Robert E Campbell

List of Publications by Year
in descending order

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124 papers	20,036 citations	36271 51 h-index	18633 119 g-index
151 all docs	151 docs citations	151 times ranked	23820 citing authors

#	Article	IF	Citations
1	Improved monomeric red, orange and yellow fluorescent proteins derived from Discosoma sp. red fluorescent protein. Nature Biotechnology, 2004, 22, 1567-1572.	9.4	4,135
2	A monomeric red fluorescent protein. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 7877-7882.	3.3	2,238
3	Creating new fluorescent probes for cell biology. Nature Reviews Molecular Cell Biology, 2002, 3, 906-918.	16.1	1,874
4	An Expanded Palette of Genetically Encoded Ca ²⁺ Indicators. Science, 2011, 333, 1888-1891.	6.0	1,178
5	Reducing the Environmental Sensitivity of Yellow Fluorescent Protein. Journal of Biological Chemistry, 2001, 276, 29188-29194.	1.6	929
6	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.	6.6	872
7	All-optical electrophysiology in mammalian neurons using engineered microbial rhodopsins. Nature Methods, 2014, 11, 825-833.	9.0	666
8	The Growing and Glowing Toolbox of Fluorescent and Photoactive Proteins. Trends in Biochemical Sciences, 2017, 42, 111-129.	3.7	514
9	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.	1.7	401
10	Fluorescent protein FRET pairs for ratiometric imaging of dual biosensors. Nature Methods, 2008, 5, 401-403.	9.0	320
11	Genetically encoded biosensors based on engineered fluorescent proteins. Chemical Society Reviews, 2009, 38, 2833.	18.7	291
12	Exploration of New Chromophore Structures Leads to the Identification of Improved Blue Fluorescent Proteins. Biochemistry, 2007, 46, 5904-5910.	1.2	281
13	Voltage imaging and optogenetics reveal behaviour-dependent changes in hippocampal dynamics. Nature, 2019, 569, 413-417.	13.7	255
14	Autofluorescent Proteins with Excitation in the Optical Window for Intravital Imaging in Mammals. Chemistry and Biology, 2009, 16, 1169-1179.	6.2	244
15	Improved Orange and Red Ca²⁺ Indicators and Photophysical Considerations for Optogenetic Applications. ACS Chemical Neuroscience, 2013, 4, 963-972.	1.7	218
16	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.	3.3	213
17	pHuji, a pH-sensitive red fluorescent protein for imaging of exo- and endocytosis. Journal of Cell Biology, 2014, 207, 419-432.	2.3	207
18	Bright and fast multicoloured voltage reporters via electrochromic FRET. Nature Communications, 2014, 5, 4625.	5.8	175

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19	Designs and applications of fluorescent protein-based biosensors. Current Opinion in Chemical Biology, 2010, 14, 30-36.	2.8	166
20	A genetically encoded near-infrared fluorescent calcium ion indicator. Nature Methods, 2019, 16, 171-174.	9.0	154
21	Genetically encoded FRET-based biosensors for multiparameter fluorescence imaging. Current Opinion in Biotechnology, 2009, 20, 19-27.	3.3	146
22	A Bright and Fast Red Fluorescent Protein Voltage Indicator That Reports Neuronal Activity in Organotypic Brain Slices. Journal of Neuroscience, 2016, 36, 2458-2472.	1.7	137
23	Structure- and mechanism-guided design of single fluorescent protein-based biosensors. Nature Chemical Biology, 2021, 17, 509-518.	3.9	134
24	Red fluorescent genetically encoded Ca2+ indicators for use in mitochondria and endoplasmic reticulum. Biochemical Journal, 2014, 464, 13-22.	1.7	132
25	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.	1.7	127
26	mMaple: A Photoconvertible Fluorescent Protein for Use in Multiple Imaging Modalities. PLoS ONE, 2012, 7, e51314.	1.1	125
27	Palmitoylation is the Switch that Assigns Calnexin to Quality Control or ER Calcium Signaling. Journal of Cell Science, 2013, 126, 3893-903.	1.2	125
28	Ratiometric biosensors based on dimerization-dependent fluorescent protein exchange. Nature Methods, 2015, 12, 195-198.	9.0	124
29	Dimerization-Dependent Green and Yellow Fluorescent Proteins. ACS Synthetic Biology, 2012, 1, 569-575.	1.9	117
30	Optogenetic control with a photocleavable protein, PhoCl. Nature Methods, 2017, 14, 391-394.	9.0	117
31	Genetically encoded fluorescent indicators for imaging intracellular potassium ion concentration. Communications Biology, 2019, 2, 18.	2.0	110
32	The Structure of UDP-N-Acetylglucosamine 2-Epimerase Reveals Homology to Phosphoglycosyl Transferases,. Biochemistry, 2000, 39, 14993-15001.	1.2	108
33	Engineered fluorescent proteins: innovations and applications. Nature Methods, 2009, 6, 713-717.	9.0	108
34	The First Structure of UDP-Glucose Dehydrogenase Reveals the Catalytic Residues Necessary for the Two-fold Oxidationâ€,â€¡. Biochemistry, 2000, 39, 7012-7023.	1.2	100
35	Fluorescent-Protein-Based Biosensors: Modulation of Energy Transfer as a Design Principle. Analytical Chemistry, 2009, 81, 5972-5979.	3.2	93
36	Intelligent image-activated cell sorting 2.0. Lab on A Chip, 2020, 20, 2263-2273.	3.1	93

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37	Molecular Imaging. Current Opinion in Chemical Biology, 2010, 14, 1-2.	2.8	83
38	A genetically encoded Ca2+ indicator based on circularly permutated sea anemone red fluorescent protein eqFP578. BMC Biology, 2018, 16, 9.	1.7	83
39	A Fluorogenic Red Fluorescent Protein Heterodimer. Chemistry and Biology, 2012, 19, 353-360.	6.2	82
40	Emerging fluorescent protein technologies. Current Opinion in Chemical Biology, 2015, 27, 10-17.	2.8	82
41	A long Stokes shift red fluorescent Ca2+ indicator protein for two-photon and ratiometric imaging. Nature Communications, 2014, 5, 5262.	5.8	75
42	A Monomeric Photoconvertible Fluorescent Protein for Imaging of Dynamic Protein Localization. Journal of Molecular Biology, 2010, 401, 776-791.	2.0	73
43	The Role of Amino Acids in Neurotransmission and Fluorescent Tools for Their Detection. International Journal of Molecular Sciences, 2020, 21, 6197.	1.8	71
44	Supramolecular hosts that recognize methyllysines and disrupt the interaction between a modified histone tail and its epigenetic reader protein. Chemical Science, 2012, 3, 2695.	3.7	70
45	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.	3.3	70
46	Engineering of mCherry variants with long Stokes shift, red-shifted fluorescence, and low cytotoxicity. PLoS ONE, 2017, 12, e0171257.	1.1	70
47	Genetically Encoded Glutamate Indicators with Altered Color and Topology. ACS Chemical Biology, 2018, 13, 1832-1837.	1.6	67
48	Portable self-contained cultures for phage and bacteria made of paper and tape. Lab on A Chip, 2012, 12, 4269.	3.1	66
49	Properties and Kinetic Analysis of UDP-glucose Dehydrogenase from Group A Streptococci. Journal of Biological Chemistry, 1997, 272, 3416-3422.	1.6	64
50	Improved genetically encoded near-infrared fluorescent calcium ion indicators for in vivo imaging. PLoS Biology, 2020, 18, e3000965.	2.6	62
51	Red Fluorescent Protein pH Biosensor to Detect Concentrative Nucleoside Transport. Journal of Biological Chemistry, 2009, 284, 20499-20511.	1.6	61
52	Highlightable Ca²⁺ Indicators for Live Cell Imaging. Journal of the American Chemical Society, 2013, 135, 46-49.	6.6	61
53	Challenges for Therapeutic Applications of Opsin-Based Optogenetic Tools in Humans. Frontiers in Neural Circuits, 2020, 14, 41.	1.4	61
54	Simultaneous Detection of Ca2+ and Diacylglycerol Signaling in Living Cells. PLoS ONE, 2012, 7, e42791.	1.1	59

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55	Understanding the Fluorescence Change in Red Genetically Encoded Calcium Ion Indicators. Biophysical Journal, 2019, 116, 1873-1886.	0.2	54
56	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.	3.2	52
57	Engineering and characterizing monomeric fluorescent proteins for live-cell imaging applications. Nature Protocols, 2014, 9, 910-928.	5.5	51
58	Engineering genetically encoded fluorescent indicators for imaging of neuronal activity: Progress and prospects. Neuroscience Research, 2020, 152, 3-14.	1.0	51
59	Fluorescent biosensors illuminate calcium levels within defined beta-cell endosome subpopulations. Cell Calcium, 2015, 57, 263-274.	1.1	50
60	A genetically encoded fluorescent biosensor for extracellular l-lactate. Nature Communications, 2021, 12, 7058.	5.8	46
61	A Bioluminescent Ca²⁺ Indicator Based on a Topological Variant of GCaMP6s. ChemBioChem, 2019, 20, 516-520.	1.3	45
62	Pharmacological inhibition of lipid droplet formation enhances the effectiveness of curcumin in glioblastoma. European Journal of Pharmaceutics and Biopharmaceutics, 2016, 100, 66-76.	2.0	44
63	Realization of Î²-lactamase as a versatile fluorogenic reporter. Trends in Biotechnology, 2004, 22, 208-211.	4.9	42
64	Distinct intracellular Ca2+ dynamics regulate apical constriction and differentially contribute to neural tube closure. Development (Cambridge), 2017, 144, 1307-1316.	1.2	42
65	Optogenetic reporters. Biology of the Cell, 2013, 105, 14-29.	0.7	39
66	The first structure of UDP-glucose dehydrogenase reveals the catalytic residues necessary for the two-fold oxidation. Biochemistry, 2000, 39, 7012-23.	1.2	39
67	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.	0.6	36
68	Bright and High-Performance Genetically Encoded Ca²⁺ Indicator Based on mNeonGreen Fluorescent Protein. ACS Sensors, 2020, 5, 1959-1968.	4.0	35
69	UDP-Glucose Analogues as Inhibitors and Mechanistic Probes of UDP-Glucose Dehydrogenase. Journal of Organic Chemistry, 1999, 64, 9487-9492.	1.7	34
70	Unraveling Ultrafast Photoinduced Proton Transfer Dynamics in a Fluorescent Protein Biosensor for Ca²⁺ Imaging. Chemistry - A European Journal, 2015, 21, 6481-6490.	1.7	34
71	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.	2.1	33
72	An Engineered Monomeric Zoanthus sp. Yellow Fluorescent Protein. Chemistry and Biology, 2013, 20, 1296-1304.	6.2	31

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73	Engineering Dark Chromoprotein Reporters for Photoacoustic Microscopy and FRET Imaging. Scientific Reports, 2016, 6, 22129.	1.6	30
74	High-Performance Intensiometric Direct- and Inverse-Response Genetically Encoded Biosensors for Citrate. ACS Central Science, 2020, 6, 1441-1450.	5.3	30
75	Live cell tracking of macrophage efferocytosis during <i>Drosophila</i> embryo development in vivo. Science, 2022, 375, 1182-1187.	6.0	30
76	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.	1.2	29
77	Red fluorescent proteins (RFPs) and RFP-based biosensors for neuronal imaging applications. Neurophotonics, 2015, 2, 031203.	1.7	29
78	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.	4.0	28
79	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.	6.6	27
80	A bacteria colony-based screen for optimal linker combinations in genetically encoded biosensors. BMC Biotechnology, 2011, 11, 105.	1.7	27
81	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.	1.2	26
82	Wide-Area All-Optical Neurophysiology in Acute Brain Slices. Journal of Neuroscience, 2019, 39, 4889-4908.	1.7	25
83	Circularly permuted monomeric red fluorescent proteins with new termini in the Î²â€sheet. Protein Science, 2010, 19, 1490-1499.	3.1	24
84	Monomerization of far-red fluorescent proteins. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E11294-E11301.	3.3	24
85	In vivo photoacoustic difference-spectra imaging of bacteria using photoswitchable chromoproteins. Journal of Biomedical Optics, 2018, 23, 1.	1.4	23
86	Assessing the Structural Stability of Designed Î²-Hairpin Peptides in the Cytoplasm of Live Cells. ChemBioChem, 2006, 7, 1147-1150.	1.3	21
87	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-???.	1.3	21
88	Optimization of a genetically encoded biosensor for cyclin B1-cyclin dependent kinase 1. Molecular BioSystems, 2014, 10, 191-195.	2.9	20
89	Controlled Osteogenic Differentiation of Human Mesenchymal Stem Cells Using Dexamethasone-Loaded Light-Responsive Microgels. ACS Applied Materials & Interfaces, 2021, 13, 7051-7059.	4.0	19
90	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

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91	Circular permutated red fluorescent proteins and calcium ion indicators based on mCherry. Protein Engineering, Design and Selection, 2013, 26, 763-772.	1.0	18
92	Photocleavable proteins that undergo fast and efficient dissociation. Chemical Science, 2021, 12, 9658-9672.	3.7	18
93	A Tandem Greenâ€“Red Heterodimeric Fluorescent Protein with High FRET Efficiency. ChemBioChem, 2016, 17, 2361-2367.	1.3	17
94	Engineering Photosensory Modules of Non-Opsin-Based Optogenetic Actuators. International Journal of Molecular Sciences, 2020, 21, 6522.	1.8	17
95	Neurophotonic Tools for Microscopic Measurements and Manipulation: Status Report. Neurophotonics, 2022, 9, 013001.	1.7	17
96	Absolute measurement of cellular activities using photochromic single-fluorophore biosensors and intermittent quantification. Nature Communications, 2022, 13, 1850.	5.8	16
97	Altered <i>Escherichia coli</i> 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.	3.3	14
98	Validating tyrosinase homologue<i>melA</i>as a photoacoustic reporter gene for imaging<i>Escherichia coli</i>. Journal of Biomedical Optics, 2015, 20, 106008.	1.4	13
99	Illuminating Photochemistry of an Excitation Ratiometric Fluorescent Protein Calcium Biosensor. Journal of Physical Chemistry B, 2017, 121, 3016-3023.	1.2	13
100	Enhancing fluorescent protein photostability through robot-assisted photobleaching. Integrative Biology (United Kingdom), 2018, 10, 419-428.	0.6	12
101	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
102	Switching between Ultrafast Pathways Enables a Green-Red Emission Ratiometric Fluorescent-Protein-Based Ca2+ Biosensor. International Journal of Molecular Sciences, 2021, 22, 445.	1.8	11
103	In Vivo Screening Identifies a Highly Folded Î²-Hairpin Peptide with a Structured Extension. ChemBioChem, 2007, 8, 880-883.	1.3	9
104	Mutational Analysis of a Red Fluorescent Protein-Based Calcium Ion Indicator. Sensors, 2013, 13, 11507-11521.	2.1	9
105	A photochromic and thermochromic fluorescent protein. RSC Advances, 2014, 4, 56762-56765.	1.7	8
106	Inverse-response Ca2+ indicators for optogenetic visualization of neuronal inhibition. Scientific Reports, 2018, 8, 11758.	1.6	8
107	Unnaturally aglow with a bright inner light. Science, 2018, 359, 868-869.	6.0	7
108	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.	3.1	7

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109	Teal fluorescent proteins: characterization of a reversibly photoswitchable variant. Proceedings of SPIE, 2008, , .	0.8	6
110	Design and Prototyping of Genetically Encoded Arsenic Biosensors Based on Transcriptional Regulator AfArsR. Biomolecules, 2021, 11, 1276.	1.8	6
111	Fluorescent Indicators For Biological Imaging of Monatomic Ions. Frontiers in Cell and Developmental Biology, 2022, 10, 885440.	1.8	6
112	Ratiometric and photoconvertible fluorescent protein-based voltage indicator prototypes. Chemical Communications, 2016, 52, 14153-14156.	2.2	5
113	An engineered tryptophan zipperâ€type peptide as a molecular recognition scaffold. Journal of Peptide Science, 2009, 15, 523-532.	0.8	4
114	Fluorescent Reporter Proteins. , 2010, , 3-40.		4
115	Fluorescent Proteins for Neuronal Imaging. Biological and Medical Physics Series, 2015, , 57-96.	0.3	3
116	Cyan fluorescent proteins derived from mNeonGreen. Protein Engineering, Design and Selection, 2022, 35, .	1.0	3
117	Barcodes, co-cultures, and deep learning take genetically encoded biosensor multiplexing to the nth degree. Molecular Cell, 2022, 82, 239-240.	4.5	2
118	Fluorescence-based characterization of genetically encoded peptides that fold in live cells: progress toward a generic hairpin scaffold. , 2007, , .		1
119	Spying on Cells: Toward a Perfect Sleeper Agent. Cell Chemical Biology, 2016, 23, 756-758.	2.5	1
120	Synthese von Uridindiphosphoâ€Î±â€Dâ€‹<i>gluco</i>â€hexodialdose und deren Rolle in der durch UDPâ€Glucoseâ€Dehydrogenase katalysierten Reaktion. Angewandte Chemie, 1997, 109, 1593-1595.	1.6	0
121	Engineered Fluorescent Proteins Bring Biochemistry To Light. Microscopy and Microanalysis, 2014, 20, 1354-1355.	0.2	0
122	Engineering the next generation of optogenetic reporters to illuminate neuronal activity. , 2015, , .		0
123	pHuji, a pH-sensitive red fluorescent protein for imaging of exo- and endocytosis. Journal of General Physiology, 2014, 144, 1446OIA52.	0.9	0
124	Engineering the next generation of optogenetic reporters to illuminate neuronal activity. , 2015, , .		0