Philip M Williams

List of Publications by Year in descending order

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125 papers

5,724 citations

43 h-index 71 g-index

126 all docs

126 docs citations

126 times ranked 6285 citing authors

#	Article	IF	CITATIONS
1	Detection of Antigenâ^'Antibody Binding Events with the Atomic Force Microscope. Biochemistry, 1997, 36, 7457-7463.	2.5	340
2	Immobilization of Protein Molecules onto Homogeneous and Mixed Carboxylate-Terminated Self-Assembled Monolayers. Langmuir, 1997, 13, 6485-6490.	3.5	332
3	Single-Molecule Studies of Protein Folding. Annual Review of Biochemistry, 2008, 77, 101-125.	11.1	299
4	Hidden complexity in the mechanical properties of titin. Nature, 2003, 422, 446-449.	27.8	268
5	Interactions of 3T3 fibroblasts and endothelial cells with defined pore features. Journal of Biomedical Materials Research Part B, 2002, 61, 212-217.	3.1	195
6	Analytical descriptions of dynamic force spectroscopy: behaviour of multiple connections. Analytica Chimica Acta, 2003, 479, 107-115.	5.4	134
7	Direct real-time molecular scale visualisation of the degradation of condensed DNA complexes exposed to DNase I. Nucleic Acids Research, 2003, 31, 4001-4005.	14.5	129
8	The effect of poly(ethylene glycol) molecular architecture on cellular interaction and uptake of DNA complexes. Journal of Controlled Release, 2004, 97, 143-156.	9.9	118
9	Blind reconstruction of scanning probe image data. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1996, 14, 1557.	1.6	109
10	Porous Polymer and Cell Composites That Self-Assemble In Situ. Advanced Materials, 2003, 15, 210-213.	21.0	103
11	Interpretation of tapping mode atomic force microscopy data using amplitude-phase-distance measurements. Ultramicroscopy, 1998, 75, 171-181.	1.9	93
12	Surface Analysis of Biodegradable Polymer Blends of Poly(sebacic anhydride) and Poly(dl-lactic acid). Macromolecules, 1996, 29, 2205-2212.	4.8	92
13	Alignment of Aromatic Peptide Tubes in Strong Magnetic Fields. Advanced Materials, 2007, 19, 4474-4479.	21.0	87
14	Surface Engineering and Surface Analysis of a Biodegradable Polymer with Biotinylated End Groups. Langmuir, 1999, 15, 3157-3161.	3.5	83
15	Synthesis and Characterisation of a Degradable Poly(lactic acid)â^Poly(ethylene glycol) Copolymer with Biotinylated End Groups. Biomacromolecules, 2001, 2, 575-580.	5.4	81
16	Approaches to the immobilization of proteins at surfaces for analysis by scanning tunneling microscopy. Langmuir, 1993, 9, 2356-2362.	3.5	80
17	Observation of DNA-polymer condensate formation in real time at a molecular level. FEBS Letters, 2000, 480, 106-112.	2.8	80
18	Chemical and Morphological Analysis of Surface Enrichment in a Biodegradable Polymer Blend by Phase-Detection Imaging Atomic Force Microscopy. Macromolecules, 1998, 31, 2278-2283.	4.8	77

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19	Force-induced melting of a short DNA double helix. European Biophysics Journal, 2001, 30, 53-62.	2.2	77
20	In situ observation of streptavidin-biotin binding on an immunoassay well surface using an atomic force microscope. FEBS Letters, 1996, 390, 161-164.	2.8	73
21	Substrate induced differentiation of human mesenchymal stem cells on hydrogels with modified surface chemistry and controlled modulus. Soft Matter, 2011, 7, 6501.	2.7	73
22	Recognition of Protein Adsorption onto Polymer Surfaces by Scanning Force Microscopy and Probeâ [^] Surface Adhesion Measurements with Protein-Coated Probes. Langmuir, 1997, 13, 4106-4111.	3.5	71
23	A scanning probe microscopy study of the physisorption and chemisorption of protein molecules onto carboxylate terminated self-assembled monolayers. Applied Physics A: Materials Science and Processing, 1998, 66, S569-S574.	2.3	69
24	Optimizing phase imaging via dynamic force curves. Surface Science, 2000, 460, 292-300.	1.9	69
25	An in situ dissolution study of aspirin crystal planes (100) and (001) by atomic force microscopy. Pharmaceutical Research, 2001, 18, 299-303.	3.5	67
26	Bacterial Attachment to Polymeric Materials Correlates with Molecular Flexibility and Hydrophilicity. Advanced Healthcare Materials, 2015, 4, 695-701.	7.6	62
27	Printing patterns of biospecifically-adsorbed protein. Journal of Biomaterials Science, Polymer Edition, 2000, 11, 319-331.	3.5	61
28	Atomic force microscopy studies of intercalation-induced changes in plasmid DNA tertiary structure. Journal of Microscopy, 2000, 199, 68-78.	1.8	60
29	An Atomic Force Microscopy Study of the Effect of Nanoscale Contact Geometry and Surface Chemistry on the Adhesion of Pharmaceutical Particles. Pharmaceutical Research, 2004, 21, 953-961.	3.5	60
30	Use of Scanning Probe Microscopy and Surface Plasmon Resonance as Analytical Tools in the Study of Antibody-Coated Microtiter Wells. Langmuir, 1994, 10, 2654-2661.	3.5	59
31	Characterization of particle-interactions by atomic force microscopy: effect of contact area. Pharmaceutical Research, 2003, 20, 508-514.	3.5	56
32	Blow fly <i>Lucilia sericata</i> nuclease digests DNA associated with wound slough/eschar and with <i>Pseudomonas aeruginosa</i> biofilm. Medical and Veterinary Entomology, 2012, 26, 432-439.	1.5	56
33	Molecular Interactions of Biomolecules with Surface-Engineered Interfaces Using Atomic Force Microscopy and Surface Plasmon Resonance. Langmuir, 1999, 15, 5136-5140.	3.5	55
34	The drag on a microcantilever oscillating near a wall. Journal of Fluid Mechanics, 2005, 545, 397.	3.4	55
35	Effects of glycosylation on fragments of tumour associated human epithelial mucin MUC1. Bioorganic and Medicinal Chemistry, 1998, 6, 1531-1545.	3.0	51
36	Dendron Arrays for the Force-Based Detection of DNA Hybridization Events. Journal of the American Chemical Society, 2007, 129, 9349-9355.	13.7	51

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37	Surface Characterization of Aspirin Crystal Planes by Dynamic Chemical Force Microscopy. Analytical Chemistry, 2000, 72, 3419-3422.	6.5	48
38	Polymorphic Discrimination Using Atomic Force Microscopy:Â Distinguishing between Two Polymorphs of the Drug Cimetidine. Langmuir, 2000, 16, 866-870.	3.5	46
39	A Simple Method for Biocompatible Polymer Based Spatially Controlled Adsorption of Blood Plasma Proteins to a Surface. Langmuir, 2001, 17, 7402-7405.	3.5	46
40	Real-Space Differentiation of IgG and IgM Antibodies Deposited on Microtiter Wells by Scanning Force Microscopy. Langmuir, 1995, 11, 1822-1826.	3.5	45
41	Atomic force microscopy in analytical biotechnology. Trends in Biotechnology, 1997, 15, 101-105.	9.3	45
42	In Situ Atomic Force Microscopy Visualization of the Degradation of Melt-Crystallized Poly(sebacic) Tj ETQq0 0 C) rgBT /Ove	erlock 10 Tf 5
43	Surface Mobility of 2-Methacryloyloxyethyl Phosphorylcholine-co-Lauryl Methacrylate Polymers. Langmuir, 2000, 16, 5116-5122.	3.5	43
44	Differential scanning calorimetry and scanning thermal microscopy analysis of pharmaceutical materials. International Journal of Pharmaceutics, 2002, 243, 71-82.	5.2	42
45	pH-Dependent Behavior of Surface-immobilized Artificial Leucine Zipper Proteins. Langmuir, 2004, 20, 7747-7752.	3.5	41
46	Three-dimensional flow due to a microcantilever oscillating near a wall: an unsteady slender-body analysis. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2006, 462, 913-933.	2.1	40
47	Protein identification by 3D OrbiSIMS to facilitate in situ imaging and depth profiling. Nature Communications, 2020, 11, 5832.	12.8	40
48	Stochastic Elastohydrodynamics of a Microcantilever Oscillating Near a Wall. Physical Review Letters, 2006, 96, 050801.	7.8	39
49	Relating the phase morphology of a biodegradable polymer blend to erosion kinetics using simultaneous in situ atomic force microscopy and surface plasmon resonance analysis. Langmuir, 1995, 11, 3921-3927.	3.5	38
50	Influence of Architecture on the Kinetic Stability of Molecular Assemblies. Journal of the American Chemical Society, 2004, 126, 1318-1319.	13.7	38
51	A 13C CP/MAS NMR spectroscopy and AFM study of the structure of Glucagelâ,,¢, a gelling β-glucan from barley. Carbohydrate Research, 1999, 315, 169-179.	2.3	37
52	Morphological Development of \hat{I}^2 (1-40) Amyloid Fibrils. Experimental Neurology, 1999, 158, 437-443.	4.1	37
53	Atomic Force Microscopic Analysis of Highly Defined Protein Patterns Formed by Microfluidic Networks. Langmuir, 1999, 15, 7252-7257.	3.5	36
54	Probing DNA Duplex Formation and DNAâ^'Drug Interactions by the Quartz Crystal Microbalance Technique. Langmuir, 2001, 17, 8300-8304.	3.5	35

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55	Atomic force microscopy of gastric mucin and chitosan mucoadhesive systems. Biochemical Journal, 2000, 348, 557.	3.7	34
56	The influence of epitope availability on atomic-force microscope studies of antigenâ€'antibody interactions. Biochemical Journal, 1999, 341, 173.	3.7	33
57	Atomic Force Microscopy of Cationic Liposomes. Langmuir, 2000, 16, 4813-4818.	3.5	33
58	Single-Molecule Investigations of RNA Dissociation. Biophysical Journal, 2004, 86, 3811-3821.	0.5	33
59	Degradation of a Thin Polymer Film Studied by Simultaneous in Situ Atomic Force Microscopy and Surface Plasmon Resonance Analysis. The Journal of Physical Chemistry, 1995, 99, 11537-11542.	2.9	32
60	Investigating the Interfacial Properties of Single-Liquid Nanodroplets by Atomic Force Microscopy. Langmuir, 2002, 18, 1719-1728.	3.5	32
61	A Methodology for Investigating Protein Adhesion and Adsorption to Microarrayed Combinatorial Polymers. Macromolecular Rapid Communications, 2008, 29, 1298-1302.	3.9	32
62	The discrimination of drug polymorphic forms from single crystals using atomic force microscopy. Pharmaceutical Research, 2000, 17, 887-890.	3.5	31
63	Molecular Level Investigations of the Inter- and Intramolecular Interactions of pH-Responsive Artificial Triblock Proteins. Biomacromolecules, 2005, 6, 1266-1271.	5.4	31
64	The discrimination of IgM and IgG type antibodies and Fab′ and F(ab)2 antibody fragments on an industrial substrate using scanning force microscopy. Ultramicroscopy, 1996, 62, 149-155.	1.9	30
65	Studies of covalently immobilized protein molecules by scanning tunneling microscopy: the role of water in image contrast formation. The Journal of Physical Chemistry, 1993, 97, 8852-8854.	2.9	29
66	The Development, Characterization, and Demonstration of a Versatile Immobilization Strategy for Biomolecular Force Measurements. Langmuir, 2002, 18, 6659-6665.	3.5	28
67	Direct atomic force microscopy observations of monovalent ion induced binding of DNA to mica. Journal of Microscopy, 2004, 215, 297-301.	1.8	28
68	Atomic force microscopy and scanning tunnelling microscopy: Refining techniques for studying biomolecules. Trends in Biotechnology, 1994, 12, 127-132.	9.3	27
69	Dynamic Surface Events Measured by Simultaneous Probe Microscopy and Surface Plasmon Detection. Analytical Chemistry, 1996, 68, 1451-1455.	6.5	27
70	Intercalation-induced changes in DNA supercoiling observed in real-time by atomic force microscopy. Analytica Chimica Acta, 1999, 400, 27-32.	5.4	27
71	Monitoring the Dissolution Mechanisms of Amorphous Bicalutamide Solid Dispersions via Real-Time Raman Mapping. Molecular Pharmaceutics, 2015, 12, 1512-1522.	4.6	26
72	In SituSurface Plasmon Resonance Analysis of Dextran Monolayer Degradation by Dextranase. Langmuir, 1997, 13, 7115-7120.	3.5	25

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73	Toward True Surface Recovery:Â Studying Distortions in Scanning Probe Microscopy Image Data. Langmuir, 1996, 12, 3468-3471.	3.5	24
74	Investigation of the Hydration Kinetics of Novel Poly(ethylene oxide) Containing Polyurethanes. Langmuir, 2000, 16, 2744-2750.	3.5	23
75	Scanning tunnelling microscopy studies of \hat{l}^2 -amyloid fibril structure and assembly. FEBS Letters, 1995, 371, 25-28.	2.8	20
76	STM of Insulators with the Probe in Contact with an Aqueous Layer. Journal of Physical Chemistry B, 1997, 101, 5138-5142.	2.6	20
77	Electrostatic interactions observed when imaging proteins with the atomic force microscope. Ultramicroscopy, 2003, 96, 37-46.	1.9	20
78	Spatial Confinement of Neurite Regrowth from Dorsal Root Ganglia within Nonporous Microconduits. Tissue Engineering, 2003, 9, 201-208.	4.6	20
79	Quantifying surface topography and scanning probe image reconstruction. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1999, 17, 273.	1.6	19
80	Atomic Force Microscope and Surface Plasmon Resonance Investigation of Polymer Blends of Poly([2-(methacryloyloxy)ethyl]phosphorylcholine-co-lauryl methacrylate) and Poly(lauryl) Tj ETQq0 0 0 rgBT /O	verl øæ k 10	Tf 50 457 Td
81	Interactions between Signal-Transducing Proteins Measured by Atomic Force Microscopy. Analytical Chemistry, 2009, 81, 3276-3284.	6.5	19
82	High-Resolution Atomic Force Microscopy of Dextran Monolayer Hydration. Langmuir, 1997, 13, 4795-4798.	3.5	18
83	Simulating the dynamic strength of molecular interactions. Journal of Chemical Physics, 2001, 114, 3208-3214.	3.0	18
84	Simulations of multi-directional forced unfolding of titin I27. Journal of Molecular Graphics and Modelling, 2006, 24, 396-403.	2.4	17
85	A novel DFP tripeptide motif interacts with the coagulation factor XI apple 2 domain. Blood, 2016, 127, 2915-2923.	1.4	17
86	Application of protein-coated scanning force microscopy probes in measurements of surface affinity to protein adsorption. Applied Physics A: Materials Science and Processing, 1998, 66, S631-S634.	2.3	16
87	On the dynamic behaviour of the forced dissociation of ligand–receptor pairs. Perkin Transactions II RSC, 2000, , 5-8.	1.1	16
88	Molecular patterning on carbon based surfaces through photobiotin activation. Analyst, The, 2001, 126, 195-198.	3.5	16
89	Compositional Mapping of Self-Assembled Monolayers Derivatized within Microfluidic Networks. Langmuir, 2002, 18, 3151-3158.	3.5	16
90	Ultra-Resolution Imaging of a Self-Assembling Biomolecular System Using Robust Carbon Nanotube AFM Probes. Langmuir, 2007, 23, 3906-3911.	3.5	16

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91	Release of Protein from a Poly(ortho ester) Film during Surface Erosion Studied by in Situ Atomic Force Microscopy. Langmuir, 1995, 11, 2547-2553.	3.5	15
92	Probing protein–peptide–protein molecular architecture by atomic force microscopy and surface plasmon resonance. Analyst, The, 2000, 125, 245-250.	3.5	15
93	Atomic Force Microscopy Study of Human Amylin (20-29) Fibrils. Protein and Peptide Letters, 2005, 12, 79-83.	0.9	15
94	Strategies for MCR image analysis of large hyperspectral dataâ€sets. Surface and Interface Analysis, 2013, 45, 466-470.	1.8	15
95	Impact of cold plasma on the biomolecules and organoleptic properties of foods: A review. Journal of Food Science, 2021, 86, 3762-3777.	3.1	15
96	A novel organic solventâ€based coupling method for the preparation of covalently immobilized proteins on gold. Protein Science, 1996, 5, 2329-2332.	7.6	13
97	Can an Atomic Force Microscope Sequence DNA Using a Nanopore?. Biophysical Journal, 2008, 94, 1233-1240.	0.5	13
98	Patterning the mechanical properties of hydrogen silsesquioxane films using electron beam irradiation for application in mechano cell guidance. Thin Solid Films, 2011, 519, 2003-2010.	1.8	13
99	The use of a polymer film to estimate AFM probe profile. Surface Science, 1994, 318, L1219-L1224.	1.9	12
100	The application of force microscopy to immunodiagnostic systems: imaging and biomolecular adhesion measurements. Applied Physics A: Materials Science and Processing, 1998, 66, S255-S261.	2.3	12
101	Bifunctional atomic force microscopy probes for molecular screening applications. Analytica Chimica Acta, 2003, 479, 77-85.	5.4	11
102	Accurate velocity measurements of AFM-cantilever vibrations by Doppler interferometry. Journal of Experimental Nanoscience, 2006, 1, 51-62.	2.4	11
103	An assessment of beclomethasone dipropionate clathrate formation in a model suspension metered dose inhaler. International Journal of Pharmaceutics, 2010, 391, 98-106.	5.2	10
104	Protein Unfolding under Force: Crack Propagation in a Network. Biophysical Journal, 2011, 101, 736-744.	0.5	10
105	The Role of Scanning Probe Microscopy in Drug Delivery Research. Critical Reviews in Therapeutic Drug Carrier Systems, 1996, 13, 225-256.	2.2	10
106	Controlled nanometre-scale line and symbol formation on graphite in air using a scanning tunnelling microscope. Journal of Physics Condensed Matter, 1991, 3, 7213-7216.	1.8	9
107	Structural refinement and measurement of biomolecules using novel software algorithms and methodologies. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1994, 12, 1456.	1.6	8
108	Conformational differences in two mutant hinge IgG4 antibodies observed by scanning tunneling microscopy. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1994, 12, 1517.	1.6	8

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109	Screening the Biointeractions of Submicron Sized Particles Intended for Site-Specific Delivery Using Surface Plasmon Resonance. Journal of Colloid and Interface Science, 1999, 218, 456-461.	9.4	8
110	Noise-compliant tip-shape derivation. Applied Physics A: Materials Science and Processing, 1998, 66, S911-S914.	2.3	7
111	Mapping the Surface Characteristics of Polystyrene Microtiter Wells by a Multimode Scanning Force Microscopy Approach. Journal of Colloid and Interface Science, 2001, 242, 470-476.	9.4	7
112	Direct measurement of drug–enzyme interactions by atomic force microscopy; dihydrofolate reductase and methotrexate. Perkin Transactions II RSC, 2002, , 1722-1727.	1.1	7
113	Observation of a superâ€periodic feature on gold with a scanning tunneling microscope. Applied Physics Letters, 1992, 60, 1436-1437.	3.3	6
114	Measurement of Particle and Surface Interactions Using Force Microscopy., 2009,, 31-80.		6
115	Combined surface plasmon resonance and scanning force microscope instrument. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1996, 14, 1582.	1.6	5
116	Hydrodynamic damping of tip oscillation in pulsed-force atomic force microscopy. Applied Physics Letters, 2000, 77, 3462-3464.	3.3	5
117	Data Analysis Using the Internet: the World Wide Web Scanning Probe Microscopy Data Analysis System. Analyst, The, 1997, 122, 1001-1006.	3.5	4
118	An enthalpic approach to the analysis of the scanning force ligand rupture experiment. Journal of the Chemical Society Perkin Transactions II, 1998, , 253-258.	0.9	4
119	Investigation of microcontact transfer of proteins from a selectively plasma treated elastomer stamp by fluorescence microscopy and force microscopy. Analyst, The, 2001, 126, 1100-1104.	3.5	4
120	Analyzing the origins of receptor–ligand adhesion forces measured by the scanning force microscope. Journal of the Chemical Society Perkin Transactions II, 1999, , 419-424.	0.9	3
121	Shear Force and Phase Imaging of Protein Boundaries. Langmuir, 1999, 15, 5433-5436.	3.5	2
122	Biomembrane force probe investigation of RNA dissociation. European Biophysics Journal, 2011, 40, 247-257.	2.2	2
123	Making video presentations from the Evans and Sutherland PS390. Journal of Molecular Graphics, 1990, 8, 31-33.	1.1	1
124	A High Resolution Atomic Force Microscopy Study of Poly(lactic acid-co-ethylene glycol). Polymer Journal, 2000, 32, 444-446.	2.7	1
125	Effect of scanning force microscope scanner geometry on probe-sample contact force. Review of Scientific Instruments, 1997, 68, 1773-1775.	1.3	0