David A Alsteens

List of Publications by Citations

107 papers	5,621 citations	41 h-index	74 g-index
126 ext. papers	6,806 ext. citations	12.1 avg, IF	5.85 L-index

#	Paper	IF	Citations
107	Imaging modes of atomic force microscopy for application in molecular and cell biology. *Nature Nanotechnology*, **2017**, 12, 295-307	28.7	494
106	Force probing surfaces of living cells to molecular resolution. *Nature Chemical Biology*, **2009**, 5, 383-90	11.7	371
105	Multiparametric imaging of biological systems by force-distance curve-based AFM. *Nature Methods*, **2013**, 10, 847-54	21.6	317
104	Atomic force microscopy-based mechanobiology. *Nature Reviews Physics*, **2019**, 1, 41-57	23.6	274
103	Molecular interaction and inhibition of SARS-CoV-2 binding to the ACE2 receptor. *Nature Communications*, **2020**, 11, 4541	17.4	246
102	Force-induced formation and propagation of adhesion nanodomains in living fungal cells. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 20744-9	11.5	161
101	Detection, localization, and conformational analysis of single polysaccharide molecules on live bacteria. *ACS Nano*, **2008**, 2, 1921-9	16.7	151
100	Direct measurement of hydrophobic forces on cell surfaces using AFM. *Langmuir*, **2007**, 23, 11977-9	4	141
99	Quantifying the forces guiding microbial cell adhesion using single-cell force spectroscopy. *Nature Protocols*, **2014**, 9, 1049-55	18.8	139
98	High-resolution cell surface dynamics of germinating Aspergillus fumigatus conidia. *Biophysical Journal*, **2008**, 94, 656-60	2.9	136
97	Chemical force microscopy of single live cells. *Nano Letters*, **2007**, 7, 3026-30	11.5	129
96	Nanomechanical mapping of first binding steps of a virus to animal cells. *Nature Nanotechnology*, **2017**, 12, 177-183	28.7	127
95	Single-cell force spectroscopy of probiotic bacteria. *Biophysical Journal*, **2013**, 104, 1886-92	2.9	125
94	Adhesion and nanomechanics of pili from the probiotic Lactobacillus rhamnosus GG. *ACS Nano*, **2013**, 7, 3685-97	16.7	125
93	The yeast Wsc1 cell surface sensor behaves like a nanospring in vivo. *Nature Chemical Biology*, **2009**, 5, 857-62	11.7	121
92	High-resolution imaging of chemical and biological sites on living cells using peak force tapping atomic force microscopy. *Langmuir*, **2012**, 28, 16738-44	4	114
91	A molecular mechanism for Wnt ligand-specific signaling. *Science*, **2018**, 361,	33.3	99

90	Multiparametric atomic force microscopy imaging of single bacteriophages extruding from living bacteria. *Nature Communications*, **2013**, 4, 2926	17.4	99
89	Atomic force microscopy-based characterization and design of biointerfaces. *Nature Reviews Materials*, **2017**, 2,	73.3	95
88	Organization of the mycobacterial cell wall: a nanoscale view. *Pflugers Archiv European Journal of Physiology*, **2008**, 456, 117-25	4.6	89
87	Stretching polysaccharides on live cells using single molecule force spectroscopy. *Nature Protocols*, **2009**, 4, 939-46	18.8	87
86	Strengthening relationships: amyloids create adhesion nanodomains in yeasts. *Trends in Microbiology*, **2012**, 20, 59-65	12.4	86
85	Imaging G protein-coupled receptors while quantifying their ligand-binding free-energy landscape. *Nature Methods*, **2015**, 12, 845-851	21.6	84
84	A role for amyloid in cell aggregation and biofilm formation. *PLoS ONE*, **2011**, 6, e17632	3.7	82
83	Unfolding individual als5p adhesion proteins on live cells. *ACS Nano*, **2009**, 3, 1677-82	16.7	81
82	Single-molecule imaging and functional analysis of Als adhesins and mannans during Candida albicans morphogenesis. *ACS Nano*, **2012**, 6, 10950-64	16.7	76
81	The Pseudomonas aeruginosa membranes: a target for a new amphiphilic aminoglycoside derivative?. *Biochimica Et Biophysica Acta - Biomembranes*, **2011**, 1808, 1716-27	3.8	71
80	Structure, cell wall elasticity and polysaccharide properties of living yeast cells, as probed by AFM. *Nanotechnology*, **2008**, 19, 384005	3.4	67
79	New frontiers in atomic force microscopy: analyzing interactions from single-molecules to cells. *Current Opinion in Biotechnology*, **2009**, 20, 4-13	11.4	61
78	Microbial nanoscopy: a closer look at microbial cell surfaces. *Trends in Microbiology*, **2010**, 18, 397-405	12.4	60
77	Identifying and quantifying two ligand-binding sites while imaging native human membrane receptors by AFM. *Nature Communications*, **2015**, 6, 8857	17.4	53
76	Multiparametric Atomic Force Microscopy Imaging of Biomolecular and Cellular Systems. *Accounts of Chemical Research*, **2017**, 50, 924-931	24.3	50
75	Mechanical Strength and Inhibition of the Staphylococcus aureus Collagen-Binding Protein Cna. *MBio*, **2016**, 7,	7.8	50
74	In vivo imaging of S-layer nanoarrays on Corynebacterium glutamicum. *Langmuir*, **2009**, 25, 9653-5	4	49
73	Chitin synthases with a myosin motor-like domain control the resistance of Aspergillus fumigatus to echinocandins. *Antimicrobial Agents and Chemotherapy*, **2012**, 56, 6121-31	5.9	48

72	Force-Induced Strengthening of the Interaction between Clumping Factor B and Loricrin. *MBio*, **2017**, 8,	7.8	44
71	Unzipping a functional microbial amyloid. *ACS Nano*, **2012**, 6, 7703-11	16.7	43
70	Mechanical Forces Guiding Staphylococcus aureus Cellular Invasion. *ACS Nano*, **2018**, 12, 3609-3622	16.7	42
69	Force nanoscopy of hydrophobic interactions in the fungal pathogen Candida glabrata. *ACS Nano*, **2015**, 9, 1648-55	16.7	42
68	Quantifying the forces driving cell-cell adhesion in a fungal pathogen. *Langmuir*, **2013**, 29, 13473-80	4	41
67	Nanoscale analysis of caspofungin-induced cell surface remodelling in Candida albicans. *Nanoscale*, **2013**, 5, 1105-15	7.7	41
66	Combining confocal and atomic force microscopy to quantify single-virus binding to mammalian cell surfaces. *Nature Protocols*, **2017**, 12, 2275-2292	18.8	39
65	Localizing chemical groups while imaging single native proteins by high-resolution atomic force microscopy. *Nano Letters*, **2014**, 14, 2957-64	11.5	39
64	Measurement of the mechanical behavior of yeast membrane sensors using single-molecule atomic force microscopy. *Nature Protocols*, **2010**, 5, 670-7	18.8	39
63	Initial Step of Virus Entry: Virion Binding to Cell-Surface Glycans. *Annual Review of Virology*, **2020**, 7, 143-165	14.5	38
62	Single-Cell Force Spectroscopy of Als-Mediated Fungal Adhesion. *Analytical Methods*, **2013**, 5, 3657-3662	3.2	37
61	Atomic force microscopy - looking at mechanosensors on the cell surface. *Journal of Cell Science*, **2012**, 125, 4189-95	5.3	35
60	Atomic force microscopy: a new look at pathogens. *PLoS Pathogens*, **2013**, 9, e1003516	7.6	33
59	Endophilin-A3 and Galectin-8 control the clathrin-independent endocytosis of CD166. *Nature Communications*, **2020**, 11, 1457	17.4	29
58	Multivalent binding of herpesvirus to living cells is tightly regulated during infection. *Science Advances*, **2018**, 4, eaat1273	14.3	29
57	Nanoscale membrane architecture of healthy and pathological red blood cells. *Nanoscale Horizons*, **2018**, 3, 293-304	10.8	28
56	Glycan-mediated enhancement of reovirus receptor binding. *Nature Communications*, **2019**, 10, 4460	17.4	26
55	Specific Interactions Measured by AFM on Living Cells between Peroxiredoxin-5 and TLR4: Relevance for Mechanisms of Innate Immunity. *Cell Chemical Biology*, **2018**, 25, 550-559.e3	8.2	25

54	Fishing single molecules on live cells. *Nano Today*, **2009**, 4, 262-268	17.9	25
53	Towards a nanoscale view of fungal surfaces. *Yeast*, **2007**, 24, 229-37	3.4	25
52	Single-molecule force spectroscopy of membrane proteins from membranes freely spanning across nanoscopic pores. *Nano Letters*, **2015**, 15, 3624-33	11.5	24
51	Atomic Force Microscopy-Based Force Spectroscopy and Multiparametric Imaging of Biomolecular and Cellular Systems. *Chemical Reviews*, **2021**, 121, 11701-11725	68.1	24
50	Atomic force and electron microscopic-based study of sarcolemmal surface of living cardiomyocytes unveils unexpected mitochondrial shift in heart failure. *Journal of Molecular and Cellular Cardiology*, **2014**, 74, 162-72	5.8	22
49	Nanoscale imaging of microbial pathogens using atomic force microscopy. *Wiley Interdisciplinary Reviews: Nanomedicine and Nanobiotechnology*, **2009**, 1, 168-80	9.2	18
48	Unraveling the nanoscale surface properties of chitin synthase mutants of Aspergillus fumigatus and their biological implications. *Biophysical Journal*, **2013**, 105, 320-7	2.9	17
47	Single-molecule analysis of the major glycopolymers of pathogenic and non-pathogenic yeast cells. *Nanoscale*, **2013**, 5, 4855-63	7.7	17
46	Sequential unfolding of beta helical protein by single-molecule atomic force microscopy. *PLoS ONE*, **2013**, 8, e73572	3.7	17
45	Controlled manipulation of bacteriophages using single-virus force spectroscopy. *ACS Nano*, **2009**, 3, 3063-8	16.7	17
44	The biomechanical properties of an epithelial tissue determine the location of its vasculature. *Nature Communications*, **2016**, 7, 13560	17.4	16
43	Probing ligand-receptor bonds in physiologically relevant conditions using AFM. *Analytical and Bioanalytical Chemistry*, **2019**, 411, 6549-6559	4.4	13
42	High-resolution mapping and recognition of lipid domains using AFM with toxin-derivatized probes. *Chemical Communications*, **2018**, 54, 6903-6906	5.8	13
41	Molecular mapping of lipoarabinomannans on mycobacteria. *Langmuir*, **2009**, 25, 4324-7	4	12
40	Seeing and sensing single G protein-coupled receptors by atomic force microscopy. *Current Opinion in Cell Biology*, **2019**, 57, 25-32	9	12
39	Frontiers in microbial nanoscopy. *Nanomedicine*, **2011**, 6, 395-403	5.6	11
38	Force spectroscopy of single cells using atomic force microscopy. *Nature Reviews Methods Primers*, **2021**, 1,		11
37	Regulatory Mechanisms of the Mucin-Like Region on Herpes Simplex Virus during Cellular Attachment. *ACS Chemical Biology*, **2019**, 14, 534-542	4.9	10

36	Control of Ligand-Binding Specificity Using Photocleavable Linkers in AFM Force Spectroscopy. *Nano Letters*, **2020**, 20, 4038-4042	11.5	9
35	Force-clamp spectroscopy identifies a catch bond mechanism in a Gram-positive pathogen. *Nature Communications*, **2020**, 11, 5431	17.4	9
34	Liquid-Liquid Phase Separation Enhances TDP-43 LCD Aggregation but Delays Seeded Aggregation. *Biomolecules*, **2021**, 11,	5.9	9
33	Microbial cells analysis by atomic force microscopy. *Methods in Enzymology*, **2012**, 506, 3-17	1.7	6
32	Molecular insights into receptor binding energetics and neutralization of SARS-CoV-2 variants. *Nature Communications*, **2021**, 12, 6977	17.4	6
31	Label-Free Imaging of Cholesterol Assemblies Reveals Hidden Nanomechanics of Breast Cancer Cells. *Advanced Science*, **2020**, 7, 2002643	13.6	6
30	Reovirus directly engages integrin to recruit clathrin for entry into host cells. *Nature Communications*, **2021**, 12, 2149	17.4	6
29	Lipid Domains and Membrane (Re)Shaping: From Biophysics to Biology. *Springer Series in Biophysics*, **2017**, 121-175		5
28	Nanomicrobiology. *Nanoscale Research Letters*, **2007**, 2, 365-372	5	4
27	Single-Virus Force Spectroscopy Discriminates the Intrinsic Role of Two Viral Glycoproteins upon Cell Surface Attachment. *Nano Letters*, **2021**, 21, 847-853	11.5	4
26	The Trypanosoma Brucei KIFC1 Kinesin Ensures the Fast Antibody Clearance Required for Parasite Infectivity. *IScience*, **2020**, 23, 101476	6.1	3
25	Submolecular probing of the complement C5a receptor-ligand binding reveals a cooperative two-site binding mechanism. *Communications Biology*, **2020**, 3, 786	6.7	3
24	Probing PIEZO1 Localization upon Activation Using High-Resolution Atomic Force and Confocal Microscopy. *Nano Letters*, **2021**, 21, 4950-4958	11.5	3
23	Multivalent 9-O-Acetylated-sialic acid glycoclusters as potent inhibitors for SARS-CoV-2 infection.. *Nature Communications*, **2022**, 13, 2564	17.4	3
22	Mechanical Forces between Mycobacterial Antigen 85 Complex and Fibronectin. *Cells*, **2020**, 9,	7.9	2
21	Mechanochemical Activation of Class-B G-Protein-Coupled Receptor upon Peptide-Ligand Binding. *Nano Letters*, **2020**, 20, 5575-5582	11.5	2
20	Single-Molecule Force Spectroscopy of Microbial Cell Envelope Proteins **2011**, 317-334		2
19	Molecular interaction and inhibition of SARS-CoV-2 binding to the ACE2 receptor		2

18	Multiparametric Atomic Force Microscopy Identifies Multiple Structural and Physical Heterogeneities on the Surface of. *ACS Omega*, **2020**, 5, 20953-20959	3.9	2
17	Probing Single Virus Binding Sites on Living Mammalian Cells Using AFM. *Methods in Molecular Biology*, **2018**, 1814, 483-514	1.4	1
16	Stepwise Enzymatic-Dependent Mechanism of Ebola Virus Binding to Cell Surface Receptors Monitored by AFM.. *Nano Letters*, **2022**,	11.5	1
15	Atomic Force Microscopy of Living Cells. *Neuromethods*, **2014**, 225-255	0.4	1
14	Reovirus □ Conformational Flexibility Modulates the Efficiency of Host Cell Attachment. *Journal of Virology*, **2020**, 94,	6.6	1
13	Impaired Cytoskeletal and Membrane Biophysical Properties of Acanthocytes in Hypobetalipoproteinemia - A Case Study. *Frontiers in Physiology*, **2021**, 12, 638027	4.6	1
12	Rotavirus Binding to Cell Surface Receptors Directly Recruiting □ Integrin. *Advanced NanoBiomed Research*,2100077	0	1
11	Recognition Imaging Using Atomic Force Microscopy **2009**, 525		1
10	Altered Glycan Expression on Breast Cancer Cells Facilitates Infection by T3 Seroptype Oncolytic Reovirus. *Nano Letters*, **2021**, 21, 9720-9728	11.5	0
9	Stress-Induced Catch-Bonds to Enhance Bacterial Adhesion. *Trends in Microbiology*, **2021**, 29, 286-288	12.4	0
8	Topography imaging of herpesvirus in native condition using atomic force microscopy. *Clinical Microbiology and Infection*, **2018**, 24, 610-611	9.5	
7	Nanomechanics of Yeast Surfaces Revealed by AFM. *Nanoscience and Technology*, **2012**, 171-193	0.6	
6	Towards a Nanoscale View of Microbial Surfaces Using the Atomic Force Microscope **2008**, 111-126		
5	Imaging Chemical Groups and Molecular Recognition Sites on Live Cells Using AFM. *Nanoscience and Technology*, **2009**, 33-48	0.6	
4	Towards a Nanoscale View of Microbial Surfaces Using the Atomic Force Microscope **2010**, 583-598		
3	Imaging Chemical Groups and Molecular Recognition Sites on Live Cells Using AFM **2010**, 463-478		
2	Stretching and Imaging Individual Proteins on Live Cells Using Atomic Force Microscopy **2012**, 211-233		
1	Rotavirus Binding to Cell Surface Receptors Directly Recruiting □2 Integrin. *Advanced NanoBiomed Research*, **2021**, 1, 2170123	0	