

Simon Scheuring

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140
papers

7,963
citations

53
h-index

86
g-index

177
ext. papers

9,113
ext. citations

7.7
avg, IF

6.22
L-index

#	Paper	IF	Citations
140	Imaging and manipulation of biological structures with the AFM. <i>Micron</i> , 2002 , 33, 385-97	2.3	324
139	Electrostatically balanced subnanometer imaging of biological specimens by atomic force microscope. <i>Biophysical Journal</i> , 1999 , 76, 1101-11	2.9	318
138	Cellular capsules as a tool for multicellular spheroid production and for investigating the mechanics of tumor progression in vitro. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013 , 110, 14843-8	11.5	271
137	Chromatic adaptation of photosynthetic membranes. <i>Science</i> , 2005 , 309, 484-7	33.3	244
136	Filming biomolecular processes by high-speed atomic force microscopy. <i>Chemical Reviews</i> , 2014 , 114, 3120-88	68.1	236
135	Nanodissection and high-resolution imaging of the Rhodospseudomonas viridis photosynthetic core complex in native membranes by AFM. Atomic force microscopy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003 , 100, 1690-3	11.5	222
134	Relaxation of Loaded ESCRT-III Spiral Springs Drives Membrane Deformation. <i>Cell</i> , 2015 , 163, 866-79	56.2	212
133	High-speed force spectroscopy unfolds titin at the velocity of molecular dynamics simulations. <i>Science</i> , 2013 , 342, 741-3	33.3	184
132	Characterization of the motion of membrane proteins using high-speed atomic force microscopy. <i>Nature Nanotechnology</i> , 2012 , 7, 525-9	28.7	160
131	High resolution AFM topographs of the Escherichia coli water channel aquaporin Z. <i>EMBO Journal</i> , 1999 , 18, 4981-7	13	155
130	Watching the photosynthetic apparatus in native membranes. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004 , 101, 11293-7	11.5	154
129	Direct measurement of the mechanical properties of lipid phases in supported bilayers. <i>Biophysical Journal</i> , 2012 , 102, L01-3	2.9	147
128	Dynamic subunit turnover in ESCRT-III assemblies is regulated by Vps4 to mediate membrane remodelling during cytokinesis. <i>Nature Cell Biology</i> , 2017 , 19, 787-798	23.4	145
127	Past, present and future of atomic force microscopy in life sciences and medicine. <i>Journal of Molecular Recognition</i> , 2007 , 20, 418-31	2.6	134
126	Variable LH2 stoichiometry and core clustering in native membranes of Rhodospirillum photometricum. <i>EMBO Journal</i> , 2004 , 23, 4127-33	13	132
125	Supramolecular assembly of VDAC in native mitochondrial outer membranes. <i>Journal of Molecular Biology</i> , 2007 , 369, 413-8	6.5	124
124	Standardized Nanomechanical Atomic Force Microscopy Procedure (SNAP) for Measuring Soft and Biological Samples. <i>Scientific Reports</i> , 2017 , 7, 5117	4.9	123

123	The photosynthetic apparatus of <i>Rhodospseudomonas palustris</i> : structures and organization. <i>Journal of Molecular Biology</i> , 2006 , 358, 83-96	6.5	123
122	High-frequency microrheology reveals cytoskeleton dynamics in living cells. <i>Nature Physics</i> , 2017 , 13, 771-775	16.2	118
121	Mechanical mapping of single membrane proteins at submolecular resolution. <i>Nano Letters</i> , 2011 , 11, 3983-6	11.5	114
120	Förster energy transfer theory as reflected in the structures of photosynthetic light-harvesting systems. <i>ChemPhysChem</i> , 2011 , 12, 518-31	3.2	110
119	Structural role of PufX in the dimerization of the photosynthetic core complex of <i>Rhodobacter sphaeroides</i> . <i>Journal of Biological Chemistry</i> , 2004 , 279, 3620-6	5.4	110
118	Carbohydrate-carbohydrate interaction provides adhesion force and specificity for cellular recognition. <i>Journal of Cell Biology</i> , 2004 , 165, 529-37	7.3	107
117	Force-induced conformational changes in PIEZO1. <i>Nature</i> , 2019 , 573, 230-234	50.4	106
116	High-resolution AFM topographs of <i>Rubrivivax gelatinosus</i> light-harvesting complex LH2. <i>EMBO Journal</i> , 2001 , 20, 3029-35	13	101
115	Structure of the dimeric PufX-containing core complex of <i>Rhodobacter blasticus</i> by in situ atomic force microscopy. <i>Journal of Biological Chemistry</i> , 2005 , 280, 1426-31	5.4	100
114	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	1.9	99
113	Watching the components of photosynthetic bacterial membranes and their in situ organisation by atomic force microscopy. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2005 , 1712, 109-27	3.8	97
112	Single-molecule studies of membrane proteins. <i>Current Opinion in Structural Biology</i> , 2006 , 16, 489-95	8.1	96
111	The supramolecular architecture of junctional microdomains in native lens membranes. <i>EMBO Reports</i> , 2007 , 8, 51-5	6.5	91
110	Two-chamber AFM: probing membrane proteins separating two aqueous compartments. <i>Nature Methods</i> , 2006 , 3, 1007-12	21.6	84
109	Structural, mechanical, and dynamical variability of the actin cortex in living cells. <i>Biophysical Journal</i> , 2015 , 108, 1330-1340	2.9	81
108	Direct visualization of glutamate transporter elevator mechanism by high-speed AFM. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017 , 114, 1584-1588	11.5	79
107	Rows of ATP synthase dimers in native mitochondrial inner membranes. <i>Biophysical Journal</i> , 2007 , 93, 2870-6	2.9	79
106	Biological AFM: where we come from--where we are--where we may go. <i>Journal of Molecular Recognition</i> , 2011 , 24, 406-13	2.6	77

105	AFM characterization of tilt and intrinsic flexibility of Rhodobacter sphaeroides light harvesting complex 2 (LH2). <i>Journal of Molecular Biology</i> , 2003 , 325, 569-80	6.5	76
104	Atomic force microscopy: probing the spatial organization, interactions and elasticity of microbial cell envelopes at molecular resolution. <i>Molecular Microbiology</i> , 2010 , 75, 1327-36	4.1	74
103	Two-dimensional crystals: a powerful approach to assess structure, function and dynamics of membrane proteins. <i>FEBS Letters</i> , 2001 , 504, 166-72	3.8	74
102	High-speed atomic force microscopy shows that annexin V stabilizes membranes on the second timescale. <i>Nature Nanotechnology</i> , 2016 , 11, 783-90	28.7	73
101	Architecture of the native photosynthetic apparatus of Phaeospirillum molischianum. <i>Journal of Structural Biology</i> , 2005 , 152, 221-8	3.4	72
100	The 4.5 Å structure of human AQP2. <i>Journal of Molecular Biology</i> , 2005 , 350, 278-89	6.5	70
99	Charting and unzipping the surface layer of Corynebacterium glutamicum with the atomic force microscope. <i>Molecular Microbiology</i> , 2002 , 44, 675-84	4.1	70
98	Experimental evidence for membrane-mediated protein-protein interaction. <i>Biophysical Journal</i> , 2010 , 99, L47-9	2.9	65
97	Atomic force microscopy of the bacterial photosynthetic apparatus: plain pictures of an elaborate machinery. <i>Photosynthesis Research</i> , 2009 , 102, 197-211	3.7	65
96	AFM studies of the supramolecular assembly of bacterial photosynthetic core-complexes. <i>Current Opinion in Chemical Biology</i> , 2006 , 10, 387-93	9.7	63
95	Sampling the conformational space of membrane protein surfaces with the AFM. <i>European Biophysics Journal</i> , 2002 , 31, 172-8	1.9	63
94	Single Proteins Observed by Atomic Force Microscopy. <i>Single Molecules</i> , 2001 , 2, 59-67		60
93	From high-resolution AFM topographs to atomic models of supramolecular assemblies. <i>Journal of Structural Biology</i> , 2007 , 159, 268-76	3.4	58
92	Structural and mechanical heterogeneity of the erythrocyte membrane reveals hallmarks of membrane stability. <i>ACS Nano</i> , 2013 , 7, 1054-63	16.7	57
91	Heterogeneous and rate-dependent streptavidin-biotin unbinding revealed by high-speed force spectroscopy and atomistic simulations. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 , 116, 6594-6601	11.5	55
90	Listeriolysin O Membrane Damaging Activity Involves Arc Formation and Lineaction -- Implication for Listeria monocytogenes Escape from Phagocytic Vacuole. <i>PLoS Pathogens</i> , 2016 , 12, e1005597	7.6	55
89	A hybrid high-speed atomic force-optical microscope for visualizing single membrane proteins on eukaryotic cells. <i>Nature Communications</i> , 2013 , 4, 2155	17.4	53
88	High-resolution architecture of the outer membrane of the Gram-negative bacteria Roseobacter denitrificans. <i>Molecular Microbiology</i> , 2009 , 74, 1211-22	4.1	53

87	Ligand-induced structural changes in the cyclic nucleotide-modulated potassium channel MloK1. <i>Nature Communications</i> , 2014 , 5, 3106	17.4	51
86	Energy transfer in light-adapted photosynthetic membranes: from active to saturated photosynthesis. <i>Biophysical Journal</i> , 2009 , 97, 2464-73	2.9	51
85	Human cataract lens membrane at subnanometer resolution. <i>Journal of Molecular Biology</i> , 2007 , 374, 162-9	6.5	51
84	High-speed atomic force microscopy: imaging and force spectroscopy. <i>FEBS Letters</i> , 2014 , 588, 3631-8	3.8	49
83	Contact-mode high-resolution high-speed atomic force microscopy movies of the purple membrane. <i>Biophysical Journal</i> , 2009 , 97, 1354-61	2.9	49
82	Cannabinoid-induced actomyosin contractility shapes neuronal morphology and growth. <i>ELife</i> , 2014 , 3, e03159	8.9	49
81	Structural models of the supramolecular organization of AQP0 and connexons in junctional microdomains. <i>Journal of Structural Biology</i> , 2007 , 160, 385-94	3.4	46
80	Structural information, resolution, and noise in high-resolution atomic force microscopy topographs. <i>Biophysical Journal</i> , 2009 , 96, 3822-31	2.9	45
79	Investigation of photosynthetic membrane structure using atomic force microscopy. <i>Trends in Plant Science</i> , 2013 , 18, 277-86	13.1	44
78	Light harvesting by lamellar chromatophores in <i>Rhodospirillum rubrum</i> . <i>Biophysical Journal</i> , 2014 , 106, 2503-10	2.9	43
77	Atomic Force Microscopy Mechanical Mapping of Micropatterned Cells Shows Adhesion Geometry-Dependent Mechanical Response on Local and Global Scales. <i>ACS Nano</i> , 2015 , 9, 5846-56	16.7	43
76	Forces guiding assembly of light-harvesting complex 2 in native membranes. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011 , 108, 9455-9	11.5	43
75	High-speed AFM height spectroscopy reveals μ s-dynamics of unlabeled biomolecules. <i>Nature Communications</i> , 2018 , 9, 4983	17.4	38
74	Advances in high-speed atomic force microscopy (HS-AFM) reveal dynamics of transmembrane channels and transporters. <i>Current Opinion in Structural Biology</i> , 2019 , 57, 93-102	8.1	35
73	Rhodopsin is spatially heterogeneously distributed in rod outer segment disk membranes. <i>Journal of Molecular Recognition</i> , 2011 , 24, 483-9	2.6	35
72	Dynamics and diffusion in photosynthetic membranes from <i>Rhodospirillum rubrum</i> . <i>Biophysical Journal</i> , 2006 , 91, 3707-17	2.9	35
71	Glasslike Membrane Protein Diffusion in a Crowded Membrane. <i>ACS Nano</i> , 2016 , 10, 2584-90	16.7	33
70	Structure and mechanism of bactericidal mammalian perforin-2, an ancient agent of innate immunity. <i>Science Advances</i> , 2020 , 6, eaax8286	14.3	32

69	Dynamic remodeling of the dynamin helix during membrane constriction. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017 , 114, 5449-5454	11.5	31
68	Software for drift compensation, particle tracking and particle analysis of high-speed atomic force microscopy image series. <i>Journal of Molecular Recognition</i> , 2012 , 25, 292-8	2.6	31
67	Native architecture of the photosynthetic membrane from <i>Rhodobacter veldkampii</i> . <i>Journal of Structural Biology</i> , 2011 , 173, 138-45	3.4	31
66	Membrane insertion of <i>Rhodospseudomonas acidophila</i> light harvesting complex 2 investigated by high resolution AFM. <i>Journal of Structural Biology</i> , 2005 , 149, 79-86	3.4	31
65	Scanning probe microscopy. <i>Nature Reviews Methods Primers</i> , 2021 , 1,		31
64	Antenna mixing in photosynthetic membranes from <i>Phaeospirillum molischianum</i> . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010 , 107, 5357-62	11.5	30
63	High-speed atomic force microscopy: Structure and dynamics of single proteins. <i>Current Opinion in Chemical Biology</i> , 2011 , 15, 704-9	9.7	28
62	An iris diaphragm mechanism to gate a cyclic nucleotide-gated ion channel. <i>Nature Communications</i> , 2018 , 9, 3978	17.4	28
61	Structural titration of receptor ion channel GLIC gating by HS-AFM. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, 10333-10338	11.5	28
60	Applications of high-speed atomic force microscopy to real-time visualization of dynamic biomolecular processes. <i>Biochimica Et Biophysica Acta - General Subjects</i> , 2018 , 1862, 229-240	4	27
59	The architecture of <i>Rhodobacter sphaeroides</i> chromatophores. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 2014 , 1837, 1263-70	4.6	27
58	EHelix Unwinding as Force Buffer in Spectrins. <i>ACS Nano</i> , 2018 , 12, 2719-2727	16.7	26
57	High-speed atomic force microscopy: cooperative adhesion and dynamic equilibrium of junctional microdomain membrane proteins. <i>Journal of Molecular Biology</i> , 2012 , 423, 249-56	6.5	26
56	Mini review on the structure and supramolecular assembly of VDAC. <i>Journal of Bioenergetics and Biomembranes</i> , 2008 , 40, 133-8	3.7	26
55	Direct visualization of KirBac3.1 potassium channel gating by atomic force microscopy. <i>Journal of Molecular Biology</i> , 2007 , 374, 500-5	6.5	26
54	Nanoholes by soft UV nanoimprint lithography applied to study of membrane proteins. <i>Microelectronic Engineering</i> , 2009 , 86, 583-585	2.5	25
53	Quinone pathways in entire photosynthetic chromatophores of <i>Rhodospirillum rubrum</i> . <i>Journal of Molecular Biology</i> , 2009 , 393, 27-35	6.5	24
52	Effect of Statins on the Nanomechanical Properties of Supported Lipid Bilayers. <i>Biophysical Journal</i> , 2016 , 111, 363-372	2.9	24

51	Introduction to atomic force microscopy (AFM) in biology. <i>Current Protocols in Protein Science</i> , 2009 , Chapter 17, Unit 17.7.1-19	3.1	23
50	Real-time visualization of conformational changes within single MloK1 cyclic nucleotide-modulated channels. <i>Nature Communications</i> , 2016 , 7, 12789	17.4	22
49	Eye lens membrane junctional microdomains: a comparison between healthy and pathological cases. <i>New Journal of Physics</i> , 2011 , 13, 085016	2.9	22
48	Engineering a pH responsive pore forming protein. <i>Scientific Reports</i> , 2017 , 7, 42231	4.9	21
47	Malformation of junctional microdomains in cataract lens membranes from a type II diabetes patient. <i>Pflugers Archiv European Journal of Physiology</i> , 2009 , 457, 1265-74	4.6	20
46	The aquaporin sidedness revisited. <i>Journal of Molecular Biology</i> , 2000 , 299, 1271-8	6.5	20
45	Localization atomic force microscopy. <i>Nature</i> , 2021 , 594, 385-390	50.4	20
44	Temperature-Switchable Control of Ligand Display on Adlayers of Mixed Poly(lysine)-g-(PEO) and Poly(lysine)-g-(ligand-modified poly-N-isopropylacrylamide). <i>Biomacromolecules</i> , 2016 , 17, 1727-36	6.9	20
43	Identification of a Membrane-bound Prepore Species Clarifies the Lytic Mechanism of Actinoporins. <i>Journal of Biological Chemistry</i> , 2016 , 291, 19210-19219	5.4	20
42	High-Speed Atomic Force Microscopy Reveals the Inner Workings of the MinDE Protein Oscillator. <i>Nano Letters</i> , 2018 , 18, 288-296	11.5	20
41	Annexin-V stabilizes membrane defects by inducing lipid phase transition. <i>Nature Communications</i> , 2020 , 11, 230	17.4	19
40	Manipulating and imaging individual membrane proteins by AFM. <i>Surface and Interface Analysis</i> , 2006 , 38, 1413-1418	1.5	19
39	Direct Observation of Postadsorption Aggregation of Antifreeze Glycoproteins on Silicates. <i>Langmuir</i> , 2000 , 16, 5785-5789	4	19
38	Real-time Visualization of Phospholipid Degradation by Outer Membrane Phospholipase A using High-Speed Atomic Force Microscopy. <i>Journal of Molecular Biology</i> , 2017 , 429, 977-986	6.5	17
37	Mechanics of proteins with a focus on atomic force microscopy. <i>Journal of Nanobiotechnology</i> , 2013 , 11 Suppl 1, S3	9.4	17
36	Automated setpoint adjustment for biological contact mode atomic force microscopy imaging. <i>Nanotechnology</i> , 2010 , 21, 035104	3.4	17
35	Temperature-Controlled High-Speed AFM: Real-Time Observation of Ripple Phase Transitions. <i>Small</i> , 2016 , 12, 6106-6113	11	16
34	Nanomechanical characterization of the stiffness of eye lens cells: a pilot study 2012 , 53, 2151-6		14

33	A novel phase-shift-based amplitude detector for a high-speed atomic force microscope. <i>Review of Scientific Instruments</i> , 2018 , 89, 083704	1.7	13
32	Lysenin Toxin Membrane Insertion Is pH-Dependent but Independent of Neighboring Lysenins. <i>Biophysical Journal</i> , 2017 , 113, 2029-2036	2.9	13
31	Automated force controller for amplitude modulation atomic force microscopy. <i>Review of Scientific Instruments</i> , 2016 , 87, 053705	1.7	11
30	Two-dimensional kinetics of inter-connexin interactions from single-molecule force spectroscopy. <i>Journal of Molecular Biology</i> , 2011 , 412, 72-9	6.5	10
29	The hierarchical assembly of septins revealed by high-speed AFM. <i>Nature Communications</i> , 2020 , 11, 5062	17.4	10
28	Nanoreporter of an Enzymatic Suicide Inactivation Pathway. <i>Nano Letters</i> , 2020 , 20, 7819-7827	11.5	9
27	Millisecond dynamics of an unlabeled amino acid transporter. <i>Nature Communications</i> , 2020 , 11, 5016	17.4	9
26	High-Speed Force Spectroscopy for Single Protein Unfolding. <i>Methods in Molecular Biology</i> , 2018 , 1814, 243-264	1.4	8
25	Real time dynamics of Gating-Related conformational changes in CorA. <i>ELife</i> , 2019 , 8,	8.9	8
24	The mechanics of membrane proteins is a signature of biological function. <i>Soft Matter</i> , 2013 , 9, 7866	3.6	6
23	The Supramolecular Assembly of the Photosynthetic Apparatus of Purple Bacteria Investigated by High-Resolution Atomic Force Microscopy. <i>Advances in Photosynthesis and Respiration</i> , 2009 , 941-952	1.7	6
22	High-Resolution Imaging and Force Measurement of Individual Membrane Proteins by AFM. <i>Current Nanoscience</i> , 2006 , 2, 329-335	1.4	4
21	High-speed atomic force microscopy to study pore-forming proteins. <i>Methods in Enzymology</i> , 2021 , 649, 189-217	1.7	4
20	Nanodissected elastically loaded clathrin lattices relax to increased curvature. <i>Science Advances</i> , 2021 , 7,	14.3	3
19	Conformational Changes, Flexibilities and Intramolecular Forces Observed on Individual Proteins Using AFM. <i>Single Molecules</i> , 2000 , 1, 115-118		2
18	Quantitative description of a contractile macromolecular machine. <i>Science Advances</i> , 2021 , 7,	14.3	2
17	High Frequency Microrheology of Living Cells. <i>Biophysical Journal</i> , 2016 , 110, 132a	2.9	2
16	High-speed atomic force microscopy tracks toxin action. <i>Biophysical Journal</i> , 2013 , 105, 1292	2.9	1

15	Introduction to atomic force microscopy (AFM) in biology. <i>Current Protocols in Protein Science</i> , 2002 , Chapter 17, Unit 17.7	3.1	1
14	Chemically induced protein cage assembly with programmable opening and cargo release.. <i>Science Advances</i> , 2022 , 8, eabj9424	14.3	1
13	Correlation of membrane protein conformational and functional dynamics. <i>Nature Communications</i> , 2021 , 12, 4363	17.4	1
12	Structural dynamics of channels and transporters by high-speed atomic force microscopy. <i>Methods in Enzymology</i> , 2021 , 652, 127-159	1.7	1
11	The Supramolecular Architecture of the Bacterial Photosynthetic Apparatus Studied by Atomic Force Microscopy (AFM). <i>Advances in Photosynthesis and Respiration</i> , 2008 , 1-11	1.7	1
10	Single molecule kinetics of bacteriorhodopsin by HS-AFM. <i>Nature Communications</i> , 2021 , 12, 7225	17.4	0
9	Snf7 spirals sense and alter membrane curvature.. <i>Nature Communications</i> , 2022 , 13, 2174	17.4	0
8	TMEM16 scramblases thin the membrane to enable lipid scrambling.. <i>Nature Communications</i> , 2022 , 13, 2604	17.4	0
7	Cryo-Electron Microscopy of Potassium Channel Membrane Proteins. <i>Microscopy and Microanalysis</i> , 2014 , 20, 1206-1207	0.5	
6	A Novel Preparation Method for High Resolution AFM Introduced With 2d-Streptavidin Crystals Grown on a Biotinlipid Monolayer. <i>Microscopy and Microanalysis</i> , 1998 , 4, 312-313	0.5	
5	High-Resolution Atomic Force Microscopy of Native Membranes 2019 , 21-44		
4	Probing Single Membrane Proteins by Atomic Force Microscopy 2009 , 449-485		
3	High-Resolution Atomic Force Microscopy of Native Membranes 2011 , 21-44		
2	Direct Visualization of Glutamate Transporter Transport Cycle. <i>Biophysical Journal</i> , 2016 , 110, 178a-179a.9		
1	Atomic Force Microscopy: High-Resolution Imaging of Structure and Assembly of Membrane Proteins 141-158		