

Vsevolod Belousov

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.

86
papers

4,642
citations

30
h-index

68
g-index

95
ext. papers

5,577
ext. citations

8.4
avg, IF

5.5
L-index

#	Paper	IF	Citations
86	Genetically encoded fluorescent indicator for intracellular hydrogen peroxide. <i>Nature Methods</i> , 2006 , 3, 281-6	21.6	946
85	Unraveling the biological roles of reactive oxygen species. <i>Cell Metabolism</i> , 2011 , 13, 361-366	24.6	542
84	Kindling fluorescent proteins for precise in vivo photolabeling. <i>Nature Biotechnology</i> , 2003 , 21, 191-4	44.5	278
83	HyPer-3: a genetically encoded H ₂ O ₂ probe with improved performance for ratiometric and fluorescence lifetime imaging. <i>ACS Chemical Biology</i> , 2013 , 8, 535-42	4.9	187
82	European contribution to the study of ROS: A summary of the findings and prospects for the future from the COST action BM1203 (EU-ROS). <i>Redox Biology</i> , 2017 , 13, 94-162	11.3	185
81	Red fluorescent genetically encoded indicator for intracellular hydrogen peroxide. <i>Nature Communications</i> , 2014 , 5, 5222	17.4	168
80	Hydrogen peroxide probes directed to different cellular compartments. <i>PLoS ONE</i> , 2011 , 6, e14564	3.7	160
79	Green fluorescent proteins are light-induced electron donors. <i>Nature Chemical Biology</i> , 2009 , 5, 459-61	11.7	156
78	Genetically encoded fluorescent redox sensors. <i>Biochimica Et Biophysica Acta - General Subjects</i> , 2014 , 1840, 745-56	4	138
77	A genetically encoded sensor for H ₂ O ₂ with expanded dynamic range. <i>Bioorganic and Medicinal Chemistry</i> , 2011 , 19, 1079-84	3.4	137
76	Does cellular hydrogen peroxide diffuse or act locally?. <i>Antioxidants and Redox Signaling</i> , 2011 , 14, 1-7	8.4	124
75	The TmitoflashTprobe cpYFP does not respond to superoxide. <i>Nature</i> , 2014 , 514, E12-4	50.4	103
74	Ultrasensitive Genetically Encoded Indicator for Hydrogen Peroxide Identifies Roles for the Oxidant in Cell Migration and Mitochondrial Function. <i>Cell Metabolism</i> , 2020 , 31, 642-653.e6	24.6	90
73	HyPer Family Probes: State of the Art. <i>Antioxidants and Redox Signaling</i> , 2016 , 24, 731-51	8.4	89
72	Genetically encoded fluorescent indicator for imaging NAD(+)/NADH ratio changes in different cellular compartments. <i>Biochimica Et Biophysica Acta - General Subjects</i> , 2014 , 1840, 951-7	4	77
71	Novel uses of fluorescent proteins. <i>Current Opinion in Chemical Biology</i> , 2015 , 27, 1-9	9.7	77
70	Intracellular pH imaging in cancer cells in vitro and tumors in vivo using the new genetically encoded sensor SypHer2. <i>Biochimica Et Biophysica Acta - General Subjects</i> , 2015 , 1850, 1905-11	4	69

69	Fluorescent ratiometric pH indicator SypHer2: Applications in neuroscience and regenerative biology. <i>Biochimica Et Biophysica Acta - General Subjects</i> , 2015 , 1850, 2318-28	4	61
68	A novel family of fluorescent hypoxia sensors reveal strong heterogeneity in tumor hypoxia at the cellular level. <i>EMBO Journal</i> , 2016 , 35, 102-13	13	57
67	codes for a mitochondrial peptide linking respiration and lipid metabolism. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 , 116, 4940-4945	11.5	51
66	Reactive oxygen and nitrogen species: friends or foes?. <i>Biochemistry (Moscow)</i> , 2005 , 70, 215-21	2.9	46
65	New tools for redox biology: From imaging to manipulation. <i>Free Radical Biology and Medicine</i> , 2017 , 109, 167-188	7.8	43
64	Thermogenetic neurostimulation with single-cell resolution. <i>Nature Communications</i> , 2017 , 8, 15362	17.4	42
63	Defining roles of specific reactive oxygen species (ROS) in cell biology and physiology.. <i>Nature Reviews Molecular Cell Biology</i> , 2022 ,	48.7	42
62	Chemogenetic generation of hydrogen peroxide in the heart induces severe cardiac dysfunction. <i>Nature Communications</i> , 2018 , 9, 4044	17.4	39
61	Circularly Permuted Fluorescent Protein-Based Indicators: History, Principles, and Classification. <i>International Journal of Molecular Sciences</i> , 2019 , 20,	6.3	38
60	How much H ₂ O ₂ is produced by recombinant D-amino acid oxidase in mammalian cells?. <i>Antioxidants and Redox Signaling</i> , 2014 , 20, 1039-44	8.4	38
59	In Vivo Imaging of Hydrogen Peroxide with HyPer Probes. <i>Antioxidants and Redox Signaling</i> , 2018 , 29, 569-584	8.4	35
58	Fiber-optic control and thermometry of single-cell thermosensation logic. <i>Scientific Reports</i> , 2015 , 5, 15737	4.9	33
57	Visualization of intracellular hydrogen peroxide with HyPer, a genetically encoded fluorescent probe. <i>Methods in Enzymology</i> , 2013 , 526, 45-59	1.7	31
56	SypHer3s: a genetically encoded fluorescent ratiometric probe with enhanced brightness and an improved dynamic range. <i>Chemical Communications</i> , 2018 , 54, 2898-2901	5.8	29
55	Nox4 regulates InsP receptor-dependent Ca release into mitochondria to promote cell survival. <i>EMBO Journal</i> , 2020 , 39, e103530	13	29
54	Structural snapshots of OxyR reveal the peroxidatic mechanism of HO sensing. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, E11623-E11632	11.5	29
53	Which Antioxidant System Shapes Intracellular HO Gradients?. <i>Antioxidants and Redox Signaling</i> , 2019 , 31, 664-670	8.4	28
52	Live-Cell STED Microscopy with Genetically Encoded Biosensor. <i>Nano Letters</i> , 2015 , 15, 2928-32	11.5	27

51	Genetically encoded probes for NAD/NADH monitoring. <i>Free Radical Biology and Medicine</i> , 2016 , 100, 32-42	7.8	27
50	Fast and precise protein tracking using repeated reversible photoactivation. <i>Traffic</i> , 2006 , 7, 1304-10	5.7	23
49	Redox biosensors in a context of multiparameter imaging. <i>Free Radical Biology and Medicine</i> , 2018 , 128, 23-39	7.8	21
48	Imaging calcium and redox signals using genetically encoded fluorescent indicators. <i>Cell Calcium</i> , 2016 , 60, 55-64	4	21
47	Fiber-optic electron-spin-resonance thermometry of single laser-activated neurons. <i>Optics Letters</i> , 2016 , 41, 5563-5566	3	20
46	Mild metabolic perturbations alter succinylation of mitochondrial proteins. <i>Journal of Neuroscience Research</i> , 2017 , 95, 2244-2252	4.4	19
45	Local Generation and Imaging of Hydrogen Peroxide in Living Cells. <i>Current Protocols in Chemical Biology</i> , 2017 , 9, 117-127	1.8	19
44	Microwave-induced thermogenetic activation of single cells. <i>Applied Physics Letters</i> , 2015 , 106, 163702	3.4	19
43	Can we see PIP(3) and hydrogen peroxide with a single probe?. <i>Antioxidants and Redox Signaling</i> , 2012 , 17, 505-12	8.4	18
42	Red fluorescent redox-sensitive biosensor Grx1-roCherry. <i>Redox Biology</i> , 2019 , 21, 101071	11.3	18
41	Imaging H ₂ O ₂ microdomains in receptor tyrosine kinases signaling. <i>Methods in Enzymology</i> , 2013 , 526, 175-87	1.7	15
40	Cell-specific three-photon-fluorescence brain imaging: neurons, astrocytes, and gliovascular interfaces. <i>Optics Letters</i> , 2020 , 45, 836-839	3	15
39	In Vivo Imaging with Genetically Encoded Redox Biosensors. <i>International Journal of Molecular Sciences</i> , 2020 , 21,	6.3	14
38	O affects mitochondrial functionality ex vivo. <i>Redox Biology</i> , 2019 , 22, 101152	11.3	13
37	Two- and three-photon absorption cross-section characterization for high-brightness, cell-specific multiphoton fluorescence brain imaging. <i>Journal of Biophotonics</i> , 2020 , 13, e201900243	3.1	12
36	Slowly Reducible Genetically Encoded Green Fluorescent Indicator for In Vivo and Ex Vivo Visualization of Hydrogen Peroxide. <i>International Journal of Molecular Sciences</i> , 2019 , 20,	6.3	11
35	Hypoxia Onset in Mesenchymal Stem Cell Spheroids: Monitoring With Hypoxia Reporter Cells. <i>Frontiers in Bioengineering and Biotechnology</i> , 2021 , 9, 611837	5.8	10
34	Stain-free subcellular-resolution astrocyte imaging using third-harmonic generation. <i>Optics Letters</i> , 2019 , 44, 3166-3169	3	8

33	A BK channel-mediated feedback pathway links single-synapse activity with action potential sharpening in repetitive firing. <i>Science Advances</i> , 2018 , 4, eaat1357	14.3	8
32	A fiber optic nanophotonic approach to the detection of antibodies and viral particles of COVID-19. <i>Nanophotonics</i> , 2020 , 10, 235-246	6.3	6
31	HO and Engrailed 2 paracrine activity synergize to shape the zebrafish optic tectum. <i>Communications Biology</i> , 2020 , 3, 536	6.7	6
30	The Mitochondria-to-Cytosol HO Gradient Is Caused by Peroxiredoxin-Dependent Cytosolic Scavenging. <i>Antioxidants</i> , 2021 , 10,	7.1	6
29	Proteinaceous complexes from mitochondrial contact sites. <i>Biochemistry (Moscow)</i> , 1999 , 64, 390-8	2.9	6
28	Genetically Encoded Tools for Research of Cell Signaling and Metabolism under Brain Hypoxia. <i>Antioxidants</i> , 2020 , 9,	7.1	5
27	Live-Cell STED Imaging with the HyPer2 Biosensor. <i>Methods in Molecular Biology</i> , 2017 , 1663, 21-28	1.4	5
26	In vivo dynamics of acidosis and oxidative stress in the acute phase of an ischemic stroke in a rodent model. <i>Redox Biology</i> , 2021 , 48, 102178	11.3	5
25	A guide to genetically encoded tools for the study of H O. <i>FEBS Journal</i> , 2021 ,	5.7	5
24	Thermogenetic stimulation of single neocortical pyramidal neurons transfected with TRPV1-L channels. <i>Neuroscience Letters</i> , 2018 , 687, 153-157	3.3	5
23	Nonlinear-optical stain-free stereoimaging of astrocytes and gliovascular interfaces. <i>Journal of Biophotonics</i> , 2019 , 12, e201800432	3.1	4
22	Live reporting for hypoxia: Hypoxia sensor-modified mesenchymal stem cells as in vitro reporters. <i>Biotechnology and Bioengineering</i> , 2020 , 117, 3265-3276	4.9	4
21	Three-photon-resonance-enhanced third-harmonic generation for label-free deep-brain imaging: In search of a chemical contrast. <i>Journal of Raman Spectroscopy</i> , 2019 , 50, 1296-1302	2.3	3
20	Drug Screening with Genetically Encoded Fluorescent Sensors: Today and Tomorrow. <i>International Journal of Molecular Sciences</i> , 2020 , 22,	6.3	3
19	Serum SARS-CoV-2 nucleocapsid antigen detection is essential for primary diagnostics of SARS-CoV-2-associated pneumonia		3
18	Thermogenetics as a New Direction in Controlling the Activity of Neural Networks. <i>Neuroscience and Behavioral Physiology</i> , 2020 , 50, 1018-1023	0.3	3
17	Multimodal nonlinear-optical imaging of nucleoli. <i>Optics Letters</i> , 2021 , 46, 3608-3611	3	3
16	Visualization of Intracellular Hydrogen Peroxide with the Genetically Encoded Fluorescent Probe HyPer in NIH-3T3 Cells. <i>Methods in Molecular Biology</i> , 2019 , 1982, 259-274	1.4	2

15	NADPH oxidase controls EGF-induced proliferation via an ERK1/2-independent mechanism. <i>Biophysics (Russian Federation)</i> , 2010 , 55, 959-965	0.7	2
14	Hypocrates is a genetically encoded fluorescent biosensor for (pseudo)hypohalous acids and their derivatives.. <i>Nature Communications</i> , 2022 , 13, 171	17.4	2
13	Recent advances in nucleotide analogue-based techniques for tracking dividing stem cells: An overview. <i>Journal of Biological Chemistry</i> , 2021 , 297, 101345	5.4	2
12	Single-beam optogenetic multimodal (B)/(5) nonlinear microscopy and brain imaging. <i>Journal of Raman Spectroscopy</i> , 2020 , 51, 1942-1950	2.3	2
11	Single-beam multimodal nonlinear-optical imaging of structurally complex events in cell-cycle dynamics. <i>JPhys Photonics</i> , 2021 , 3, 044001	2.5	2
10	Spatial and temporal control of mitochondrial H ₂ O ₂ release in intact human cells.. <i>EMBO Journal</i> , 2022 , e109169	13	1
9	Light and corona: guided-wave readout for coronavirus spike protein-host-receptor binding. <i>Optics Letters</i> , 2020 , 45, 5428-5431	3	1
8	A genetically encoded biosensor roKate for monitoring the redox state of the glutathione pool. <i>Bulletin of Russian State Medical University</i> , 2019 , 86-92	0.4	1
7	Surgical treatment of patients with neurosurgical pathology combined with COVID-19. <i>Russian Journal of Neurosurgery</i> , 2021 , 22, 83-92	0.2	1
6	A reversible mitochondrial complex I thiol switch mediates hypoxic avoidance behavior in <i>C. elegans</i> .. <i>Nature Communications</i> , 2022 , 13, 2403	17.4	1
5	Tracing of intracellular pH in cancer cells in response to Taxol treatment. <i>Cell Cycle</i> , 2021 , 20, 1540-1551	4.7	0
4	Physics behind laser thermogenetic neurostimulation. <i>Journal of Applied Physics</i> , 2019 , 126, 233102	2.5	0
3	Enhanced-contrast two-photon optogenetic pH sensing and pH-resolved brain imaging. <i>Journal of Biophotonics</i> , 2021 , 14, e202000301	3.1	0
2	Single-beam dual-color alternate-pathway two-photon spectroscopy: Toward an optical toolbox for redox biology. <i>Journal of Raman Spectroscopy</i> , 2021 , 52, 1552-1560	2.3	0
1	How imaging transforms our understanding of oxidative stress 2020 , 87-96		