Cationic Hydrogels. Proceedings in Applied Mathematics and Mechanics, 2018, 18, e201800472.	0.2	1
47	Comparison of two biological aortic valve prostheses inside patient-specific aorta model by bi-directional fluid-structure interaction. Current Directions in Biomedical Engineering, 2018, 4, 59-62.	0.4	3
48	On incorporating osmotic prestretch/prestress in image-driven finite element simulations of cartilage. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 86, 409-422.	3.1	18
49	Simulation of Steatosis Zonation in Liver Lobuleâ€"A Continuummechanical Bi-Scale, Tri-Phasic, Multi-Component Approach. Lecture Notes in Applied and Computational Mechanics, 2018, , 15-33.	2.2	11
50	Characterization of methane oxidation in a simulated landfill cover system by comparing molecular and stable isotope mass balances. Waste Management, 2017, 69, 281-288.	7.4	10
51	Poster session 30: Modelling and simulation III. Biomedizinische Technik, 2017, 62, .	0.8	0
52	Numerical simulation and validation of a solidification experiment using a continuum mechanical two-phase/-scale model. Proceedings in Applied Mathematics and Mechanics, 2017, 17, 611-612.	0.2	0
53	A Multi-scale and Multi-phase Model for the Description of Toxicity caused by Paracetamol in Biological Tissue using the Example of the Human Liver. Proceedings in Applied Mathematics and Mechanics, 2017, 17, 199-200.	0.2	0
54	Microâ€macro modelling of steel solidification: A continuum mechanical, biâ€phasic, twoâ€scale model including thermal driven phase transition. GAMM Mitteilungen, 2017, 40, 125-137.	5.5	4

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55	Polymorphic uncertainty quantification for stability analysis of fluid saturated soil and earth structures. Proceedings in Applied Mathematics and Mechanics, 2017, 17, 59-62.	0.2	5
56	On a Tri-Scale and Multiphase Model for the Description of Perfusion coupled to Fat Growth Effects in Liver Tissue. Proceedings in Applied Mathematics and Mechanics, 2017, 17, 227-228.	0.2	1
57	Microstructural influence on macroscopic response regarding fluid flow through porous media applying TPM2-Method. Proceedings in Applied Mathematics and Mechanics, 2017, 17, 577-578.	0.2	3
58	Computational Modeling in Liver Surgery. Frontiers in Physiology, 2017, 8, 906.	2.8	27
59	On a biâ€scale and triâ€phasic model for the description of growth in biological tissue using the example of the human liver. Proceedings in Applied Mathematics and Mechanics, 2016, 16, 109-110.	0.2	3
60	Modeling of contaminant migration in groundwater: A continuum mechanical approach using in the theory of porous media. Proceedings in Applied Mathematics and Mechanics, 2016, 16, 487-488.	0.2	7
61	A ternary phase biâ€scale FEâ€model for diffusionâ€driven dendritic alloy solidification processes. Proceedings in Applied Mathematics and Mechanics, 2016, 16, 449-450.	0.2	0
62	Remarks on coupled multiâ€scale simulations and high performance computation. Proceedings in Applied Mathematics and Mechanics, 2016, 16, 511-512.	0.2	0
63	A microstructurally based continuum model of cartilage viscoelasticity and permeability incorporating measured statistical fiber orientations. Biomechanics and Modeling in Mechanobiology, 2016, 15, 229-244.	2.8	55
64	An initial biphasic model of the human heart aimed at computational investigation of rheumatic heart disease. , 2016, , 636-641.		1
65	Depsim: numerical 3D-simulation of the water, gas and solid phase in a landfill. International Journal of Sustainable Development and Planning, 2016, 11, 694-699.	0.7	1
66	Macroscopic characterization of porous unit cells within the framework of the theory of porous media. , 2016, , 400-405.		0
67	A continuum mechanical multi-phase model for steel solidification. , 2016, , 388-393.		0
68	On the Influence of Growth in Perfusion Dependent Biological Systems â€" at the Example of the Human Liver. Proceedings in Applied Mathematics and Mechanics, 2015, 15, 119-120.	0.2	1
69	Validation of a coupled FE-model for the simulation of methane oxidation via thermal imaging. Proceedings in Applied Mathematics and Mechanics, 2015, 15, 433-434.	0.2	2
70	A two-scale homogenisation approach for fluid saturated porous media based on TPM and FE2-Method. Proceedings in Applied Mathematics and Mechanics, 2015, 15, 447-448.	0.2	2
71	Modeling functionâ€"perfusion behavior in liver lobules including tissue, blood, glucose, lactate and glycogen by use of a coupled two-scale PDEâ€"ODE approach. Biomechanics and Modeling in Mechanobiology, 2015, 14, 515-536.	2.8	64
72	A continuum mechanical, bi-phasic, two-scale model for thermal driven phase transition during solidification. Proceedings in Applied Mathematics and Mechanics, 2015, 15, 409-410.	0.2	2

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73	Energetic effects during phase transition under freezing–thawing load in porous media – a continuum multiphase description and FE-simulation. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2014, 94, 586-608.	1.6	14
74	A Multi-Component Description of Osmotic Driven Deformations in Articular Cartilage. Proceedings in Applied Mathematics and Mechanics, 2014, 14, 109-110.	0.2	0
75	Concentration driven phase transitions in multiphase porous media with application to methane oxidation in landfill cover layers. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2014, 94, 609-622.	1.6	21
76	On growth effects in the human liver. Proceedings in Applied Mathematics and Mechanics, 2014, 14, 105-106.	0.2	0
77	Multi-Scale and Multi-Component Approach for Solidification Processes. Proceedings in Applied Mathematics and Mechanics, 2014, 14, 465-466.	0.2	0
78	A coupled multi-component approach for bacterial methane oxidation in landfill cover layers. Proceedings in Applied Mathematics and Mechanics, 2014, 14, 469-470.	0.2	2
79	Modeling of liquid and gas saturated porous solids under freezing and thawing cycles. , 2014, , 23-42.		2
80	A hyperelastic biphasic fibre-reinforced model of articular cartilage considering distributed collagen fibre orientations: continuum basis, computational aspects and applications. Computer Methods in Biomechanics and Biomedical Engineering, 2013, 16, 1344-1361.	1.6	76
81	Bacterial methane oxidation in landfill cover layers - a coupled FE multiphase description. Proceedings in Applied Mathematics and Mechanics, 2013, 13, 193-194.	0.2	2
82	On a FEM model for isotropic and transversely isotropic growth in biphasic materials. Proceedings in Applied Mathematics and Mechanics, 2013, 13, 63-64.	0.2	2
83	Modeling sample/patient-specific structural and diffusional responses of cartilage using DT-MRI. International Journal for Numerical Methods in Biomedical Engineering, 2013, 29, 807-821.	2.1	31
84	A hyperelastic biphasic fiber reinforced model for articular cartilage considering the distribution and orientation of collagen fibers. Proceedings in Applied Mathematics and Mechanics, 2013, 13, 55-56.	0.2	1
85	Finite Element Simulation of Steel Solidification under High Temperature. Proceedings in Applied Mathematics and Mechanics, 2013, 13, 191-192.	0.2	0
86	A Biphasic 3D-FEM Model for the Remodeling of Microcirculation in Liver Lobes. , 2013, , 277-292.		3
87	A Biphasic FEM Model for the Microperfusion in Liver Lobules. Proceedings in Applied Mathematics and Mechanics, 2012, 12, 89-90.	0.2	1
88	A Biphasic Approach for the Simulation of Growth Processes in Soft Biological Tissues Incorporating Damage-Induced Stress Softening. Proceedings in Applied Mathematics and Mechanics, 2012, 12, 91-92.	0.2	0
89	A biphasic transverse isotropic FEM model for cartilage. Proceedings in Applied Mathematics and Mechanics, 2012, 12, 105-106.	0.2	0
90	Simulation of Freezing and Thawing Processes with Capillary Effects in fluid filled porous media. Proceedings in Applied Mathematics and Mechanics, 2012, 12, 365-366.	0.2	0

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91	Phase transition in methane oxidation layers - a coupled FE multiphase description. Proceedings in Applied Mathematics and Mechanics, 2012, 12, 371-372.	0.2	1
92	Structural Analysis of Articular Cartilage Using Multiphoton Microscopy: Input for Biomechanical Modeling. IEEE Transactions on Medical Imaging, 2011, 30, 1635-1648.	8.9	47
93	Simulation of Capillary Effects and Phase Transition under Freezing and Thawing Load in Liquid and Gas Saturated Porous Media. Proceedings in Applied Mathematics and Mechanics, 2011, 11, 455-456.	0.2	0
94	A finite element simulation of biological conversion processes in landfills. Waste Management, 2011, 31, 663-669.	7.4	16
95	Extracting quantitative biomechanical parameters for cartilage from second harmonic generation images. Proceedings of SPIE, 2011, , .	0.8	1
96	Ice Formation in Porous Media. Lecture Notes in Applied and Computational Mechanics, 2011, , 153-174.	2.2	11
97	Remodeling and growth of living tissue: a multiphase theory. Archive of Applied Mechanics, 2010, 80, 453-465.	2.2	37
98	A biphasic model for sinusoidal liver perfusion remodeling after outflow obstruction. Biomechanics and Modeling in Mechanobiology, 2010, 9, 435-450.	2.8	74
99	Multigenerational interstitial growth of biological tissues. Biomechanics and Modeling in Mechanobiology, 2010, 9, 689-702.	2.8	64
100	Modeling fluid saturated porous media under frost attack. GAMM Mitteilungen, 2010, 33, 40-56.	5.5	14
101	Simulation of freeze-thaw-cycles in liquid- and gas saturated porous media. Proceedings in Applied Mathematics and Mechanics, 2010, 10, 359-360.	0.2	0
102	Multigenerational Interstitial Growth of Biological Tissues. , 2010, , .		0
103	Morphological Analysis of Articular Cartilage Using Multiphoton Microscopy as Input for Constitutive Modeling: Experiment and Mathematical Implementation. IFMBE Proceedings, 2010, , 895-898.	0.3	0
104	A multiphase finite element simulation of biological conversion processes in landfills. Proceedings in Applied Mathematics and Mechanics, 2009, 9, 51-54.	0.2	1
105	An Enriched Biphasic Model for Solute Driven Degradation. Proceedings in Applied Mathematics and Mechanics, 2009, 9, 165-166.	0.2	0
106	Freezing and thawing processes in porous media - Experiment and Simulation. Proceedings in Applied Mathematics and Mechanics, 2009, 9, 387-388.	0.2	1
107	Evolutional growth and remodeling in multiphase living tissue. Computational Materials Science, 2009, 45, 806-811.	3.0	18
108	Energetische Aspekte zum Gefrierverhalten von Wasser in porösen Strukturen. Proceedings in Applied Mathematics and Mechanics, 2008, 8, 10483-10484.	0.2	3

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109	A triphasic model of transversely isotropic biological tissue with applications to stress and biologically induced growth. Computational Materials Science, 2007, 39, 124-136.	3.0	45
110	Transverse isotropic flow in biphasic materials. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 4020005-4020006.	0.2	0
111	Estimation of landfill emission lifespan using process oriented modeling. Waste Management, 2006, 26, 442-450.	7.4	9
112	A Triphasic Theory for Growth in Biological Tissue â€" Basics and Applications. Materialwissenschaft Und Werkstofftechnik, 2006, 37, 446-456.	0.9	3
113	Two Phase Flow in Capillary Porous Thermo-Elastic Materials. Solid Mechanics and Its Applications, 2005, , 359-364.	0.2	0
114	Modeling of thermal mass transfer in porous media with applications to the organic phase transition in landfills. Computational Materials Science, 2005, 32, 498-508.	3.0	15
115	Mass Transfer in Porous Media. Proceedings in Applied Mathematics and Mechanics, 2004, 4, 492-493.	0.2	2
116	Multiphase flow in a capillary porous medium. Computational Materials Science, 2003, 28, 704-713.	3.0	22