Robert E Campbell

List of Publications by Year
in descending order

124 papers	20,036 citations	36303 51 h-index	18647 119 g-index
151 all docs	151 docs citations	151 times ranked	23820 citing authors

#	Article	IF	Citations
1	Barcodes, co-cultures, and deep learning take genetically encoded biosensor multiplexing to the nth degree. Molecular Cell, 2022, 82, 239-240.	9.7	2
2	Live cell tracking of macrophage efferocytosis during Drosophila embryo development in vivo. Science, 2022, 375, 1182-1187.	12.6	30
3	Absolute measurement of cellular activities using photochromic single-fluorophore biosensors and intermittent quantification. Nature Communications, 2022, 13, 1850.	12.8	16
4	Cyan fluorescent proteins derived from mNeonGreen. Protein Engineering, Design and Selection, 2022, 35, .	2.1	3
5	Fluorescent Indicators For Biological Imaging of Monatomic Ions. Frontiers in Cell and Developmental Biology, 2022, 10, 885440.	3.7	6
6	Neurophotonic Tools for Microscopic Measurements and Manipulation: Status Report. Neurophotonics, 2022, 9, 013001.	3.3	17
7	Switching between Ultrafast Pathways Enables a Green-Red Emission Ratiometric Fluorescent-Protein-Based Ca2+ Biosensor. International Journal of Molecular Sciences, 2021, 22, 445.	4.1	11
8	Photocleavable proteins that undergo fast and efficient dissociation. Chemical Science, 2021, 12, 9658-9672.	7.4	18
9	Structure- and mechanism-guided design of single fluorescent protein-based biosensors. Nature Chemical Biology, 2021, 17, 509-518.	8.0	134
10	Controlled Osteogenic Differentiation of Human Mesenchymal Stem Cells Using Dexamethasone-Loaded Light-Responsive Microgels. ACS Applied Materials & Interfaces, 2021, 13, 7051-7059.	8.0	19
11	Design and Prototyping of Genetically Encoded Arsenic Biosensors Based on Transcriptional Regulator AfArsR. Biomolecules, 2021, 11, 1276.	4.0	6
12	A genetically encoded fluorescent biosensor for extracellular l-lactate. Nature Communications, 2021, 12, 7058.	12.8	46
13	Challenges for Therapeutic Applications of Opsin-Based Optogenetic Tools in Humans. Frontiers in Neural Circuits, 2020, 14, 41.	2.8	61
14	Engineering genetically encoded fluorescent indicators for imaging of neuronal activity: Progress and prospects. Neuroscience Research, 2020, 152, 3-14.	1.9	51
15	High-Performance Intensiometric Direct- and Inverse-Response Genetically Encoded Biosensors for Citrate. ACS Central Science, 2020, 6, 1441-1450.	11.3	30
16	The Role of Amino Acids in Neurotransmission and Fluorescent Tools for Their Detection. International Journal of Molecular Sciences, 2020, 21, 6197.	4.1	71
17	Engineering Photosensory Modules of Non-Opsin-Based Optogenetic Actuators. International Journal of Molecular Sciences, 2020, 21, 6522.	4.1	17
18	Intelligent image-activated cell sorting 2.0. Lab on A Chip, 2020, 20, 2263-2273.	6.0	93

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19	Bright and High-Performance Genetically Encoded Ca²⁺ Indicator Based on mNeonGreen Fluorescent Protein. ACS Sensors, 2020, 5, 1959-1968.	7.8	35
20	Improved genetically encoded near-infrared fluorescent calcium ion indicators for in vivo imaging. PLoS Biology, 2020, 18, e3000965.	5.6	62
21	A Bioluminescent Ca²⁺ Indicator Based on a Topological Variant of GCaMP6s. ChemBioChem, 2019, 20, 516-520.	2.6	45
22	Ratiometric Detection of Nerve Agents by Coupling Complementary Properties of Silicon-Based Quantum Dots and Green Fluorescent Protein. ACS Applied Materials & Interfaces, 2019, 11, 33478-33488.	8.0	28
23	A genetically encoded near-infrared fluorescent calcium ion indicator. Nature Methods, 2019, 16, 171-174.	19.0	154
24	Understanding the Fluorescence Change in Red Genetically Encoded Calcium Ion Indicators. Biophysical Journal, 2019, 116, 1873-1886.	0.5	54
25	Voltage imaging and optogenetics reveal behaviour-dependent changes in hippocampal dynamics. Nature, 2019, 569, 413-417.	27.8	255
26	Wide-Area All-Optical Neurophysiology in Acute Brain Slices. Journal of Neuroscience, 2019, 39, 4889-4908.	3.6	25
27	A single-phase flow microfluidic cell sorter for multiparameter screening to assist the directed evolution of Ca²⁺ sensors. Lab on A Chip, 2019, 19, 3880-3887.	6.0	7
28	Genetically encoded fluorescent indicators for imaging intracellular potassium ion concentration. Communications Biology, 2019, 2, 18.	4.4	110
29	Unnaturally aglow with a bright inner light. Science, 2018, 359, 868-869.	12.6	7
30	Surveying the landscape of optogenetic methods for detection of protein-protein interactions. Wiley Interdisciplinary Reviews: Systems Biology and Medicine, 2018, 10, e1415.	6.6	11
31	Genetically Encoded Glutamate Indicators with Altered Color and Topology. ACS Chemical Biology, 2018, 13, 1832-1837.	3.4	67
32	Monomerization of far-red fluorescent proteins. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E11294-E11301.	7.1	24
33	A genetically encoded Ca2+ indicator based on circularly permutated sea anemone red fluorescent protein eqFP578. BMC Biology, 2018, 16, 9.	3.8	83
34	Inverse-response Ca2+ indicators for optogenetic visualization of neuronal inhibition. Scientific Reports, 2018, 8, 11758.	3.3	8
35	Enhancing fluorescent protein photostability through robot-assisted photobleaching. Integrative Biology (United Kingdom), 2018, 10, 419-428.	1.3	12
36	In vivo photoacoustic difference-spectra imaging of bacteria using photoswitchable chromoproteins. Journal of Biomedical Optics, 2018, 23, 1.	2.6	23

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37	Distinct intracellular Ca2+ dynamics regulate apical constriction and differentially contribute to neural tube closure. Development (Cambridge), 2017, 144, 1307-1316.	2.5	42
38	Blue-Shifted Green Fluorescent Protein Homologues Are Brighter than Enhanced Green Fluorescent Protein under Two-Photon Excitation. Journal of Physical Chemistry Letters, 2017, 8, 2548-2554.	4.6	33
39	Illuminating Photochemistry of an Excitation Ratiometric Fluorescent Protein Calcium Biosensor. Journal of Physical Chemistry B, 2017, 121, 3016-3023.	2.6	13
40	Optogenetic control with a photocleavable protein, PhoCl. Nature Methods, 2017, 14, 391-394.	19.0	117
41	The Growing and Glowing Toolbox of Fluorescent and Photoactive Proteins. Trends in Biochemical Sciences, 2017, 42, 111-129.	7.5	514
42	Engineering of mCherry variants with long Stokes shift, red-shifted fluorescence, and low cytotoxicity. PLoS ONE, 2017, 12, e0171257.	2.5	70
43	Engineering Dark Chromoprotein Reporters for Photoacoustic Microscopy and FRET Imaging. Scientific Reports, 2016, 6, 22129.	3.3	30
44	Spying on Cells: Toward a Perfect Sleeper Agent. Cell Chemical Biology, 2016, 23, 756-758.	5.2	1
45	Ratiometric and photoconvertible fluorescent protein-based voltage indicator prototypes. Chemical Communications, 2016, 52, 14153-14156.	4.1	5
46	A Tandem Greenâ€“Red Heterodimeric Fluorescent Protein with High FRET Efficiency. ChemBioChem, 2016, 17, 2361-2367.	2.6	17
47	Pharmacological inhibition of lipid droplet formation enhances the effectiveness of curcumin in glioblastoma. European Journal of Pharmaceutics and Biopharmaceutics, 2016, 100, 66-76.	4.3	44
48	A Bright and Fast Red Fluorescent Protein Voltage Indicator That Reports Neuronal Activity in Organotypic Brain Slices. Journal of Neuroscience, 2016, 36, 2458-2472.	3.6	137
49	Fluorescent Proteins for Neuronal Imaging. Biological and Medical Physics Series, 2015, , 57-96.	0.4	3
50	Emerging fluorescent protein technologies. Current Opinion in Chemical Biology, 2015, 27, 10-17.	6.1	82
51	Unraveling Ultrafast Photoinduced Proton Transfer Dynamics in a Fluorescent Protein Biosensor for Ca²⁺ Imaging. Chemistry - A European Journal, 2015, 21, 6481-6490.	3.3	34
52	Validating tyrosinase homologuemelAas a photoacoustic reporter gene for imagingEscherichia coli. Journal of Biomedical Optics, 2015, 20, 106008.	2.6	13
53	Altered Escherichia coli membrane protein assembly machinery allows proper membrane assembly of eukaryotic protein vitamin K epoxide reductase. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 15184-15189.	7.1	14
54	Ratiometric biosensors based on dimerization-dependent fluorescent protein exchange. Nature Methods, 2015, 12, 195-198.	19.0	124

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55	Engineering the next generation of optogenetic reporters to illuminate neuronal activity. , 2015, , .		0
56	Red fluorescent proteins (RFPs) and RFP-based biosensors for neuronal imaging applications. Neurophotonics, 2015, 2, 031203.	3.3	29
57	Fluorescent biosensors illuminate calcium levels within defined beta-cell endosome subpopulations. Cell Calcium, 2015, 57, 263-274.	2.4	50
58	Excited State Structural Events of a Dual-Emission Fluorescent Protein Biosensor for Ca2+ Imaging Studied by Femtosecond Stimulated Raman Spectroscopy. Journal of Physical Chemistry B, 2015, 119, 2204-2218.	2.6	26
59	Engineering the next generation of optogenetic reporters to illuminate neuronal activity. , 2015, , .		0
60	Red fluorescent genetically encoded Ca2+ indicators for use in mitochondria and endoplasmic reticulum. Biochemical Journal, 2014, 464, 13-22.	3.7	132
61	Engineered Fluorescent Proteins Bring Biochemistry To Light. Microscopy and Microanalysis, 2014, 20, 1354-1355.	0.4	0
62	Optimization of a genetically encoded biosensor for cyclin B1-cyclin dependent kinase 1. Molecular BioSystems, 2014, 10, 191-195.	2.9	20
63	Engineering and characterizing monomeric fluorescent proteins for live-cell imaging applications. Nature Protocols, 2014, 9, 910-928.	12.0	51
64	A photochromic and thermochromic fluorescent protein. RSC Advances, 2014, 4, 56762-56765.	3.6	8
65	pHuji, a pH-sensitive red fluorescent protein for imaging of exo- and endocytosis. Journal of Cell Biology, 2014, 207, 419-432.	5.2	207
66	Microfluidic cell sorter-aided directed evolution of a protein-based calcium ion indicator with an inverted fluorescent response. Integrative Biology (United Kingdom), 2014, 6, 714-725.	1.3	36
67	A long Stokes shift red fluorescent Ca2+ indicator protein for two-photon and ratiometric imaging. Nature Communications, 2014, 5, 5262.	12.8	75
68	Bright and fast multicoloured voltage reporters via electrochromic FRET. Nature Communications, 2014, 5, 4625.	12.8	175
69	Excited-state structural dynamics of a dual-emission calmodulin-green fluorescent protein sensor for calcium ion imaging. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 10191-10196.	7.1	70
70	All-optical electrophysiology in mammalian neurons using engineered microbial rhodopsins. Nature Methods, 2014, 11, 825-833.	19.0	666
71	pHuji, a pH-sensitive red fluorescent protein for imaging of exo- and endocytosis. Journal of General Physiology, 2014, 144, 1446OIA52.	1.9	0
72	An Engineered Monomeric Zoanthus sp. Yellow Fluorescent Protein. Chemistry and Biology, 2013, 20, 1296-1304.	6.0	31

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73	Circular permutated red fluorescent proteins and calcium ion indicators based on mCherry. Protein Engineering, Design and Selection, 2013, 26, 763-772.	2.1	18
74	Palmitoylation is the Switch that Assigns Calnexin to Quality Control or ER Calcium Signaling. Journal of Cell Science, 2013, 126, 3893-903.	2.0	125
75	Mutational Analysis of a Red Fluorescent Protein-Based Calcium Ion Indicator. Sensors, 2013, 13, 11507-11521.	3.8	9
76	Highlightable Ca²⁺ Indicators for Live Cell Imaging. Journal of the American Chemical Society, 2013, 135, 46-49.	13.7	61
77	Optogenetic reporters. Biology of the Cell, 2013, 105, 14-29.	2.0	39
78	Improved Orange and Red Ca²⁺ Indicators and Photophysical Considerations for Optogenetic Applications. ACS Chemical Neuroscience, 2013, 4, 963-972.	3.5	218
79	Dimerization-Dependent Green and Yellow Fluorescent Proteins. ACS Synthetic Biology, 2012, 1, 569-575.	3.8	117
80	Supramolecular hosts that recognize methyllysines and disrupt the interaction between a modified histone tail and its epigenetic reader protein. Chemical Science, 2012, 3, 2695.	7.4	70
81	Portable self-contained cultures for phage and bacteria made of paper and tape. Lab on A Chip, 2012, 12, 4269.	6.0	66
82	mMaple: A Photoconvertible Fluorescent Protein for Use in Multiple Imaging Modalities. PLoS ONE, 2012, 7, e51314.	2.5	125
83	A Fluorogenic Red Fluorescent Protein Heterodimer. Chemistry and Biology, 2012, 19, 353-360.	6.0	82
84	Simultaneous Detection of Ca2+ and Diacylglycerol Signaling in Living Cells. PLoS ONE, 2012, 7, e42791.	2.5	59
85	FÃ¶rster Resonance Energy Transfer-Based Biosensors for Multiparameter Ratiometric Imaging of Ca²⁺ Dynamics and Caspase-3 Activity in Single Cells. Analytical Chemistry, 2011, 83, 9687-9693.	6.5	52
86	An Expanded Palette of Genetically Encoded Ca ²⁺ Indicators. Science, 2011, 333, 1888-1891.	12.6	1,178
87	A bacteria colony-based screen for optimal linker combinations in genetically encoded biosensors. BMC Biotechnology, 2011, 11, 105.	3.3	27
88	Designs and applications of fluorescent protein-based biosensors. Current Opinion in Chemical Biology, 2010, 14, 30-36.	6.1	166
89	Molecular Imaging. Current Opinion in Chemical Biology, 2010, 14, 1-2.	6.1	83
90	Circularly permuted monomeric red fluorescent proteins with new termini in the Î²â€sheet. Protein Science, 2010, 19, 1490-1499.	7.6	24

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91	Fluorescent Reporter Proteins. , 2010, , 3-40.		4
92	A Monomeric Photoconvertible Fluorescent Protein for Imaging of Dynamic Protein Localization. Journal of Molecular Biology, 2010, 401, 776-791.	4.2	73
93	Red Fluorescent Protein pH Biosensor to Detect Concentrative Nucleoside Transport. Journal of Biological Chemistry, 2009, 284, 20499-20511.	3.4	61
94	An engineered tryptophan zipperâ€type peptide as a molecular recognition scaffold. Journal of Peptide Science, 2009, 15, 523-532.	1.4	4
95	Engineered fluorescent proteins: innovations and applications. Nature Methods, 2009, 6, 713-717.	19.0	108
96	Autofluorescent Proteins with Excitation in the Optical Window for Intravital Imaging in Mammals. Chemistry and Biology, 2009, 16, 1169-1179.	6.0	244
97	Genetically encoded FRET-based biosensors for multiparameter fluorescence imaging. Current Opinion in Biotechnology, 2009, 20, 19-27.	6.6	146
98	Genetically encoded biosensors based on engineered fluorescent proteins. Chemical Society Reviews, 2009, 38, 2833.	38.1	291
99	Fluorescent-Protein-Based Biosensors: Modulation of Energy Transfer as a Design Principle. Analytical Chemistry, 2009, 81, 5972-5979.	6.5	93
100	Hue-shifted monomeric variants of Clavulariacyan fluorescent protein: identification of the molecular determinants of color and applications in fluorescence imaging. BMC Biology, 2008, 6, 13.	3.8	127
101	Fluorescent protein FRET pairs for ratiometric imaging of dual biosensors. Nature Methods, 2008, 5, 401-403.	19.0	320
102	Computational Prediction of Absorbance Maxima for a Structurally Diverse Series of Engineered Green Fluorescent Protein Chromophores. Journal of Physical Chemistry B, 2008, 112, 2533-2541.	2.6	29
103	Teal fluorescent proteins: characterization of a reversibly photoswitchable variant. Proceedings of SPIE, 2008, , .	0.8	6
104	Structural basis for reversible photobleaching of a green fluorescent protein homologue. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 6672-6677.	7.1	213
105	Fluorescence-based characterization of genetically encoded peptides that fold in live cells: progress toward a generic hairpin scaffold. , 2007, , .		1
106	Exploration of New Chromophore Structures Leads to the Identification of Improved Blue Fluorescent Proteins. Biochemistry, 2007, 46, 5904-5910.	2.5	281
107	In Vivo Screening Identifies a Highly Folded Î²-Hairpin Peptide with a Structured Extension. ChemBioChem, 2007, 8, 880-883.	2.6	9
108	Identification of Sites Within a Monomeric Red Fluorescent Protein that Tolerate Peptide Insertion and Testing of Corresponding Circular Permutations. Photochemistry and Photobiology, 2007, 84, 071018085748006-???.	2.5	21

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109	Directed evolution of a monomeric, bright and photostable version of Clavularia cyan fluorescent protein: structural characterization and applications in fluorescence imaging. Biochemical Journal, 2006, 400, 531-540.	3.7	401
110	Assessing the Structural Stability of Designed Î²-Hairpin Peptides in the Cytoplasm of Live Cells. ChemBioChem, 2006, 7, 1147-1150.	2.6	21
111	Improved monomeric red, orange and yellow fluorescent proteins derived from Discosoma sp. red fluorescent protein. Nature Biotechnology, 2004, 22, 1567-1572.	17.5	4,135
112	Realization of Î²-lactamase as a versatile fluorogenic reporter. Trends in Biotechnology, 2004, 22, 208-211.	9.3	42
113	New Biarsenical Ligands and Tetracysteine Motifs for Protein Labeling in Vitro and in Vivo:Â Synthesis and Biological Applications. Journal of the American Chemical Society, 2002, 124, 6063-6076.	13.7	872
114	A monomeric red fluorescent protein. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 7877-7882.	7.1	2,238
115	Creating new fluorescent probes for cell biology. Nature Reviews Molecular Cell Biology, 2002, 3, 906-918.	37.0	1,874
116	Reducing the Environmental Sensitivity of Yellow Fluorescent Protein. Journal of Biological Chemistry, 2001, 276, 29188-29194.	3.4	929
117	The Structure of UDP-N-Acetylglucosamine 2-Epimerase Reveals Homology to Phosphoglycosyl Transferases,. Biochemistry, 2000, 39, 14993-15001.	2.5	108
118	The First Structure of UDP-Glucose Dehydrogenase Reveals the Catalytic Residues Necessary for the Two-fold Oxidation[,]. Biochemistry, 2000, 39, 7012-7023.	2.5	100
119	The first structure of UDP-glucose dehydrogenase reveals the catalytic residues necessary for the two-fold oxidation. Biochemistry, 2000, 39, 7012-23.	2.5	39
120	UDP-Glucose Analogues as Inhibitors and Mechanistic Probes of UDP-Glucose Dehydrogenase. Journal of Organic Chemistry, 1999, 64, 9487-9492.	3.2	34
121	Covalent Adduct Formation with a Mutated Enzyme:Â Evidence for a Thioester Intermediate in the Reaction Catalyzed by UDP-Glucose Dehydrogenase. Journal of the American Chemical Society, 1998, 120, 6613-6614.	13.7	27
122	Properties and Kinetic Analysis of UDP-glucose Dehydrogenase from Group A Streptococci. Journal of Biological Chemistry, 1997, 272, 3416-3422.	3.4	64
123	Uridine Diphospho-Î±-D-gluco-hexodialdose: Synthesis and Kinetic Competence in the Reaction Catalyzed by UDP-Glucose Dehydrogenase. Angewandte Chemie International Edition in English, 1997, 36, 1520-1522.	4.4	18
124	Synthese von Uridindiphosphoâ€Î±â€Dâ€glucoâ€hexodialdose und deren Rolle in der durch UDPâ€Glucoseâ€Dehydrogenase katalysierten Reaktion. Angewandte Chemie, 1997, 109, 1593-1595.	2.0	0