

# Brunello Tirozzi

## List of Publications by Year in descending order

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115  
papers

1,571  
citations

279487

23  
h-index

360668

35  
g-index

122  
all docs

122  
docs citations

122  
times ranked

833  
citing authors

#	ARTICLE	IF	CITATIONS
1	Emergent Synchronous Bursting of Oxytocin Neuronal Network. PLoS Computational Biology, 2008, 4, e1000123.	1.5	131
2	On the mechanisms underlying the depolarization block in the spiking dynamics of CA1 pyramidal neurons. Journal of Computational Neuroscience, 2012, 33, 207-225.	0.6	119
3	Localized wave and vortical solutions to linear hyperbolic systems and their application to linear shallow water equations. Russian Journal of Mathematical Physics, 2008, 15, 192-221.	0.4	80
4	The central limit theorem and the problem of equivalence of ensembles. Communications in Mathematical Physics, 1977, 54, 173-192.	1.0	72
5	Conduction in bundles of demyelinated nerve fibers: computer simulation. Biological Cybernetics, 2003, 89, 439-448.	0.6	67
6	Explicit asymptotics for tsunami waves in framework of the piston model. Russian Journal of Earth Sciences, 2006, 8, 1-12.	0.2	64
7	Asymptotic solution of the one-dimensional wave equation with localized initial data and with degenerating velocity: I. Russian Journal of Mathematical Physics, 2010, 17, 434-447.	0.4	41
8	The replica-symmetric solution without replica trick for the Hopfield model. Journal of Statistical Physics, 1994, 74, 1161-1183.	0.5	39
9	Time evolution of infinite classical systems with singular, long range, two body interactions. Communications in Mathematical Physics, 1976, 47, 81-95.	1.0	35
10	Chaos in Highly Diluted Neural Networks. Europhysics Letters, 1991, 14, 727-732.	0.7	34
11	p-adic dynamic systems. Theoretical and Mathematical Physics(Russian Federation), 1998, 114, 276-287.	0.3	32
12	Electromagnetic mass differences of hadrons. Il Nuovo Cimento A, 1969, 64, 927-953.	0.2	31
13	Behavior near the focal points of asymptotic solutions to the Cauchy problem for the linearized shallow water equations with initial localized perturbations. Russian Journal of Mathematical Physics, 2009, 16, 228-245.	0.4	31
14	Asymptotic solutions of the linear shallow-water equations with localized initial data. Journal of Engineering Mathematics, 2011, 69, 225-242.	0.6	30
15	Effects of increasing CREB-dependent transcription on the storage and recall processes in a hippocampal CA1 microcircuit. Hippocampus, 2014, 24, 165-177.	0.9	30
16	Stochastic resonance tuned by correlations in neural models. Physical Review E, 2000, 61, 4207-4211.	0.8	28
17	Rigorous Solution of the Gardner Problem. Communications in Mathematical Physics, 2003, 234, 383-422.	1.0	28
18	Two-dimensional wave equation with degeneration on the curvilinear boundary of the domain and asymptotic solutions with localized initial data. Russian Journal of Mathematical Physics, 2013, 20, 389-401.	0.4	28

#	ARTICLE	IF	CITATIONS
19	Localized solutions of one-dimensional non-linear shallow-water equations with velocity $c = \sqrt{x}$ . Russian Mathematical Surveys, 2010, 65, 177-179.	0.2	27
20	Representations of rapidly decaying functions by the Maslov canonical operator. Mathematical Notes, 2007, 82, 713-717.	0.1	24
21	Description of tsunami propagation based on the Maslov canonical operator. Doklady Mathematics, 2006, 74, 592-596.	0.1	23
22	Asymptotics of localized solutions of the one-dimensional wave equation with variable velocity. I. The Cauchy problem. Russian Journal of Mathematical Physics, 2007, 14, 28-56.	0.4	21
23	The free energy of a class of Hopfield models. Journal of Statistical Physics, 1993, 72, 113-125.	0.5	20
24	Linear and nonlinear post-processing of numerically forecasted surface temperature. Nonlinear Processes in Geophysics, 2003, 10, 373-383.	0.6	19
25	On the replica symmetric equations for the Hopfield model. Journal of Mathematical Physics, 1999, 40, 3930-3947.	0.5	15
26	Time series analysis of geological data. Chemical Geology, 1999, 161, 253-270.	1.4	15
27	Kohonen neural networks and genetic classification. Mathematical and Computer Modelling, 2007, 45, 34-60.	2.0	15
28	Asymptotic solutions of the Cauchy problem with localized initial conditions for linearized two-dimensional Boussinesq-type equations with variable coefficients. Russian Journal of Mathematical Physics, 2013, 20, 155-171.	0.4	15
29	Infinite differentiability for one-dimensional spin system with long range random interaction. Communications in Mathematical Physics, 1982, 87, 229-252.	1.0	14
30	DISTINGUISHING BETWEEN CHAOTIC AND STOCHASTIC SYSTEMS IN FINANCIAL TIME SERIES. International Journal of Modern Physics C, 2002, 13, 31-39.	0.8	14
31	Central limit theorem for fluctuations of linear eigenvalue statistics of large random graphs. Journal of Mathematical Physics, 2010, 51, 023523.	0.5	14
32	Asymptotic theory of linear water waves in a domain with nonuniform bottom with rapidly oscillating sections. Russian Journal of Mathematical Physics, 2016, 23, 455-474.	0.4	14
33	Asymptotic solutions of 2D wave equations with variable velocity and localized right-hand side. Russian Journal of Mathematical Physics, 2010, 17, 66-76.	0.4	13
34	Asymptotic solutions of the two-dimensional model wave equation with degenerating velocity and localized initial data. St Petersburg Mathematical Journal, 2011, 22, 895-911.	0.1	13
35	Lower hadron states classification and $SU(3)$ $\hat{\mathcal{A}}$ – $SU(3)$ chiral algebra approximate saturation. Nuclear Physics B, 1968, 8, 521-534.	0.9	12
36	Fluctuation of the free energy in the Hopfield model. Journal of Statistical Physics, 1992, 67, 981-1008.	0.5	12

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37	Rigorous results for the free energy in the Hopfield model. Communications in Mathematical Physics, 1992, 150, 337-373.	1.0	11
38	NUMERICAL SIMULATION OF NEURAL NETWORKS WITH TRANSLATION AND ROTATION INVARIANT PATTERN RECOGNITION. International Journal of Modern Physics B, 1994, 08, 1529-1541.	1.0	11
39	P-ADIC DYNAMICAL SYSTEMS AND NEURAL NETWORKS. Mathematical Models and Methods in Applied Sciences, 1999, 09, 1417-1437.	1.7	11
40	Replica symmetry breaking in neural networks with modified pseudo-inverse interactions. Journal of Physics A, 1991, 24, 5163-5180.	1.6	10
41	Asymptotics of shallow water equations on the sphere. Russian Journal of Mathematical Physics, 2014, 21, 430-449.	0.4	10
42	Renormalons: A dynamical system approach. Nuclear Physics B, 1985, 257, 610-628.	0.9	9
43	A Quasi Trefftz-Type Spectral Method for Initial Value Problems with Moving Boundaries. Mathematical Models and Methods in Applied Sciences, 1997, 07, 385-404.	1.7	9
44	Asymptotics of localized solutions of the one-dimensional wave equation with variable velocity. II. Taking into account a source on the right-hand side and a weak dispersion. Russian Journal of Mathematical Physics, 2008, 15, 427-446.	0.4	9
45	Central limit theorem for fluctuations of linear eigenvalue statistics of large random graphs: Diluted regime. Journal of Mathematical Physics, 2012, 53, .	0.5	9
46	Time evolution of a quantum lattice system. Communications in Mathematical Physics, 1973, 30, 83-98.	1.0	8
47	Quasi Trefftz Spectral Method for Stokes Problem. Mathematical Models and Methods in Applied Sciences, 1997, 07, 1187-1212.	1.7	8
48	A note on minimum-variance theory and beyond. Journal of Physics A, 2004, 37, 4685-4699.	1.6	8
49	On a homogenization method for differential operators with oscillating coefficients. Doklady Mathematics, 2015, 91, 227-231.	0.1	8
50	Free energies of Boltzmann machines: self-averaging, annealed and replica symmetric approximations in the thermodynamic limit. Journal of Statistical Mechanics: Theory and Experiment, 2019, 2019, 033301.	0.9	8
51	Local limit theorem for Gibbs random fields of particles and unbounded spins. Journal of Mathematical Physics, 1979, 20, 1752-1758.	0.5	7
52	Convergence theorems for the kohonen feature mapping algorithms with VLRPs. Computers and Mathematics With Applications, 1997, 33, 45-63.	1.4	7
53	Quasi-trefftz spectral method for separable linear elliptic equations. Computers and Mathematics With Applications, 1999, 37, 47-74.	1.4	7
54	Hugoni's Maslov Chains for Singular Vortical Solutions to Quasilinear Hyperbolic Systems and Typhoon Trajectory. Journal of Mathematical Sciences, 2004, 124, 5209-5249.	0.1	7

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55	The local central limit theorem for a Gibbs random field. Communications in Mathematical Physics, 1979, 70, 125-132.	1.0	6
56	Capacity of the Hopfield model. Journal of Physics A, 1997, 30, 3383-3391.	1.6	6
57	On the Critical Capacity of the Hopfield Model. Communications in Mathematical Physics, 2001, 216, 139-177.	1.0	6
58	Functions of Noncommuting Operators in an Asymptotic Problem for a 2D Wave Equation with Variable Velocity and Localized Right-hand Side. , 2013, , 95-125.		6
59	A rigorous study of periodic orbits by means of a computer. Journal of Statistical Physics, 1983, 32, 25-33.	0.5	5
60	The Cauchy-Riemann conditions and localized asymptotic solutions of the linearized shallow-water equations. Prikladnaya Matematika I Mekhanika, 2005, 69, 720-725.	0.4	5
61	Scalarization of stationary semiclassical problems for systems of equations and its application in plasma physics. Theoretical and Mathematical Physics(Russian Federation), 2017, 193, 1761-1782.	0.3	5
62	METASTABLE STATES IN THE HOPFIELD MODEL. International Journal of Modern Physics B, 1990, 04, 143-150.	1.0	4
63	On the volume of the intersection of a sphere with random half spaces. Comptes Rendus Mathematique, 2002, 334, 803-806.	0.1	4
64	Maslov complex germ and high-frequency Gaussian beams for cold plasma in a toroidal domain. Doklady Mathematics, 2016, 94, 480-485.	0.1	4
65	An application of the saturated attractor analysis to three typical models. Lecture Notes in Computer Science, 1995, , 353-360.	1.0	4
66	The fifth interaction and baryon mass differences. Il Nuovo Cimento A, 1968, 58, 435-448.	0.2	3
67	Conformal theories, grassmannians and soliton hierarchies (I). Nuclear Physics B, 1989, 315, 681-701.	0.9	3
68	Modified pseudo-inverse neural networks storing correlated patterns. Journal of Physics A, 1992, 25, 2843-2857.	1.6	3
69	Replica-symmetry breaking in neural networks. Physica A: Statistical Mechanics and Its Applications, 1992, 185, 385-394.	1.2	3
70	An introduction to the mathematical theory of neural networks. Lecture Notes in Physics, 1997, , 197-221.	0.3	3
71	A discrete version of the dynamic link network. Neurocomputing, 1997, 15, 91-106.	3.5	3
72	A new Trefftz method for solving boundary value problems. ARI Bulletin of the Istanbul Technical University, 1997, 50, 85-95.	0.2	3

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73	A new boundary method for electromagnetic scattering from inhomogeneous bodies. Journal of Quantitative Spectroscopy and Radiative Transfer, 2002, 72, 837-852.	1.1	3
74	Application of a segmentation algorithm to quantum dots study. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2004, 22, 588.	1.6	3
75	Cauchy's Riemann conditions and point singularities of solutions to linearized shallow-water equations. Russian Journal of Mathematical Physics, 2007, 14, 217-223.	0.4	3
76	Gaussian Packets and Beams with Focal Points in Vector Problems of Plasma Physics. Theoretical and Mathematical Physics(Russian Federation), 2018, 196, 1059-1081.	0.3	3
77	Quantum Hopfield Model. Physics, 2020, 2, 184-196.	0.5	3
78	On the Turbulent Behavior of a Magnetically Confined Plasma near the X-Point. Fluids, 2022, 7, 157.	0.8	3
79	Renormalization group convergence for small perturbations of Gaussian random fields with slowly decaying correlations. Journal of Mathematical Physics, 1981, 22, 2020-2025.	0.5	2
80	Borel summability of the perturbation series in a hierarchical $\phi^4$ model. Journal of Statistical Physics, 1984, 36, 145-162.	0.5	2
81	An analysis on neural dynamics with saturated sigmoidal functions. Computers and Mathematics With Applications, 1997, 34, 71-99.	1.4	2
82	Detectable and undetectable input signals for the integrate-and-fire model. Journal of Physics A, 2001, 34, 1637-1648.	1.6	2
83	Generalization and learning error for nonlinear perceptron. Mathematical and Computer Modelling, 2002, 35, 259-271.	2.0	2
84	Calculation of Integrals of the Hugoniot-Maslov Chain for Singular Vortical Solutions of the Shallow-Water Equation. Theoretical and Mathematical Physics(Russian Federation), 2004, 139, 500-512.	0.3	2
85	Impact of temperature and pH value on the stability of hGHRH: An MD approach. Mathematical and Computer Modelling, 2005, 41, 1157-1170.	2.0	2
86	A Perturbative Theory of the Evolution of the Center of Typhoons. , 2005, , 31-50.		2
87	Forecast of the trajectory of the center of typhoons and the Maslov decomposition. Russian Journal of Mathematical Physics, 2007, 14, 232-237.	0.4	2
88	Gaussian beams for a linearized cold plasma confined in a torus. Journal of Instrumentation, 2016, 11, C04016-C04016.	0.5	2
89	Short-Wave Asymptotics for Gaussian Beams and Packets and Scalarization of Equations in Plasma Physics. Physics, 2019, 1, 301-320.	0.5	2
90	Bidimensional analysis of the PROTO-SPHERA flow. , 2019, , .		2

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91	STRUCTURED HIERARCHICAL NEURAL NETWORK. International Journal of Modern Physics B, 1989, 03, 1561-1571.	1.0	1
92	STATISTICAL MEMORY MODEL FOR POLYMER CHAIN SHAPES. International Journal of Modern Physics B, 1993, 07, 2509-2527.	1.0	1
93	Energy landscape of neural networks storing spatially correlated patterns. Journal of Physics A, 1995, 28, 3733-3741.	1.6	1
94	Convergence theorems for a class of learning algorithms with VLRPs. Neurocomputing, 1997, 15, 45-68.	3.5	1
95	An extended Kohonen phonetic map. Mathematical and Computer Modelling, 1997, 25, 69-73.	2.0	1
96	Learning in a higher-order simple perceptron. Mathematical and Computer Modelling, 1999, 30, 217-223.	2.0	1
97	Enhancement of the em field inside a local probe microscope. Journal of Modern Optics, 2000, 47, 25-32.	0.6	1
98	STABILITY OF ASYNCHRONOUS STATES OF SPIKING NEURONS. International Journal of Modern Physics B, 2004, 18, 759-771.	1.0	1
99	Optimal movement control models of Langevin and Hamiltonian types. Mathematical and Computer Modelling, 2007, 46, 680-698.	2.0	1
100	1-D Modeling of the Screw-Pinch Plasma in PROTO-SPHERA. Fluids, 2019, 4, 42.	0.8	1
101	Depolarization Block in the Endocannabinoid System of the Hippocampus. NeuroSci, 2020, 1, 85-97.	0.4	1
102	Analytical studies of PROTO-SPHERA equilibria. Journal of Plasma Physics, 2020, 86, .	0.7	1
103	On Eckart's approach to the hydrodynamic evolution of oceans and atmosphere. Societa Italiana Di Fisica Nuovo Cimento B-General Physics, Relativity Astronomy and Mathematical Physics and Methods, 1975, 25, 295-307.	0.2	0
104	A DIFFUSION APPROACH TO ECONOMIC TIME SERIES. International Journal of Theoretical and Applied Finance, 2000, 03, 567-568.	0.2	0
105	HEDGING STRATEGY WITH LANGEVIN EVOLUTION. International Journal of Theoretical and Applied Finance, 2000, 03, 553-556.	0.2	0
106	A meshless boundary method for 2D problems of electromagnetic scattering from inhomogeneous bodies; H-polarized waves. Journal of Quantitative Spectroscopy and Radiative Transfer, 2004, 83, 313-320.	1.1	0
107	Hugoniot-Maslov Chains for the System of Shallow-Water Equations Taking into Account Energy Exchange. Mathematical Notes, 2005, 78, 740-743.	0.1	0
108	Identifying short motifs by means of extreme value analysis. Europhysics Letters, 2008, 84, 18001.	0.7	0

#	ARTICLE	IF	CITATIONS
109	FROM CLASSICAL NEURAL NETWORKS TO QUANTUM NEURAL NETWORKS. , 2012, , .		0
110	Storage and retrieval of ultrametric patterns in a network of CA1 neurons of the hippocampus. P-Adic Numbers, Ultrametric Analysis, and Applications, 2013, 5, 260-277.	0.1	0
111	Analysis of MHD instabilities by asymptotic methods. European Physical Journal D, 2016, 70, 1.	0.6	0
112	Scattering of Lower Hybrid Waves in a Magnetized Plasma. Physics, 2020, 2, 640-653.	0.5	0
113	Dynamical behaviour of a large complex system. Communications on Pure and Applied Analysis, 2008, 7, 249-265.	0.4	0
114	Stability of the dynamics of an asymmetric neural network. Communications on Pure and Applied Analysis, 2009, 8, 655-671.	0.4	0
115	Magnetic Force-Free Theory: Nonlinear Case. Physics, 2022, 4, 21-36.	0.5	0