Tommaso Toffoli

List of Publications by Year
in descending order

38 papers	4,485 citations	567281 15 h-index	526287 27 g-index
39 all docs	39 docs citations	39 times ranked	2151 citing authors

#	Article	IF	Citations
1	Conservative logic. International Journal of Theoretical Physics, 1982, 21, 219-253.	1.2	1,722
2	Cellular automata as an alternative to (rather than an approximation of) differential equations in modeling physics. Physica D: Nonlinear Phenomena, 1984, 10, 117-127.	2.8	329
3	Invertible cellular automata: A review. Physica D: Nonlinear Phenomena, 1990, 45, 229-253.	2.8	287
4	Fundamental Limit on the Rate of Quantum Dynamics: The Unified Bound Is Tight. Physical Review Letters, 2009, 103, 160502.	7.8	220
5	Computation and construction universality of reversible cellular automata. Journal of Computer and System Sciences, 1977, 15, 213-231.	1.2	164
6	Programmable matter: Concepts and realization. Physica D: Nonlinear Phenomena, 1991, 47, 263-272.	2.8	141
7	Cellular-Automata Supercomputers for Fluid-Dynamics Modeling. Physical Review Letters, 1986, 56, 1694-1696.	7.8	115
8	Bicontinuous extensions of invertible combinatorial functions. Mathematical Systems Theory, 1981, 14, 13-23.	0.5	92
9	CAM: A high-performance cellular-automaton machine. Physica D: Nonlinear Phenomena, 1984, 10, 195-204.	2.8	86
10	A Nanomechanical Fredkin Gate. Nano Letters, 2014, 14, 89-93.	9.1	78
11	Physics and computation. International Journal of Theoretical Physics, 1982, 21, 165-175.	1.2	71
12	Three-Dimensional Rotations by Three Shears. Graphical Models, 1997, 59, 89-95.	1.3	31
13	Potential for computation in micromagnetics via topological conservation laws. Physica D: Nonlinear Phenomena, 1998, 120, 139-161.	2.8	20
14	Programmable matter methods. Future Generation Computer Systems, 1999, 16, 187-201.	7.5	19
15	How to turn a second-order cellular automaton into a lattice gas: a new inversion scheme. Theoretical Computer Science, 2004, 325, 329-344.	0.9	15
16	Almost every unit matrix is a ULU. Linear Algebra and Its Applications, 1997, 259, 31-38.	0.9	12
17	Maximum Speed of Quantum Gate Operation. International Journal of Theoretical Physics, 2005, 44, 965-970.	1.2	12
18	Quo vadimus? â€" Much hard work is still needed. Physica D: Nonlinear Phenomena, 1998, 120, 1-11.	2.8	11

#	Article	IF	Citations
19	Whenâ€“and howâ€“can a cellular automaton be rewritten as a lattice gas?. Theoretical Computer Science, 2008, 403, 71-88.	0.9	11
20	Information transport obeying the continuity equation. IBM Journal of Research and Development, 1988, 32, 29-36.	3.1	9
21	Thermodynamic Cost of Reversible Computing. Physical Review Letters, 2007, 99, 110502.	7.8	8
22	Entropy? Honest!. Entropy, 2016, 18, 247.	2.2	7
23	What Is the Lagrangian Counting?. International Journal of Theoretical Physics, 2003, 42, 363-381.	1.2	6
24	A Digital Perspective and the Quest for Substrate-Universal Behaviors. International Journal of Theoretical Physics, 2003, 42, 147-151.	1.2	3
25	Heat-to-Work Conversion by Exploiting Full or Partial Correlations of Quantum Particles. International Journal of Theoretical Physics, 2011, 50, 3844-3851.	1.2	3
26	Information and Distinguishability of Ensembles of Identical Quantum States. International Journal of Theoretical Physics, 2005, 44, 219-228.	1.2	2
27	Specific ergodicity. , 2005, , .		2
28	Thermodynamic Cost of Reversible Computing. , 2006, , .		2
29	Conserved quantities in discrete dynamics: what can be recovered from Noetherâ€™s theorem, how, and why?. Natural Computing, 2012, 11, 565-577.	3.0	2
30	Mutual Information in Quantum Systems. AIP Conference Proceedings, 2004, , .	0.4	0
31	Information Between Quantum Systems via POVMs. International Journal of Theoretical Physics, 2005, 44, 1989-1994.	1.2	0
32	From Such Simple a Beginning: The Momentous Consequences of Physics' Microscopic Reversibility for Communication and Computationâ€”and Almost Anything Else. Electronic Notes in Theoretical Computer Science, 2010, 253, 3-16.	0.9	0
33	Work recoverable from two-particle information. , 2011, , .		0
34	Work recoverable from two-particle information. , 2012, , .		0
35	What Automata Can Provide a Medium for Life?. Lecture Notes in Computer Science, 2016, , 10-25.	1.3	0
36	Waiting for the rapture: What can we do with computers to (hopefully) witness the emergence of life?. Natural Computing, 2019, 18, 489-512.	3.0	0

#	Article	IF	Citations
37	Can Anything from Noetherâ€™s Theorem Be Salvaged for Discrete Dynamical Systems?. Lecture Notes in Computer Science, 2011, , 77-88.	1.3	0
38	Probability is a Lot of Logic at Once: If You Don't Know Which One to Pick, Take 'em All. , 2011, , 7-32.		0