Chao Tang

List of Publications by Year
in descending order

124 papers	21,422 citations	53794 45 h-index	18647 119 g-index
130 all docs	130 docs citations	130 times ranked	14976 citing authors

#	Article	IF	Citations
1	Self-organized criticality: An explanation of the 1/<i>f</i>noise. Physical Review Letters, 1987, 59, 381-384.	7.8	6,415
2	Self-organized criticality. Physical Review A, 1988, 38, 364-374.	2.5	3,730
3	Defining Network Topologies that Can Achieve Biochemical Adaptation. Cell, 2009, 138, 760-773.	28.9	1,354
4	Localization Problem in One Dimension: Mapping and Escape. Physical Review Letters, 1983, 50, 1870-1872.	7.8	1,018
5	The yeast cell-cycle network is robustly designed. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 4781-4786.	7.1	953
6	Viscous flows in two dimensions. Reviews of Modern Physics, 1986, 58, 977-999.	45.6	674
7	Critical wave functions and a Cantor-set spectrum of a one-dimensional quasicrystal model. Physical Review B, 1987, 35, 1020-1033.	3.2	662
8	Robust, Tunable Biological Oscillations from Interlinked Positive and Negative Feedback Loops. Science, 2008, 321, 126-129.	12.6	602
9	A forest-fire model and some thoughts on turbulence. Physics Letters, Section A: General, Atomic and Solid State Physics, 1990, 147, 297-300.	2.1	388
10	Critical Exponents and Scaling Relations for Self-Organized Critical Phenomena. Physical Review Letters, 1988, 60, 2347-2350.	7.8	360
11	Accuracy of phase-contrast flow measurements in the presence of partial-volume effects. Journal of Magnetic Resonance Imaging, 1993, 3, 377-385.	3.4	276
12	Induction of Pluripotency in Mouse Somatic Cells with Lineage Specifiers. Cell, 2013, 153, 963-975.	28.9	272
13	Nature of Driving Force for Protein Folding: A Result From Analyzing the Statistical Potential. Physical Review Letters, 1997, 79, 765-768.	7.8	195
14	Hierarchical Modularity and the Evolution of Genetic Interactomes across Species. Molecular Cell, 2012, 46, 691-704.	9.7	185
15	Diffusion-limited aggregation and the Saffman-Taylor problem. Physical Review A, 1985, 31, 1977-1979.	2.5	181
16	Global scaling properties of the spectrum for a quasiperiodic schrÃ¶dinger equation. Physical Review B, 1986, 34, 2041-2044.	3.2	165
17	Finding multiple target optimal intervention in diseaseâ€related molecular network. Molecular Systems Biology, 2008, 4, 228.	7.2	165
18	Designing Synthetic Regulatory Networks Capable of Self-Organizing Cell Polarization. Cell, 2012, 151, 320-332.	28.9	163

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19	Mean field theory of self-organized critical phenomena. Journal of Statistical Physics, 1988, 51, 797-802.	1.2	151
20	Design Principles of Regulatory Networks: Searching for the Molecular Algorithms of the Cell. Molecular Cell, 2013, 49, 202-212.	9.7	139
21	Single-Cell RNA-Seq Reveals Dynamic Early Embryonic-like Programs during Chemical Reprogramming. Cell Stem Cell, 2018, 23, 31-45.e7.	11.1	122
22	Robustness and modular design of the Drosophila segment polarity network. Molecular Systems Biology, 2006, 2, 70.	7.2	114
23	Self-Organized Criticality in Nonconserved Systems. Physical Review Letters, 1995, 74, 742-745.	7.8	112
24	Growth strategy of microbes on mixed carbon sources. Nature Communications, 2019, 10, 1279.	12.8	105
25	Specificity of Trypsin and Chymotrypsin: Loop-Motion-Controlled Dynamic Correlation as a Determinant. Biophysical Journal, 2005, 89, 1183-1193.	0.5	104
26	Synergistic and Antagonistic Drug Combinations Depend on Network Topology. PLoS ONE, 2014, 9, e93960.	2.5	99
27	Phase organization. Physical Review Letters, 1987, 58, 1161-1164.	7.8	98
28	Correlation between sequence hydrophobicity and surface-exposure pattern of database proteins. Protein Science, 2004, 13, 752-762.	7.6	90
29	Dynamic Simulations on the Arachidonic Acid Metabolic Network. PLoS Computational Biology, 2007, 3, e55.	3.2	90
30	A light-inducible organelle-targeting system for dynamically activating and inactivating signaling in budding yeast. Molecular Biology of the Cell, 2013, 24, 2419-2430.	2.1	90
31	Function constrains network architecture and dynamics: A case study on the yeast cell cycle Boolean network. Physical Review E, 2007, 75, 051907.	2.1	81
32	Hydrophobic interaction and hydrogen-bond network for a methane pair in liquid water. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 2626-2630.	7.1	78
33	<i>Arabidopsis</i> DET1 degrades HFR1 but stabilizes PIF1 to precisely regulate seed germination. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 3817-3822.	7.1	69
34	Multiple mechanisms determine the order of APC/C substrate degradation in mitosis. Journal of Cell Biology, 2014, 207, 23-39.	5.2	68
35	Stochastic model of yeast cell-cycle network. Physica D: Nonlinear Phenomena, 2006, 219, 35-39.	2.8	67
36	Reliable cell cycle commitment in budding yeast is ensured by signal integration. ELife, 2015, 4, .	6.0	67

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37	Nature of Phase Transitions of Superconducting Wire Networks in a Magnetic Field. Physical Review Letters, 1996, 76, 2989-2992.	7.8	62
38	Flexibility of Î±-Helices: Results of a Statistical Analysis of Database Protein Structures. Journal of Molecular Biology, 2003, 327, 229-237.	4.2	62
39	Designability of protein structures: A lattice-model study using the Miyazawa-Jernigan matrix. Proteins: Structure, Function and Bioinformatics, 2002, 49, 403-412.	2.6	60
40	The designability of protein structures. Journal of Molecular Graphics and Modelling, 2001, 19, 157-167.	2.4	56
41	Origin of scaling behavior of protein packing density: A sequential Monte Carlo study of compact long chain polymers. Journal of Chemical Physics, 2003, 118, 6102-6109.	3.0	56
42	Network Topologies That Can Achieve Dual Function of Adaptation and Noise Attenuation. Cell Systems, 2019, 9, 271-285.e7.	6.2	56
43	Odor-evoked inhibition of olfactory sensory neurons drives olfactory perception in Drosophila. Nature Communications, 2017, 8, 1357.	12.8	53
44	A physicist's sandbox. Journal of Statistical Physics, 1989, 54, 1441-1458.	1.2	52
45	Rationalizing translation attenuation in the network architecture of the unfolded protein response. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 20280-20285.	7.1	51
46	Design Principles of the Yeast G1/S Switch. PLoS Biology, 2013, 11, e1001673.	5.6	51
47	Correction of partial-volume effects in phase-contrast flow measurements. Journal of Magnetic Resonance Imaging, 1995, 5, 175-180.	3.4	50
48	Costs and Benefits of Mutational Robustness in RNA Viruses. Cell Reports, 2014, 8, 1026-1036.	6.4	49
49	SOC and the Bean critical state. Physica A: Statistical Mechanics and Its Applications, 1993, 194, 315-320.	2.6	47
50	Establishment of a morphological atlas of the Caenorhabditis elegans embryo using deep-learning-based 4D segmentation. Nature Communications, 2020, 11, 6254.	12.8	45
51	Phases of Josephson Junction Ladders. Physical Review Letters, 1995, 75, 3930-3933.	7.8	44
52	Flexibility of Î²-sheets: Principal component analysis of database protein structures. Proteins: Structure, Function and Bioinformatics, 2004, 55, 91-98.	2.6	43
53	De Novo Design of a Î²Î±Î²â€…Motif. Angewandte Chemie - International Edition, 2009, 48, 3301-3303.	13.8	43
54	Peak effect in superconductors: melting of Larkin domains. Europhysics Letters, 1996, 35, 597-602.	2.0	42

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55	Emergence of highly designable protein-backbone conformations in an off-lattice model. Proteins: Structure, Function and Bioinformatics, 2002, 47, 506-512.	2.6	42
56	Design of Tunable Oscillatory Dynamics in a Synthetic NF-Î°B Signaling Circuit. Cell Systems, 2017, 5, 460-470.e5.	6.2	39
57	Decision making of the p53 network: Death by integration. Journal of Theoretical Biology, 2011, 271, 205-211.	1.7	38
58	Cell Cycle Inhibitor Whi5 Records Environmental Information to Coordinate Growth and Division in Yeast. Cell Reports, 2019, 29, 987-994.e5.	6.4	38
59	Symmetry and designability for lattice protein models. Journal of Chemical Physics, 2000, 113, 8329-8336.	3.0	37
60	Low Cell-Matrix Adhesion Reveals Two Subtypes of Human Pluripotent Stem Cells. Stem Cell Reports, 2018, 11, 142-156.	4.8	37
61	Simple models of the protein folding problem. Physica A: Statistical Mechanics and Its Applications, 2000, 288, 31-48.	2.6	35
62	Designability and thermal stability of protein structures. Polymer, 2004, 45, 699-705.	3.8	35
63	1/fNoise in Bak-Tang-Wiesenfeld Models on Narrow Stripes. Physical Review Letters, 1999, 83, 2449-2452.	7.8	34
64	Circulating re-entrant waves promote maturation of hiPSC-derived cardiomyocytes in self-organized tissue ring. Communications Biology, 2020, 3, 122.	4.4	32
65	Nanog induced intermediate state in regulating stem cell differentiation and reprogramming. BMC Systems Biology, 2018, 12, 22.	3.0	31
66	Fast tree search for enumeration of a lattice model of protein folding. Journal of Chemical Physics, 2002, 116, 352.	3.0	29
67	Exact solution of a stochastic directed sandpile model. Physical Review E, 2001, 63, 026111.	2.1	28
68	Designability of Â-helical proteins. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 11163-11168.	7.1	28
69	Dynamic Studies of Scaffold-Dependent Mating Pathway in Yeast. Biophysical Journal, 2006, 91, 3986-4001.	0.5	28
70	Droplet model for autocorrelation functions in an Ising ferromagnet. Physical Review A, 1989, 40, 995-1003.	2.5	27
71	Incommensurability in the frustrated two-dimensionalXYmodel. Physical Review B, 1999, 60, 3163-3168.	3.2	26
72	Network Motifs Capable of Decoding Transcription Factor Dynamics. Scientific Reports, 2018, 8, 3594.	3.3	26

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73	Adaptation with transcriptional regulation. Scientific Reports, 2017, 7, 42648.	3.3	25
74	Dynamics and noise spectra of a driven single flux line in superconductors. Physical Review Letters, 1994, 72, 1264-1267.	7.8	23
75	Cell cycle synchronization by nutrient modulation. Integrative Biology (United Kingdom), 2012, 4, 328.	1.3	21
76	Finding gene network topologies for given biological function with recurrent neural network. Nature Communications, 2021, 12, 3125.	12.8	19
77	Patterns and scaling properties in a ballistic deposition model. Physical Review Letters, 1993, 71, 2769-2772.	7.8	18
78	Domain Walls and Phase Transitions in the Frustrated Two-DimensionalXYModel. Physical Review Letters, 1997, 79, 451-454.	7.8	17
79	Generic properties of random gene regulatory networks. Quantitative Biology, 2013, 1, 253-260.	0.5	15
80	Identifying proteins of high designability via surface-exposure patterns. Proteins: Structure, Function and Bioinformatics, 2002, 47, 295-304.	2.6	14
81	Optimal compressed sensing strategies for an array of nonlinear olfactory receptor neurons with and without spontaneous activity. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 20286-20295.	7.1	14
82	SCUMBLE: a method for systematic and accurate detection of codon usage bias by maximum likelihood estimation. Nucleic Acids Research, 2008, 36, 3819-3827.	14.5	13
83	Simulation and Analysis ofin vitroDNA Evolution. Physical Review Letters, 2004, 92, 038101.	7.8	12
84	Live visualization of genomic loci with BiFC-TALE. Scientific Reports, 2017, 7, 40192.	3.3	12
85	Statistical mechanics of RNA folding: Importance of alphabet size. Physical Review E, 2003, 68, 041904.	2.1	11
86	Gibbs sampling and helix-cap motifs. Nucleic Acids Research, 2005, 33, 5343-5353.	14.5	10
87	Modular analysis of the probabilistic genetic interaction network. Bioinformatics, 2011, 27, 853-859.	4.1	10
88	Early-warning signals of critical transition: Effect of extrinsic noise. Physical Review E, 2018, 97, 032406.	2.1	10
89	Computable early Caenorhabditis elegans embryo with a phase field model. PLoS Computational Biology, 2022, 18, e1009755.	3.2	10
90	Low-energy excitations and phase transitions in the frustrated two-dimensionalXYmodel. Physical Review B, 1998, 58, 6591-6607.	3.2	9

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91	Flux Balance Analysis of Ammonia Assimilation Network in E. coli Predicts Preferred Regulation Point. PLoS ONE, 2011, 6, e16362.	2.5	9
92	Community detection for networks with unipartite and bipartite structure. New Journal of Physics, 2014, 16, 093001.	2.9	9
93	Why and how the nematodeâ€™s early embryogenesis can be precise and robust: a mechanical perspective. Physical Biology, 2020, 17, 026001.	1.8	9
94	Structure space of model proteins: A principal component analysis. Journal of Chemical Physics, 2003, 118, 4277-4284.	3.0	8
95	Terahertz wave generation via difference frequency generation using 2D InxGa1-xSe crystal grown from indium flux. Optics Express, 2020, 28, 472.	3.4	8
96	QB: A new inter- and multi-disciplinary forum for modeling, engineering and understanding life. Quantitative Biology, 2013, 1, 1-2.	0.5	7
97	Bi-functional biochemical networks. Physical Biology, 2019, 16, 016001.	1.8	7
98	Comment on "Relaxation at the Angle of Repose". Physical Review Letters, 1989, 62, 110-110.	7.8	6
99	Quantitative investigation reveals distinct phases in Drosophila sleep. Communications Biology, 2021, 4, 364.	4.4	6
100	Characteristics of 2D Ge-doped GaSe grown by low temperature liquid phase deposition under a controlled Se vapor pressure. Journal of Nanosciences Current Research, 2018, 03, .	1.2	5
101	Direct determination of the interlayer van der Waals bonding force in 2D indium selenide semiconductor crystal. Journal of Applied Physics, 2018, 123, .	2.5	5
102	Enhancement of spin-charge current interconversion by oxidation of rhenium. Journal of Magnetism and Magnetic Materials, 2020, 516, 167298.	2.3	5
103	Computational study on ratio-sensing in yeast galactose utilization pathway. PLoS Computational Biology, 2020, 16, e1007960.	3.2	5
104	Selective crystal growth of indium selenide compounds from saturated solutions grown in a selenium vapor. Results in Materials, 2022, 13, 100253.	1.8	5
105	Cell-to-cell variability in inducible Caspase9-mediated cell death. Cell Death and Disease, 2022, 13, 34.	6.3	5
106	Adaptation through proportion. Physical Biology, 2016, 13, 046007.	1.8	4
107	Low temperature liquid phase growth of crystalline InSe grown by the temperature difference method under controlled vapor pressure. Journal of Crystal Growth, 2018, 495, 54-58.	1.5	4
108	Analysis of Circulating Waves in Tissue Rings derived from Human Induced Pluripotent Stem Cells. Scientific Reports, 2020, 10, 2984.	3.3	4

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109	Volume segregation programming in a nematode's early embryogenesis. Physical Review E, 2021, 104, 054409.	2.1	4
110	Designing the Scientific Cradle for Quantitative Biologists. ACS Synthetic Biology, 2012, 1, 254-255.	3.8	3
111	Quantitative evaluation of fiber structure by using coherent terahertz wave. Composites Part B: Engineering, 2019, 159, 1-3.	12.0	3
112	In_xGa_{1âˆ’x}Se mixed crystals grown from an In flux by the traveling heater method for THz wave generation. Journal of Physics Communications, 2020, 4, 065007.	1.2	3
113	Visualization of Genomic Loci in Living Cells with BiFCâ€TALE. Current Protocols in Cell Biology, 2019, 82, e78.	2.3	2
114	An Atlas of Network Topologies Reveals Design Principles for Caenorhabditis elegans Vulval Precursor Cell Fate Patterning. PLoS ONE, 2015, 10, e0131397.	2.5	2
115	Phase-matching condition for THz wave generation via difference frequency generation using InxGa1-xSe mixed crystals. Optics Express, 2020, 28, 20888.	3.4	2
116	Tang, Feng, and Golubovic Reply:. Physical Review Letters, 1995, 74, 3500-3500.	7.8	1
117	Dynamics of a driven single flux line in superconductors. Physical Review B, 1995, 51, 8457-8461.	3.2	1
118	A systematic study of the determinants of protein abundance memory in cell lineage. Science Bulletin, 2018, 63, 1051-1058.	9.0	1
119	Protocol for Titrating Gene Expression Levels in Budding Yeast. STAR Protocols, 2020, 1, 100082.	1.2	1
120	A more robust Boolean model describing inhibitor binding. Frontiers of Electrical and Electronic Engineering in China: Selected Publications From Chinese Universities, 2008, 3, 371-375.	0.6	0
121	Bridging cross-cultural gaps in scientific exchange through innovative team challenge workshops. Quantitative Biology, 2013, 1, 3-8.	0.5	0
122	The Center for Quantitative Biology at Peking University. Quantitative Biology, 2015, 3, 1-3.	0.5	0
123	Optical and Electrical Properties of InxGa1âˆ’xSe Mixed Crystal Grown from Indium Flux by Traveling Heater Method. Journal of Electronic Materials, 2021, 50, 2649-2655.	2.2	0
124	Dynamic Properties of Cell-Cycle and Life-Cycle Networks in Budding Yeast. , 2007, , 217-227.		0