Brian R Crane

List of Publications by Citations

106	5,678	41	74
papers	citations	h-index	g-index
116	6,417	11.1	5.7
ext. papers	ext. citations	avg, IF	L-index

#	Paper	IF	Citations
106	Structure of CheA, a signal-transducing histidine kinase. *Cell*, **1999**, 96, 131-41	56.2	399
105	Tryptophan-accelerated electron flow through proteins. *Science*, **2008**, 320, 1760-2	33.3	354
104	Conformational switching in the fungal light sensor Vivid. *Science*, **2007**, 316, 1054-7	33.3	289
103	Reconstruction of the chemotaxis receptor-kinase assembly. *Nature Structural and Molecular Biology*, **2006**, 13, 400-7	17.6	224
102	Mechanism-based tuning of a LOV domain photoreceptor. *Nature Chemical Biology*, **2009**, 5, 827-34	11.7	198
101	Nitration of a peptide phytotoxin by bacterial nitric oxide synthase. *Nature*, **2004**, 429, 79-82	50.4	197
100	Bacterial chemoreceptor arrays are hexagonally packed trimers of receptor dimers networked by rings of kinase and coupling proteins. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 3766-71	11.5	188
99	Tetrahydrobiopterin radical enzymology. *Chemical Reviews*, **2003**, 103, 2365-83	68.1	162
98	Bacterial nitric oxide synthases. *Annual Review of Biochemistry*, **2010**, 79, 445-70	29.1	160
97	Photochemistry of flavoprotein light sensors. *Nature Chemical Biology*, **2014**, 10, 801-9	11.7	150
96	Light activation of the LOV protein vivid generates a rapidly exchanging dimer. *Biochemistry*, **2008**, 47, 7012-9	3.2	138
95	Nucleotide binding by the histidine kinase CheA. *Nature Structural Biology*, **2001**, 8, 353-60		131
94	Bacterial nitric oxide synthases: what are they good for?. *Trends in Microbiology*, **2009**, 17, 212-8	12.4	125
93	Cloning, expression, and characterization of a nitric oxide synthase protein from Deinococcus radiodurans. *Proceedings of the National Academy of Sciences of the United States of America*, **2002**, 99, 107-12	11.5	118
92	Structure of full-length Drosophila cryptochrome. *Nature*, **2011**, 480, 396-9	50.4	114
91	Structure of a nitric oxide synthase heme protein from Bacillus subtilis. *Biochemistry*, **2002**, 41, 11071-9	3.2	114
90	Structure of concatenated HAMP domains provides a mechanism for signal transduction. *Structure*, **2010**, 18, 436-48	5.2	105

89	Structure of a light-activated LOV protein dimer that regulates transcription. *Science Signaling*, **2011**, 4, ra50	8.8	92
88	Structure of FliM provides insight into assembly of the switch complex in the bacterial flagella motor. *Proceedings of the National Academy of Sciences of the United States of America*, **2006**, 103, 11886-91	11.5	89
87	Interactive features of proteins composing eukaryotic circadian clocks. *Annual Review of Biochemistry*, **2014**, 83, 191-219	29.1	83
86	Flavin reduction activates Drosophila cryptochrome. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 20455-60	11.5	76
85	Architecture of the flagellar rotor. *EMBO Journal*, **2011**, 30, 2962-71	13	75
84	Bacterial flavodoxins support nitric oxide production by Bacillus subtilis nitric-oxide synthase. *Journal of Biological Chemistry*, **2007**, 282, 2196-202	5.4	68
83	Structure of the ternary complex formed by a chemotaxis receptor signaling domain, the CheA histidine kinase, and the coupling protein CheW as determined by pulsed dipolar ESR spectroscopy. *Biochemistry*, **2010**, 49, 3824-41	3.2	65
82	Updated structure of Drosophila cryptochrome. *Nature*, **2013**, 495, E3-4	50.4	63
81	Signal transduction in light-oxygen-voltage receptors lacking the adduct-forming cysteine residue. *Nature Communications*, **2015**, 6, 10079	17.4	61
80	Nitrosyl-heme structures of Bacillus subtilis nitric oxide synthase have implications for understanding substrate oxidation. *Biochemistry*, **2006**, 45, 2537-44	3.2	60
79	Plant-pathogenic Streptomyces species produce nitric oxide synthase-derived nitric oxide in response to host signals. *Chemistry and Biology*, **2008**, 15, 43-50		59
78	EPR and ENDOR characterization of the reactive intermediates in the generation of NO by cryoreduced oxy-nitric oxide synthase from Geobacillus stearothermophilus. *Journal of the American Chemical Society*, **2009**, 131, 14493-507	16.4	58
77	A receptor-modifying deamidase in complex with a signaling phosphatase reveals reciprocal regulation. *Cell*, **2006**, 124, 561-71	56.2	58
76	The 3.2 Å resolution structure of a receptor: CheA:CheW signaling complex defines overlapping binding sites and key residue interactions within bacterial chemosensory arrays. *Biochemistry*, **2013**, 52, 3852-65	3.2	54
75	Light-induced subunit dissociation by a light-oxygen-voltage domain photoreceptor from Rhodobacter sphaeroides. *Biochemistry*, **2013**, 52, 378-91	3.2	53
74	Aggregation propensities of superoxide dismutase G93 hotspot mutants mirror ALS clinical phenotypes. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, E4568-76	11.5	52
73	Endogenous nitric oxide regulates the recovery of the radiation-resistant bacterium Deinococcus radiodurans from exposure to UV light. *Proceedings of the National Academy of Sciences of the United States of America*, **2009**, 106, 18183-8	11.5	52
72	A conserved Val to Ile switch near the heme pocket of animal and bacterial nitric-oxide synthases helps determine their distinct catalytic profiles. *Journal of Biological Chemistry*, **2004**, 279, 19018-25	5.4	49

71	Regioselective nitration of tryptophan by a complex between bacterial nitric-oxide synthase and tryptophanyl-tRNA synthetase. *Journal of Biological Chemistry*, **2004**, 279, 49567-70	5.4	49
70	Structure and function of an unusual family of protein phosphatases: the bacterial chemotaxis proteins CheC and CheX. *Molecular Cell*, **2004**, 16, 563-74	17.6	48
69	In different organisms, the mode of interaction between two signaling proteins is not necessarily conserved. *Proceedings of the National Academy of Sciences of the United States of America*, **2004**, 101, 11646-51	11.5	46
68	HAMP domain conformers that propagate opposite signals in bacterial chemoreceptors. *PLoS Biology*, **2013**, 11, e1001479	9.7	44
67	Effects of interface mutations on association modes and electron-transfer rates between proteins. *Proceedings of the National Academy of Sciences of the United States of America*, **2005**, 102, 15465-70	11.5	44
66	Illuminating solution responses of a LOV domain protein with photocoupled small-angle X-ray scattering. *Journal of Molecular Biology*, **2009**, 393, 909-19	6.5	42
65	Co-Folding of a FliF-FliG Split Domain Forms the Basis of the MS:C Ring Interface within the Bacterial Flagellar Motor. *Structure*, **2017**, 25, 317-328	5.2	40
64	Time-resolved dimerization of a PAS-LOV protein measured with photocoupled small angle X-ray scattering. *Journal of the American Chemical Society*, **2008**, 130, 12226-7	16.4	40
63	The structure of a soluble chemoreceptor suggests a mechanism for propagating conformational signals. *Biochemistry*, **2009**, 48, 1936-44	3.2	39
62	Architecture of the soluble receptor Aer2 indicates an in-line mechanism for PAS and HAMP domain signaling. *Journal of Molecular Biology*, **2013**, 425, 886-901	6.5	34
61	Circadian clock activity of cryptochrome relies on tryptophan-mediated photoreduction. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, 3822-3827	11.5	33
60	Defining a key receptor-CheA kinase contact and elucidating its function in the membrane-bound bacterial chemosensory array: a disulfide mapping and TAM-IDS Study. *Biochemistry*, **2013**, 52, 3866-80	3.2	33
59	Structure and reactivity of a thermostable prokaryotic nitric-oxide synthase that forms a long-lived oxy-heme complex. *Journal of Biological Chemistry*, **2006**, 281, 9623-32	5.4	33
58	An unusual tryptophanyl tRNA synthetase interacts with nitric oxide synthase in Deinococcus radiodurans. *Proceedings of the National Academy of Sciences of the United States of America*, **2004**, 101, 15881-6	11.5	33
57	Changes in active site histidine hydrogen bonding trigger cryptochrome activation. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 10073-8	11.5	32
56	Copper-based pulsed dipolar ESR spectroscopy as a probe of protein conformation linked to disease states. *Biophysical Journal*, **2014**, 107, 1669-74	2.9	32
55	Assembly states of FliM and FliG within the flagellar switch complex. *Journal of Molecular Biology*, **2015**, 427, 867-886	6.5	31
54	Co-expression of ferrochelatase allows for complete heme incorporation into recombinant proteins produced in E. coli. *Protein Expression and Purification*, **2010**, 73, 78-82	2	30

53	Structure of a loose dimer: an intermediate in nitric oxide synthase assembly. *Journal of Molecular Biology*, **2005**, 352, 932-40	6.5	30
52	Heme binding to the Mammalian circadian clock protein period 2 is nonspecific. *Biochemistry*, **2010**, 49, 4327-38	3.2	29
51	The enzymology of nitric oxide in bacterial pathogenesis and resistance. *Biochemical Society Transactions*, **2008**, 36, 1149-54	5.1	29
50	Helical shifts generate two distinct conformers in the atomic resolution structure of the CheA phosphotransferase domain from Thermotoga maritima. *Journal of Molecular Biology*, **2004**, 341, 1283-94	6.5	29
49	Bacterial chemoreceptor dynamics correlate with activity state and are coupled over long distances. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 2455-60	11.5	28
48	Structure and activity of an aminoacyl-tRNA synthetase that charges tRNA with nitro-tryptophan. *Nature Structural and Molecular Biology*, **2005**, 12, 274-5	17.6	28
47	Structure and activity of the flagellar rotor protein FliY: a member of the CheC phosphatase family. *Journal of Biological Chemistry*, **2013**, 288, 13493-502	5.4	27
46	Structural and chemical requirements for histidine phosphorylation by the chemotaxis kinase CheA. *Journal of Biological Chemistry*, **2005**, 280, 30581-5	5.4	27
45	Architecture of the Flagellar Switch Complex of Escherichia coli: Conformational Plasticity of FliG and Implications for Adaptive Remodeling. *Journal of Molecular Biology*, **2017**, 429, 1305-1320	6.5	25
44	Subunit exchange by CheA histidine kinases from the mesophile Escherichia coli and the thermophile Thermotoga maritima. *Biochemistry*, **2004**, 43, 2228-40	3.2	23
43	Glutamine Amide Flip Elicits Long Distance Allosteric Responses in the LOV Protein Vivid. *Journal of the American Chemical Society*, **2017**, 139, 2972-2980	16.4	22
42	Distance-independent charge recombination kinetics in cytochrome c-cytochrome c peroxidase complexes: compensating changes in the electronic coupling and reorganization energies. *Journal of Physical Chemistry B*, **2013**, 117, 9129-41	3.4	22
41	Structures of tryptophanyl-tRNA synthetase II from Deinococcus radiodurans bound to ATP and tryptophan. Insight into subunit cooperativity and domain motions linked to catalysis. *Journal of Biological Chemistry*, **2005**, 280, 31965-73	5.4	20
40	Structure of the frequency-interacting RNA helicase: a protein interaction hub for the circadian clock. *EMBO Journal*, **2016**, 35, 1707-19	13	20
39	Regulation of the chemotaxis histidine kinase CheA: A structural perspective. *Biochimica Et Biophysica Acta - Biomembranes*, **2020**, 1862, 183030	3.8	18
38	Spirochaete flagella hook proteins self-catalyse a lysinoalanine covalent crosslink for motility. *Nature Microbiology*, **2016**, 1, 16134	26.6	17
37	Self-association of the histidine kinase CheA as studied by pulsed dipolar ESR spectroscopy. *Biophysical Journal*, **2012**, 102, 2192-201	2.9	17
36	Structure of an enclosed dimer formed by the Drosophila period protein. *Journal of Molecular Biology*, **2011**, 413, 561-72	6.5	17

35	Site-Specific Incorporation of a Cu Spin Label into Proteins for Measuring Distances by Pulsed Dipolar Electron Spin Resonance Spectroscopy. *Journal of Physical Chemistry B*, **2018**, 122, 9443-9451	3.4	17
34	Solvent isotope effects on interfacial protein electron transfer in crystals and electrode films. *Journal of the American Chemical Society*, **2006**, 128, 2346-55	16.4	16
33	CK1/Doubletime activity delays transcription activation in the circadian clock. *ELife*, **2018**, 7,	8.9	15
32	Conformational Transitions that Enable Histidine Kinase Autophosphorylation and Receptor Array Integration. *Journal of Molecular Biology*, **2015**, 427, 3890-907	6.5	14
31	THE AER2 RECEPTOR FROM VIBRIO CHOLERAE IS A DUAL PAS-HEME OXYGEN SENSOR. *Molecular Microbiology*, **2018**, 109, 209	4.1	13
30	Substrate-ligand interactions in Geobacillus stearothermophilus nitric oxide synthase. *Biochemistry*, **2008**, 47, 12389-97	3.2	13
29	Bacterial Energy Sensor Aer Modulates the Activity of the Chemotaxis Kinase CheA Based on the Redox State of the Flavin Cofactor. *Journal of Biological Chemistry*, **2016**, 291, 25809-25814	5.4	12
28	Enzymatic and cryoreduction EPR studies of the hydroxylation of methylated N(ω)-hydroxy-L-arginine analogues by nitric oxide synthase from Geobacillus stearothermophilus. *Biochemistry*, **2014**, 53, 6511-9	3.2	12
27	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	11.5	11
26	A nitric oxide synthase-like protein from produces NO/NO from l-arginine and NADPH in a tetrahydrobiopterin- and Ca-dependent manner. *Journal of Biological Chemistry*, **2019**, 294, 10708-10719	5.4	10
25	Preformed Soluble Chemoreceptor Trimers That Mimic Cellular Assembly States and Activate CheA Autophosphorylation. *Biochemistry*, **2015**, 54, 3454-68	3.2	9
24	The solution electrochemistry of tetrahydrobiopterin revisited. *Nitric Oxide - Biology and Chemistry*, **2009**, 20, 79-87	5	8
23	Atypical chemoreceptor arrays accommodate high membrane curvature. *Nature Communications*, **2020**, 11, 5763	17.4	8
22	Structure and chemistry of lysinoalanine crosslinking in the spirochaete flagella hook. *Nature Chemical Biology*, **2019**, 15, 959-965	11.7	7
21	Excited-State Dynamics of Structurally Characterized [ReI(CO)3(phen)(HisX)]+ (X = 83, 109) Pseudomonas aeruginosa Azurins in Aqueous Solution		7
20	Constraints on the Radical Cation Center of Cytochrome c Peroxidase for Electron Transfer from Cytochrome c. *Biochemistry*, **2016**, 55, 4807-22	3.2	7
19	Tuning Radical Relay Residues by Proton Management Rescues Protein Electron Hopping. *Journal of the American Chemical Society*, **2019**, 141, 17571-17587	16.4	6
18	Identifying divergent HAMP domains and poly-HAMP chains. *Journal of Biological Chemistry*, **2010**, 285, le7; author reply 1e8	5.4	6

17	Stability and Conformation of a Chemoreceptor HAMP Domain Chimera Correlates with Signaling Properties. *Biophysical Journal*, **2017**, 112, 1383-1395	2.9	5
16	Biochemistry. Nature's intricate clockwork. *Science*, **2012**, 337, 165-6	33.3	5
15	Tuning flavin environment to detect and control light-induced conformational switching in Drosophila cryptochrome. *Communications Biology*, **2021**, 4, 249	6.7	5
14	Patching a leak in an R1 university gateway STEM course. *PLoS ONE*, **2018**, 13, e0202041	3.7	5
13	Design, Validation, and Application of an Enzyme-Coupled Hydrogen Sulfide Detection Assay. *Biochemistry*, **2019**, 58, 474-483	3.2	3
12	Nucleotide Spin Labeling for ESR Spectroscopy of ATP-Binding Proteins. *Applied Magnetic Resonance*, **2018**, 49, 1385-1395	0.8	3
11	Production, characterization, and assessment of a stable analog of the response regulator CheY-phosphate from Thermotoga maritima. *Protein Science*, **2017**, 26, 1547-1554	6.3	2
10	Physical methods for studying flavoprotein photoreceptors. *Methods in Enzymology*, **2019**, 620, 509-544	1.7	2
9	Structural insight into the low affinity between Thermotoga maritima CheA and CheB compared to their Escherichia coli/Salmonella typhimurium counterparts. *International Journal of Biological Macromolecules*, **2011**, 49, 794-800	7.9	2
8	Upward mobility and alternative lifestyles: a report from the 10th biennial meeting on Bacterial Locomotion and Signal Transduction. *Molecular Microbiology*, **2009**, 73, 5-19	4.1	2
7	Structural biology by mass spectrometry: mapping protein interaction surfaces of membrane receptor complexes with ICAT. *Journal of Molecular Biology*, **2011**, 409, 481-2	6.5	1
6	Crystallization and preliminary X-ray crystallographic analysis of CheW from Thermotoga maritima: a coupling protein of CheA and the chemotaxis receptor. *Acta Crystallographica Section F: Structural Biology Communications*, **2011**, 67, 504-6		1
5	Winding Down: Selectively Drugging a Promiscuous Pocket in Cryptochrome Slows Circadian Rhythms. *Cell Chemical Biology*, **2020**, 27, 1109-1111	8.2	1
4	Peripheral Methionine Residues Impact Flavin Photoreduction and Protonation in an Engineered LOV Domain Light Sensor. *Biochemistry*, **2021**, 60, 1148-1164	3.2	1
3	Dph3 Enables Aerobic Diphthamide Biosynthesis by Donating One Iron Atom to Transform a [3Fe-4S] to a [4Fe-4S] Cluster in Dph1-Dph2. *Journal of the American Chemical Society*, **2021**, 143, 9314-9319	16.4	1
2	Why Do Most Aromatics Fail to Support Hole Hopping in the Cytochrome Peroxidase-Cytochrome Complex?. *Journal of Physical Chemistry B*, **2021**, 125, 7763-7773	3.4	1
1	Review of Methods in Enzymology Volumes 551 and 552 Circadian Rhythms and Biological Clocks, Part A and B Edited by Amita Sehgal. *Quarterly Review of Biology*, **2017**, 92, 201-202	5.4	