# Martin J Howard

List of Publications by Year
in descending order



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|---|---|---|---|
| 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 | A Polycomb-based switch underlying quantitative epigenetic memory. Nature, 2011, 476, 105-108. | 27.8 | 414 |
| 2 | Pushing and Pulling in Prokaryotic DNA Segregation. Cell, 2010, 141, 927-942. | 28.9 | 281 |
| 3 | Applications of field-theoretic renormalization group methods to reactionâ€“diffusion problems. Journal of Physics A, 2005, 38, R79-R131. | 1.6 | 241 |
| 4 | Antagonistic Roles for H3K36me3 and H3K27me3 in the Cold-Induced Epigenetic Switch at Arabidopsis FLC. Current Biology, 2014, 24, 1793-1797. | 3.9 | 201 |
| 5 | Vernalization â€“ a cold-induced epigenetic switch. Journal of Cell Science, 2012, 125, 3723-31. | 2.0 | 193 |
| 6 | 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 |
| 7 | Distinct phases of Polycomb silencing to hold epigenetic memory of cold in Arabidopsis. Science, 2017, 357, 1142-1145. | 12.6 | 167 |
| 8 | Dynamic Compartmentalization of Bacteria: Accurate Division inE. Coli. Physical Review Letters, 2001, 87, 278102. | 7.8 | 164 |
| 9 | Arabidopsis plants perform arithmetic division to prevent starvation at night. ELife, 2013, 2, e00669. | 6.0 | 134 |
| 10 | 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 |
| 11 | Fundamental Limits to Position Determination by Concentration Gradients. PLoS Computational Biology, 2007, 3, e78. | 3.2 | 111 |
| 12 | Cortical regulation of cell size by a sizer cdr2p. ELife, 2014, 3, e02040. | 6.0 | 111 |
| 13 | Pattern Formation inside Bacteria: Fluctuations due to the Low Copy Number of Proteins. Physical Review Letters, 2003, 90, 128102. | 7.8 | 102 |
| 14 | `Real' versus `imaginary' noise in diffusion-limited reactions. Journal of Physics A, 1997, 30, 7721-7731. | 1.6 | 101 |
| 15 | Slow Chromatin Dynamics Allow Polycomb Target Genes to Filter Fluctuations in Transcription Factor Activity. Cell Systems, 2017, 4, 445-457.e8. | 6.2 | 99 |
| 16 | Regulation of apical growth and hyphal branching in Streptomyces. Current Opinion in Microbiology, 2012, 15, 737-743. | 5.1 | 92 |
| 17 | Local chromatin environment of a Polycomb target gene instructs its own epigenetic inheritance. ELife, 2015, 4, . | 6.0 | 92 |
| 18 | Absence of warmth permits epigenetic memory of winter in Arabidopsis. Nature Communications, 2018, 9, 639. | 12.8 | 90 |

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|---|---|---|---|
| 19 | Cellular organization by self-organization. Journal of Cell Biology, 2005, 168, 533-536. | 5.2 | 83 |
| 20 | Noise Reduction in the Intracellular Pom1p Gradient by a Dynamic Clustering Mechanism. Developmental Cell, 2012, 22, 558-572. | 7.0 | 83 |
| 21 | Vernalizing cold is registered digitally at FLC. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 4146-4151. | 7.1 | 78 |
| 22 | An experimentalist's guide to computational modelling of the Min system. Molecular Microbiology, 2007, 63, 1279-1284. | 2.5 | 77 |
| 23 | Temperature-dependent growth contributes to long-term cold sensing. Nature, 2020, 583, 825-829. | 27.8 | 77 |
| 24 | Quantitative regulation of FLC 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 |
| 25 | Controlling cell size through sizer mechanisms. Current Opinion in Systems Biology, 2017, 5, 86-92. | 2.6 | 74 |
| 26 | Role of Spatial Averaging in the Precision of Gene Expression Patterns. Physical Review Letters, 2009, 103, 258101. | 7.8 | 70 |
| 27 | 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 |
| 28 | Cell size controlled in plants using DNA content as an internal scale. Science, 2021, 372, 1176-1181. | 12.6 | 70 |
| 29 | Finding the Center Reliably: Robust Patterns of Developmental Gene Expression. Physical Review Letters, 2005, 95, 208103. | 7.8 | 68 |
| 30 | Reprogramming Cdr2-Dependent Geometry-Based Cell Size Control in Fission Yeast. Current Biology, 2019, 29, 350-358.e4. | 3.9 | 62 |
| 31 | Diffusion-mediated HEI10 coarsening can explain meiotic crossover positioning in Arabidopsis. Nature Communications, 2021, 12, 4674. | 12.8 | 62 |
| 32 | Computational and Genetic Reduction of a Cell Cycle to Its Simplest, Primordial Components. PLoS Biology, 2013, 11, e1001749. | 5.6 | 60 |
| 33 | Competing ParA Structures Space Bacterial Plasmids Equally over the Nucleoid. PLoS Computational Biology, 2014, 10, e1004009. | 3.2 | 60 |
| 34 | Physical coupling of activation and derepression activities to maintain an active transcriptional state at FLC. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 9369-9374. | 7.1 | 55 |
| 35 | A cis-acting mechanism mediates transcriptional memory at Polycomb target genes in mammals. Nature Genetics, 2021, 53, 1686-1697. | 21.4 | 53 |
| 36 | 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 |

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|---|---|---|---|
| 37 | How to build a robust intracellular concentration gradient. Trends in Cell Biology, 2012, 22, 311-317. | 7.9 | 48 |
| 38 | Shaping a Morphogen Gradient for Positional Precision. Biophysical Journal, 2010, 99, 697-707. | 0.5 | 46 |
| 39 | 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 |
| 40 | A mechanical bottleneck explains the variation in cup growth during FcÎ³R phagocytosis. Molecular Systems Biology, 2009, 5, 298. | 7.2 | 44 |
| 41 | A gated relaxation oscillator mediated by FrzX controls morphogenetic movements in Myxococcus xanthus. Nature Microbiology, 2018, 3, 948-959. | 13.3 | 44 |
| 42 | Multicritical Behavior in Coupled Directed Percolation Processes. Physical Review Letters, 1998, 80, 2165-2168. | 7.8 | 43 |
| 43 | A stochastic model of Min oscillations inEscherichia coliand Min protein segregation during cell division. Physical Biology, 2006, 3, 1-12. | 1.8 | 43 |
| 44 | 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 |
| 45 | Mechanistic Basis of Branch-Site Selection in Filamentous Bacteria. PLoS Computational Biology, 2012, 8, e1002423. | 3.2 | 41 |
| 46 | 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 |
| 47 | Modeling the Establishment of PAR Protein Polarity in the One-Cell C. elegans Embryo. Biophysical Journal, 2008, 95, 4512-4522. | 0.5 | 39 |
| 48 | Morphogen profiles can be optimized to buffer against noise. Physical Review E, 2009, 80, 041902. | 2.1 | 39 |
| 49 | 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 |
| 50 | Quantitative Dynamics of Telomere Bouquet Formation. PLoS Computational Biology, 2012, 8, e1002812. | 3.2 | 37 |
| 51 | Fluctuation kinetics in a multispecies reaction - diffusion system. Journal of Physics A, 1996, 29, 3437-3460. | 1.6 | 36 |
| 52 | A Mechanism for Polar Protein Localization in Bacteria. Journal of Molecular Biology, 2004, 335, 655-663. | 4.2 | 36 |
| 53 | How plants manage food reserves at night: quantitative models and open questions. Frontiers in Plant Science, 2015, 6, 204. | 3.6 | 35 |
| 54 | Disruption of an RNA-binding hinge region abolishes LHP1-mediated epigenetic repression. Genes and Development, 2017, 31, 2115-2120. | 5.9 | 33 |

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|---|---|---|---|
| 55 | Nonequilibrium critical behavior in unidirectionally coupled stochastic processes. Physical Review E, 1999, 59, 6381-6408. | 2.1 | 32 |
| 56 | DIRECTED PERCOLATION AND OTHER SYSTEMS WITH ABSORBING STATES: IMPACT OF BOUNDARIES. International Journal of Modern Physics B, 2001, 15, 1761-1797. | 2.0 | 32 |
| 57 | Branching and annihilating LÃ©vy flights. Physical Review E, 2001, 63, 041116. | 2.1 | 31 |
| 58 | When it pays to rush: interpreting morphogen gradients prior to steady-state. Physical Biology, 2009, 6, 046020. | 1.8 | 31 |
| 59 | Noncoding SNPs influence a distinct phase of Polycomb silencing to destabilize long-term epigenetic memory at Arabidopsis FLC. Genes and Development, 2020, 34, 446-461. | 5.9 | 30 |
| 60 | 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 |
| 61 | Natural variation in autumn expression is the major adaptive determinant distinguishing Arabidopsis FLC haplotypes. ELife, 2020, 9, . | 6.0 | 28 |
| 62 | Persistence in the Voter model: continuum reaction-diffusion approach. Journal of Physics A, 1998, 31, L209-L215. | 1.6 | 27 |
| 63 | A theoretical model of Polycomb/Trithorax action unites stable epigenetic memory and dynamic regulation. Nature Communications, 2020, 11, 4782. | 12.8 | 24 |
| 64 | Hybrid protein assembly-histone modification mechanism for PRC2-based epigenetic switching and memory. ELife, 2021, 10, . | 6.0 | 23 |
| 65 | Directed percolation with a wall or edge. Journal of Physics A, 1998, 31, 2311-2320. | 1.6 | 21 |
| 66 | 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 |
| 67 | Surface Critical Behavior in Systems with Absorbing States. Physical Review Letters, 1998, 81, 2104-2107. | 7.8 | 20 |
| 68 | Dissecting chromatin-mediated gene regulation and epigenetic memory through mathematical modelling. Current Opinion in Systems Biology, 2017, 3, 7-14. | 2.6 | 19 |
| 69 | What is the mechanism of ParAâ€mediated DNA movement?. Molecular Microbiology, 2010, 78, 9-12. | 2.5 | 18 |
| 70 | Digital paradigm for Polycomb epigenetic switching and memory. Current Opinion in Plant Biology, 2021, 61, 102012. | 7.1 | 15 |
| 71 | Using computational modelling to reveal mechanisms of epigenetic Polycomb control. Biochemical Society Transactions, 2021, 49, 71-77. | 3.4 | 14 |
| 72 | Feeling Every Bit of Winter â€“ Distributed Temperature Sensitivity in Vernalization. Frontiers in Plant Science, 2021, 12, 628726. | 3.6 | 14 |

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|---|---|---|---|
| 73 | Surface critical behavior in systems with nonequilibrium phase transitions. Physical Review E, 2000, 61, 167-183. | 2.1 | 13 |
| 74 | Hole-defect chaos in the one-dimensional complex Ginzburg-Landau equation. Physical Review E, 2003, 68, 026213. | 2.1 | 11 |
| 75 | 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 |
| 76 | Cell Signalling: Changing Shape Changes the Signal. Current Biology, 2006, 16, R673-R675. | 3.9 | 6 |
| 77 | FLUCTUATIONS AND CORRELATIONS IN POPULATION MODELS WITH AGE STRUCTURE. International Journal of Modern Physics B, 2001, 15, 391-402. | 2.0 | 5 |
| 78 | Dynamics and stability of vortex-antivortex fronts in type-II superconductors. Physical Review E, 2004, 70, 026209. | 2.1 | 5 |
| 79 | TÃuber, Howard, and Hinrichsen Reply:. Physical Review Letters, 1998, 81, 2179-2179. | 7.8 | 2 |
| 80 | Investigating Histone Modification Dynamics by Mechanistic Computational Modeling. Methods in Molecular Biology, 2022, , 441-473. | 0.9 | 2 |
| 81 | Fundamental Limits to Position Determination by Concentration Gradients. PLoS Computational Biology, 2005, preprint, e78. | 3.2 | 1 |
| 82 | Cell Division: Experiments and Modelling Unite to Resolve the Middle. Current Biology, 2009, 19, R67-R69. | 3.9 | 0 |
| 83 | Quantitative Environmentally Triggered Switching Between Stable Epigenetic States. , 2017, , 169-187. | | 0 |