

Yuri E Korchev

List of Publications by Citations

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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.

129
papers

7,462
citations

51
h-index

84
g-index

136
ext. papers

8,342
ext. citations

7.8
avg, IF

5.38
L-index

#	Paper	IF	Citations
129	Beta2-adrenergic receptor redistribution in heart failure changes cAMP compartmentation. <i>Science</i> , 2010 , 327, 1653-7	33.3	417
128	Nanoscale live-cell imaging using hopping probe ion conductance microscopy. <i>Nature Methods</i> , 2009 , 6, 279-81	21.6	386
127	Loss of T-tubules and other changes to surface topography in ventricular myocytes from failing human and rat heart. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009 , 106, 6854-9	11.5	287
126	Simultaneous noncontact topography and electrochemical imaging by SECM/SICM featuring ion current feedback regulation. <i>Journal of the American Chemical Society</i> , 2010 , 132, 10118-26	16.4	233
125	Multifunctional nanoprobes for nanoscale chemical imaging and localized chemical delivery at surfaces and interfaces. <i>Angewandte Chemie - International Edition</i> , 2011 , 50, 9638-42	16.4	218
124	Imaging proteins in membranes of living cells by high-resolution scanning ion conductance microscopy. <i>Angewandte Chemie - International Edition</i> , 2006 , 45, 2212-6	16.4	171
123	Writing with DNA and protein using a nanopipet for controlled delivery. <i>Journal of the American Chemical Society</i> , 2002 , 124, 8810-1	16.4	168
122	Topographical and electrochemical nanoscale imaging of living cells using voltage-switching mode scanning electrochemical microscopy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012 , 109, 11540-5	11.5	165
121	Preparation of synthetic nanopores with transport properties analogous to biological channels. <i>Surface Science</i> , 2003 , 532-535, 1061-1066	1.8	165
120	Simultaneous measurement of Ca ²⁺ and cellular dynamics: combined scanning ion conductance and optical microscopy to study contracting cardiac myocytes. <i>Biophysical Journal</i> , 2001 , 81, 1759-64	2.9	160
119	Electrochemical nanoprobes for single-cell analysis. <i>ACS Nano</i> , 2014 , 8, 875-84	16.7	158
118	Cell volume measurement using scanning ion conductance microscopy. <i>Biophysical Journal</i> , 2000 , 78, 451-7	2.9	145
117	Functional localization of single active ion channels on the surface of a living cell. <i>Nature Cell Biology</i> , 2000 , 2, 616-9	23.4	144
116	Dynamic assembly of surface structures in living cells. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003 , 100, 5819-22	11.5	142
115	Frequency and voltage dependence of the dielectrophoretic trapping of short lengths of DNA and dCTP in a nanopipette. <i>Biophysical Journal</i> , 2004 , 86, 1018-27	2.9	130
114	Nanoscale visualization of redox activity at lithium-ion battery cathodes. <i>Nature Communications</i> , 2014 , 5, 5450	17.4	121
113	Cannabinoid receptor CB2 localisation and agonist-mediated inhibition of capsaicin responses in human sensory neurons. <i>Pain</i> , 2008 , 138, 667-680	8	113

112	Immortalization of human alveolar epithelial cells to investigate nanoparticle uptake. <i>American Journal of Respiratory Cell and Molecular Biology</i> , 2008 , 39, 591-7	5.7	112
111	Multicomponent submicron features of biomolecules created by voltage controlled deposition from a nanopipet. <i>Journal of the American Chemical Society</i> , 2003 , 125, 9834-9	16.4	109
110	Ion channels in small cells and subcellular structures can be studied with a smart patch-clamp system. <i>Biophysical Journal</i> , 2002 , 83, 3296-303	2.9	103
109	Plasma membrane topography and interpretation of single-particle tracks. <i>Nature Methods</i> , 2010 , 7, 1702-16	1.6	99
108	Noncontact measurement of the local mechanical properties of living cells using pressure applied via a pipette. <i>Biophysical Journal</i> , 2008 , 95, 3017-27	2.9	97
107	Scanning surface confocal microscopy for simultaneous topographical and fluorescence imaging: application to single virus-like particle entry into a cell. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002 , 99, 16018-23	11.5	96
106	Two-component graded deposition of biomolecules with a double-barreled nanopipette. <i>Angewandte Chemie - International Edition</i> , 2005 , 44, 6854-9	16.4	94
105	The scanned nanopipette: a new tool for high resolution bioimaging and controlled deposition of biomolecules. <i>Physical Chemistry Chemical Physics</i> , 2005 , 7, 2859-66	3.6	92
104	Respiratory epithelial cytotoxicity and membrane damage (holes) caused by amine-modified nanoparticles. <i>Nanotoxicology</i> , 2012 , 6, 94-108	5.3	91
103	An addressable antibody nanoarray produced on a nanostructured surface. <i>Journal of the American Chemical Society</i> , 2004 , 126, 6508-9	16.4	88
102	Nanoscale-targeted patch-clamp recordings of functional presynaptic ion channels. <i>Neuron</i> , 2013 , 79, 1067-77	13.9	85
101	Plasticity of surface structures and β_2 -adrenergic receptor localization in failing ventricular cardiomyocytes during recovery from heart failure. <i>Circulation: Heart Failure</i> , 2012 , 5, 357-65	7.6	85
100	The bile acid taurocholate impairs rat cardiomyocyte function: a proposed mechanism for intra-uterine fetal death in obstetric cholestasis. <i>Clinical Science</i> , 2001 , 100, 363-369	6.5	83
99	Nanopipette delivery of individual molecules to cellular compartments for single-molecule fluorescence tracking. <i>Biophysical Journal</i> , 2007 , 93, 3120-31	2.9	81
98	Nanoscale pipetting for controlled chemistry in small arrayed water droplets using a double-barrel pipet. <i>Nano Letters</i> , 2006 , 6, 252-7	11.5	81
97	Nanopore extended field-effect transistor for selective single-molecule biosensing. <i>Nature Communications</i> , 2017 , 8, 586	17.4	78
96	Hybrid scanning ion conductance and scanning near-field optical microscopy for the study of living cells. <i>Biophysical Journal</i> , 2000 , 78, 2675-9	2.9	78
95	Programmable delivery of DNA through a nanopipet. <i>Analytical Chemistry</i> , 2002 , 74, 1380-5	7.8	77

94	Microdomain-Specific Modulation of L-Type Calcium Channels Leads to Triggered Ventricular Arrhythmia in Heart Failure. <i>Circulation Research</i> , 2016 , 119, 944-55	15.7	75
93	Spearhead Nanometric Field-Effect Transistor Sensors for Single-Cell Analysis. <i>ACS Nano</i> , 2016 , 10, 3214-3221	13.7	71
92	High-resolution scanning patch-clamp: new insights into cell function. <i>FASEB Journal</i> , 2002 , 16, 748-50	0.9	71
91	Imaging single nanoparticle interactions with human lung cells using fast ion conductance microscopy. <i>Nano Letters</i> , 2014 , 14, 1202-7	11.5	70
90	Comparison of Atomic Force Microscopy and Scanning Ion Conductance Microscopy for Live Cell Imaging. <i>Langmuir</i> , 2015 , 31, 6807-13	4	69
89	The use of scanning ion conductance microscopy to image A6 cells. <i>Molecular and Cellular Endocrinology</i> , 2004 , 217, 101-8	4.4	66
88	High-Resolution Electrochemical Mapping of the Hydrogen Evolution Reaction on Transition-Metal Dichalcogenide Nanosheets. <i>Angewandte Chemie - International Edition</i> , 2020 , 59, 3601-3608	16.4	65
87	Porous Silicon Nanoneedles Modulate Endocytosis to Deliver Biological Payloads. <i>Advanced Materials</i> , 2019 , 31, e1806788	24	63
86	Super-resolution scanning patch clamp reveals clustering of functional ion channels in adult ventricular myocyte. <i>Circulation Research</i> , 2013 , 112, 1112-1120	15.7	62
85	An alternative mechanism of clathrin-coated pit closure revealed by ion conductance microscopy. <i>Journal of Cell Biology</i> , 2012 , 197, 499-508	7.3	59
84	On-demand delivery of single DNA molecules using nanopipets. <i>ACS Nano</i> , 2015 , 9, 3587-95	16.7	57
83	Aldosterone acts via an ATP autocrine/paracrine system: the Edelman ATP hypothesis revisited. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005 , 102, 15000-5	11.5	56
82	Local delivery of molecules from a nanopipette for quantitative receptor mapping on live cells. <i>Analytical Chemistry</i> , 2013 , 85, 9333-42	7.8	55
81	Scanning ion conductance microscopy: a convergent high-resolution technology for multi-parametric analysis of living cardiovascular cells. <i>Journal of the Royal Society Interface</i> , 2011 , 8, 913-25	4.1	55
80	Taurocholate induces changes in rat cardiomyocyte contraction and calcium dynamics. <i>Clinical Science</i> , 2002 , 103, 191-200	6.5	55
79	The bile acid taurocholate impairs rat cardiomyocyte function: a proposed mechanism for intra-uterine fetal death in obstetric cholestasis. <i>Clinical Science</i> , 2001 , 100, 363	6.5	54
78	Nanoscale visualization of functional adhesion/excitability nodes at the intercalated disc. <i>Nature Communications</i> , 2016 , 7, 10342	17.4	51
77	Fabrication, characterization, and functionalization of dual carbon electrodes as probes for scanning electrochemical microscopy (SECM). <i>Analytical Chemistry</i> , 2013 , 85, 7519-26	7.8	51

76	Nanosensors for the detection of hydrogen peroxide. <i>Electrochemistry Communications</i> , 2014 , 40, 28-30	5.1	50
75	A novel Z-groove index characterizing myocardial surface structure. <i>Cardiovascular Research</i> , 2006 , 72, 422-9	9.9	50
74	A renewable nanosensor based on a glass nanopipette. <i>Journal of the American Chemical Society</i> , 2006 , 128, 16462-3	16.4	49
73	Spatial distribution of maxi-anion channel on cardiomyocytes detected by smart-patch technique. <i>Biophysical Journal</i> , 2008 , 94, 1646-55	2.9	47
72	Comparison of the arrhythmogenic effects of tauro- and glycoconjugates of cholic acid in an in vitro study of rat cardiomyocytes. <i>BJOG: an International Journal of Obstetrics and Gynaecology</i> , 2004 , 111, 867-70	3.7	46
71	Localized and non-contact mechanical stimulation of dorsal root ganglion sensory neurons using scanning ion conductance microscopy. <i>Journal of Neuroscience Methods</i> , 2007 , 159, 26-34	3	43
70	Basolateral P2X4-like receptors regulate the extracellular ATP-stimulated epithelial Na ⁺ channel activity in renal epithelia. <i>American Journal of Physiology - Renal Physiology</i> , 2007 , 292, F1734-40	4.3	40
69	Novel method for rapid toxicity screening of magnetic nanoparticles. <i>Scientific Reports</i> , 2018 , 8, 7462	4.9	39
68	Functional interaction between charged nanoparticles and cardiac tissue: a new paradigm for cardiac arrhythmia?. <i>Nanomedicine</i> , 2013 , 8, 725-737	5.6	39
67	Mechanisms underlying clinical efficacy of Angiotensin II type 2 receptor (AT2R) antagonist EMA401 in neuropathic pain: clinical tissue and in vitro studies. <i>Molecular Pain</i> , 2015 , 11, 38	3.4	39
66	Imaging single virus particles on the surface of cell membranes by high-resolution scanning surface confocal microscopy. <i>Biophysical Journal</i> , 2008 , 94, 4089-94	2.9	37
65	Characterization and application of controllable local chemical changes produced by reagent delivery from a nanopipet. <i>Journal of the American Chemical Society</i> , 2008 , 130, 10386-93	16.4	35
64	Single Molecule Trapping and Sensing Using Dual Nanopores Separated by a Zeptoliter Nanobridge. <i>Nano Letters</i> , 2017 , 17, 6376-6384	11.5	34
63	A hybrid scanning mode for fast scanning ion conductance microscopy (SICM) imaging. <i>Ultramicroscopy</i> , 2012 , 121, 1-7	3.1	33
62	Intracellular Hydrogen Peroxide Detection with Functionalised Nanoelectrodes. <i>ChemElectroChem</i> , 2016 , 3, 2125-2129	4.3	32
61	Endocytic pathways: combined scanning ion conductance and surface confocal microscopy study. <i>Pflugers Archiv European Journal of Physiology</i> , 2008 , 456, 227-35	4.6	32
60	Multi-state, 4-aminopyridine-sensitive ion channels in human spermatozoa. <i>Developmental Biology</i> , 2004 , 274, 308-17	3.1	31
59	High-resolution label-free 3D mapping of extracellular pH of single living cells. <i>Nature Communications</i> , 2019 , 10, 5610	17.4	31

58	Imaging and characterisation of the surface of live cells. <i>Current Opinion in Chemical Biology</i> , 2011 , 15, 696-703	9.7	29
57	Dexamethasone and ursodeoxycholic acid protect against the arrhythmogenic effect of taurocholate in an in vitro study of rat cardiomyocytes. <i>BJOG: an International Journal of Obstetrics and Gynaecology</i> , 2003 , 110, 467-474	3.7	26
56	Scanning ion conductance microscopy reveals how a functional renal epithelial monolayer maintains its integrity. <i>Kidney International</i> , 2005 , 68, 1071-7	9.9	26
55	Imaging Proteins in Membranes of Living Cells by High-Resolution Scanning Ion Conductance Microscopy. <i>Angewandte Chemie</i> , 2006 , 118, 2270-2274	3.6	25
54	Potential biomedical applications of the scanned nanopipette. <i>Nanomedicine</i> , 2006 , 1, 107-14	5.6	25
53	Taurocholate induces changes in rat cardiomyocyte contraction and calcium dynamics. <i>Clinical Science</i> , 2002 , 103, 191	6.5	25
52	In Vitro and In Vivo Electrochemical Measurement of Reactive Oxygen Species After Treatment with Anticancer Drugs. <i>Analytical Chemistry</i> , 2020 , 92, 8010-8014	7.8	25
51	High-Speed SICM for the Visualization of Nanoscale Dynamic Structural Changes in Hippocampal Neurons. <i>Analytical Chemistry</i> , 2020 , 92, 2159-2167	7.8	24
50	Nanoscale Imaging of Primary Cilia with Scanning Ion Conductance Microscopy. <i>Analytical Chemistry</i> , 2018 , 90, 2891-2895	7.8	23
49	Functional neurons and melanocytes induced from immortal lines of postnatal neural crest-like stem cells. <i>FASEB Journal</i> , 2009 , 23, 3179-92	0.9	23
48	High resolution imaging using scanning ion conductance microscopy with improved distance feedback control. <i>Progress in Natural Science: Materials International</i> , 2008 , 18, 671-677	3.6	23
47	Functional characterization of embryonic stem cell-derived cardiomyocytes using scanning ion conductance microscopy. <i>Tissue Engineering</i> , 2006 , 12, 657-64		22
46	Multifunctional Nanoprobes for Nanoscale Chemical Imaging and Localized Chemical Delivery at Surfaces and Interfaces. <i>Angewandte Chemie</i> , 2011 , 123, 9812-9816	3.6	21
45	Non-invasive imaging of stem cells by scanning ion conductance microscopy: future perspective. <i>Tissue Engineering - Part C: Methods</i> , 2008 , 14, 311-8	2.9	20
44	Mycolactone-mediated neurite degeneration and functional effects in cultured human and rat DRG neurons: Mechanisms underlying hypoalgesia in Buruli ulcer. <i>Molecular Pain</i> , 2016 , 12,	3.4	20
43	Esmolol is antiarrhythmic in doxorubicin-induced arrhythmia in cultured cardiomyocytes - determination by novel rapid cardiomyocyte assay. <i>FEBS Letters</i> , 2003 , 548, 74-8	3.8	18
42	Kv1.1 channelopathy abolishes presynaptic spike width modulation by subthreshold somatic depolarization. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017 , 114, 2395-2400	11.5	17
41	Imaging the cell surface and its organization down to the level of single molecules. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2013 , 368, 20120027	5.8	17

40	Side-specific mechanical properties of valve endothelial cells. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2014 , 307, H15-24	5.2	17
39	Characterization of a novel light source for simultaneous optical and scanning ion conductance microscopy. <i>Analytical Chemistry</i> , 2002 , 74, 2612-6	7.8	17
38	Angular Approach Scanning Ion Conductance Microscopy. <i>Biophysical Journal</i> , 2016 , 110, 2252-65	2.9	17
37	Realizing the biological and biomedical potential of nanoscale imaging using a pipette probe. <i>Nanomedicine</i> , 2011 , 6, 565-75	5.6	16
36	Granulocyte-macrophage colony-stimulating factor receptor expression in clinical pain disorder tissues and role in neuronal sensitization. <i>Pain Reports</i> , 2018 , 3, e676	3.5	16
35	Two-Component Graded Deposition of Biomolecules with a Double-Barreled Nanopipette. <i>Angewandte Chemie</i> , 2005 , 117, 7014-7019	3.6	15
34	Nociceptin/orphanin FQ receptor expression in clinical pain disorders and functional effects in cultured neurons. <i>Pain</i> , 2016 , 157, 1960-1969	8	15
33	Selective Sensing of Proteins Using Aptamer Functionalized Nanopore Extended Field-Effect Transistors. <i>Small Methods</i> , 2020 , 4, 2000356	12.8	14
32	Epidermal growth factor stimulates translocation of the class II phosphoinositide 3-kinase PI3K-C2beta to the nucleus. <i>Biochemical Journal</i> , 2009 , 422, 53-60	3.8	13
31	CBD Effects on TRPV1 Signaling Pathways in Cultured DRG Neurons. <i>Journal of Pain Research</i> , 2020 , 13, 2269-2278	2.9	13
30	Gated Single-Molecule Transport in Double-Barreled Nanopores. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 38621-38629	9.5	13
29	Glucagon-like peptide 1 receptor (GLP-1R) expression by nerve fibres in inflammatory bowel disease and functional effects in cultured neurons. <i>PLoS ONE</i> , 2018 , 13, e0198024	3.7	13
28	Correlative SICM-FCM reveals changes in morphology and kinetics of endocytic pits induced by disease-associated mutations in dynamin. <i>FASEB Journal</i> , 2019 , 33, 8504-8518	0.9	12
27	Genes encoding bile acid, phospholipid and anion transporters are expressed in a human fetal cardiomyocyte culture. <i>BJOG: an International Journal of Obstetrics and Gynaecology</i> , 2006 , 113, 552-8	3.7	12
26	Rapid formation of human immunodeficiency virus-like particles. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020 , 117, 21637-21646	11.5	11
25	High-Resolution Electrochemical Mapping of the Hydrogen Evolution Reaction on Transition-Metal Dichalcogenide Nanosheets. <i>Angewandte Chemie</i> , 2020 , 132, 3629-3636	3.6	10
24	Short-term angiotensin II treatment regulates cardiac nanomechanics via microtubule modifications. <i>Nanoscale</i> , 2020 , 12, 16315-16329	7.7	10
23	Mapping mechanical properties of living cells at nanoscale using intrinsic nanopipette-sample force interactions. <i>Nanoscale</i> , 2021 , 13, 6558-6568	7.7	9

22	Measuring ion fluxes in sperm. <i>Methods in Cell Biology</i> , 2004 , 74, 545-76	1.8	8
21	Nanoscale, Voltage-Driven Application of Bioactive Substances onto Cells with Organized Topography. <i>Biophysical Journal</i> , 2016 , 110, 141-6	2.9	6
20	Biointerfaces: Porous Silicon Nanoneedles Modulate Endocytosis to Deliver Biological Payloads (Adv. Mater. 12/2019). <i>Advanced Materials</i> , 2019 , 31, 1970086	24	5
19	Release of insulin granules by simultaneous, high-speed correlative SICM-FCM. <i>Journal of Microscopy</i> , 2021 , 282, 21-29	1.9	4
18	The role of urea in neuronal degeneration and sensitization: An in vitro model of uremic neuropathy. <i>Molecular Pain</i> , 2019 , 15, 1744806919881038	3.4	3
17	Back Cover: Selective Sensing of Proteins Using Aptamer Functionalized Nanopore Extended Field-Effect Transistors (Small Methods 11/2020). <i>Small Methods</i> , 2020 , 4, 2070044	12.8	2
16	Follow Your Nose: A Key Clue to Understanding and Treating COVID-19. <i>Frontiers in Endocrinology</i> , 2021 , 12, 747744	5.7	2
15	Development of a Novel Combined Scanning Electrochemical Microscope (SECM) and Scanning Ion-Conductance Microscope (SICM) Probe for Soft Sample Imaging. <i>Materials Research Society Symposia Proceedings</i> , 2012 , 1422, 13		1
14	Titelbild: Two-Component Graded Deposition of Biomolecules with a Double-Barreled Nanopipette (Angew. Chem. 42/2005). <i>Angewandte Chemie</i> , 2005 , 117, 6949-6949	3.6	1
13	Smart-Patch Technique. <i>Springer Protocols</i> , 2012 , 379-387	0.3	1
12	IL-1 β -mediated nanoscale surface clustering of integrin β 1 regulates the adhesion of mesenchymal stem cells. <i>Scientific Reports</i> , 2021 , 11, 6890	4.9	1
11	Noncontact Nanoscale Imaging of Cells. <i>Annual Review of Analytical Chemistry</i> , 2021 , 14, 347-361	12.5	1
10	Electrochemical Quantitative Evaluation of the Surface Charge of a Poly(1-Vinylimidazole) Multilayer Film and Application to Nanopore pH Sensor. <i>Electroanalysis</i> , 2021 , 33, 1633-1638	3	0
9	Scanning Ion Conductance Microscopy (SICM) for Low-stress Directly Examining of Cellular Mechanics. <i>Microscopy and Microanalysis</i> , 2020 , 26, 1968-1970	0.5	
8	Scanning Ion Conductance Microscopy for Single Cell Analysis. <i>Microscopy and Microanalysis</i> , 2020 , 26, 2496-2497	0.5	
7	Cover Picture: Two-Component Graded Deposition of Biomolecules with a Double-Barreled Nanopipette (Angew. Chem. Int. Ed. 42/2005). <i>Angewandte Chemie - International Edition</i> , 2005 , 44, 6789-6789	16.4	
6	Development of a Combined Scanning Ion-Conductance and Nearfield Optical Microscope to Image Living Cells. <i>Microscopy and Microanalysis</i> , 1999 , 5, 976-977	0.5	
5	PI3K-Mediated Epithelial Sodium Channel Activity by Regulating the Apical Membrane Morphology of Renal Epithelial Cells 2008 , 603-607		

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3 Detecting reactive oxygen species in biological fluids by platinum nanoelectrode applying amperometric method. *Bulletin of Russian State Medical University*, **2019**, 144-149 0.4

2 Electrochemical detection and imaging of reactive oxygen species in single living cells. *Microscopy and Microanalysis*, **2021**, 27, 1720-1721 0.5

1 Nanoscale Electrophysiology Using Scanning Ion Conductance Microscopy. *Bioanalytical Reviews*, **2021**, 1 1