Amit Meller

List of Publications by Year
in descending order

99 papers	11,634 citations	50244 46 h-index	45285 90 g-index
104 all docs	104 docs citations	104 times ranked	6935 citing authors

#	Article	IF	Citations
1	The potential and challenges of nanopore sequencing. Nature Biotechnology, 2008, 26, 1146-1153.	9.4	2,201
2	Rapid nanopore discrimination between single polynucleotide molecules. Proceedings of the National Academy of Sciences of the United States of America, 2000, 97, 1079-1084.	3.3	860
3	Voltage-Driven DNA Translocations through a Nanopore. Physical Review Letters, 2001, 86, 3435-3438.	2.9	822
4	Electrostatic focusing of unlabelled DNA into nanoscale pores using a salt gradient. Nature Nanotechnology, 2010, 5, 160-165.	15.6	625
5	DNA Translocation Governed by Interactions with Solid-State Nanopores. Biophysical Journal, 2008, 95, 4716-4725.	0.2	415
6	Rapid Fabrication of Uniformly Sized Nanopores and Nanopore Arrays for Parallel DNA Analysis. Advanced Materials, 2006, 18, 3149-3153.	11.1	360
7	Single molecule measurements of DNA transport through a nanopore. Electrophoresis, 2002, 23, 2583-2591.	1.3	342
8	Chemically Modified Solid-State Nanopores. Nano Letters, 2007, 7, 1580-1585.	4.5	341
9	Orientation discrimination of single-stranded DNA inside the Â-hemolysin membrane channel. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 12377-12382.	3.3	308
10	Single-molecule analysis of DNA-protein complexes using nanopores. Nature Methods, 2007, 4, 315-317.	9.0	287
11	Nanopore Unzipping of Individual DNA Hairpin Molecules. Biophysical Journal, 2004, 87, 3205-3212.	0.2	273
12	Dynamics of polynucleotide transport through nanometre-scale pores. Journal of Physics Condensed Matter, 2003, 15, R581-R607.	0.7	260
13	Optical Recognition of Converted DNA Nucleotides for Single-Molecule DNA Sequencing Using Nanopore Arrays. Nano Letters, 2010, 10, 2237-2244.	4.5	257
14	Single-molecule protein sensing in a nanopore: a tutorial. Chemical Society Reviews, 2018, 47, 8512-8524.	18.7	203
15	The emerging landscape of single-molecule protein sequencing technologies. Nature Methods, 2021, 18, 604-617.	9.0	198
16	Nanopore Based Sequence Specific Detection of Duplex DNA for Genomic Profiling. Nano Letters, 2010, 10, 738-742.	4.5	176
17	Extracting Kinetics from Single-Molecule Force Spectroscopy: Nanopore Unzipping of DNA Hairpins. Biophysical Journal, 2007, 92, 4188-4195.	0.2	174
18	Optoelectronic control of surface charge and translocation dynamics in solid-state nanopores. Nature Nanotechnology, 2013, 8, 946-951.	15.6	149

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19	Characteristics of solid-state nanometre pores fabricated using a transmission electron microscope. Nanotechnology, 2007, 18, 205302.	1.3	142
20	Dynamics of DNA Molecules in a Membrane Channel Probed by Active Control Techniques. Biophysical Journal, 2003, 84, 2366-2372.	0.2	136
21	Plasmonicâ€Nanopore Biosensors for Superior Singleâ€Molecule Detection. Advanced Materials, 2019, 31, e1900422.	11.1	124
22	DNA Profiling Using Solid-State Nanopores: Detection of DNA-Binding Molecules. Nano Letters, 2009, 9, 3498-3502.	4.5	121
23	Optical Gradient Forces of Strongly Localized Fields. Physical Review Letters, 1998, 81, 1738-1741.	2.9	116
24	pH Tuning of DNA Translocation Time through Organically Functionalized Nanopores. ACS Nano, 2013, 7, 1408-1414.	7.3	114
25	Electronic Barcoding of a Viral Gene at the Single-Molecule Level. Nano Letters, 2012, 12, 1722-1728.	4.5	98
26	Electromechanical Unzipping of Individual DNA Molecules Using Synthetic Sub-2 nm Pores. Nano Letters, 2008, 8, 3418-3422.	4.5	96
27	Using fluorescence resonance energy transfer to measure distances along individual DNA molecules: Corrections due to nonideal transfer. Journal of Chemical Physics, 2005, 122, 061103.	1.2	91
28	Lightâ€Enhancing Plasmonicâ€Nanopore Biosensor for Superior Singleâ€Molecule Detection. Advanced Materials, 2017, 29, 1605442.	11.1	90
29	Synchronous optical and electrical detection of biomolecules traversing through solid-state nanopores. Review of Scientific Instruments, 2010, 81, 014301.	0.6	85
30	A Nanoporeâ€“Nanofiber Mesh Biosensor To Control DNA Translocation. Journal of the American Chemical Society, 2013, 135, 16304-16307.	6.6	84
31	Long time scale blinking kinetics of cyanine fluorophores conjugated to DNA and its effect on FÃ¶rster resonance energy transfer. Journal of Chemical Physics, 2005, 123, 224708.	1.2	81
32	Direct Sensing and Discrimination among Ubiquitin and Ubiquitin Chains Using Solid-State Nanopores. Biophysical Journal, 2015, 108, 2340-2349.	0.2	76
33	Optical sensing and analyte manipulation in solid-state nanopores. Analyst, The, 2015, 140, 4733-4747.	1.7	74
34	Progress toward Ultrafast DNA Sequencing Using Solid-State Nanopores. Clinical Chemistry, 2007, 53, 1996-2001.	1.5	73
35	The Effect of Dye-Dye Interactions on the Spatial Resolution of Single-Molecule FRET Measurements in Nucleic Acids. Biophysical Journal, 2010, 98, 2265-2272.	0.2	72
36	Single-Molecule DNA Methylation Quantification Using Electro-optical Sensing in Solid-State Nanopores. ACS Nano, 2016, 10, 8861-8870.	7.3	72

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37	Entropy Driven Phase Separation in Binary Emulsions. Physical Review Letters, 1995, 74, 4750-4753.	2.9	68
38	Mechanisms governing the control of mRNA translation. Physical Biology, 2010, 7, 021001.	0.8	67
39	Stationary nanoliter droplet array with a substrate of choice for single adherent/nonadherent cell incubation and analysis. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 11293-11298.	3.3	64
40	Nanopore sensing of individual transcription factors bound to DNA. Scientific Reports, 2015, 5, 11643.	1.6	64
41	Self-Energy-Limited Ion Transport in Subnanometer Channels. Physical Review Letters, 2006, 97, 128104.	2.9	62
42	Probing Solid-State Nanopores with Light for the Detection of Unlabeled Analytes. ACS Nano, 2014, 8, 11836-11845.	7.3	58
43	Fabrication and characterization of solid-state nanopore arrays for high-throughput DNA sequencing. Nanotechnology, 2012, 23, 385308.	1.3	57
44	Stability of Emulsions with Nonadsorbing Polymers. Langmuir, 1996, 12, 301-304.	1.6	53
45	Optically-Monitored Nanopore Fabrication Using a Focused Laser Beam. Scientific Reports, 2018, 8, 9765.	1.6	53
46	Glass transition and phase diagrams of strongly interacting binary colloidal mixtures. Physical Review Letters, 1992, 68, 3646-3649.	2.9	51
47	Single-Molecule Kinetics of the Eukaryotic Initiation Factor 4AI upon RNA Unwinding. Structure, 2014, 22, 941-948.	1.6	48
48	Spatiotemporal patterns and transcription kinetics of induced RNA in single bacterial cells. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 16399-16404.	3.3	47
49	Two Color DNA Barcode Detection in Photoluminescence Suppressed Silicon Nitride Nanopores. Nano Letters, 2015, 15, 745-752.	4.5	47
50	Simulation of single-protein nanopore sensing shows feasibility for whole-proteome identification. PLoS Computational Biology, 2019, 15, e1007067.	1.5	46
51	Single-Molecule Discrimination of Labeled DNAs and Polypeptides Using Photoluminescent-Free TiO₂ Nanopores. ACS Nano, 2018, 12, 11648-11656.	7.3	45
52	DNA Nanomechanical Switches under Folding Kinetics Control. Nano Letters, 2006, 6, 101-104.	4.5	44
53	The eukaryotic initiation factor eIF4H facilitates loop-binding, repetitive RNA unwinding by the eIF4A DEAD-box helicase. Nucleic Acids Research, 2012, 40, 6199-6207.	6.5	43
54	Automated, Ultraâ€Fast Laserâ€Drilling of Nanometer Scale Pores and Nanopore Arrays in Aqueous Solutions. Advanced Functional Materials, 2020, 30, 1900642.	7.8	41

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55	Sensing Native Protein Solution Structures Using a Solid-state Nanopore: Unraveling the States of VEGF. Scientific Reports, 2018, 8, 1017.	1.6	40
56	Quantification of mRNA Expression Using Single-Molecule Nanopore Sensing. ACS Nano, 2020, 14, 13964-13974.	7.3	40
57	Real-time visualization and sub-diffraction limit localization of nanometer-scale pore formation by dielectric breakdown. Nanoscale, 2017, 9, 16437-16445.	2.8	39
58	Programmed trapping of individual bacteria using micrometre-size sieves. Lab on A Chip, 2011, 11, 1089.	3.1	37
59	Accurate Single Molecule FRET Efficiency Determination for Surface Immobilized DNA Using Maximum Likelihood Calculated Lifetimes. Journal of Physical Chemistry B, 2007, 111, 2986-2990.	1.2	34
60	High-throughput scanning confocal microscope for single molecule analysis. Applied Physics Letters, 2004, 84, 1216-1218.	1.5	33
61	Nanopore Detachment Kinetics of Poly(A) Binding Proteins from RNA Molecules Reveals the Critical Role of C-Terminus Interactions. Biophysical Journal, 2012, 102, 1427-1434.	0.2	32
62	<scp>DNA</scp> sequencing and barâ€coding using solidâ€state nanopores. Electrophoresis, 2012, 33, 3437-3447.	1.3	30
63	On-Chip Stretching, Sorting, and Electro-Optical Nanopore Sensing of Ultralong Human Genomic DNA. ACS Nano, 2019, 13, 14388-14398.	7.3	28
64	A Solidâ€State Hard Microfluidicâ€“Nanopore Biosensor with Multilayer Fluidics and Onâ€Chip Bioassay/Purification Chamber. Advanced Functional Materials, 2018, 28, 1804182.	7.8	27
65	Orientation-dependent interactions of DNA with an<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Î±</mml:mi></mml:math>-hemolysin channel. Physical Review E, 2008, 77, 031904.	0.8	26
66	Nanopore Force Spectroscopy Tools for Analyzing Single Biomolecular Complexes. Methods in Enzymology, 2010, 475, 565-589.	0.4	24
67	The potential and challenges of nanopore sequencing. , 2009, , 261-268.		23
68	Helix-Coil Kinetics of Individual Polyadenylic Acid Molecules in a Protein Channel. Physical Review Letters, 2010, 104, 158101.	2.9	23
69	Functionalized Nanofiber Meshes Enhance Immunosorbent Assays. Analytical Chemistry, 2015, 87, 11863-11870.	3.2	22
70	Nanopore Identification of Single Nucleotide Mutations in Circulating Tumor DNA by Multiplexed Ligation. Clinical Chemistry, 2021, 67, 753-762.	1.5	20
71	Microfluidic device for coupling isotachophoretic sample focusing with nanopore single-molecule sensing. Nanoscale, 2020, 12, 17805-17811.	2.8	19
72	Genomic Pathogen Typing Using Solid-State Nanopores. PLoS ONE, 2015, 10, e0142944.	1.1	18

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73	Detection of urea-induced internal denaturation of dsDNA using solid-state nanopores. Journal of Physics Condensed Matter, 2010, 22, 454111.	0.7	16
74	Single-molecule DNA unzipping reveals asymmetric modulation of a transcription factor by its binding site sequence and context. Nucleic Acids Research, 2018, 46, 1513-1524.	6.5	16
75	Single-File Translocation Dynamics of SDS-Denatured, Whole Proteins through Sub-5 nm Solid-State Nanopores. ACS Nano, 2022, 16, 11405-11414.	7.3	16
76	Single-Molecule Characterization of DNAâ€“Protein Interactions Using Nanopore Biosensors. Methods in Enzymology, 2017, 582, 353-385.	0.4	15
77	Fast and Deterministic Fabrication of Sub-5 Nanometer Solid-State Pores by Feedback-Controlled Laser Processing. ACS Nano, 2021, 15, 12189-12200.	7.3	13
78	DNA Capture and Translocation through Nanoscale Poresâ€”a Fine Balance of Electrophoresis and Electroosmosis. Biophysical Journal, 2013, 105, 543-544.	0.2	12
79	Purely electrical SARS-CoV-2 sensing based on single-molecule counting. Nanoscale, 2022, 14, 4977-4986.	2.8	11
80	Chapter 8 Rapid DNA Sequencing by Direct Nanoscale Reading of Nucleotide Bases on Individual DNA chains. Perspectives in Bioanalysis, 2007, 2, 245-263.	0.3	10
81	Localized Joule heating produced by ion current focusing through micron-size holes. Applied Physics Letters, 2010, 96, .	1.5	9
82	A new tool for cell signalling research. Nature Nanotechnology, 2019, 14, 732-733.	15.6	9
83	On-chip protein separation with single-molecule resolution. Scientific Reports, 2020, 10, 15313.	1.6	6
84	Single-Molecule Studies of Nucleic Acid Interactions Using Nanopores. , 2009, , 265-291.		6
85	Sub-second, super-resolved imaging of biological systems using parallel EO-STED. Optics Letters, 2020, 45, 2712.	1.7	5
86	Lifetime-based analysis of binary fluorophores mixtures in the low photon count limit. IScience, 2022, 25, 103554.	1.9	4
87	Automated System for Single Molecule Fluorescence Measurements of Surface-immobilized Biomolecules. Journal of Visualized Experiments, 2009, , .	0.2	3
88	DNA Sequencing by Nanopore-Induced Photon Emission. Methods in Molecular Biology, 2012, 870, 99-114.	0.4	3
89	Nanopore-based Sensing of Individual Nucleic Acid Complexes. Israel Journal of Chemistry, 2010, 49, 323-331.	1.0	2
90	Are nanopore technologies ready for the proteomic challenge primetime?. Molecular Cell, 2022, 82, 237-238.	4.5	2

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91	Probing Conformational Changes and Dynamics in eIF4A Helicase during RNA Unwinding by Single-Molecule FRET. Biophysical Journal, 2013, 104, 421a.	0.2	1
92	Nanoscale Engineering with a TEM for DNA Sequencing. Microscopy and Microanalysis, 2006, 12, 638-639.	0.2	0
93	Nanopore Unzipping Of Ultra-long Dna Repeats For Single-molecule Mutation Detection. Biophysical Journal, 2009, 96, 645a.	0.2	0
94	Deciphering the Mechanism of RNA helicase eIF4A in Translation Initiation. Biophysical Journal, 2009, 96, 415a.	0.2	0
95	Urea-Induced Conformational Changes in dsDNA Probed by Solid-State Nanopores. Biophysical Journal, 2009, 96, 644a.	0.2	0
96	Structural Characterization of Vascular Endothelial Growth Factor by Solid-State Nanopores. Biophysical Journal, 2017, 112, 154a-155a.	0.2	0
97	Leaders of the field: What does the future hold for single molecule technology?. IScience, 2021, 24, 103161.	1.9	0
98	Nanopore Sensors for Ultra-Fast DNA Analysis. , 2006, , .		0
99	Capture and Translocation of Nucleic Acids into Sub-5 nm Solid-State Nanopores. , 2011, , 227-254.		0