

Georg E Fantner

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

78
papers

4,261
citations

31
h-index

65
g-index

87
ext. papers

4,880
ext. citations

9.2
avg, IF

5.14
L-index

#	Paper	IF	Citations
78	Sacrificial bonds and hidden length dissipate energy as mineralized fibrils separate during bone fracture. <i>Nature Materials</i> , 2005 , 4, 612-6	27	723
77	Kinetics of antimicrobial peptide activity measured on individual bacterial cells using high-speed atomic force microscopy. <i>Nature Nanotechnology</i> , 2010 , 5, 280-5	28.7	253
76	Sacrificial bonds and hidden length: unraveling molecular mesostructures in tough materials. <i>Biophysical Journal</i> , 2006 , 90, 1411-8	2.9	237
75	High-resolution AFM imaging of intact and fractured trabecular bone. <i>Bone</i> , 2004 , 35, 4-10	4.7	222
74	Components for high speed atomic force microscopy. <i>Ultramicroscopy</i> , 2006 , 106, 881-7	3.1	196
73	Protective coatings on extensible biofibres. <i>Nature Materials</i> , 2007 , 6, 669-72	27	186
72	Focused electron beam induced deposition: A perspective. <i>Beilstein Journal of Nanotechnology</i> , 2012 , 3, 597-619	3	180
71	Virus-templated assembly of porphyrins into light-harvesting nanoantennae. <i>Journal of the American Chemical Society</i> , 2010 , 132, 1462-3	16.4	166
70	Applied physics. High-speed atomic force microscopy. <i>Science</i> , 2006 , 314, 601-2	33.3	148
69	Nanoscale ion mediated networks in bone: osteopontin can repeatedly dissipate large amounts of energy. <i>Nano Letters</i> , 2007 , 7, 2491-8	11.5	116
68	Influence of the degradation of the organic matrix on the microscopic fracture behavior of trabecular bone. <i>Bone</i> , 2004 , 35, 1013-22	4.7	102
67	Rigid design of fast scanning probe microscopes using finite element analysis. <i>Ultramicroscopy</i> , 2004 , 100, 259-65	3.1	101
66	Evidence that collagen fibrils in tendons are inhomogeneously structured in a tubelike manner. <i>Biophysical Journal</i> , 2003 , 84, 2593-8	2.9	99
65	Force spectroscopy of collagen fibers to investigate their mechanical properties and structural organization. <i>Biophysical Journal</i> , 2004 , 86, 3186-93	2.9	96
64	Chronic inflammation imposes aberrant cell fate in regenerating epithelia through mechanotransduction. <i>Nature Cell Biology</i> , 2016 , 18, 168-80	23.4	82
63	High-speed photothermal off-resonance atomic force microscopy reveals assembly routes of centriolar scaffold protein SAS-6. <i>Nature Nanotechnology</i> , 2018 , 13, 696-701	28.7	71
62	High-Resolution Correlative Microscopy: Bridging the Gap between Single Molecule Localization Microscopy and Atomic Force Microscopy. <i>Nano Letters</i> , 2015 , 15, 4896-904	11.5	66

61	Harnessing the damping properties of materials for high-speed atomic force microscopy. <i>Nature Nanotechnology</i> , 2016 , 11, 147-51	28.7	62
60	Data acquisition system for high speed atomic force microscopy. <i>Review of Scientific Instruments</i> , 2005 , 76, 026118	1.7	62
59	The role of calcium and magnesium in the concrete tubes of the sandcastle worm. <i>Journal of Experimental Biology</i> , 2007 , 210, 1481-8	3	61
58	Hierarchical interconnections in the nano-composite material bone: Fibrillar cross-links resist fracture on several length scales. <i>Composites Science and Technology</i> , 2006 , 66, 1205-1211	8.6	59
57	Maturing peptidoglycan requires non-canonical crosslinks to maintain shape. <i>ELife</i> , 2018 , 7,	8.9	57
56	A compressible scaffold for minimally invasive delivery of large intact neuronal networks. <i>Advanced Healthcare Materials</i> , 2015 , 4, 301-12	10.1	52
55	Effect of Ca ²⁺ ions on the adhesion and mechanical properties of adsorbed layers of human osteopontin. <i>Biophysical Journal</i> , 2008 , 95, 2939-50	2.9	48
54	Bone diagnostic instrument. <i>Review of Scientific Instruments</i> , 2006 , 77, 075105	1.7	46
53	Single-molecule kinetics of pore assembly by the membrane attack complex. <i>Nature Communications</i> , 2019 , 10, 2066	17.4	42
52	Division site selection linked to inherited cell surface wave troughs in mycobacteria. <i>Nature Microbiology</i> , 2017 , 2, 17094	26.6	40
51	Investigations into the polymorphism of rat tail tendon fibrils using atomic force microscopy. <i>Biochemical and Biophysical Research Communications</i> , 2003 , 303, 508-13	3.4	37
50	Single-molecule kinetic analysis of HP1-chromatin binding reveals a dynamic network of histone modification and DNA interactions. <i>Nucleic Acids Research</i> , 2017 , 45, 10504-10517	20.1	34
49	High-speed imaging upgrade for a standard sample scanning atomic force microscope using small cantilevers. <i>Review of Scientific Instruments</i> , 2014 , 85, 093702	1.7	33
48	Detecting topological variations of DNA at single-molecule level. <i>Nature Communications</i> , 2019 , 10, 3	17.4	31
47	Direct-write nanoscale printing of nanogranular tunnelling strain sensors for sub-micrometre cantilevers. <i>Nature Communications</i> , 2016 , 7, 12487	17.4	30
46	Growth and Dissolution of Calcite in the Presence of Adsorbed Stearic Acid. <i>Langmuir</i> , 2015 , 31, 7563-714		29
45	DMCMN: In Depth Characterization and Control of AFM Cantilevers With Integrated Sensing and Actuation. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2009 , 131,	1.6	27
44	Studying biological membranes with extended range high-speed atomic force microscopy. <i>Scientific Reports</i> , 2015 , 5, 11987	4.9	26

43	A 0.1% THD, 1-M Ω to 1-G Ω Tunable, Temperature-Compensated Transimpedance Amplifier Using a Multi-Element Pseudo-Resistor. <i>IEEE Journal of Solid-State Circuits</i> , 2018 , 53, 1913-1923	5.5	26
42	High-frequency multimodal atomic force microscopy. <i>Beilstein Journal of Nanotechnology</i> , 2014 , 5, 2459-67		26
41	High-speed photography of the development of microdamage in trabecular bone during compression. <i>Journal of Materials Research</i> , 2006 , 21, 1093-1100	2.5	23
40	Automated wafer-scale fabrication of electron beam deposited tips for atomic force microscopes using pattern recognition. <i>Nanotechnology</i> , 2004 , 15, 1131-1134	3.4	20
39	Probing the Morphology and Evolving Dynamics of 3D Printed Nanostructures Using High-Speed Atomic Force Microscopy. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 24456-24461	9.5	19
38	Design of a high-bandwidth tripod scanner for high speed atomic force microscopy. <i>Scanning</i> , 2016 , 38, 889-900	1.6	18
37	Scratching the Surface: Bacterial Cell Envelopes at the Nanoscale. <i>MBio</i> , 2020 , 11,	7.8	14
36	Photothermal Off-Resonance Tapping for Rapid and Gentle Atomic Force Imaging of Live Cells. <i>International Journal of Molecular Sciences</i> , 2018 , 19,	6.3	14
35	Cancer-cell stiffening via cholesterol depletion enhances adoptive T-cell immunotherapy. <i>Nature Biomedical Engineering</i> , 2021 ,	19	14
34	Microfluidic bacterial traps for simultaneous fluorescence and atomic force microscopy. <i>Nano Research</i> , 2017 , 10, 3896-3908	10	13
33	Overlapping and essential roles for molecular and mechanical mechanisms in mycobacterial cell division. <i>Nature Physics</i> , 2020 , 16, 57-62	16.2	13
32	A biphasic growth model for cell pole elongation in mycobacteria. <i>Nature Communications</i> , 2020 , 11, 452	17.4	12
31	Large-scale analysis of high-speed atomic force microscopy data sets using adaptive image processing. <i>Beilstein Journal of Nanotechnology</i> , 2012 , 3, 747-58	3	12
30	Large-Range HS-AFM Imaging of DNA Self-Assembly through In Situ Data-Driven Control. <i>Small Methods</i> , 2019 , 3, 1900031	12.8	11
29	Air and Water-Stable n-Type Doping and Encapsulation of Flexible MoS ₂ Devices with SU8. <i>Advanced Electronic Materials</i> , 2019 , 5, 1800492	6.4	11
28	Time-Resolved Scanning Ion Conductance Microscopy for Three-Dimensional Tracking of Nanoscale Cell Surface Dynamics. <i>ACS Nano</i> , 2021 ,	16.7	10
27	Mechanical Properties of Soft Biological Membranes for Organ-on-a-Chip Assessed by Bulge Test and AFM. <i>ACS Biomaterials Science and Engineering</i> , 2021 , 7, 2990-2997	5.5	10
26	Correlative 3D microscopy of single cells using super-resolution and scanning ion-conductance microscopy. <i>Nature Communications</i> , 2021 , 12, 4565	17.4	10

25	Increased drug permeability of a stiffened mycobacterial outer membrane in cells lacking MFS transporter Rv1410 and lipoprotein LprG. <i>Molecular Microbiology</i> , 2019 , 111, 1263-1282	4.1	10
24	High-Throughput Nanocapillary Filling Enabled by Microwave Radiation for Scanning Ion Conductance Microscopy Imaging. <i>ACS Applied Nano Materials</i> , 2020 , 3, 7829-7834	5.6	9
23	Components for high-speed atomic force microscopy optimized for low phase-lag 2017 ,		8
22	Single-cycle-PLL detection for real-time FM-AFM applications. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2014 , 8, 206-15	5.1	7
21	Digitally controlled analog proportional-integral-derivative (PID) controller for high-speed scanning probe microscopy. <i>Review of Scientific Instruments</i> , 2017 , 88, 123712	1.7	6
20	Data-Driven Controller Design for Atomic-Force Microscopy. <i>IFAC-PapersOnLine</i> , 2017 , 50, 10437-10442	0.7	6
19	Surface-catalyzed SAS-6 self-assembly directs centriole formation through kinetic and structural mechanisms		5
18	An atomic force microscope integrated with a helium ion microscope for correlative nanoscale characterization. <i>Beilstein Journal of Nanotechnology</i> , 2020 , 11, 1272-1279	3	4
17	The role of convolutional neural networks in scanning probe microscopy: a review. <i>Beilstein Journal of Nanotechnology</i> , 2021 , 12, 878-901	3	4
16	Analysis of local deformation effects in resistive strain sensing of a submicron-thickness AFM cantilever 2013 ,		3
15	Kinetic and structural roles for the surface in guiding SAS-6 self-assembly to direct centriole architecture. <i>Nature Communications</i> , 2021 , 12, 6180	17.4	3
14	Parietal Structures of Can Impact the D-Cateslytin Antibacterial Activity. <i>ACS Chemical Biology</i> , 2020 , 15, 2801-2814	4.9	3
13	Reducing uncertainties in energy dissipation measurements in atomic force spectroscopy of molecular networks and cell-adhesion studies. <i>Scientific Reports</i> , 2018 , 8, 9390	4.9	2
12	Imaging Bacterial Cell Death Induced by Antimicrobial Peptides in Real Time Using High Speed AFM. <i>Microscopy and Microanalysis</i> , 2010 , 16, 466-467	0.5	2
11	Maturing Mycobacterial Peptidoglycan Requires Non-canonical Crosslinks to Maintain Shape		2
10	Tuning SAS-6 architecture with monobodies impairs distinct steps of centriole assembly. <i>Nature Communications</i> , 2021 , 12, 3805	17.4	2
9	Integration of sharp silicon nitride tips into high-speed SU8 cantilevers in a batch fabrication process. <i>Beilstein Journal of Nanotechnology</i> , 2019 , 10, 2357-2363	3	2
8	Correlative Microscopy Using Scanning Probe Microscopes 2019 , 99-118		1

7	Modeling and Design of high-speed FM-AFM driver electronics using Cadence Virtuoso [®] and Simulink [®] . <i>IFAC-PapersOnLine</i> , 2015 , 48, 671-672	0.7	1
6	Correlative 3D microscopy of single cells using super-resolution and scanning ion-conductance microscopy		1
5	Single-molecule kinetics of pore assembly by the membrane attack complex		1
4	Time-resolved scanning ion conductance microscopy for three-dimensional tracking of nanoscale cell surface dynamics		1
3	High-Speed Atomic Force Microscopy: Large-Range HS-AFM Imaging of DNA Self-Assembly through In Situ Data-Driven Control (Small Methods 7/2019). <i>Small Methods</i> , 2019 , 3, 1970022	12.8	0
2	Correlated Atomic Force Microscopy and Single Molecule Localization Microscopy. <i>Microscopy and Microanalysis</i> , 2015 , 21, 1625-1626	0.5	
1	In-situ Correlative Analysis of electrical and magnetic properties of Ion-beam treated surfaces by combination of AFM and FIB. <i>Microscopy and Microanalysis</i> , 2021 , 27, 1020-1020	0.5	