Belinda S W Chang

List of Publications by Year
in descending order

50 papers	1,608 citations	304743 22 h-index	330143 37 g-index
54 all docs	54 docs citations	54 times ranked	1700 citing authors

#	Article	IF	Citations
1	An Improved Likelihood Ratio Test for Detecting Site-Specific Functional Divergence among Clades of Protein-Coding Genes. Molecular Biology and Evolution, 2012, 29, 1297-1300.	8.9	152
2	Recreating a Functional Ancestral Archosaur Visual Pigment. Molecular Biology and Evolution, 2002, 19, 1483-1489.	8.9	147
3	Self-tunable engineered yeast probiotics for the treatment of inflammatory bowel disease. Nature Medicine, 2021, 27, 1212-1222.	30.7	124
4	Evolutionary transformation of rod photoreceptors in the all-cone retina of a diurnal garter snake. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 356-361.	7.1	73
5	Molecular Adaptations for Sensing and Securing Prey and Insight into Amniote Genome Diversity from the Garter Snake Genome. Genome Biology and Evolution, 2018, 10, 2110-2129.	2.5	72
6	Divergent Positive Selection in Rhodopsin from Lake and Riverine Cichlid Fishes. Molecular Biology and Evolution, 2014, 31, 1149-1165.	8.9	71
7	Spectral tuning in vertebrate short wavelengthâ€sensitive 1 (SWS1) visual pigments: Can wavelength sensitivity be inferred from sequence data?. Journal of Experimental Zoology Part B: Molecular and Developmental Evolution, 2014, 322, 529-539.	1.3	60
8	A novel rhodopsin-like gene expressed in zebrafish retina. Visual Neuroscience, 2011, 28, 325-335.	1.0	55
9	Visual Pigment Molecular Evolution in the Trinidadian Pike Cichlid (Crenicichla frenata): A Less Colorful World for Neotropical Cichlids?. Molecular Biology and Evolution, 2012, 29, 3045-3060.	8.9	48
10	Spectral Tuning of Killer Whale (<i>Orcinus orca</i>) Rhodopsin: Evidence for Positive Selection and Functional Adaptation in a Cetacean Visual Pigment. Molecular Biology and Evolution, 2016, 33, 323-336.	8.9	47
11	Insights into visual pigment adaptation and diversity from model ecological and evolutionary systems. Current Opinion in Genetics and Development, 2017, 47, 110-120.	3.3	45
12	Accelerated Evolution and Functional Divergence of the Dim Light Visual Pigment Accompanies Cichlid Colonization of Central America. Molecular Biology and Evolution, 2017, 34, 2650-2664.	8.9	39
13	Evolution of nonspectral rhodopsin function at high altitudes. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 7385-7390.	7.1	37
14	Out of the blue: adaptive visual pigment evolution accompanies Amazon invasion. Biology Letters, 2015, 11, 20150349.	2.3	33
15	Cone-like rhodopsin expressed in the all cone retina of the colubrid pine snake as a potential adaptation to diurnality. Journal of Experimental Biology, 2017, 220, 2418-2425.	1.7	32
16	The p1D4-hrGFP II expression vector: A tool for expressing and purifying visual pigments and other G protein-coupled receptors. Plasmid, 2010, 64, 162-169.	1.4	30
17	The molecular origin and evolution of dim-light vision in mammals. Evolution; International Journal of Organic Evolution, 2015, 69, 2995-3003.	2.3	30
18	Functional characterization of the rod visual pigment of the echidna (<i>Tachyglossus aculeatus)</i>, a basal mammal. Visual Neuroscience, 2012, 29, 211-217.	1.0	29

#	Article	IF	Citations
19	A second visual rhodopsin gene,<i>rh1-2</i>, is expressed in zebrafish photoreceptors and found in other ray-finned fishes. Journal of Experimental Biology, 2017, 220, 294-303.	1.7	29
20	Functional characterization of spectral tuning mechanisms in the great bowerbird short-wavelength sensitive visual pigment (SWS1), and the origins of UV/violet vision in passerines and parrots. BMC Evolutionary Biology, 2013, 13, 250.	3.2	26
21	Modulation of thermal noise and spectral sensitivity in Lake Baikal cottoid fish rhodopsins. Scientific Reports, 2016, 6, 38425.	3.3	26
22	Epistatic interactions influence terrestrialâ€“marine functional shifts in cetacean rhodopsin. Proceedings of the Royal Society B: Biological Sciences, 2017, 284, 20162743.	2.6	26
23	Shifts in Selective Pressures on Snake Phototransduction Genes Associated with Photoreceptor Transmutation and Dim-Light Ancestry. Molecular Biology and Evolution, 2018, 35, 1376-1389.	8.9	26
24	Functional Shifts in Bat Dim-Light Visual Pigment Are Associated with Differing Echolocation Abilities and Reveal Molecular Adaptation to Photic-Limited Environments. Molecular Biology and Evolution, 2018, 35, 2422-2434.	8.9	23
25	The role of ecological factors in shaping bat cone opsin evolution. Proceedings of the Royal Society B: Biological Sciences, 2018, 285, 20172835.	2.6	22
26	Evolutionary signatures of photoreceptor transmutation in geckos reveal potential adaptation and convergence with snakes. Evolution; International Journal of Organic Evolution, 2019, 73, 1958-1971.	2.3	22
27	A comparative study of rhodopsin function in the great bowerbird (<scp><i>P</i></scp><i>tilonorhynchus nuchalis</i>): Spectral tuning and lightâ€activated kinetics. Protein Science, 2016, 25, 1308-1318.	7.6	21
28	Duplicate dmbx1genes regulate progenitor cell cycle and differentiation during zebrafish midbrain and retinal development. BMC Developmental Biology, 2010, 10, 100.	2.1	20
29	Ancient insights into uric acid metabolism in primates. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 3657-3658.	7.1	19
30	Functional trade-offs and environmental variation shaped ancient trajectories in the evolution of dim-light vision. ELife, 2018, 7, .	6.0	19
31	Convergent selection pressures drive the evolution of rhodopsin kinetics at high altitudes via nonparallel mechanisms. Evolution; International Journal of Organic Evolution, 2018, 72, 170-186.	2.3	16
32	Targeted capture of complete coding regions across divergent species. Genome Biology and Evolution, 2017, 9, evx005.	2.5	15
33	Recreated Ancestral Opsin Associated with Marine to Freshwater Croaker Invasion Reveals Kinetic and Spectral Adaptation. Molecular Biology and Evolution, 2021, 38, 2076-2087.	8.9	15
34	Encoding Asymmetry of the N-Glycosylation Motif Facilitates Glycoprotein Evolution. PLoS ONE, 2014, 9, e86088.	2.5	15
35	An experimental comparison of human and bovine rhodopsin provides insight into the molecular basis of retinal disease. FEBS Letters, 2017, 591, 1720-1731.	2.8	14
36	Evolution of a G protein-coupled receptor response by mutations in regulatory network interactions. Nature Communications, 2016, 7, 12344.	12.8	13

#	Article	IF	Citations
37	The future of codon models in studies of molecular function: ancestral reconstruction and clade models of functional divergence. , 2012, , 145-163.		13
38	Coupling of Human Rhodopsin to a Yeast Signaling Pathway Enables Characterization of Mutations Associated with Retinal Disease. Genetics, 2019, 211, 597-615.	2.9	12
39	Evolution, inactivation and loss of short wavelengthâ€sensitive opsin genes during the diversification of Neotropical cichlids. Molecular Ecology, 2021, 30, 1688-1703.	3.9	12
40	Molecular Evolution of the ÂÂ Lens Crystallin Superfamily: Evidence for a Retained Ancestral Function in ÂN Crystallins?. Molecular Biology and Evolution, 2009, 26, 1127-1142.	8.9	11
41	Ancient whale rhodopsin reconstructs dim-light vision over a major evolutionary transition: Implications for ancestral diving behavior. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	7.1	10
42	Convergent patterns of evolution of mitochondrial oxidative phosphorylation (OXPHOS) genes in electric fishes. Philosophical Transactions of the Royal Society B: Biological Sciences, 2020, 375, 20190179.	4.0	9
43	Mitochondrial genomes of the South American electric knifefishes (Order Gymnotiformes). Mitochondrial DNA Part B: Resources, 2016, 1, 401-403.	0.4	8
44	Emerging Frontiers in the Study of Molecular Evolution. Journal of Molecular Evolution, 2020, 88, 211-226.	1.8	8
45	Screening of Chemical Libraries Using a Yeast Model of Retinal Disease. SLAS Discovery, 2019, 24, 969-977.	2.7	7
46	Comparative sequence analyses of rhodopsin and RPE65 reveal patterns of selective constraint across hereditary retinal disease mutations. Visual Neuroscience, 2016, 33, e002.	1.0	6
47	Corticotropin-Releasing Factor: An Ancient Peptide Family Related to the Secretin Peptide Superfamily. Frontiers in Endocrinology, 2020, 11, 529.	3.5	6
48	Uniform trichromacy in Alouatta caraya and Alouatta seniculus: behavioural and genetic colour vision evaluation. Frontiers in Zoology, 2021, 18, 36.	2.0	4
49	To see or not to see: molecular evolution of the rhodopsin visual pigment in neotropical electric fishes. Proceedings of the Royal Society B: Biological Sciences, 2019, 286, 20191182.	2.6	3
50	Simultaneous Expression of UV and Violet SWS1 Opsins Expands the Visual Palette in a Group of Freshwater Snakes. Molecular Biology and Evolution, 2021, 38, 5225-5240.	8.9	3