

# J Bernard Heymann

## List of Publications by Year in descending order

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98  
papers

7,950  
citations

76326

40  
h-index

51608

86  
g-index

102  
all docs

102  
docs citations

102  
times ranked

8684  
citing authors

#	ARTICLE	IF	CITATIONS
1	The progressive spectral signal-to-noise ratio of cryo-electron micrograph movies as a tool to assess quality and radiation damage. <i>Computer Methods and Programs in Biomedicine</i> , 2022, 220, 106799.	4.7	2
2	High resolution electron tomography and segmentation modeling interpretation in Bsoft. <i>Protein Science</i> , 2021, 30, 44-59.	7.6	7
3	FSC-Q: a CryoEM map-to-atomic model quality validation based on the local Fourier shell correlation. <i>Nature Communications</i> , 2021, 12, 42.	12.8	28
4	Cryo-Electron Tomography of the Herpesvirus Procapsid Reveals Interactions of the Portal with the Scaffold and a Shift on Maturation. <i>MBio</i> , 2021, 12, .	4.1	8
5	The Mottled Capsid of the Salmonella Giant Phage SPN3US, a Likely Maturation Intermediate with a Novel Internal Shell. <i>Viruses</i> , 2020, 12, 910.	3.3	8
6	Nested Protein Lattices in a Giant Phage Capsid Suggest Partial Maturation and a Residual Scaffold. <i>Microscopy and Microanalysis</i> , 2020, 26, 570-572.	0.4	0
7	Protocols for Processing and Interpreting cryoEM Data Using Bsoft: A Case Study of the Retinal Adhesion Protein, Retinoschisin. <i>Bio-protocol</i> , 2020, 10, e3491.	0.4	1
8	Atomic structures of an entire contractile injection system in both the extended and contracted states. <i>Nature Microbiology</i> , 2019, 4, 1885-1894.	13.3	45
9	Localization of the Herpesvirus Portal. <i>Microscopy and Microanalysis</i> , 2019, 25, 1162-1163.	0.4	1
10	Hunting for the Adhesion Molecule, Retinoschisin, in Retina using CEMOVIS. <i>Microscopy and Microanalysis</i> , 2019, 25, 1308-1309.	0.4	1
11	Carbon replicas reveal double stranded structure of tight junctions in phase-contrast electron microscopy. <i>Communications Biology</i> , 2019, 2, 98.	4.4	13
12	Single-particle reconstruction statistics: a diagnostic tool in solving biomolecular structures by cryo-EM. <i>Acta Crystallographica Section F, Structural Biology Communications</i> , 2019, 75, 33-44.	0.8	10
13	Cryo-EM of retinoschisin branched networks suggests an intercellular adhesive scaffold in the retina. <i>Journal of Cell Biology</i> , 2019, 218, 1027-1038.	5.2	17
14	Guidelines for using Bsoft for high resolution reconstruction and validation of biomolecular structures from electron micrographs. <i>Protein Science</i> , 2018, 27, 159-171.	7.6	99
15	Using Reconstruction Statistics to Predict the Number of Images Required for Single Particle Analysis. <i>Microscopy and Microanalysis</i> , 2018, 24, 1216-1217.	0.4	0
16	Single particle reconstruction and validation using Bsoft for the map challenge. <i>Journal of Structural Biology</i> , 2018, 204, 90-95.	2.8	21
17	Map Challenge assessment: Fair comparison of single particle cryoEM reconstructions. <i>Journal of Structural Biology</i> , 2018, 204, 360-367.	2.8	10
18	The first single particle analysis Map Challenge: A summary of the assessments. <i>Journal of Structural Biology</i> , 2018, 204, 291-300.	2.8	17

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19	Tomographic Reconstruction from Electron Micrographs. Biological and Medical Physics Series, 2018, , 209-236.	0.4	0
20	The Primary Enveloped Virion of Herpes Simplex Virus 1: Its Role in Nuclear Egress. MBio, 2017, 8, .	4.1	44
21	Galactose Induces Formation of Chains of the Retinal Adhesion Protein, Retinoschisin. Microscopy and Microanalysis, 2017, 23, 1112-1113.	0.4	0
22	Primary Envelopment of the Herpes Simplex 1 Virion. Microscopy and Microanalysis, 2017, 23, 1224-1225.	0.4	0
23	A Polymerase-Activating Host Factor, YajQ, Bound to the Bacteriophage $\Phi$ 6 Capsid. Microscopy and Microanalysis, 2016, 22, 1110-1111.	0.4	1
24	Paired octamer rings of retinoschisin suggest a junctional model for cell-cell adhesion in the retina. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 5287-5292.	7.1	49
25	The Structure of HIV-1 Rev Filaments Suggests a Bilateral Model for Rev-RRE Assembly. Structure, 2016, 24, 1068-1080.	3.3	22
26	The Electron Microscopy eXchange (EMX) initiative. Journal of Structural Biology, 2016, 194, 156-163.	2.8	12
27	Retinoschisin at 4 Å... Resolution from cryo-EM: A Junctional Model of Back-to-Back Octamers for Adhesion in the Retina. Biophysical Journal, 2016, 110, 348a.	0.5	0
28	$\hat{\Gamma}$ -Synuclein Amyloid Fibrils with Two Entwined, Asymmetrically Associated Protofibrils. Journal of Biological Chemistry, 2016, 291, 2310-2318.	3.4	48
29	Subassemblies and Asymmetry in Assembly of Herpes Simplex Virus Procapsid. MBio, 2015, 6, e01525-15.	4.1	28
30	$\hat{\Gamma}$ -Synuclein Amyloid Fibrils Formed of Two Protofibrils. Microscopy and Microanalysis, 2015, 21, 1285-1286.	0.4	0
31	CTF Challenge: Result summary. Journal of Structural Biology, 2015, 190, 348-359.	2.8	34
32	Validation of 3D EM Reconstructions: The Phantom in the Noise. AIMS Biophysics, 2015, 2, 21-35.	0.6	19
33	A virus capsid-like nanocompartment that stores iron and protects bacteria from oxidative stress. EMBO Journal, 2014, 33, 1896-1911.	7.8	153
34	The Phantom in the Noise and Validation of 3D EM Reconstructions. Microscopy and Microanalysis, 2014, 20, 792-793.	0.4	3
35	Phage Capsid-like Structure of Myxococcus xanthus Encapsulin, a Protein Shell That Stores Iron. Microscopy and Microanalysis, 2014, 20, 1244-1245.	0.4	3
36	Clathrin-coated vesicles from brain have small payloads: A cryo-electron tomographic study. Journal of Structural Biology, 2013, 184, 43-51.	2.8	19

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37	Subunit Folds and Maturation Pathway of a dsRNA Virus Capsid. <i>Structure</i> , 2013, 21, 1374-1383.	3.3	46
38	One number does not fit all: Mapping local variations in resolution in cryo-EM reconstructions. <i>Journal of Structural Biology</i> , 2013, 184, 226-236.	2.8	340
39	A Two-Pronged Structural Analysis of Retroviral Maturation Indicates that Core Formation Proceeds by a Disassembly-Reassembly Pathway Rather than a Displacive Transition. <i>Journal of Virology</i> , 2013, 87, 13655-13664.	3.4	68
40	Three-dimensional Structure of the Toxin-delivery Particle Antifeeding Prophage of <i>Serratia entomophila</i> . <i>Journal of Biological Chemistry</i> , 2013, 288, 25276-25284.	3.4	57
41	Packaging Accessory Protein P7 and Polymerase P2 Have Mutually Occluding Binding Sites inside the Bacteriophage $\phi$ 6 Procapsid. <i>Journal of Virology</i> , 2012, 86, 11616-11624.	3.4	28
42	Data management challenges in three-dimensional EM. <i>Nature Structural and Molecular Biology</i> , 2012, 19, 1203-1207.	8.2	49
43	Towards an atlas of mammalian cell ultrastructure by cryo soft X-ray tomography. <i>Journal of Structural Biology</i> , 2012, 177, 179-192.	2.8	57
44	Structural Changes in Influenza Virus at Low pH Characterized by Cryo-Electron Tomography. <i>Journal of Virology</i> , 2012, 86, 2919-2929.	3.4	109
45	Procapsid Assembly, Maturation, Nuclear Exit: Dynamic Steps in the Production of Infectious Herpesvirions. <i>Advances in Experimental Medicine and Biology</i> , 2012, 726, 423-439.	1.6	68
46	Stepwise Expansion of the Bacteriophage $\phi$ 6 Procapsid: Possible Packaging Intermediates. <i>Journal of Molecular Biology</i> , 2011, 414, 260-271.	4.2	28
47	HIV-1 Maturation Inhibitor Bevirimat Stabilizes the Immature Gag Lattice. <i>Journal of Virology</i> , 2011, 85, 1420-1428.	3.4	107
48	Three-dimensional cellular ultrastructure resolved by X-ray microscopy. <i>Nature Methods</i> , 2010, 7, 985-987.	19.0	318
49	Cryo-electron tomography of bacteriophage $\phi$ 6 procapsids shows random occupancy of the binding sites for RNA polymerase and packaging NTPase. <i>Journal of Structural Biology</i> , 2010, 171, 389-396.	2.8	29
50	Initial Stages of V(D)J Recombination: The Organization of RAG1/2 and RSS DNA in the Postcleavage Complex. <i>Molecular Cell</i> , 2009, 35, 217-227.	9.7	44
51	Image Processing and Interpretation in Structural Electron Microscopy. <i>Microscopy and Microanalysis</i> , 2009, 15, 1536-1537.	0.4	0
52	Expansion of the Bacteriophage $\phi$ 6 Procapsid Revealed by Electron Cryo-Microscopy. <i>Microscopy and Microanalysis</i> , 2009, 15, 586-587.	0.4	0
53	Analysis of Simian Virus 40 Chromatin Structure by Cryo-Electron Tomography. <i>Microscopy and Microanalysis</i> , 2009, 15, 644-645.	0.4	1
54	Electron Cryo-Tomography Demonstrates Variable Distributions of the Viral NTPase and RNA Polymerase in Bacteriophage $\phi$ 6 Procapsids. <i>Microscopy and Microanalysis</i> , 2009, 15, 588-589.	0.4	0

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55	Computational resources for cryo-electron tomography in Bsoft. <i>Journal of Structural Biology</i> , 2008, 161, 232-242.	2.8	128
56	RSV Capsid Polymorphism Correlates with Polymerization Efficiency and Envelope Glycoprotein Content: Implications that Nucleation Controls Morphogenesis. <i>Journal of Molecular Biology</i> , 2008, 376, 1168-1181.	4.2	58
57	Initial Location of the RNA-dependent RNA Polymerase in the Bacteriophage $\phi$ 6 Procapsid Determined by Cryo-electron Microscopy. <i>Journal of Biological Chemistry</i> , 2008, 283, 12227-12231.	3.4	40
58	Irregular and Semi-Regular Polyhedral Models for Rous Sarcoma Virus Cores. <i>Computational and Mathematical Methods in Medicine</i> , 2008, 9, 197-210.	1.3	29
59	Cryo-Electron Tomography of Coated Vesicles and Modeling the Polyhedral Clathrin Network. <i>Microscopy and Microanalysis</i> , 2008, 14, 1064-1065.	0.4	1
60	Packaging of Proteins into Viral Capsids and their Activation. <i>Microscopy and Microanalysis</i> , 2008, 14, 160-161.	0.4	0
61	Capsid Polymorphism of Rous Sarcoma Virus Correlates with Assembly Efficiency and Envelope Glycoprotein Content. <i>Microscopy and Microanalysis</i> , 2008, 14, 1546-1547.	0.4	0
62	Bsoft: Image processing and molecular modeling for electron microscopy. <i>Journal of Structural Biology</i> , 2007, 157, 3-18.	2.8	493
63	A comparison of liquid nitrogen and liquid helium as cryogens for electron cryotomography. <i>Journal of Structural Biology</i> , 2006, 153, 231-240.	2.8	84
64	Visualizing the Clathrin and Assembly-Regulating Proteins of Coated Vesicles by Cryo-Electron Tomography. <i>Microscopy and Microanalysis</i> , 2006, 12, 374-375.	0.4	2
65	Outcome of a Workshop on Archiving Structural Models of Biological Macromolecules. <i>Structure</i> , 2006, 14, 1211-1217.	3.3	60
66	Influenza virus pleiomorphy characterized by cryoelectron tomography. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006, 103, 19123-19127.	7.1	426
67	Peach: A Simple Perl-Based System for Distributed Computation and Its Application to Cryo-EM Data Processing. <i>Structure</i> , 2005, 13, 505-511.	3.3	13
68	Virus maturation: dynamics and mechanism of a stabilizing structural transition that leads to infectivity. <i>Current Opinion in Structural Biology</i> , 2005, 15, 227-236.	5.7	160
69	Visualization of the Binding of Hsc70 ATPase to Clathrin Baskets. <i>Journal of Biological Chemistry</i> , 2005, 280, 7156-7161.	3.4	28
70	The Axial Channel of the 20S Proteasome Opens Upon Binding of the PA200 Activator. <i>Journal of Molecular Biology</i> , 2005, 346, 1221-1227.	4.2	102
71	Common conventions for interchange and archiving of three-dimensional electron microscopy information in structural biology. <i>Journal of Structural Biology</i> , 2005, 151, 196-207.	2.8	61
72	A "flip-flop" rotation stage for routine dual-axis electron cryotomography. <i>Journal of Structural Biology</i> , 2005, 151, 288-297.	2.8	61

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73	Molecular dynamics of protein complexes from four-dimensional cryo-electron microscopy. <i>Journal of Structural Biology</i> , 2004, 147, 291-301.	2.8	37
74	Macro Molecular Dynamics by Multiple Particle Analysis: Classifying Distinct Conformational States by Generalized Projection Matching. <i>Microscopy and Microanalysis</i> , 2004, 10, 30-31.	0.4	0
75	Dynamics of herpes simplex virus capsid maturation visualized by time-lapse cryo-electron microscopy. <i>Nature Structural and Molecular Biology</i> , 2003, 10, 334-341.	8.2	158
76	Three-Dimensional Structure of Herpes Simplex Virus from Cryo-Electron Tomography. <i>Science</i> , 2003, 302, 1396-1398.	12.6	507
77	Sampling effects influence heights measured with atomic force microscopy. <i>Journal of Microscopy</i> , 2002, 207, 43-51.	1.8	13
78	Bsoft: Image and Molecular Processing in Electron Microscopy. <i>Journal of Structural Biology</i> , 2001, 133, 156-169.	2.8	222
79	Chapter 2 The aquaporin superfamily: Structure and function. <i>Current Topics in Membranes</i> , 2001, 51, 39-119.	0.9	3
80	Molecular basis of water selectivity on aquaporin-1. <i>Kidney International</i> , 2001, 60, 399.	5.2	1
81	Capsid Structure of Kaposi's Sarcoma-Associated Herpesvirus, a Gammaherpesvirus, Compared to Those of an Alphaherpesvirus, Herpes Simplex Virus Type 1, and a Betaherpesvirus, Cytomegalovirus. <i>Journal of Virology</i> , 2001, 75, 2879-2890.	3.4	79
82	Structural determinants of water permeation through aquaporin-1. <i>Nature</i> , 2000, 407, 599-605.	27.8	1,584
83	Conformations of the rhodopsin third cytoplasmic loop grafted onto bacteriorhodopsin. <i>Structure</i> , 2000, 8, 643-653.	3.3	23
84	Structural clues in the sequences of the aquaporins. <i>Journal of Molecular Biology</i> , 2000, 295, 1039-1053.	4.2	147
85	The Fold of Human Aquaporin 1. <i>Journal of Molecular Biology</i> , 2000, 300, 987-994.	4.2	34
86	Atomic force microscopy of native purple membrane. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 2000, 1460, 27-38.	1.0	121
87	Folded State of the Integral Membrane Colicin E1 Immunity Protein in Solvents of Mixed Polarity. <i>Biochemistry</i> , 2000, 39, 12131-12139.	2.5	20
88	Aquaporins: Phylogeny, Structure, and Physiology of Water Channels. <i>Physiology</i> , 1999, 14, 187-193.	3.1	114
89	Organising multi-dimensional biological image information: The BiImage Database. <i>Nucleic Acids Research</i> , 1999, 27, 280-283.	14.5	28
90	Imaging streptavidin 2D crystals on biotinylated lipid monolayers at high resolution with the atomic force microscope. <i>Journal of Microscopy</i> , 1999, 193, 28-35.	1.8	102

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91	Visualizing 3D Data Obtained from Microscopy on the Internet. <i>Journal of Structural Biology</i> , 1999, 125, 123-132.	2.8	23
92	The Structure of Aquaporin-1 at 4.5-Å... Resolution Reveals Short $\hat{\pm}$ -Helices in the Center of the Monomer. <i>Journal of Structural Biology</i> , 1999, 128, 34-43.	2.8	122
93	Charting the Surfaces of the Purple Membrane. <i>Journal of Structural Biology</i> , 1999, 128, 243-249.	2.8	60
94	Progress on the Structure and Function of Aquaporin 1. <i>Journal of Structural Biology</i> , 1998, 121, 191-206.	2.8	90
95	2D Crystallization of Membrane Proteins: Rationales and Examples. <i>Journal of Structural Biology</i> , 1998, 121, 162-171.	2.8	98
96	Electron and atomic force microscopy of membrane proteins. <i>Current Opinion in Structural Biology</i> , 1997, 7, 543-549.	5.7	37
97	The three-dimensional structure of aquaporin-1. <i>Nature</i> , 1997, 387, 624-627.	27.8	441
98	Structural aspects of the cytochrome b 6 f complex; structure of the lumen-side domain of cytochrome f. <i>Journal of Bioenergetics and Biomembranes</i> , 1994, 26, 31-47.	2.3	62