George E Karniadakis

List of Publications by Year
in descending order

448 papers	42,327 citations	1980 101 h-index	3257 185 g-index
458 all docs	458 docs citations	458 times ranked	17356 citing authors

#	Article	IF	Citations
1	DynG2G: An Efficient Stochastic Graph Embedding Method for Temporal Graphs. IEEE Transactions on Neural Networks and Learning Systems, 2024, 35, 985-998.	7.2	5
2	Learning Poisson Systems and Trajectories of Autonomous Systems via Poisson Neural Networks. IEEE Transactions on Neural Networks and Learning Systems, 2023, 34, 8271-8283.	7.2	9
3	Potential Flow Generator With L ₂ Optimal Transport Regularity for Generative Models. IEEE Transactions on Neural Networks and Learning Systems, 2022, 33, 528-538.	7.2	11
4	Deep Kronecker neural networks: A general framework for neural networks with adaptive activation functions. Neurocomputing, 2022, 468, 165-180.	3.5	74
5	Forecasting solar-thermal systems performance under transient operation using a data-driven machine learning approach based on the deep operator network architecture. Energy Conversion and Management, 2022, 252, 115063.	4.4	19
6	Computational investigation of blood cell transport in retinal microaneurysms. PLoS Computational Biology, 2022, 18, e1009728.	1.5	13
7	Generative Ensemble Regression: Learning Particle Dynamics from Observations of Ensembles with Physics-informed Deep Generative Models. SIAM Journal of Scientific Computing, 2022, 44, B80-B99.	1.3	8
8	A physics-informed variational DeepONet for predicting crack path in quasi-brittle materials. Computer Methods in Applied Mechanics and Engineering, 2022, 391, 114587.	3.4	100
9	Simulating progressive intramural damage leading to aortic dissection using DeepONet: an operatorâ€“regression neural network. Journal of the Royal Society Interface, 2022, 19, 20210670.	1.5	21
10	Error estimates for DeepONets: a deep learning framework in infinite dimensions. Transactions of Mathematics and Its Applications, 2022, 6, .	1.6	32
11	Analyses of internal structures and defects in materials using physics-informed neural networks. Science Advances, 2022, 8, eabk0644.	4.7	80
12	Deep learning of inverse water waves problems using multi-fidelity data: Application to Serreâ€“Greenâ€“Naghdi equations. Ocean Engineering, 2022, 248, 110775.	1.9	37
13	Multiphysics and multiscale modeling of microthrombosis in COVID-19. PLoS Computational Biology, 2022, 18, e1009892.	1.5	15
14	Gradient-enhanced physics-informed neural networks for forward and inverse PDE problems. Computer Methods in Applied Mechanics and Engineering, 2022, 393, 114823.	3.4	148
15	A comprehensive and fair comparison of two neural operators (with practical extensions) based on FAIR data. Computer Methods in Applied Mechanics and Engineering, 2022, 393, 114778.	3.4	92
16	Learning functional priors and posteriors from data and physics. Journal of Computational Physics, 2022, 457, 111073.	1.9	23
17	Meta-learning PINN loss functions. Journal of Computational Physics, 2022, 458, 111121.	1.9	32
18	Physicsâ€Informed Neural Networks (PINNs) for Wave Propagation and Full Waveform Inversions. Journal of Geophysical Research: Solid Earth, 2022, 127, .	1.4	84

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19	Convergence analysis of the time-stepping numerical methods for time-fractional nonlinear subdiffusion equations. Fractional Calculus and Applied Analysis, 2022, 25, 453-487.	1.2	12
20	Interfacing finite elements with deep neural operators for fast multiscale modeling of mechanics problems. Computer Methods in Applied Mechanics and Engineering, 2022, 402, 115027.	3.4	38
21	Theory and simulation of electrokinetic fluctuations in electrolyte solutions at the mesoscale. Journal of Fluid Mechanics, 2022, 942, .	1.4	3
22	Approximation rates of DeepONets for learning operators arising from advectionâ€“diffusion equations. Neural Networks, 2022, 153, 411-426.	3.3	15
23	GFINNs: GENERIC formalism informed neural networks for deterministic and stochastic dynamical systems. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2022, 380, .	1.6	18
24	Physics-informed neural networks for inverse problems in supersonic flows. Journal of Computational Physics, 2022, 466, 111402.	1.9	73
25	Scalable algorithms for physics-informed neural and graph networks. Data-Centric Engineering, 2022, 3, .	1.2	13
26	Bayesian Physics Informed Neural Networks for real-world nonlinear dynamical systems. Computer Methods in Applied Mechanics and Engineering, 2022, 402, 115346.	3.4	37
27	Learning and meta-learning of stochastic advectionâ€“diffusionâ€“reaction systems from sparse measurements. European Journal of Applied Mathematics, 2021, 32, 397-420.	1.4	22
28	Multiscale Modeling Meets Machine Learning: What Can We Learn?. Archives of Computational Methods in Engineering, 2021, 28, 1017-1037.	6.0	164
29	B-PINNs: Bayesian physics-informed neural networks for forward and inverse PDE problems with noisy data. Journal of Computational Physics, 2021, 425, 109913.	1.9	350
30	hp-VPINNs: Variational physics-informed neural networks with domain decomposition. Computer Methods in Applied Mechanics and Engineering, 2021, 374, 113547.	3.4	220
31	Active- and transfer-learning applied to microscale-macroscale coupling to simulate viscoelastic flows. Journal of Computational Physics, 2021, 427, 110069.	1.9	21
32	An open-source parallel code for computing the spectral fractional Laplacian on 3D complex geometry domains. Computer Physics Communications, 2021, 261, 107695.	3.0	2
33	NSFnets (Navier-Stokes flow nets): Physics-informed neural networks for the incompressible Navier-Stokes equations. Journal of Computational Physics, 2021, 426, 109951.	1.9	386
34	Learning functionals via LSTM neural networks for predicting vessel dynamics in extreme sea states. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2021, 477, 20190897.	1.0	17
35	Integrating blood cell mechanics, platelet adhesive dynamics and coagulation cascade for modelling thrombus formation in normal and diabetic blood. Journal of the Royal Society Interface, 2021, 18, 20200834.	1.5	44
36	A large-eddy simulation study on the similarity between free vibrations of a flexible cylinder and forced vibrations of a rigid cylinder. Journal of Fluids and Structures, 2021, 101, 103223.	1.5	21

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37	Data-driven physics-informed constitutive metamodeling of complex fluids: A multifidelity neural network (MFNN) framework. Journal of Rheology, 2021, 65, 179-198.	1.3	45
38	Learning nonlinear operators via DeepONet based on the universal approximation theorem of operators. Nature Machine Intelligence, 2021, 3, 218-229.	8.3	589
39	Operator learning for predicting multiscale bubble growth dynamics. Journal of Chemical Physics, 2021, 154, 104118.	1.2	71
40	Two-point stressâ€“strain-rate correlation structure and non-local eddy viscosity in turbulent flows. Journal of Fluid Mechanics, 2021, 914, .	1.4	28
41	Flow over an espresso cup: inferring 3-D velocity and pressure fields from tomographic background oriented Schlieren via physics-informed neural networks. Journal of Fluid Mechanics, 2021, 915, .	1.4	129
42	Non-invasive inference of thrombus material properties with physics-informed neural networks. Computer Methods in Applied Mechanics and Engineering, 2021, 375, 113603.	3.4	82
43	Artificial intelligence velocimetry and microaneurysm-on-a-chip for three-dimensional analysis of blood flow in physiology and disease. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	50
44	Physics-Informed Neural Networks for Heat Transfer Problems. Journal of Heat Transfer, 2021, 143, .	1.2	304
45	Physics-informed machine learning. Nature Reviews Physics, 2021, 3, 422-440.	11.9	1,789
46	A phase-field method for boiling heat transfer. Journal of Computational Physics, 2021, 435, 110239.	1.9	16
47	Variable-Order Fractional Models for Wall-Bounded Turbulent Flows. Entropy, 2021, 23, 782.	1.1	3
48	In silico biophysics and hemorheology of blood hyperviscosity syndrome. Biophysical Journal, 2021, 120, 2723-2733.	0.2	13
49	Deep transfer learning and data augmentation improve glucose levels prediction in type 2 diabetes patients. Npj Digital Medicine, 2021, 4, 109.	5.7	48
50	DeepM&Mnet: Inferring the electroconvection multiphysics fields based on operator approximation by neural networks. Journal of Computational Physics, 2021, 436, 110296.	1.9	92
51	From Data to Assessment Models, Demonstrated through a Digital Twin of Marine Risers. , 2021, , .		2
52	Multi-fidelity Bayesian neural networks: Algorithms and applications. Journal of Computational Physics, 2021, 438, 110361.	1.9	67
53	Multiscale parareal algorithm for long-time mesoscopic simulations of microvascular blood flow in zebrafish. Computational Mechanics, 2021, 68, 1131-1152.	2.2	8
54	An integrated framework for building trustworthy data-driven epidemiological models: Application to the COVID-19 outbreak in New York City. PLoS Computational Biology, 2021, 17, e1009334.	1.5	19

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55	Physics-informed neural networks for solving forward and inverse flow problems via the Boltzmann-BGK formulation. Journal of Computational Physics, 2021, 447, 110676.	1.9	72
56	Parallel physics-informed neural networks via domain decomposition. Journal of Computational Physics, 2021, 447, 110683.	1.9	120
57	DeepM&Mnet for hypersonics: Predicting the coupled flow and finite-rate chemistry behind a normal shock using neural-network approximation of operators. Journal of Computational Physics, 2021, 447, 110698.	1.9	55
58	Solving Inverse Stochastic Problems from Discrete Particle Observations Using the Fokker--Planck Equation and Physics-Informed Neural Networks. SIAM Journal of Scientific Computing, 2021, 43, B811-B830.	1.3	45
59	DeepXDE: A Deep Learning Library for Solving Differential Equations. SIAM Review, 2021, 63, 208-228.	4.2	677
60	Computational modeling of biomechanics andÂbiorheology of heated red blood cells. Biophysical Journal, 2021, 120, 4663-4671.	0.2	12
61	A seamless multiscale operator neural network for inferring bubble dynamics. Journal of Fluid Mechanics, 2021, 929, .	1.4	32
62	A fast multi-fidelity method with uncertainty quantification for complex data correlations: Application to vortex-induced vibrations of marine risers. Computer Methods in Applied Mechanics and Engineering, 2021, 386, 114212.	3.4	12
63	How the spleen reshapes and retains young and old red blood cells: A computational investigation. PLoS Computational Biology, 2021, 17, e1009516.	1.5	22
64	Identifiability and predictability of integer- and fractional-order epidemiological models using physics-informed neural networks. Nature Computational Science, 2021, 1, 744-753.	3.8	36
65	Towards a Unified theory of Fractional and Nonlocal Vector Calculus. Fractional Calculus and Applied Analysis, 2021, 24, 1301-1355.	1.2	22
66	nn-PINNs: Non-Newtonian physics-informed neural networks for complex fluid modeling. Soft Matter, 2021, 18, 172-185.	1.2	33
67	Physics-informed neural networks (PINNs) for fluid mechanics: a review. Acta Mechanica Sinica/Lixue Xuebao, 2021, 37, 1727-1738.	1.5	308
68	A composite neural network that learns from multi-fidelity data: Application to function approximation and inverse PDE problems. Journal of Computational Physics, 2020, 401, 109020.	1.9	270
69	What is the fractional Laplacian? A comparative review with new results. Journal of Computational Physics, 2020, 404, 109009.	1.9	208
70	Physics-informed neural networks for high-speed flows. Computer Methods in Applied Mechanics and Engineering, 2020, 360, 112789.	3.4	464
71	A Multifidelity Framework and Uncertainty Quantification for Sea Surface Temperature in the Massachusetts and Cape Cod Bays. Earth and Space Science, 2020, 7, e2019EA000954.	1.1	9
72	Adaptive activation functions accelerate convergence in deep and physics-informed neural networks. Journal of Computational Physics, 2020, 404, 109136.	1.9	373

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73	A stabilized semi-implicit Fourier spectral method for nonlinear space-fractional reaction-diffusion equations. Journal of Computational Physics, 2020, 405, 109141.	1.9	38
74	SympNets: Intrinsic structure-preserving symplectic networks for identifying Hamiltonian systems. Neural Networks, 2020, 132, 166-179.	3.3	68
75	Quantifying Fibrinogen-Dependent Aggregation of Red Blood Cells in Type 2 Diabetes Mellitus. Biophysical Journal, 2020, 119, 900-912.	0.2	31
76	Reinforcement learning for bluff body active flow control in experiments and simulations. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 26091-26098.	3.3	114
77	PPINN: Parareal physics-informed neural network for time-dependent PDEs. Computer Methods in Applied Mechanics and Engineering, 2020, 370, 113250.	3.4	231
78	Locally adaptive activation functions with slope recovery for deep and physics-informed neural networks. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2020, 476, 20200334.	1.0	119
79	Physics-Informed Neural Network for Ultrasound Nondestructive Quantification of Surface Breaking Cracks. Journal of Nondestructive Evaluation, 2020, 39, 1.	1.1	113
80	Predictive modelling of thrombus formation in diabetic retinal microaneurysms. Royal Society Open Science, 2020, 7, 201102.	1.1	19
81	A fast solver for spectral elements applied to fractional differential equations using hierarchical matrix approximation. Computer Methods in Applied Mechanics and Engineering, 2020, 366, 113053.	3.4	9
82	Physics-informed semantic inpainting: Application to geostatistical modeling. Journal of Computational Physics, 2020, 419, 109676.	1.9	32
83	Learning in Modal Space: Solving Time-Dependent Stochastic PDEs Using Physics-Informed Neural Networks. SIAM Journal of Scientific Computing, 2020, 42, A639-A665.	1.3	129
84	Quantifying the generalization error in deep learning in terms of data distribution and neural network smoothness. Neural Networks, 2020, 130, 85-99.	3.3	23
85	Physics-Informed Generative Adversarial Networks for Stochastic Differential Equations. SIAM Journal of Scientific Computing, 2020, 42, A292-A317.	1.3	168
86	Hidden fluid mechanics: Learning velocity and pressure fields from flow visualizations. Science, 2020, 367, 1026-1030.	6.0	846
87	A three-dimensional phase-field model for multiscale modeling of thrombus biomechanics in blood vessels. PLoS Computational Biology, 2020, 16, e1007709.	1.5	51
88	Extraction of mechanical properties of materials through deep learning from instrumented indentation. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 7052-7062.	3.3	178
89	Controlled release of entrapped nanoparticles from thermoresponsive hydrogels with tunable network characteristics. Soft Matter, 2020, 16, 4756-4766.	1.2	14
90	Conservative physics-informed neural networks on discrete domains for conservation laws: Applications to forward and inverse problems. Computer Methods in Applied Mechanics and Engineering, 2020, 365, 113028.	3.4	362

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91	Physics-Informed Learning Machines for Partial Differential Equations: Gaussian Processes Versus Neural Networks. Advances in Dynamics, Patterns, Cognition, 2020, , 323-343.	0.2	15
92	Physics-informed neural networks for inverse problems in nano-optics and metamaterials. Optics Express, 2020, 28, 11618.	1.7	257
93	Systems biology informed deep learning for inferring parameters and hidden dynamics. PLoS Computational Biology, 2020, 16, e1007575.	1.5	133
94	Multiscale Modeling of Diseases: Overview. , 2020, , 2541-2550.		0
95	Title is missing!. , 2020, 16, e1007709.		0
96	Title is missing!. , 2020, 16, e1007709.		0
97	Title is missing!. , 2020, 16, e1007709.		0
98	Title is missing!. , 2020, 16, e1007709.		0
99	Quantitative prediction of erythrocyte sickling for the development of advanced sickle cell therapies. Science Advances, 2019, 5, eaax3905.	4.7	18
100	Machine Learning of Space-Fractional Differential Equations. SIAM Journal of Scientific Computing, 2019, 41, A2485-A2509.	1.3	32
101	Efficient Multistep Methods for Tempered Fractional Calculus: Algorithms and Simulations. SIAM Journal of Scientific Computing, 2019, 41, A2510-A2535.	1.3	36
102	A stabilized phase-field method for two-phase flow at high Reynolds number and large density/viscosity ratio. Journal of Computational Physics, 2019, 397, 108832.	1.9	11
103	Quantifying total uncertainty in physics-informed neural networks for solving forward and inverse stochastic problems. Journal of Computational Physics, 2019, 397, 108850.	1.9	212
104	Mapping the properties of the vortex-induced vibrations of flexible cylinders in uniform oncoming flow. Journal of Fluid Mechanics, 2019, 881, 815-858.	1.4	49
105	Nonlocal Flocking Dynamics: Learning the Fractional Order of PDEs from Particle Simulations. Communications on Applied Mathematics and Computation, 2019, 1, 597-619.	0.7	15
106	fPINNs: Fractional Physics-Informed Neural Networks. SIAM Journal of Scientific Computing, 2019, 41, A2603-A2626.	1.3	365
107	Density-dependent finite system-size effects in equilibrium molecular dynamics estimation of shear viscosity: Hydrodynamic and configurational study. Journal of Chemical Physics, 2019, 151, 104101.	1.2	10
108	Fractional Grayâ€“Scott model: Well-posedness, discretization, and simulations. Computer Methods in Applied Mechanics and Engineering, 2019, 347, 1030-1049.	3.4	28

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109	Concurrent coupling of atomistic simulation and mesoscopic hydrodynamics for flows over soft multi-functional surfaces. Soft Matter, 2019, 15, 1747-1757.	1.2	17
110	A computational mechanics special issue on: data-driven modeling and simulationâ€"theory, methods, and applications. Computational Mechanics, 2019, 64, 275-277.	2.2	20
111	A Spectral Penalty Method for Two-Sided Fractional Differential Equations with General Boundary Conditions. SIAM Journal of Scientific Computing, 2019, 41, A1840-A1866.	1.3	5
112	One-dimensional modeling of fractional flow reserve in coronary artery disease: Uncertainty quantification and Bayesian optimization. Computer Methods in Applied Mechanics and Engineering, 2019, 353, 66-85.	3.4	28
113	Parametric Gaussian process regression for big data. Computational Mechanics, 2019, 64, 409-416.	2.2	22
114	Supervised parallel-in-time algorithm for long-time Lagrangian simulations of stochastic dynamics: Application to hydrodynamics. Journal of Computational Physics, 2019, 393, 214-228.	1.9	8
115	Linking Gaussian process regression with data-driven manifold embeddings for nonlinear data fusion. Interface Focus, 2019, 9, 20180083.	1.5	23
116	Neural-net-induced Gaussian process regression for function approximation and PDE solution. Journal of Computational Physics, 2019, 384, 270-288.	1.9	39
117	Multi-domain spectral collocation method for variable-order nonlinear fractional differential equations. Computer Methods in Applied Mechanics and Engineering, 2019, 348, 377-395.	3.4	21
118	Discovering a universal variable-order fractional model for turbulent Couette flow using a physics-informed neural network.. Fractional Calculus and Applied Analysis, 2019, 22, 1675-1688.	1.2	23
119	A robotic Intelligent Towing Tank for learning complex fluid-structure dynamics. Science Robotics, 2019, 4, .	9.9	43
120	Integrating machine learning and multiscale modelingâ€"perspectives, challenges, and opportunities in the biological, biomedical, and behavioral sciences. Npj Digital Medicine, 2019, 2, 115.	5.7	319
121	Deep learning of vortex-induced vibrations. Journal of Fluid Mechanics, 2019, 861, 119-137.	1.4	256
122	Fractional magneto-hydrodynamics: Algorithms and applications. Journal of Computational Physics, 2019, 378, 44-62.	1.9	8
123	An entropy-viscosity large eddy simulation study of turbulent flow in a flexible pipe. Journal of Fluid Mechanics, 2019, 859, 691-730.	1.4	13
124	Quantifying Shear-Induced Deformation and Detachment of Individual Adherent Sickle Red BloodÂCells. Biophysical Journal, 2019, 116, 360-371.	0.2	29
125	Turbulence in a Localized Puff in a Pipe. Flow, Turbulence and Combustion, 2019, 103, 1-24.	1.4	4
126	Self-Cleaning of Hydrophobic Rough Surfaces by Coalescence-Induced Wetting Transition. Langmuir, 2019, 35, 2431-2442.	1.6	87

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127	Data-driven Modeling of Hemodynamics and its Role on Thrombus Size and Shape in Aortic Dissections. Scientific Reports, 2018, 8, 2515.	1.6	23
128	Numerical Gaussian Processes for Time-Dependent and Nonlinear Partial Differential Equations. SIAM Journal of Scientific Computing, 2018, 40, A172-A198.	1.3	162
129	An atomistic fingerprint algorithm for learning ab initio molecular force fields. Journal of Chemical Physics, 2018, 148, 034101.	1.2	23
130	Preface: theory, methods, and applications of mesoscopic modeling. Applied Mathematics and Mechanics (English Edition), 2018, 39, 1-2.	1.9	7
131	Hidden physics models: Machine learning of nonlinear partial differential equations. Journal of Computational Physics, 2018, 357, 125-141.	1.9	739
132	Molecular hydrodynamics: Vortex formation and sound wave propagation. Journal of Chemical Physics, 2018, 148, 024506.	1.2	9
133	A Spectral Method (of Exponential Convergence) for Singular Solutions of the Diffusion Equation with General Two-Sided Fractional Derivative. SIAM Journal on Numerical Analysis, 2018, 56, 24-49.	1.1	69
134	Cytoskeleton Remodeling Induces Membrane Stiffness and Stability Changes of Maturing Reticulocytes. Biophysical Journal, 2018, 114, 2014-2023.	0.2	46
135	Active learning of constitutive relation from mesoscopic dynamics for macroscopic modeling of non-Newtonian flows. Journal of Computational Physics, 2018, 363, 116-127.	1.9	38
136	A Computational Stochastic Methodology for the Design of Random Meta-materials under Geometric Constraints. SIAM Journal of Scientific Computing, 2018, 40, B353-B378.	1.3	9
137	A dissipative particle dynamics method for arbitrarily complex geometries. Journal of Computational Physics, 2018, 355, 534-547.	1.9	60
138	Multiscale Modeling of Diseases: Overview. , 2018, , 1-10.		0
139	A Riesz Basis Galerkin Method for the Tempered Fractional Laplacian. SIAM Journal on Numerical Analysis, 2018, 56, 3010-3039.	1.1	28
140	A New Class of Semi-Implicit Methods with Linear Complexity for Nonlinear Fractional Differential Equations. SIAM Journal of Scientific Computing, 2018, 40, A2986-A3011.	1.3	18
141	Quantifying Platelet Margination in Diabetic BloodÂFlow. Biophysical Journal, 2018, 115, 1371-1382.	0.2	51
142	Mechanics of diseased red blood cells in human spleen and consequences for hereditary blood disorders. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 9574-9579.	3.3	93
143	Simultaneous polymerization and adhesion under hypoxia in sickle cell disease. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 9473-9478.	3.3	55
144	A partitioned coupling framework for peridynamics and classical theory: Analysis and simulations. Computer Methods in Applied Mechanics and Engineering, 2018, 340, 905-931.	3.4	37

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145	Moving toward realistic models. Physics of Life Reviews, 2018, 26-27, 96-99.	1.5	2
146	Nature of intrinsic uncertainties in equilibrium molecular dynamics estimation of shear viscosity for simple and complex fluids. Journal of Chemical Physics, 2018, 149, 044510.	1.2	30
147	Bi-directional coupling between a PDE-domain and an adjacent Data-domain equipped with multi-fidelity sensors. Journal of Computational Physics, 2018, 374, 121-134.	1.9	1
148	A spectral-element/Fourier smoothed profile method for large-eddy simulations of complex VIV problems. Computers and Fluids, 2018, 172, 84-96.	1.3	14
149	Stochastic Domain Decomposition via Moment Minimization. SIAM Journal of Scientific Computing, 2018, 40, A2152-A2173.	1.3	6
150	A probabilistic framework for multidisciplinary design: Application to the hydrostructural optimization of supercavitating hydrofoils. International Journal for Numerical Methods in Engineering, 2018, 116, 246-269.	1.5	7
151	Understanding the Twisted Structure of Amyloid Fibrils via Molecular Simulations. Journal of Physical Chemistry B, 2018, 122, 11302-11310.	1.2	6
152	Omics, big data and machine learning as tools to propel understanding of biological mechanisms and to discover novel diagnostics and therapeutics. Metabolism: Clinical and Experimental, 2018, 87, A1-A9.	1.5	83
153	Improving SWATH Seakeeping Performance using Multi-Fidelity Gaussian Process and Bayesian Optimization. Journal of Ship Research, 2018, 62, 223-240.	0.5	22
154	A tunable finite difference method for fractional differential equations with non-smooth solutions. Computer Methods in Applied Mechanics and Engineering, 2017, 318, 193-214.	3.4	29
155	Computing the non-Markovian coarse-grained interactions derived from the Moriâ€“Zwanzig formalism in molecular systems: Application to polymer melts. Journal of Chemical Physics, 2017, 146, 014104.	1.2	73
156	Anisotropic single-particle dissipative particle dynamics model. Journal of Computational Physics, 2017, 336, 481-491.	1.9	5
157	A Generalized Spectral Collocation Method with Tunable Accuracy for Fractional Differential Equations with End-Point Singularities. SIAM Journal of Scientific Computing, 2017, 39, A360-A383.	1.3	56
158	Fractional Burgers equation with nonlinear non-locality: Spectral vanishing viscosity and local discontinuous Galerkin methods. Journal of Computational Physics, 2017, 336, 143-163.	1.9	18
159	Inferring solutions of differential equations using noisy multi-fidelity data. Journal of Computational Physics, 2017, 335, 736-746.	1.9	202
160	Nonlinear information fusion algorithms for data-efficient multi-fidelity modelling. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2017, 473, 20160751.	1.0	175
161	Computational Biomechanics of Human Red Blood Cells in Hematological Disorders. Journal of Biomechanical Engineering, 2017, 139, .	0.6	46
162	Fractional spectral vanishing viscosity method: Application to the quasi-geostrophic equation. Chaos, Solitons and Fractals, 2017, 102, 327-332.	2.5	5

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163	A robust bi-orthogonal/dynamically-orthogonal method using the covariance pseudo-inverse with application to stochastic flow problems. Journal of Computational Physics, 2017, 344, 303-319.	1.9	23
164	GPU-accelerated red blood cells simulations with transport dissipative particle dynamics. Computer Physics Communications, 2017, 217, 171-179.	3.0	43
165	A resilient and efficient CFD framework: Statistical learning tools for multi-fidelity and heterogeneous information fusion. Journal of Computational Physics, 2017, 344, 516-533.	1.9	8
166	A Petrovâ€“Galerkin spectral element method for fractional elliptic problems. Computer Methods in Applied Mechanics and Engineering, 2017, 324, 512-536.	3.4	37
167	A Petrov–Galerkin Spectral Method of Linear Complexity for Fractional Multiterm ODEs on the Half Line. SIAM Journal of Scientific Computing, 2017, 39, A922-A946.	1.3	24
168	OpenRBC: A Fast Simulator of Red Blood Cells atÂProtein Resolution. Biophysical Journal, 2017, 112, 2030-2037.	0.2	47
169	Petrov–Galerkin and Spectral Collocation Methods for Distributed Order Differential Equations. SIAM Journal of Scientific Computing, 2017, 39, A1003-A1037.	1.3	60
170	Efficient two-dimensional simulations of the fractional Szabo equation with different time-stepping schemes. Computers and Mathematics With Applications, 2017, 73, 1286-1297.	1.4	3
171	Systematic parameter inference in stochastic mesoscopic modeling. Journal of Computational Physics, 2017, 330, 571-593.	1.9	18
172	Second-order numerical methods for multi-term fractional differential equations: Smooth and non-smooth solutions. Computer Methods in Applied Mechanics and Engineering, 2017, 327, 478-502.	3.4	97
173	Direct numerical simulations of two-phase flow in an inclined pipe. Journal of Fluid Mechanics, 2017, 825, 189-207.	1.4	18
174	Computing Fractional Laplacians on Complex-Geometry Domains: Algorithms and Simulations. SIAM Journal of Scientific Computing, 2017, 39, A1320-A1344.	1.3	41
175	Modeling of Biomechanics and Biorheology of Red Blood Cells in Type 2 Diabetes Mellitus. Biophysical Journal, 2017, 113, 481-490.	0.2	54
176	Machine learning of linear differential equations using Gaussian processes. Journal of Computational Physics, 2017, 348, 683-693.	1.9	343
177	Discovering variable fractional orders of advectionâ€“dispersion equations from field data using multi-fidelity Bayesian optimization. Journal of Computational Physics, 2017, 348, 694-714.	1.9	44
178	A general CFD framework for fault-resilient simulations based on multi-resolution information fusion. Journal of Computational Physics, 2017, 347, 290-304.	1.9	9
179	Mesoscopic Adaptive Resolution Scheme toward Understanding of Interactions between Sickle Cell Fibers. Biophysical Journal, 2017, 113, 48-59.	0.2	16
180	Adaptive finite element method for fractional differential equations using hierarchical matrices. Computer Methods in Applied Mechanics and Engineering, 2017, 325, 56-76.	3.4	54

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181	Biomechanics and biorheology of red blood cells in sickle cell anemia. Journal of Biomechanics, 2017, 50, 34-41.	0.9	87
182	Modeling Soft Tissue Damage and Failure Using a Combined Particle/Continuum Approach. Biomechanics and Modeling in Mechanobiology, 2017, 16, 249-261.	1.4	35
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