Olivier C Martin

List of Publications by Year in descending order

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81900 71685 7,074 149 39 76 citations g-index h-index papers 158 158 158 6124 docs citations times ranked citing authors all docs

#	Article	IF	Citations
1	A Large Maize (Zea mays L.) SNP Genotyping Array: Development and Germplasm Genotyping, and Genetic Mapping to Compare with the B73 Reference Genome. PLoS ONE, 2011, 6, e28334.	2.5	523
2	Iterated Local Search., 2003,, 320-353.		461
3	Robustness Can Evolve Gradually in Complex Regulatory Gene Networks with Varying Topology. PLoS Computational Biology, 2007, 3, e15.	3.2	318
4	Algebraic properties of cellular automata. Communications in Mathematical Physics, 1984, 93, 219-258.	2.2	305
5	Innovation and robustness in complex regulatory gene networks. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 13591-13596.	7.1	305
6	Iterated Local Search: Framework and Applications. Profiles in Operations Research, 2010, , 363-397.	0.4	246
7	Genome-Wide Crossover Distribution in Arabidopsis thaliana Meiosis Reveals Sex-Specific Patterns along Chromosomes. PLoS Genetics, 2011, 7, e1002354.	3.5	221
8	Large-step markov chains for the TSP incorporating local search heuristics. Operations Research Letters, 1992, 11, 219-224.	0.7	176
9	A congruence index for testing topological similarity between trees. Bioinformatics, 2007, 23, 3119-3124.	4.1	176
10	Intraspecific variation of recombination rate in maize. Genome Biology, 2013, 14, R103.	9.6	176
11	Detailed Recombination Studies Along Chromosome 3B Provide New Insights on Crossover Distribution in Wheat (<i>Triticum aestivum</i> L.). Genetics, 2009, 181, 393-403.	2.9	157
12	Toward a Theory of Marker-Assisted Gene Pyramiding. Genetics, 2004, 168, 513-523.	2.9	156
13	Combining simulated annealing with local search heuristics. Annals of Operations Research, 1996, 63, 57-75.	4.1	146
14	Plant roots sense soil compaction through restricted ethylene diffusion. Science, 2021, 371, 276-280.	12.6	145
15	Spin and Link Overlaps in Three-Dimensional Spin Glasses. Physical Review Letters, 2000, 85, 3013-3016.	7.8	136
16	Constrained Allocation Flux Balance Analysis. PLoS Computational Biology, 2016, 12, e1004913.	3.2	136
17	Statistical mechanics methods and phase transitions in optimization problems. Theoretical Computer Science, 2001, 265, 3-67.	0.9	130
18	Anomalous dimensions and the renormalization group in a nonlinear diffusion process. Physical Review Letters, 1990, 64, 1361-1364.	7.8	128

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19	Glass models on Bethe lattices. European Physical Journal B, 2003, 37, 55-78.	1.5	123
20	Sex-Specific Crossover Distributions and Variations in Interference Level along Arabidopsis thaliana Chromosome 4. PLoS Genetics, 2007, 3, e106.	3.5	123
21	Intermediate asymptotics and renormalization group theory. Journal of Scientific Computing, 1989, 4, 355-372.	2.3	121
22	Iterated Local Search: Framework and Applications. Profiles in Operations Research, 2019, , 129-168.	0.4	94
23	Monte Carlo estimates of the mass gap of the $O(2)$ and $O(3)$ spin models in $1+1$ dimensions. Nuclear Physics B, 1982, 205, 188-220.	2.5	86
24	Phenotypic plasticity can facilitate adaptive evolution in gene regulatory circuits. BMC Evolutionary Biology, 2011, 11, 5.	3.2	86
25	Energy exponents and corrections to scaling in Ising spin glasses. Physical Review B, 2003, 68, .	3.2	84
26	Finite Size and Dimensional Dependence in the Euclidean Traveling Salesman Problem. Physical Review Letters, 1996, 76, 1188-1191.	7.8	77
27	Spatial and Topological Organization of DNA Chains Induced by Gene Co-localization. PLoS Computational Biology, 2010, 6, e1000678.	3.2	73
28	Motifs emerge from function in model gene regulatory networks. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 17263-17268.	7.1	69
29	Saffman-Taylor fingers with anisotropic surface tension. Physical Review A, 1987, 35, 3989-3992.	2.5	67
30	Neutral network sizes of biological RNA molecules can be computed and are not atypically small. BMC Bioinformatics, 2008, 9, 464.	2.6	65
31	Combined fluorescent and electron microscopic imaging unveils the specific properties of two classes of meiotic crossovers. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 13415-13420.	7.1	60
32	Scalings of Domain Wall Energies in Two Dimensional Ising Spin Glasses. Physical Review Letters, 2003, 91, 087201.	7.8	58
33	Strong Universality and Algebraic Scaling in Two-Dimensional Ising Spin Glasses. Physical Review Letters, 2006, 96, 237205.	7.8	58
34	Two Types of Meiotic Crossovers Coexist in Maize. Plant Cell, 2010, 21, 3915-3925.	6.6	53
35	Genotype networks in metabolic reaction spaces. BMC Systems Biology, 2010, 4, 30.	3.0	49
36	Recombination patterns in maize reveal limits to crossover homeostasis. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 15982-15987.	7.1	49

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37	Effects of Recombination on Complex Regulatory Circuits. Genetics, 2009, 183, 673-684.	2.9	48
38	Development of new genetic resources for faba bean (Vicia faba L.) breeding through the discovery of gene-based SNP markers and the construction of a high-density consensus map. Scientific Reports, 2020, 10, 6790.	3.3	46
39	Origin of sidebranching in dendritic growth. Physical Review A, 1987, 35, 1382-1390.	2.5	45
40	Crossover rate between homologous chromosomes and interference are regulated by the addition of specific unpaired chromosomes in <i><scp>B</scp>rassica</i> . New Phytologist, 2014, 201, 645-656.	7.3	45
41	Amplifying recombination genome-wide and reshaping crossover landscapes in Brassicas. PLoS Genetics, 2017, 13, e1006794.	3.5	43
42	Ising Spin Glasses in a Magnetic Field. Physical Review Letters, 1999, 82, 4934-4937.	7.8	39
43	Renormalization for Discrete Optimization. Physical Review Letters, 1999, 83, 1030-1033.	7.8	39
44	Crossover Localisation Is Regulated by the Neddylation Posttranslational Regulatory Pathway. PLoS Biology, 2014, 12, e1001930.	5 . 6	39
45	Phenotypic robustness can increase phenotypic variability after nongenetic perturbations in gene regulatory circuits. Journal of Evolutionary Biology, 2011, 24, 1284-1297.	1.7	38
46	Critical Thermodynamics of the Two-Dimensional $\hat{A}\pm J$ Ising Spin Glass. Physical Review Letters, 2004, 92, 117202.	7.8	37
47	Zero-Temperature Responses of a 3D Spin Glass in a Magnetic Field. Physical Review Letters, 2001, 87, 197204.	7.8	36
48	Chaotic temperature dependence in a model of spin glasses. European Physical Journal B, 2002, 28, 199-208.	1.5	34
49	Large deviations in spin-glass ground-state energies. European Physical Journal B, 2004, 41, 365-375.	1.5	33
50	The Stochastic Traveling Salesman Problem: Finite Size Scaling and the Cavity Prediction. Journal of Statistical Physics, 1999, 94, 739-758.	1.2	32
51	Partitioning of unstructured meshes for load balancing. Concurrency and Computation: Practice and Experience, 1995, 7, 303-314.	0.5	30
52	Cut Size Statistics of Graph Bisection Heuristics. SIAM Journal on Optimization, 1999, 10, 231-251.	2.0	30
53	Large-scale low-energy excitations in 3-d spin glasses. European Physical Journal B, 2000, 18, 467-477.	1.5	30
54	A geometrical picture for finite-dimensional spin glasses. Europhysics Letters, 2000, 49, 794-800.	2.0	30

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55	New structural variation in evolutionary searches of RNA neutral networks. BioSystems, 2007, 90, 475-485.	2.0	29
56	CODA (crossover distribution analyzer): quantitative characterization of crossover position patterns along chromosomes. BMC Bioinformatics, 2011, 12, 27.	2.6	29
57	Comparing mean field and Euclidean matching problems. European Physical Journal B, 1998, 6, 383-393.	1.5	28
58	Multifunctionality and Robustness Trade-Offs in Model Genetic Circuits. Biophysical Journal, 2008, 94, 2927-2937.	0.5	27
59	Hierarchical approach for computing spin glass ground states. Physical Review E, 2001, 64, 056704.	2.1	25
60	Seeing asymptotic freedom in SU(3) lattice gauge theory. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1985, 153, 87-91.	4.1	24
61	Scaling Universalities ofkth-Nearest Neighbor Distances on Closed Manifolds. Advances in Applied Mathematics, 1998, 21, 424-436.	0.7	24
62	The Schwinger model via a local Monte Carlo algorithm. Nuclear Physics B, 1982, 203, 297-310.	2.5	23
63	Temperature Chaos, Rejuvenation, and Memory in Migdal-Kadanoff Spin Glasses. Physical Review Letters, 2003, 91, 097201.	7.8	23
64	Patterns of Recombination and MLH1 Foci Density Along Mouse Chromosomes: Modeling Effects of Interference and Obligate Chiasma. Genetics, 2007, 176, 1453-1467.	2.9	22
65	Reducing the number of flavors in the microcanonical method. Physical Review D, 1985, 31, 435-437.	4.7	21
66	Two- and Three-Locus Tests for Linkage Analysis Using Recombinant Inbred Lines. Genetics, 2006, 173, 451-459.	2.9	21
67	Chiral symmetry breaking in strongly coupled lattice gauge theory. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1983, 131, 419-422.	4.1	20
68	Non-compact local excitations in spin-glasses. Europhysics Letters, 2002, 58, 321-327.	2.0	20
69	Frozen Glass Phase in the Multi-index Matching Problem. Physical Review Letters, 2004, 93, 217205.	7.8	19
70	Random multi-index matching problems. Journal of Statistical Mechanics: Theory and Experiment, 2005, 2005, P09006-P09006.	2.3	19
71	Lyapunov exponents of stochastic dynamical systems. Journal of Statistical Physics, 1985, 41, 249-261.	1.2	18
72	Discrete velocities for solitary-wave solutions selected by self-induced transparency. Physical Review A, 1991, 43, 1549-1563.	2.5	18

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73	Pairing Hamiltonian by a path integral Monte Carlo procedure. Physical Review C, 1993, 47, 2610-2615.	2.9	18
74	Finite population-size effects in projection Monte Carlo methods. Physical Review E, 1995, 51, 3679-3693.	2.1	18
75	From simple to complex networks: Inherent structures, barriers, and valleys in the context of spin glasses. Physical Review E, 2006, 73, 036110.	2.1	18
76	Network of inherent structures in spin glasses: Scaling and scale-free distributions. Physical Review E, 2007, 76, 051107.	2.1	18
77	Network function shapes network structure: the case of the Arabidopsis flower organ specification genetic network. Molecular BioSystems, 2013, 9, 1726.	2.9	17
78	Hot Regions of Noninterfering Crossovers Coexist with a Nonuniformly Interfering Pathway in Arabidopsis thaliana. Genetics, 2013, 195, 769-779.	2.9	17
79	Temperature chaos in two-dimensional Ising spin glasses with binary couplings: a further case for universality. Journal of Statistical Mechanics: Theory and Experiment, 2006, 2006, L10001-L10001.	2.3	16
80	Environmental versatility promotes modularity in genome-scale metabolic networks. BMC Systems Biology, 2011, 5, 135.	3.0	16
81	Distribution of essential interactions in model gene regulatory networks under mutation-selection balance. Physical Review E, 2010, 82, 011908.	2.1	15
82	Randomizing Genome-Scale Metabolic Networks. PLoS ONE, 2011, 6, e22295.	2.5	14
83	Minimum complexity drives regulatory logic in Boolean models of living systems. , 2022, 1, .		14
84	Local excitations of a spin glass in a magnetic field. Physical Review B, 2003, 68, .	3.2	13
85	Phenotypic innovation through recombination in genome-scale metabolic networks. Proceedings of the Royal Society B: Biological Sciences, 2016, 283, 20161536.	2.6	13
86	Discrete energy landscapes and replica symmetry breaking at zero temperature. Europhysics Letters, 2001, 53, 749-755.	2.0	12
87	Enhancing backcross programs through increased recombination. Genetics Selection Evolution, 2021, 53, 25.	3.0	12
88	Mesons and baryons at large N and strong coupling. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1983, 130, 411-414.	4.1	11
89	The quark model on the lattice. Nuclear Physics B, 1985, 261, 79-103.	2.5	11
90	Solitary-wave velocity selection in self-induced transparency. Physical Review Letters, 1990, 65, 2638-2641.	7.8	11

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91	Droplet Phenomenology and Mean Field in a Frustrated Disordered System. Physical Review Letters, 1998, 81, 2554-2557.	7.8	11
92	Spatial correlation functions in three-dimensional Ising spin glasses. Physical Review B, 2005, 72, .	3.2	11
93	Statistics of the number of minima in a random energy landscape. Physical Review E, 2006, 74, 061112.	2.1	11
94	Recombination suppression in heterozygotes for a pericentric inversion induces the interchromosomal effect on crossovers in Arabidopsis. Plant Journal, 2019, 100, 1163-1175.	5.7	11
95	Distribution of Parental Genome Blocks in Recombinant Inbred Lines. Genetics, 2011, 189, 645-654.	2.9	10
96	Historical contingency and the gradual evolution of metabolic properties in central carbon and genome-scale metabolisms. BMC Systems Biology, 2014, 8, 48.	3.0	10
97	Drivers of structural features in gene regulatory networks: From biophysical constraints to biological function. Physics of Life Reviews, 2016, 17, 124-158.	2.8	10
98	Asymptotics of Partial Differential Equations and the Renormalisation Group. NATO ASI Series Series B: Physics, 1991, , 375-383.	0.2	10
99	Systematic errors in Monte Carlo methods for fermions. Nuclear Physics B, 1986, 264, 89-98.	2.5	9
100	Fast evaluation of lattice Green functions. Journal of Physics A, 1987, 20, 5095-5111.	1.6	9
101	Iterated Local Search. SSRN Electronic Journal, 2001, , .	0.4	9
102	Return probabilities and hitting times of random walks on sparse Erdös-Rényi graphs. Physical Review E, 2010, 81, 031111.	2.1	9
103	Assessing by Modeling the Consequences of Increased Recombination in Recurrent Selection of <i>Oryza sativa</i> and <i>Brassica rapa</i> G3: Genes, Genomes, Genetics, 2019, 9, 4169-4181.	1.8	9
104	Hadronic matrix elements at strong coupling. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1986, 174, 94-98.	4.1	8
105	PROJECTION MONTE CARLO METHODS: AN ALGORITHMIC ANALYSIS. International Journal of Modern Physics C, 1995, 06, 693-723.	1.7	8
106	Absence of an Equilibrium Ferromagnetic Spin-Glass Phase in Three Dimensions. Physical Review Letters, 2002, 89, 267202.	7.8	8
107	Finite-size scaling in Villain's fully frustrated model and singular effects of plaquette disorder. Europhysics Letters, 2006, 73, 779-785.	2.0	8
108	Mean Field and Corrections for the Euclidean Minimum Matching Problem. Physical Review Letters, 1997, 79, 167-170.	7.8	7

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109	Feedback between environment and traits under selection in a seasonal environment: consequences for experimental evolution. Proceedings of the Royal Society B: Biological Sciences, 2018, 285, 20180284.	2.6	7
110	Houdayer and Martin Reply:. Physical Review Letters, 2000, 84, 1057-1057.	7.8	6
111	Temperature chaos in a replica-symmetry-broken spin glass model—A hierarchical model with temperature chaos. Europhysics Letters, 2002, 60, 316-322.	2.0	6
112	Population size effects in evolutionary dynamics on neutral networks and toy landscapes. Journal of Statistical Mechanics: Theory and Experiment, 2007, 2007, P05011-P05011.	2.3	6
113	In response to comment on  A congruence index for testing topological similarity between trees'. Bioinformatics, 2009, 25, 150-151.	4.1	6
114	Modelling the emergence of polarity patterns for the intercellular transport of auxin in plants. Journal of the Royal Society Interface, 2015, 12, 20141223.	3.4	6
115	Responses to auxin signals: an operating principle for dynamical sensitivity yet high resilience. Royal Society Open Science, 2018, 5, 172098.	2.4	6
116	Gauge-invariant spin glasses. Physical Review B, 1986, 34, 301-305.	3.2	5
117	Statistical Physics Methods Provide the Exact Solution to a Long-Standing Problem of Genetics. Physical Review Letters, 2015, 114, 238101.	7.8	5
118	A comparison of Langevin and microcanonical simulations for fermions. Nuclear Physics B, 1987, 280, 497-509.	2.5	4
119	Magnetic exponents of two-dimensional Ising spin glasses. Physical Review B, 2007, 76, .	3.2	4
120	Adaptive networks of trading agents. Physical Review E, 2008, 78, 046106.	2.1	4
121	Short relaxation times but long transient times in both simple and complex reaction networks. Journal of the Royal Society Interface, 2016, 13, 20160388.	3.4	4
122	Highâ€throughput measurement of recombination rates and genetic interference in <scp><i>Saccharomyces cerevisiae</i></scp> . Yeast, 2018, 35, 431-442.	1.7	4
123	Role of <i>Cis</i> , <i>Trans</i> , and Inbreeding Effects on Meiotic Recombination in <i>Saccharomyces cerevisiae</i> . Genetics, 2018, 210, 1213-1226.	2.9	4
124	Position space calculation of a two-loop lattice diagram. Journal of Physics A, 1990, 23, 1575-1587.	1.6	3
125	Equilibrium valleys in spin glasses at low temperature. Physical Review B, 2001, 64, .	3.2	3
126	Sinusoidal swinging dynamics of the telomere repair and cell growth activation functions of telomerase in rat liver cancer cells. FEBS Letters, 2007, 581, 125-130.	2.8	3

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127	QUANTIFYING SLOW EVOLUTIONARY DYNAMICS IN RNA FITNESS LANDSCAPES. Journal of Bioinformatics and Computational Biology, 2010, 08, 1027-1040.	0.8	3
128	Haldane, Waddington and recombinant inbred lines: extension of their work to any number of genes. Journal of Genetics, 2017, 96, 795-800.	0.7	3
129	Random walks on the Sierpinski Gasket. Journal De Physique, 1986, 47, 1663-1669.	1.8	3
130	Correlated subtractions for computer simulations. Nuclear Physics B, 1985, 251, 425-438.	2.5	2
131	Strongly coupled QCD with a Euclidean version of the SLAC derivative. Nuclear Physics B, 1987, 279, 684-710.	2.5	2
132	Random walks for on-lattice DLA simulations. Journal of Physics A, 1988, 21, 827-832.	1.6	2
133	Critical dynamics of one-dimensional irreversible systems. Physica D: Nonlinear Phenomena, 1990, 45, 345-354.	2.8	2
134	Memory capacity in large idiotypic networks. Bulletin of Mathematical Biology, 1995, 57, 109-136.	1.9	2
135	A numerical study of persistence length effects on DNA conformation in sequencing electrophoresis. Electrophoresis, 1996, 17, 1420-1424.	2.4	2
136	Discreteness and entropic fluctuations in generalized-random-energy-model-like systems. Physical Review B, 2002, 66, .	3.2	2
137	Shining fresh light on the evolution of photosynthesis. ELife, 2013, 2, e01403.	6.0	2
138	Solitary-Waves in Self-Induced Transparency. NATO ASI Series Series B: Physics, 1991, , 327-336.	0.2	2
139	Quantitative modelling of fine-scale variations in the <i>Arabidopsis thaliana</i> crossover landscape. Quantitative Plant Biology, 2022, 3, .	2.0	2
140	Scaling in lattice QCD with Kogut-Susskind fermions. Physical Review D, 1985, 31, 1768-1770.	4.7	1
141	Computer techniques for lattice gauge theories. Computer Physics Communications, 1986, 40, 173-179.	7.5	1
142	Challenges in experimental data integration within genome-scale metabolic models. Algorithms for Molecular Biology, 2010, 5, 20.	1.2	1
143	CNVmap: A Method and Software To Detect and Map Copy Number Variants from Segregation Data. Genetics, 2020, 214, 561-576.	2.9	1
144	Novel ordering in the XYspin glass. Physical Review B, 1986, 34, 2032-2034.	3.2	0

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145	Low T scaling in the binary 2d spin glass. Biophysical Chemistry, 2005, 115, 109-114.	2.8	0
146	Thermodynamics of 2 <i>d</i> li>lsing Spin Glasses with Binary Couplings on Large Lattices Using Exact Computations of Partition Functions. Progress of Theoretical Physics Supplement, 2005, 157, 17-24.	0.1	0
147	Network architectures and operating principles. Physics of Life Reviews, 2016, 17, 168-171.	2.8	0
148	Probabilities of Multilocus Genotypes in SIB Recombinant Inbred Lines. Frontiers in Genetics, 2019, 10, 833.	2.3	0
149	A preference for link operator functions can drive Boolean biological networks towards critical dynamics. Journal of Biosciences, 2022, 47, 1.	1.1	0