David Kay

List of Publications by Citations

35 papers	1,618 citations	19 h-index	35 g-index
35 ext. papers	1,855 ext. citations	3.8 avg, IF	4.75 L-index

#	Paper	IF	Citations
35	Fourier spectral methods for fractional-in-space reaction-diffusion equations. *BIT Numerical Mathematics*, **2014**, 54, 937-954	1.7	215
34	A Preconditioner for the Steady-State Navier--Stokes Equations. *SIAM Journal of Scientific Computing*, **2002**, 24, 237-256	2.6	147
33	An Efficient Implicit FEM Scheme for Fractional-in-Space Reaction-Diffusion Equations. *SIAM Journal of Scientific Computing*, **2012**, 34, A2145-A2172	2.6	141
32	Fractional diffusion models of cardiac electrical propagation: role of structural heterogeneity in dispersion of repolarization. *Journal of the Royal Society Interface*, **2014**, 11, 20140352	4.1	132
31	Efficient preconditioning of the linearized Navier–Stokes equations for incompressible flow. *Journal of Computational and Applied Mathematics*, **2001**, 128, 261-279	2.4	131
30	Neural crest migration is driven by a few trailblazer cells with a unique molecular signature narrowly confined to the invasive front. *Development (Cambridge)*, **2015**, 142, 2014-25	6.6	86
29	Multi-cellular rosettes in the mouse visceral endoderm facilitate the ordered migration of anterior visceral endoderm cells. *PLoS Biology*, **2012**, 10, e1001256	9.7	86
28	A multigrid finite element solver for the Cahn–Hilliard equation. *Journal of Computational Physics*, **2006**, 212, 288-304	4.1	79
27	Finite element approximation of a Cahn–Hilliard–Navier–Stokes system. *Interfaces and Free Boundaries*, **2008**, 15-43	0.7	72
26	VEGF signals induce trailblazer cell identity that drives neural crest migration. *Developmental Biology*, **2015**, 407, 12-25	3.1	57
25	A Posteriori Error Estimation for Stabilized Mixed Approximations of the Stokes Equations. *SIAM Journal of Scientific Computing*, **1999**, 21, 1321-1336	2.6	56
24	Efficient Numerical Solution of Cahn–Hilliard–Navier–Stokes Fluids in 2D. *SIAM Journal of Scientific Computing*, **2007**, 29, 2241-2257	2.6	45
23	Lung Computational Models and the Role of the Small Airways in Asthma. *American Journal of Respiratory and Critical Care Medicine*, **2019**, 200, 982-991	10.2	44
22	Development and Analysis of Patient-Based Complete Conducting Airways Models. *PLoS ONE*, **2015** , 10, e0144105	3.7	34
21	Efficient simulation of cardiac electrical propagation using high order finite elements. *Journal of Computational Physics*, **2012**, 231, 3946-3962	4.1	33
20	Incorporating chemical signalling factors into cell-based models of growing epithelial tissues. *Journal of Mathematical Biology*, **2012**, 65, 441-63	2	28
19	The approximation theory for the p-version finite element method and application to non-linear elliptic PDEs. *Numerische Mathematik*, **1999**, 82, 351-388	2.2	24

18	A poroelastic model coupled to a fluid network with applications in lung modelling. *International Journal for Numerical Methods in Biomedical Engineering*, **2016**, 32, e02731	2.6	23
17	Chaste: Cancer, Heart and Soft Tissue Environment. *Journal of Open Source Software*, **2020**, 5, 1848	5.2	22
16	Functional CT imaging for identification of the spatial determinants of small-airways disease in adults with asthma. *Journal of Allergy and Clinical Immunology*, **2019**, 144, 83-93	11.5	19
15	Dynamic flow characteristics in normal and asthmatic lungs. *International Journal for Numerical Methods in Biomedical Engineering*, **2015**, 31,	2.6	19
14	A computational comparison of the multiple-breath washout and forced oscillation technique as markers of bronchoconstriction. *Respiratory Physiology and Neurobiology*, **2017**, 240, 61-69	2.8	18
13	Approximation theory for the hp -version finite element method and application to the non-linear Laplacian. *Applied Numerical Mathematics*, **2000**, 34, 329-344	2.5	18
12	A stabilized finite element method for finite-strain three-field poroelasticity. *Computational Mechanics*, **2017**, 60, 51-68	4	15
11	A Preconditioner for the Finite Element Approximation to the Arbitrary Lagrangian–Eulerian Navier–Stokes Equations. *SIAM Journal of Scientific Computing*, **2010**, 32, 521-543	2.6	14
10	Efficient simulation of cardiac electrical propagation using high-order finite elements II: Adaptive p-version. *Journal of Computational Physics*, **2013**, 253, 443-470	4.1	11
9	Modelling the effect of gravity on inert-gas washout outputs. *Physiological Reports*, **2018**, 6, e13709	2.6	10
8	Scalable parallel preconditioners for an open source cardiac electrophysiology simulation package. *Procedia Computer Science*, **2011**, 4, 821-830	1.6	9
7	Modelling responses of the inert-gas washout and MRI to bronchoconstriction. *Respiratory Physiology and Neurobiology*, **2017**, 235, 8-17	2.8	8
6	Stimulus protocol determines the most computationally efficient preconditioner for the bidomain equations. *IEEE Transactions on Biomedical Engineering*, **2010**, 57, 2806-15	5	8
5	A computationally tractable scheme for simulation of the human pulmonary system. *Journal of Computational Physics*, **2019**, 388, 371-393	4.1	5
4	Increased ventilation heterogeneity in asthma can be attributed to proximal bronchioles. *European Respiratory Journal*, **2020**, 55,	13.6	5
3	Efficient preconditioning of the linearized Navier–Stokes equations for incompressible flow **2001**, 261-279		3
2	A Block Preconditioner for High-Order Mixed Finite Element Approximations to the Navier--Stokes Equations. *SIAM Journal of Scientific Computing*, **2006**, 27, 1867-1880	2.6	1
1	Preconditioning nonlocal multi-phase flow. *Journal of Computational Physics*, **2021**, 424, 109715	4.1	