Andreas Wagner

List of Publications by Year in descending order

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45317 57758 9,588 141 44 90 citations h-index g-index papers 192 192 192 9036 docs citations times ranked citing authors all docs

#	Article	IF	CITATIONS
1	Selection on growth rate and local adaptation drive genomic adaptation during experimental range expansions in the protist <i>Tetrahymena thermophila</i> . Journal of Animal Ecology, 2022, 91, 1088-1103.	2.8	5
2	The length scale of multivalent interactions is evolutionarily conserved in fungal and vertebrate phase-separating proteins. Genetics, 2022, 220, .	2.9	8
3	Multiple Novel Traits without Immediate Benefits Originate in Bacteria Evolving on Single Antibiotics. Molecular Biology and Evolution, 2022, 39, .	8.9	5
4	Yeast Proteins may Reversibly Aggregate like Amphiphilic Molecules. Journal of Molecular Biology, 2022, 434, 167352.	4.2	4
5	Translation stalling proline motifs are enriched in slow-growing, thermophilic, and multicellular bacteria. ISME Journal, 2022, 16, 1065-1073.	9.8	2
6	GroEL/S Overexpression Helps to Purge Deleterious Mutations and Reduce Genetic Diversity during Adaptive Protein Evolution. Molecular Biology and Evolution, 2022, 39, .	8.9	5
7	Competition for nutrients increases invasion resistance during assembly of microbial communities. Molecular Ecology, 2022, 31, 4188-4203.	3.9	9
8	A limit on the evolutionary rescue of an Antarctic bacterium from rising temperatures. Science Advances, 2022, 8 , .	10.3	4
9	Low protein expression enhances phenotypic evolvability by intensifying selection on folding stability. Nature Ecology and Evolution, 2022, 6, 1155-1164.	7.8	5
10	Natural Selection on the Phase-Separation Properties of FUS during 160 My of Mammalian Evolution. Molecular Biology and Evolution, 2021, 38, 940-951.	8.9	24
11	Cryptic surface-associated multicellularity emerges through cell adhesion and its regulation. PLoS Biology, 2021, 19, e3001250.	5.6	6
12	Mistranslation can promote the exploration of alternative evolutionary trajectories in enzyme evolution. Journal of Evolutionary Biology, 2021, 34, 1302-1315.	1.7	1
13	Adaptive evolvability through direct selection instead of indirect, secondâ€order selection. Journal of Experimental Zoology Part B: Molecular and Developmental Evolution, 2021, , .	1.3	3
14	Mistranslation Reduces Mutation Load in Evolving Proteins through Negative Epistasis with DNA Mutations. Molecular Biology and Evolution, 2021, 38, 4792-4804.	8.9	5
15	Ecology drives the evolution of diverse social strategies in <i>Pseudomonas aeruginosa</i> . Molecular Ecology, 2021, 30, 5214-5228.	3.9	12
16	Diversity begets diversity during community assembly until ecological limits impose a diversity ceiling. Molecular Ecology, 2021, 30, 5874-5887.	3.9	15
17	Adaptive gene misregulation. Genetics, 2021, 217, .	2.9	3
18	Both Binding Strength and Evolutionary Accessibility Affect the Population Frequency of Transcription Factor Binding Sequences in <i>Arabidopsis thaliana</i> . Genome Biology and Evolution, 2021, 13, .	2.5	2

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19	Gene swamping alters evolution during range expansions in the protist <i>Tetrahymena thermophila</i> . Biology Letters, 2020, 16, 20200244.	2.3	14
20	Selection enhances protein evolvability by increasing mutational robustness and foldability. Science, 2020, 370, .	12.6	61
21	Genotype networks of 80 quantitative Arabidopsis thaliana phenotypes reveal phenotypic evolvability despite pervasive epistasis. PLoS Computational Biology, 2020, 16, e1008082.	3.2	6
22	Signaling pathways have an inherent need for noise to acquire information. BMC Bioinformatics, 2020, 21, 462.	2.6	8
23	Information Theory Can Help Quantify the Potential of New Phenotypes to Originate as Exaptations. Frontiers in Ecology and Evolution, 2020, 8, .	2.2	1
24	Short Residence Times of DNA-Bound Transcription Factors Can Reduce Gene Expression Noise and Increase the Transmission of Information in a Gene Regulation System. Frontiers in Molecular Biosciences, 2020, 7, 67.	3.5	15
25	Evolution under pH stress and high population densities leads to increased densityâ€dependent fitness in the protist∢i>Tetrahymena thermophila∢/i>. Evolution; International Journal of Organic Evolution, 2020, 74, 573-586.	2.3	9
26	Gene expression noise can promote the fixation of beneficial mutations in fluctuating environments. PLoS Computational Biology, 2020, 16, e1007727.	3.2	18
27	Acetate and glycerol are not uniquely suited for the evolution of cross-feeding in E. coli. PLoS Computational Biology, 2020, 16, e1008433.	3.2	10
28	Gene expression noise can promote the fixation of beneficial mutations in fluctuating environments., 2020, 16, e1007727.		0
29	Gene expression noise can promote the fixation of beneficial mutations in fluctuating environments. , 2020, 16, e1007727.		0
30	Gene expression noise can promote the fixation of beneficial mutations in fluctuating environments., 2020, 16, e1007727.		0
31	Gene expression noise can promote the fixation of beneficial mutations in fluctuating environments. , 2020, 16, e1007727.		0
32	Acetate and glycerol are not uniquely suited for the evolution of cross-feeding in E. coli., 2020, 16, e1008433.		0
33	Acetate and glycerol are not uniquely suited for the evolution of cross-feeding in E. coli. , 2020, 16, e1008433.		0
34	Acetate and glycerol are not uniquely suited for the evolution of cross-feeding in E. coli., 2020, 16, e1008433.		0
35	Acetate and glycerol are not uniquely suited for the evolution of cross-feeding in E. coli. , 2020, 16, e1008433.		0
36	Acetate and glycerol are not uniquely suited for the evolution of cross-feeding in E. coli., 2020, 16, e1008433.		0

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37	Acetate and glycerol are not uniquely suited for the evolution of cross-feeding in E. coli., 2020, 16, e1008433.		0
38	Microbial life cycles link global modularity in regulation to mosaic evolution. Nature Ecology and Evolution, 2019, 3, 1184-1196.	7.8	18
39	Cryptic genetic variation accelerates evolution by opening access to diverse adaptive peaks. Science, 2019, 365, 347-353.	12.6	96
40	Chaperonin overproduction and metabolic erosion caused by mutation accumulation in Escherichia coli. FEMS Microbiology Letters, 2019, 366, .	1.8	2
41	The causes of evolvability and their evolution. Nature Reviews Genetics, 2019, 20, 24-38.	16.3	208
42	The architecture of an empirical genotype-phenotype map. Evolution; International Journal of Organic Evolution, 2018, 72, 1242-1260.	2.3	27
43	Adding levels of complexity enhances robustness and evolvability in a multilevel genotype–phenotype map. Journal of the Royal Society Interface, 2018, 15, 20170516.	3.4	19
44	Assessing the benefits of horizontal gene transfer by laboratory evolution and genome sequencing. BMC Evolutionary Biology, 2018, 18, 54.	3.2	31
45	DYNAMICS OF AN INSERTION SEQUENCE INFECTION IN A SPATIALLY STRUCTURED ENVIRONMENT. Journal of Biological Systems, 2018, 26, 133-166.	1.4	0
46	Population Size Affects Adaptation in Complex Ways: Simulations on Empirical Adaptive Landscapes. Evolutionary Biology, 2018, 45, 156-169.	1.1	1
47	Metabolic determinants of enzyme evolution in a genome-scale bacterial metabolic network. Genome Biology and Evolution, 2018, 10, 3076-3088.	2.5	19
48	Synthetic circuits reveal how mechanisms of gene regulatory networks constrain evolution. Molecular Systems Biology, 2018, 14, e8102.	7.2	34
49	An enormous potential for niche construction through bacterial cross-feeding in a homogeneous environment. PLoS Computational Biology, 2018, 14, e1006340.	3.2	54
50	High mutation rates limit evolutionary adaptation in Escherichia coli. PLoS Genetics, 2018, 14, e1007324.	3.5	72
51	Genomic organization underlying deletional robustness in bacterial metabolic systems. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 7075-7080.	7.1	10
52	Drosophila Nnf1 paralogs are partially redundant for somatic and germ line kinetochore function. Chromosoma, 2017, 126, 145-163.	2,2	2
53	A thousand empirical adaptive landscapes and their navigability. Nature Ecology and Evolution, 2017, 1, 45.	7.8	79
54	Mistranslation can enhance fitness through purging of deleterious mutations. Nature Communications, 2017, 8, 15410.	12.8	28

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55	Innovation: an emerging focus from cells to societies. Philosophical Transactions of the Royal Society B: Biological Sciences, 2017, 372, 20160414.	4.0	28
56	Information theory, evolutionary innovations and evolvability. Philosophical Transactions of the Royal Society B: Biological Sciences, 2017, 372, 20160416.	4.0	17
57	Non-adaptive origins of evolutionary innovations increase network complexity in interacting digital organisms. Philosophical Transactions of the Royal Society B: Biological Sciences, 2017, 372, 20160431.	4.0	10
58	Constraint and Contingency Pervade the Emergence of Novel Phenotypes in Complex Metabolic Systems. Biophysical Journal, 2017, 113, 690-701.	0.5	1
59	The White-Knight Hypothesis, or Does the Environment Limit Innovations?. Trends in Ecology and Evolution, 2017, 32, 131-140.	8.7	15
60	Effect of Population Size and Mutation Rate on the Evolution of RNA Sequences on an Adaptive Landscape Determined by RNA Folding. International Journal of Biological Sciences, 2017, 13, 1138-1151.	6.4	6
61	The genotype-phenotype map of an evolving digital organism. PLoS Computational Biology, 2017, 13, e1005414.	3.2	24
62	Parallel or convergent evolution in human population genomic data revealed by genotype networks. BMC Evolutionary Biology, 2016, 16, 154.	3.2	9
63	The Genomic Basis of Evolutionary Innovation in Pseudomonas aeruginosa. PLoS Genetics, 2016, 12, e1006005.	3.5	35
64	Genonets server—a web server for the construction, analysis and visualization of genotype networks. Nucleic Acids Research, 2016, 44, W70-W76.	14.5	12
65	Growthcurver: an R package for obtaining interpretable metrics from microbial growth curves. BMC Bioinformatics, 2016, 17, 172.	2.6	582
66	The Molecular Chaperone DnaK Is a Source of Mutational Robustness. Genome Biology and Evolution, 2016, 8, 2979-2991.	2.5	57
67	Phenotypic innovation through recombination in genome-scale metabolic networks. Proceedings of the Royal Society B: Biological Sciences, 2016, 283, 20161536.	2.6	13
68	The potential for non-adaptive origins of evolutionary innovations in central carbon metabolism. BMC Systems Biology, 2016, 10, 97.	3.0	12
69	How Archiving by Freezing Affects the Genome-Scale Diversity of <i>Escherichia coli</i> Populations. Genome Biology and Evolution, 2016, 8, 1290-1298.	2.5	11
70	From the primordial soup to self-driving cars: standards and their role in natural and technological innovation. Journal of the Royal Society Interface, 2016, 13, 20151086.	3.4	7
71	Intramolecular phenotypic capacitance in a modular RNA molecule. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 12444-12449.	7.1	11
72	Function does not follow form in gene regulatory circuits. Scientific Reports, 2015, 5, 13015.	3.3	40

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73	A survey of tandem repeat instabilities and associated gene expression changes in 35 colorectal cancers. BMC Genomics, 2015, 16, 702.	2.8	27
74	Mechanisms of mutational robustness in transcriptional regulation. Frontiers in Genetics, 2015, 6, 322.	2.3	89
75	Causal Drift, Robust Signaling, and Complex Disease. PLoS ONE, 2015, 10, e0118413.	2.5	7
76	Engineering and Biology: Counsel for a Continued Relationship. Biological Theory, 2015, 10, 50-59.	1.5	15
77	Mistranslation drives the evolution of robustness in TEM-1 \hat{l}^2 -lactamase. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 12758-12763.	7.1	47
78	Tandem repeat variation in human and great ape populations and its impact on gene expression divergence. Genome Research, 2015, 25, 1591-1599.	5.5	69
79	Fitness Trade-Offs Determine the Role of the Molecular Chaperonin GroEL in Buffering Mutations. Molecular Biology and Evolution, 2015, 32, 2681-2693.	8.9	43
80	VCF2Networks: applying genotype networks to single-nucleotide variants data. Bioinformatics, 2015, 31, 438-439.	4.1	5
81	Exhaustive Analysis of a Genotype Space Comprising 1015 Central Carbon Metabolisms Reveals an Organization Conducive to Metabolic Innovation. PLoS Computational Biology, 2015, 11, e1004329.	3.2	13
82	Robustness, Evolvability, and the Logic of Genetic Regulation. Artificial Life, 2014, 20, 111-126.	1.3	43
83	Spaces of the possible: universal Darwinism and the wall between technological and biological innovation. Journal of the Royal Society Interface, 2014, 11, 20131190.	3.4	51
84	The Robustness and Evolvability of Transcription Factor Binding Sites. Science, 2014, 343, 875-877.	12.6	139
85	A genotype network reveals homoplastic cycles of convergent evolution in influenza A (H3N2) haemagglutinin. Proceedings of the Royal Society B: Biological Sciences, 2014, 281, 20132763.	2.6	20
86	Efficient Purging of Deleterious Mutations in Plants with Haploid Selfing. Genome Biology and Evolution, 2014, 6, 1238-1252.	2.5	38
87	Mutational Robustness Accelerates the Origin of Novel RNA Phenotypes through Phenotypic Plasticity. Biophysical Journal, 2014, 106, 955-965.	0.5	23
88	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
89	Human Genome Variation and the Concept of Genotype Networks. PLoS ONE, 2014, 9, e99424.	2.5	18
90	A latent capacity for evolutionary innovation through exaptation in metabolic systems. Nature, 2013, 500, 203-206.	27.8	149

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91	Growth Temperature and Genome Size in Bacteria Are Negatively Correlated, Suggesting Genomic Streamlining During Thermal Adaptation. Genome Biology and Evolution, 2013, 5, 966-977.	2.5	179
92	The role of robustness in phenotypic adaptation and innovation. Proceedings of the Royal Society B: Biological Sciences, 2012, 279, 1249-1258.	2.6	119
93	Metabolic Networks and Their Evolution. Advances in Experimental Medicine and Biology, 2012, 751, 29-52.	1.6	31
94	Superessential reactions in metabolic networks. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, E1121-30.	7.1	47
95	Genotype networks shed light on evolutionary constraints. Trends in Ecology and Evolution, 2011, 26, 577-584.	8.7	57
96	Cryptic genetic variation promotes rapid evolutionary adaptation in an RNA enzyme. Nature, 2011, 474, 92-95.	27.8	209
97	The molecular origins of evolutionary innovations. Trends in Genetics, 2011, 27, 397-410.	6.7	102
98	Genotype networks, innovation, and robustness in sulfur metabolism. BMC Systems Biology, 2011, 5, 39.	3.0	27
99	The low cost of recombination in creating novel phenotypes. BioEssays, 2011, 33, 636-646.	2,5	9
100	Genotype networks in metabolic reaction spaces. BMC Systems Biology, 2010, 4, 30.	3.0	49
101	Specialization Can Drive the Evolution of Modularity. PLoS Computational Biology, 2010, 6, e1000719.	3.2	160
102	Evolutionary Plasticity and Innovations in Complex Metabolic Reaction Networks. PLoS Computational Biology, 2009, 5, e1000613.	3.2	112
103	Evolutionary constraints permeate large metabolic networks. BMC Evolutionary Biology, 2009, 9, 231.	3.2	34
104	Transposable elements as genomic diseases. Molecular BioSystems, 2009, 5, 32-35.	2.9	21
105	Distant horizontal gene transfer is rare for multiple families of prokaryotic insertion sequences. Molecular Genetics and Genomics, 2008, 280, 397-408.	2.1	36
106	Gene duplications, robustness and evolutionary innovations. BioEssays, 2008, 30, 367-373.	2.5	120
107	Neutralism and selectionism: a network-based reconciliation. Nature Reviews Genetics, 2008, 9, 965-974.	16.3	244
108	Neutral network sizes of biological RNA molecules can be computed and are not atypically small. BMC Bioinformatics, 2008, 9, 464.	2.6	65

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109	Protein robustness promotes evolutionary innovations on large evolutionary time-scales. Proceedings of the Royal Society B: Biological Sciences, 2008, 275, 1595-1602.	2.6	63
110	Robustness and evolvability: a paradox resolved. Proceedings of the Royal Society B: Biological Sciences, 2008, 275, 91-100.	2.6	495
111	A survey of bacterial insertion sequences using IScan. Nucleic Acids Research, 2007, 35, 5284-5293.	14.5	55
112	Robustness Can Evolve Gradually in Complex Regulatory Gene Networks with Varying Topology. PLoS Computational Biology, 2007, 3, e15.	3.2	318
113	Rapid Detection of Positive Selection in Genes and Genomes Through Variation Clusters. Genetics, 2007, 176, 2451-2463.	2.9	49
114	Energy costs constrain the evolution of gene expression. Journal of Experimental Zoology Part B: Molecular and Developmental Evolution, 2007, 308B, 322-324.	1.3	54
115	Alternative routes and mutational robustness in complex regulatory networks. BioSystems, 2007, 88, 163-172.	2.0	48
116	From bit to it: How a complex metabolic network transforms information into living matter. BMC Systems Biology, 2007, 1, 33.	3.0	23
117	Influence of metabolic network structure and function on enzyme evolution. Genome Biology, 2006, 7, R39.	9.6	161
118	Cooperation is Fleeting in the World of Transposable Elements. PLoS Computational Biology, 2006, 2, e162.	3.2	32
119	Periodic Extinctions of Transposable Elements in Bacterial Lineages: Evidence from Intragenomic Variation in Multiple Genomes. Molecular Biology and Evolution, 2006, 23, 723-733.	8.9	99
120	Distributed robustness versus redundancy as causes of mutational robustness. BioEssays, 2005, 27, 176-188.	2.5	258
121	Circuit topology and the evolution of robustness in two-gene circadian oscillators. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 11775-11780.	7.1	135
122	Energy Constraints on the Evolution of Gene Expression. Molecular Biology and Evolution, 2005, 22, 1365-1374.	8.9	421
123	Robustness, evolvability, and neutrality. FEBS Letters, 2005, 579, 1772-1778.	2.8	273
124	COMPACTNESS AND CYCLES IN SIGNAL TRANSDUCTION AND TRANSCRIPTIONAL REGULATION NETWORKS: A SIGNATURE OF NATURAL SELECTION?. International Journal of Modeling, Simulation, and Scientific Computing, 2004, 07, 419-432.	1.4	5
125	Reconstructing Pathways in Large Genetic Networks from Genetic Perturbations. Journal of Computational Biology, 2004, 11, 53-60.	1.6	23
126	Risk management in biological evolution. Journal of Theoretical Biology, 2003, 225, 45-57.	1.7	25

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127	How the global structure of protein interaction networks evolves. Proceedings of the Royal Society B: Biological Sciences, 2003, 270, 457-466.	2.6	224
128	Does Selection Mold Molecular Networks?. Science Signaling, 2003, 2003, pe41-pe41.	3.6	28
129	Estimating Coarse Gene Network Structure from Large-Scale Gene Perturbation Data. Genome Research, 2002, 12, 309-315.	5.5	82
130	Asymmetric Functional Divergence of Duplicate Genes in Yeast. Molecular Biology and Evolution, 2002, 19, 1760-1768.	8.9	118
131	Selection and gene duplication: a view from the genome. Genome Biology, 2002, 3, reviews1012.1.	9.6	85
132	The small world inside large metabolic networks. Proceedings of the Royal Society B: Biological Sciences, 2001, 268, 1803-1810.	2.6	798
133	How to reconstruct a large genetic network from n gene perturbations in fewer than n2 easy steps. Bioinformatics, 2001, 17, 1183-1197.	4.1	115
134	The small world of metabolism. Nature Biotechnology, 2000, 18, 1121-1122.	17.5	367
135	Robustness against mutations in genetic networks of yeast. Nature Genetics, 2000, 24, 355-361.	21.4	389
136	The Role of Population Size, Pleiotropy and Fitness Effects of Mutations in the Evolution of Overlapping Gene Functions. Genetics, 2000, 154, 1389-1401.	2.9	83
137	Causality in Complex Systems. Biology and Philosophy, 1999, 14, 83-101.	1.4	64
138	Viral RNA and evolved mutational robustness. The Journal of Experimental Zoology, 1999, 285, 119-127.	1.4	68
139	Viral RNA and evolved mutational robustness. , 1999, 285, 119.		2
140	The fate of duplicated genes: loss or new function?. BioEssays, 1998, 20, 785-788.	2.5	133
141	The fate of duplicated genes: loss or new function?. BioEssays, 1998, 20, 785-788.	2.5	1