Martin J Howard

List of Publications by Year
in descending order

83 papers	5,343 citations	87888 38 h-index	95266 68 g-index
94 all docs	94 docs citations	94 times ranked	4325 citing authors

#	ARTICLE	IF	CITATIONS
1	Investigating Histone Modification Dynamics by Mechanistic Computational Modeling. Methods in Molecular Biology, 2022, , 441-473.	0.9	2
2	Using computational modelling to reveal mechanisms of epigenetic Polycomb control. Biochemical Society Transactions, 2021, 49, 71-77.	3.4	14
3	Cell size controlled in plants using DNA content as an internal scale. Science, 2021, 372, 1176-1181.	12.6	70
4	Digital paradigm for Polycomb epigenetic switching and memory. Current Opinion in Plant Biology, 2021, 61, 102012.	7.1	15
5	Diffusion-mediated HEI10 coarsening can explain meiotic crossover positioning in Arabidopsis. Nature Communications, 2021, 12, 4674.	12.8	62
6	Hybrid protein assembly-histone modification mechanism for PRC2-based epigenetic switching and memory. ELife, 2021, 10, .	6.0	23
7	Feeling Every Bit of Winter â€" Distributed Temperature Sensitivity in Vernalization. Frontiers in Plant Science, 2021, 12, 628726.	3.6	14
8	A cis-acting mechanism mediates transcriptional memory at Polycomb target genes in mammals. Nature Genetics, 2021, 53, 1686-1697.	21.4	53
9	Temperature-dependent growth contributes to long-term cold sensing. Nature, 2020, 583, 825-829.	27.8	77
10	A theoretical model of Polycomb/Trithorax action unites stable epigenetic memory and dynamic regulation. Nature Communications, 2020, 11, 4782.	12.8	24
11	The 3â€² processing of antisense RNAs physically links to chromatin-based transcriptional control. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 15316-15321.	7.1	40
12	Noncoding SNPs influence a distinct phase of Polycomb silencing to destabilize long-term epigenetic memory at <i>Arabidopsis FLC</i>. Genes and Development, 2020, 34, 446-461.	5.9	30
13	Natural variation in autumn expression is the major adaptive determinant distinguishing Arabidopsis FLC haplotypes. ELife, 2020, 9, .	6.0	28
14	Reassessment of the Basis of Cell Size Control Based on Analysis of Cell-to-Cell Variability. Biophysical Journal, 2019, 117, 1728-1738.	0.5	21
15	Center Finding in E. coli and the Role of Mathematical Modeling: Past, Present and Future. Journal of Molecular Biology, 2019, 431, 928-938.	4.2	7
16	Reprogramming Cdr2-Dependent Geometry-Based Cell Size Control in Fission Yeast. Current Biology, 2019, 29, 350-358.e4.	3.9	62
17	Absence of warmth permits epigenetic memory of winter in Arabidopsis. Nature Communications, 2018, 9, 639.	12.8	90
18	Temperature Sensing Is Distributed throughout the Regulatory Network that Controls FLC Epigenetic Silencing in Vernalization. Cell Systems, 2018, 7, 643-655.e9.	6.2	46

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19	A gated relaxation oscillator mediated by FrzX controls morphogenetic movements in Myxococcus xanthus. Nature Microbiology, 2018, 3, 948-959.	13.3	44
20	Dissecting chromatin-mediated gene regulation and epigenetic memory through mathematical modelling. Current Opinion in Systems Biology, 2017, 3, 7-14.	2.6	19
21	Cell-Size-Dependent Transcription of FLC and Its Antisense Long Non-coding RNA COOLAIR Explain Cell-to-Cell Expression Variation. Cell Systems, 2017, 4, 622-635.e9.	6.2	70
22	Slow Chromatin Dynamics Allow Polycomb Target Genes to Filter Fluctuations in Transcription Factor Activity. Cell Systems, 2017, 4, 445-457.e8.	6.2	99
23	Controlling cell size through sizer mechanisms. Current Opinion in Systems Biology, 2017, 5, 86-92.	2.6	74
24	Distinct phases of Polycomb silencing to hold epigenetic memory of cold in <i>Arabidopsis</i>. Science, 2017, 357, 1142-1145.	12.6	167
25	Disruption of an RNA-binding hinge region abolishes LHP1-mediated epigenetic repression. Genes and Development, 2017, 31, 2115-2120.	5.9	33
26	Quantitative Environmentally Triggered Switching Between Stable Epigenetic States. , 2017, , 169-187.		0
27	Physical coupling of activation and derepression activities to maintain an active transcriptional state at <i>FLC</i>. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 9369-9374.	7.1	55
28	Quantitative regulation of <i>FLC</i> via coordinated transcriptional initiation and elongation. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 218-223.	7.1	76
29	Local chromatin environment of a Polycomb target gene instructs its own epigenetic inheritance. ELife, 2015, 4, .	6.0	92
30	How plants manage food reserves at night: quantitative models and open questions. Frontiers in Plant Science, 2015, 6, 204.	3.6	35
31	Vernalizing cold is registered digitally at <i>FLC</i>. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 4146-4151.	7.1	78
32	Competing ParA Structures Space Bacterial Plasmids Equally over the Nucleoid. PLoS Computational Biology, 2014, 10, e1004009.	3.2	60
33	Antagonistic Roles for H3K36me3 and H3K27me3 in the Cold-Induced Epigenetic Switch at Arabidopsis FLC. Current Biology, 2014, 24, 1793-1797.	3.9	201
34	Cortical regulation of cell size by a sizer cdr2p. ELife, 2014, 3, e02040.	6.0	111
35	Computational and Genetic Reduction of a Cell Cycle to Its Simplest, Primordial Components. PLoS Biology, 2013, 11, e1001749.	5.6	60
36	Arabidopsis plants perform arithmetic division to prevent starvation at night. ELife, 2013, 2, e00669.	6.0	134

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37	Mechanistic Basis of Branch-Site Selection in Filamentous Bacteria. PLoS Computational Biology, 2012, 8, e1002423.	3.2	41
38	Quantitative Dynamics of Telomere Bouquet Formation. PLoS Computational Biology, 2012, 8, e1002812.	3.2	37
39	Regulation of apical growth and hyphal branching in Streptomyces. Current Opinion in Microbiology, 2012, 15, 737-743.	5.1	92
40	Vernalization â€" a cold-induced epigenetic switch. Journal of Cell Science, 2012, 125, 3723-31.	2.0	193
41	Noise Reduction in the Intracellular Pom1p Gradient by a Dynamic Clustering Mechanism. Developmental Cell, 2012, 22, 558-572.	7.0	83
42	How to build a robust intracellular concentration gradient. Trends in Cell Biology, 2012, 22, 311-317.	7.9	48
43	A Polycomb-based switch underlying quantitative epigenetic memory. Nature, 2011, 476, 105-108.	27.8	414
44	What is the mechanism of ParAâ€mediated DNA movement?. Molecular Microbiology, 2010, 78, 9-12.	2.5	18
45	Shaping a Morphogen Gradient for Positional Precision. Biophysical Journal, 2010, 99, 697-707.	0.5	46
46	Pushing and Pulling in Prokaryotic DNA Segregation. Cell, 2010, 141, 927-942.	28.9	281
47	Morphogen profiles can be optimized to buffer against noise. Physical Review E, 2009, 80, 041902.	2.1	39
48	Role of Spatial Averaging in the Precision of Gene Expression Patterns. Physical Review Letters, 2009, 103, 258101.	7.8	70
49	A mechanical bottleneck explains the variation in cup growth during FcÎ³R phagocytosis. Molecular Systems Biology, 2009, 5, 298.	7.2	44
50	When it pays to rush: interpreting morphogen gradients prior to steady-state. Physical Biology, 2009, 6, 046020.	1.8	31
51	Movement and equipositioning of plasmids by ParA filament disassembly. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 19369-19374.	7.1	171
52	Cell Division: Experiments and Modelling Unite to Resolve the Middle. Current Biology, 2009, 19, R67-R69.	3.9	0
53	Modeling the Establishment of PAR Protein Polarity in the One-Cell C. elegans Embryo. Biophysical Journal, 2008, 95, 4512-4522.	0.5	39
54	Fundamental Limits to Position Determination by Concentration Gradients. PLoS Computational Biology, 2007, 3, e78.	3.2	111

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55	An experimentalist's guide to computational modelling of the Min system. Molecular Microbiology, 2007, 63, 1279-1284.	2.5	77
56	Cell Signalling: Changing Shape Changes the Signal. Current Biology, 2006, 16, R673-R675.	3.9	6
57	The Cell-End Factor Pom1p Inhibits Mid1p in Specification of the Cell Division Plane in Fission Yeast. Current Biology, 2006, 16, 2480-2487.	3.9	126
58	A stochastic model of Min oscillations inEscherichia coliand Min protein segregation during cell division. Physical Biology, 2006, 3, 1-12.	1.8	43
59	Modeling dual pathways for the metazoan spindle assembly checkpoint. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 16758-16763.	7.1	42
60	Applications of field-theoretic renormalization group methods to reactionâ€"diffusion problems. Journal of Physics A, 2005, 38, R79-R131.	1.6	241
61	Finding the Center Reliably: Robust Patterns of Developmental Gene Expression. Physical Review Letters, 2005, 95, 208103.	7.8	68
62	Stochastic model for Soj relocation dynamics in Bacillus subtilis. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 9808-9813.	7.1	29
63	Cellular organization by self-organization. Journal of Cell Biology, 2005, 168, 533-536.	5.2	83
64	Fundamental Limits to Position Determination by Concentration Gradients. PLoS Computational Biology, 2005, preprint, e78.	3.2	1
65	Dynamics and stability of vortex-antivortex fronts in type-II superconductors. Physical Review E, 2004, 70, 026209.	2.1	5
66	A Mechanism for Polar Protein Localization in Bacteria. Journal of Molecular Biology, 2004, 335, 655-663.	4.2	36
67	Pattern Formation inside Bacteria: Fluctuations due to the Low Copy Number of Proteins. Physical Review Letters, 2003, 90, 128102.	7.8	102
68	Hole-defect chaos in the one-dimensional complex Ginzburg-Landau equation. Physical Review E, 2003, 68, 026213.	2.1	11
69	DIRECTED PERCOLATION AND OTHER SYSTEMS WITH ABSORBING STATES: IMPACT OF BOUNDARIES. International Journal of Modern Physics B, 2001, 15, 1761-1797.	2.0	32
70	FLUCTUATIONS AND CORRELATIONS IN POPULATION MODELS WITH AGE STRUCTURE. International Journal of Modern Physics B, 2001, 15, 391-402.	2.0	5
71	Branching and annihilating LÃ©vy flights. Physical Review E, 2001, 63, 041116.	2.1	31
72	Ordered and Self-Disordered Dynamics of Holes and Defects in the One-Dimensional Complex Ginzburg-Landau Equation. Physical Review Letters, 2001, 86, 2018-2021.	7.8	38

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73	Dynamic Compartmentalization of Bacteria: Accurate Division inE. Coli. Physical Review Letters, 2001, 87, 278102.	7.8	164
74	Surface critical behavior in systems with nonequilibrium phase transitions. Physical Review E, 2000, 61, 167-183.	2.1	13
75	Nonequilibrium critical behavior in unidirectionally coupled stochastic processes. Physical Review E, 1999, 59, 6381-6408.	2.1	32
76	Surface Critical Behavior in Systems with Absorbing States. Physical Review Letters, 1998, 81, 2104-2107.	7.8	20
77	Directed percolation with a wall or edge. Journal of Physics A, 1998, 31, 2311-2320.	1.6	21
78	Persistence in the Voter model: continuum reaction-diffusion approach. Journal of Physics A, 1998, 31, L209-L215.	1.6	27
79	Multicritical Behavior in Coupled Directed Percolation Processes. Physical Review Letters, 1998, 80, 2165-2168.	7.8	43
80	TÃuber, Howard, and Hinrichsen Reply:. Physical Review Letters, 1998, 81, 2179-2179.	7.8	2
81	\`Real' versus \`imaginary' noise in diffusion-limited reactions. Journal of Physics A, 1997, 30, 7721-7731.	1.6	101
82	Fluctuation kinetics in a multispecies reaction - diffusion system. Journal of Physics A, 1996, 29, 3437-3460.	1.6	36
83	Fluctuation effects and multiscaling of the reaction-diffusion front for A+B to OE. Journal of Physics A, 1995, 28, 3599-3621.	1.6	51