

# Brian R Crane

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

106  
papers

5,678  
citations

41  
h-index

74  
g-index

116  
ext. papers

6,417  
ext. citations

11.1  
avg, IF

5.7  
L-index

#	Paper	IF	Citations
106	Peripheral Methionine Residues Impact Flavin Photoreduction and Protonation in an Engineered LOV Domain Light Sensor. <i>Biochemistry</i> , <b>2021</b> , 60, 1148-1164	3.2	1
105	Dph3 Enables Aerobic Diphthamide Biosynthesis by Donating One Iron Atom to Transform a [3Fe-4S] to a [4Fe-4S] Cluster in Dph1-Dph2. <i>Journal of the American Chemical Society</i> , <b>2021</b> , 143, 9314-9319	16.4	1
104	Why Do Most Aromatics Fail to Support Hole Hopping in the Cytochrome Peroxidase-Cytochrome Complex?. <i>Journal of Physical Chemistry B</i> , <b>2021</b> , 125, 7763-7773	3.4	1
103	Tuning flavin environment to detect and control light-induced conformational switching in <i>Drosophila</i> cryptochrome. <i>Communications Biology</i> , <b>2021</b> , 4, 249	6.7	5
102	Atypical chemoreceptor arrays accommodate high membrane curvature. <i>Nature Communications</i> , <b>2020</b> , 11, 5763	17.4	8
101	Winding Down: Selectively Drugging a Promiscuous Pocket in Cryptochrome Slows Circadian Rhythms. <i>Cell Chemical Biology</i> , <b>2020</b> , 27, 1109-1111	8.2	1
100	Regulation of the chemotaxis histidine kinase CheA: A structural perspective. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , <b>2020</b> , 1862, 183030	3.8	18
99	A nitric oxide synthase-like protein from produces NO/NO from l-arginine and NADPH in a tetrahydrobiopterin- and Ca-dependent manner. <i>Journal of Biological Chemistry</i> , <b>2019</b> , 294, 10708-10719	5.4	10
98	Physical methods for studying flavoprotein photoreceptors. <i>Methods in Enzymology</i> , <b>2019</b> , 620, 509-544	1.7	2
97	Structure and chemistry of lysinoalanine crosslinking in the spirochaete flagella hook. <i>Nature Chemical Biology</i> , <b>2019</b> , 15, 959-965	11.7	7
96	A di-iron protein recruited as an Fe[II] and oxygen sensor for bacterial chemotaxis functions by stabilizing an iron-peroxy species. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2019</b> , 116, 14955-14960	11.5	11
95	Tuning Radical Relay Residues by Proton Management Rescues Protein Electron Hopping. <i>Journal of the American Chemical Society</i> , <b>2019</b> , 141, 17571-17587	16.4	6
94	Design, Validation, and Application of an Enzyme-Coupled Hydrogen Sulfide Detection Assay. <i>Biochemistry</i> , <b>2019</b> , 58, 474-483	3.2	3
93	Circadian clock activity of cryptochrome relies on tryptophan-mediated photoreduction. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2018</b> , 115, 3822-3827	11.5	33
92	THE AER2 RECEPTOR FROM VIBRIO CHOLERAE IS A DUAL PAS-HEME OXYGEN SENSOR. <i>Molecular Microbiology</i> , <b>2018</b> , 109, 209	4.1	13
91	Nucleotide Spin Labeling for ESR Spectroscopy of ATP-Binding Proteins. <i>Applied Magnetic Resonance</i> , <b>2018</b> , 49, 1385-1395	0.8	3
90	Patching a leak in an R1 university gateway STEM course. <i>PLoS ONE</i> , <b>2018</b> , 13, e0202041	3.7	5

89	Site-Specific Incorporation of a Cu Spin Label into Proteins for Measuring Distances by Pulsed Dipolar Electron Spin Resonance Spectroscopy. <i>Journal of Physical Chemistry B</i> , <b>2018</b> , 122, 9443-9451	3.4	17
88	CK1/Doubletime activity delays transcription activation in the circadian clock. <i>ELife</i> , <b>2018</b> , 7,	8.9	15
87	Glutamine Amide Flip Elicits Long Distance Allosteric Responses in the LOV Protein Vivid. <i>Journal of the American Chemical Society</i> , <b>2017</b> , 139, 2972-2980	16.4	22
86	Co-Folding of a FliF-FliG Split Domain Forms the Basis of the MS:C Ring Interface within the Bacterial Flagellar Motor. <i>Structure</i> , <b>2017</b> , 25, 317-328	5.2	40
85	Architecture of the Flagellar Switch Complex of Escherichia coli: Conformational Plasticity of FliG and Implications for Adaptive Remodeling. <i>Journal of Molecular Biology</i> , <b>2017</b> , 429, 1305-1320	6.5	25
84	Stability and Conformation of a Chemoreceptor HAMP Domain Chimera Correlates with Signaling Properties. <i>Biophysical Journal</i> , <b>2017</b> , 112, 1383-1395	2.9	5
83	Production, characterization, and assessment of a stable analog of the response regulator CheY-phosphate from <i>Thermotoga maritima</i> . <i>Protein Science</i> , <b>2017</b> , 26, 1547-1554	6.3	2
82	Review of Methods in Enzymology Volumes 551 and 552 Circadian Rhythms and Biological Clocks, Part A and B Edited by Amita Sehgal. <i>Quarterly Review of Biology</i> , <b>2017</b> , 92, 201-202	5.4	
81	Changes in active site histidine hydrogen bonding trigger cryptochrome activation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2016</b> , 113, 10073-8	11.5	32
80	Bacterial Energy Sensor Aer Modulates the Activity of the Chemotaxis Kinase CheA Based on the Redox State of the Flavin Cofactor. <i>Journal of Biological Chemistry</i> , <b>2016</b> , 291, 25809-25814	5.4	12
79	Spirochaete flagella hook proteins self-catalyse a lysinoalanine covalent crosslink for motility. <i>Nature Microbiology</i> , <b>2016</b> , 1, 16134	26.6	17
78	Structure of the frequency-interacting RNA helicase: a protein interaction hub for the circadian clock. <i>EMBO Journal</i> , <b>2016</b> , 35, 1707-19	13	20
77	Constraints on the Radical Cation Center of Cytochrome c Peroxidase for Electron Transfer from Cytochrome c. <i>Biochemistry</i> , <b>2016</b> , 55, 4807-22	3.2	7
76	Preformed Soluble Chemoreceptor Trimers That Mimic Cellular Assembly States and Activate CheA Autophosphorylation. <i>Biochemistry</i> , <b>2015</b> , 54, 3454-68	3.2	9
75	Conformational Transitions that Enable Histidine Kinase Autophosphorylation and Receptor Array Integration. <i>Journal of Molecular Biology</i> , <b>2015</b> , 427, 3890-907	6.5	14
74	Signal transduction in light-oxygen-voltage receptors lacking the adduct-forming cysteine residue. <i>Nature Communications</i> , <b>2015</b> , 6, 10079	17.4	61
73	Assembly states of FliM and FliG within the flagellar switch complex. <i>Journal of Molecular Biology</i> , <b>2015</b> , 427, 867-886	6.5	31
72	Bacterial chemoreceptor dynamics correlate with activity state and are coupled over long distances. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2015</b> , 112, 2455-60	11.5	28

71	Aggregation propensities of superoxide dismutase G93 hotspot mutants mirror ALS clinical phenotypes. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2014</b> , 111, E4568-76	11.5	52
70	Photochemistry of flavoprotein light sensors. <i>Nature Chemical Biology</i> , <b>2014</b> , 10, 801-9	11.7	150
69	Copper-based pulsed dipolar ESR spectroscopy as a probe of protein conformation linked to disease states. <i>Biophysical Journal</i> , <b>2014</b> , 107, 1669-74	2.9	32
68	Interactive features of proteins composing eukaryotic circadian clocks. <i>Annual Review of Biochemistry</i> , <b>2014</b> , 83, 191-219	29.1	83
67	Enzymatic and cryoreduction EPR studies of the hydroxylation of methylated N( $\eta$ )-hydroxy-L-arginine analogues by nitric oxide synthase from <i>Geobacillus stearothermophilus</i> . <i>Biochemistry</i> , <b>2014</b> , 53, 6511-9	3.2	12
66	Distance-independent charge recombination kinetics in cytochrome c-cytochrome c peroxidase complexes: compensating changes in the electronic coupling and reorganization energies. <i>Journal of Physical Chemistry B</i> , <b>2013</b> , 117, 9129-41	3.4	22
65	Light-induced subunit dissociation by a light-oxygen-voltage domain photoreceptor from <i>Rhodobacter sphaeroides</i> . <i>Biochemistry</i> , <b>2013</b> , 52, 378-91	3.2	53
64	Architecture of the soluble receptor Aer2 indicates an in-line mechanism for PAS and HAMP domain signaling. <i>Journal of Molecular Biology</i> , <b>2013</b> , 425, 886-901	6.5	34
63	Updated structure of <i>Drosophila</i> cryptochrome. <i>Nature</i> , <b>2013</b> , 495, E3-4	50.4	63
62	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. <i>Biochemistry</i> , <b>2013</b> , 52, 3852-65	3.2	54
61	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. <i>Biochemistry</i> , <b>2013</b> , 52, 3866-80	3.2	33
60	HAMP domain conformers that propagate opposite signals in bacterial chemoreceptors. <i>PLoS Biology</i> , <b>2013</b> , 11, e1001479	9.7	44
59	Flavin reduction activates <i>Drosophila</i> cryptochrome. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2013</b> , 110, 20455-60	11.5	76
58	Structure and activity of the flagellar rotor protein FliY: a member of the CheC phosphatase family. <i>Journal of Biological Chemistry</i> , <b>2013</b> , 288, 13493-502	5.4	27
57	Self-association of the histidine kinase CheA as studied by pulsed dipolar ESR spectroscopy. <i>Biophysical Journal</i> , <b>2012</b> , 102, 2192-201	2.9	17
56	Biochemistry. Nature's intricate clockwork. <i>Science</i> , <b>2012</b> , 337, 165-6	33.3	5
55	Bacterial chemoreceptor arrays are hexagonally packed trimers of receptor dimers networked by rings of kinase and coupling proteins. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2012</b> , 109, 3766-71	11.5	188
54	Structural insight into the low affinity between <i>Thermotoga maritima</i> CheA and CheB compared to their <i>Escherichia coli</i> / <i>Salmonella typhimurium</i> counterparts. <i>International Journal of Biological Macromolecules</i> , <b>2011</b> , 49, 794-800	7.9	2

53	Structural biology by mass spectrometry: mapping protein interaction surfaces of membrane receptor complexes with ICAT. <i>Journal of Molecular Biology</i> , <b>2011</b> , 409, 481-2	6.5	1
52	Structure of an enclosed dimer formed by the <i>Drosophila</i> period protein. <i>Journal of Molecular Biology</i> , <b>2011</b> , 413, 561-72	6.5	17
51	Crystallization and preliminary X-ray crystallographic analysis of CheW from <i>Thermotoga maritima</i> : a coupling protein of CheA and the chemotaxis receptor. <i>Acta Crystallographica Section F: Structural Biology Communications</i> , <b>2011</b> , 67, 504-6		1
50	Structure of full-length <i>Drosophila</i> cryptochrome. <i>Nature</i> , <b>2011</b> , 480, 396-9	50.4	114
49	Architecture of the flagellar rotor. <i>EMBO Journal</i> , <b>2011</b> , 30, 2962-71	13	75
48	Structure of a light-activated LOV protein dimer that regulates transcription. <i>Science Signaling</i> , <b>2011</b> , 4, ra50	8.8	92
47	Identifying divergent HAMP domains and poly-HAMP chains. <i>Journal of Biological Chemistry</i> , <b>2010</b> , 285, 1e7; author reply 1e8	5.4	6
46	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. <i>Biochemistry</i> , <b>2010</b> , 49, 3824-41	3.2	65
45	Heme binding to the Mammalian circadian clock protein period 2 is nonspecific. <i>Biochemistry</i> , <b>2010</b> , 49, 4327-38	3.2	29
44	Bacterial nitric oxide synthases. <i>Annual Review of Biochemistry</i> , <b>2010</b> , 79, 445-70	29.1	160
43	Co-expression of ferroxidase allows for complete heme incorporation into recombinant proteins produced in <i>E. coli</i> . <i>Protein Expression and Purification</i> , <b>2010</b> , 73, 78-82	2	30
42	Structure of concatenated HAMP domains provides a mechanism for signal transduction. <i>Structure</i> , <b>2010</b> , 18, 436-48	5.2	105
41	Endogenous nitric oxide regulates the recovery of the radiation-resistant bacterium <i>Deinococcus radiodurans</i> from exposure to UV light. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2009</b> , 106, 18183-8	11.5	52
40	Upward mobility and alternative lifestyles: a report from the 10th biennial meeting on Bacterial Locomotion and Signal Transduction. <i>Molecular Microbiology</i> , <b>2009</b> , 73, 5-19	4.1	2
39	EPR and ENDOR characterization of the reactive intermediates in the generation of NO by cryoreduced oxy-nitric oxide synthase from <i>Geobacillus stearothermophilus</i> . <i>Journal of the American Chemical Society</i> , <b>2009</b> , 131, 14493-507	16.4	58
38	The structure of a soluble chemoreceptor suggests a mechanism for propagating conformational signals. <i>Biochemistry</i> , <b>2009</b> , 48, 1936-44	3.2	39
37	Bacterial nitric oxide synthases: what are they good for?. <i>Trends in Microbiology</i> , <b>2009</b> , 17, 212-8	12.4	125
36	The solution electrochemistry of tetrahydrobiopterin revisited. <i>Nitric Oxide - Biology and Chemistry</i> , <b>2009</b> , 20, 79-87	5	8

35	Illuminating solution responses of a LOV domain protein with photocoupled small-angle X-ray scattering. <i>Journal of Molecular Biology</i> , <b>2009</b> , 393, 909-19	6.5	42
34	Mechanism-based tuning of a LOV domain photoreceptor. <i>Nature Chemical Biology</i> , <b>2009</b> , 5, 827-34	11.7	198
33	Light activation of the LOV protein vivid generates a rapidly exchanging dimer. <i>Biochemistry</i> , <b>2008</b> , 47, 7012-9	3.2	138
32	Time-resolved dimerization of a PAS-LOV protein measured with photocoupled small angle X-ray scattering. <i>Journal of the American Chemical Society</i> , <b>2008</b> , 130, 12226-7	16.4	40
31	Substrate-ligand interactions in <i>Geobacillus stearothermophilus</i> nitric oxide synthase. <i>Biochemistry</i> , <b>2008</b> , 47, 12389-97	3.2	13
30	Tryptophan-accelerated electron flow through proteins. <i>Science</i> , <b>2008</b> , 320, 1760-2	33.3	354
29	The enzymology of nitric oxide in bacterial pathogenesis and resistance. <i>Biochemical Society Transactions</i> , <b>2008</b> , 36, 1149-54	5.1	29
28	Plant-pathogenic <i>Streptomyces</i> species produce nitric oxide synthase-derived nitric oxide in response to host signals. <i>Chemistry and Biology</i> , <b>2008</b> , 15, 43-50		59
27	Bacterial flavodoxins support nitric oxide production by <i>Bacillus subtilis</i> nitric-oxide synthase. <i>Journal of Biological Chemistry</i> , <b>2007</b> , 282, 2196-202	5.4	68
26	Conformational switching in the fungal light sensor Vivid. <i>Science</i> , <b>2007</b> , 316, 1054-7	33.3	289
25	Structure and reactivity of a thermostable prokaryotic nitric-oxide synthase that forms a long-lived oxy-heme complex. <i>Journal of Biological Chemistry</i> , <b>2006</b> , 281, 9623-32	5.4	33
24	Structure of FliM provides insight into assembly of the switch complex in the bacterial flagella motor. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2006</b> , 103, 11886-91	11.5	89
23	Nitrosyl-heme structures of <i>Bacillus subtilis</i> nitric oxide synthase have implications for understanding substrate oxidation. <i>Biochemistry</i> , <b>2006</b> , 45, 2537-44	3.2	60
22	Solvent isotope effects on interfacial protein electron transfer in crystals and electrode films. <i>Journal of the American Chemical Society</i> , <b>2006</b> , 128, 2346-55	16.4	16
21	A receptor-modifying deamidase in complex with a signaling phosphatase reveals reciprocal regulation. <i>Cell</i> , <b>2006</b> , 124, 561-71	56.2	58
20	Reconstruction of the chemotaxis receptor-kinase assembly. <i>Nature Structural and Molecular Biology</i> , <b>2006</b> , 13, 400-7	17.6	224
19	Structure of a loose dimer: an intermediate in nitric oxide synthase assembly. <i>Journal of Molecular Biology</i> , <b>2005</b> , 352, 932-40	6.5	30
18	Structure and activity of an aminoacyl-tRNA synthetase that charges tRNA with nitro-tryptophan. <i>Nature Structural and Molecular Biology</i> , <b>2005</b> , 12, 274-5	17.6	28

17	Structural and chemical requirements for histidine phosphorylation by the chemotaxis kinase CheA. <i>Journal of Biological Chemistry</i> , <b>2005</b> , 280, 30581-5	5.4	27
16	Effects of interface mutations on association modes and electron-transfer rates between proteins. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2005</b> , 102, 15465-70	11.5	44
15	Structures of tryptophanyl-tRNA synthetase II from <i>Deinococcus radiodurans</i> bound to ATP and tryptophan. Insight into subunit cooperativity and domain motions linked to catalysis. <i>Journal of Biological Chemistry</i> , <b>2005</b> , 280, 31965-73	5.4	20
14	A conserved Val to Ile switch near the heme pocket of animal and bacterial nitric-oxide synthases helps determine their distinct catalytic profiles. <i>Journal of Biological Chemistry</i> , <b>2004</b> , 279, 19018-25	5.4	49
13	An unusual tryptophanyl tRNA synthetase interacts with nitric oxide synthase in <i>Deinococcus radiodurans</i> . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2004</b> , 101, 15881-6	11.5	33
12	Regioselective nitration of tryptophan by a complex between bacterial nitric-oxide synthase and tryptophanyl-tRNA synthetase. <i>Journal of Biological Chemistry</i> , <b>2004</b> , 279, 49567-70	5.4	49
11	In different organisms, the mode of interaction between two signaling proteins is not necessarily conserved. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2004</b> , 101, 11646-51	11.5	46
10	Nitration of a peptide phytotoxin by bacterial nitric oxide synthase. <i>Nature</i> , <b>2004</b> , 429, 79-82	50.4	197
9	Subunit exchange by CheA histidine kinases from the mesophile <i>Escherichia coli</i> and the thermophile <i>Thermotoga maritima</i> . <i>Biochemistry</i> , <b>2004</b> , 43, 2228-40	3.2	23
8	Structure and function of an unusual family of protein phosphatases: the bacterial chemotaxis proteins CheC and CheX. <i>Molecular Cell</i> , <b>2004</b> , 16, 563-74	17.6	48
7	Helical shifts generate two distinct conformers in the atomic resolution structure of the CheA phosphotransferase domain from <i>Thermotoga maritima</i> . <i>Journal of Molecular Biology</i> , <b>2004</b> , 341, 1283-94	6.5	29
6	Tetrahydrobiopterin radical enzymology. <i>Chemical Reviews</i> , <b>2003</b> , 103, 2365-83	68.1	162
5	Cloning, expression, and characterization of a nitric oxide synthase protein from <i>Deinococcus radiodurans</i> . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2002</b> , 99, 107-12	11.5	118
4	Structure of a nitric oxide synthase heme protein from <i>Bacillus subtilis</i> . <i>Biochemistry</i> , <b>2002</b> , 41, 11071-9	3.2	114
3	Nucleotide binding by the histidine kinase CheA. <i>Nature Structural Biology</i> , <b>2001</b> , 8, 353-60		131
2	Structure of CheA, a signal-transducing histidine kinase. <i>Cell</i> , <b>1999</b> , 96, 131-41	56.2	399
1	Excited-State Dynamics of Structurally Characterized [Re(CO) <sub>3</sub> (phen)(HisX)] <sup>+</sup> (X = 83, 109) <i>Pseudomonas aeruginosa</i> Azurins in Aqueous Solution		7