Marco Villani

List of Publications by Year
in descending order

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122	2,085	257101	288905
papers	citations	24	40
		h-index	g-index

130	130	130	1928
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Engineered Nanomaterial Exposure Affects Organelle Genetic Material Replication in Arabidopsis thaliana. ACS Nano, 2022, 16, 2249-2260.	7.3	18
2	Attractor-Specific and Common Expression Values in Random Boolean Network Models (with a) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 70	1.1	1
3	Cadmium Sulfide Quantum Dots Adversely Affect Gametogenesis in Saccharomyces cerevisiae. Nanomaterials, 2022, 12, 2208.	1.9	3
4	Dynamical properties and path dependence in a gene-network model of cell differentiation. Soft Computing, 2021, 25, 6775-6787.	2.1	4
5	All-Polymeric Pressure Sensors Based on PEDOT:PSS-Modified Polyurethane Foam. ACS Applied Polymer Materials, 2021, 3, 1563-1572.	2.0	23
6	Asymptotic Information-Theoretic Detection of Dynamical Organization in Complex Systems. Entropy, 2021, 23, 398.	1.1	1
7	Comparative Analysis of Proteins Regulated during Cadmium Sulfide Quantum Dots Response in Arabidopsis thaliana Wild Type and Tolerant Mutants. Nanomaterials, 2021, 11, 615.	1.9	9
8	A Fast and Effective Method to Identify Relevant Sets of Variables in Complex Systems. Mathematics, 2021, 9, 1022.	1.1	3
9	Exploring the Dynamic Organization of Random and Evolved Boolean Networks. Algorithms, 2020, 13, 272.	1.2	0
10	Evolving Always-Critical Networks. Life, 2020, 10, 22.	1.1	2
11	Proteomic Analysis Identifies Markers of Exposure to Cadmium Sulphide Quantum Dots (CdS QDs). Nanomaterials, 2020, 10, 1214.	1.9	5
12	The fate of CdS quantum dots in plants as revealed by extended X-ray absorption fine structure (EXAFS) analysis. Environmental Science: Nano, 2020, 7, 1150-1162.	2.2	16
13	The Effects of a Simplified Model of Chromatin Dynamics on Attractors Robustness in Random Boolean Networks with Self-loops: An Experimental Study. Communications in Computer and Information Science, 2020, , 28-37.	0.4	0
14	The Detection of Dynamical Organization in Cancer Evolution Models. Communications in Computer and Information Science, 2020, , 49-61.	0.4	1
15	Avalanches of Perturbations in Modular Gene Regulatory Networks. Communications in Computer and Information Science, 2020, , 17-27.	0.4	0
16	Selecting for Positive Responses to Knock Outs in Boolean Networks. Communications in Computer and Information Science, 2020, , 7-16.	0.4	1
17	Evolving Critical Boolean Networks. Communications in Computer and Information Science, 2019, , 17-29.	0.4	3
18	Sustainable Growth and Synchronization in Protocell Models. Life, 2019, 9, 68.	1.1	10

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19	Kinetic Rate Constants of Gold Nanoparticle Deposition on Silicon. Langmuir, 2019, 35, 14258-14265.	1.6	4
20	Proteomic, gene and metabolite characterization reveal the uptake and toxicity mechanisms of cadmium sulfide quantum dots in soybean plants. Environmental Science: Nano, 2019, 6, 3010-3026.	2.2	37
21	A View of Criticality in the Ising Model Through the Relevance Index. Contemporary Systems Thinking, 2019, , 171-178.	0.3	0
22	An Improved Relevance Index Method to Search Important Structures in Complex Systems. Communications in Computer and Information Science, 2019, , 3-16.	0.4	0
23	In Vivo-In Vitro Comparative Toxicology of Cadmium Sulphide Quantum Dots in the Model Organism Saccharomyces cerevisiae. Nanomaterials, 2019, 9, 512.	1.9	10
24	A simplified model of chromatin dynamics drives differentiation process in Boolean models of GRN. , 2019, , .		3
25	Dynamical Criticality: Overview and Open Questions. Journal of Systems Science and Complexity, 2018, 31, 647-663.	1.6	60
26	Ring-shaped corona proteins influence the toxicity of engineered nanoparticles to yeast. Environmental Science: Nano, 2018, 5, 1428-1440.	2.2	18
27	An Iterative Information-Theoretic Approach to the Detection of Structures in Complex Systems. Complexity, 2018, 2018, 1-15.	0.9	12
28	An Integration-Based Approach to Pattern Clustering and Classification. Lecture Notes in Computer Science, 2018, , 362-374.	1.0	3
29	Dynamical Criticality in Gene Regulatory Networks. Complexity, 2018, 2018, 1-14.	0.9	23
30	A Relevance Index Method to Infer Global Properties of Biological Networks. Communications in Computer and Information Science, 2018, , 129-141.	0.4	5
31	Simulating Populations of Protocells with Uneven Division. Communications in Computer and Information Science, 2018, , 153-164.	0.4	0
32	Dynamical Properties of a Gene-Protein Model. Communications in Computer and Information Science, 2018, , 142-152.	0.4	5
33	A Comparison Between Threshold Ergodic Sets and Stochastic Simulation of Boolean Networks for Modelling Cell Differentiation. Communications in Computer and Information Science, 2018, , 116-128.	0.4	2
34	Growth and characterization of Î²-Ga2O3 nanowires obtained on not-catalyzed and Au/Pt catalyzed substrates. Journal of Crystal Growth, 2017, 457, 255-261.	0.7	12
35	Dynamical regimes in non-ergodic random Boolean networks. Natural Computing, 2017, 16, 353-363.	1.8	12
36	Smart composites materials: A new idea to add gas-sensing properties to commercial carbon-fibers by functionalization with ZnO nanowires. Sensors and Actuators B: Chemical, 2017, 245, 166-170.	4.0	17

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37	GPU-Based Parallel Search of Relevant Variable Sets in Complex Systems. Communications in Computer and Information Science, 2017, , 14-25.	0.4	11
38	Enzymatic sensing with laccase-functionalized textile organic biosensors. Organic Electronics, 2017, 40, 51-57.	1.4	49
39	Modeling, Fabrication and Testing of a Customizable Micromachined Hotplate for Sensor Applications. Sensors, 2017, 17, 62.	2.1	21
40	Identifying Critical States through the Relevance Index. Entropy, 2017, 19, 73.	1.1	11
41	Synchronization in Near-Membrane Reaction Models of Protocells. Communications in Computer and Information Science, 2017, , 167-178.	0.4	1
42	New Paths for the Application of DCI in Social Sciences: Theoretical Issues Regarding an Empirical Analysis. Communications in Computer and Information Science, 2017, , 42-52.	0.4	4
43	Automatic Design of Boolean Networks for Cell Differentiation. Communications in Computer and Information Science, 2017, , 91-102.	0.4	6
44	Modelling Protocells. Understanding Complex Systems, 2017, , .	0.3	15
45	Efficient Search of Relevant Structures in Complex Systems. Lecture Notes in Computer Science, 2016, , 35-48.	1.0	15
46	Multiscale modification of the conductive PEDOT:PSS polymer for the analysis of biological mixtures in a super-hydrophobic drop. Microelectronic Engineering, 2016, 158, 80-84.	1.1	3
47	A theoretical model for the time varying current in organic electrochemical transistors in a dynamic regime. Organic Electronics, 2016, 35, 59-64.	1.4	23
48	Geometrical Patterning of Super-Hydrophobic Biosensing Transistors Enables Space and Time Resolved Analysis of Biological Mixtures. Scientific Reports, 2016, 6, 18992.	1.6	17
49	Nanoscale mapping of plasmon and exciton in ZnO tetrapods coupled with Au nanoparticles. Scientific Reports, 2016, 6, 19168.	1.6	27
50	On the Robustness of the Detection of Relevant Sets in Complex Dynamical Systems. Communications in Computer and Information Science, 2016, , 15-28.	0.4	3
51	Dynamically Critical Systems and Power-Law Distributions: Avalanches Revisited. Communications in Computer and Information Science, 2016, , 29-39.	0.4	6
52	The Search for Candidate Relevant Subsets of Variables in Complex Systems. Artificial Life, 2015, 21, 412-431.	1.0	27
53	The Proteomic Response of Arabidopsis thaliana to Cadmium Sulfide Quantum Dots, and Its Correlation with the Transcriptomic Response. Frontiers in Plant Science, 2015, 6, 1104.	1.7	48
54	Dynamical Properties of Artificially Evolved Boolean Network Robots. Lecture Notes in Computer Science, 2015, , 45-57.	1.0	5

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55	Microtexturing of the Conductive PEDOT:PSS Polymer for Superhydrophobic Organic Electrochemical Transistors. BioMed Research International, 2014, 2014, 1-10.	0.9	19
56	Human stress monitoring through an organic cotton-fiber biosensor. Journal of Materials Chemistry B, 2014, 2, 5620-5626.	2.9	107
57	Controllable vapor phase growth of vertically aligned ZnO nanorods on TCO/Glass substrates. Crystal Research and Technology, 2014, 49, 558-563.	0.6	5
58	Growth and Division in a Dynamic Protocell Model. Life, 2014, 4, 837-864.	1.1	23
59	Evolution, Complexity and Artificial Life. , 2014, , .		3
60	InZnO nanorods obtained via zinc vapour phase deposition on liquid indium seeded substrates. CrystEngComm, 2014, 16, 1696.	1.3	2
61	A stochastic model of catalytic reaction networks in protocells. Natural Computing, 2014, 13, 367-377.	1.8	15
62	Diffusion Driven Selectivity in Organic Electrochemical Transistors. Scientific Reports, 2014, 4, 4297.	1.6	48
63	On RAF Sets and Autocatalytic Cycles in Random Reaction Networks. Communications in Computer and Information Science, 2014, , 113-126.	0.4	5
64	On Some Properties of Information Theoretical Measures for the Study of Complex Systems. Communications in Computer and Information Science, 2014, , 140-150.	0.4	8
65	Attractors Perturbations in Biological Modelling: Avalanches and Cellular Differentiation. , 2014, , 59-76.		1
66	Automatic Design of Boolean Networks for Modelling Cell Differentiation. , 2014, , 77-89.		2
67	Investigating the Role of Network Topology and Dynamical Regimes on the Dynamics of a Cell Differentiation Model. Communications in Computer and Information Science, 2014, , 151-168.	0.4	0
68	On the dynamical properties of a model of cell differentiation. Eurasip Journal on Bioinformatics and Systems Biology, 2013, 2013, 4.	1.4	11
69	Dynamical regimes and learning properties of evolved Boolean networks. Neurocomputing, 2013, 99, 111-123.	3.5	25
70	Low Temperature Sensing Properties of a Nano Hybrid Material Based on ZnO Nanotetrapods and Titanyl Phthalocyanine. Sensors, 2013, 13, 3445-3453.	2.1	20
71	Mechanism for the formation of density gradients through semipermeable membranes. Physical Review E, 2013, 87, 062814.	0.8	7
72	Emergent Properties of Gene Regulatory Networks: Models and Data. , 2013, , 65-93.		1

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73	Identification of Dynamical Structures in Artificial Brains: An Analysis of Boolean Network Controlled Robots. Lecture Notes in Computer Science, 2013, , 324-335.	1.0	2
74	Extended functionality of ZnO nanotetrapods by solution-based coupling with CdS nanoparticles. Journal of Materials Chemistry, 2012, 22, 5694.	6.7	42
75	Organic electrochemical transistors monitoring micelle formation. Chemical Science, 2012, 3, 3432.	3.7	45
76	A single cotton fiber organic electrochemical transistor for liquid electrolyte saline sensing. Journal of Materials Chemistry, 2012, 22, 23830.	6.7	99
77	A stochastic model of autocatalytic reaction networks. Theory in Biosciences, 2012, 131, 85-93.	0.6	23
78	Noise-Induced Emergent Hierarchies in a CA Model. Lecture Notes in Computer Science, 2012, , 244-253.	1.0	0
79	Non-interacting hard ferromagnetic L10 FePt nanoparticles embedded in a carbon matrix. Journal of Materials Chemistry, 2011, 21, 18331.	6.7	10
80	Robustness Analysis of a Boolean Model of Gene Regulatory Network with Memory. Journal of Computational Biology, 2011, 18, 559-577.	0.8	30
81	Aldehyde detection by ZnO tetrapod-based gas sensors. Journal of Materials Chemistry, 2011, 21, 15532.	6.7	85
82	Cellâ€“cell interaction and diversity of emergent behaviours. IET Systems Biology, 2011, 5, 137-144.	0.8	34
83	A stochastic model of the emergence of autocatalytic cycles. Journal of Systems Chemistry, 2011, 2, .	1.7	31
84	On the aerodynamic and aeroelastic response of a bridge tower. Journal of Wind Engineering and Industrial Aerodynamics, 2011, 99, 729-733.	1.7	26
85	Dynamical Properties of a Boolean Model of Gene Regulatory Network with Memory. Journal of Computational Biology, 2011, 18, 1291-1303.	0.8	56
86	Stochastic Local Search to Automatically Design Boolean Networks with Maximally Distant Attractors. Lecture Notes in Computer Science, 2011, , 22-31.	1.0	3
87	A Dynamical Model of Genetic Networks for Cell Differentiation. PLoS ONE, 2011, 6, e17703.	1.1	57
88	Non-linear protocell models: synchronization and chaos. European Physical Journal B, 2010, 77, 249-256.	0.6	17
89	On the dynamics of random Boolean networks subject to noise: Attractors, ergodic sets and cell types. Journal of Theoretical Biology, 2010, 265, 185-193.	0.8	98
90	Information Transfer among Coupled Random Boolean Networks. Lecture Notes in Computer Science, 2010, , 1-11.	1.0	12

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91	Exaptive Processes: An Agent Based Model. , 2009, , 413-432.		1
92	Modeling Innovation. , 2009, , 361-388.		1
93	Sufficient conditions for emergent synchronization in protocell models. Journal of Theoretical Biology, 2008, 254, 741-751.	0.8	34
94	SYNCHRONIZATION PHENOMENA IN PROTOCELL MODELS. Biophysical Reviews and Letters, 2008, 03, 325-342.	0.9	9
95	The Diffusion of Perturbations in a Model of Coupled Random Boolean Networks. Lecture Notes in Computer Science, 2008, , 315-322.	1.0	16
96	A CA Model of Spontaneous Formation of Concentration Gradients. Lecture Notes in Computer Science, 2008, , 385-392.	1.0	2
97	The simulation of gene knock-out in scale-free random Boolean models of genetic networks. Networks and Heterogeneous Media, 2008, 3, 333-343.	0.5	15
98	SYNCHRONIZATION PHENOMENA IN PROTOCELL MODELS. , 2008, , .		0
99	INVESTIGATING CELL CRITICALITY. , 2008, , .		0
100	Global and Local Processes in a Model of Innovation. Lecture Notes in Computer Science, 2008, , 401-408.	1.0	0
101	Why a simple model of genetic regulatory networks describes the distribution of avalanches in gene expression data. Journal of Theoretical Biology, 2007, 246, 449-460.	0.8	119
102	An agentâ€based model of exaptive processes. European Management Review, 2007, 4, 141-151.	2.2	25
103	A new model for polluted soil risk assessment. Computers and Geosciences, 2006, 32, 890-896.	2.0	5
104	Recent Results on Random Boolean Networks. , 2006, , 625-634.		5
105	Agents, Equations and All That: On the Role of Agents in Understanding Complex Systems. Lecture Notes in Computer Science, 2006, , 159-175.	1.0	1
106	On the dynamics of random Boolean networks with scale-free outgoing connections. Physica A: Statistical Mechanics and Its Applications, 2004, 339, 665-673.	1.2	30
107	Genetic network models and statistical properties of gene expression data in knock-out experiments. Journal of Theoretical Biology, 2004, 227, 149-157.	0.8	135
108	A Theory-Based Dynamical Model of Innovation Processes. Complexus, 2004, 2, 177-194.	0.7	9

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109	On the Dynamics of Scale-Free Boolean Networks. Lecture Notes in Computer Science, 2003, , 43-49.	1.0	5
110	Robustness to Damage of Biological and Synthetic Networks. Lecture Notes in Computer Science, 2003, , 706-715.	1.0	5
111	Perturbing the Regular Topology of Cellular Automata: Implications for the Dynamics. Lecture Notes in Computer Science, 2002, , 168-177.	1.0	13
112	Continuous genetic networks. Parallel Computing, 2001, 27, 663-683.	1.3	19
113	A cellular automata model for the simulation of in vitro carcinogenesis tests. , 2001, , 135-143.		1
114	A new dynamical model of biodegradation. , 2001, , 161-169.		0
115	Genetic Network Models of Biodegradation. , 1998, , 203-217.		0
116	Recent Advances in Dynamical Models of Biodegradation. , 1998, , 92-105.		0
117	Modelling Bacterial Degradation of Organic Compounds with Genetic Networks. Journal of Theoretical Biology, 1997, 189, 107-119.	0.8	14
118	LGANN: a parallel system combining a local genetic algorithm and neural networks for the prediction of secondary structure of proteins. Bioinformatics, 1995, 11, 253-260.	1.8	12
119	The role of backward reactions in a stochastic model of catalytic reaction networks. , 0, , .		2
120	Exploring the organisation of complex systems through the dynamical interactions among their relevant subsets. , 0, , .		10
121	A model of protocell based on the introduction of a semi-permeable membrane in a stochastic model of catalytic reaction networks. Electronic Proceedings in Theoretical Computer Science, EPTCS, 0, 130, 70-73.	0.8	1
122	Recent developments in research on catalytic reaction networks. Electronic Proceedings in Theoretical Computer Science, EPTCS, 0, 130, 3-13.	0.8	0