Aleksandr Noy

List of Publications by Year in Descending Order

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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.

113 papers	11,777 citations	45 h-index	108 g-index
126 ext. papers	12,929 ext. citations	11.4 avg, IF	6.18 L-index

#	Paper	IF	Citations
113	Membrane fusion and drug delivery with carbon nanotube porins. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	4
112	Electrostatic gating of ion transport in carbon nanotube porins: A modeling study. *Journal of Chemical Physics*, **2021**, 154, 204704	3.9	1
111	Early-Stage Aggregation and Crystalline Interactions of Peptoid Nanomembranes. *Journal of Physical Chemistry Letters*, **2021**, 12, 6126-6133	6.4	1
110	Electric Field Induced Biomimetic Transmembrane Electron Transport Using Carbon Nanotube Porins. *Small*, **2021**, 17, e2102517	11	2
109	Antifouling strategies for protecting bioelectronic devices. *APL Materials*, **2021**, 9, 020701	5.7	5
108	High permeability sub-nanometre sieve composite MoS membranes. *Nature Communications*, **2020**, 11, 2747	17.4	44
107	Towards single-species selectivity of membranes with subnanometre pores. *Nature Nanotechnology* , **2020**, 15, 426-436	28.7	138
106	Decoupling copolymer, lipid and carbon nanotube interactions in hybrid, biomimetic vesicles. *Nanoscale*, **2020**, 12, 6545-6555	7.7	2
105	Strong Differential Monovalent Anion Selectivity in Narrow Diameter Carbon Nanotube Porins. *ACS Nano*, **2020**, 14, 6269-6275	16.7	20
104	Let go of your data. *Nature Materials*, **2020**, 19, 128	27	2
103	A new type of artificial water channels. *Nature Nanotechnology*, **2020**, 15, 9-10	28.7	9
102	Carbon nanotube porin diffusion in mixed composition supported lipid bilayers. *Scientific Reports*, **2020**, 10, 11908	4.9	3
101	Water-ion permselectivity of narrow-diameter carbon nanotubes. *Science Advances*, **2020**, 6,	14.3	25
100	Understanding Cation Selectivity in Carbon Nanopores with Hybrid First-Principles/Continuum Simulations: Implications for Water Desalination and Separation Technologies. *ACS Applied Nano Materials*, **2020**, 3, 9740-9748	5.6	13
99	Critical Knowledge Gaps in Mass Transport through Single-Digit Nanopores: A Review and Perspective. *Journal of Physical Chemistry C*, **2019**, 123, 21309-21326	3.8	121
98	Electronic control of H+ current in a bioprotonic device with carbon nanotube porins. *PLoS ONE*, **2019**, 14, e0212197	3.7	6
97	Strong Electroosmotic Coupling Dominates Ion Conductance of 1.5 nm Diameter Carbon Nanotube Porins. *ACS Nano*, **2019**, 13, 12851-12859	16.7	25

96	Silicon Nanoribbon pH Sensors Protected by a Barrier Membrane with Carbon Nanotube Porins. *Nano Letters*, **2019**, 19, 629-634	11.5	18
95	Impact of PEG additives and pore rim functionalization on water transport through sub-1 nm carbon nanotube porins. *Faraday Discussions*, **2018**, 209, 359-369	3.6	5
94	Response to Comment on "Enhanced water permeability and tunable ion selectivity in subnanometer carbon nanotube porins". *Science*, **2018**, 359,	33.3	13
93	Effect of Enhanced Thermal Stability of Alumina Support Layer on Growth of Vertically Aligned Single-Walled Carbon Nanotubes and Their Application in Nanofiltration Membranes. *Nanoscale Research Letters*, **2018**, 13, 173	5	8
92	Membranes: Carbon Nanotube Porins in Amphiphilic Block Copolymers as Fully Synthetic Mimics of Biological Membranes (Adv. Mater. 51/2018). *Advanced Materials*, **2018**, 30, 1870392	24	
91	Carbon Nanotube Porins in Amphiphilic Block Copolymers as Fully Synthetic Mimics of Biological Membranes. *Advanced Materials*, **2018**, 30, e1803355	24	16
90	Structure and function of natural proteins for water transport: general discussion. *Faraday Discussions*, **2018**, 209, 83-95	3.6	2
89	Applications to water transport systems: general discussion. *Faraday Discussions*, **2018**, 209, 389-414	3.6	3
88	High-Yield Synthesis and Optical Properties of Carbon Nanotube Porins. *Journal of Physical Chemistry C*, **2017**, 121, 3117-3125	3.8	6
87	Tuning crystallization pathways through sequence engineering of biomimetic polymers. *Nature Materials*, **2017**, 16, 767-774	27	79
86	Real-time dynamics of carbon nanotube porins in supported lipid membranes visualized by high-speed atomic force microscopy. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2017**, 372,	5.8	18
85	Enhanced water permeability and tunable ion selectivity in subnanometer carbon nanotube porins. *Science*, **2017**, 357, 792-796	33.3	378
84	Cell-free production of a functional oligomeric form of a major outer-membrane protein (MOMP) for vaccine development. *Journal of Biological Chemistry*, **2017**, 292, 15121-15132	5.4	14
83	Structure of Carbon Nanotube Porins in Lipid Bilayers: An in Situ Small-Angle X-ray Scattering (SAXS) Study. *Nano Letters*, **2016**, 16, 4019-24	11.5	9
82	Ultrafast proton transport in sub-1-nm diameter carbon nanotube porins. *Nature Nanotechnology*, **2016**, 11, 639-44	28.7	137
81	Synthesis, lipid membrane incorporation, and ion permeability testing of carbon nanotube porins. *Nature Protocols*, **2016**, 11, 2029-2047	18.8	28
80	Ordering in bio-inorganic hybrid nanomaterials probed by in situ scanning transmission X-ray microscopy. *Nanoscale*, **2015**, 7, 9477-86	7.7	1
79	Bioelectronic light-gated transistors with biologically tunable performance. *Advanced Materials*, **2015**, 27, 831-6	24	21

78	Crossing Over: Nanostructures that Move Electrons and Ions across Cellular Membranes. *Advanced Materials*, **2015**, 27, 5797-804	24	23
77	Mimicking Biology with Nanomaterials: Carbon Nanotube Porins in Lipid Membranes. *Biophysical Journal*, **2015**, 108, 443a	2.9	3
76	Osmotically-driven transport in carbon nanotube porins. *Nano Letters*, **2014**, 14, 7051-6	11.5	28
75	Stochastic transport through carbon nanotubes in lipid bilayers and live cell membranes. *Nature*, **2014**, 514, 612-5	50.4	291
74	Nanofluidic Carbon Nanotube Membranes **2014**, 173-188		2
73	Water-assisted growth of uniform 100 mm diameter SWCNT arrays. *ACS Applied Materials & Interfaces*, **2014**, 6, 21019-25	9.5	12
72	Chapter 3. Nanotechnology� Wonder Material: Synthesis of Carbon Nanotubes. *RSC Nanoscience and Nanotechnology*, **2014**, 26-58		1
71	Practical single molecule force spectroscopy: how to determine fundamental thermodynamic parameters of intermolecular bonds with an atomic force microscope. *Methods*, **2013**, 60, 142-50	4.6	70
70	Lipid bilayer composition can influence the orientation of proteorhodopsin in artificial membranes. *Biophysical Journal*, **2013**, 105, 1388-96	2.9	46
69	Kinetic Model of Gas Transport in Carbon Nanotube Channels. *Journal of Physical Chemistry C*, **2013**, 117, 7656-7660	3.8	10
68	Interpreting the widespread nonlinear force spectra of intermolecular bonds. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 13573-8	11.5	211
67	Laser-assisted simultaneous transfer and patterning of vertically aligned carbon nanotube arrays on polymer substrates for flexible devices. *ACS Nano*, **2012**, 6, 7858-66	16.7	48
66	Growth kinetics of vertically aligned carbon nanotube arrays in clean oxygen-free conditions. *ACS Nano*, **2011**, 5, 9602-10	16.7	60
65	Frictionless sliding of single-stranded DNA in a carbon nanotube pore observed by single molecule force spectroscopy. *Nano Letters*, **2011**, 11, 1171-6	11.5	43
64	Force spectroscopy 101: how to design, perform, and analyze an AFM-based single molecule force spectroscopy experiment. *Current Opinion in Chemical Biology*, **2011**, 15, 710-8	9.7	63
63	Batteryless chemical detection with semiconductor nanowires. *Advanced Materials*, **2011**, 23, 117-21	24	22
62	Bionanoelectronics. *Advanced Materials*, **2011**, 23, 807-20	24	110
61	Nanosensors: Batteryless Chemical Detection with Semiconductor Nanowires (Adv. Mater. 1/2011). *Advanced Materials*, **2011**, 23, 2-2	24	5

60	Hidden role of trace gas impurities in chemical vapor deposition growth of vertically-aligned carbon nanotube arrays. *Applied Physics Letters*, **2011**, 98, 153102	3.4	21
59	Functional integration of membrane proteins with nanotube and nanowire transistor devices. *Methods in Molecular Biology*, **2011**, 751, 533-52	1.4	1
58	pH-tunable ion selectivity in carbon nanotube pores. *Langmuir*, **2010**, 26, 14848-53	4	90
57	Matrix-assisted energy conversion in nanostructured piezoelectric arrays. *Nano Letters*, **2010**, 10, 4901-7	11.5	38
56	Carbon nanotube transistor controlled by a biological ion pump gate. *Nano Letters*, **2010**, 10, 1812-6	11.5	62
55	Bioelectronic silicon nanowire devices using functional membrane proteins. *Proceedings of the National Academy of Sciences of the United States of America*, **2009**, 106, 13780-4	11.5	138
54	Prospective schemes for next generation x-ray lasers **2009**,		2
53	Bionanoelectronics with 1D materials. *Materials Today*, **2009**, 12, 22-31	21.8	32
52	Separation materials: Proteins make for finer filters. *Nature Nanotechnology*, **2009**, 4, 345-6	28.7	6
51	Single-molecule approach to understanding multivalent binding kinetics. *Annals of the New York Academy of Sciences*, **2009**, 1161, 74-82	6.5	6
50	Mechanism and kinetics of growth termination in controlled chemical vapor deposition growth of multiwall carbon nanotube arrays. *Nano Letters*, **2009**, 9, 738-44	11.5	92
49	Highly efficient biocompatible single silicon nanowire electrodes with functional biological pore channels. *Nano Letters*, **2009**, 9, 1121-6	11.5	45
48	Ion exclusion by sub-2-nm carbon nanotube pores. *Proceedings of the National Academy of Sciences of the United States of America*, **2008**, 105, 17250-5	11.5	523
47	Biofunctional subwavelength optical waveguides for biodetection. *ACS Nano*, **2008**, 2, 255-62	16.7	23
46	Near-Equilibrium Chemical Force Microscopy. *Journal of Physical Chemistry C*, **2008**, 112, 4986-4990	3.8	45
45	Fabrication and characterisation of suspended carbon nanotube devices in liquid. *International Journal of Nanotechnology*, **2008**, 5, 488	1.5	
44	Strength in numbers: probing and understanding intermolecular bonding with chemical force microscopy. *Scanning*, **2008**, 30, 96-105	1.6	8
43	Counting and Breaking Single Bonds **2008**, 251-272		

42	Dip-Pen Nanolithography **2008**, 1084-1092		
41	Chemical Force Microscopy Nanoscale Probing of Fundamental Chemical Interactions **2008**, 97-122		6
40	Chemical Force Microscopy: Force Spectroscopy and Imaging of Complex Interactions in Molecular Assemblies **2008**, 123-141		5
39	Nanofluidics in carbon nanotubes. *Nano Today*, **2007**, 2, 22-29	17.9	963
38	Single functional group interactions with individual carbon nanotubes. *Nature Nanotechnology*, **2007**, 2, 692-7	28.7	55
37	Formation, stability, and mobility of one-dimensional lipid bilayers on polysilicon nanowires. *Nano Letters*, **2007**, 7, 3355-9	11.5	35
36	Counting and Breaking Individual Biological Bonds: Force Spectroscopy of Tethered Ligand-Receptor Pairs. *Current Nanoscience*, **2007**, 3, 41-48	1.4	9
35	Ultrafast gas chromatography on single-wall carbon nanotube stationary phases in microfabricated channels. *Analytical Chemistry*, **2006**, 78, 5639-44	7.8	121
34	Fast mass transport through sub-2-nanometer carbon nanotubes. *Science*, **2006**, 312, 1034-7	33.3	2257
33	Controlled electrostatic gating of carbon nanotube FET devices. *Nano Letters*, **2006**, 6, 2080-5	11.5	88
32	Strength of multiple parallel biological bonds. *Biophysical Journal*, **2006**, 90, 4686-91	2.9	85
31	High-resolution ab initio three-dimensional x-ray diffraction microscopy. *Journal of the Optical Society of America A: Optics and Image Science, and Vision*, **2006**, 23, 1179-200	1.8	452
30	Chemical force microscopy of chemical and biological interactions. *Surface and Interface Analysis*, **2006**, 38, 1429-1441	1.5	67
29	Functional one-dimensional lipid bilayers on carbon nanotube templates. *Journal of the American Chemical Society*, **2005**, 127, 7538-42	16.4	54
28	Persistence length control of the polyelectrolyte layer-by-layer self-assembly on carbon nanotubes. *Journal of the American Chemical Society*, **2005**, 127, 14176-7	16.4	40
27	Chemical force microscopy: probing chemical origin of interfacial forces and adhesion. *Journal of Adhesion Science and Technology*, **2005**, 19, 313-364	2	59
26	Dynamic force spectroscopy of parallel individual Mucin1-antibody bonds. *Proceedings of the National Academy of Sciences of the United States of America*, **2005**, 102, 16638-43	11.5	152
25	Carbon Nanotube-Based Permeable Membranes. *Materials Research Society Symposia Proceedings*, **2004**, 820, 1		1

24	Direct determination of the equilibrium unbinding potential profile for a short DNA duplex from force spectroscopy data. *Applied Physics Letters*, **2004**, 85, 4792-4794	3.4	8
23	Fabrication of a Carbon Nanotube-Embedded Silicon Nitride Membrane for Studies of Nanometer-Scale Mass Transport. *Nano Letters*, **2004**, 4, 2245-2250	11.5	143
22	Layer-by-Layer electrostatic self-assembly of polyelectrolyte nanoshells on individual carbon nanotube templates. *Langmuir*, **2004**, 20, 1442-8	4	151
21	Mechanism of DNA compaction by yeast mitochondrial protein Abf2p. *Biophysical Journal*, **2004**, 86, 1632-9	2.9	50
20	Interactions at solid–fluid interfaces. *Nanostructure Science and Technology*, **2004**, 57-82	0.9	4
19	A microcantilever-based pathogen detector. *Scanning*, **2003**, 25, 297-9	1.6	66
18	The effect of liquid-induced adhesion changes on the interfacial shear strength between self-assembled monolayers. *Journal of Adhesion Science and Technology*, **2003**, 17, 1385-1401	2	10
17	Determination of Energy Barriers for Intermolecular Interactions by Variable Temperature Dynamic Force Spectroscopy *Langmuir*, **2003**, 19, 1457-1461	4	26
16	Entropic barriers in nanoscale adhesion studied by variable temperature chemical force microscopy. *Journal of the American Chemical Society*, **2003**, 125, 1356-62	16.4	37
15	Packaging of single DNA molecules by the yeast mitochondrial protein Abf2p. *Biophysical Journal*, **2003**, 85, 2519-24	2.9	50
14	Combined force and photonic probe microscope with single molecule sensitivity. *Review of Scientific Instruments*, **2003**, 74, 1217-1221	1.7	20
13	Solution of the nonlinear Poisson-Boltzmann equation using pseudo-transient continuation and the finite element method. *Journal of Colloid and Interface Science*, **2002**, 247, 62-79	9.3	98
12	Effect of dissolution kinetics on feature size in dip-pen nanolithography. *Physical Review Letters*, **2002**, 88, 255505	7.4	121
11	Fabrication of Luminescent Nanostructures and Polymer Nanowires Using Dip-Pen Nanolithography. *Nano Letters*, **2002**, 2, 109-112	11.5	222
10	Formation of chiral morphologies through selective binding of amino acids to calcite surface steps. *Nature*, **2001**, 411, 775-9	50.4	554
9	Chemically-Sensitive Imaging in Tapping Mode by Chemical Force Microscopy: Relationship between Phase Lag and Adhesion. *Langmuir*, **1998**, 14, 1508-1511	4	150
8	Chemical Force Microscopy: Probing and Imaging Interactions Between Functional Groups. *ACS Symposium Series*, **1998**, 312-320	0.4	1
7	Force Titrations and Ionization State Sensitive Imaging of Functional Groups in Aqueous Solutions by Chemical Force Microscopy. *Journal of the American Chemical Society*, **1997**, 119, 2006-2015	16.4	383

6	CHEMICAL FORCE MICROSCOPY. *Annual Review of Materials Research*, **1997**, 27, 381-421		380
5	Chemical Force Microscopy. *Microscopy and Microanalysis*, **1997**, 3, 1253-1254	0.5	
4	Stretching and breaking duplex DNA by chemical force microscopy. *Chemistry and Biology*, **1997**, 4, 519-27		115
3	Chemical Force Microscopy: Exploiting Chemically-Modified Tips To Quantify Adhesion, Friction, and Functional Group Distributions in Molecular Assemblies. *Journal of the American Chemical Society*, **1995**, 117, 7943-7951	16.4	478
2	Functional group imaging by chemical force microscopy. *Science*, **1994**, 265, 2071-4	33.3	896
1	Dip-Pen Nanolithography: Optical Inks1175-1183		