IgorÂ B Zhulin

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/5606187/publications.pdf

Version: 2024-02-01

111 papers	10,625 citations	50170 46 h-index	33814 99 g-index
120 all docs	120 docs citations	120 times ranked	10303 citing authors

#	Article	IF	Citations
1	PAS Domains: Internal Sensors of Oxygen, Redox Potential, and Light. Microbiology and Molecular Biology Reviews, 1999, 63, 479-506.	2.9	1,447
2	Towards environmental systems biology of Shewanella. Nature Reviews Microbiology, 2008, 6, 592-603.	13.6	829
3	One-component systems dominate signal transduction in prokaryotes. Trends in Microbiology, 2005, 13, 52-56.	3.5	461
4	PAS domain S-boxes in archaea, bacteria and sensors for oxygen and redox. Trends in Biochemical Sciences, 1997, 22, 331-333.	3.7	412
5	Origins and Diversification of a Complex Signal Transduction System in Prokaryotes. Science Signaling, 2010, 3, ra50.	1.6	342
6	Burkholderia xenovorans LB400 harbors a multi-replicon, 9.73-Mbp genome shaped for versatility. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 15280-15287.	3.3	339
7	Universal architecture of bacterial chemoreceptor arrays. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 17181-17186.	3.3	320
8	The Aer protein and the serine chemoreceptor Tsr independently sense intracellular energy levels and transduce oxygen, redox, and energy signals for Escherichia coli behavior. Proceedings of the National Academy of Sciences of the United States of America, 1997, 94, 10541-10546.	3.3	268
9	Aerotaxis and Other Energy-Sensing Behavior in Bacteria. Annual Review of Microbiology, 1999, 53, 103-128.	2.9	264
10	Laccases are widespread in bacteria. Trends in Biotechnology, 2000, 18, 41-42.	4.9	257
11	Positional cloning of the murine flavivirus resistance gene. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 9322-9327.	3.3	245
12	Evolutionary genomics reveals conserved structural determinants of signaling and adaptation in microbial chemoreceptors. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 2885-2890.	3.3	235
13	The MiST2 database: a comprehensive genomics resource on microbial signal transduction. Nucleic Acids Research, 2010, 38, D401-D407.	6.5	235
14	Life in Hot Carbon Monoxide: The Complete Genome Sequence of Carboxydothermus hydrogenoformans Z-2901. PLoS Genetics, 2005, 1, e65.	1.5	226
15	Evolution and phyletic distribution of two-component signal transduction systems. Current Opinion in Microbiology, 2010, 13, 219-225.	2.3	221
16	Predicted structure and phyletic distribution of the RNA-binding protein Hfq. Nucleic Acids Research, 2002, 30, 3662-3671.	6.5	191
17	Azospirillum Genomes Reveal Transition of Bacteria from Aquatic to Terrestrial Environments. PLoS Genetics, 2011, 7, e1002430.	1.5	191
18	Joint mouseâ€“human phenome-wide association to test gene function and disease risk. Nature Communications, 2016, 7, 10464.	5.8	190

#	ARTICLE	IF	CITATIONS
19	Ecological role of energy taxis in microorganisms. FEMS Microbiology Reviews, 2004, 28, 113-126.	3.9	158
20	Sensory Repertoire of Bacterial Chemoreceptors. Microbiology and Molecular Biology Reviews, 2017, 81, .	2.9	158
21	Cache Domains That are Homologous to, but Different from PAS Domains Comprise the Largest Superfamily of Extracellular Sensors in Prokaryotes. PLoS Computational Biology, 2016, 12, e1004862.	1.5	147
22	Complete Genome Sequence of the Complex Carbohydrate-Degrading Marine Bacterium, Saccharophagus degradans Strain 2-40T. PLoS Genetics, 2008, 4, e1000087.	1.5	142
23	The superfamily of chemotaxis transducers: From physiology to genomics and back. Advances in Microbial Physiology, 2001, 45, 157-198.	1.0	133
24	Common Extracellular Sensory Domains in Transmembrane Receptors for Diverse Signal Transduction Pathways in Bacteria and Archaea. Journal of Bacteriology, 2003, 185, 285-294.	1.0	129
25	MiST 3.0: an updated microbial signal transduction database with an emphasis on chemosensory systems. Nucleic Acids Research, 2020, 48, D459-D464.	6.5	129
26	CHASE: an extracellular sensing domain common to transmembrane receptors from prokaryotes, lower eukaryotes and plants. Trends in Biochemical Sciences, 2001, 26, 582-584.	3.7	117
27	PAS domain residues involved in signal transduction by the Aer redox sensor of Escherichia coli. Molecular Microbiology, 2000, 36, 806-816.	1.2	111
28	Comparative Genomic and Protein Sequence Analyses of a Complex System Controlling Bacterial Chemotaxis. Methods in Enzymology, 2007, 422, 3-31.	0.4	110
29	Oxygen-dependent growth of the obligate anaerobe Desulfovibrio vulgaris Hildenborough. Journal of Bacteriology, 1997, 179, 5598-5601.	1.0	109
30	Energy Taxis Is the Dominant Behavior in Azospirillum brasilense. Journal of Bacteriology, 2000, 182, 6042-6048.	1.0	105
31	MiST: a microbial signal transduction database. Nucleic Acids Research, 2007, 35, D386-D390.	6.5	103
32	Behavioral responses of Escherichia coli to changes in redox potential.. Proceedings of the National Academy of Sciences of the United States of America, 1996, 93, 10084-10089.	3.3	90
33	Analysis of Activator and Repressor Functions Reveals the Requirements for Transcriptional Control by LuxR, the Master Regulator of Quorum Sensing in Vibrio harveyi. MBio, 2013, 4, .	1.8	81
34	The 3.2 Ã… Resolution Structure of a Receptor:CheA:CheW Signaling Complex Defines Overlapping Binding Sites and Key Residue Interactions within Bacterial Chemosensory Arrays. Biochemistry, 2013, 52, 3852-3865.	1.2	80
35	Cellulases: ambiguous nonhomologous enzymes in a genomic perspective. Trends in Biotechnology, 2011, 29, 473-479.	4.9	78
36	ANTAR: an RNA-binding domain in transcription antitermination regulatory proteins. Trends in Biochemical Sciences, 2002, 27, 3-5.	3.7	74

#	ARTICLE	IF	CITATIONS
37	Assigning chemoreceptors to chemosensory pathways in <i>Pseudomonas aeruginosa</i>. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 12809-12814.	3.3	72
38	More Than One Way To Sense Chemicals. Journal of Bacteriology, 2001, 183, 4681-4686.	1.0	70
39	In search of higher energy: metabolism-dependent behaviour in bacteria. Molecular Microbiology, 2002, 28, 683-690.	1.2	70
40	CDvist: a webserver for identification and visualization of conserved domains in protein sequences. Bioinformatics, 2015, 31, 1475-1477.	1.8	69
41	PAS domain containing chemoreceptor couples dynamic changes in metabolism with chemotaxis. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 2235-2240.	3.3	68
42	Dual Recognition of the Bacterial Chemoreceptor by Chemotaxis-specific Domains of the CheR Methyltransferase. Journal of Biological Chemistry, 2002, 277, 42325-42333.	1.6	66
43	Four-helix bundle: a ubiquitous sensory module in prokaryotic signal transduction. Bioinformatics, 2005, 21, iii45-iii48.	1.8	60
44	CheC is related to the family of flagellar switch proteins and acts independently from CheD to control chemotaxis in Bacillus subtilis. Molecular Microbiology, 2008, 42, 573-585.	1.2	57
45	The NIT domain: a predicted nitrate-responsive module in bacterial sensory receptors. Trends in Biochemical Sciences, 2003, 28, 121-124.	3.7	54
46	Genome Sequence of <i>Thermofilum pendens</i> Reveals an Exceptional Loss of Biosynthetic Pathways without Genome Reduction. Journal of Bacteriology, 2008, 190, 2957-2965.	1.0	53
47	How Bacterial Chemoreceptors Evolve Novel Ligand Specificities. MBio, 2020, 11, .	1.8	52
48	Model of Bacterial Band Formation in Aerotaxis. Biophysical Journal, 2003, 85, 3558-3574.	0.2	51
49	A direct-sensing galactose chemoreceptor recently evolved in invasive strains of Campylobacter jejuni. Nature Communications, 2016, 7, 13206.	5.8	49
50	Cross Talk between Chemosensory Pathways That Modulate Chemotaxis and Biofilm Formation. MBio, 2019, 10, .	1.8	49
51	Quod erat demonstrandum? The mystery of experimental validation of apparently erroneous computational analyses of protein sequences. Genome Biology, 2001, 2, research0051.1.	13.9	48
52	Aer and Tsr guide Escherichia coli in spatial gradients of oxidizable substrates. Microbiology (United) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	0.7	45
53	TREND: a platform for exploring protein function in prokaryotes based on phylogenetic, domain architecture and gene neighborhood analyses. Nucleic Acids Research, 2020, 48, W72-W76.	6.5	44
54	A major chemotaxis gene cluster inAzospirillum brasilenseand relationships between chemotaxis operons in ÃŽÂ±-proteobacteria. FEMS Microbiology Letters, 2002, 208, 61-67.	0.7	39

#	ARTICLE	IF	CITATIONS
55	Databases for Microbiologists. Journal of Bacteriology, 2015, 197, 2458-2467.	1.0	39
56	A phenylalanine rotameric switch for signal-state control in bacterial chemoreceptors. Nature Communications, 2013, 4, 2881.	5.8	37
57	<i>Sisters Unbound</i> Is Required for Meiotic Centromeric Cohesion in <i>Drosophila melanogaster</i>. Genetics, 2014, 198, 947-965.	1.2	34
58	Evolutionary Genomics Suggests That CheV Is an Additional Adaptor for Accommodating Specific Chemoreceptors within the Chemotaxis Signaling Complex. PLoS Computational Biology, 2016, 12, e1004723.	1.5	34
59	Sequence, Structure, and Evolution of Cellulases in Glycoside Hydrolase Family 48. Journal of Biological Chemistry, 2012, 287, 41068-41077.	1.6	32
60	Insights into the Evolution of Host Association through the Isolation and Characterization of a Novel Human Periodontal Pathobiont,<i>Desulfobulbus oralis</i>. MBio, 2018, 9, .	1.8	32
61	Diversity of bacterial chemosensory systems. Current Opinion in Microbiology, 2021, 61, 42-50.	2.3	32
62	Conserved Residues in the HAMP Domain Define a New Family of Proposed Bipartite Energy Taxis Receptors. Journal of Bacteriology, 2009, 191, 375-387.	1.0	31
63	Establishing the precise evolutionary history of a gene improves prediction of disease-causing missense mutations. Genetics in Medicine, 2016, 18, 1029-1036.	1.1	31
64	Amino acid sensor conserved from bacteria to humans. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2110415119.	3.3	31
65	Different Evolutionary Constraints on Chemotaxis Proteins CheW and CheY Revealed by Heterologous Expression Studies and Protein Sequence Analysis. Journal of Bacteriology, 2003, 185, 544-552.	1.0	30
66	Chemotaxis and Motility. , 0, , 437-452.		30
67	The <i>Campylobacter jejuni</i> chemoreceptor Tlp10 has a bimodal ligand-binding domain and specificity for multiple classes of chemoeffectors. Science Signaling, 2021, 14, .	1.6	29
68	It Is Computation Time for Bacteriology!. Journal of Bacteriology, 2009, 191, 20-22.	1.0	27
69	Molecular evolution of sensory domains in cyanobacterial chemoreceptors. Trends in Microbiology, 2003, 11, 200-203.	3.5	26
70	The complete genome sequence of Staphylothermus marinus reveals differences in sulfur metabolism among heterotrophic Crenarchaeota. BMC Genomics, 2009, 10, 145.	1.2	26
71	FIST: a sensory domain for diverse signal transduction pathways in prokaryotes and ubiquitin signaling in eukaryotes. Bioinformatics, 2007, 23, 2518-2521.	1.8	23
72	The Conserved Tetratricopeptide Repeat-Containing C-Terminal Domain of Pseudomonas aeruginosa FimV Is Required for Its Cyclic AMP-Dependent and -Independent Functions. Journal of Bacteriology, 2016, 198, 2263-2274.	1.0	23

#	Article	IF	Citations
73	A di-iron protein recruited as an Fe[II] and oxygen sensor for bacterial chemotaxis functions by stabilizing an iron-peroxy species. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 14955-14960.	3.3	23
74	How Do Bacteria Avoid High Oxygen Concentrations?. Bioscience Reports, 1997, 17, 335-342.	1.1	22
75	Loss of Cytochrome <i>c</i> Oxidase Activity and Acquisition of Resistance to Quinone Analogs in a Laccase-Positive Variant of <i>Azospirillum lipoferum</i>. Journal of Bacteriology, 1999, 181, 6730-6738.	1.0	22
76	Chemotaxis ofAzospirillum brasilense towards compounds typical of plant root exudates. Folia Microbiologica, 1988, 33, 277-280.	1.1	19
77	Origins and Molecular Evolution of the NusG Paralog RfaH. MBio, 2020, 11, .	1.8	15
78	Biallelic <i>CACNA2D1</i> loss-of-function variants cause early-onset developmental epileptic encephalopathy. Brain, 2022, 145, 2721-2729.	3.7	15
79	Class III Histidine Kinases: a Recently Accessorized Kinase Domain in Putative Modulators of Type IV Pilus-Based Motility. Journal of Bacteriology, 2017, 199, .	1.0	14
80	Aquerium: A web application for comparative exploration of domainâ€based protein occurrences on the taxonomically clustered genome tree. Proteins: Structure, Function and Bioinformatics, 2017, 85, 72-77.	1.5	14
81	Behavior ofRhizobium melilotiin oxygen gradients. FEBS Letters, 1995, 367, 180-182.	1.3	13
82	Terminal oxidases of Azoarcus sp. BH72, a strictly respiratory diazotroph. FEBS Letters, 1997, 404, 143-147.	1.3	13
83	Conformational Coupling between Receptor and Kinase Binding Sites through a Conserved Salt Bridge in a Signaling Complex Scaffold Protein. PLoS Computational Biology, 2013, 9, e1003337.	1.5	13
84	The ligandâ€binding domain of a chemoreceptor from <i>Comamonas testosteroni</i> has a previously unknown homotrimeric structure. Molecular Microbiology, 2019, 112, 906-917.	1.2	13
85	Chemoreceptor Gene Loss and Acquisition via Horizontal Gene Transfer in Escherichia coli. Journal of Bacteriology, 2013, 195, 3596-3602.	1.0	11
86	Phyletic Distribution and Diversification of the Phage Shock Protein Stress Response System in Bacteria and Archaea. MSystems, 2022, 7, .	1.7	11
87	A rapid method for the measurement of bacterial chemotaxis. Current Microbiology, 1991, 22, 307-309.	1.0	10
88	Dynamics of domain coverage of the protein sequence universe. BMC Genomics, 2012, 13, 634.	1.2	10
89	SeqDepot: streamlined database of biological sequences and precomputed features. Bioinformatics, 2014, 30, 295-297.	1.8	10
90	A novel <i>PRRT2</i> pathogenic variant in a family with paroxysmal kinesigenic dyskinesia and benign familial infantile seizures. Journal of Physical Education and Sports Management, 2018, 4, a002287.	0.5	9

#	ARTICLE	IF	CITATIONS
91	HSP-HMMER. , 2009, , .		8
92	A species-specific functional module controls formation of pollen apertures. Nature Plants, 2021, 7, 966-978.	4.7	8
93	Chemotaxis in Plant-Associated Bacteria: the Search for the Ecological Niche. , 1995, , 451-459.		6
94	Homology Modeling of the CheW Coupling Protein of the Chemotaxis Signaling Complex. PLoS ONE, 2013, 8, e70705.	1.1	5
95	Comparative study of the effect of disease causing and benign mutations in position Q92 on cholesterol binding by the NPC1 nâ€terminal domain. Proteins: Structure, Function and Bioinformatics, 2018, 86, 1165-1175.	1.5	5
96	Characterization of Squamous Cell Lung Cancers from Appalachian Kentucky. Cancer Epidemiology Biomarkers and Prevention, 2019, 28, 348-356.	1.1	5
97	By Staying Together, Two Genes Keep the Motor Running. Structure, 2017, 25, 214-215.	1.6	4
98	Phylogenetic and Protein Sequence Analysis of Bacterial Chemoreceptors. Methods in Molecular Biology, 2018, 1729, 373-385.	0.4	3
99	Identification and Characterization of a Novel CLCN7 Variant Associated with Osteopetrosis. Genes, 2020, 11, 1242.	1.0	3
100	Digging with Experimental Pick and Computational Shovel: a New Addition to the Histidine Kinase Superfamily. Journal of Bacteriology, 2004, 186, 267-269.	1.0	2
101	Classic Spotlight: 16S rRNA Redefines Microbiology. Journal of Bacteriology, 2016, 198, 2764-2765.	1.0	2
102	Conservation of the separase regulatory domain. Biology Direct, 2018, 13, 7.	1.9	2
103	A major chemotaxis gene cluster in Azospirillum brasilense and relationships between chemotaxis operons in Î±-proteobacteria. FEMS Microbiology Letters, 2002, 208, 61-67.	0.7	1
104	Classic Spotlight: Genetics of Escherichia coli Chemotaxis. Journal of Bacteriology, 2016, 198, 3041-3041.	1.0	1
105	Life in Hot Carbon Monoxide: the Complete Genome Sequence of Carboxydothermus hydrogenoformans Z-2901. PLoS Genetics, 2005, preprint, e65.	1.5	1
106	Reconstructing Signal Transduction from Raw Genomic Data. , 2007, , .		0
107	Classic Spotlight: Selected Highlights from the First 100 Years of the <i>Journal of Bacteriology</i>. Journal of Bacteriology, 2017, 199, .	1.0	0
108	Electrostatics Facilitates the Trimer-of-Dimers Formation of the Chemoreceptor Signaling Domain. Biophysical Journal, 2017, 112, 89a.	0.2	0

#	Article	IF	Citations
109	Two-Component Signal Transduction: a Special Issue in the <i>Journal of Bacteriology</i>. Journal of Bacteriology, 2017, 199, .	1.0	0
110	Call for Original Research Papers for a Special Collection in <i>Journal of Bacteriology</i> : Two-Component Signal Transduction. Journal of Bacteriology, 2017, 199, .	1.0	0
111	Changes in Membrane Potential upon Chemotactic Stimulation of Azospirillum brasilense. , 1995, , 299-305.		0