Christian Kuehn

List of Publications by Year
in descending order

114 papers	**2,487** citations	331259 **21** h-index	223531 **46** g-index
119 all docs	**119** docs citations	**119** times ranked	**1557** citing authors

#	ARTICLE	IF	CITATIONS
1	Controlling Canard Cycles. Journal of Dynamical and Control Systems, 2022, 28, 517-544.	0.4	2
2	On the reliable and efficient numerical integration of the Kuramoto model and related dynamical systems on graphs. International Journal of Computer Mathematics, 2022, 99, 31-57.	1.0	2
3	A general view on double limits in differential equations. Physica D: Nonlinear Phenomena, 2022, 431, 133105.	1.3	9
4	Discretized Fast–Slow Systems with Canards in Two Dimensions. Journal of Nonlinear Science, 2022, 32, 1.	1.0	1
5	Graphop Mean-Field Limits for Kuramoto-Type Models. SIAM Journal on Applied Dynamical Systems, 2022, 21, 248-283.	0.7	8
6	Warning signs for non-Markovian bifurcations: colour blindness and scaling laws. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2022, 478, .	1.0	2
7	Single-spike solutions to the 1D shadow Gierer–Meinhardt problem. Applied Mathematics Letters, 2022, 132, 108147.	1.5	0
8	Random walks and Laplacians on hypergraphs: When do they match?. Discrete Applied Mathematics, 2022, 317, 26-41.	0.5	4
9	Stability analysis of multiplayer games on adaptive simplicial complexes. Chaos, 2022, 32, .	1.0	10
10	Estimating rate-induced tipping via asymptotic series and a Melnikov-like method*. Nonlinearity, 2022, 35, 2559-2587.	0.6	6
11	Assessing the impact of parametric uncertainty on tipping points of the Atlantic meridional overturning circulation. Environmental Research Letters, 2022, 17, 075002.	2.2	1
12	Balancing Quarantine and Self-Distancing Measures in Adaptive Epidemic Networks. Bulletin of Mathematical Biology, 2022, 84, .	0.9	4
13	A geometric analysis of the SIR, SIRS and SIRWS epidemiological models. Nonlinear Analysis: Real World Applications, 2021, 58, 103220.	0.9	29
14	Rough Center Manifolds. SIAM Journal on Mathematical Analysis, 2021, 53, 3912-3957.	0.9	7
15	Global martingale solutions for quasilinear SPDEs via the boundedness-by-entropy method. Annales De L'institut Henri Poincare (B) Probability and Statistics, 2021, 57, .	0.7	2
16	A Random Dynamical Systems Perspective on Isochronicity for Stochastic Oscillations. Communications in Mathematical Physics, 2021, 386, 1603-1641.	1.0	11
17	Homogenization of Coupled Fast-Slow Systems via Intermediate Stochastic Regularization. Journal of Statistical Physics, 2021, 183, 1.	0.5	4
18	Random attractors via pathwise mild solutions for stochastic parabolic evolution equations. Journal of Evolution Equations, 2021, 21, 2631-2663.	0.6	1

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19	A universal route to explosive phenomena. Science Advances, 2021, 7, .	4.7	56
20	A qualitative mathematical model of the immune response under the effect of stress. Chaos, 2021, 31, 061104.	1.0	2
21	Numerical continuation for fractional PDEs: sharp teeth and bloated snakes. Communications in Nonlinear Science and Numerical Simulation, 2021, 98, 105762.	1.7	6
22	Reduced Models of Cardiomyocytes Excitability: Comparing Karma and FitzHugh–Nagumo. Bulletin of Mathematical Biology, 2021, 83, 88.	0.9	1
23	Coupled hypergraph maps and chaotic cluster synchronization. Europhysics Letters, 2021, 136, 40005.	0.7	7
24	Connecting a direct and a Galerkin approach to slow manifolds in infinite dimensions. Proceedings of the American Mathematical Society, Series B, 2021, 8, 252-266.	0.6	2
25	A geometric analysis of the SIRS epidemiological model on a homogeneous network. Journal of Mathematical Biology, 2021, 83, 37.	0.8	17
26	Metastable speeds in the fractional Allen–Cahn equation. Applied Mathematics and Computation, 2021, 408, 126329.	1.4	2
27	On the influence of cross-diffusion in pattern formation. Journal of Computational Dynamics, 2021, 8, 213.	0.4	10
28	Uncertainty Quantification of Bifurcations in Random Ordinary Differential Equations. SIAM Journal on Applied Dynamical Systems, 2021, 20, 2295-2334.	0.7	3
29	Travelling Waves in Monostable and Bistable Stochastic Partial Differential Equations. Deutsche Mathematiker Vereinigung Jahresbericht, 2020, 122, 73-107.	0.4	7
30	Computing Invariant Sets of Random Differential Equations Using Polynomial Chaos. SIAM Journal on Applied Dynamical Systems, 2020, 19, 577-618.	0.7	3
31	Random attractors for stochastic partly dissipative systems. Nonlinear Differential Equations and Applications, 2020, 27, 1.	0.4	1
32	Coupled dynamics on hypergraphs: Master stability of steady states and synchronization. Physical Review E, 2020, 101, 062313.	0.8	69
33	On Fast–Slow Consensus Networks with a Dynamic Weight. Journal of Nonlinear Science, 2020, 30, 2737-2786.	1.0	7
34	Sample Paths Estimates for Stochastic Fast-Slow Systems Driven by Fractional Brownian Motion. Journal of Statistical Physics, 2020, 179, 1222-1266.	0.5	7
35	Pathwise mild solutions for quasilinear stochastic partial differential equations. Journal of Differential Equations, 2020, 269, 2185-2227.	1.1	14
36	Adaptive voter model on simplicial complexes. Physical Review E, 2020, 101, 022305.	0.8	50

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37	Numerical continuation for a fast-reaction system and its cross-diffusion limit. SN Partial Differential Equations and Applications, 2020, 1, 1.	0.3	9
38	Combined error estimates for local fluctuations of SPDEs. Advances in Computational Mathematics, 2020, 46, 1.	0.8	0
39	Random switching near bifurcations. Stochastics and Dynamics, 2020, 20, 2050008.	0.6	6
40	Geometry and numerical continuation of multiscale orbits in a nonconvex variational problem. Discrete and Continuous Dynamical Systems - Series S, 2020, 13, 1269-1290.	0.6	2
41	Dynamics of Stochastic Reaction-Diffusion Equations. , 2020, , 1-60.		1
42	Network dynamics on graphops. New Journal of Physics, 2020, 22, 053030.	1.2	8
43	Discretized fast–slow systems near pitchfork singularities. Journal of Difference Equations and Applications, 2019, 25, 1024-1051.	0.7	4
44	Discretized fast-slow systems near transcritical singularities. Nonlinearity, 2019, 32, 2365-2391.	0.6	6
45	Rigorous validation of stochastic transition paths. Journal Des Mathematiques Pures Et Appliquees, 2019, 131, 88-129.	0.8	7
46	Multiscale dynamics of an adaptive catalytic network. Mathematical Modelling of Natural Phenomena, 2019, 14, 402.	0.9	11
47	A gradient flow formulation for the stochastic Amari neural field model. Journal of Mathematical Biology, 2019, 79, 1227-1252.	0.8	2
48	Duck traps: two-dimensional critical manifolds in planar systems. Dynamical Systems, 2019, 34, 584-612.	0.2	3
49	Smoluchowski's discrete coagulation equation with forcing. Nonlinear Differential Equations and Applications, 2019, 26, 1.	0.4	3
50	Mathematical analysis of nonlocal PDEs for network generation. Mathematical Modelling of Natural Phenomena, 2019, 14, 506.	0.9	1
51	Scaling laws and warning signs for bifurcations of SPDEs. European Journal of Applied Mathematics, 2019, 30, 853-868.	1.4	2
52	Power Network Dynamics on Graphons. SIAM Journal on Applied Mathematics, 2019, 79, 1271-1292.	0.8	17
53	A note on kernel methods for multiscale systems with critical transitions. Mathematical Methods in the Applied Sciences, 2019, 42, 907-917.	1.2	5
54	Towards sample path estimates for fast–slow stochastic partial differential equations. European Journal of Applied Mathematics, 2019, 30, 1004-1024.	1.4	4

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55	Pattern formation in the doubly-nonlocal Fisher-KPP equation. Discrete and Continuous Dynamical Systems, 2019, 39, 2077-2100.	0.5	5
56	Corrigendum to "Regularity structures and renormalisation of FitzHugh-Nagumo SPDEs in three space dimensions" Electronic Journal of Probability, 2019, 24, .	0.5	0
57	Tracking particles in flows near invariant manifolds via balance functions. Nonlinear Dynamics, 2018, 92, 983-1000.	2.7	6
58	Stochastic mixed-mode oscillations in a three-species predator-prey model. Chaos, 2018, 28, 033606.	1.0	26
59	Early-warning signals for bifurcations in random dynamical systems with bounded noise. Journal of Mathematical Analysis and Applications, 2018, 464, 58-77.	0.5	16
60	Network topology near criticality in adaptive epidemics. Physical Review E, 2018, 98, .	0.8	18
61	Validity of amplitude equations for nonlocal nonlinearities. Journal of Mathematical Physics, 2018, 59, 071510.	0.5	5
62	Analysis and Predictability of Tipping Points with Leading-Order Nonlinear Term. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2018, 28, 1850103.	0.7	5
63	Continuation of probability density functions using a generalized Lyapunov approach. Journal of Computational Physics, 2017, 336, 627-643.	1.9	7
64	Uncertainty transformation via Hopf bifurcation in fast–slow systems. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2017, 473, 20160346.	1.0	3
65	Model Spaces of Regularity Structures for Space-Fractional SPDEs. Journal of Statistical Physics, 2017, 168, 331-368.	0.5	5
66	Generalized Play Hysteresis Operators in Limits of Fast-Slow Systems. SIAM Journal on Applied Dynamical Systems, 2017, 16, 1650-1685.	0.7	12
67	A meeting point of entropy and bifurcations in cross-diffusion herding. European Journal of Applied Mathematics, 2017, 28, 317-356.	1.4	6
68	Quenched noise and nonlinear oscillations in bistable multiscale systems. Europhysics Letters, 2017, 120, 10001.	0.7	2
69	A numerical framework to understand transitions in high-dimensional stochastic dynamical systems. Dynamics and Statistics of the Climate System, 2016, 1, .	0.8	0
70	A remark on geometric desingularization of a non-hyperbolic point using hyperbolic space. Journal of Physics: Conference Series, 2016, 727, 012008.	0.3	7
71	A dynamical systems approach for the contact-line singularity in thin-film flows. Nonlinear Analysis: Theory, Methods & Applications, 2016, 144, 204-235.	0.6	13
72	Regularity structures and renormalisation of FitzHugh–Nagumo SPDEs in three space dimensions. Electronic Journal of Probability, 2016, 21, .	0.5	4

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73	Moment Closure—A Brief Review. Understanding Complex Systems, 2016, , 253-271.	0.3	68
74	Heterogeneous population dynamics and scaling laws near epidemic outbreaks. Mathematical Biosciences and Engineering, 2016, 13, 1093-1118.	1.0	8
75	Predictability of critical transitions. Physical Review E, 2015, 92, 052905.	0.8	14
76	Numerical Continuation and SPDE Stability for the 2D Cubic-Quintic Allen–Cahn Equation. SIAM-ASA Journal on Uncertainty Quantification, 2015, 3, 762-789.	1.1	13
77	Early warning signs for saddle-escape transitions in complex networks. Scientific Reports, 2015, 5, 13190.	1.6	31
78	The curse of instability. Complexity, 2015, 20, 9-14.	0.9	5
79	Multiple Time Scale Dynamics. Applied Mathematical Sciences (Switzerland), 2015, , .	0.4	371
80	Stochastic Systems. Applied Mathematical Sciences (Switzerland), 2015, , 477-524.	0.4	0
81	Multiscale Geometry of the Olsen Model and Non-classical Relaxation Oscillations. Journal of Nonlinear Science, 2015, 25, 583-629.	1.0	29
82	From Random Poincaré Maps to Stochastic Mixed-Mode-Oscillation Patterns. Journal of Dynamics and Differential Equations, 2015, 27, 83-136.	1.0	17
83	Critical Slowing Down Governs the Transition to Neuron Spiking. PLoS Computational Biology, 2015, 11, e1004097.	1.5	53
84	Efficient gluing of numerical continuation and a multiple solution method for elliptic PDEs. Applied Mathematics and Computation, 2015, 266, 656-674.	1.4	13
85	Early-warning signs for pattern-formation in stochastic partial differential equations. Communications in Nonlinear Science and Numerical Simulation, 2015, 22, 55-69.	1.7	18
86	On bounded positive stationary solutions for a nonlocal Fisher–KPP equation. Nonlinear Analysis: Theory, Methods & Applications, 2015, 112, 15-29.	0.6	7
87	Oscillations. Applied Mathematical Sciences (Switzerland), 2015, , 397-430.	0.4	2
88	Geometric Singular Perturbation Theory. Applied Mathematical Sciences (Switzerland), 2015, , 53-70.	0.4	1
89	Singularities and Canards. Applied Mathematical Sciences (Switzerland), 2015, , 197-237.	0.4	1
90	Computing Manifolds. Applied Mathematical Sciences (Switzerland), 2015, , 327-357.	0.4	0

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91	The Blowup Method. Applied Mathematical Sciences (Switzerland), 2015, , 159-196.	0.4	0
92	Scaling and Delay. Applied Mathematical Sciences (Switzerland), 2015, , 359-396.	0.4	0
93	Other Topics. Applied Mathematical Sciences (Switzerland), 2015, , 619-663.	0.4	0
94	Tracking Invariant Manifolds. Applied Mathematical Sciences (Switzerland), 2015, , 113-157.	0.4	0
95	Normal hyperbolicity and unbounded critical manifolds. Nonlinearity, 2014, 27, 1351-1366.	0.6	21
96	Critical transitions in social network activity. Journal of Complex Networks, 2014, 2, 141-152.	1.1	14
97	Large Deviations for Nonlocal Stochastic Neural Fields. Journal of Mathematical Neuroscience, 2014, 4, 1.	2.4	43
98	Warning signs for wave speed transitions of noisy Fisher–KPP invasion fronts. Theoretical Ecology, 2013, 6, 295-308.	0.4	14
99	A Mathematical Framework for Critical Transitions: Normal Forms, Variance and Applications. Journal of Nonlinear Science, 2013, 23, 457-510.	1.0	80
100	Dynamical analysis of evolution equations in generalized models. IMA Journal of Applied Mathematics, 2013, 78, 1051-1077.	0.8	16
101	Nonlocal generalized models of predator-prey systems. Discrete and Continuous Dynamical Systems - Series B, 2013, 18, 693-720.	0.5	6
102	Time-scale and noise optimality in self-organized critical adaptive networks. Physical Review E, 2012, 85, 026103.	0.8	19
103	Deterministic Continuation of Stochastic Metastable Equilibria via Lyapunov Equations and Ellipsoids. SIAM Journal of Scientific Computing, 2012, 34, A1635-A1658.	1.3	19
104	Mixed-Mode Oscillations with Multiple Time Scales. SIAM Review, 2012, 54, 211-288.	4.2	431
105	Scaling Effects and Spatio-Temporal Multilevel Dynamics in Epileptic Seizures. PLoS ONE, 2012, 7, e30371.	1.1	65
106	Hunting French ducks in a noisy environment. Journal of Differential Equations, 2012, 252, 4786-4841.	1.1	43
107	On decomposing mixed-mode oscillations and their return maps. Chaos, 2011, 21, 033107.	1.0	20
108	A mathematical framework for critical transitions: Bifurcations, fast–slow systems and stochastic dynamics. Physica D: Nonlinear Phenomena, 2011, 240, 1020-1035.	1.3	263

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109	FROM FIRST LYAPUNOV COEFFICIENTS TO MAXIMAL CANARDS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2010, 20, 1467-1475.	0.7	22
110	Homoclinic Orbits of the FitzHugh–Nagumo Equation: Bifurcations in the Full System. SIAM Journal on Applied Dynamical Systems, 2010, 9, 138-153.	0.7	51
111	Scaling of saddle-node bifurcations: degeneracies and rapid quantitative changes. Journal of Physics A: Mathematical and Theoretical, 2009, 42, 045101.	0.7	13
112	Computing Slow Manifolds of Saddle Type. SIAM Journal on Applied Dynamical Systems, 2009, 8, 854-879.	0.7	53
113	Homoclinic orbits of the FitzHugh-Nagumo equation: The singular-limit. Discrete and Continuous Dynamical Systems - Series S, 2009, 2, 851-872.	0.6	37
114	Traveling wave dynamics for Allen-Cahn equations with strong irreversibility. , 0, , .		0