Diego Krapf

List of Publications by Year
in descending order

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Version: 2024-02-01

75 papers	4,287 citations	147801 31 h-index	123424 61 g-index
82 all docs	82 docs citations	82 times ranked	4019 citing authors

#	Article	IF	Citations
1	Salt Dependence of Ion Transport and DNA Translocation through Solid-State Nanopores. Nano Letters, 2006, 6, 89-95.	9.1	735
2	Direct force measurements on DNA in a solid-state nanopore. Nature Physics, 2006, 2, 473-477.	16.7	587
3	Ergodic and nonergodic processes coexist in the plasma membrane as observed by single-molecule tracking. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 6438-6443.	7.1	543
4	Fabrication and Characterization of Nanopore-Based Electrodes with Radii down to 2 nm. Nano Letters, 2006, 6, 105-109.	9.1	135
5	Objective comparison of methods to decode anomalous diffusion. Nature Communications, 2021, 12, 6253.	12.8	109
6	Formation of nanopores in a SiNâˆ•SiO2 membrane with an electron beam. Applied Physics Letters, 2005, 87, 113106.	3.3	106
7	Induction of stable ERâ€“plasma-membrane junctions by Kv2.1 potassium channels. Journal of Cell Science, 2015, 128, 2096-2105.	2.0	100
8	Elucidating the Origin of Heterogeneous Anomalous Diffusion in the Cytoplasm of Mammalian Cells. Physical Review Letters, 2020, 125, 058101.	7.8	98
9	Mesoscopic Concentration Fluctuations in a Fluidic Nanocavity Detected by Redox Cycling. Nano Letters, 2007, 7, 384-388.	9.1	97
10	Control of Shape and Material Composition of Solid-State Nanopores. Nano Letters, 2009, 9, 479-484.	9.1	95
11	Kv2.1 cell surface clusters are insertion platforms for ion channel delivery to the plasma membrane. Molecular Biology of the Cell, 2012, 23, 2917-2929.	2.1	88
12	Mechanisms Underlying Anomalous Diffusion in the Plasma Membrane. Current Topics in Membranes, 2015, 75, 167-207.	0.9	81
13	Resonant Coupling between Surface Vibrations and Electronic States in Silicon Nanocrystals at the Strong Confinement Regime. Nano Letters, 2005, 5, 2443-2447.	9.1	80
14	Nanopore Tomography of a Laser Focus. Nano Letters, 2005, 5, 2253-2256.	9.1	78
15	The tyrosine kinase FER is responsible for the capacitation-associated increase in tyrosine phosphorylation in murine sperm. Development (Cambridge), 2016, 143, 2325-33.	2.5	74
16	Plasma Membrane is Compartmentalized by a Self-Similar Cortical Actin Meshwork. Physical Review X, 2017, 7, .	8.9	74
17	Quantifying the dynamic interactions between a clathrin-coated pit and cargo molecules. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E4591-600.	7.1	73
18	Ergodicity breaking on the neuronal surface emerges from random switching between diffusive states. Scientific Reports, 2017, 7, 5404.	3.3	71

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19	Experimental Observation of Nonlinear Ionic Transport at the Nanometer Scale. Nano Letters, 2006, 6, 2531-2535.	9.1	67
20	Spectral Content of a Single Non-Brownian Trajectory. Physical Review X, 2019, 9, .	8.9	65
21	Power spectral density of a single Brownian trajectory: what one can and cannot learn from it. New Journal of Physics, 2018, 20, 023029.	2.9	62
22	Compartmentalization of the plasma membrane. Current Opinion in Cell Biology, 2018, 53, 15-21.	5.4	56
23	Lithographically Fabricated Nanopore-Based Electrodes for Electrochemistry. Analytical Chemistry, 2005, 77, 1911-1915.	6.5	48
24	Strange interfacial molecular dynamics. Physics Today, 2019, 72, 48-54.	0.3	47
25	Single-Molecule Imaging of Na v 1.6 on the Surface of Hippocampal Neurons Reveals Somatic Nanoclusters. Biophysical Journal, 2016, 111, 1235-1247.	0.5	45
26	Cofilin Regulates Nuclear Architecture through a Myosin-II Dependent Mechanotransduction Module. Scientific Reports, 2017, 7, 40953.	3.3	44
27	Superdiffusive motion of membrane-targeting C2 domains. Scientific Reports, 2015, 5, 17721.	3.3	41
28	1/fnoise for intermittent quantum dots exhibits non-stationarity and critical exponents. New Journal of Physics, 2014, 16, 113054.	2.9	39
29	The actin cytoskeleton of the mouse sperm flagellum is organized in a helical structure. Journal of Cell Science, 2018, 131, .	2.0	37
30	Nanostructured Surfaces That Mimic the Vascular Endothelial Glycocalyx Reduce Blood Protein Adsorption and Prevent Fibrin Network Formation. ACS Applied Materials & Interfaces, 2018, 10, 31892-31902.	8.0	35
31	Plasma membrane domains enriched in cortical endoplasmic reticulum function as membrane protein trafficking hubs. Molecular Biology of the Cell, 2013, 24, 2703-2713.	2.1	33
32	Nonergodicity in nanoscale electrodes. Physical Chemistry Chemical Physics, 2013, 15, 459-465.	2.8	32
33	Disruption of protein kinase A localization induces acrosomal exocytosis in capacitated mouse sperm. Journal of Biological Chemistry, 2018, 293, 9435-9447.	3.4	32
34	Strange kinetics of bulk-mediated diffusion on lipid bilayers. Physical Chemistry Chemical Physics, 2016, 18, 12633-12641.	2.8	31
35	Elucidating distinct ion channel populations on the surface of hippocampal neurons via single-particle tracking recurrence analysis. Physical Review E, 2017, 96, 062404.	2.1	30
36	Sperm Differentiation: The Role of Trafficking of Proteins. International Journal of Molecular Sciences, 2020, 21, 3702.	4.1	29

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37	Obstructed diffusion propagator analysis for single-particle tracking. Physical Review E, 2012, 85, 041924.	2.1	28
38	Identifying heterogeneous diffusion states in the cytoplasm by a hidden Markov model. New Journal of Physics, 2021, 23, 053018.	2.9	25
39	Infrared multispectral detection using Si/SixGe1â^'x quantum well infrared photodetectors. Applied Physics Letters, 2001, 78, 495-497.	3.3	24
40	Protein adsorption measurements on low fouling and ultralow fouling surfaces: A critical comparison of surface characterization techniques. Acta Biomaterialia, 2020, 102, 169-180.	8.3	24
41	Aging power spectrum of membrane protein transport and other subordinated random walks. Nature Communications, 2021, 12, 6162.	12.8	24
42	Super-resolution imaging of live sperm reveals dynamic changes of the actin cytoskeleton during acrosomal exocytosis. Journal of Cell Science, 2018, 131, .	2.0	17
43	Leveraging large-deviation statistics to decipher the stochastic properties of measured trajectories. New Journal of Physics, 2021, 23, 013008.	2.9	15
44	Intersublevel optical transitions in InAs nanocrystals probed by photoinduced absorption spectroscopy:â€ƒThe role of thermal activation. Physical Review B, 2004, 69, .	3.2	14
45	Solid-State Nanopore Recognition and Measurement Using Shannon Entropy. IEEE Photonics Journal, 2011, 3, 337-343.	2.0	13
46	Identifying diffusive motions in single-particle trajectories on the plasma membrane via fractional time-series models. Physical Review E, 2019, 99, 012101.	2.1	11
47	Infrared photo-induced absorption spectroscopy of porous silicon. Physica Status Solidi A, 2003, 197, 566-571.	1.7	10
48	Steady-state reaction rate of diffusion-controlled reactions in sheets. Journal of Chemical Physics, 2018, 149, 064117.	3.0	10
49	Size of Cell-Surface Kv2.1 Domains is Governed by Growth Fluctuations. Biophysical Journal, 2012, 103, 1727-1734.	0.5	9
50	Temporal dependence of shifts in mu opioid receptor mobility at the cell surface after agonist binding observed by single-particle tracking. Scientific Reports, 2019, 9, 7297.	3.3	9
51	Scattering fingerprints of two-state dynamics. New Journal of Physics, 2022, 24, 023004.	2.9	9
52	Recurrence statistics for anomalous diffusion regime change detection. Computational Statistics and Data Analysis, 2018, 128, 380-394.	1.2	8
53	Dynamics of long-term protein aggregation on low-fouling surfaces. Journal of Colloid and Interface Science, 2021, 589, 356-366.	9.4	8
54	Cdc42 localized in the CatSper signaling complex regulates cAMPâ€dependent pathways in mouse sperm. FASEB Journal, 2021, 35, e21723.	0.5	8

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55	Anomalous protein kinetics on low-fouling surfaces. Physical Chemistry Chemical Physics, 2020, 22, 5264-5271.	2.8	4
56	Anomalous diffusion of kv2.1 channels observed by single molecule tracking in live cells. , 2010, 2010, 3005-8.		3
57	Statistical test for anomalous diffusion based on empirical anomaly measure for Gaussian processes. Computational Statistics and Data Analysis, 2022, 168, 107401.	1.2	3
58	Thermal relaxation processes probed by intersubband and inter-valence-band transitions in Si/Si1âˆ'xGex multiple quantum wells. Applied Physics Letters, 1999, 75, 2232-2234.	3.3	2
59	Force Spectroscopy in the Bloodstream of Live Embryonic Zebrafish with Optical Tweezers. , 2014, , .		2
60	Introduction to the Issue on Biophotonics. IEEE Journal of Selected Topics in Quantum Electronics, 2016, 22, 4-6.	2.9	2
61	Thermal relaxation processes in Si1âˆ'xGex/Si quantum wells studied by inter-subband and inter-valence band spectroscopy. Physica E: Low-Dimensional Systems and Nanostructures, 2000, 7, 255-258.	2.7	1
62	Single-Particle Tracking Palm of Nav1.6 in Hippocampal Neurons Demonstrates Unique Subcellular Diffusion Landscapes. Biophysical Journal, 2014, 106, 36a.	0.5	1
63	Dynamic fluctuations in single-molecule biophysics experiments. Physics of Life Reviews, 2015, 13, 148-149.	2.8	1
64	Tracking Single Potassium Channels in Live Mammalian Cells. , 2009, , .		0
65	Kv2.1 Cell Surface Clusters are Insertion and Retrieval Platforms For Kv Channel Trafficking at the Plasma Membrane. Biophysical Journal, 2012, 102, 105a-106a.	0.5	0
66	Rapid Cell Surface Kv2.1 Recycling Observed by Single Molecule Tracking. Biophysical Journal, 2012, 102, 320a.	0.5	0
67	Combining Super-Resolution Imaging and Single Particle Tracking in Living Cells to Probe Interactions Between Actin and Plasma Membrane Proteins. Biophysical Journal, 2012, 102, 386a.	0.5	0
68	Single-Particle Tracking of Nav1.6 Demonstrates Different Mechanisms for Sodium Channel Anchoring within the AIS versus the Soma of Hippocampal Neurons. Biophysical Journal, 2013, 104, 138a.	0.5	0
69	Measuring the Binding Energy between Cargo and Forming Clathrin Coated Pits. Biophysical Journal, 2013, 104, 619a.	0.5	0
70	Endoplasmic Reticulum/Plasma Membrane Junctions Function as Membrane Protein Trafficking Hubs. Biophysical Journal, 2013, 104, 619a.	0.5	0
71	Kv2.1 Cell Surface Clusters Promote Maturation of Clathrin-Coated Pits. Biophysical Journal, 2013, 104, 619a.	0.5	0
72	Induction of Endoplasmic Reticulum-Plasma Membrane Contacts is a Non-Conducting Function of the Kv2.1 Voltage-Gated Potassium Channel. Biophysical Journal, 2014, 106, 511a.	0.5	0

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73	Visualizing the Compartmentalization of the Surface of Mammalian Cells by Cortical Actin with Superresolution. Biophysical Journal, 2015, 108, 452a.	0.5	0
74	Does Cell Shape Determine Cell Fate?. Biophysical Journal, 2015, 108, 140a.	0.5	0
75	Fluorescence Immunoassay for the Detection of Latent Tuberculosis Antigens with Single Molecule Sensitivity. , 2009, , .		0