Simon Scheuring

List of Publications by Year in Descending Order

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	Chemically induced protein cage assembly with programmable opening and cargo release.. *Science Advances*, **2022**, 8, eabj9424	14.3	1
139	Snf7 spirals sense and alter membrane curvature.. *Nature Communications*, **2022**, 13, 2174	17.4	0
138	TMEM16 scramblases thin the membrane to enable lipid scrambling.. *Nature Communications*, **2022**, 13, 2604	17.4	0
137	Scanning probe microscopy. *Nature Reviews Methods Primers*, **2021**, 1,		31
136	Localization atomic force microscopy. *Nature*, **2021**, 594, 385-390	50.4	20
135	Quantitative description of a contractile macromolecular machine. *Science Advances*, **2021**, 7,	14.3	2
134	Correlation of membrane protein conformational and functional dynamics. *Nature Communications*, **2021**, 12, 4363	17.4	1
133	High-speed atomic force microscopy to study pore-forming proteins. *Methods in Enzymology*, **2021**, 649, 189-217	1.7	4
132	Structural dynamics of channels and transporters by high-speed atomic force microscopy. *Methods in Enzymology*, **2021**, 652, 127-159	1.7	1
131	Nanodissected elastically loaded clathrin lattices relax to increased curvature. *Science Advances*, **2021**, 7,	14.3	3
130	Single molecule kinetics of bacteriorhodopsin by HS-AFM. *Nature Communications*, **2021**, 12, 7225	17.4	0
129	Structure and mechanism of bactericidal mammalian perforin-2, an ancient agent of innate immunity. *Science Advances*, **2020**, 6, eaax8286	14.3	32
128	Annexin-V stabilizes membrane defects by inducing lipid phase transition. *Nature Communications*, **2020**, 11, 230	17.4	19
127	The hierarchical assembly of septins revealed by high-speed AFM. *Nature Communications*, **2020**, 11, 5062	17.4	10
126	Nanoreporter of an Enzymatic Suicide Inactivation Pathway. *Nano Letters*, **2020**, 20, 7819-7827	11.5	9
125	Millisecond dynamics of an unlabeled amino acid transporter. *Nature Communications*, **2020**, 11, 5016	17.4	9
124	Force-induced conformational changes in PIEZO1. *Nature*, **2019**, 573, 230-234	50.4	106

123	Heterogeneous and rate-dependent streptavidin-biotin unbinding revealed by high-speed force spectroscopy and atomistic simulations. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 6594-6601	11.5	55
122	Advances in high-speed atomic force microscopy (HS-AFM) reveal dynamics of transmembrane channels and transporters. *Current Opinion in Structural Biology*, **2019**, 57, 93-102	8.1	35
121	Real time dynamics of Gating-Related conformational changes in CorA. *ELife*, **2019**, 8,	8.9	8
120	High-Resolution Atomic Force Microscopy of Native Membranes **2019**, 21-44		
119	Helix Unwinding as Force Buffer in Spectrins. *ACS Nano*, **2018**, 12, 2719-2727	16.7	26
118	Applications of high-speed atomic force microscopy to real-time visualization of dynamic biomolecular processes. *Biochimica Et Biophysica Acta - General Subjects*, **2018**, 1862, 229-240	4	27
117	High-Speed Force Spectroscopy for Single Protein Unfolding. *Methods in Molecular Biology*, **2018**, 1814, 243-264	1.4	8
116	A novel phase-shift-based amplitude detector for a high-speed atomic force microscope. *Review of Scientific Instruments*, **2018**, 89, 083704	1.7	13
115	High-Speed Atomic Force Microscopy Reveals the Inner Workings of the MinDE Protein Oscillator. *Nano Letters*, **2018**, 18, 288-296	11.5	20
114	High-speed AFM height spectroscopy reveals s-dynamics of unlabeled biomolecules. *Nature Communications*, **2018**, 9, 4983	17.4	38
113	An iris diaphragm mechanism to gate a cyclic nucleotide-gated ion channel. *Nature Communications*, **2018**, 9, 3978	17.4	28
112	Structural titration of receptor ion channel GLIC gating by HS-AFM. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, 10333-10338	11.5	28
111	Direct visualization of glutamate transporter elevator mechanism by high-speed AFM. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 1584-1588	11.5	79
110	Engineering a pH responsive pore forming protein. *Scientific Reports*, **2017**, 7, 42231	4.9	21
109	Dynamic remodeling of the dynamin helix during membrane constriction. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 5449-5454	11.5	31
108	High-frequency microrheology reveals cytoskeleton dynamics in living cells. *Nature Physics*, **2017**, 13, 771-775	16.2	118
107	Dynamic subunit turnover in ESCRT-III assemblies is regulated by Vps4 to mediate membrane remodelling during cytokinesis. *Nature Cell Biology*, **2017**, 19, 787-798	23.4	145
106	Real-time Visualization of Phospholipid Degradation by Outer Membrane Phospholipase A using High-Speed Atomic Force Microscopy. *Journal of Molecular Biology*, **2017**, 429, 977-986	6.5	17

105	Standardized Nanomechanical Atomic Force Microscopy Procedure (SNAP) for Measuring Soft and Biological Samples. *Scientific Reports*, **2017**, 7, 5117	4.9	123
104	Lysenin Toxin Membrane Insertion Is pH-Dependent but Independent of Neighboring Lysenins. *Biophysical Journal*, **2017**, 113, 2029-2036	2.9	13
103	Temperature-Controlled High-Speed AFM: Real-Time Observation of Ripple Phase Transitions. *Small*, **2016**, 12, 6106-6113	11	16
102	Real-time visualization of conformational changes within single MloK1 cyclic nucleotide-modulated channels. *Nature Communications*, **2016**, 7, 12789	17.4	22
101	High-speed atomic force microscopy shows that annexin V stabilizes membranes on the second timescale. *Nature Nanotechnology*, **2016**, 11, 783-90	28.7	73
100	Glasslike Membrane Protein Diffusion in a Crowded Membrane. *ACS Nano*, **2016**, 10, 2584-90	16.7	33
99	Listeriolysin O Membrane Damaging Activity Involves Arc Formation and Lineaction -- Implication for Listeria monocytogenes Escape from Phagocytic Vacuole. *PLoS Pathogens*, **2016**, 12, e1005597	7.6	55
98	Automated force controller for amplitude modulation atomic force microscopy. *Review of Scientific Instruments*, **2016**, 87, 053705	1.7	11
97	Direct Visualization of Glutamate Transporter Transport Cycle. *Biophysical Journal*, **2016**, 110, 178a-179a	2.9	
96	High Frequency Microrheology of Living Cells. *Biophysical Journal*, **2016**, 110, 132a	2.9	2
95	Temperature-Switchable Control of Ligand Display on Adlayers of Mixed Poly(lysine)-g-(PEO) and Poly(lysine)-g-(ligand-modified poly-N-isopropylacrylamide). *Biomacromolecules*, **2016**, 17, 1727-36	6.9	20
94	Identification of a Membrane-bound Prepore Species Clarifies the Lytic Mechanism of Actinoporins. *Journal of Biological Chemistry*, **2016**, 291, 19210-19219	5.4	20
93	Effect of Statins on the Nanomechanical Properties of Supported Lipid Bilayers. *Biophysical Journal*, **2016**, 111, 363-372	2.9	24
92	Structural, mechanical, and dynamical variability of the actin cortex in living cells. *Biophysical Journal*, **2015**, 108, 1330-1340	2.9	81
91	Atomic Force Microscopy Mechanical Mapping of Micropatterned Cells Shows Adhesion Geometry-Dependent Mechanical Response on Local and Global Scales. *ACS Nano*, **2015**, 9, 5846-56	16.7	43
90	Relaxation of Loaded ESCRT-III Spiral Springs Drives Membrane Deformation. *Cell*, **2015**, 163, 866-79	56.2	212
89	Ligand-induced structural changes in the cyclic nucleotide-modulated potassium channel MloK1. *Nature Communications*, **2014**, 5, 3106	17.4	51
88	Filming biomolecular processes by high-speed atomic force microscopy. *Chemical Reviews*, **2014**, 114, 3120-88	68.1	236

87	High-speed atomic force microscopy: imaging and force spectroscopy. *FEBS Letters*, **2014**, 588, 3631-8	3.8	49
86	The architecture of Rhodobacter sphaeroides chromatophores. *Biochimica Et Biophysica Acta - Bioenergetics*, **2014**, 1837, 1263-70	4.6	27
85	Light harvesting by lamellar chromatophores in Rhodospirillum photometricum. *Biophysical Journal* , **2014**, 106, 2503-10	2.9	43
84	Cryo-Electron Microscopy of Potassium Channel Membrane Proteins. *Microscopy and Microanalysis*, **2014**, 20, 1206-1207	0.5	
83	Cannabinoid-induced actomyosin contractility shapes neuronal morphology and growth. *ELife*, **2014** , 3, e03159	8.9	49
82	A hybrid high-speed atomic force-optical microscope for visualizing single membrane proteins on eukaryotic cells. *Nature Communications*, **2013**, 4, 2155	17.4	53
81	High-speed atomic force microscopy tracks toxin action. *Biophysical Journal*, **2013**, 105, 1292	2.9	1
80	High-speed force spectroscopy unfolds titin at the velocity of molecular dynamics simulations. *Science*, **2013**, 342, 741-3	33.3	184
79	Mechanics of proteins with a focus on atomic force microscopy. *Journal of Nanobiotechnology*, **2013** , 11 Suppl 1, S3	9.4	17
78	The mechanics of membrane proteins is a signature of biological function. *Soft Matter*, **2013**, 9, 7866	3.6	6
77	Investigation of photosynthetic membrane structure using atomic force microscopy. *Trends in Plant Science*, **2013**, 18, 277-86	13.1	44
76	Structural and mechanical heterogeneity of the erythrocyte membrane reveals hallmarks of membrane stability. *ACS Nano*, **2013**, 7, 1054-63	16.7	57
75	Cellular capsules as a tool for multicellular spheroid production and for investigating the mechanics of tumor progression in vitro. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 14843-8	11.5	271
74	Direct measurement of the mechanical properties of lipid phases in supported bilayers. *Biophysical Journal*, **2012**, 102, L01-3	2.9	147
73	High-speed atomic force microscopy: cooperative adhesion and dynamic equilibrium of junctional microdomain membrane proteins. *Journal of Molecular Biology*, **2012**, 423, 249-56	6.5	26
72	Software for drift compensation, particle tracking and particle analysis of high-speed atomic force microscopy image series. *Journal of Molecular Recognition*, **2012**, 25, 292-8	2.6	31
71	Characterization of the motion of membrane proteins using high-speed atomic force microscopy. *Nature Nanotechnology*, **2012**, 7, 525-9	28.7	160
70	Nanomechanical characterization of the stiffness of eye lens cells: a pilot study **2012**, 53, 2151-6		14

69	Mechanical mapping of single membrane proteins at submolecular resolution. *Nano Letters*, **2011**, 11, 3983-6	11.5	114
68	Native architecture of the photosynthetic membrane from Rhodobacter veldkampii. *Journal of Structural Biology*, **2011**, 173, 138-45	3.4	31
67	Two-dimensional kinetics of inter-connexin interactions from single-molecule force spectroscopy. *Journal of Molecular Biology*, **2011**, 412, 72-9	6.5	10
66	High-speed atomic force microscopy: Structure and dynamics of single proteins. *Current Opinion in Chemical Biology*, **2011**, 15, 704-9	9.7	28
65	Biological AFM: where we come from--where we are--where we may go. *Journal of Molecular Recognition*, **2011**, 24, 406-13	2.6	77
64	Rhodopsin is spatially heterogeneously distributed in rod outer segment disk membranes. *Journal of Molecular Recognition*, **2011**, 24, 483-9	2.6	35
63	Förster energy transfer theory as reflected in the structures of photosynthetic light-harvesting systems. *ChemPhysChem*, **2011**, 12, 518-31	3.2	110
62	Eye lens membrane junctional microdomains: a comparison between healthy and pathological cases. *New Journal of Physics*, **2011**, 13, 085016	2.9	22
61	Forces guiding assembly of light-harvesting complex 2 in native membranes. *Proceedings of the National Academy of Sciences of the United States of America*, **2011**, 108, 9455-9	11.5	43
60	High-Resolution Atomic Force Microscopy of Native Membranes **2011**, 21-44		
59	Atomic force microscopy: probing the spatial organization, interactions and elasticity of microbial cell envelopes at molecular resolution. *Molecular Microbiology*, **2010**, 75, 1327-36	4.1	74
58	Antenna mixing in photosynthetic membranes from Phaeospirillum molischianum. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 5357-62	11.5	30
57	Experimental evidence for membrane-mediated protein-protein interaction. *Biophysical Journal*, **2010**, 99, L47-9	2.9	65
56	Automated setpoint adjustment for biological contact mode atomic force microscopy imaging. *Nanotechnology*, **2010**, 21, 035104	3.4	17
55	Malformation of junctional microdomains in cataract lens membranes from a type II diabetes patient. *Pflugers Archiv European Journal of Physiology*, **2009**, 457, 1265-74	4.6	20
54	Atomic force microscopy of the bacterial photosynthetic apparatus: plain pictures of an elaborate machinery. *Photosynthesis Research*, **2009**, 102, 197-211	3.7	65
53	High-resolution architecture of the outer membrane of the Gram-negative bacteria Roseobacter denitrificans. *Molecular Microbiology*, **2009**, 74, 1211-22	4.1	53
52	Nanoholes by soft UV nanoimprint lithography applied to study of membrane proteins. *Microelectronic Engineering*, **2009**, 86, 583-585	2.5	25

51	Quinone pathways in entire photosynthetic chromatophores of Rhodospirillum photometricum. *Journal of Molecular Biology*, **2009**, 393, 27-35	6.5	24
50	Structural information, resolution, and noise in high-resolution atomic force microscopy topographs. *Biophysical Journal*, **2009**, 96, 3822-31	2.9	45
49	Contact-mode high-resolution high-speed atomic force microscopy movies of the purple membrane. *Biophysical Journal*, **2009**, 97, 1354-61	2.9	49
48	Energy transfer in light-adapted photosynthetic membranes: from active to saturated photosynthesis. *Biophysical Journal*, **2009**, 97, 2464-73	2.9	51
47	Introduction to atomic force microscopy (AFM) in biology. *Current Protocols in Protein Science*, **2009**, Chapter 17, Unit 17.7.1-19	3.1	23
46	Probing Single Membrane Proteins by Atomic Force Microscopy **2009**, 449-485		
45	The Supramolecular Assembly of the Photosynthetic Apparatus of Purple Bacteria Investigated by High-Resolution Atomic Force Microscopy. *Advances in Photosynthesis and Respiration*, **2009**, 941-952	1.7	6
44	Mini review on the structure and supramolecular assembly of VDAC. *Journal of Bioenergetics and Biomembranes*, **2008**, 40, 133-8	3.7	26
43	The Supramolecular Architecture of the Bacterial Photosynthetic Apparatus Studied by Atomic Force Microscopy (AFM). *Advances in Photosynthesis and Respiration*, **2008**, 1-11	1.7	1
42	Rows of ATP synthase dimers in native mitochondrial inner membranes. *Biophysical Journal*, **2007**, 93, 2870-6	2.9	79
41	Past, present and future of atomic force microscopy in life sciences and medicine. *Journal of Molecular Recognition*, **2007**, 20, 418-31	2.6	134
40	The supramolecular architecture of junctional microdomains in native lens membranes. *EMBO Reports*, **2007**, 8, 51-5	6.5	91
39	From high-resolution AFM topographs to atomic models of supramolecular assemblies. *Journal of Structural Biology*, **2007**, 159, 268-76	3.4	58
38	Structural models of the supramolecular organization of AQP0 and connexons in junctional microdomains. *Journal of Structural Biology*, **2007**, 160, 385-94	3.4	46
37	Supramolecular assembly of VDAC in native mitochondrial outer membranes. *Journal of Molecular Biology*, **2007**, 369, 413-8	6.5	124
36	Human cataract lens membrane at subnanometer resolution. *Journal of Molecular Biology*, **2007**, 374, 162-9	6.5	51
35	Direct visualization of KirBac3.1 potassium channel gating by atomic force microscopy. *Journal of Molecular Biology*, **2007**, 374, 500-5	6.5	26
34	Single-molecule studies of membrane proteins. *Current Opinion in Structural Biology*, **2006**, 16, 489-95	8.1	96

33	Dynamics and diffusion in photosynthetic membranes from rhodospirillum photometricum. *Biophysical Journal*, **2006**, 91, 3707-17	2.9	35
32	The photosynthetic apparatus of Rhodopseudomonas palustris: structures and organization. *Journal of Molecular Biology*, **2006**, 358, 83-96	6.5	123
31	High-Resolution Imaging and Force Measurement of Individual Membrane Proteins by AFM. *Current Nanoscience*, **2006**, 2, 329-335	1.4	4
30	Manipulating and imaging individual membrane proteins by AFM. *Surface and Interface Analysis*, **2006**, 38, 1413-1418	1.5	19
29	Two-chamber AFM: probing membrane proteins separating two aqueous compartments. *Nature Methods*, **2006**, 3, 1007-12	21.6	84
28	AFM studies of the supramolecular assembly of bacterial photosynthetic core-complexes. *Current Opinion in Chemical Biology*, **2006**, 10, 387-93	9.7	63
27	Chromatic adaptation of photosynthetic membranes. *Science*, **2005**, 309, 484-7	33.3	244
26	The 4.5 A structure of human AQP2. *Journal of Molecular Biology*, **2005**, 350, 278-89	6.5	70
25	Membrane insertion of Rhodopseudomonas acidophila light harvesting complex 2 investigated by high resolution AFM. *Journal of Structural Biology*, **2005**, 149, 79-86	3.4	31
24	Architecture of the native photosynthetic apparatus of Phaeospirillum molischianum. *Journal of Structural Biology*, **2005**, 152, 221-8	3.4	72
23	Watching the components of photosynthetic bacterial membranes and their in situ organisation by atomic force microscopy. *Biochimica Et Biophysica Acta - Biomembranes*, **2005**, 1712, 109-27	3.8	97
22	Structure of the dimeric PufX-containing core complex of Rhodobacter blasticus by in situ atomic force microscopy. *Journal of Biological Chemistry*, **2005**, 280, 1426-31	5.4	100
21	Carbohydrate-carbohydrate interaction provides adhesion force and specificity for cellular recognition. *Journal of Cell Biology*, **2004**, 165, 529-37	7.3	107
20	Watching the photosynthetic apparatus in native membranes. *Proceedings of the National Academy of Sciences of the United States of America*, **2004**, 101, 11293-7	11.5	154
19	Variable LH2 stoichiometry and core clustering in native membranes of Rhodospirillum photometricum. *EMBO Journal*, **2004**, 23, 4127-33	13	132
18	Structural role of PufX in the dimerization of the photosynthetic core complex of Rhodobacter sphaeroides. *Journal of Biological Chemistry*, **2004**, 279, 3620-6	5.4	110
17	AFM characterization of tilt and intrinsic flexibility of Rhodobacter sphaeroides light harvesting complex 2 (LH2). *Journal of Molecular Biology*, **2003**, 325, 569-80	6.5	76
16	Nanodissection and high-resolution imaging of the Rhodopseudomonas viridis photosynthetic core complex in native membranes by AFM. Atomic force microscopy. *Proceedings of the National Academy of Sciences of the United States of America*, **2003**, 100, 1690-3	11.5	222

15	Sampling the conformational space of membrane protein surfaces with the AFM. *European Biophysics Journal*, **2002**, 31, 172-8	1.9	63
14	Imaging and manipulation of biological structures with the AFM. *Micron*, **2002**, 33, 385-97	2.3	324
13	Charting and unzipping the surface layer of Corynebacterium glutamicum with the atomic force microscope. *Molecular Microbiology*, **2002**, 44, 675-84	4.1	70
12	Introduction to atomic force microscopy (AFM) in biology. *Current Protocols in Protein Science*, **2002**, Chapter 17, Unit 17.7	3.1	1
11	Single Proteins Observed by Atomic Force Microscopy. *Single Molecules*, **2001**, 2, 59-67		60
10	High-resolution AFM topographs of Rubrivivax gelatinosus light-harvesting complex LH2. *EMBO Journal*, **2001**, 20, 3029-35	13	101
9	Two-dimensional crystals: a powerful approach to assess structure, function and dynamics of membrane proteins. *FEBS Letters*, **2001**, 504, 166-72	3.8	74
8	Conformational Changes, Flexibilities and Intramolecular Forces Observed on Individual Proteins Using AFM. *Single Molecules*, **2000**, 1, 115-118		2
7	The aquaporin sidedness revisited. *Journal of Molecular Biology*, **2000**, 299, 1271-8	6.5	20
6	Direct Observation of Postadsorption Aggregation of Antifreeze Glycoproteins on Silicates. *Langmuir*, **2000**, 16, 5785-5789	4	19
5	Imaging streptavidin 2D crystals on biotinylated lipid monolayers at high resolution with the atomic force microscope. *Journal of Microscopy*, **1999**, 193, 28-35	1.9	99
4	Electrostatically balanced subnanometer imaging of biological specimens by atomic force microscope. *Biophysical Journal*, **1999**, 76, 1101-11	2.9	318
3	High resolution AFM topographs of the Escherichia coli water channel aquaporin Z. *EMBO Journal*, **1999**, 18, 4981-7	13	155
2	A Novel Preparation Method for High Resolution AFM Introduced With 2d-Streptavidin Crystals Grown on a Biotinlipid Monolayer. *Microscopy and Microanalysis*, **1998**, 4, 312-313	0.5	
1	Atomic Force Microscopy: High-Resolution Imaging of Structure and Assembly of Membrane Proteins	141-158	