Robert Glaeser

List of Publications by Year
in descending order

65 papers	3,407 citations	218677 26 h-index	149698 56 g-index
67 all docs	67 docs citations	67 times ranked	3061 citing authors

#	Article	IF	Citations
1	What can x-ray scattering tell us about the radial distribution functions of water?. Journal of Chemical Physics, 2000, 113, 9149-9161.	3.0	381
2	Limitations to significant information in biological electron microscopy as a result of radiation damage. Journal of Ultrastructure Research, 1971, 36, 466-482.	1.1	348
3	A high-quality x-ray scattering experiment on liquid water at ambient conditions. Journal of Chemical Physics, 2000, 113, 9140-9148.	3.0	280
4	Water structure as a function of temperature from X-ray scattering experiments and ab initio molecular dynamics. Physical Chemistry Chemical Physics, 2003, 5, 1981.	2.8	189
5	Retrospective on the early development of cryoelectron microscopy of macromolecules and a prospective on opportunities for the future. Journal of Structural Biology, 2008, 163, 214-223.	2.8	143
6	Review: Electron Crystallography: Present Excitement, a Nod to the Past, Anticipating the Future. Journal of Structural Biology, 1999, 128, 3-14.	2.8	137
7	Opinion: hazards faced by macromolecules when confined to thin aqueous films. Biophysics Reports, 2017, 3, 1-7.	0.8	124
8	Laser phase plate for transmission electron microscopy. Nature Methods, 2019, 16, 1016-1020.	19.0	118
9	Invited Review Article: Methods for imaging weak-phase objects in electron microscopy. Review of Scientific Instruments, 2013, 84, 111101.	1.3	117
10	Proteins, interfaces, and cryo-EM grids. Current Opinion in Colloid and Interface Science, 2018, 34, 1-8.	7.4	117
11	Practical factors affecting the performance of a thin-film phase plate for transmission electron microscopy. Ultramicroscopy, 2009, 109, 312-325.	1.9	116
12	Retrospective: Radiation damage and its associated â€œInformation Limitationsâ€. Journal of Structural Biology, 2008, 163, 271-276.	2.8	81
13	Factors that Influence the Formation and Stability of Thin, Cryo-EM Specimens. Biophysical Journal, 2016, 110, 749-755.	0.5	81
14	Precise beam-tilt alignment and collimation are required to minimize the phase error associated with coma in high-resolution cryo-EM. Journal of Structural Biology, 2011, 174, 1-10.	2.8	80
15	Specimen Behavior in the Electron Beam. Methods in Enzymology, 2016, 579, 19-50.	1.0	67
16	How Good Can Single-Particle Cryo-EM Become? What Remains Before It Approaches Its Physical Limits?. Annual Review of Biophysics, 2019, 48, 45-61.	10.0	67
17	Reaching the Information Limit in Cryo-EM of Biological Macromolecules: Experimental Aspects. Biophysical Journal, 2011, 100, 2331-2337.	0.5	60
18	How Cryo-EM Became so Hot. Cell, 2017, 171, 1229-1231.	28.9	60

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19	Specimen Charging on Thin Films with One Conducting Layer: Discussion of Physical Principles. Microscopy and Microanalysis, 2004, 10, 790-796.	0.4	58
20	Long shelf-life streptavidin support-films suitable for electron microscopy of biological macromolecules. Journal of Structural Biology, 2016, 195, 238-244.	2.8	58
21	Multi-pass transmission electron microscopy. Scientific Reports, 2017, 7, 1699.	3.3	44
22	Electron microscopy of biotinylated protein complexes bound to streptavidin monolayer crystals. Journal of Structural Biology, 2012, 180, 249-253.	2.8	43
23	Microscale Fluid Behavior during Cryo-EM Sample Blotting. Biophysical Journal, 2020, 118, 708-719.	0.5	43
24	Current outcomes when optimizing â€˜standardâ€™ sample preparation for singleâ€particle cryoâ€EM. Journal of Microscopy, 2019, 276, 39-45.	1.8	41
25	Restoration of weak phase-contrast images recorded with a high degree of defocus: The â€œtwin imageâ€• problem associated with CTF correction. Ultramicroscopy, 2008, 108, 921-928.	1.9	34
26	Monolayer-crystal streptavidin support films provide an internal standard of cryo-EM image quality. Journal of Structural Biology, 2017, 200, 307-313.	2.8	34
27	Preparing Better Samples for Cryoâ€“Electron Microscopy: Biochemical Challenges Do Not End with Isolation and Purification. Annual Review of Biochemistry, 2021, 90, 451-474.	11.1	33
28	Characterization of Conditions Required for X-Ray Diffraction Experiments with Protein Microcrystals. Biophysical Journal, 2000, 78, 3178-3185.	0.5	32
29	Solution X-ray scattering as a probe of hydration-dependent structuring of aqueous solutions. Journal of Computer - Aided Molecular Design, 1999, 17, 97-118.	1.0	30
30	A binary segmentation approach for boxing ribosome particles in cryo EM micrographs. Journal of Structural Biology, 2004, 145, 142-151.	2.8	27
31	Crystal structures of bR(D85S) favor a model of bacteriorhodopsin as a hydroxyl-ion pump. FEBS Letters, 2004, 564, 301-306.	2.8	24
32	Experimental evaluation of support vector machine-based and correlation-based approaches to automatic particle selection. Journal of Structural Biology, 2011, 175, 319-328.	2.8	24
33	Design of a hybrid double-sideband/single-sideband (schlieren) objective aperture suitable for electron microscopy. Ultramicroscopy, 2011, 111, 1688-1695.	1.9	24
34	Ranking TEM cameras by their response to electron shot noise. Ultramicroscopy, 2013, 133, 1-7.	1.9	24
35	High-power near-concentric Fabryâ€“Perot cavity for phase contrast electron microscopy. Review of Scientific Instruments, 2021, 92, 053005.	1.3	24
36	Historical background: why is it important to improve automated particle selection methods?. Journal of Structural Biology, 2004, 145, 15-18.	2.8	23

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37	The surface of evaporated carbon films is an insulating, high-bandgap material. Journal of Structural Biology, 2011, 174, 420-423.	2.8	22
38	Spectral DQE of the Volta phase plate. Ultramicroscopy, 2020, 218, 113079.	1.9	21
39	Near-concentric Fabry-PÃ©rot cavity for continuous-wave laser control of electron waves. Optics Express, 2017, 25, 14453.	3.4	19
40	Estimating the effect of finite depth of field in single-particle cryo-EM. Ultramicroscopy, 2018, 184, 94-99.	1.9	19
41	Minimizing electrostatic charging of an aperture used to produce in-focus phase contrast in the TEM. Ultramicroscopy, 2013, 135, 6-15.	1.9	18
42	Observation of the Relativistic Reversal of the Ponderomotive Potential. Physical Review Letters, 2020, 124, 174801.	7.8	17
43	Disulfide Linkage and Structure of Highly Stable Yeast-derived Virus-like Particles of Murine Polyomavirus. Journal of Biological Chemistry, 2014, 289, 10411-10418.	3.4	16
44	Stroboscopic imaging of macromolecular complexes. Nature Methods, 2013, 10, 475-476.	19.0	15
45	Defocus-dependent Thon-ring fading. Ultramicroscopy, 2021, 222, 113213.	1.9	11
46	Combining noisy images of small crystalline domains in high resolution electron microscopy. Journal of Applied Statistics, 1989, 16, 165-175.	1.3	10
47	Crystallization of membrane proteins from media composed of connected-bilayer gels. Biopolymers, 2002, 66, 300-316.	2.4	9
48	Perspective: Biochemical and Physical Constraints Associated With Preparing Thin Specimens for Single-Particle Cryo-EM. Frontiers in Molecular Biosciences, 2022, 9, 864829.	3.5	6
49	Macromolecular structures without crystals. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 1779-1780.	7.1	5
50	Minimizing Crinkling of Soft Specimens Using Holey Gold Films on Molybdenum Grids for Cryogenic Electron Microscopy. Microscopy and Microanalysis, 2021, 27, 767-775.	0.4	5
51	Automated particle correspondence and accurate tilt-axis detection in tilted-image pairs. Journal of Structural Biology, 2014, 187, 66-75.	2.8	4
52	Conquer by cryo-EM without physically dividing. Biochemical Society Transactions, 2021, 49, 2287-2298.	3.4	4
53	Replication and validation of cryo-EM structures. Journal of Structural Biology, 2013, 184, 379-380.	2.8	3
54	Simple assay for adsorption of proteins to the airâ€“water interface. Journal of Structural Biology, 2021, 213, 107798.	2.8	3

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55	Protein complexes in focus. ELife, 2016, 5, .	6.0	3
56	Perspective: Emerging strategies for determining atomic-resolution structures of macromolecular complexes within cells. Journal of Structural Biology, 2022, 214, 107827.	2.8	3
57	Generalization of the Matsumotoâ€“Tonomura approximation for the phase shift within an open aperture. Ultramicroscopy, 2014, 138, 1-3.	1.9	2
58	Signalling under the microscope. Nature, 2017, 546, 36-37.	27.8	2
59	Reducing Electron Beam Damage with Multipass Transmission Electron Microscopy. Microscopy and Microanalysis, 2017, 23, 1794-1795.	0.4	2
60	Aspects of Using a Boersch Type Phase Shifting Device for Contrast Enhancement in Macromolecular Electron Microscopy. Microscopy and Microanalysis, 2008, 14, 74-75.	0.4	1
61	Human Tripeptidyl Peptidase II: A Gentle Giant. Structure, 2012, 20, 565-566.	3.3	1
62	Investigating the Causes of Electrostatic Charging of Phase-contrast Apertures. Microscopy and Microanalysis, 2014, 20, 210-211.	0.4	0
63	Use of Ultrananocrystalline Diamond as a Phase-contrast Aperture Material. Microscopy and Microanalysis, 2015, 21, 2297-2298.	0.4	0
64	Development of High-Resolution TEM for Imaging Native, Radiation-Sensitive Biological Macromolecules. Microscopy and Microanalysis, 2017, 23, 2290-2291.	0.4	0
65	Streptavidin Monolayer-Crystal Affinity Grids: A Step Toward Controlling What Happens During Cryo-EM Sample Preparation. Microscopy and Microanalysis, 2017, 23, 820-821.	0.4	0