

# Desmond J Higham

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/5571089/publications.pdf>

Version: 2024-02-01

56  
papers

4,263  
citations

293460

24  
h-index

206121

51  
g-index

57  
all docs

57  
docs citations

57  
times ranked

3453  
citing authors

#	ARTICLE	IF	CITATIONS
1	Consistency of anchor-based spectral clustering. <i>Information and Inference</i> , 2022, 11, 801-822.	0.9	2
2	Accurately computing the log-sum-exp and softmax functions. <i>IMA Journal of Numerical Analysis</i> , 2021, 41, 2311-2330.	1.5	34
3	Epidemics on hypergraphs: spectral thresholds for extinction. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2021, 477, 20210232.	1.0	17
4	Node and edge nonlinear eigenvector centrality for hypergraphs. <i>Communications Physics</i> , 2021, 4, .	2.0	23
5	Random Matrices Generating Large Growth in LU Factorization with Pivoting. <i>SIAM Journal on Matrix Analysis and Applications</i> , 2021, 42, 185-201.	0.7	6
6	Directed network Laplacians and random graph models. <i>Royal Society Open Science</i> , 2021, 8, 211144.	1.1	5
7	Publisher Correction: Node and edge nonlinear eigenvector centrality for hypergraphs. <i>Communications Physics</i> , 2021, 4, .	2.0	3
8	A framework for second-order eigenvector centralities and clustering coefficients. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2020, 476, 20190724.	1.0	9
9	Beyond non-backtracking: non-cycling network centrality measures. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2020, 476, 20190653.	1.0	6
10	On Adversarial Examples and Stealth Attacks in Artificial Intelligence Systems. , 2020, , .		18
11	A network model for polarization of political opinion. <i>Chaos</i> , 2020, 30, 043109.	1.0	3
12	Non-backtracking PageRank. <i>Journal of Scientific Computing</i> , 2019, 80, 1419-1437.	1.1	6
13	A Nonlinear Spectral Method for Core-Periphery Detection in Networks. <i>SIAM Journal on Mathematics of Data Science</i> , 2019, 1, 269-292.	1.0	26
14	Deep Learning: An Introduction for Applied Mathematicians. <i>SIAM Review</i> , 2019, 61, 860-891.	4.2	137
15	The Deformed Graph Laplacian and Its Applications to Network Centrality Analysis. <i>SIAM Journal on Matrix Analysis and Applications</i> , 2018, 39, 310-341.	0.7	19
16	Non-backtracking walk centrality for directed networks. <i>Journal of Complex Networks</i> , 2018, 6, 54-78.	1.1	21
17	High Modularity Creates Scaling Laws. <i>Scientific Reports</i> , 2018, 8, 9737.	1.6	4
18	An overview of city analytics. <i>Royal Society Open Science</i> , 2017, 4, 161063.	1.1	14

#	ARTICLE	IF	CITATIONS
19	Inverse network sampling to explore online brand allegiance. <i>European Journal of Applied Mathematics</i> , 2016, 27, 958-970.	1.4	2
20	Commentary on Dehmer and Mowshowitz. <i>Complexity</i> , 2016, 21, 19-19.	0.9	0
21	Hierarchical dynamic walks. <i>Security Science and Technology</i> , 2016, , 171-180.	0.5	0
22	Asymmetry through time dependency. <i>European Physical Journal B</i> , 2016, 89, 1.	0.6	4
23	Matching exponential-based and resolvent-based centrality measures. <i>Journal of Complex Networks</i> , 2016, 4, 157-176.	1.1	20
24	An introduction to multilevel Monte Carlo for option valuation. <i>International Journal of Computer Mathematics</i> , 2015, 92, 2347-2360.	1.0	9
25	Subanesthetic Ketamine Treatment Promotes Abnormal Interactions between Neural Subsystems and Alters the Properties of Functional Brain Networks. <i>Neuropsychopharmacology</i> , 2014, 39, 1786-1798.	2.8	31
26	A dynamical systems view of network centrality. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2014, 470, 20130835.	1.0	59
27	Discovering and validating influence in a dynamic online social network. <i>Social Network Analysis and Mining</i> , 2013, 3, 1311-1323.	1.9	28
28	Dynamic network centrality summarizes learning in the human brain. <i>Journal of Complex Networks</i> , 2013, 1, 83-92.	1.1	60
29	A model for dynamic communicators. <i>European Journal of Applied Mathematics</i> , 2012, 23, 659-668.	1.4	13
30	Computing mean first exit times for stochastic processes using multi-level Monte Carlo. , 2012, , .		0
31	Discovering bipartite substructure in directed networks. <i>LMS Journal of Computation and Mathematics</i> , 2011, 14, 72-86.	0.9	4
32	Numerical simulation of a strongly nonlinear Ait-Sahalia-type interest rate model. <i>BIT Numerical Mathematics</i> , 2011, 51, 405-425.	1.0	71
33	Hybrid simulation of autoregulation within transcription and translation. <i>BIT Numerical Mathematics</i> , 2011, 51, 177-196.	1.0	3
34	Evolving graphs: dynamical models, inverse problems and propagation. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2010, 466, 753-770.	1.0	58
35	Periodic reordering. <i>IMA Journal of Numerical Analysis</i> , 2010, 30, 195-207.	1.5	8
36	First and second moment reversion for a discretized square root process with jumps. <i>Journal of Difference Equations and Applications</i> , 2010, 16, 143-156.	0.7	10

#	ARTICLE	IF	CITATIONS
37	CONTEST. ACM Transactions on Mathematical Software, 2009, 35, 1-17.	1.6	61
38	Analysing multi-level Monte Carlo for options with non-globally Lipschitz payoff. Finance and Stochastics, 2009, 13, 403-413.	0.7	58
39	A weighted communicability measure applied to complex brain networks. Journal of the Royal Society Interface, 2009, 6, 411-414.	1.5	148
40	Multidimensional partitioning and bi-partitioning: analysis and application to gene expression data sets. International Journal of Computer Mathematics, 2008, 85, 475-485.	1.0	5
41	Fitting a geometric graph to a protein-protein interaction network. Bioinformatics, 2008, 24, 1093-1099.	1.8	109
42	Spectral analysis of two-signed microarray expression data. Mathematical Medicine and Biology, 2007, 24, 131-148.	0.8	10
43	Spectral clustering and its use in bioinformatics. Journal of Computational and Applied Mathematics, 2007, 204, 25-37.	1.1	103
44	Preserving exponential mean-square stability in the simulation of hybrid stochastic differential equations. Numerische Mathematik, 2007, 108, 295-325.	0.9	23
45	Numerical methods for nonlinear stochastic differential equations with jumps. Numerische Mathematik, 2005, 101, 101-119.	0.9	174
46	On the Boundedness of Asymptotic Stability Regions for the Stochastic Theta Method. BIT Numerical Mathematics, 2003, 43, 1-6.	1.0	44
47	Unravelling small world networks. Journal of Computational and Applied Mathematics, 2003, 158, 61-74.	1.1	29
48	Exponential Mean-Square Stability of Numerical Solutions to Stochastic Differential Equations. LMS Journal of Computation and Mathematics, 2003, 6, 297-313.	0.9	110
49	An Algorithmic Introduction to Numerical Simulation of Stochastic Differential Equations. SIAM Review, 2001, 43, 525-546.	4.2	2,307
50	A-Stability and Stochastic Mean-Square Stability. BIT Numerical Mathematics, 2000, 40, 404-409.	1.0	65
51	Theta Method Dynamics. LMS Journal of Computation and Mathematics, 2000, 3, 27-43.	0.9	4
52	Structured Backward Error and Condition of Generalized Eigenvalue Problems. SIAM Journal on Matrix Analysis and Applications, 1998, 20, 493-512.	0.7	91
53	Time-stepping and preserving orthonormality. BIT Numerical Mathematics, 1997, 37, 24-36.	1.0	26
54	Backward Error and Condition of Structured Linear Systems. SIAM Journal on Matrix Analysis and Applications, 1992, 13, 162-175.	0.7	103

#	ARTICLE	IF	CITATIONS
55	Large Growth Factors in Gaussian Elimination with Pivoting. SIAM Journal on Matrix Analysis and Applications, 1989, 10, 155-164.	0.7	58
56	Modelling Burglary in Chicago using a self-exciting point process with isotropic triggering. European Journal of Applied Mathematics, 0, , 1-23.	1.4	0