## Richard Superfine

List of Publications by Year in descending order

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142 papers 11,720 citations

51
h-index

28224 105 g-index

148 all docs

148 docs citations

148 times ranked 13240 citing authors

#	Article	IF	CITATIONS
1	Nuclear Deformation Causes DNA Damage by Increasing Replication Stress. Current Biology, 2021, 31, 753-765.e6.	1.8	97
2	Induction of ciliary orientation by matrix patterning and characterization of mucociliary transport. Biophysical Journal, 2021, 120, 1387-1395.	0.2	15
3	A survey of physical methods for studying nuclear mechanics and mechanobiology. APL Bioengineering, 2021, 5, 041508.	3.3	17
4	Combined Selective Plane Illumination Microscopy and FRAP Maps Intranuclear Diffusion of NLS-GFP. Biophysical Journal, 2020, 119, 514-524.	0.2	10
5	A Side-view on Nuclear Mechanics: Combined Atomic Force Microscopy and Light Sheet Microscopy Inform Chromatin's Role in Regulating Nuclear Morphology. Biophysical Journal, 2020, 118, 285a.	0.2	O
6	Correlating nuclear morphology and external force with combined atomic force microscopy and light sheet imaging separates roles of chromatin and lamin A/C in nuclear mechanics. Molecular Biology of the Cell, 2020, 31, 1788-1801.	0.9	73
7	Combined AFM and Vertical Light Sheet Microscopy to Correlate Actin Accumulation to Engulfment Forces During Phagocytosis. Biophysical Journal, 2020, 118, 33a.	0.2	O
8	Vinculin and metavinculin exhibit distinct effects on focal adhesion properties, cell migration, and mechanotransduction. PLoS ONE, 2019, 14, e0221962.	1.1	19
9	Nuclear Deformation with Combined AFM and 3D Multi-Color Live-Cell Line Bessel Sheet Imaging. Biophysical Journal, 2019, 116, 24a.	0.2	O
10	Forces of Phagocytosis with Two-Channel Live Cell Bessel Light Sheet 3D Imaging. Biophysical Journal, 2019, 116, 417a.	0.2	0
11	PAK2 links cell survival to mechanotransduction and metabolism. Journal of Cell Biology, 2019, 218, 1958-1971.	2.3	17
12	VIEW-MOD: a versatile illumination engine with a modular optical design for fluorescence microscopy. Optics Express, 2019, 27, 19950.	1.7	15
13	Vertical Light Sheet Enhanced Side-View Imaging for AFM Cell Mechanics Studies. Scientific Reports, 2018, 8, 1504.	1.6	34
14	Analysisâ€aware microscopy video compression. Microscopy Research and Technique, 2018, 81, 693-703.	1.2	0
15	Force Spectroscopy of Phagocytosis with High Frame Rate 3D Light Sheet Imaging. Biophysical Journal, 2018, 114, 530a.	0.2	1
16	Microfluidic viscometry using magnetically actuated micropost arrays. PLoS ONE, 2018, 13, e0200345.	1.1	13
17	Microtubule Acetylation Is Required for Mechanosensation in Drosophila. Cell Reports, 2018, 25, 1051-1065.e6.	2.9	47
18	Buffer drains and mucus is transported upward in a tilted mucus clearance assay. American Journal of Physiology - Lung Cellular and Molecular Physiology, 2018, 315, L910-L918.	1.3	7

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19	Effects of Opsonin Density and type on the Phagocytosis of Beads. Biophysical Journal, 2017, 112, 90a-91a.	0.2	1
20	Quantitative assessment of the upper airway in infants and children with subglottic stenosis. Laryngoscope, 2016, 126, 1225-1231.	1.1	25
21	Volumetric nasal cavity analysis in children with unilateral and bilateral cleft lip and palate. Laryngoscope, 2016, 126, 1475-1480.	1.1	22
22	An Automated High-throughput Array Microscope for Cancer Cell Mechanics. Scientific Reports, 2016, 6, 27371.	1.6	5
23	The Virtual Pediatric Airways Workbench. Studies in Health Technology and Informatics, 2016, 220, 295-300.	0.2	8
24	Analysis-preserving video microscopy compression via correlation and mathematical morphology. Microscopy Research and Technique, 2015, 78, 1055-1061.	1.2	2
25	Analysis of driven nanorod transport through a biopolymer matrix. Journal of Magnetism and Magnetic Materials, 2015, 380, 295-298.	1.0	10
26	Highly responsive core-shell microactuator arrays for use in viscous and viscoelastic fluids. Journal of Micromechanics and Microengineering, 2015, 25, 025004.	1.5	9
27	Micro-elastometry on whole blood clots using actuated surface-attached posts (ASAPs). Lab on A Chip, 2015, 15, 1385-1393.	3.1	21
28	A high throughput array microscope for the mechanical characterization of biomaterials. Review of Scientific Instruments, 2015, 86, 023711.	0.6	4
29	Multi-view second-harmonic generation imaging of mouse tail tendon via reflective micro-prisms. Optics Letters, 2015, 40, 3201.	1.7	6
30	Physical Determinants of Fibrinolysis in Single Fibrin Fibers. PLoS ONE, 2015, 10, e0116350.	1.1	48
31	Haemodynamic and extracellular matrix cues regulate the mechanical phenotype and stiffness of aortic endothelial cells. Nature Communications, 2014, 5, 3984.	5.8	95
32	TGF- $\hat{l}^2$ regulates LARG and GEF-H1 during EMT to affect stiffening response to force and cell invasion. Molecular Biology of the Cell, 2014, 25, 3528-3540.	0.9	53
33	Pediatric Sleep-Related Breathing Disorders: Advances in imaging and computational modeling IEEE Pulse, 2014, 5, 33-39.	0.1	8
34	Identification of an Actin Binding Surface on Vinculin that Mediates Mechanical Cell and Focal Adhesion Properties. Structure, 2014, 22, 697-706.	1.6	49
35	Isolated nuclei adapt to force and reveal a mechanotransduction pathway in the nucleus. Nature Cell Biology, 2014, 16, 376-381.	4.6	495
36	Single particle tracking reveals biphasic transport during nanorod magnetophoresis through extracellular matrix. Soft Matter, 2014, 10, 4118-4125.	1.2	17

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37	Phosphorylation at Y1065 in Vinculin Mediates Actin Bundling, Cell Spreading, and Mechanical Responses to Force. Biochemistry, 2014, 53, 5526-5536.	1.2	19
38	The RhoA Guanine Nucleotide Exchange Factor, LARG, Mediates ICAM-1–Dependent Mechanotransduction in Endothelial Cells To Stimulate Transendothelial Migration. Journal of Immunology, 2014, 192, 3390-3398.	0.4	54
39	Statistical atlas construction via weighted functional boxplots. Medical Image Analysis, 2014, 18, 684-698.	7.0	12
40	Array Microscope for High Throughput Stiffness Characterization of Cancer Biology. Biophysical Journal, 2014, 106, 619a.	0.2	0
41	Viewing Nuclear Deformation with Sideways Microscopy. Biophysical Journal, 2014, 106, 42a-43a.	0.2	1
42	Vinculin phosphorylation differentially regulates mechanotransduction at cell–cell and cell–matrix adhesions. Journal of Cell Biology, 2014, 205, 251-263.	2.3	135
43	Blood Clot Mechanical Properties measured with Arrays of Magnetically Actuated Core-Shell Microrods. Biophysical Journal, 2013, 104, 546a.	0.2	0
44	Fabrication of Surface-Attached Magnetic Post Arrays for Biosensing Applications. Biophysical Journal, 2013, 104, 528a.	0.2	0
45	Microtubule Doublet Curvature and its Role in Cilia Actuation. Biophysical Journal, 2013, 104, 150a.	0.2	0
46	Nonlinear signatures in active microbead rheology of entangled polymer solutions. Journal of Rheology, 2013, 57, 1247-1264.	1.3	14
47	Submillisecond Elastic Recoil Reveals Molecular Origins of Fibrin Fiber Mechanics. Biophysical Journal, 2013, 104, 2671-2680.	0.2	35
48	Comparison of endoscopic versus 3D CT derived airway measurements. Laryngoscope, 2013, 123, 2136-2141.	1.1	20
49	A pediatric airway atlas and its application in subglottic stenosis. , 2013, 2013, 1206-1209.		7
50	$HIF1\hat{l}\pm$ and $HIF2\hat{l}\pm$ independently activate SRC to promote melanoma metastases. Journal of Clinical Investigation, 2013, 123, 2078-2093.	3.9	132
51	Localized Tensional Forces on PECAM-1 Elicit a Global Mechanotransduction Response via the Integrin-RhoA Pathway. Current Biology, 2012, 22, 2087-2094.	1.8	153
52	A highly tunable silicone-based magnetic elastomer with nanoscale homogeneity. Journal of Magnetism and Magnetic Materials, 2012, 324, 501-507.	1.0	81
53	Nanoparticle Diffusion Measures Bulk Clot Permeability. Biophysical Journal, 2011, 101, 943-950.	0.2	20
54	Fibrin Fibers Exhibit Two Distinct Temporal Regimes of Recoil Dynamics. Biophysical Journal, 2011, 100, 224a.	0.2	0

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55	Investigating the Role of the Alpha-C domain in Fibrin Fiber Mechanics. Biophysical Journal, 2011, 100, 481a.	0.2	O
56	The Rho GEFs LARG and GEF-H1 regulate the mechanical response to force on integrins. Nature Cell Biology, 2011, 13, 722-727.	4.6	324
57	Regulation of hepatic stem/progenitor phenotype by microenvironment stiffness in hydrogel models of the human liver stem cell niche. Biomaterials, 2011, 32, 7389-7402.	5.7	94
58	High accuracy FIONA–AFM hybrid imaging. Ultramicroscopy, 2011, 111, 350-355.	0.8	28
59	Highly controllable near-surface swimming of magnetic Janus nanorods: application to payload capture and manipulation. Journal Physics D: Applied Physics, 2011, 44, 125001.	1.3	32
60	The Vinculin C-terminal Hairpin Mediates F-actin Bundle Formation, Focal Adhesion, and Cell Mechanical Properties. Journal of Biological Chemistry, 2011, 286, 45103-45115.	1.6	55
61	Mechanical Stiffness Grades Metastatic Potential in Patient Tumor Cells and in Cancer Cell Lines. Cancer Research, 2011, 71, 5075-5080.	0.4	597
62	Cylinders vs. Spheres: Biofluid Shear Thinning in Driven Nanoparticle Transport. Annals of Biomedical Engineering, 2010, 38, 3311-3322.	1.3	16
63	Biomimetic cilia arrays generate simultaneous pumping and mixing regimes. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 15670-15675.	3.3	212
64	Magnetomotive optical coherence elastography for relating lung structure and function in cystic fibrosis. Proceedings of SPIE, 2010, 7554, 755420.	0.8	6
65	Force Generation and Dynamics of Individual Cilia under External Loading. Biophysical Journal, 2010, 98, 57-66.	0.2	80
66	Stiffening of Individual Fibrin Fibers Equitably Distributes Strain and Strengthens Networks. Biophysical Journal, 2010, 98, 1632-1640.	0.2	64
67	Evidence that αC Region Is Origin of Low Modulus, High Extensibility, and Strain Stiffening in Fibrin Fibers. Biophysical Journal, 2010, 99, 3038-3047.	0.2	64
68	Multifunctional Shape and Size Specific Magneto-Polymer Composite Particles. Nano Letters, 2010, 10, 1113-1119.	4.5	67
69	Electrodeposited Au-CdTe-Au Nanowires: Solution-based Control Over Cd/Te Stoichiometry. ECS Transactions, 2009, 19, 99-109.	0.3	1
70	DNA relaxation dynamics as a probe for the intracellular environment. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 9250-9255.	3.3	42
71	Size-Uniform 200 nm Particles: Fabrication and Application to Magnetofection. Journal of Biomedical Nanotechnology, 2009, 5, 182-191.	0.5	18
72	Mechanical Properties and Gene Expression of Chondrocytes on Micropatterned Substrates Following Dedifferentiation in Monolayer. Cellular and Molecular Bioengineering, 2009, 2, 395-404.	1.0	47

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73	Stress communication and filtering of viscoelastic layers in oscillatory shear. Journal of Non-Newtonian Fluid Mechanics, 2009, 156, 112-120.	1.0	7
74	AFM Manipulation Of Small Fibrin Networks. Biophysical Journal, 2009, 96, 38a.	0.2	0
75	AFM Mechanical Studies Of A Novel Form Of The Biopolymer Fibrin: Elastomeric Sheets. Biophysical Journal, 2009, 96, 39a.	0.2	0
76	Undriven Bead Diffusion Through Extracellular Matrix. Biophysical Journal, 2009, 96, 42a.	0.2	0
77	Length of tandem repeats in fibrin's αC region correlates with fiber extensibility. Journal of Thrombosis and Haemostasis, 2008, 6, 1991-1993.	1.9	35
78	Agnostic Particle Tracking for Three-Dimensional Motion of Cellular Granules and Membrane-Tethered Bead Dynamics. Biophysical Journal, 2008, 94, 2374-2384.	0.2	8
79	A Self-Sensing Nanomechanical Resonator Built on a Single-Walled Carbon Nanotube. Nano Letters, 2008, 8, 3746-3749.	4.5	29
80	Ultrathin self-assembled fibrin sheets. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 19438-19443.	3.3	29
81	Chapter 16 Magnetic Manipulation for Force Measurements in Cell Biology. Methods in Cell Biology, 2008, 89, 433-450.	0.5	15
82	High Throughput Screening of Fibrin Clots: Transport and Mechanics Measured by Microbeads. Blood, 2008, 112, 4095-4095.	0.6	0
83	Epicyclic orbits in a viscous fluid about a precessing rod: Theory and experiments at the micro- and macro-scales. Physical Review E, 2007, 76, 016313.	0.8	10
84	Magnetically Actuated Nanorod Arrays as Biomimetic Cilia. Nano Letters, 2007, 7, 1428-1434.	4.5	261
85	Electromechanical response of single-walled carbon nanotubes to torsional strain in a self-contained device. Nature Nanotechnology, 2007, 2, 413-416.	15.6	76
86	A Comparison of the Mechanical and Structural Properties of Fibrin Fibers with Other Protein Fibers. Cell Biochemistry and Biophysics, 2007, 49, 165-181.	0.9	194
87	Fibrin Fibers Have Extraordinary Extensibility and Elasticity. Science, 2006, 313, 634-634.	6.0	230
88	Experimental Measurement of Single-Wall Carbon Nanotube Torsional Properties. Physical Review Letters, 2006, 96, 256102.	2.9	86
89	Thermally actuated untethered impact-driven locomotive microdevices. Applied Physics Letters, 2006, 89, 203512.	1.5	81
90	A physical linkage between cystic fibrosis airway surface dehydration and Pseudomonas aeruginosa biofilms. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 18131-18136.	3.3	213

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91	MAGNETIC FORCE MICROMANIPULATION SYSTEMS FOR THE BIOLOGICAL SCIENCES. Nano, 2006, 01, 191-205.	0.5	12
92	Visualization and Natural Control Systems for Microscopy. , 2005, , 893-918.		1
93	Resonant Oscillators with Carbon-Nanotube Torsion Springs. Physical Review Letters, 2004, 93, 146101.	2.9	150
94	Remote atomic force microscopy of microscopic organisms: Technological innovations for hands-on science with middle and high school students. Science Education, 2004, 88, 55-71.	1.8	33
95	The design of DNA self-assembled computing circuitry. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2004, 12, 1214-1220.	2.1	29
96	Analysis of the interaction between adeno-associated virus and heparan sulfate using atomic force microscopy. Glycobiology, 2004, 14, 969-977.	1.3	28
97	Visualization and Mechanical Manipulations of Individual Fibrin Fibers Suggest that Fiber Cross Section Has Fractal Dimension 1.3. Biophysical Journal, 2004, 87, 4226-4236.	0.2	83
98	Learning at the nanoscale: The impact of students' use of remote microscopy on concepts of viruses, scale, and microscopy. Journal of Research in Science Teaching, 2003, 40, 303-322.	2.0	97
99	Two-Dimensional Manipulation and Orientation of Actinâ^'Myosin Systems with Dielectrophoresis. Nano Letters, 2003, 3, 431-437.	4.5	100
100	Interactions of Small Molecules and Au Nanoparticles with Solubilized Single-Wall Carbon Nanotubes. Journal of Physical Chemistry B, 2003, 107, 3726-3732.	1.2	32
101	Development and Characterization of Novel Empty Adenovirus Capsids and Their Impact on Cellular Gene Expression. Journal of Virology, 2003, 77, 12881-12885.	1.5	58
102	Simultaneous atomic force microscopy measurement of topography and contact resistance of metal films and carbon nanotubes. Review of Scientific Instruments, 2003, 74, 3653-3655.	0.6	11
103	Visualization of individual carbon nanotubes with fluorescence microscopy using conventional fluorophores. Applied Physics Letters, 2003, 83, 1219-1221.	1.5	55
104	Simple and efficient method for carbon nanotube attachment to scanning probes and other substrates. Applied Physics Letters, 2003, 82, 2506-2508.	1.5	38
105	Fabrication of nanometer-scale mechanical devices incorporating individual multiwalled carbon nanotubes as torsional springs. Applied Physics Letters, 2003, 82, 805-807.	1.5	82
106	Torsional Response and Stiffening of Individual Multiwalled Carbon Nanotubes. Physical Review Letters, 2002, 89, 255502.	2.9	118
107	Controlled placement of an individual carbon nanotube onto a microelectromechanical structure. Applied Physics Letters, 2002, 80, 2574-2576.	1.5	115
108	DNA-functionalized single-walled carbon nanotubes. Nanotechnology, 2002, 13, 601-604.	1.3	221

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109	Touching In Biological Systems: A 3D Force Microscope. Microscopy and Microanalysis, 2002, 8, 174-175.	0.2	2
110	A MODEL FOR A SPREADING AND MELTING DROPLET ON A HEATED SUBSTRATE. , 2002, , 236-236.		0
111	A Model for a Spreading and Melting Droplet on a Heated Substrate. SIAM Journal on Applied Mathematics, 2001, 61, 1502-1525.	0.8	7
112	Title is missing!. Biomedical Microdevices, 2001, 3, 9-18.	1.4	13
113	Hands-on tools for nanotechnology. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2001, 19, 2717.	1.6	6
114	Title is missing!. Tribology Letters, 2000, 9, 73-76.	1.2	43
115	Mechanics and Friction at the Nanometer Scale. Journal of Nanoparticle Research, 2000, 2, 237-248.	0.8	55
116	Gearlike rolling motion mediated by commensurate contact:â€∫Carbon nanotubes on HOPG. Physical Review B, 2000, 62, R10665-R10667.	1.1	121
117	Controlled manipulation of molecular samples with the nanoManipulator. IEEE/ASME Transactions on Mechatronics, 2000, 5, 189-198.	3.7	203
118	Tunable Resistance of a Carbon Nanotube-Graphite Interface. , 2000, 290, 1742-1744.		102
119	Scanning Force Microscopy and Nanomangulation: Studies of Dna and Proteins Involved in Dna Repair. Microscopy and Microanalysis, 1999, 5, 1004-1005.	0.2	O
120	In situresistance measurements of strained carbon nanotubes. Applied Physics Letters, 1999, 75, 2936-2938.	1.5	134
121	Investigation and modification of molecular structures with the nanoManipulator. Journal of Molecular Graphics and Modelling, 1999, 17, 187-197.	1.3	55
122	Nanometre-scale rolling and sliding of carbon nanotubes. Nature, 1999, 397, 236-238.	13.7	446
123	Quantitative manipulation of DNA and viruses with the nanomanipulator scanning force microscope. Surface and Interface Analysis, 1999, 27, 437-443.	0.8	40
124	A multi-dimensional evaluation of the nanomanipulator, a scientific sollaboration system. ACM SIGGROUP Bulletin, 1999, 20, 46-50.	0.4	2
125	Photothermal modulation for oscillating mode atomic force microscopy in solution. Applied Physics Letters, 1998, 72, 1911-1913.	1.5	120
126	In situimaging of polymer melt spreading with a high-temperature atomic force microscope. Applied Physics Letters, 1997, 71, 3513-3515.	1.5	11

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127	Manipulation of individual viruses: friction and mechanical properties. Biophysical Journal, 1997, 72, 1396-1403.	0.2	103
128	Bending and buckling of carbon nanotubes under large strain. Nature, 1997, 389, 582-584.	13.7	1,399
129	Monolayers in Three Dimensions: NMR, SAXS, Thermal, and Electron Hopping Studies of Alkanethiol Stabilized Gold Clusters. Journal of the American Chemical Society, 1995, 117, 12537-12548.	6.6	831
130	Homodyne surface second-harmonic generation. Optics Letters, 1995, 20, 545.	1.7	14
131	Vibrational spectroscopy of water at the vapor/water interface. Physical Review Letters, 1993, 70, 2313-2316.	2.9	926
132	Probing the Mechanisms for Surface-Induced Alignment of Liquid Crystals. Molecular Crystals and Liquid Crystals, 1991, 207, 77-85.	0.7	9
133	Nonlinear optical studies of the pure liquid/vapor interface: Vibrational spectra and polar ordering. Physical Review Letters, 1991, 66, 1066-1069.	2.9	182
134	Experimental determination of the sign of molecular dipole moment derivatives: an infraredâ€"visible sum frequency generation absolute phase measurement study. Chemical Physics Letters, 1990, 172, 303-306.	1.2	76
135	Nonlinear spectroscopic study of coadsorbed liquid-crystal and surfactant monolayers: Conformation and interaction. Physical Review A, 1990, 42, 3660-3663.	1.0	49
136	Phase measurement for surface infrared–visible sum-frequency generation. Optics Letters, 1990, 15, 1276.	1.7	139
137	Vibrational spectroscopy of a silane monolayer at air/solid and liquid/solid interfaces using sum-frequency generation. Chemical Physics Letters, 1988, 144, 1-5.	1.2	189
138	Study of diacetylene monomer and polymer monolayers using second- and third-harmonic generation. Journal of the Optical Society of America B: Optical Physics, 1988, 5, 668.	0.9	41
139	Surface vibrational spectroscopy of molecular adsorbates on metals and semiconductors by infrared-visible sum-frequency generation. Surface Science, 1988, 200, L445-L450.	0.8	58
140	Observation of the Triplet Excited State of a Conjugated-Polymer Crystal. Physical Review Letters, 1986, 56, 1850-1853.	2.9	114
141	Properties of rareâ€earth metal superlattice grown by molecularâ€beam epitaxy (abstract). Journal of Applied Physics, 1985, 57, 3672-3672.	1.1	7
142	Lithographically Defined Micropost Arrays for Programmable Actuation and Interfacial Hydrodynamics. ACS Applied Polymer Materials, 0, , .	2.0	1