Kolade M Owolabi

List of Publications by Year
in descending order

111 papers	3,669 citations	109137 35 h-index	149479 56 g-index
118 all docs	118 docs citations	118 times ranked	1160 citing authors

#	Article	IF	Citations
1	New numerical approach for fractional differential equations. Mathematical Modelling of Natural Phenomena, 2018, 13, 3.	0.9	209
2	Analysis of fractal fractional differential equations. AEJ - Alexandria Engineering Journal, 2020, 59, 1117-1134.	3.4	166
3	Modelling and analysis of fractal-fractional partial differential equations: Application to reaction-diffusion model. AEJ - Alexandria Engineering Journal, 2020, 59, 2477-2490.	3.4	139
4	Chaotic dynamics of a fractional order HIV-1 model involving AIDS-related cancer cells. Chaos, Solitons and Fractals, 2020, 140, 110272.	2.5	132
5	Global dynamics of a fractional order model for the transmission of HIV epidemic with optimal control. Chaos, Solitons and Fractals, 2020, 138, 109826.	2.5	132
6	On the formulation of Adams-Bashforth scheme with Atangana-Baleanu-Caputo fractional derivative to model chaotic problems. Chaos, 2019, 29, 023111.	1.0	126
7	Fourier spectral method for higher order space fractional reaction–diffusion equations. Communications in Nonlinear Science and Numerical Simulation, 2016, 40, 112-128.	1.7	120
8	Robust and adaptive techniques for numerical simulation of nonlinear partial differential equations of fractional order. Communications in Nonlinear Science and Numerical Simulation, 2017, 44, 304-317.	1.7	99
9	Spatiotemporal patterns in the Belousov–Zhabotinskii reaction systems with Atangana–Baleanu fractional order derivative. Physica A: Statistical Mechanics and Its Applications, 2019, 523, 1072-1090.	1.2	93
10	Modeling the mechanics of viral kinetics under immune control during primary infection of HIV-1 with treatment in fractional order. Physica A: Statistical Mechanics and Its Applications, 2020, 545, 123816.	1.2	92
11	Mathematical analysis and computational experiments for an epidemic system with nonlocal and nonsingular derivative. Chaos, Solitons and Fractals, 2019, 126, 41-49.	2.5	91
12	Analysis and application of new fractional Adams–Bashforth scheme with Caputo–Fabrizio derivative. Chaos, Solitons and Fractals, 2017, 105, 111-119.	2.5	89
13	Higher-order time-stepping methods for time-dependent reaction–diffusion equations arising in biology. Applied Mathematics and Computation, 2014, 240, 30-50.	1.4	73
14	Modelling and simulation of a dynamical system with the Atangana-Baleanu fractional derivative. European Physical Journal Plus, 2018, 133, 1.	1.2	72
15	Numerical approximation of nonlinear fractional parabolic differential equations with Caputo–Fabrizio derivative in Riemann–Liouville sense. Chaos, Solitons and Fractals, 2017, 99, 171-179.	2.5	71
16	A nonlinear epidemiological model considering asymptotic and quarantine classes for SARS CoV-2 virus. Chaos, Solitons and Fractals, 2020, 138, 109953.	2.5	70
17	Numerical solution of fractional-in-space nonlinear Schrödinger equation with the Riesz fractional derivative. European Physical Journal Plus, 2016, 131, 1.	1.2	66
18	Mathematical analysis and numerical simulation of patterns in fractional and classical reaction-diffusion systems. Chaos, Solitons and Fractals, 2016, 93, 89-98.	2.5	65

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19	Mathematical modeling and analysis of two-variable system with noninteger-order derivative. Chaos, 2019, 29, 013145.	1.0	62
20	Numerical simulations of multicomponent ecological models with adaptive methods. Theoretical Biology and Medical Modelling, 2016, 13, 1.	2.1	61
21	Chaotic behaviour in system of noninteger-order ordinary differential equations. Chaos, Solitons and Fractals, 2018, 115, 362-370.	2.5	56
22	Robustness of fractional difference schemes via the Caputo subdiffusion-reaction equations. Chaos, Solitons and Fractals, 2018, 111, 119-127.	2.5	53
23	Numerical Methods for Fractional Differentiation. Springer Series in Computational Mathematics, 2019, , .	0.1	52
24	Mathematical modelling and analysis of two-component system with Caputo fractional derivative order. Chaos, Solitons and Fractals, 2017, 103, 544-554.	2.5	49
25	High-dimensional spatial patterns in fractional reaction-diffusion system arising in biology. Chaos, Solitons and Fractals, 2020, 134, 109723.	2.5	48
26	Numerical patterns in reaction–diffusion system with the Caputo and Atangana–Baleanu fractional derivatives. Chaos, Solitons and Fractals, 2018, 115, 160-169.	2.5	47
27	Computational study of multi-species fractional reaction-diffusion system with ABC operator. Chaos, Solitons and Fractals, 2019, 128, 280-289.	2.5	44
28	Numerical Solution of Singular Patterns in One-dimensional Gray-Scott-like Models. International Journal of Nonlinear Sciences and Numerical Simulation, 2014, 15, 437-462.	0.4	43
29	Numerical simulations of chaotic and complex spatiotemporal patterns in fractional reaction–diffusion systems. Computational and Applied Mathematics, 2018, 37, 2166-2189.	1.3	43
30	Analysis and numerical simulation of multicomponent system with Atangana–Baleanu fractional derivative. Chaos, Solitons and Fractals, 2018, 115, 127-134.	2.5	43
31	On the dynamics of fractional maps with power-law, exponential decay and Mittag–Leffler memory. Chaos, Solitons and Fractals, 2019, 127, 364-388.	2.5	42
32	Mathematical analysis and numerical simulation of chaotic noninteger order differential systems with Riemann–Liouville derivative. Numerical Methods for Partial Differential Equations, 2018, 34, 274-295.	2.0	40
33	Behavioural study of symbiosis dynamics via the Caputo and Atangana–Baleanu fractional derivatives. Chaos, Solitons and Fractals, 2019, 122, 89-101.	2.5	39
34	Modeling the Transmission Dynamics of COVID-19 Pandemic in Caputo Type Fractional Derivative. Journal of Multiscale Modeling, 2021, 12, .	1.0	39
35	Numerical solution of diffusive HBV model in a fractional medium. SpringerPlus, 2016, 5, 1643.	1.2	37
36	Modelling, analysis and simulations of some chaotic systems using derivative with Mittag–Leffler kernel. Chaos, Solitons and Fractals, 2019, 125, 54-63.	2.5	37

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37	Mathematical modelling and analysis of love dynamics: A fractional approach. Physica A: Statistical Mechanics and Its Applications, 2019, 525, 849-865.	1.2	37
38	Numerical approach to fractional blow-up equations with Atangana-Baleanu derivative in Riemann-Liouville sense. Mathematical Modelling of Natural Phenomena, 2018, 13, 7.	0.9	36
39	Numerical simulation of fractional-order reaction–diffusion equations with the Riesz and Caputo derivatives. Neural Computing and Applications, 2020, 32, 4093-4104.	3.2	33
40	Modeling and simulation of nonlinear dynamical system in the frame of nonlocal and non-singular derivatives. Chaos, Solitons and Fractals, 2019, 127, 146-157.	2.5	32
41	Robust IMEX Schemes for Solving Two-Dimensional Reaction–Diffusion Models. International Journal of Nonlinear Sciences and Numerical Simulation, 2015, 16, 271-284.	0.4	31
42	Numerical Simulation of Noninteger Order System in Subdiffusive, Diffusive, and Superdiffusive Scenarios. Journal of Computational and Nonlinear Dynamics, 2017, 12, .	0.7	31
43	Modelling and formation of spatiotemporal patterns of fractional predation system in subdiffusion and superdiffusion scenarios. European Physical Journal Plus, 2018, 133, 1.	1.2	28
44	Efficient numerical techniques for computing the Riesz fractional-order reaction-diffusion models arising in biology. Chaos, Solitons and Fractals, 2022, 161, 112394.	2.5	27
45	Efficient numerical simulation of non-integer-order space-fractional reaction-diffusion equation via the Riemann-Liouville operator. European Physical Journal Plus, 2018, 133, 1.	1.2	26
46	Modelling the transmission dynamics of Lassa fever with nonlinear incidence rate and vertical transmission. Physica A: Statistical Mechanics and Its Applications, 2022, 597, 127259.	1.2	26
47	Chaotic and spatiotemporal oscillations in fractional reaction-diffusion system. Chaos, Solitons and Fractals, 2020, 141, 110302.	2.5	25
48	Numerical approach to chaotic pattern formation in diffusive predator–prey system with Caputo fractional operator. Numerical Methods for Partial Differential Equations, 2021, 37, 131-151.	2.0	25
49	Emergent patterns in diffusive Turing-like systems with fractional-order operator. Neural Computing and Applications, 2021, 33, 12703-12720.	3.2	24
50	Riemann-Liouville Fractional Derivative and Application to Model Chaotic Differential Equations. Progress in Fractional Differentiation and Applications, 2018, 4, 99-110.	1.1	22
51	Spatiotemporal (target) patterns in sub-diffusive predator-prey system with the Caputo operator. Chaos, Solitons and Fractals, 2022, 160, 112267.	2.5	22
52	Mathematical study of multispecies dynamics modeling predator–prey spatial interactions. Journal of Numerical Mathematics, 2017, 25, 1-16.	1.8	21
53	Numerical patterns in system of integer and non-integer order derivatives. Chaos, Solitons and Fractals, 2018, 115, 143-153.	2.5	21
54	Computational study of noninteger order system of predation. Chaos, 2019, 29, 013120.	1.0	21

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55	Fractal Fractional Operator Method on HER2+ Breast Cancer Dynamics. International Journal of Applied and Computational Mathematics, 2021, 7, 1.	0.9	21
56	Numerical simulations of multilingual competition dynamics with nonlocal derivative. Chaos, Solitons and Fractals, 2018, 117, 175-182.	2.5	20
57	Fractional operator method on a multi-mutation and intrinsic resistance model. AEJ - Alexandria Engineering Journal, 2020, 59, 1999-2013.	3.4	20
58	Mathematical analysis and numerical simulation of two-component system with non-integer-order derivative in high dimensions. Advances in Difference Equations, 2017, 2017, .	3.5	19
59	Dynamics of multi-pulse splitting process in one-dimensional Gray-Scott system with fractional order operator. Chaos, Solitons and Fractals, 2020, 136, 109835.	2.5	19
60	Pattern formation in superdiffusion predator–prey–like problems with integer–and noninteger–order derivatives. Mathematical Methods in the Applied Sciences, 2021, 44, 4018-4036.	1.2	19
61	Modelling of Chaotic Processes with Caputo Fractional Order Derivative. Entropy, 2020, 22, 1027.	1.1	17
62	Analysis and pattern formation scenarios in the superdiffusive system of predation described with Caputo operator. Chaos, Solitons and Fractals, 2021, 152, 111468.	2.5	17
63	Analysis of Mathematics and Numerical Pattern Formation in Superdiffusive Fractional Multicomponent System. Advances in Applied Mathematics and Mechanics, 2017, 9, 1438-1460.	0.7	16
64	Spatiotemporal Dynamics of Fractional Predator–Prey System with Stage Structure for the Predator. International Journal of Applied and Computational Mathematics, 2017, 3, 903-924.	0.9	15
65	Computational techniques for highly oscillatory and chaotic wave problems with fractional-order operator. European Physical Journal Plus, 2020, 135, 1.	1.2	14
66	Effect of spatial configuration of an extended nonlinear Kierstead–Slobodkin reaction-transport model with adaptive numerical scheme. SpringerPlus, 2016, 5, 303.	1.2	13
67	Mathematical modelling of multi-mutation and drug resistance model with fractional derivative. AEJ - Alexandria Engineering Journal, 2020, 59, 2291-2304.	3.4	13
68	Computational analysis of different Pseudoplatystoma species patterns the Caputo-Fabrizio derivative. Chaos, Solitons and Fractals, 2021, 144, 110675.	2.5	13
69	Dynamics of pattern formation process in fractional-order super-diffusive processes: a computational approach. Soft Computing, 2021, 25, 11191-11208.	2.1	12
70	High-order solvers for space-fractional differential equations with Riesz derivative. Discrete and Continuous Dynamical Systems - Series S, 2019, 12, 567-590.	0.6	12
71	Analysis and simulation of herd behaviour dynamics based on derivative with nonlocal and nonsingular kernel. Results in Physics, 2021, 22, 103941.	2.0	11
72	Numerical analysis of polio model: A mathematical approach to epidemiological model using derivative with Mittag–Leffler Kernel. Mathematical Methods in the Applied Sciences, 2023, 46, 8175-8192.	1.2	11

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73	Numerical analysis and pattern formation process for space-fractional superdiffusive systems. Discrete and Continuous Dynamical Systems - Series S, 2019, 12, 543-566.	0.6	11
74	Mathematical study of two-variable systems with adaptive numerical methods. Numerical Analysis and Applications, 2016, 9, 218-230.	0.2	9
75	Numerical simulation of chaotic maps with the new generalized Caputo-type fractional-order operator. Results in Physics, 2022, 38, 105563.	2.0	9
76	Existence and Permanence in a Diffusive KiSS Model with Robust Numerical Simulations. International Journal of Differential Equations, 2015, 2015, 1-8.	0.3	8
77	Solution of Pattern Waves for Diffusive Fisher-like Non-linear Equations with Adaptive Methods. International Journal of Nonlinear Sciences and Numerical Simulation, 2016, 17, 291-304.	0.4	8
78	Focus Point on Modelling Complex Real-World Problems with Fractal and New Trends of Fractional Differentiation. European Physical Journal Plus, 2018, 133, 1.	1.2	8
79	Fractional Adams-Bashforth scheme with the Liouville-Caputo derivative and application to chaotic systems. Discrete and Continuous Dynamical Systems - Series S, 2021, 14, 2455.	0.6	8
80	Dynamical behaviour of fractional-order predator-prey system of Holling-type. Discrete and Continuous Dynamical Systems - Series S, 2020, 13, 823-834.	0.6	8
81	Dynamical study of two predators and one prey system with fractional Fourier transform method. Numerical Methods for Partial Differential Equations, 2018, 34, 1614-1636.	2.0	7
82	Computational dynamics of predator-prey model with the power-law kernel. Results in Physics, 2021, 21, 103810.	2.0	7
83	Review of Fractional Differentiation. Springer Series in Computational Mathematics, 2019, , 1-82.	0.1	6
84	Barycentric Jacobi Spectral Method for Numerical Solutions of the Generalized Burgers-Huxley Equation. International Journal of Nonlinear Sciences and Numerical Simulation, 2017, 18, 67-81.	0.4	5
85	Numerical Solution of Space-Time-Fractional Reaction-Diffusion Equations via the Caputo and Riesz Derivatives. Studies in Systems, Decision and Control, 2019, , 161-188.	0.8	5
86	Dynamics of Fractional Chaotic Systems with Chebyshev Spectral Approximation Method. International Journal of Applied and Computational Mathematics, 2022, 8, .	0.9	5
87	Analysis and numerical simulation of cross reaction–diffusion systems with the Caputo–Fabrizio and Riesz operators. Numerical Methods for Partial Differential Equations, 2023, 39, 1915-1937.	2.0	4
88	Mathematical Modelling and Analysis of Fractional Epidemic Models Using Derivative with Exponential Kernel. , 2020, , 109-128.		4
89	Efficient numerical method for a model arising in biological stoichiometry of tumour dynamics. Discrete and Continuous Dynamical Systems - Series S, 2019, 12, 591-613.	0.6	4
90	Numerical simulation of multidimensional nonlinear fractional Ginzburg-Landau equations. Discrete and Continuous Dynamical Systems - Series S, 2020, 13, 835-851.	0.6	4

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91	Numerical solution for a problem arising in angiogenic signalling. AIMS Mathematics, 2019, 4, 43-60.	0.7	4
92	Mathematical and computational studies of fractional reaction-diffusion system modelling predator-prey interactions. Journal of Numerical Mathematics, 2018, .	1.8	3
93	Numerical Solutions and Pattern Formation Process in Fractional Diffusion-Like Equations. Studies in Systems, Decision and Control, 2019, , 195-216.	0.8	3
94	Robust synchronization of chaotic fractional-order systems with shifted Chebyshev spectral collocation method. Journal of Applied Analysis, 2021, 27, 269-282.	0.2	3
95	Fractal Fractional Derivative Operator Method on MCF-7 Cell Line Dynamics. Studies in Systems, Decision and Control, 2022, , 319-339.	0.8	3
96	Finite Difference Approximations. Springer Series in Computational Mathematics, 2019, , 83-137.	0.1	3
97	Modelling and numerical synchronization of chaotic system with fractional-order operator. International Journal of Nonlinear Sciences and Numerical Simulation, 2022, 23, 1269-1287.	0.4	3
98	Mathematical analysis and numerical simulation of a fractional reaction-diffusion system with Holling-type III functional response. International Journal of Mathematical Modelling and Numerical Optimisation, 2019, 9, 196.	0.1	2
99	Mathematical analysis and numerical simulation of a tumor-host model with chemotherapy application. Communications in Mathematical Biology and Neuroscience, 0, , .	0.0	2
100	Spatiotemporal chaos in diffusive systems with the Riesz fractional order operator. Chinese Journal of Physics, 2022, 77, 2258-2275.	2.0	2
101	Numerical Techniques for Fractional Competition Dynamics with Power-, Exponential- and Mittag-Leffler Laws. Studies in Systems, Decision and Control, 2019, , 313-332.	0.8	1
102	Preface: New trends on numerical analysis and analytical methods with their applications to real world problems. Discrete and Continuous Dynamical Systems - Series S, 2019, 12, â...°-â...°.	0.6	1
103	Modelling and Analysis of Predation System with Nonlocal and Nonsingular Operator. Forum for Interdisciplinary Mathematics, 2020, , 261-282.	0.8	1
104	Numerical analysis of polio model: A new approach to epidemiological model using derivative with Mittag-Leffler Kernel. Discrete and Continuous Dynamical Systems - Series S, 2018, .	0.6	0
105	Numerical Approximation of Caputoâ€"Fabrizio Differentiation. Springer Series in Computational Mathematics, 2019, , 175-194.	0.1	0
106	Numerical Approximation of Caputo Differentiation. Springer Series in Computational Mathematics, 2019, , 161-173.	0.1	0
107	Mathematical analysis and numerical simulation of a fractional reaction-diffusion system with Holling-type III functional response. International Journal of Mathematical Modelling and Numerical Optimisation, 2019, 9, 196.	0.1	0
108	Numerical Approximation of Riemannâ€"Liouville Differentiation. Springer Series in Computational Mathematics, 2019, , 139-160.	0.1	0

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109	Application to Partial Fractional Differential Equation. Springer Series in Computational Mathematics, 2019, , 251-328.	0.1	0
110	Application to Ordinary Fractional Differential Equations. Springer Series in Computational Mathematics, 2019, , 203-249.	0.1	0
111	Numerical Simulation of Nonlinear Ecological Models with Nonlocal andÂNonsingular Fractional Derivative. Forum for Interdisciplinary Mathematics, 2020, , 303-320.	0.8	0