

# Vsevolod Belousov

## List of Publications by Year in descending order

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Version: 2024-02-01

90  
papers

6,810  
citations

109137

35  
h-index

62479

80  
g-index

95  
all docs

95  
docs citations

95  
times ranked

7600  
citing authors

#	ARTICLE	IF	CITATIONS
1	A guide to genetically encoded tools for the study of H <sub>2</sub> O <sub>2</sub> . FEBS Journal, 2022, 289, 5382-5395.	2.2	26
2	Hypocrates is a genetically encoded fluorescent biosensor for (pseudo)hypohalous acids and their derivatives. Nature Communications, 2022, 13, 171.	5.8	9
3	Spatial and temporal control of mitochondrial H <sub>2</sub> O <sub>2</sub> release in intact human cells. EMBO Journal, 2022, 41, e109169.	3.5	39
4	Defining roles of specific reactive oxygen species (ROS) in cell biology and physiology. Nature Reviews Molecular Cell Biology, 2022, 23, 499-515.	16.1	469
5	Fluorescence lifetime-based pH mapping of tumors in vivo using genetically encoded sensor SypHerRed. Biophysical Journal, 2022, 121, 1156-1165.	0.2	7
6	A reversible mitochondrial complex I thiol switch mediates hypoxic avoidance behavior in C. elegans. Nature Communications, 2022, 13, 2403.	5.8	13
7	Real-time fiber-optic recording of acute ischemic stroke signatures. Journal of Biophotonics, 2022, 15, .	1.1	3
8	Guidelines for measuring reactive oxygen species and oxidative damage in cells and in vivo. Nature Metabolism, 2022, 4, 651-662.	5.1	356
9	Enhanced contrast two-photon optogenetic pH sensing and pH-resolved brain imaging. Journal of Biophotonics, 2021, 14, e202000301.	1.1	4
10	Surgical treatment of patients with neurosurgical pathology combined with COVID-19. Russian Journal of Neurosurgery, 2021, 22, 83-92.	0.1	1
11	Hypoxia Onset in Mesenchymal Stem Cell Spheroids: Monitoring With Hypoxia Reporter Cells. Frontiers in Bioengineering and Biotechnology, 2021, 9, 611837.	2.0	26
12	The Mitochondria-to-Cytosol H <sub>2</sub> O <sub>2</sub> Gradient Is Caused by Peroxiredoxin-Dependent Cytosolic Scavenging. Antioxidants, 2021, 10, 731.	2.2	18
13	Multimodal nonlinear-optical imaging of nucleoli. Optics Letters, 2021, 46, 3608.	1.7	5
14	Tracing of intracellular pH in cancer cells in response to Taxol treatment. Cell Cycle, 2021, 20, 1540-1551.	1.3	5
15	Single-beam dual-color alternate-pathway two-photon spectroscopy: Toward an optical toolbox for redox biology. Journal of Raman Spectroscopy, 2021, 52, 1552-1560.	1.2	4
16	Single-beam multimodal nonlinear-optical imaging of structurally complex events in cell-cycle dynamics. JPhys Photonics, 2021, 3, 044001.	2.2	7
17	Drug Screening with Genetically Encoded Fluorescent Sensors: Today and Tomorrow. International Journal of Molecular Sciences, 2021, 22, 148.	1.8	13
18	Recent advances in nucleotide analogue-based techniques for tracking dividing stem cells: An overview. Journal of Biological Chemistry, 2021, 297, 101345.	1.6	19

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19	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.	3.9	22
20	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.	1.1	18
21	How imaging transforms our understanding of oxidative stress. , 2020, , 87-96.		0
22	Single-beam optogenetic multimodal $\ddot{z}$ (3) / $\ddot{z}$ (5) nonlinear microscopy and brain imaging. <i>Journal of Raman Spectroscopy</i> , 2020, 51, 1942-1950.	1.2	3
23	Live reporting for hypoxia: Hypoxia sensor-modified mesenchymal stem cells as in vitro reporters. <i>Biotechnology and Bioengineering</i> , 2020, 117, 3265-3276.	1.7	16
24	Thermogenetics as a New Direction in Controlling the Activity of Neural Networks. <i>Neuroscience and Behavioral Physiology</i> , 2020, 50, 1018-1023.	0.2	3
25	H2O2 and Engrailed 2 paracrine activity synergize to shape the zebrafish optic tectum. <i>Communications Biology</i> , 2020, 3, 536.	2.0	18
26	In Vivo Imaging with Genetically Encoded Redox Biosensors. <i>International Journal of Molecular Sciences</i> , 2020, 21, 8164.	1.8	33
27	Genetically Encoded Tools for Research of Cell Signaling and Metabolism under Brain Hypoxia. <i>Antioxidants</i> , 2020, 9, 516.	2.2	10
28	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.	7.2	202
29	Light and corona: guided-wave readout for coronavirus spike protein-host-receptor binding. <i>Optics Letters</i> , 2020, 45, 5428.	1.7	2
30	Cell-specific three-photon-fluorescence brain imaging: neurons, astrocytes, and gliovascular interfaces. <i>Optics Letters</i> , 2020, 45, 836.	1.7	20
31	A fiber optic-nanophotonic approach to the detection of antibodies and viral particles of COVID-19. <i>Nanophotonics</i> , 2020, 10, 235-246.	2.9	15
32	Nox4 regulates InsP <sub>3</sub> receptor-dependent Ca <sup>2+</sup> release into mitochondria to promote cell survival. <i>EMBO Journal</i> , 2020, 39, e103530.	3.5	49
33	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, 3138.	1.8	24
34	Circularly Permuted Fluorescent Protein-Based Indicators: History, Principles, and Classification. <i>International Journal of Molecular Sciences</i> , 2019, 20, 4200.	1.8	83
35	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.	0.4	5
36	Nonlinear-optical stain-free stereoinaging of astrocytes and gliovascular interfaces. <i>Journal of Biophotonics</i> , 2019, 12, e201800432.	1.1	6

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37	O <sub>2</sub> affects mitochondrial functionality ex vivo. Redox Biology, 2019, 22, 101152.	3.9	22
38	Which Antioxidant System Shapes Intracellular H <sub>2</sub> O <sub>2</sub> Gradients?. Antioxidants and Redox Signaling, 2019, 31, 664-670.	2.5	42
39	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.	1.2	6
40	<i>LINC00116</i> 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.	3.3	84
41	Nonlinear-Optical Label-Free Multimodal Imaging of Neurons, Astrocytes and Gliovascular Interfaces. , 2019, , .		0
42	Physics behind laser thermogenetic neurostimulation. Journal of Applied Physics, 2019, 126, 233102.	1.1	1
43	Red fluorescent redox-sensitive biosensor Grx1-roCherry. Redox Biology, 2019, 21, 101071.	3.9	26
44	Stain-free subcellular-resolution astrocyte imaging using third-harmonic generation. Optics Letters, 2019, 44, 3166.	1.7	11
45	A genetically encoded biosensor roKate for monitoring the redox state of the glutathione pool. Bulletin of Russian State Medical University, 2019, , 86-92.	0.3	1
46	SypHer3s: a genetically encoded fluorescent ratiometric probe with enhanced brightness and an improved dynamic range. Chemical Communications, 2018, 54, 2898-2901.	2.2	52
47	Redox biosensors in a context of multiparameter imaging. Free Radical Biology and Medicine, 2018, 128, 23-39.	1.3	29
48	<i>In Vivo</i> Imaging of Hydrogen Peroxide with HyPer Probes. Antioxidants and Redox Signaling, 2018, 29, 569-584.	2.5	50
49	Structural snapshots of OxyR reveal the peroxidatic mechanism of H <sub>2</sub> O <sub>2</sub> sensing. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E11623-E11632.	3.3	42
50	Thermogenetic stimulation of single neocortical pyramidal neurons transfected with TRPV1-L channels. Neuroscience Letters, 2018, 687, 153-157.	1.0	6
51	Chemogenetic generation of hydrogen peroxide in the heart induces severe cardiac dysfunction. Nature Communications, 2018, 9, 4044.	5.8	80
52	A BK channel-mediated feedback pathway links single-synapse activity with action potential sharpening in repetitive firing. Science Advances, 2018, 4, eaat1357.	4.7	14
53	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.	3.9	242
54	Mild metabolic perturbations alter succinylation of mitochondrial proteins. Journal of Neuroscience Research, 2017, 95, 2244-2252.	1.3	32

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55	Thermogenetic neurostimulation with single-cell resolution. <i>Nature Communications</i> , 2017, 8, 15362.	5.8	55
56	New tools for redox biology: From imaging to manipulation. <i>Free Radical Biology and Medicine</i> , 2017, 109, 167-188.	1.3	58
57	Live-Cell STED Imaging with the HyPer2 Biosensor. <i>Methods in Molecular Biology</i> , 2017, 1663, 21-28.	0.4	6
58	Local Generation and Imaging of Hydrogen Peroxide in Living Cells. <i>Current Protocols in Chemical Biology</i> , 2017, 9, 117-127.	1.7	23
59	Fiber-optic electron-spin-resonance thermometry of single laser-activated neurons. <i>Optics Letters</i> , 2016, 41, 5563.	1.7	27
60	Genetically encoded probes for NAD <sup>+</sup> /NADH monitoring. <i>Free Radical Biology and Medicine</i> , 2016, 100, 32-42.	1.3	36
61	Imaging calcium and redox signals using genetically encoded fluorescent indicators. <i>Cell Calcium</i> , 2016, 60, 55-64.	1.1	27
62	A novel family of fluorescent hypoxia sensors reveal strong heterogeneity in tumor hypoxia at the cellular level. <i>EMBO Journal</i> , 2016, 35, 102-113.	3.5	80
63	HyPer Family Probes: State of the Art. <i>Antioxidants and Redox Signaling</i> , 2016, 24, 731-751.	2.5	103
64	Fiber-optic control and thermometry of single-cell thermosensation logic. <i>Scientific Reports</i> , 2015, 5, 15737.	1.6	45
65	Microwave-induced thermogenetic activation of single cells. <i>Applied Physics Letters</i> , 2015, 106, .	1.5	22
66	Novel uses of fluorescent proteins. <i>Current Opinion in Chemical Biology</i> , 2015, 27, 1-9.	2.8	96
67	Fluorescent ratiometric pH indicator SypHer2: Applications in neuroscience and regenerative biology. <i>Biochimica Et Biophysica Acta - General Subjects</i> , 2015, 1850, 2318-2328.	1.1	72
68	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, 1905-1911.	1.1	92
69	Live-Cell STED Microscopy with Genetically Encoded Biosensor. <i>Nano Letters</i> , 2015, 15, 2928-2932.	4.5	35
70	How Much H <sub>2</sub> O <sub>2</sub> Is Produced by Recombinant D-Amino Acid Oxidase in Mammalian Cells?. <i>Antioxidants and Redox Signaling</i> , 2014, 20, 1039-1044.	2.5	62
71	Genetically encoded fluorescent indicator for imaging NAD <sup>+</sup> /NADH ratio changes in different cellular compartments. <i>Biochimica Et Biophysica Acta - General Subjects</i> , 2014, 1840, 951-957.	1.1	94
72	The "mitoflash" probe cpYFP does not respond to superoxide. <i>Nature</i> , 2014, 514, E12-E14.	13.7	109

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73	Red fluorescent genetically encoded indicator for intracellular hydrogen peroxide. <i>Nature Communications</i> , 2014, 5, 5222.	5.8	207
74	Genetically encoded fluorescent redox sensors. <i>Biochimica Et Biophysica Acta - General Subjects</i> , 2014, 1840, 745-756.	1.1	165
75	HyPer-3: A Genetically Encoded H <sub>2</sub> O <sub>2</sub> Probe with Improved Performance for Ratiometric and Fluorescence Lifetime Imaging. <i>ACS Chemical Biology</i> , 2013, 8, 535-542.	1.6	224
76	Visualization of Intracellular Hydrogen Peroxide with HyPer, a Genetically Encoded Fluorescent Probe. <i>Methods in Enzymology</i> , 2013, 526, 45-59.	0.4	40
77	Imaging H <sub>2</sub> O <sub>2</sub> Microdomains in Receptor Tyrosine Kinases Signaling. <i>Methods in Enzymology</i> , 2013, 526, 175-187.	0.4	16
78	The slow fade of cell fluorescence. <i>Nature Photonics</i> , 2012, 6, 641-643.	15.6	1
79	Can We See PIP3 and Hydrogen Peroxide with a Single Probe?. <i>Antioxidants and Redox Signaling</i> , 2012, 17, 505-512.	2.5	20
80	Unraveling the Biological Roles of Reactive Oxygen Species. <i>Cell Metabolism</i> , 2011, 13, 361-366.	7.2	661
81	Does Cellular Hydrogen Peroxide Diffuse or Act Locally?. <i>Antioxidants and Redox Signaling</i> , 2011, 14, 1-7.	2.5	137
82	Hydrogen Peroxide Probes Directed to Different Cellular Compartments. <i>PLoS ONE</i> , 2011, 6, e14564.	1.1	177
83	A genetically encoded sensor for H <sub>2</sub> O <sub>2</sub> with expanded dynamic range. <i>Bioorganic and Medicinal Chemistry</i> , 2011, 19, 1079-1084.	1.4	160
84	NADPH oxidase controls EGF-induced proliferation via an ERK1/2-independent mechanism. <i>Biophysics (Russian Federation)</i> , 2010, 55, 959-965.	0.2	2
85	Green fluorescent proteins are light-induced electron donors. <i>Nature Chemical Biology</i> , 2009, 5, 459-461.	3.9	176
86	Fast and Precise Protein Tracking Using Repeated Reversible Photoactivation. <i>Traffic</i> , 2006, 7, 1304-1310.	1.3	25
87	Genetically encoded fluorescent indicator for intracellular hydrogen peroxide. <i>Nature Methods</i> , 2006, 3, 281-286.	9.0	1,096
88	Reactive oxygen and nitrogen species: Friends or foes?. <i>Biochemistry (Moscow)</i> , 2005, 70, 215-221.	0.7	51
89	Kindling fluorescent proteins for precise in vivo photolabeling. <i>Nature Biotechnology</i> , 2003, 21, 191-194.	9.4	304
90	Proteinaceous complexes from mitochondrial contact sites. <i>Biochemistry (Moscow)</i> , 1999, 64, 390-8.	0.7	6