

Richard J Neutze

List of Publications by Year in descending order

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104
papers

13,366
citations

31976

53
h-index

30922

102
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115
all docs

115
docs citations

115
times ranked

10518
citing authors

#	ARTICLE	IF	CITATIONS
1	Potential for biomolecular imaging with femtosecond X-ray pulses. <i>Nature</i> , 2000, 406, 752-757.	27.8	1,773
2	Femtosecond X-ray protein nanocrystallography. <i>Nature</i> , 2011, 470, 73-77.	27.8	1,771
3	High-Resolution Protein Structure Determination by Serial Femtosecond Crystallography. <i>Science</i> , 2012, 337, 362-364.	12.6	758
4	Structural mechanism of plant aquaporin gating. <i>Nature</i> , 2006, 439, 688-694.	27.8	752
5	Natively Inhibited <i>Trypanosoma brucei</i> Cathepsin B Structure Determined by Using an X-ray Laser. <i>Science</i> , 2013, 339, 227-230.	12.6	393
6	A three-dimensional movie of structural changes in bacteriorhodopsin. <i>Science</i> , 2016, 354, 1552-1557.	12.6	350
7	Light stimulates growth of proteorhodopsin-containing marine Flavobacteria. <i>Nature</i> , 2007, 445, 210-213.	27.8	349
8	High-resolution X-ray structure of an early intermediate in the bacteriorhodopsin photocycle. <i>Nature</i> , 1999, 401, 822-826.	27.8	332
9	Overcoming barriers to membrane protein structure determination. <i>Nature Biotechnology</i> , 2011, 29, 335-340.	17.5	325
10	Self-terminating diffraction gates femtosecond X-ray nanocrystallography measurements. <i>Nature Photonics</i> , 2012, 6, 35-40.	31.4	292
11	Retinal isomerization in bacteriorhodopsin captured by a femtosecond x-ray laser. <i>Science</i> , 2018, 361, .	12.6	285
12	X-ray structure of sensory rhodopsin II at 2.1-Å resolution. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2001, 98, 10131-10136.	7.1	280
13	Helix deformation is coupled to vectorial proton transport in the photocycle of bacteriorhodopsin. <i>Nature</i> , 2000, 406, 645-648.	27.8	238
14	Time-resolved protein nanocrystallography using an X-ray free-electron laser. <i>Optics Express</i> , 2012, 20, 2706.	3.4	219
15	Proteorhodopsin Phototrophy Promotes Survival of Marine Bacteria during Starvation. <i>PLoS Biology</i> , 2010, 8, e1000358.	5.6	206
16	Bacteriorhodopsin: a high-resolution structural view of vectorial proton transport. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2002, 1565, 144-167.	2.6	204
17	Lipidic cubic phase serial millisecond crystallography using synchrotron radiation. <i>IUCr</i> , 2015, 2, 168-176.	2.2	196
18	High-resolution x-ray structure of human aquaporin 5. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008, 105, 13327-13332.	7.1	194

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19	Subangstrom Resolution X-Ray Structure Details Aquaporin-Water Interactions. <i>Science</i> , 2013, 340, 1346-1349.	12.6	179
20	Visualizing a protein quake with time-resolved X-ray scattering at a free-electron laser. <i>Nature Methods</i> , 2014, 11, 923-926.	19.0	173
21	Crystal Structure of a Yeast Aquaporin at 1.15 Å... Reveals a Novel Gating Mechanism. <i>PLoS Biology</i> , 2009, 7, e1000130.	5.6	150
22	Time-resolved structural studies at synchrotrons and X-ray free electron lasers: opportunities and challenges. <i>Current Opinion in Structural Biology</i> , 2012, 22, 651-659.	5.7	144
23	Structural insights into eukaryotic aquaporin regulation. <i>FEBS Letters</i> , 2010, 584, 2580-2588.	2.8	137
24	Lipidic phase membrane protein serial femtosecond crystallography. <i>Nature Methods</i> , 2012, 9, 263-265.	19.0	135
25	Lipidic Cubic Phase Crystal Structure of the Photosynthetic Reaction Centre from <i>Rhodospira rubra</i> at 2.35 Å... Resolution. <i>Journal of Molecular Biology</i> , 2003, 331, 681-692.	4.2	127
26	X-ray structure of human aquaporin 2 and its implications for nephrogenic diabetes insipidus and trafficking. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 6305-6310.	7.1	124
27	Structural Dynamics of Light-Driven Proton Pumps. <i>Structure</i> , 2009, 17, 1265-1275.	3.3	118
28	Aquaporin gating. <i>Current Opinion in Structural Biology</i> , 2006, 16, 447-456.	5.7	117
29	Lipidic Sponge Phase Crystallization of Membrane Proteins. <i>Journal of Molecular Biology</i> , 2006, 364, 44-53.	4.2	105
30	Light-Induced Structural Changes in a Photosynthetic Reaction Center Caught by Laue Diffraction. <i>Science</i> , 2010, 328, 630-633.	12.6	103
31	Visualizing Photochemical Dynamics in Solution through Picosecond X-Ray Scattering. <i>Physical Review Letters</i> , 2001, 87, 195508.	7.8	101
32	Bacteriorhodopsin: Would the real structural intermediates please stand up?. <i>Biochimica Et Biophysica Acta - General Subjects</i> , 2015, 1850, 536-553.	2.4	97
33	X-ray snapshots of serine protease catalysis reveal a tetrahedral intermediate. <i>Nature Structural Biology</i> , 2001, 8, 689-694.	9.7	96
34	Structural and Functional Analysis of SoPIP2;1 Mutants Adds Insight into Plant Aquaporin Gating. <i>Journal of Molecular Biology</i> , 2009, 387, 653-668.	4.2	95
35	Structural Determination of a Transient Isomer of CH2I2 by Picosecond X-Ray Diffraction. <i>Physical Review Letters</i> , 2005, 94, .	7.8	93
36	Crystal Structure of AcrB in Complex with a Single Transmembrane Subunit Reveals Another Twist. <i>Structure</i> , 2007, 15, 1663-1673.	3.3	88

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37	Advances and challenges in time-resolved macromolecular crystallography. <i>Science</i> , 2021, 373, .	12.6	79
38	Opening and closing the metabolite gate. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008, 105, 19565-19566.	7.1	77
39	Structure of a photosynthetic reaction centre determined by serial femtosecond crystallography. <i>Nature Communications</i> , 2013, 4, 2911.	12.8	74
40	Membrane protein crystallization from lipidic phases. <i>Current Opinion in Structural Biology</i> , 2009, 19, 372-378.	5.7	73
41	Deformation of Helix C in the Low Temperature L-intermediate of Bacteriorhodopsin. <i>Journal of Biological Chemistry</i> , 2004, 279, 2147-2158.	3.4	72
42	Lipidic cubic phase injector is a viable crystal delivery system for time-resolved serial crystallography. <i>Nature Communications</i> , 2016, 7, 12314.	12.8	71
43	Analyzing protein functions in four dimensions. <i>Nature Structural Biology</i> , 2000, 7, 1006-1012.	9.7	69
44	pH Dependence of Copper Geometry, Reduction Potential, and Nitrite Affinity in Nitrite Reductase. <i>Journal of Biological Chemistry</i> , 2007, 282, 6347-6355.	3.4	66
45	Conformational regulation of charge recombination reactions in a photosynthetic bacterial reaction center. <i>Nature Structural and Molecular Biology</i> , 2005, 12, 630-631.	8.2	64
46	A Lipidic-Sponge Phase Screen for Membrane Protein Crystallization. <i>Structure</i> , 2008, 16, 1003-1009.	3.3	60
47	Effective high-throughput overproduction of membrane proteins in <i>Escherichia coli</i> . <i>Protein Expression and Purification</i> , 2008, 62, 1-8.	1.3	60
48	Time-Resolved WAXS Reveals Accelerated Conformational Changes in Iodoretinal-Substituted Proteorhodopsin. <i>Biophysical Journal</i> , 2011, 101, 1345-1353.	0.5	60
49	Exceptional overproduction of a functional human membrane protein. <i>Protein Expression and Purification</i> , 2007, 56, 110-120.	1.3	59
50	X-ray Structure of a Serine Protease Acyl-Enzyme Complex at 0.95-Å... Resolution. <i>Journal of Biological Chemistry</i> , 2002, 277, 21962-21970.	3.4	57
51	Potential impact of an X-ray free electron laser on structural biology. <i>Radiation Physics and Chemistry</i> , 2004, 71, 905-916.	2.8	55
52	Optimized in vitro and in vivo expression of proteorhodopsin: A seven-transmembrane proton pump. <i>Protein Expression and Purification</i> , 2008, 58, 103-113.	1.3	55
53	Opportunities and challenges for time-resolved studies of protein structural dynamics at X-ray free-electron lasers. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2014, 369, 20130318.	4.0	53
54	Early Structural Rearrangements in the Photocycle of an Integral Membrane Sensory Receptor. <i>Structure</i> , 2002, 10, 473-482.	3.3	51

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55	Glycosylation Increases the Thermostability of Human Aquaporin 10 Protein. <i>Journal of Biological Chemistry</i> , 2011, 286, 31915-31923.	3.4	51
56	Observable frequency shifts via spin-rotation coupling. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1998, 249, 161-166.	2.1	50
57	Lipidic Sponge Phase Crystal Structure of a Photosynthetic Reaction Center Reveals Lipids on the Protein Surface. <i>Biochemistry</i> , 2009, 48, 9831-9838.	2.5	48
58	Bacteriorhodopsin: Structural Insights Revealed Using X-Ray Lasers and Synchrotron Radiation. <i>Annual Review of Biochemistry</i> , 2019, 88, 59-83.	11.1	47
59	Ultrafast structural changes within a photosynthetic reaction centre. <i>Nature</i> , 2021, 589, 310-314.	27.8	47
60	Time-resolved structural studies of protein reaction dynamics: a smorgasbord of X-ray approaches. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2010, 66, 207-219.	0.3	43
61	Membrane protein structural biology using X-ray free electron lasers. <i>Current Opinion in Structural Biology</i> , 2015, 33, 115-125.	5.7	42
62	Insight into factors directing high production of eukaryotic membrane proteins; production of 13 human AQPs in <i>Pichia pastoris</i> . <i>Molecular Membrane Biology</i> , 2009, 26, 215-227.	2.0	40
63	Solvent dependent structural perturbations of chemical reaction intermediates visualized by time-resolved x-ray diffraction. <i>Journal of Chemical Physics</i> , 2009, 130, 154502.	3.0	38
64	Conformational activation of visual rhodopsin in native disc membranes. <i>Science Signaling</i> , 2015, 8, ra26.	3.6	37
65	Enzyme:Substrate Hydrogen Bond Shortening during the Acylation Phase of Serine Protease Catalysis. <i>Biochemistry</i> , 2006, 45, 2114-2121.	2.5	36
66	Rapid readout detector captures protein time-resolved WAXS. <i>Nature Methods</i> , 2010, 7, 775-776.	19.0	36
67	Lipidic cubic phase crystallization of bacteriorhodopsin and cryotrapping of intermediates: towards resolving a revolving photocycle. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 2000, 1460, 119-132.	1.0	35
68	Refractive-Index-Based Screening of Membrane-Protein-Mediated Transfer across Biological Membranes. <i>Biophysical Journal</i> , 2010, 99, 124-133.	0.5	35
69	Expression screening of membrane proteins with cell-free protein synthesis. <i>Protein Expression and Purification</i> , 2012, 82, 218-225.	1.3	34
70	Serial femtosecond crystallography structure of cytochrome c oxidase at room temperature. <i>Scientific Reports</i> , 2017, 7, 4518.	3.3	34
71	Relativistic (an)harmonic oscillator. <i>American Journal of Physics</i> , 1994, 62, 531-535.	0.7	30
72	Femtosecond time resolution in x-ray diffraction experiments. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1997, 94, 5651-5655.	7.1	28

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73	Structures of the oxidized and reduced forms of nitrite reductase from <i>Rhodobacter sphaeroides</i> 2.4.3 at high pH: changes in the interactions of the type 2 copper. <i>Acta Crystallographica Section D: Biological Crystallography</i> , 2005, 61, 1190-1198.	2.5	28
74	Nanosecond pump-probe device for time-resolved serial femtosecond crystallography developed at SACLA. <i>Journal of Synchrotron Radiation</i> , 2017, 24, 1086-1091.	2.4	28
75	Nuclear envelope budding is a response to cellular stress. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	7.1	28
76	Picosecond calorimetry: Time-resolved x-ray diffraction studies of liquid CH ₂ Cl ₂ . <i>Journal of Chemical Physics</i> , 2006, 124, 234507.	3.0	26
77	Spectroscopic Characterization of Bacteriorhodopsin's L-intermediate in 3D Crystals Cooled to 170 K. <i>Photochemistry and Photobiology</i> , 2001, 74, 794.	2.5	26
78	Coherent diffractive imaging of microtubules using an X-ray laser. <i>Nature Communications</i> , 2019, 10, 2589.	12.8	22
79	From Macrocystals to Microcrystals: A Strategy for Membrane Protein Serial Crystallography. <i>Structure</i> , 2017, 25, 1461-1468.e2.	3.3	21
80	A Proposed Time-Resolved X-Ray Scattering Approach to Track Local and Global Conformational Changes in Membrane Transport Proteins. <i>Structure</i> , 2008, 16, 21-28.	3.3	20
81	A tool for visualizing protein motions in time-resolved crystallography. <i>Structural Dynamics</i> , 2020, 7, 024701.	2.3	20
82	Detecting the effects of linear acceleration on the optical response of matter. <i>Physical Review A</i> , 1998, 58, 82-90.	2.5	18
83	Structural and mechanistic insight from high resolution structures of archaeal rhodopsins. <i>FEBS Letters</i> , 2003, 555, 51-56.	2.8	18
84	Projecting picosecond lattice dynamics through x-ray topography. <i>Applied Physics Letters</i> , 2002, 80, 3727-3729.	3.3	15
85	Sagnac experiment with electrons: Reanalysis of a rotationally induced phase shift for charged particles. <i>Physical Review A</i> , 1998, 58, 557-565.	2.5	14
86	The equivalence principle in the Schwarzschild geometry. <i>American Journal of Physics</i> , 1994, 62, 1037-1040.	0.7	12
87	Flow-aligned, single-shot fiber diffraction using a femtosecond X-ray free-electron laser. <i>Cytoskeleton</i> , 2017, 74, 472-481.	2.0	12
88	Asymmetry in serial femtosecond crystallography data. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2017, 73, 93-101.	0.1	11
89	Well-based crystallization of lipidic cubic phase microcrystals for serial X-ray crystallography experiments. <i>Acta Crystallographica Section D: Structural Biology</i> , 2019, 75, 937-946.	2.3	10
90	Applying bimolecular fluorescence complementation to screen and purify aquaporin protein:protein complexes. <i>Protein Science</i> , 2016, 25, 2196-2208.	7.6	9

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91	Temperature dependence of protein-water interactions in a gated yeast aquaporin. <i>Scientific Reports</i> , 2017, 7, 4016.	3.3	9
92	Ring interferometer with angular acceleration. <i>Physical Review A</i> , 1995, 51, 5039-5042.	2.5	8
93	Deconvoluting ultrafast structural dynamics: temporal resolution beyond the pulse length of synchrotron radiation. <i>Journal of Synchrotron Radiation</i> , 2000, 7, 22-26.	2.4	7
94	Lipidic cubic phase serial femtosecond crystallography structure of a photosynthetic reaction centre. <i>Acta Crystallographica Section D: Structural Biology</i> , 2022, 78, 698-708.	2.3	7
95	Transient isomers in the photodissociation of bromiodomethane. <i>Journal of Chemical Physics</i> , 2018, 148, 134307.	3.0	6
96	Recent successes in time-resolved protein crystallography. <i>Natural Product Reports</i> , 2000, 17, 527-533.	10.3	5
97	Frequency measurements by uniformly accelerating observers. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1993, 179, 389-390.	2.1	4
98	Affinity tags can reduce merohedral twinning of membrane protein crystals. <i>Acta Crystallographica Section D: Biological Crystallography</i> , 2008, 64, 1183-1186.	2.5	4
99	Snapshots of a protein quake. <i>Science</i> , 2015, 350, 381-381.	12.6	4
100	A bimolecular fluorescence complementation flow cytometry screen for membrane protein interactions. <i>Scientific Reports</i> , 2021, 11, 19232.	3.3	4
101	Quantum implications for frequency measurements in Schwarzschild geometry. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1993, 183, 141-144.	2.1	2
102	Ultrafast structural studies on biological molecules by x-rays. , 1999, , .		0
103	Spectroscopic Characterization of Bacteriorhodopsin's L-Intermediate in 3D Crystals Cooled to 170 KÅ. <i>Photochemistry and Photobiology</i> , 2007, 74, 794-804.	2.5	0
104	A simple adaptation to a protein crystallography station to facilitate difference X-ray scattering studies. <i>Journal of Applied Crystallography</i> , 2019, 52, 378-386.	4.5	0