

# Paul Houston

## List of Publications by Year in descending order

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78  
papers

3,344  
citations

147566

31  
h-index

143772

57  
g-index

81  
all docs

81  
docs citations

81  
times ranked

1301  
citing authors

#	ARTICLE	IF	CITATIONS
1	Gibbs phenomena for $L^q$ -best approximation in finite element spaces. ESAIM: Mathematical Modelling and Numerical Analysis, 2022, 56, 177-211.	0.8	5
2	Linearization of the Travel Time Functional in Porous Media Flows. SIAM Journal of Scientific Computing, 2022, 44, B531-B557.	1.3	0
3	High-order Discontinuous Galerkin Methods on Polyhedral Grids for Geophysical Applications: Seismic Wave Propagation and Fractured Reservoir Simulations. SEMA SIMAI Springer Series, 2021, , 159-225.	0.4	4
4	An agglomeration-based massively parallel non-overlapping additive Schwarz preconditioner for high-order discontinuous Galerkin methods on polytopic grids. Mathematics of Computation, 2020, 89, 2047-2083.	1.1	12
5	An hp-Adaptive Iterative Linearization Discontinuous-Galerkin FEM for Quasilinear Elliptic Boundary Value Problems. Lecture Notes in Computational Science and Engineering, 2020, , 407-417.	0.1	0
6	Two-Grid hp-DGFEMs on Agglomerated Coarse Meshes. Proceedings in Applied Mathematics and Mechanics, 2019, 19, e201900175.	0.2	4
7	Adaptive refinement for hp-Version Trefftz discontinuous Galerkin methods for the homogeneous Helmholtz problem. Advances in Computational Mathematics, 2019, 45, 361-393.	0.8	4
8	An $hp$ -adaptive Newton-discontinuous-Galerkin finite element approach for semilinear elliptic boundary value problems. Mathematics of Computation, 2018, 87, 2641-2674.	1.1	10
9	Fast Numerical Integration on Polytopic Meshes with Applications to Discontinuous Galerkin Finite Element Methods. Journal of Scientific Computing, 2018, 77, 1339-1370.	1.1	28
10	Automatic Symbolic Computation for Discontinuous Galerkin Finite Element Methods. SIAM Journal of Scientific Computing, 2018, 40, C327-C357.	1.3	10
11	Multigrid algorithms for $hp$ -version interior penalty discontinuous Galerkin methods on polygonal and polyhedral meshes. Calcolo, 2017, 54, 1169-1198.	0.6	24
12	Numerical modelling of MPA-CVD reactors with the discontinuous Galerkin finite element method. Journal Physics D: Applied Physics, 2017, 50, 295202.	1.3	6
13	$hp$ -Adaptive Discontinuous Galerkin Methods for Neutron Transport Criticality Problems. SIAM Journal of Scientific Computing, 2017, 39, B916-B942.	1.3	8
14	Implementation Aspects. SpringerBriefs in Mathematics, 2017, , 87-103.	0.2	0
15	Inverse Estimates and Polynomial Approximation on Polytopic Meshes. SpringerBriefs in Mathematics, 2017, , 23-37.	0.2	0
16	DGFEMs for Pure Diffusion Problems. SpringerBriefs in Mathematics, 2017, , 39-55.	0.2	1
17	hp-Version Discontinuous Galerkin Methods on Polygonal and Polyhedral Meshes. SpringerBriefs in Mathematics, 2017, , .	0.2	64
18	Introduction to Discontinuous Galerkin Methods. SpringerBriefs in Mathematics, 2017, , 11-22.	0.2	2

#	ARTICLE	IF	CITATIONS
19	An Adaptive Variable Order Quadrature Strategy. Lecture Notes in Computational Science and Engineering, 2017, , 533-545.	0.1	0
20	DGFEMs for Second-Order PDEs of Mixed-Type. SpringerBriefs in Mathematics, 2017, , 57-85.	0.2	0
21	Adaptive Mesh Refinement. SpringerBriefs in Mathematics, 2017, , 105-120.	0.2	0
22	$hp$ -Version discontinuous Galerkin methods for advection-diffusion-reaction problems on polytopic meshes. ESAIM: Mathematical Modelling and Numerical Analysis, 2016, 50, 699-725.	0.8	41
23	Adaptive Discontinuous Galerkin Methods on Polytopic Meshes. SEMA SIMAI Springer Series, 2016, , 187-206.	0.4	5
24	Adaptive energy minimisation for $hp$ -finite element methods. Computers and Mathematics With Applications, 2016, 71, 977-990.	1.4	3
25	Flows of granular material in two-dimensional channels. Journal of Engineering Mathematics, 2016, 98, 49-70.	0.6	3
26	Review of Discontinuous Galerkin Finite Element Methods for Partial Differential Equations on Complicated Domains. Lecture Notes in Computational Science and Engineering, 2016, , 281-310.	0.1	26
27	$hp$ -Adaptive composite discontinuous Galerkin methods for elliptic problems on complicated domains. Numerical Methods for Partial Differential Equations, 2014, 30, 1342-1367.	2.0	16
28	Goal-oriented adaptive composite discontinuous Galerkin methods for incompressible flows. Journal of Computational and Applied Mathematics, 2014, 270, 32-42.	1.1	12
29	Domain Decomposition Preconditioners for Discontinuous Galerkin Methods for Elliptic Problems on Complicated Domains. Journal of Scientific Computing, 2014, 60, 203-227.	1.1	30
30	$hp$ -Version discontinuous Galerkin methods on polygonal and polyhedral meshes. Mathematical Models and Methods in Applied Sciences, 2014, 24, 2009-2041.	1.7	141
31	Two-Grid $hp$ -Version Discontinuous Galerkin Finite Element Methods for Second-Order Quasilinear Elliptic PDEs. Journal of Scientific Computing, 2013, 55, 471-497.	1.1	13
32	$hp$ -Version Composite Discontinuous Galerkin Methods for Elliptic Problems on Complicated Domains. SIAM Journal of Scientific Computing, 2013, 35, A1417-A1439.	1.3	67
33	Preconditioning High-Order Discontinuous Galerkin Discretizations of Elliptic Problems. Lecture Notes in Computational Science and Engineering, 2013, , 231-238.	0.1	6
34	Is a Persistent Global Bias Necessary for the Establishment of Planar Cell Polarity?. PLoS ONE, 2013, 8, e60064.	1.1	11
35	Discontinuous Galerkin methods for problems with Dirac delta source. ESAIM: Mathematical Modelling and Numerical Analysis, 2012, 46, 1467-1483.	0.8	12
36	Adaptivity and a Posteriori Error Control for Bifurcation Problems III: Incompressible Fluid Flow in Open Systems with $O(2)$ Symmetry. Journal of Scientific Computing, 2012, 52, 153-179.	1.1	12

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37	A Class of Domain Decomposition Preconditioners for $hp$ -Discontinuous Galerkin Finite Element Methods. <i>Journal of Scientific Computing</i> , 2011, 46, 124-149.	1.1	54
38	Adaptivity and a Posteriori Error Control for Bifurcation Problems: Incompressible Fluid Flow in Open Systems with $Z_2$ Symmetry. <i>Journal of Scientific Computing</i> , 2011, 47, 389-418.	1.1	14
39	Two-Grid $hp$ -Version DGFEMs for Strongly Monotone Second-Order Quasilinear Elliptic PDEs. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2011, 11, 3-6.	0.2	1
40	An a posteriori error indicator for discontinuous Galerkin approximations of fourth-order elliptic problems. <i>IMA Journal of Numerical Analysis</i> , 2011, 31, 281-298.	1.5	56
41	ENERGY NORM A POSTERIORI ERROR ESTIMATION FOR $hp$ -ADAPTIVE DISCONTINUOUS GALERKIN METHODS FOR ELLIPTIC PROBLEMS IN THREE DIMENSIONS. <i>Mathematical Models and Methods in Applied Sciences</i> , 2011, 21, 267-306.	1.7	31
42	Adaptive Discontinuous Galerkin Methods for Eigenvalue Problems Arising in Incompressible Fluid Flows. <i>SIAM Journal of Scientific Computing</i> , 2010, 31, 4607-4632.	1.3	44
43	High-Order $hp$ -Adaptive Discontinuous Galerkin Finite Element Methods for Compressible Fluid Flows. <i>Notes on Numerical Fluid Mechanics and Multidisciplinary Design</i> , 2010, , 399-411.	0.2	3
44	A Mixed DG Method for Linearized Incompressible Magnetohydrodynamics. <i>Journal of Scientific Computing</i> , 2009, 40, 281-314.	1.1	42
45	Discontinuous Galerkin methods on $hp$ -anisotropic meshes II: a posteriori error analysis and adaptivity. <i>Applied Numerical Mathematics</i> , 2009, 59, 2179-2194.	1.2	28
46	An optimal order interior penalty discontinuous Galerkin discretization of the compressible Navier-Stokes equations. <i>Journal of Computational Physics</i> , 2008, 227, 9670-9685.	1.9	141
47	Discontinuous Galerkin Methods for Advection-Diffusion-Reaction Problems on Anisotropically Refined Meshes. <i>SIAM Journal of Scientific Computing</i> , 2008, 30, 246-271.	1.3	46
48	ENERGY NORM A POSTERIORI ERROR ESTIMATION OF $hp$ -ADAPTIVE DISCONTINUOUS GALERKIN METHODS FOR ELLIPTIC PROBLEMS. <i>Mathematical Models and Methods in Applied Sciences</i> , 2007, 17, 33-62.	1.7	127
49	An a posteriori error indicator for discontinuous Galerkin discretizations of $H(\text{curl})$ -elliptic partial differential equations. <i>IMA Journal of Numerical Analysis</i> , 2007, 27, 122-150.	1.5	53
50	Discontinuous Galerkin methods on $hp$ -anisotropic meshes I: a priori error analysis. <i>International Journal of Computing Science and Mathematics</i> , 2007, 1, 221.	0.2	15
51	Discontinuous Galerkin computation of the Maxwell eigenvalues on simplicial meshes. <i>Journal of Computational and Applied Mathematics</i> , 2007, 204, 317-333.	1.1	62
52	An $hp$ -adaptive mixed discontinuous Galerkin FEM for nearly incompressible linear elasticity. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2006, 195, 3224-3246.	3.4	49
53	Mixed discontinuous Galerkin approximation of the Maxwell operator: The indefinite case. <i>ESAIM: Mathematical Modelling and Numerical Analysis</i> , 2005, 39, 727-753.	0.8	23
54	Energy norm a posteriori error estimation for mixed discontinuous Galerkin approximations of the Maxwell operator. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2005, 194, 499-510.	3.4	60

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55	A note on the design of hp-adaptive finite element methods for elliptic partial differential equations. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2005, 194, 229-243.	3.4	127
56	Interior penalty method for the indefinite time-harmonic Maxwell equations. <i>Numerische Mathematik</i> , 2005, 100, 485-518.	0.9	120
57	Mixed Discontinuous Galerkin Approximation of the Maxwell Operator: Non-Stabilized Formulation. <i>Journal of Scientific Computing</i> , 2005, 22-23, 315-346.	1.1	39
58	Discontinuous Galerkin finite element approximation of quasilinear elliptic boundary value problems I: the scalar case. <i>IMA Journal of Numerical Analysis</i> , 2005, 25, 726-749.	1.5	72
59	Mixed Discontinuous Galerkin Approximation of the Maxwell Operator. <i>SIAM Journal on Numerical Analysis</i> , 2004, 42, 434-459.	1.1	90
60	Mixed hp-Discontinuous Galerkin Finite Element Methods for the Stokes Problem in Polygons. , 2004, , 493-501.		10
61	Adaptive Discontinuous Galerkin Finite Element Methods with Interior Penalty for the Compressible Navier-Stokes Equations. , 2004, , 410-419.		0
62	Adaptive Discontinuous Galerkin Finite Element Methods for Nonlinear Hyperbolic Conservation Laws. <i>SIAM Journal of Scientific Computing</i> , 2003, 24, 979-1004.	1.3	122
63	Goal-Oriented A Posteriori Error Estimation for Multiple Target Functionals. , 2003, , 579-588.		18
64	Adaptive Finite Element Approximation of Hyperbolic Problems. <i>Lecture Notes in Computational Science and Engineering</i> , 2003, , 269-344.	0.1	25
65	Models for pattern formation in somitogenesis: a marriage of cellular and molecular biology. <i>Comptes Rendus - Biologies</i> , 2002, 325, 179-189.	0.1	24
66	Discontinuous hp-Finite Element Methods for Advection-Diffusion-Reaction Problems. <i>SIAM Journal on Numerical Analysis</i> , 2002, 39, 2133-2163.	1.1	389
67	The Dynamics and Pinning of a Spike for a Reaction-Diffusion System. <i>SIAM Journal on Applied Mathematics</i> , 2002, 62, 1297-1328.	0.8	47
68	Adaptive Discontinuous Galerkin Finite Element Methods for the Compressible Euler Equations. <i>Journal of Computational Physics</i> , 2002, 183, 508-532.	1.9	311
69	hp-Discontinuous Galerkin finite element methods for hyperbolic problems: error analysis and adaptivity. <i>International Journal for Numerical Methods in Fluids</i> , 2002, 40, 153-169.	0.9	45
70	hp-Discontinuous Galerkin Finite Element Methods with Least-Squares Stabilization. <i>Journal of Scientific Computing</i> , 2002, 17, 3-25.	1.1	21
71	hp-Adaptive Discontinuous Galerkin Finite Element Methods for First-Order Hyperbolic Problems. <i>SIAM Journal of Scientific Computing</i> , 2001, 23, 1226-1252.	1.3	100
72	A posteriori error analysis for stabilised finite element approximations of transport problems. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2000, 190, 1483-1508.	3.4	75

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73	Adaptive finite element simulation of currents at microelectrodes to a guaranteed accuracy. An E reaction at a channel microband electrode. <i>Electrochemistry Communications</i> , 2000, 2, 567-575.	2.3	22
74	Adaptive finite element simulation of currents at microelectrodes to a guaranteed accuracy. ECE and EC2E mechanisms at channel microband electrodes. <i>Electrochemistry Communications</i> , 2000, 2, 576-585.	2.3	20
75	Adaptive finite element simulation of currents at microelectrodes to a guaranteed accuracy. Application to a simple model problem. <i>Electrochemistry Communications</i> , 2000, 2, 150-156.	2.3	36
76	Adaptive finite element simulation of currents at microelectrodes to a guaranteed accuracy. Theory. <i>Electrochemistry Communications</i> , 2000, 2, 157-162.	2.3	34
77	Adaptive finite element simulation of currents at microelectrodes to a guaranteed accuracy. First-order EC mechanism at inlaid and recessed discs. <i>Electrochemistry Communications</i> , 2000, 2, 163-170.	2.3	35
78	Stabilizedhp-Finite Element Methods for First-Order Hyperbolic Problems. <i>SIAM Journal on Numerical Analysis</i> , 2000, 37, 1618-1643.	1.1	107