Yuri E Korchev

List of Publications by Year
in descending order

128	9,084	26610 56	42364 92
papers	citations	h-index	g-index

136	136	136	7599
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Î² ₂ -Adrenergic Receptor Redistribution in Heart Failure Changes cAMP Compartmentation. Science, 2010, 327, 1653-1657.	6.0	505
2	Nanoscale live-cell imaging using hopping probe ion conductance microscopy. Nature Methods, 2009, 6, 279-281.	9.0	462
3	Loss of T-tubules and other changes to surface topography in ventricular myocytes from failing human and rat heart. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 6854-6859.	3.3	334
4	Simultaneous Noncontact Topography and Electrochemical Imaging by SECM/SICM Featuring Ion Current Feedback Regulation. Journal of the American Chemical Society, 2010, 132, 10118-10126.	6.6	272
5	Multifunctional Nanoprobes for Nanoscale Chemical Imaging and Localized Chemical Delivery at Surfaces and Interfaces. Angewandte Chemie - International Edition, 2011, 50, 9638-9642.	7.2	256
6	Topographical and electrochemical nanoscale imaging of living cells using voltage-switching mode scanning electrochemical microscopy. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 11540-11545.	3.3	198
7	Electrochemical Nanoprobes for Single-Cell Analysis. ACS Nano, 2014, 8, 875-884.	7.3	195
8	Imaging Proteins in Membranes of Living Cells by High-Resolution Scanning Ion Conductance Microscopy. Angewandte Chemie - International Edition, 2006, 45, 2212-2216.	7.2	189
9	Preparation of synthetic nanopores with transport properties analogous to biological channels. Surface Science, 2003, 532-535, 1061-1066.	0.8	187
10	Writing with DNA and Protein Using a Nanopipet for Controlled Delivery. Journal of the American Chemical Society, 2002, 124, 8810-8811.	6.6	185
11	Simultaneous Measurement of Ca2+ and Cellular Dynamics: Combined Scanning Ion Conductance and Optical Microscopy to Study Contracting Cardiac Myocytes. Biophysical Journal, 2001, 81, 1759-1764.	0.2	170
12	Dynamic assembly of surface structures in living cells. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 5819-5822.	3.3	162
13	Cell Volume Measurement Using Scanning Ion Conductance Microscopy. Biophysical Journal, 2000, 78, 451-457.	0.2	160
14	Functional localization of single active ion channels on the surface of a living cell. Nature Cell Biology, 2000, 2, 616-619.	4.6	155
15	Nanoscale visualization of redox activity at lithium-ion battery cathodes. Nature Communications, 2014, 5, 5450.	5.8	153
16	Cannabinoid receptor CB2 localisation and agonist-mediated inhibition of capsaicin responses in human sensory neurons. Pain, 2008, 138, 667-680.	2.0	140
17	Frequency and Voltage Dependence of the Dielectrophoretic Trapping of Short Lengths of DNA and dCTP in a Nanopipette. Biophysical Journal, 2004, 86, 1018-1027.	0.2	139
18	Highâ€Resolution Electrochemical Mapping of the Hydrogen Evolution Reaction on Transitionâ€Metal Dichalcogenide Nanosheets. Angewandte Chemie - International Edition, 2020, 59, 3601-3608.	7.2	136

#	Article	IF	Citations
19	The bile acid taurocholate impairs rat cardiomyocyte function: a proposed mechanism for intra-uterine fetal death in obstetric cholestasis. Clinical Science, 2001, 100, 363-369.	1.8	129
20	Immortalization of Human Alveolar Epithelial Cells to Investigate Nanoparticle Uptake. American Journal of Respiratory Cell and Molecular Biology, 2008, 39, 591-597.	1.4	121
21	Ion Channels in Small Cells and Subcellular Structures Can Be Studied with a Smart Patch-Clamp System. Biophysical Journal, 2002, 83, 3296-3303.	0.2	116
22	Multicomponent Submicron Features of Biomolecules Created by Voltage Controlled Deposition from a Nanopipet. Journal of the American Chemical Society, 2003, 125, 9834-9839.	6.6	116
23	Plasma membrane topography and interpretation of single-particle tracks. Nature Methods, 2010, 7, 170-171.	9.0	113
24	Noncontact Measurement of the Local Mechanical Properties of Living Cells Using Pressure Applied via a Pipette. Biophysical Journal, 2008, 95, 3017-3027.	0.2	112
25	Respiratory epithelial cytotoxicity and membrane damage (holes) caused by amine-modified nanoparticles. Nanotoxicology, 2012, 6, 94-108.	1.6	112
26	Nanopore extended field-effect transistor for selective single-molecule biosensing. Nature Communications, 2017, 8, 586.	5.8	111
27	The scanned nanopipette: a new tool for high resolution bioimaging and controlled deposition of biomolecules. Physical Chemistry Chemical Physics, 2005, 7, 2859.	1.3	107
28	Nanoscale-Targeted Patch-Clamp Recordings of Functional Presynaptic Ion Channels. Neuron, 2013, 79, 1067-1077.	3.8	103
29	Scanning surface confocal microscopy for simultaneous topographical and fluorescence imaging: Application to single virus-like particle entry into a cell. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 16018-16023.	3.3	102
30	An Addressable Antibody Nanoarray Produced on a Nanostructured Surface. Journal of the American Chemical Society, 2004, 126, 6508-6509.	6.6	102
31	Plasticity of Surface Structures and Î² ₂ -Adrenergic Receptor Localization in Failing Ventricular Cardiomyocytes During Recovery From Heart Failure. Circulation: Heart Failure, 2012, 5, 357-365.	1.6	102
32	Two-Component Graded Deposition of Biomolecules with a Double-Barreled Nanopipette. Angewandte Chemie - International Edition, 2005, 44, 6854-6859.	7.2	101
33	Microdomain-Specific Modulation of L-Type Calcium Channels Leads to Triggered Ventricular Arrhythmia in Heart Failure. Circulation Research, 2016, 119, 944-955.	2.0	101
34	Porous Silicon Nanoneedles Modulate Endocytosis to Deliver Biological Payloads. Advanced Materials, 2019, 31, e1806788.	11.1	101
35	Spearhead Nanometric Field-Effect Transistor Sensors for Single-Cell Analysis. ACS Nano, 2016, 10, 3214-3221.	7.3	95
36	Nanoscale Pipetting for Controlled Chemistry in Small Arrayed Water Droplets Using a Double-Barrel Pipet. Nano Letters, 2006, 6, 252-257.	4.5	89

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37	Nanopipette Delivery of Individual Molecules to Cellular Compartments for Single-Molecule Fluorescence Tracking. Biophysical Journal, 2007, 93, 3120-3131.	0.2	89
38	Super-resolution Scanning Patch Clamp Reveals Clustering of Functional Ion Channels in Adult Ventricular Myocyte. Circulation Research, 2013, 112, 1112-1120.	2.0	89
39	Hybrid Scanning Ion Conductance and Scanning Near-Field Optical Microscopy for the Study of Living Cells. Biophysical Journal, 2000, 78, 2675-2679.	0.2	86
40	Programmable Delivery of DNA through a Nanopipet. Analytical Chemistry, 2002, 74, 1380-1385.	3.2	84
41	Comparison of Atomic Force Microscopy and Scanning Ion Conductance Microscopy for Live Cell Imaging. Langmuir, 2015, 31, 6807-6813.	1.6	84
42	Imaging Single Nanoparticle Interactions with Human Lung Cells Using Fast Ion Conductance Microscopy. Nano Letters, 2014, 14, 1202-1207.	4.5	80
43	Highâ€resolution scanning patchâ€clamp: new insights into cell function. FASEB Journal, 2002, 16, 748-750.	0.2	77
44	An alternative mechanism of clathrin-coated pit closure revealed by ion conductance microscopy. Journal of Cell Biology, 2012, 197, 499-508.	2.3	77
45	Nanoscale visualization of functional adhesion/excitability nodes at the intercalated disc. Nature Communications, 2016, 7, 10342.	5.8	76
46	The use of scanning ion conductance microscopy to image A6 cells. Molecular and Cellular Endocrinology, 2004, 217, 101-108.	1.6	74
47	Local Delivery of Molecules from a Nanopipette for Quantitative Receptor Mapping on Live Cells. Analytical Chemistry, 2013, 85, 9333-9342.	3.2	69
48	Taurocholate induces changes in rat cardiomyocyte contraction and calcium dynamics. Clinical Science, 2002, 103, 191-200.	1.8	67
49	Novel method for rapid toxicity screening of magnetic nanoparticles. Scientific Reports, 2018, 8, 7462.	1.6	67
50	On-Demand Delivery of Single DNA Molecules Using Nanopipets. ACS Nano, 2015, 9, 3587-3595.	7.3	66
51	Comparison of the arrhythmogenic effects of tauro- and glycoconjugates of cholic acid in an in vitro study of rat cardiomyocytes. BJOG: an International Journal of Obstetrics and Gynaecology, 2004, 111, 867-870.	1.1	64
52	The bile acid taurocholate impairs rat cardiomyocyte function: a proposed mechanism for intra-uterine fetal death in obstetric cholestasis. Clinical Science, 2001, 100, 363.	1.8	62
53	High-resolution label-free 3D mapping of extracellular pH of single living cells. Nature Communications, 2019, 10, 5610.	5.8	62
54	Scanning ion conductance microscopy: a convergent high-resolution technology for multi-parametric analysis of living cardiovascular cells. Journal of the Royal Society Interface, 2011, 8, 913-925.	1.5	61

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55	Nanosensors for the detection of hydrogen peroxide. Electrochemistry Communications, 2014, 40, 28-30.	2.3	61
56	Aldosterone acts via an ATP autocrine/paracrine system: The Edelman ATP hypothesis revisited. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 15000-15005.	3.3	59
57	In Vitro and In Vivo Electrochemical Measurement of Reactive Oxygen Species After Treatment with Anticancer Drugs. Analytical Chemistry, 2020, 92, 8010-8014.	3.2	58
58	Fabrication, Characterization, and Functionalization of Dual Carbon Electrodes as Probes for Scanning Electrochemical Microscopy (SECM). Analytical Chemistry, 2013, 85, 7519-7526.	3.2	57
59	A Renewable Nanosensor Based on a Glass Nanopipette. Journal of the American Chemical Society, 2006, 128, 16462-16463.	6.6	55
60	A novel Z-groove index characterizing myocardial surface structure. Cardiovascular Research, 2006, 72, 422-429.	1.8	55
61	Mechanisms Underlying Clinical Efficacy of Angiotensin II Type 2 Receptor (AT₂R) Antagonist EMA401 in Neuropathic Pain: Clinical Tissue and in Vitro Studies. Molecular Pain, 2015, 11, s12990-015-0038.	1.0	53
62	Single Molecule Trapping and Sensing Using Dual Nanopores Separated by a Zeptoliter Nanobridge. Nano Letters, 2017, 17, 6376-6384.	4.5	52
63	Spatial Distribution of Maxi-Anion Channel on Cardiomyocytes Detected by Smart-Patch Technique. Biophysical Journal, 2008, 94, 1646-1655.	0.2	49
64	Functional interaction between charged nanoparticles and cardiac tissue: a new paradigm for cardiac arrhythmia?. Nanomedicine, 2013, 8, 725-737.	1.7	47
65	Localized and non-contact mechanical stimulation of dorsal root ganglion sensory neurons using scanning ion conductance microscopy. Journal of Neuroscience Methods, 2007, 159, 26-34.	1.3	46
66	Intracellular Hydrogen Peroxide Detection with Functionalised Nanoelectrodes. ChemElectroChem, 2016, 3, 2125-2129.	1.7	43
67	Basolateral P2X4-like receptors regulate the extracellular ATP-stimulated epithelial Na+ channel activity in renal epithelia. American Journal of Physiology - Renal Physiology, 2007, 292, F1734-F1740.	1.3	42
68	Imaging Single Virus Particles on the Surface of Cell Membranes by High-Resolution Scanning Surface Confocal Microscopy. Biophysical Journal, 2008, 94, 4089-4094.	0.2	42
69	High-Speed SICM for the Visualization of Nanoscale Dynamic Structural Changes in Hippocampal Neurons. Analytical Chemistry, 2020, 92, 2159-2167.	3.2	42
70	Characterization and Application of Controllable Local Chemical Changes Produced by Reagent Delivery from a Nanopipet. Journal of the American Chemical Society, 2008, 130, 10386-10393.	6.6	40
71	Dexamethasone and ursodeoxycholic acid protect against the arrhythmogenic effect of taurocholate in an in vitro study of rat cardiomyocytes. BJOG: an International Journal of Obstetrics and Gynaecology, 2003, 110, 467-474.	1.1	39
72	Endocytic pathways: combined scanning ion conductance and surface confocal microscopy study. Pflugers Archiv European Journal of Physiology, 2008, 456, 227-235.	1.3	37

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73	CBD Effects on TRPV1 Signaling Pathways in Cultured DRG Neurons . Journal of Pain Research, 2020, Volume 13, 2269-2278.	0.8	36
74	Multi-state, 4-aminopyridine-sensitive ion channels in human spermatozoa. Developmental Biology, 2004, 274, 308-317.	0.9	34
75	A hybrid scanning mode for fast scanning ion conductance microscopy (SICM) imaging. Ultramicroscopy, 2012, 121, 1-7.	0.8	34
76	Selective Sensing of Proteins Using Aptamer Functionalized Nanopore Extended Fieldâ€Effect Transistors. Small Methods, 2020, 4, 2000356.	4.6	33
77	Mapping mechanical properties of living cells at nanoscale using intrinsic nanopipetteâ€“sample force interactions. Nanoscale, 2021, 13, 6558-6568.	2.8	33
78	Nanoscale Imaging of Primary Cilia with Scanning Ion Conductance Microscopy. Analytical Chemistry, 2018, 90, 2891-2895.	3.2	32
79	Imaging and characterisation of the surface of live cells. Current Opinion in Chemical Biology, 2011, 15, 696-703.	2.8	31
80	Kv1.1 channelopathy abolishes presynaptic spike width modulation by subthreshold somatic depolarization. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 2395-2400.	3.3	31
81	Taurocholate induces changes in rat cardiomyocyte contraction and calcium dynamics. Clinical Science, 2002, 103, 191.	1.8	30
82	Granulocyte-macrophage colony-stimulating factor receptor expression in clinical pain disorder tissues and role in neuronal sensitization. Pain Reports, 2018, 3, e676.	1.4	28
83	Rapid formation of human immunodeficiency virus-like particles. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 21637-21646.	3.3	28
84	Scanning ion conductance microscopy reveals how a functional renal epithelial monolayer maintains its integrity. Kidney International, 2005, 68, 1071-1077.	2.6	27
85	Potential biomedical applications of the scanned nanopipette. Nanomedicine, 2006, 1, 107-114.	1.7	27
86	Functional neurons and melanocytes induced from immortal lines of postnatal neural crestâ€like stem cells. FASEB Journal, 2009, 23, 3179-3192.	0.2	26
87	High resolution imaging using scanning ion conductance microscopy with improved distance feedback control. Progress in Natural Science: Materials International, 2008, 18, 671-677.	1.8	25
88	Mycolactone-mediated neurite degeneration and functional effects in cultured human and rat DRG neurons. Molecular Pain, 2016, 12, 174480691665414.	1.0	25
89	Functional Characterization of Embryonic Stem Cell-Derived Cardiomyocytes Using Scanning Ion Conductance Microscopy. Tissue Engineering, 2006, 12, 657-664.	4.9	24
90	Non-invasive Imaging of Stem Cells by Scanning Ion Conductance Microscopy: Future Perspective. Tissue Engineering - Part C: Methods, 2008, 14, 311-318.	1.1	23

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91	Angular Approach Scanning Ion Conductance Microscopy. Biophysical Journal, 2016, 110, 2252-2265.	0.2	23
92	Esmolol is antiarrhythmic in doxorubicin-induced arrhythmia in cultured cardiomyocytes - determination by novel rapid cardiomyocyte assay. FEBS Letters, 2003, 548, 74-78.	1.3	21
93	Gated Single-Molecule Transport in Double-Barreled Nanopores. ACS Applied Materials & Interfaces, 2018, 10, 38621-38629.	4.0	21
94	Correlative SICMâ€FCM reveals changes in morphology and kinetics of endocytic pits induced by diseaseâ€associated mutations in dynamin. FASEB Journal, 2019, 33, 8504-8518.	0.2	21
95	Imaging the cell surface and its organization down to the level of single molecules. Philosophical Transactions of the Royal Society B: Biological Sciences, 2013, 368, 20120027.	1.8	19
96	Side-specific mechanical properties of valve endothelial cells. American Journal of Physiology - Heart and Circulatory Physiology, 2014, 307, H15-H24.	1.5	19
97	Nociceptin/orphanin FQ receptor expression in clinical pain disorders and functional effects in cultured neurons. Pain, 2016, 157, 1960-1969.	2.0	19
98	Characterization of a Novel Light Source for Simultaneous Optical and Scanning Ion Conductance Microscopy. Analytical Chemistry, 2002, 74, 2612-2616.	3.2	18
99	Glucagon-like peptide 1 receptor (GLP-1R) expression by nerve fibres in inflammatory bowel disease and functional effects in cultured neurons. PLoS ONE, 2018, 13, e0198024.	1.1	18
100	Epidermal growth factor stimulates translocation of the class II phosphoinositide 3-kinase PI3K-C2Î² to the nucleus. Biochemical Journal, 2009, 422, 53-60.	1.7	16
101	Realizing the biological and biomedical potential of nanoscale imaging using a pipette probe. Nanomedicine, 2011, 6, 565-575.	1.7	16
102	Short-term angiotensin II treatment regulates cardiac nanomechanicsviamicrotubule modifications. Nanoscale, 2020, 12, 16315-16329.	2.8	15
103	Measuring Ion Fluxes in Sperm. Methods in Cell Biology, 2004, 74, 545-576.	0.5	12
104	Basic science: Genes encoding bile acid, phospholipid and anion transporters are expressed in a human fetal cardiomyocyte culture. BJOG: an International Journal of Obstetrics and Gynaecology, 2006, 113, 552-558.	1.1	12
105	In Vitro/In VivoElectrochemical Detection of Pt(II) Species. Analytical Chemistry, 2022, 94, 4901-4905.	3.2	12
106	Highâ€Resolution Electrochemical Mapping of the Hydrogen Evolution Reaction on Transitionâ€Metal Dichalcogenide Nanosheets. Angewandte Chemie, 2020, 132, 3629-3636.	1.6	11
107	Follow Your Nose: A Key Clue to Understanding and Treating COVID-19. Frontiers in Endocrinology, 2021, 12, 747744.	1.5	11
108	Biointerfaces: Porous Silicon Nanoneedles Modulate Endocytosis to Deliver Biological Payloads (Adv.) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	11.1	9

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109	Nanoscale, Voltage-Driven Application of Bioactive Substances onto Cells with Organized Topography. Biophysical Journal, 2016, 110, 141-146.	0.2	8
110	Release of insulin granules by simultaneous, highâ€speed correlative SICMâ€FCM. Journal of Microscopy, 2021, 282, 21-29.	0.8	8
111	Phycosphere pH of unicellular nano- and micro- phytoplankton cells and consequences for iron speciation. ISME Journal, 2022, 16, 2329-2336.	4.4	8
112	The role of urea in neuronal degeneration and sensitization: An in vitro model of uremic neuropathy. Molecular Pain, 2019, 15, 174480691988103.	1.0	5
113	Development of a Novel Combined Scanning Electrochemical Microscope (SECM) and Scanning Ion-Conductance Microscope (SICM) Probe for Soft Sample Imaging. Materials Research Society Symposia Proceedings, 2012, 1422, 13.	0.1	2
114	Back Cover: Selective Sensing of Proteins Using Aptamer Functionalized Nanopore Extended Fieldâ€Effect Transistors (Small Methods 11/2020). Small Methods, 2020, 4, 2070044.	4.6	2
115	Scanning Ion Conductance Microscopy (SICM) for Low-stress Directly Examining of Cellular Mechanics. Microscopy and Microanalysis, 2020, 26, 1968-1970.	0.2	2
116	IL-1Î² mediated nanoscale surface clustering of integrin Î±5Î²1 regulates the adhesion of mesenchymal stem cells. Scientific Reports, 2021, 11, 6890.	1.6	2
117	Electrochemical Quantitative Evaluation of the Surface Charge of a Poly(1â€Vinylimidazole) Multilayer Film and Application to Nanopore pH Sensor. Electroanalysis, 2021, 33, 1633-1638.	1.5	2
118	Noncontact Nanoscale Imaging of Cells. Annual Review of Analytical Chemistry, 2021, 14, 347-361.	2.8	2
119	Smart-Patch Technique. Springer Protocols, 2012, , 379-387.	0.1	1
120	Development of a Combined Scanning Ion-Conductance and Nearfield Optical Microscope to Image Living Cells. Microscopy and Microanalysis, 1999, 5, 976-977.	0.2	0
121	Cover Picture: Two-Component Graded Deposition of Biomolecules with a Double-Barreled Nanopipette (Angew. Chem. Int. Ed. 42/2005). Angewandte Chemie - International Edition, 2005, 44, 6789-6789.	7.2	0
122	Increase in Î²1AR-Gi coupling after detubulation in rat ventricular myocytes. Journal of Molecular and Cellular Cardiology, 2006, 40, 923-924.	0.9	0
123	Development of Voltage Switching Mode Scanning Electrochemical Microscopy for Topographical and Electrochemical Nanoscale Imaging of Living Cells. ECS Meeting Abstracts, 2012, , .	0.0	0
124	Scanning Ion Conductance Microscopy for Single Cell Analysis. Microscopy and Microanalysis, 2020, 26, 2496-2497.	0.2	0
125	Electrochemical detection and imaging of reactive oxygen species in single living cells. Microscopy and Microanalysis, 2021, 27, 1720-1721.	0.2	0
126	PHARMACOLOGICAL CHARACTERISATION OF EMBRYONIC STEM CELL-DERIVED CARDIOMYOCYTE CULTURES. , 2005, , 139-147.		0

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127	Detecting reactive oxygen species in biological fluids by platinum nanoelectrode applying amperometric method. Bulletin of Russian State Medical University, 2019, , 144-149.	0.3	0
128	Nanoscale Electrophysiology Using Scanning Ion Conductance Microscopy. Bioanalytical Reviews, 2021, , 1.	0.1	0