Vsevolod Belousov

List of Publications by Year in Descending Order

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	Hypocrates is a genetically encoded fluorescent biosensor for (pseudo)hypohalous acids and their derivatives.. *Nature Communications*, **2022**, 13, 171	17.4	2
85	Spatial and temporal control of mitochondrial H O release in intact human cells.. *EMBO Journal*, **2022**, e109169	13	1
84	Defining roles of specific reactive oxygen species (ROS) in cell biology and physiology.. *Nature Reviews Molecular Cell Biology*, **2022**,	48.7	42
83	A reversible mitochondrial complex I thiol switch mediates hypoxic avoidance behavior in C. elegans.. *Nature Communications*, **2022**, 13, 2403	17.4	1
82	In vivo dynamics of acidosis and oxidative stress in the acute phase of an ischemic stroke in a rodent model. *Redox Biology*, **2021**, 48, 102178	11.3	5
81	Recent advances in nucleotide analogue-based techniques for tracking dividing stem cells: An overview. *Journal of Biological Chemistry*, **2021**, 297, 101345	5.4	2
80	The Mitochondria-to-Cytosol HO Gradient Is Caused by Peroxiredoxin-Dependent Cytosolic Scavenging. *Antioxidants*, **2021**, 10,	7.1	6
79	Multimodal nonlinear-optical imaging of nucleoli. *Optics Letters*, **2021**, 46, 3608-3611	3	3
78	A guide to genetically encoded tools for the study of H O. *FEBS Journal*, **2021**,	5.7	5
77	Tracing of intracellular pH in cancer cells in response to Taxol treatment. *Cell Cycle*, **2021**, 20, 1540-1551	4.7	0
76	Enhanced-contrast two-photon optogenetic pH sensing and pH-resolved brain imaging. *Journal of Biophotonics*, **2021**, 14, e202000301	3.1	0
75	Surgical treatment of patients with neurosurgical pathology combined with COVID-19. *Russian Journal of Neurosurgery*, **2021**, 22, 83-92	0.2	1
74	Hypoxia Onset in Mesenchymal Stem Cell Spheroids: Monitoring With Hypoxia Reporter Cells. *Frontiers in Bioengineering and Biotechnology*, **2021**, 9, 611837	5.8	10
73	Single-beam dual-color alternate-pathway two-photon spectroscopy: Toward an optical toolbox for redox biology. *Journal of Raman Spectroscopy*, **2021**, 52, 1552-1560	2.3	0
72	Single-beam multimodal nonlinear-optical imaging of structurally complex events in cell-cycle dynamics. *JPhys Photonics*, **2021**, 3, 044001	2.5	2
71	In Vivo Imaging with Genetically Encoded Redox Biosensors. *International Journal of Molecular Sciences*, **2020**, 21,	6.3	14
70	Genetically Encoded Tools for Research of Cell Signaling and Metabolism under Brain Hypoxia. *Antioxidants*, **2020**, 9,	7.1	5

69	Ultrasensitive Genetically Encoded Indicator for Hydrogen Peroxide Identifies Roles for the Oxidant in Cell Migration and Mitochondrial Function. *Cell Metabolism*, **2020**, 31, 642-653.e6	24.6	90
68	Light and corona: guided-wave readout for coronavirus spike protein-host-receptor binding. *Optics Letters*, **2020**, 45, 5428-5431	3	1
67	Cell-specific three-photon-fluorescence brain imaging: neurons, astrocytes, and gliovascular interfaces. *Optics Letters*, **2020**, 45, 836-839	3	15
66	A fiber optic□anophotonic approach to the detection of antibodies and viral particles of COVID-19. *Nanophotonics*, **2020**, 10, 235-246	6.3	6
65	Nox4 regulates InsP receptor-dependent Ca release into mitochondria to promote cell survival. *EMBO Journal*, **2020**, 39, e103530	13	29
64	Drug Screening with Genetically Encoded Fluorescent Sensors: Today and Tomorrow. *International Journal of Molecular Sciences*, **2020**, 22,	6.3	3
63	How imaging transforms our understanding of oxidative stress **2020**, 87-96		
62	Single-beam optogenetic multimodal (3)/(5) nonlinear microscopy and brain imaging. *Journal of Raman Spectroscopy*, **2020**, 51, 1942-1950	2.3	2
61	Live reporting for hypoxia: Hypoxia sensor-modified mesenchymal stem cells as in vitro reporters. *Biotechnology and Bioengineering*, **2020**, 117, 3265-3276	4.9	4
60	Thermogenetics as a New Direction in Controlling the Activity of Neural Networks. *Neuroscience and Behavioral Physiology*, **2020**, 50, 1018-1023	0.3	3
59	HO and Engrailed 2 paracrine activity synergize to shape the zebrafish optic tectum. *Communications Biology*, **2020**, 3, 536	6.7	6
58	Two- and three-photon absorption cross-section characterization for high-brightness, cell-specific multiphoton fluorescence brain imaging. *Journal of Biophotonics*, **2020**, 13, e201900243	3.1	12
57	Circularly Permuted Fluorescent Protein-Based Indicators: History, Principles, and Classification. *International Journal of Molecular Sciences*, **2019**, 20,	6.3	38
56	Visualization of Intracellular Hydrogen Peroxide with the Genetically Encoded Fluorescent Probe HyPer in NIH-3T3 Cells. *Methods in Molecular Biology*, **2019**, 1982, 259-274	1.4	2
55	Nonlinear-optical stain-free stereoimaging of astrocytes and gliovascular interfaces. *Journal of Biophotonics*, **2019**, 12, e201800432	3.1	4
54	O affects mitochondrial functionality ex vivo. *Redox Biology*, **2019**, 22, 101152	11.3	13
53	Which Antioxidant System Shapes Intracellular HO Gradients?. *Antioxidants and Redox Signaling*, **2019**, 31, 664-670	8.4	28
52	Three-photon-resonance-enhanced third-harmonic generation for label-free deep-brain imaging: In search of a chemical contrast. *Journal of Raman Spectroscopy*, **2019**, 50, 1296-1302	2.3	3

51	codes for a mitochondrial peptide linking respiration and lipid metabolism. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 4940-4945	11.5	51
50	Slowly Reducible Genetically Encoded Green Fluorescent Indicator for In Vivo and Ex Vivo Visualization of Hydrogen Peroxide. *International Journal of Molecular Sciences*, **2019**, 20,	6.3	11
49	Stain-free subcellular-resolution astrocyte imaging using third-harmonic generation. *Optics Letters*, **2019**, 44, 3166-3169	3	8
48	A genetically encoded biosensor roKate for monitoring the redox state of the glutathione pool. *Bulletin of Russian State Medical University*, **2019**, 86-92	0.4	1
47	Physics behind laser thermogenetic neurostimulation. *Journal of Applied Physics*, **2019**, 126, 233102	2.5	0
46	Red fluorescent redox-sensitive biosensor Grx1-roCherry. *Redox Biology*, **2019**, 21, 101071	11.3	18
45	SypHer3s: a genetically encoded fluorescent ratiometric probe with enhanced brightness and an improved dynamic range. *Chemical Communications*, **2018**, 54, 2898-2901	5.8	29
44	Redox biosensors in a context of multiparameter imaging. *Free Radical Biology and Medicine*, **2018**, 128, 23-39	7.8	21
43	In Vivo Imaging of Hydrogen Peroxide with HyPer Probes. *Antioxidants and Redox Signaling*, **2018**, 29, 569-584	8.4	35
42	Structural snapshots of OxyR reveal the peroxidatic mechanism of HO sensing. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, E11623-E11632	11.5	29
41	Thermogenetic stimulation of single neocortical pyramidal neurons transfected with TRPV1-L channels. *Neuroscience Letters*, **2018**, 687, 153-157	3.3	5
40	Chemogenetic generation of hydrogen peroxide in the heart induces severe cardiac dysfunction. *Nature Communications*, **2018**, 9, 4044	17.4	39
39	A BK channel-mediated feedback pathway links single-synapse activity with action potential sharpening in repetitive firing. *Science Advances*, **2018**, 4, eaat1357	14.3	8
38	European contribution to the study of ROS: A summary of the findings and prospects for the future from the COST action BM1203 (EU-ROS). *Redox Biology*, **2017**, 13, 94-162	11.3	185
37	Mild metabolic perturbations alter succinylation of mitochondrial proteins. *Journal of Neuroscience Research*, **2017**, 95, 2244-2252	4.4	19
36	Thermogenetic neurostimulation with single-cell resolution. *Nature Communications*, **2017**, 8, 15362	17.4	42
35	New tools for redox biology: From imaging to manipulation. *Free Radical Biology and Medicine*, **2017** , 109, 167-188	7.8	43
34	Live-Cell STED Imaging with the HyPer2 Biosensor. *Methods in Molecular Biology*, **2017**, 1663, 21-28	1.4	5

33	Local Generation and Imaging of Hydrogen Peroxide in Living Cells. *Current Protocols in Chemical Biology*, **2017**, 9, 117-127	1.8	19
32	A novel family of fluorescent hypoxia sensors reveal strong heterogeneity in tumor hypoxia at the cellular level. *EMBO Journal*, **2016**, 35, 102-13	13	57
31	HyPer Family Probes: State of the Art. *Antioxidants and Redox Signaling*, **2016**, 24, 731-51	8.4	89
30	Fiber-optic electron-spin-resonance thermometry of single laser-activated neurons. *Optics Letters*, **2016**, 41, 5563-5566	3	20
29	Genetically encoded probes for NAD/NADH monitoring. *Free Radical Biology and Medicine*, **2016**, 100, 32-42	7.8	27
28	Imaging calcium and redox signals using genetically encoded fluorescent indicators. *Cell Calcium*, **2016**, 60, 55-64	4	21
27	Fluorescent ratiometric pH indicator SypHer2: Applications in neuroscience and regenerative biology. *Biochimica Et Biophysica Acta - General Subjects*, **2015**, 1850, 2318-28	4	61
26	Intracellular pH imaging in cancer cells in vitro and tumors in vivo using the new genetically encoded sensor SypHer2. *Biochimica Et Biophysica Acta - General Subjects*, **2015**, 1850, 1905-11	4	69
25	Live-Cell STED Microscopy with Genetically Encoded Biosensor. *Nano Letters*, **2015**, 15, 2928-32	11.5	27
24	Fiber-optic control and thermometry of single-cell thermosensation logic. *Scientific Reports*, **2015**, 5, 15737	4.9	33
23	Microwave-induced thermogenetic activation of single cells. *Applied Physics Letters*, **2015**, 106, 163702	3.4	19
22	Novel uses of fluorescent proteins. *Current Opinion in Chemical Biology*, **2015**, 27, 1-9	9.7	77
21	Genetically encoded fluorescent indicator for imaging NAD(+)/NADH ratio changes in different cellular compartments. *Biochimica Et Biophysica Acta - General Subjects*, **2014**, 1840, 951-7	4	77
20	The TmitoflashTprobe cpYFP does not respond to superoxide. *Nature*, **2014**, 514, E12-4	50.4	103
19	Red fluorescent genetically encoded indicator for intracellular hydrogen peroxide. *Nature Communications*, **2014**, 5, 5222	17.4	168
18	Genetically encoded fluorescent redox sensors. *Biochimica Et Biophysica Acta - General Subjects*, **2014**, 1840, 745-56	4	138
17	How much H(2)O(2) is produced by recombinant D-amino acid oxidase in mammalian cells?. *Antioxidants and Redox Signaling*, **2014**, 20, 1039-44	8.4	38
16	HyPer-3: a genetically encoded H(2)O(2) probe with improved performance for ratiometric and fluorescence lifetime imaging. *ACS Chemical Biology*, **2013**, 8, 535-42	4.9	187

15	Visualization of intracellular hydrogen peroxide with HyPer, a genetically encoded fluorescent probe. *Methods in Enzymology*, **2013**, 526, 45-59	1.7	31
14	Imaging H2O2 microdomains in receptor tyrosine kinases signaling. *Methods in Enzymology*, **2013**, 526, 175-87	1.7	15
13	Can we see PIP(3) and hydrogen peroxide with a single probe?. *Antioxidants and Redox Signaling*, **2012**, 17, 505-12	8.4	18
12	Unraveling the biological roles of reactive oxygen species. *Cell Metabolism*, **2011**, 13, 361-366	24.6	542
11	Does cellular hydrogen peroxide diffuse or act locally?. *Antioxidants and Redox Signaling*, **2011**, 14, 1-7	8.4	124
10	Hydrogen peroxide probes directed to different cellular compartments. *PLoS ONE*, **2011**, 6, e14564	3.7	160
9	A genetically encoded sensor for H2O2 with expanded dynamic range. *Bioorganic and Medicinal Chemistry*, **2011**, 19, 1079-84	3.4	137
8	NADPH oxidase controls EGF-induced proliferation via an ERK1/2-independent mechanism. *Biophysics (Russian Federation)*, **2010**, 55, 959-965	0.7	2
7	Green fluorescent proteins are light-induced electron donors. *Nature Chemical Biology*, **2009**, 5, 459-61	11.7	156
6	Fast and precise protein tracking using repeated reversible photoactivation. *Traffic*, **2006**, 7, 1304-10	5.7	23
5	Genetically encoded fluorescent indicator for intracellular hydrogen peroxide. *Nature Methods*, **2006**, 3, 281-6	21.6	946
4	Reactive oxygen and nitrogen species: friends or foes?. *Biochemistry (Moscow)*, **2005**, 70, 215-21	2.9	46
3	Kindling fluorescent proteins for precise in vivo photolabeling. *Nature Biotechnology*, **2003**, 21, 191-4	44.5	278
2	Proteinaceous complexes from mitochondrial contact sites. *Biochemistry (Moscow)*, **1999**, 64, 390-8	2.9	6
1	Serum SARS-CoV-2 nucleocapsid antigen detection is essential for primary diagnostics of SARS-CoV-2-associated pneumonia		3