Vincent Hakim

List of Publications by Year
in descending order

86 papers	7,151 citations	66234 42 h-index	60497 81 g-index
95 all docs	95 docs citations	95 times ranked	5256 citing authors

#	Article	IF	Citations
1	Fokker-Planck Equation. , 2022, , 1460-1464.		0
2	Population Density Model. , 2022, , 2846-2865.		0
3	Reciprocal stabilization of glycine receptors and gephyrin scaffold proteins at inhibitory synapses. Biophysical Journal, 2021, 120, 805-817.	0.2	8
4	Synchronization, Stochasticity, and Phase Waves in Neuronal Networks With Spatially-Structured Connectivity. Frontiers in Computational Neuroscience, 2020, 14, 569644.	1.2	10
5	Lifetime of a structure evolving by cluster aggregation and particle loss, and application to postsynaptic scaffold domains. Physical Review E, 2020, 101, 012411.	0.8	6
6	From growing bubbles and dendrites to biological forms. Comptes Rendus - Mecanique, 2020, 348, 627-636.	0.3	0
7	Cerebellar learning using perturbations. ELife, 2018, 7, .	2.8	41
8	Collective cell migration: a physics perspective. Reports on Progress in Physics, 2017, 80, 076601.	8.1	158
9	An aggregation-removal model for the formation and size determination of post-synaptic scaffold domains. PLoS Computational Biology, 2017, 13, e1005516.	1.5	19
10	Timeâ€invariant feedâ€forward inhibition of Purkinje cells in the cerebellar cortex in vivo. Journal of Physiology, 2016, 594, 2729-2749.	1.3	24
11	Sustained Rhythmic Brain Activity Underlies Visual Motion Perception in Zebrafish. Cell Reports, 2016, 17, 1098-1112.	2.9	23
12	MyoD reprogramming requires Six1 and Six4 homeoproteins: genome-widecis-regulatory module analysis. Nucleic Acids Research, 2016, 44, 8621-8640.	6.5	27
13	From Discrete to Continuum Models of Three-Dimensional Deformations in Epithelial Sheets. Biophysical Journal, 2015, 109, 154-163.	0.2	84
14	Modeling the finger instability in an expanding cell monolayer. Integrative Biology (United Kingdom), 2015, 7, 1218-1227.	0.6	55
15	Neuronal Morphology Generates High-Frequency Firing Resonance. Journal of Neuroscience, 2015, 35, 7056-7068.	1.7	55
16	A General Pairwise Interaction Model Provides an Accurate Description of In Vivo Transcription Factor Binding Sites. PLoS ONE, 2014, 9, e99015.	1.1	26
17	Imogene: identification of motifs and cis-regulatory modules underlying gene co-regulation. Nucleic Acids Research, 2014, 42, 6128-6145.	6.5	13
18	Six Homeoproteins and a linc-RNA at the Fast MYH Locus Lock Fast Myofiber Terminal Phenotype. PLoS Genetics, 2014, 10, e1004386.	1.5	56

#	Article	IF	Citations
19	Single neuron dynamics and computation. Current Opinion in Neurobiology, 2014, 25, 149-155.	2.0	63
20	Genome-wide analyses of Shavenbaby target genes reveals distinct features of enhancer organization. Genome Biology, 2013, 14, R86.	13.9	43
21	Collective Cell Motion in an Epithelial Sheet Can Be Quantitatively Described by a Stochastic Interacting Particle Model. PLoS Computational Biology, 2013, 9, e1002944.	1.5	182
22	Population Density Models. , 2013, , 1-24.		0
23	Fokker-Planck Equation. , 2013, , 1-6.		0
24	Different Cell Fates from Cell-Cell Interactions: Core Architectures of Two-Cell Bistable Networks. Biophysical Journal, 2012, 102, 417-426.	0.2	35
25	Genome-wide identification of cis-regulatory motifs and modules underlying gene coregulation using statistics and phylogeny. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 14615-14620.	3.3	24
26	How Connectivity, Background Activity, and Synaptic Properties Shape the Cross-Correlation between Spike Trains. Journal of Neuroscience, 2009, 29, 10234-10253.	1.7	191
27	Synchronization properties of networks of electrically coupled neurons in the presence of noise and heterogeneities. Journal of Computational Neuroscience, 2009, 26, 369-392.	0.6	96
28	Laws of crack motion and phase-field models of fracture. Journal of the Mechanics and Physics of Solids, 2009, 57, 342-368.	2.3	318
29	Electrical Coupling Mediates Tunable Low-Frequency Oscillations and Resonance in the Cerebellar Golgi Cell Network. Neuron, 2009, 61, 126-139.	3.8	206
30	Neuronal Dynamics. , 2009, , 495-516.		0
31	High-Frequency Organization and Synchrony of Activity in the Purkinje Cell Layer of the Cerebellum. Neuron, 2008, 58, 775-788.	3.8	200
32	The Statistics of Repeating Patterns of Cortical Activity Can Be Reproduced by a Model Network of Stochastic Binary Neurons. Journal of Neuroscience, 2008, 28, 10734-10745.	1.7	47
33	Sparsely synchronized neuronal oscillations. Chaos, 2008, 18, 015113.	1.0	133
34	Deriving structure from evolution: metazoan segmentation. Molecular Systems Biology, 2007, 3, 154.	3.2	98
35	What can we learn from synaptic weight distributions?. Trends in Neurosciences, 2007, 30, 622-629.	4.2	147
36	Nonequilibrium Ribbon Model of Twisted Scroll Waves. Physical Review Letters, 2006, 96, 098301.	2.9	21

#	Article	IF	Citations
37	Core genetic module: The mixed feedback loop. Physical Review E, 2005, 72, 031908.	0.8	54
38	Crack Path Prediction in Anisotropic Brittle Materials. Physical Review Letters, 2005, 95, 235501.	2.9	99
39	Design of genetic networks with specified functions by evolution in silico. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 580-585.	3.3	257
40	Optimal Information Storage and the Distribution of Synaptic Weights. Neuron, 2004, 43, 745-757.	3.8	186
41	Firing-rate resonance in a generalized integrate-and-fire neuron with subthreshold resonance. Physical Review E, 2003, 67, 051916.	0.8	92
42	From Subthreshold to Firing-Rate Resonance. Journal of Neurophysiology, 2003, 89, 2538-2554.	0.9	267
43	Scroll waves in isotropic excitable media: Linear instabilities, bifurcations, and restabilized states. Physical Review E, 2002, 65, 046235.	0.8	81
44	Superfluidity at Supersonic Speed?. Physical Review Letters, 2001, 87, 218901.	2.9	8
45	Giant vortices in the Ginzburg-Landau description of superconductivity. Physical Review B, 2001, 64, .	1.1	4
46	Linear Stability of Scroll Waves. Physical Review Letters, 2000, 85, 5328-5331.	2.9	40
47	Theory of spiral wave dynamics in weakly excitable media: Asymptotic reduction to a kinematic model and applications. Physical Review E, 1999, 60, 5073-5105.	0.8	106
48	Fast Global Oscillations in Networks of Integrate-and-Fire Neurons with Low Firing Rates. Neural Computation, 1999, 11, 1621-1671.	1.3	805
49	Nonlinear SchrÃ¶dinger flow past an obstacle in one dimension. Physical Review E, 1997, 55, 2835-2845.	0.8	184
50	Analysis of a dissipative model of self-organized criticality with random neighbors. Physical Review E, 1997, 56, R2343-R2346.	0.8	33
51	Spiral Wave Meander in Excitable Media: The Large Core Limit. Physical Review Letters, 1997, 79, 665-668.	2.9	37
52	Collective chaos and noise in the globally coupled complex Ginzburg-Landau equation. Physica D: Nonlinear Phenomena, 1997, 103, 273-293.	1.3	25
53	Exact exponent for the number of persistent spins in the zero-temperature dynamics of the one-dimensional Potts model. Journal of Statistical Physics, 1996, 85, 763-797.	0.5	81
54	Persistent Spins in the Linear Diffusion Approximation of Phase Ordering and Zeros of Stationary Gaussian Processes. Physical Review Letters, 1996, 77, 2871-2874.	2.9	133

#	Article	IF	Citations
55	Coarsening in the 1D Ising model evolving with Swendsen - Wang dynamics: an unusual scaling. Journal of Physics A, 1996, 29, L589-L594.	1.6	2
56	Exact First-Passage Exponents of 1D Domain Growth: Relation to a Reaction-Diffusion Model. Physical Review Letters, 1995, 75, 751-754.	2.9	221
57	Shapes and dynamics of Laplacian growth. NATO ASI Series Series B: Physics, 1995, , 63-83.	0.2	1
58	Noise-Induced Periodic Behaviour in the Globally Coupled Complex Ginzburg-Landau Equation. Europhysics Letters, 1994, 27, 637-642.	0.7	31
59	Correlations and dynamics in ensembles of maps: Simple models. Physical Review E, 1994, 49, 2661-2667.	0.8	15
60	Faceted needle crystals: an analytical approach Mokhtar. Journal De Physique, I, 1994, 4, 383-391.	1.2	12
61	Exact results for the one dimensional asymmetric exclusion model. Physica A: Statistical Mechanics and Its Applications, 1993, 200, 25-33.	1.2	12
62	Exponentially small splitting of separatrices, matching in the complex plane and Borel summation. Nonlinearity, 1993, 6, 57-70.	0.6	36
63	Growth and forms of Laplacian aggregates. Physical Review E, 1993, 48, 1296-1304.	0.8	25
64	Scaling behavior in anisotropic Hele-Shaw flow. Physical Review Letters, 1993, 71, 3461-3464.	2.9	86
65	Needle models of Laplacian growth. Physical Review A, 1992, 45, 8759-8765.	1.0	37
66	Dynamics of the globally coupled complex Ginzburg-Landau equation. Physical Review A, 1992, 46, R7347-R7350.	1.0	161
67	Effect of disorder on two-dimensional wetting. Journal of Statistical Physics, 1992, 66, 1189-1213.	0.5	89
68	On the fractal characteristics of the Î· model. Physica A: Statistical Mechanics and Its Applications, 1992, 191, 123-127.	1.2	5
69	Regulation of the multiple promoters of the human aldolase A gene: response of its two ubiquitous promoters to agents promoting cell proliferation. Nucleic Acids Research, 1991, 19, 767-774.	6.5	22
70	Self-dilating viscous fingers in wedge-shaped Hele-Shaw cells. Physics of Fluids A, Fluid Dynamics, 1991, 3, 1687-1690.	1.6	18
71	Selfâ€dilating viscous fingers in wedgeâ€shaped Heleâ€“Shaw cells. Physics of Fluids A, Fluid Dynamics, 1991, 3, 2039-2042.	1.6	9
72	Growth histories and overlap distributions of diffusion-limited-aggregation clusters. Physical Review A, 1991, 43, 888-899.	1.0	20

#	Article	IF	Citations
73	Computation of Transcendental Effects in Growth Problems: Linear Solvability Conditions and Nonlinear Methods-The Example of the Geometric Model. NATO ASI Series Series B: Physics, 1991, , 15-28.	0.2	2
74	Fronts vs . Solitary Waves in Nonequilibrium Systems. Europhysics Letters, 1990, 11, 19-24.	0.7	147
75	Directional solidification cells at low velocities. Physical Review A, 1990, 41, 4421-4432.	1.0	18
76	Uncovering the analytical Saffman-Taylor finger in unstable viscous fingering and diffusion-limited aggregation. Physical Review Letters, 1989, 63, 984-987.	2.9	95
77	Diffusion-controlled interface dynamics. Physics Reports, 1989, 184, 259-264.	10.3	1
78	Analytic theory of the Saffman-Taylor fingers. Physical Review A, 1988, 37, 1270-1283.	1.0	66
79	Saffman-Taylor fingers and directional solidification at low velocity. Physical Review A, 1987, 36, 2811-2817.	1.0	68
80	Characterization of three optional promoters in the 5â€² region of the human aldolase A gene. Journal of Molecular Biology, 1987, 197, 425-438.	2.0	78
81	Shape Selection of Saffman-Taylor Fingers. Physical Review Letters, 1986, 56, 2036-2039.	2.9	226
82	Quantum theory of a free particle interacting with a linearly dissipative environment. Physical Review A, 1985, 32, 423-434.	1.0	283
83	Diffusion and Localization of a Particle in a Periodic Potential Coupled to a Dissipative Environment. Physical Review Letters, 1985, 54, 263-266.	2.9	186
84	Bosonization of a two-level system with dissipation. Physical Review B, 1985, 32, 4410-4418.	1.1	157
85	Models of cluster growth on the Cayley tree. Physical Review B, 1984, 30, 391-399.	1.1	57
86	Two-state system coupled to phonons: A renormalization-group analysis of the transition. Physical Review B, 1984, 30, 464-466.	1.1	50