Volker Gravemeier

List of Publications by Year
in descending order

43 papers	949 citations	430874 18 h-index	454955 30 g-index
43 all docs	43 docs citations	43 times ranked	560 citing authors

#	Article	IF	Citations
1	A three-level finite element method for the instationary incompressible Navier–Stokes equations. Computer Methods in Applied Mechanics and Engineering, 2004, 193, 1323-1366.	6.6	88
2	The variational multiscale method for laminar and turbulent flow. Archives of Computational Methods in Engineering, 2006, 13, 249-324.	10.2	60
3	An algebraic variational multiscale–multigrid method for large eddy simulation of turbulent flow. Computer Methods in Applied Mechanics and Engineering, 2010, 199, 853-864.	6.6	59
4	Large eddy simulation of turbulent incompressible flows by a three-level finite element method. International Journal for Numerical Methods in Fluids, 2005, 48, 1067-1099.	1.6	52
5	A face–oriented stabilized Nitsche–type extended variational multiscale method for incompressible two–phase flow. International Journal for Numerical Methods in Engineering, 2015, 104, 721-748.	2.8	48
6	Scale-separating operators for variational multiscale large eddy simulation of turbulent flows. Journal of Computational Physics, 2006, 212, 400-435.	3.8	45
7	Time-dependent subgrid scales in residual-based large eddy simulation of turbulent channel flow. Computer Methods in Applied Mechanics and Engineering, 2010, 199, 819-827.	6.6	40
8	Benchmark problems for numerical treatment of backflow at open boundaries. International Journal for Numerical Methods in Biomedical Engineering, 2018, 34, e2918.	2.1	40
9	A novel formulation for Neumann inflow boundary conditions in biomechanics. International Journal for Numerical Methods in Biomedical Engineering, 2012, 28, 560-573.	2.1	38
10	Residual–based variational multiscale methods for laminar, transitional and turbulent variable–density flow at low Mach number. International Journal for Numerical Methods in Fluids, 2011, 65, 1260-1278.	1.6	32
11	An extended residual-based variational multiscale method for two-phase flow including surface tension. Computer Methods in Applied Mechanics and Engineering, 2011, 200, 1866-1876.	6.6	31
12	Multifractal subgrid-scale modeling within a variational multiscale method for large-eddy simulation of turbulent flow. Journal of Computational Physics, 2013, 234, 79-107.	3.8	25
13	An algebraic variational multiscale–multigrid method for large-eddy simulation of turbulent variable-density flow at low Mach number. Journal of Computational Physics, 2010, 229, 6047-6070.	3.8	24
14	Recent Developments in Variational Multiscale Methods for Large-Eddy Simulation of Turbulent Flow. Archives of Computational Methods in Engineering, 2018, 25, 647-690.	10.2	24
15	A 3D finite element approach for the coupled numerical simulation of electrochemical systems and fluid flow. International Journal for Numerical Methods in Engineering, 2011, 86, 1339-1359.	2.8	23
16	Towards a taxonomy for multiscale methods in computational mechanics: building blocks of existing methods. Computational Mechanics, 2007, 41, 279-291.	4.0	20
17	An algebraic variational multiscale–multigrid method based on plain aggregation for convection–diffusion problems. Computer Methods in Applied Mechanics and Engineering, 2009, 198, 3821-3835.	6.6	20
18	A monolithic computational approach to thermo–structure interaction. International Journal for Numerical Methods in Engineering, 2013, 95, 1053-1078.	2.8	20

#	ARTICLE	IF	CITATIONS
19	Variational Multiscale Large Eddy Simulation of Turbulent Flow in a Diffuser. Computational Mechanics, 2007, 39, 477-495.	4.0	18
20	An isogeometric variational multiscale method for large-eddy simulation of coupled multi-ion transport in turbulent flow. Journal of Computational Physics, 2013, 251, 194-208.	3.8	18
21	A stable approach for coupling multidimensional cardiovascular and pulmonary networks based on a novel pressureâ€flow rate or pressureâ€only Neumann boundary condition formulation. International Journal for Numerical Methods in Biomedical Engineering, 2014, 30, 447-469.	2.1	18
22	An algebraic variational multiscale-multigrid method for large-eddy simulation: generalized-Î± time integration, Fourier analysis and application to turbulent flow past a square-section cylinder. Computational Mechanics, 2011, 47, 217-233.	4.0	17
23	A computational approach for the simulation of natural convection in electrochemical cells. Journal of Computational Physics, 2013, 235, 764-785.	3.8	17
24	A stabilized finite element method for the numerical simulation of multi-ion transport in electrochemical systems. Computer Methods in Applied Mechanics and Engineering, 2012, 223-224, 199-210.	6.6	16
25	Numerical simulation of premixed combustion using an enriched finite element method. Journal of Computational Physics, 2009, 228, 3605-3624.	3.8	15
26	A dual mortar approach for mesh tying within a variational multiscale method for incompressible flow. International Journal for Numerical Methods in Fluids, 2014, 76, 1-27.	1.6	15
27	A consistent dynamic localization model for large eddy simulation of turbulent flows based on a variational formulation. Journal of Computational Physics, 2006, 218, 677-701.	3.8	13
28	An algebraic variational multiscaleâ€"multigrid method for largeâ€eddy simulation of turbulent pulsatile flows in complex geometries with detailed insight into pulmonary airway flow. International Journal for Numerical Methods in Fluids, 2013, 71, 1207-1225.	1.6	13
29	Variational Multiscale Methods for incompressible flows. International Journal of Computing Science and Mathematics, 2007, 1, 444.	0.3	12
30	A â€˜divide-and-conquerâ€™ spatial and temporal multiscale method for transient convectionâ€"diffusionâ€"reaction equations. International Journal for Numerical Methods in Fluids, 2007, 54, 779-804.	1.6	12
31	Stable meshfree methods in fluid mechanics based on Greenâ€™s functions. Computational Mechanics, 2010, 46, 287-300.	4.0	11
32	Variational multiscale methods for premixed combustion based on a progress-variable approach. Combustion and Flame, 2011, 158, 1160-1170.	5.2	9
33	A semiâ€Lagrangean timeâ€integration approach for extended finite element methods. International Journal for Numerical Methods in Engineering, 2014, 98, 174-202.	2.8	9
34	Information flux maximumâ€entropy approximation schemes for convectionâ€"diffusion problems. International Journal for Numerical Methods in Fluids, 2010, 64, 1180-1200.	1.6	8
35	An algebraic variational multiscaleâ€multigridâ€multifractal method (AVM^4) for largeâ€eddy simulation of turbulent variableâ€"density flow at low Mach number. International Journal for Numerical Methods in Fluids, 2014, 76, 416-449.	1.6	8
36	Information-flux method: a meshfree maximum-entropy Petrovâ€"Galerkin method including stabilised finite element methods. Computer Methods in Applied Mechanics and Engineering, 2012, 241-244, 225-237.	6.6	7

#	Article	IF	Citations
37	An extended algebraic variational multiscale-multigrid-multifractal method (XAVM4) for large-eddy simulation of turbulent two-phase flow. Journal of Computational Physics, 2018, 359, 1-19.	3.8	7
38	Multifractal subgrid-scale modeling within a variational multiscale method for large-eddy simulation of passive-scalar mixing in turbulent flow at low and high Schmidt numbers. Physics of Fluids, 2014, 26, .	4.0	6
39	A hybridizable discontinuous Galerkin method for electromagnetics with a view on subsurface applications. Computer Methods in Applied Mechanics and Engineering, 2020, 366, 113071.	6.6	4
40	A space–time formulation and improved spatial reconstruction for the "divide-and-conquer" multiscale method. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 678-692.	6.6	3
41	A mixed/hybrid Dirichlet formulation for wall-bounded flow problems including turbulent flow. Computer Methods in Applied Mechanics and Engineering, 2012, 245-246, 22-35.	6.6	3
42	Advances in Variational Multiscale Methods for Turbulent Flows. Lecture Notes in Applied and Computational Mechanics, 2010, , 39-52.	2.2	1
43	Variational Multiscale Large Eddy Simulation of Turbulent Flows Using a Two-Grid Finite Element or Finite Volume Method. , 2006, , 788-795.		0