Benito Chen-Charpentier

List of Publications by Year
in descending order

103 papers	1,919 citations	304368 22 h-index	288905 40 g-index
106 all docs	106 docs citations	106 times ranked	1439 citing authors

#	Article	IF	Citations
1	Using models to advance medicine: mathematical modeling of post-myocardial infarction left ventricular remodeling. Computer Methods in Biomechanics and Biomedical Engineering, 2022, 25, 298-307.	0.9	1
2	Developing a Mathematical Model of Intracellular Calcium Dynamics for Evaluating Combined Anticancer Effects of Afatinib and RP4010 in Esophageal Cancer. International Journal of Molecular Sciences, 2022, 23, 1763.	1.8	11
3	Delays in Plant Virus Models and Their Stability. Mathematics, 2022, 10, 603.	1.1	3
4	Viability of Pentadesma in reduced habitat ecosystems within two climatic regions with fruit harvesting. Journal of Biological Dynamics, 2022, 16, 207-235.	0.8	0
5	Mathematical Modeling of Physical Capital Diffusion Using a Spatial Solow Model: Application to Smuggling in Venezuela. Economies, 2022, 10, 164.	1.2	2
6	Stochastic Modeling of Plant Virus Propagation with Biological Control. Mathematics, 2021, 9, 456.	1.1	6
7	A simple model of immune and muscle cell crosstalk during muscle regeneration. Mathematical Biosciences, 2021, 333, 108543.	0.9	5
8	A Continuous Model of Marital Relations with Stochastic Differential Equations. Mathematical and Computational Applications, 2021, 26, 3.	0.7	0
9	Direct and indirect optimal control applied to plant virus propagation with seasonality and delays. Journal of Computational and Applied Mathematics, 2020, 380, 112983.	1.1	19
10	Optimal control of plant virus propagation. Mathematical Methods in the Applied Sciences, 2020, 43, 8147-8157.	1.2	4
11	Modeling plant virus propagation with seasonality. Journal of Computational and Applied Mathematics, 2019, 345, 310-319.	1.1	12
12	Modeling the Macrophage-Mediated Inflammation Involved in the Bone Fracture Healing Process. Mathematical and Computational Applications, 2019, 24, 12.	0.7	11
13	A Mathematical Model for Intimate Partner Violence. Mathematical and Computational Applications, 2019, 24, 29.	0.7	5
14	Combining Polynomial Chaos Expansions and the Random Variable Transformation Technique to Approximate the Density Function of Stochastic Problems, Including Some Epidemiological Models. Symmetry, 2019, 11, 43.	1.1	5
15	On the Inverse of the Caputo Matrix Exponential. Mathematics, 2019, 7, 1137.	1.1	0
16	Modeling the effects of growth factors on bone fracture healing. AIP Conference Proceedings, 2019, , .	0.3	0
17	Mathematical Modeling and Characterization of the Spread of Chikungunya in Colombia. Mathematical and Computational Applications, 2019, 24, 6.	0.7	9
18	A model of biological control of plant virus propagation with delays. Journal of Computational and Applied Mathematics, 2018, 330, 855-865.	1.1	30

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19	A mathematical model of tree harvesting in age-structured forests subject to beetle infestations. Computational and Applied Mathematics, 2018, 37, 3365-3384.	1.3	2
20	Quantifying rotavirus kinetics in the REH tumor cell line using in vitro data. Virus Research, 2018, 244, 53-63.	1.1	18
21	Maximizing tree harvesting benefit from forests under insect infestation disturbances. PLoS ONE, 2018, 13, e0200575.	1.1	2
22	Mathematical modeling of crime as a social epidemic. Journal of Interdisciplinary Mathematics, 2018, 21, 623-643.	0.4	23
23	Ionic silicon improves endothelial cells' survival under toxic oxidative stress by overexpressing angiogenic markers and antioxidant enzymes. Journal of Tissue Engineering and Regenerative Medicine, 2018, 12, 2203-2220.	1.3	22
24	Modeling plant virus propagation with delays. Journal of Computational and Applied Mathematics, 2017, 309, 611-621.	1.1	50
25	Effects of the obesity on optimal control schedules of chemotherapy on a cancerous tumor. Journal of Computational and Applied Mathematics, 2017, 309, 603-610.	1.1	22
26	Multidimensional Discrete Dynamical Systems with Slow Behavior. Differential Equations and Dynamical Systems, 2017, 29, 645.	0.5	3
27	Transient dynamics of terrestrial carbon storage: mathematical foundation and its applications. Biogeosciences, 2017, 14, 145-161.	1.3	91
28	Modeling the effects of inflammation in bone fracture healing. AIP Conference Proceedings, 2017, , .	0.3	8
29	Responses of two nonlinear microbial models to warming and increased carbon input. Biogeosciences, 2016, 13, 887-902.	1.3	43
30	Analysis and Models in Interdisciplinary Mathematics 2016. Abstract and Applied Analysis, 2016, 2016, 1-1.	0.3	0
31	Transit times and mean ages for nonautonomous and autonomous compartmental systems. Journal of Mathematical Biology, 2016, 73, 1379-1398.	0.8	40
32	A mathematical model of bone remodeling with delays. Journal of Computational and Applied Mathematics, 2016, 291, 76-84.	1.1	14
33	A classification of slow convergence near parametric periodic points of discrete dynamical systems. International Journal of Computer Mathematics, 2016, 93, 1011-1021.	1.0	5
34	A mathematical model for the effect of obesity on cancer growth and on the immune system response. Applied Mathematical Modelling, 2016, 40, 4908-4920.	2.2	43
35	Fractional Order Financial Models for Awareness and Trial Advertising Decisions. Computational Economics, 2016, 48, 555-568.	1.5	9
36	Construction of nonstandard finite difference schemes for the SI and SIR epidemic models of fractional order. Mathematics and Computers in Simulation, 2016, 121, 48-63.	2.4	83

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37	Modeling Chagas Disease at Population Level to Explain Venezuela's Real Data. Osong Public Health and Research Perspectives, 2015, 6, 288-301.	0.7	5
38	Stability analysis of a Komarova type model for the interactions of osteoblast and osteoclast cells during bone remodeling. Mathematical Biosciences, 2015, 264, 29-37.	0.9	16
39	Constructing adaptive generalized polynomial chaos method to measure the uncertainty in continuous models: A computational approach. Mathematics and Computers in Simulation, 2015, 109, 113-129.	2.4	11
40	Effects of a Discrete Time Delay on an HIV Pandemic. Springer Proceedings in Mathematics and Statistics, 2015, , 57-73.	0.1	0
41	Effects of discrete time delays and parameters variation on dynamical systems. Biomath, 2015, 4, .	0.3	0
42	Oscillatory behavior of two nonlinear microbial models of soil carbon decomposition. Biogeosciences, 2014, 11, 1817-1831.	1.3	53
43	Parameter estimation using polynomial chaos and maximum likelihood. International Journal of Computer Mathematics, 2014, 91, 336-346.	1.0	15
44	Analysis and Models in Interdisciplinary Mathematics. Abstract and Applied Analysis, 2014, 2014, 1-2.	0.3	1
45	A fractional order epidemic model for the simulation of outbreaks of influenza A(H1N1). Mathematical Methods in the Applied Sciences, 2014, 37, 2218-2226.	1.2	115
46	Polynomial Chaos for random fractional order differential equations. Applied Mathematics and Computation, 2014, 226, 123-130.	1.4	18
47	Positive numerical solution for a nonarbitrage liquidity model using nonstandard finite difference schemes. Numerical Methods for Partial Differential Equations, 2014, 30, 210-221.	2.0	9
48	A model for coupling fire and insect outbreak in forests. Ecological Modelling, 2014, 286, 26-36.	1.2	12
49	Upscaling from discrete to continuous mathematical models of two interacting populations. Computers and Mathematics With Applications, 2013, 66, 1606-1612.	1.4	5
50	Virus propagation with randomness. Mathematical and Computer Modelling, 2013, 57, 1816-1821.	2.0	5
51	An unconditionally positivity preserving scheme for advectionâ€"diffusion reaction equations. Mathematical and Computer Modelling, 2013, 57, 2177-2185.	2.0	66
52	Do the generalized polynomial chaos and FrÃ¶benius methods retain the statistical moments of random differential equations?. Applied Mathematics Letters, 2013, 26, 553-558.	1.5	2
53	Some recommendations for applying gPC (generalized polynomial chaos) to modeling: An analysis through the Airy random differential equation. Applied Mathematics and Computation, 2013, 219, 4208-4218.	1.4	10
54	Analytic and numerical solutions of a Riccati differential equation with random coefficients. Journal of Computational and Applied Mathematics, 2013, 239, 208-219.	1.1	18

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55	Uncertainty Quantification in Simulations of Epidemics Using Polynomial Chaos. Computational and Mathematical Methods in Medicine, 2012, 2012, 1-8.	0.7	11
56	A random differential transform method: Theory and applications. Applied Mathematics Letters, 2012, 25, 1490-1494.	1.5	24
57	Discrete and continuous approaches to modeling cell movement in the presence of a foreign stimulus. Computers and Mathematics With Applications, 2012, 64, 167-174.	1.4	3
58	Polynomial approximation of nonlinear differential systems with prefixed accuracy. Applied Mathematics and Computation, 2011, 218, 1650-1657.	1.4	0
59	Biofilm growth on medical implants with randomness. Mathematical and Computer Modelling, 2011, 54, 1682-1686.	2.0	12
60	Mathematical Modeling of Chemoatractant Effects on Cell Movement. , 2011, , .		3
61	Epidemic models with random coefficients. Mathematical and Computer Modelling, 2010, 52, 1004-1010.	2.0	34
62	Combination of nonstandard schemes and Richardsonâ€™s extrapolation to improve the numerical solution of population models. Mathematical and Computer Modelling, 2010, 52, 1030-1036.	2.0	46
63	A nonstandard numerical scheme of predictorâ€“corrector type for epidemic models. Computers and Mathematics With Applications, 2010, 59, 3740-3749.	1.4	46
64	Numerical simulation of multi-species biofilms in porous media for different kinetics. Mathematics and Computers in Simulation, 2009, 79, 1846-1861.	2.4	12
65	Dynamical analysis of the transmission of seasonal diseases using the differential transformation method. Mathematical and Computer Modelling, 2009, 50, 765-776.	2.0	17
66	Random coefficient differential equation models for bacterial growth. Mathematical and Computer Modelling, 2009, 50, 885-895.	2.0	30
67	Mathematical modeling of bioremediation of trichloroethylene in aquifers. Computers and Mathematics With Applications, 2008, 56, 645-656.	1.4	13
68	Biofilms in Porous Media: Mathematical Modeling and Numerical Simulation. , 2007, , 481-511.		0
69	Constructing accurate polynomial approximations for nonlinear differential initial value problems. Applied Mathematics and Computation, 2007, 193, 523-534.	1.4	5
70	Combined nonstandard numerical methods for ODEs with polynomial right-hand sides. Mathematics and Computers in Simulation, 2006, 73, 105-113.	2.4	20
71	Chebyshev polynomial approximations for nonlinear differential initial value problems. Nonlinear Analysis: Theory, Methods & Applications, 2005, 63, e629-e637.	0.6	11
72	Chaos in the one-dimensional wave equation. Applied Mathematics Letters, 2005, 18, 85-90.	1.5	5

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73	RELIABLE FINITE DIFFERENCE SCHEMES WITH APPLICATIONS IN MATHEMATICAL ECOLOGY. , 2005, , 249-285.		8
74	Nonstandard discrete approximationspreserving stability properties of continuous mathematical models. Mathematical and Computer Modelling, 2004, 40, 481-490.	2.0	13
75	Nonstandard Eulerianâ€"Lagrangian methods for multi-dimensional reactive transport problems. Applied Numerical Mathematics, 2004, 49, 225-243.	1.2	7
76	The truncation error of the two-variable chebyshev series expansions. Computers and Mathematics With Applications, 2003, 45, 1647-1653.	1.4	9
77	Explicit mixed finite order Rungeâ€"Kutta methods. Applied Numerical Mathematics, 2003, 44, 21-30.	1.2	0
78	Numerical simulation of dual-species biofilms in porous media. Applied Numerical Mathematics, 2003, 47, 377-389.	1.2	11
79	Numerical simulation of biofilm-forming bacteria and other microbes in porous media. Developments in Water Science, 2002, 47, 819-826.	0.1	0
80	Required number of location-years for estimating functional lower developmental thresholds and required thermal summations of insects: The first emergence of adult Apthona nigriscutis Foudras as an example. International Journal of Pest Management, 2002, 48, 147-154.	0.9	4
81	Simulation of thick biofilm growth at the microscale. Applied Numerical Mathematics, 2002, 40, 261-271.	1.2	4
82	Modeling of flow and transport at the microscale. Applied Numerical Mathematics, 2002, 40, 245-259.	1.2	3
83	Frobenius-Chebyshev polynomial approximations with a priori error bounds for nonlinear initial value differential problems. Computers and Mathematics With Applications, 2001, 41, 269-280.	1.4	11
84	Molecular dynamic simulations of gases using a split-Hamiltonian method. Applied Numerical Mathematics, 2001, 38, 21-48.	1.2	1
85	Modeling of Subsurface Biobarrier Formation. Journal of Hazardous Substance Research, 2001, 3, .	0.3	4
86	A high-order Godunov method for one-dimensional convection-diffusion-reaction problems. Numerical Methods for Partial Differential Equations, 2000, 16, 495-512.	2.0	4
87	Numerical simulation of biofilm growth in porous media. Journal of Computational and Applied Mathematics, 1999, 103, 55-66.	1.1	23
88	Non-standard Numerical Methods Applied to Subsurface Biobarrier Formation Models in Porous Media. Bulletin of Mathematical Biology, 1999, 61, 779-798.	0.9	17
89	Nonstandard methods for the convective-dispersive transport equation with nonlinear reactions. Numerical Methods for Partial Differential Equations, 1999, 15, 617-624.	2.0	10
90	Macroscale Properties of Porous Media from a Network Model of Biofilm Processes. Transport in Porous Media, 1998, 31, 39-66.	1.2	37

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91	Network Model of Flow, Transport and Biofilm Effects in Porous Media. Transport in Porous Media, 1998, 30, 1-23.	1.2	82
92	Nonstandard methods for the convective transport equation with nonlinear reactions. Numerical Methods for Partial Differential Equations, 1998, 14, 467-485.	2.0	10
93	Discretizations of nonlinear differential equations using explicit finite order methods. Journal of Computational and Applied Mathematics, 1998, 90, 171-183.	1.1	26
94	A computer science approach for solving elliptic differential equations. Numerical Methods for Partial Differential Equations, 1995, 11, 573-590.	2.0	0
95	Layered Solutions to a Bistable Reaction-Diffusion Equation. Journal of Differential Equations, 1995, 117, 217-244.	1.1	1
96	Two-dimensional modeling of microscale transport and biotransformation in porous media. Numerical Methods for Partial Differential Equations, 1994, 10, 65-83.	2.0	38
97	Threeâ€Dimensional Stability and Bifurcation of Capillary and Gravity Waves on Deep Water. Studies in Applied Mathematics, 1985, 72, 125-147.	1.1	20
98	Delayed yield. An exact quasi-three dimensional model for free-aquifers. Advances in Water Resources, 1983, 6, 54-58.	1.7	0
99	Consolidation Curves for Clays. Journal of Geotechcnical Engineering, 1983, 109, 1303-1312.	0.4	5
100	Numerical treatment of leaky aquifers in the short time range. Water Resources Research, 1982, 18, 557-562.	1.7	5
101	Numerical Evidence for the Existence of New Types of Gravity Waves of Permanent Form on Deep Water. Studies in Applied Mathematics, 1980, 62, 1-21.	1.1	124
102	Steady Gravityâ€Capillary Waves on Deep Waterâ€"II. Numerical Results for Finite Amplitude. Studies in Applied Mathematics, 1980, 62, 95-111.	1.1	72
103	Steady Gravityâ€Capillary Waves On Deep Waterâ€"1. Weakly Nonlinear Waves. Studies in Applied Mathematics, 1979, 60, 183-210.	1.1	116