

Vincent Hakim

List of Publications by Year in descending order

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Version: 2024-02-01

86
papers

7,151
citations

66343

42
h-index

60623

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. | 0.5 | 8 |
| 4 | Synchronization, Stochasticity, and Phase Waves in Neuronal Networks With Spatially-Structured Connectivity. Frontiers in Computational Neuroscience, 2020, 14, 569644. | 2.1 | 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. | 2.1 | 6 |
| 6 | From growing bubbles and dendrites to biological forms. Comptes Rendus - Mecanique, 2020, 348, 627-636. | 0.7 | 0 |
| 7 | Cerebellar learning using perturbations. ELife, 2018, 7, . | 6.0 | 41 |
| 8 | Collective cell migration: a physics perspective. Reports on Progress in Physics, 2017, 80, 076601. | 20.1 | 158 |
| 9 | An aggregation-removal model for the formation and size determination of post-synaptic scaffold domains. PLoS Computational Biology, 2017, 13, e1005516. | 3.2 | 19 |
| 10 | Time-invariant feed-forward inhibition of Purkinje cells in the cerebellar cortex <i>in vivo</i> . Journal of Physiology, 2016, 594, 2729-2749. | 2.9 | 24 |
| 11 | Sustained Rhythmic Brain Activity Underlies Visual Motion Perception in Zebrafish. Cell Reports, 2016, 17, 1098-1112. | 6.4 | 23 |
| 12 | MyoD reprogramming requires Six1 and Six4 homeoproteins: genome-wide <i>cis</i> -regulatory module analysis. Nucleic Acids Research, 2016, 44, 8621-8640. | 14.5 | 27 |
| 13 | From Discrete to Continuum Models of Three-Dimensional Deformations in Epithelial Sheets. Biophysical Journal, 2015, 109, 154-163. | 0.5 | 84 |
| 14 | Modeling the finger instability in an expanding cell monolayer. Integrative Biology (United Kingdom), 2015, 7, 1218-1227. | 1.3 | 55 |
| 15 | Neuronal Morphology Generates High-Frequency Firing Resonance. Journal of Neuroscience, 2015, 35, 7056-7068. | 3.6 | 55 |
| 16 | A General Pairwise Interaction Model Provides an Accurate Description of In Vivo Transcription Factor Binding Sites. PLoS ONE, 2014, 9, e99015. | 2.5 | 26 |
| 17 | Imogene: identification of motifs and cis-regulatory modules underlying gene co-regulation. Nucleic Acids Research, 2014, 42, 6128-6145. | 14.5 | 13 |
| 18 | Six Homeoproteins and a linc-RNA at the Fast MYH Locus Lock Fast Myofiber Terminal Phenotype. PLoS Genetics, 2014, 10, e1004386. | 3.5 | 56 |

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|----|---|-----|-----------|
| 19 | Single neuron dynamics and computation. Current Opinion in Neurobiology, 2014, 25, 149-155. | 4.2 | 63 |
| 20 | Genome-wide analyses of Shavenbaby target genes reveals distinct features of enhancer organization. Genome Biology, 2013, 14, R86. | 9.6 | 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. | 3.2 | 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. | 0.5 | 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. | 7.1 | 24 |
| 26 | How Connectivity, Background Activity, and Synaptic Properties Shape the Cross-Correlation between Spike Trains. Journal of Neuroscience, 2009, 29, 10234-10253. | 3.6 | 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. | 1.0 | 96 |
| 28 | Laws of crack motion and phase-field models of fracture. Journal of the Mechanics and Physics of Solids, 2009, 57, 342-368. | 4.8 | 318 |
| 29 | Electrical Coupling Mediates Tunable Low-Frequency Oscillations and Resonance in the Cerebellar Golgi Cell Network. Neuron, 2009, 61, 126-139. | 8.1 | 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. | 8.1 | 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. | 3.6 | 47 |
| 33 | Sparsely synchronized neuronal oscillations. Chaos, 2008, 18, 015113. | 2.5 | 133 |
| 34 | Deriving structure from evolution: metazoan segmentation. Molecular Systems Biology, 2007, 3, 154. | 7.2 | 98 |
| 35 | What can we learn from synaptic weight distributions?. Trends in Neurosciences, 2007, 30, 622-629. | 8.6 | 147 |
| 36 | Nonequilibrium Ribbon Model of Twisted Scroll Waves. Physical Review Letters, 2006, 96, 098301. | 7.8 | 21 |

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|----|--|-----|-----------|
| 37 | Core genetic module: The mixed feedback loop. Physical Review E, 2005, 72, 031908. | 2.1 | 54 |
| 38 | Crack Path Prediction in Anisotropic Brittle Materials. Physical Review Letters, 2005, 95, 235501. | 7.8 | 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. | 7.1 | 257 |
| 40 | Optimal Information Storage and the Distribution of Synaptic Weights. Neuron, 2004, 43, 745-757. | 8.1 | 186 |
| 41 | Firing-rate resonance in a generalized integrate-and-fire neuron with subthreshold resonance. Physical Review E, 2003, 67, 051916. | 2.1 | 92 |
| 42 | From Subthreshold to Firing-Rate Resonance. Journal of Neurophysiology, 2003, 89, 2538-2554. | 1.8 | 267 |
| 43 | Scroll waves in isotropic excitable media: Linear instabilities, bifurcations, and restabilized states. Physical Review E, 2002, 65, 046235. | 2.1 | 81 |
| 44 | Superfluidity at Supersonic Speed?. Physical Review Letters, 2001, 87, 218901. | 7.8 | 8 |
| 45 | Giant vortices in the Ginzburg-Landau description of superconductivity. Physical Review B, 2001, 64, . | 3.2 | 4 |
| 46 | Linear Stability of Scroll Waves. Physical Review Letters, 2000, 85, 5328-5331. | 7.8 | 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. | 2.1 | 106 |
| 48 | Fast Global Oscillations in Networks of Integrate-and-Fire Neurons with Low Firing Rates. Neural Computation, 1999, 11, 1621-1671. | 2.2 | 805 |
| 49 | Nonlinear Schrödinger flow past an obstacle in one dimension. Physical Review E, 1997, 55, 2835-2845. | 2.1 | 184 |
| 50 | Analysis of a dissipative model of self-organized criticality with random neighbors. Physical Review E, 1997, 56, R2343-R2346. | 2.1 | 33 |
| 51 | Spiral Wave Meander in Excitable Media: The Large Core Limit. Physical Review Letters, 1997, 79, 665-668. | 7.8 | 37 |
| 52 | Collective chaos and noise in the globally coupled complex Ginzburg-Landau equation. Physica D: Nonlinear Phenomena, 1997, 103, 273-293. | 2.8 | 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. | 1.2 | 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. | 7.8 | 133 |

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|----|--|------|-----------|
| 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. | 7.8 | 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. | 2.0 | 31 |
| 59 | Correlations and dynamics in ensembles of maps: Simple models. Physical Review E, 1994, 49, 2661-2667. | 2.1 | 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. | 2.6 | 12 |
| 62 | Exponentially small splitting of separatrices, matching in the complex plane and Borel summation. Nonlinearity, 1993, 6, 57-70. | 1.4 | 36 |
| 63 | Growth and forms of Laplacian aggregates. Physical Review E, 1993, 48, 1296-1304. | 2.1 | 25 |
| 64 | Scaling behavior in anisotropic Hele-Shaw flow. Physical Review Letters, 1993, 71, 3461-3464. | 7.8 | 86 |
| 65 | Needle models of Laplacian growth. Physical Review A, 1992, 45, 8759-8765. | 2.5 | 37 |
| 66 | Dynamics of the globally coupled complex Ginzburg-Landau equation. Physical Review A, 1992, 46, R7347-R7350. | 2.5 | 161 |
| 67 | Effect of disorder on two-dimensional wetting. Journal of Statistical Physics, 1992, 66, 1189-1213. | 1.2 | 89 |
| 68 | On the fractal characteristics of the $\hat{\phi}$ model. Physica A: Statistical Mechanics and Its Applications, 1992, 191, 123-127. | 2.6 | 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. | 14.5 | 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 | Self-dilating viscous fingers in wedge-shaped Hele-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. | 2.5 | 20 |

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|----|---|------|-----------|
| 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 <i>vs</i> . Solitary Waves in Nonequilibrium Systems. Europhysics Letters, 1990, 11, 19-24. | 2.0 | 147 |
| 75 | Directional solidification cells at low velocities. Physical Review A, 1990, 41, 4421-4432. | 2.5 | 18 |
| 76 | Uncovering the analytical Saffman-Taylor finger in unstable viscous fingering and diffusion-limited aggregation. Physical Review Letters, 1989, 63, 984-987. | 7.8 | 95 |
| 77 | Diffusion-controlled interface dynamics. Physics Reports, 1989, 184, 259-264. | 25.6 | 1 |
| 78 | Analytic theory of the Saffman-Taylor fingers. Physical Review A, 1988, 37, 1270-1283. | 2.5 | 66 |
| 79 | Saffman-Taylor fingers and directional solidification at low velocity. Physical Review A, 1987, 36, 2811-2817. | 2.5 | 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. | 4.2 | 78 |
| 81 | Shape Selection of Saffman-Taylor Fingers. Physical Review Letters, 1986, 56, 2036-2039. | 7.8 | 226 |
| 82 | Quantum theory of a free particle interacting with a linearly dissipative environment. Physical Review A, 1985, 32, 423-434. | 2.5 | 283 |
| 83 | Diffusion and Localization of a Particle in a Periodic Potential Coupled to a Dissipative Environment. Physical Review Letters, 1985, 54, 263-266. | 7.8 | 186 |
| 84 | Bosonization of a two-level system with dissipation. Physical Review B, 1985, 32, 4410-4418. | 3.2 | 157 |
| 85 | Models of cluster growth on the Cayley tree. Physical Review B, 1984, 30, 391-399. | 3.2 | 57 |
| 86 | Two-state system coupled to phonons: A renormalization-group analysis of the transition. Physical Review B, 1984, 30, 464-466. | 3.2 | 50 |