

Keith Moffat

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.

94
papers

8,752
citations

47
h-index

93
g-index

99
ext. papers

9,468
ext. citations

8.7
avg, IF

6.05
L-index

#	Paper	IF	Citations
94	The primary structural photoresponse of phytochrome proteins captured by a femtosecond X-ray laser. <i>ELife</i> , 2020 , 9,	8.9	37
93	Laue diffraction and time-resolved crystallography: a personal history. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2019 , 377, 20180243	3	6
92	Structural basis for light control of cell development revealed by crystal structures of a myxobacterial phytochrome. <i>IUCrJ</i> , 2018 , 5, 619-634	4.7	20
91	Femtosecond structural photobiology. <i>Science</i> , 2018 , 361, 127-128	33.3	1
90	Small crystals, fast dynamics and noisy data are indeed beautiful. <i>IUCrJ</i> , 2017 , 4, 303-305	4.7	
89	Bacteriophytochrome Photoisomerization Proceeds Homogeneously Despite Heterogeneity in Ground State. <i>Biophysical Journal</i> , 2016 , 111, 2125-2134	2.9	19
88	The room temperature crystal structure of a bacterial phytochrome determined by serial femtosecond crystallography. <i>Scientific Reports</i> , 2016 , 6, 35279	4.9	29
87	Photocycle populations with femtosecond excitation of crystalline photoactive yellow protein. <i>Chemical Physics Letters</i> , 2016 , 654, 63-71	2.5	25
86	Femtosecond structural dynamics drives the trans/cis isomerization in photoactive yellow protein. <i>Science</i> , 2016 , 352, 725-9	33.3	276
85	Light Signaling Mechanism of Two Tandem Bacteriophytochromes. <i>Structure</i> , 2015 , 23, 1179-89	5.2	35
84	Structure of the response regulator RPA3017 involved in red-light signaling in <i>Rhodospseudomonas palustris</i> . <i>Acta Crystallographica Section F, Structural Biology Communications</i> , 2015 , 71, 1215-22	1.1	4
83	Reply to Contradictions in X-ray structures of intermediates in the photocycle of photoactive yellow protein. <i>Nature Chemistry</i> , 2014 , 6, 259-60	17.6	20
82	Time-resolved crystallography and protein design: signalling photoreceptors and optogenetics. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2014 , 369, 20130568	5.8	30
81	FTIR Spectroscopy Revealing Light-Dependent Refolding of the Conserved Tongue Region of Bacteriophytochrome. <i>Journal of Physical Chemistry Letters</i> , 2014 , 5, 2512-2515	6.4	35
80	Signal to noise considerations for single crystal femtosecond time resolved crystallography of the Photoactive Yellow Protein. <i>Faraday Discussions</i> , 2014 , 171, 439-55	3.6	14
79	Time-resolved serial crystallography captures high-resolution intermediates of photoactive yellow protein. <i>Science</i> , 2014 , 346, 1242-6	33.3	338
78	Volume-conserving trans-cis isomerization pathways in photoactive yellow protein visualized by picosecond X-ray crystallography. <i>Nature Chemistry</i> , 2013 , 5, 212-20	17.6	138

77	Resolution of structural heterogeneity in dynamic crystallography. <i>Acta Crystallographica Section D: Biological Crystallography</i> , 2013 , 69, 946-59		24
76	Pigment-protein interactions in phytochromes probed by fluorescence line narrowing spectroscopy. <i>Journal of Physical Chemistry B</i> , 2013 , 117, 14940-50	3.4	7
75	Coiled-coil dimerization of the LOV2 domain of the blue-light photoreceptor phototropin 1 from <i>Arabidopsis thaliana</i> . <i>Acta Crystallographica Section F: Structural Biology Communications</i> , 2013 , 69, 1316-21		29
74	Crystal structures of Aureochrome1 LOV suggest new design strategies for optogenetics. <i>Structure</i> , 2012 , 20, 698-706	5.2	56
73	From dusk till dawn: one-plasmid systems for light-regulated gene expression. <i>Journal of Molecular Biology</i> , 2012 , 416, 534-42	6.5	155
72	Time-resolved structural studies at synchrotrons and X-ray free electron lasers: opportunities and challenges. <i>Current Opinion in Structural Biology</i> , 2012 , 22, 651-9	8.1	120
71	Cluster analysis of time-dependent crystallographic data: Direct identification of time-independent structural intermediates. <i>Biophysical Journal</i> , 2011 , 100, 440-9	2.9	14
70	The primary photophysics of the <i>Avena sativa</i> phototropin 1 LOV2 domain observed with time-resolved emission spectroscopy. <i>Photochemistry and Photobiology</i> , 2011 , 87, 534-41	3.6	15
69	Fluorescence quantum yield and photochemistry of bacteriophytochrome constructs. <i>Physical Chemistry Chemical Physics</i> , 2011 , 13, 11985-97	3.6	63
68	Primary reactions of bacteriophytochrome observed with ultrafast mid-infrared spectroscopy. <i>Journal of Physical Chemistry A</i> , 2011 , 115, 3778-86	2.8	34
67	Temperature-scan cryocrystallography reveals reaction intermediates in bacteriophytochrome. <i>Nature</i> , 2011 , 479, 428-32	50.4	130
66	Picosecond Structural Dynamics at the Advanced Photon Source. <i>Synchrotron Radiation News</i> , 2010 , 23, 18-25	0.6	
65	Proton-transfer and hydrogen-bond interactions determine fluorescence quantum yield and photochemical efficiency of bacteriophytochrome. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010 , 107, 9170-5	11.5	108
64	Addition at the molecular level: signal integration in designed Per-ARNT-Sim receptor proteins. <i>Journal of Molecular Biology</i> , 2010 , 400, 477-86	6.5	66
63	Engineered photoreceptors as novel optogenetic tools. <i>Photochemical and Photobiological Sciences</i> , 2010 , 9, 1286-300	4.2	166
62	Structure and function of plant photoreceptors. <i>Annual Review of Plant Biology</i> , 2010 , 61, 21-47	30.7	357
61	Conformational differences between the Pfr and Pr states in <i>Pseudomonas aeruginosa</i> bacteriophytochrome. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009 , 106, 15639-44	11.5	118
60	Structure and signaling mechanism of Per-ARNT-Sim domains. <i>Structure</i> , 2009 , 17, 1282-94	5.2	364

59	Design and signaling mechanism of light-regulated histidine kinases. <i>Journal of Molecular Biology</i> , 2009 , 385, 1433-44	6.5	275
58	Changes in quaternary structure in the signaling mechanisms of PAS domains. <i>Biochemistry</i> , 2008 , 47, 12078-86	3.2	43
57	Crystal structure of <i>Pseudomonas aeruginosa</i> bacteriophytochrome: photoconversion and signal transduction. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008 , 105, 14715-20	11.5	256
56	Light-activated DNA binding in a designed allosteric protein. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008 , 105, 10709-14	11.5	231
55	Structure of the redox sensor domain of <i>Azotobacter vinelandii</i> NifL at atomic resolution: signaling, dimerization, and mechanism. <i>Biochemistry</i> , 2007 , 46, 3614-23	3.2	90
54	N- and C-terminal flanking regions modulate light-induced signal transduction in the LOV2 domain of the blue light sensor phototropin 1 from <i>Avena sativa</i> . <i>Biochemistry</i> , 2007 , 46, 14001-9	3.2	233
53	Time-resolved crystallographic studies of the heme domain of the oxygen sensor FixL: structural dynamics of ligand rebinding and their relation to signal transduction. <i>Biochemistry</i> , 2007 , 46, 4706-15	3.2	43
52	Structural Heterogeneity of Cryotrapped Intermediates in the Bacterial Blue Light Photoreceptor, Photoactive Yellow Protein. <i>Photochemistry and Photobiology</i> , 2007 , 80, 7-14	3.6	2
51	Crystal structure of the chromophore binding domain of an unusual bacteriophytochrome, RpBphP3, reveals residues that modulate photoconversion. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007 , 104, 12571-6	11.5	153
50	Structural basis for light-dependent signaling in the dimeric LOV domain of the photosensor YtvA. <i>Journal of Molecular Biology</i> , 2007 , 373, 112-26	6.5	191
49	Influence of the crystalline state on photoinduced dynamics of photoactive yellow protein studied by ultraviolet-visible transient absorption spectroscopy. <i>Biophysical Journal</i> , 2006 , 90, 4224-35	2.9	44
48	Crystal structures of the <i>Synechocystis</i> photoreceptor Slr1694 reveal distinct structural states related to signaling. <i>Biochemistry</i> , 2006 , 45, 12687-94	3.2	124
47	Structure of a novel photoreceptor, the BLUF domain of AppA from <i>Rhodobacter sphaeroides</i> . <i>Biochemistry</i> , 2005 , 44, 7998-8005	3.2	196
46	Crystal structures of deoxy and CO-bound bFixLH reveal details of ligand recognition and signaling. <i>Biochemistry</i> , 2005 , 44, 4627-35	3.2	72
45	A structural pathway for signaling in the E46Q mutant of photoactive yellow protein. <i>Structure</i> , 2005 , 13, 55-63	5.2	69
44	Visualizing reaction pathways in photoactive yellow protein from nanoseconds to seconds. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005 , 102, 7145-50	11.5	233
43	Structural heterogeneity of cryotrapped intermediates in the bacterial blue light photoreceptor, photoactive yellow protein. <i>Photochemistry and Photobiology</i> , 2004 , 80, 7-14	3.6	24
42	Time-resolved crystallographic studies of light-induced structural changes in the photosynthetic reaction center. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004 , 101, 5982-7	11.5	62

41	Chromophore conformation and the evolution of tertiary structural changes in photoactive yellow protein. <i>Structure</i> , 2004 , 12, 1039-45	5.2	59
40	Analysis of experimental time-resolved crystallographic data by singular value decomposition. <i>Acta Crystallographica Section D: Biological Crystallography</i> , 2004 , 60, 860-71		38
39	Short hydrogen bonds in photoactive yellow protein. <i>Acta Crystallographica Section D: Biological Crystallography</i> , 2004 , 60, 1008-16		91
38	Protein kinetics: structures of intermediates and reaction mechanism from time-resolved x-ray data. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004 , 101, 4799-804 ¹¹⁻⁵	11.5	77
37	The LOV2 domain of phototropin: a reversible photochromic switch. <i>Journal of the American Chemical Society</i> , 2004 , 126, 4512-3	16.4	83
36	Analytical trapping: extraction of time-independent structures from time-dependent crystallographic data. <i>Journal of Structural Biology</i> , 2004 , 147, 211-22	3.4	19
35	Purification and initial characterization of a putative blue light-regulated phosphodiesterase from <i>Escherichia coli</i> . <i>Photochemistry and Photobiology</i> , 2004 , 80, 542-7	3.6	19
34	Crystal structure of a photoactive yellow protein from a sensor histidine kinase: conformational variability and signal transduction. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003 , 100, 1649-54	11.5	36
33	The LOV domain family: photoresponsive signaling modules coupled to diverse output domains. <i>Biochemistry</i> , 2003 , 42, 2-10	3.2	352
32	Application of singular value decomposition to the analysis of time-resolved macromolecular x-ray data. <i>Biophysical Journal</i> , 2003 , 84, 2112-29	2.9	111
31	Primary reactions of the LOV2 domain of phototropin, a plant blue-light photoreceptor. <i>Biochemistry</i> , 2003 , 42, 3385-92	3.2	200
30	The frontiers of time-resolved macromolecular crystallography: movies and chirped X-ray pulses. <i>Faraday Discussions</i> , 2003 , 122, 65-77; discussion 79-88	3.6	39
29	Photoexcited structure of a plant photoreceptor domain reveals a light-driven molecular switch. <i>Plant Cell</i> , 2002 , 14, 1067-75	11.6	328
28	Protein conformational relaxation and ligand migration in myoglobin: a nanosecond to millisecond molecular movie from time-resolved Laue X-ray diffraction. <i>Biochemistry</i> , 2001 , 40, 13802-15	3.2	296
27	A molecular movie at 1.8 Å resolution displays the photocycle of photoactive yellow protein, a eubacterial blue-light receptor, from nanoseconds to seconds. <i>Biochemistry</i> , 2001 , 40, 13788-801	3.2	155
26	Time-resolved biochemical crystallography: a mechanistic perspective. <i>Chemical Reviews</i> , 2001 , 101, 1569-81	11.8	154
25	Extraction of accurate structure-factor amplitudes from Laue data: wavelength normalization with wiggler and undulator X-ray sources. <i>Journal of Synchrotron Radiation</i> , 2000 , 7, 236-44	2.4	27
24	Laue crystallography: coming of age. <i>Journal of Synchrotron Radiation</i> , 1999 , 6, 891-917	2.4	102

23	Ultrafast time-resolved crystallography. <i>Nature Structural Biology</i> , 1998 , 5 Suppl, 641-3		27
22	Structure refinement against synchrotron Laue data: strategies for data collection and reduction. <i>Acta Crystallographica Section D: Biological Crystallography</i> , 1998 , 54, 367-77		3
21	Energy transduction on the nanosecond time scale: early structural events in a xanthopsin photocycle. <i>Science</i> , 1998 , 279, 1946-50	33.3	265
20	Laue diffraction. <i>Methods in Enzymology</i> , 1997 , 277, 433-47	1.7	24
19	Structure of a protein photocycle intermediate by millisecond time-resolved crystallography. <i>Science</i> , 1997 , 275, 1471-5	33.3	394
18	Synchrotron radiation applications to macromolecular crystallography. <i>Current Opinion in Structural Biology</i> , 1997 , 7, 689-96	8.1	18
17	Time-resolved structures of macromolecules at the ESRF: Single-pulse Laue diffraction, stroboscopic data collection and femtosecond flash photolysis. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 1997 , 398, 69-84	1.2	69
16	Insights into specificity of cleavage and mechanism of cell entry from the crystal structure of the highly specific <i>Aspergillus</i> ribotoxin, restrictocin. <i>Structure</i> , 1996 , 4, 837-52	5.2	86
15	Optical studies of a bacterial photoreceptor protein, photoactive yellow protein, in single crystals. <i>Biochemistry</i> , 1995 , 34, 879-90	3.2	65
14	Freeze trapping of reaction intermediates. <i>Current Opinion in Structural Biology</i> , 1995 , 5, 656-63	8.1	69
13	Optical monitoring of protein crystals in time-resolved x-ray experiments: Microspectrophotometer design and performance. <i>Review of Scientific Instruments</i> , 1994 , 65, 1506-1511	1.7	26
12	The Relation of Hemoglobin Ligand Binding Kinetics to Structure 1982 , 135-140		
11	Structure of isothiocyanate methemoglobin. <i>Journal of Molecular Biology</i> , 1981 , 145, 815-24	6.5	17
10	Structure of imidazole methemoglobin. <i>Journal of Molecular Biology</i> , 1981 , 147, 325-35	6.5	17
9	Structure of nitric oxide hemoglobin. <i>Journal of Molecular Biology</i> , 1979 , 134, 401-17	6.5	70
8	Structure of azide methemoglobin. <i>Journal of Molecular Biology</i> , 1979 , 134, 419-29	6.5	20
7	Structure of hemoglobin reconstituted with mesoheme. <i>Journal of Molecular Biology</i> , 1977 , 113, 419-30	6.5	17
6	The structure of metmanganoglobin. <i>Journal of Molecular Biology</i> , 1976 , 104, 669-85	6.5	23

5	Structure of cyanide methemoglobin. <i>Journal of Molecular Biology</i> , 1976 , 104, 687-706	6.5	95
4	Structure of fluoride methemoglobin. <i>Journal of Molecular Biology</i> , 1976 , 104, 723-8	6.5	38
3	The structure of hemoglobin reconstituted with deuteroheme. <i>Journal of Molecular Biology</i> , 1976 , 106, 895-902	6.5	16
2	Crystallographic studies on manganese hemoglobin. <i>Journal of the American Chemical Society</i> , 1974 , 96, 5259-61	16.4	9
1	Femtosecond Studies of the Initial Events in the Photocycle of Photoactive Yellow Protein (PYP)381-390		2