Robert E Campbell

List of Publications by Year in Descending Order

135 papers	16,201 citations	48 h-index	127 g-index
151 ext. papers	18,641 ext. citations	9.7 avg, IF	6.45 L-index

#	Paper	IF	Citations
135	Barcodes, co-cultures, and deep learning take genetically encoded biosensor multiplexing to the nth degree.. *Molecular Cell*, **2022**, 82, 239-240	17.6	0
134	Live cell tracking of macrophage efferocytosis during embryo development in vivo.. *Science*, **2022**, 375, 1182-1187	33.3	1
133	Absolute measurement of cellular activities using photochromic single-fluorophore biosensors and intermittent quantification.. *Nature Communications*, **2022**, 13, 1850	17.4	1
132	Fluorescent Indicators For Biological Imaging of Monatomic Ions.. *Frontiers in Cell and Developmental Biology*, **2022**, 10, 885440	5.7	0
131	Neurophotonic tools for microscopic measurements and manipulation: status report.. *Neurophotonics*, **2022**, 9, 013001	3.9	0
130	A genetically encoded fluorescent biosensor for extracellular L-lactate. *Nature Communications*, **2021**, 12, 7058	17.4	6
129	Switching between Ultrafast Pathways Enables a Green-Red Emission Ratiometric Fluorescent-Protein-Based Ca Biosensor. *International Journal of Molecular Sciences*, **2021**, 22,	6.3	4
128	Photocleavable proteins that undergo fast and efficient dissociation. *Chemical Science*, **2021**, 12, 9658-9672	9.4	2
127	Structure- and mechanism-guided design of single fluorescent protein-based biosensors. *Nature Chemical Biology*, **2021**, 17, 509-518	11.7	24
126	Controlled Osteogenic Differentiation of Human Mesenchymal Stem Cells Using Dexamethasone-Loaded Light-Responsive Microgels. *ACS Applied Materials & Interfaces*, **2021**, 13, 7051-7059	9.5	6
125	Design and Prototyping of Genetically Encoded Arsenic Biosensors Based on Transcriptional Regulator AfArsR. *Biomolecules*, **2021**, 11,	5.9	3
124	Intelligent image-activated cell sorting 2.0. *Lab on A Chip*, **2020**, 20, 2263-2273	7.2	48
123	Bright and High-Performance Genetically Encoded Ca Indicator Based on mNeonGreen Fluorescent Protein. *ACS Sensors*, **2020**, 5, 1959-1968	9.2	20
122	Improved genetically encoded near-infrared fluorescent calcium ion indicators for in vivo imaging. *PLoS Biology*, **2020**, 18, e3000965	9.7	14
121	Challenges for Therapeutic Applications of Opsin-Based Optogenetic Tools in Humans. *Frontiers in Neural Circuits*, **2020**, 14, 41	3.5	31
120	Engineering genetically encoded fluorescent indicators for imaging of neuronal activity: Progress and prospects. *Neuroscience Research*, **2020**, 152, 3-14	2.9	27
119	High-Performance Intensiometric Direct- and Inverse-Response Genetically Encoded Biosensors for Citrate. *ACS Central Science*, **2020**, 6, 1441-1450	16.8	15

118	The Role of Amino Acids in Neurotransmission and Fluorescent Tools for Their Detection. *International Journal of Molecular Sciences*, **2020**, 21,	6.3	14
117	Engineering Photosensory Modules of Non-Opsin-Based Optogenetic Actuators. *International Journal of Molecular Sciences*, **2020**, 21,	6.3	7
116	Improved genetically encoded near-infrared fluorescent calcium ion indicators for in vivo imaging **2020**, 18, e3000965		
115	Improved genetically encoded near-infrared fluorescent calcium ion indicators for in vivo imaging **2020**, 18, e3000965		
114	Improved genetically encoded near-infrared fluorescent calcium ion indicators for in vivo imaging **2020**, 18, e3000965		
113	Improved genetically encoded near-infrared fluorescent calcium ion indicators for in vivo imaging **2020**, 18, e3000965		
112	Improved genetically encoded near-infrared fluorescent calcium ion indicators for in vivo imaging **2020**, 18, e3000965		
111	Improved genetically encoded near-infrared fluorescent calcium ion indicators for in vivo imaging **2020**, 18, e3000965		
110	A genetically encoded near-infrared fluorescent calcium ion indicator. *Nature Methods*, **2019**, 16, 171-174	41.6	96
109	Understanding the Fluorescence Change in Red Genetically Encoded Calcium Ion Indicators. *Biophysical Journal*, **2019**, 116, 1873-1886	2.9	19
108	Voltage imaging and optogenetics reveal behaviour-dependent changes in hippocampal dynamics. *Nature*, **2019**, 569, 413-417	50.4	130
107	Wide-Area All-Optical Neurophysiology in Acute Brain Slices. *Journal of Neuroscience*, **2019**, 39, 4889-4908	6.6	11
106	A Bioluminescent Ca Indicator Based on a Topological Variant of GCaMP6s. *ChemBioChem*, **2019**, 20, 516-520	3.8	26
105	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	9.5	17
104	A single-phase flow microfluidic cell sorter for multiparameter screening to assist the directed evolution of Ca sensors. *Lab on A Chip*, **2019**, 19, 3880-3887	7.2	2
103	Genetically encoded fluorescent indicators for imaging intracellular potassium ion concentration. *Communications Biology*, **2019**, 2, 18	6.7	59
102	Unnaturally aglow with a bright inner light. *Science*, **2018**, 359, 868-869	33.3	3
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	10

100	Genetically Encoded Glutamate Indicators with Altered Color and Topology. *ACS Chemical Biology*, **2018**, 13, 1832-1837	4.9	45
99	A genetically encoded Ca indicator based on circularly permutated sea anemone red fluorescent protein eqFP578. *BMC Biology*, **2018**, 16, 9	7.3	56
98	Inverse-response Ca indicators for optogenetic visualization of neuronal inhibition. *Scientific Reports*, **2018**, 8, 11758	4.9	6
97	Enhancing fluorescent protein photostability through robot-assisted photobleaching. *Integrative Biology (United Kingdom)*, **2018**, 10, 419-428	3.7	8
96	In vivo photoacoustic difference-spectra imaging of bacteria using photoswitchable chromoproteins. *Journal of Biomedical Optics*, **2018**, 23, 1-11	3.5	19
95	Monomerization of far-red fluorescent proteins. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, E11294-E11301	11.5	17
94	Distinct intracellular Ca dynamics regulate apical constriction and differentially contribute to neural tube closure. *Development (Cambridge)*, **2017**, 144, 1307-1316	6.6	23
93	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	6.4	16
92	Illuminating Photochemistry of an Excitation Ratiometric Fluorescent Protein Calcium Biosensor. *Journal of Physical Chemistry B*, **2017**, 121, 3016-3023	3.4	12
91	Optogenetic control with a photocleavable protein, PhoCl. *Nature Methods*, **2017**, 14, 391-394	21.6	68
90	Engineering of mCherry variants with long Stokes shift, red-shifted fluorescence, and low cytotoxicity. *PLoS ONE*, **2017**, 12, e0171257	3.7	32
89	The Growing and Glowing Toolbox of Fluorescent and Photoactive Proteins. *Trends in Biochemical Sciences*, **2017**, 42, 111-129	10.3	368
88	Spying on Cells: Toward a Perfect Sleeper Agent. *Cell Chemical Biology*, **2016**, 23, 756-758	8.2	1
87	Ratiometric and photoconvertible fluorescent protein-based voltage indicator prototypes. *Chemical Communications*, **2016**, 52, 14153-14156	5.8	4
86	A Tandem Green-Red Heterodimeric Fluorescent Protein with High FRET Efficiency. *ChemBioChem*, **2016**, 17, 2361-2367	3.8	8
85	Pharmacological inhibition of lipid droplet formation enhances the effectiveness of curcumin in glioblastoma. *European Journal of Pharmaceutics and Biopharmaceutics*, **2016**, 100, 66-76	5.7	28
84	A Bright and Fast Red Fluorescent Protein Voltage Indicator That Reports Neuronal Activity in Organotypic Brain Slices. *Journal of Neuroscience*, **2016**, 36, 2458-72	6.6	115
83	Engineering Dark Chromoprotein Reporters for Photoacoustic Microscopy and FRET Imaging. *Scientific Reports*, **2016**, 6, 22129	4.9	26

82	Red fluorescent proteins (RFPs) and RFP-based biosensors for neuronal imaging applications. *Neurophotonics*, **2015**, 2, 031203	3.9	19
81	Fluorescent biosensors illuminate calcium levels within defined beta-cell endosome subpopulations. *Cell Calcium*, **2015**, 57, 263-74	4	40
80	Excited state structural events of a dual-emission fluorescent protein biosensor for Ca‡+ imaging studied by femtosecond stimulated Raman spectroscopy. *Journal of Physical Chemistry B*, **2015**, 119, 2204-18	3.4	22
79	Fluorescent Proteins for Neuronal Imaging **2015**, 57-96		2
78	Emerging fluorescent protein technologies. *Current Opinion in Chemical Biology*, **2015**, 27, 10-7	9.7	65
77	Unraveling ultrafast photoinduced proton transfer dynamics in a fluorescent protein biosensor for Ca(2+) imaging. *Chemistry - A European Journal*, **2015**, 21, 6481-90	4.8	30
76	Validating tyrosinase homologue melA as a photoacoustic reporter gene for imaging Escherichia coli. *Journal of Biomedical Optics*, **2015**, 20, 106008	3.5	8
75	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, 15184-9	11.5	9
74	Ratiometric biosensors based on dimerization-dependent fluorescent protein exchange. *Nature Methods*, **2015**, 12, 195-8	21.6	91
73	Optimization of a genetically encoded biosensor for cyclin B1-cyclin dependent kinase 1. *Molecular BioSystems*, **2014**, 10, 191-5		14
72	Engineering and characterizing monomeric fluorescent proteins for live-cell imaging applications. *Nature Protocols*, **2014**, 9, 910-28	18.8	38
71	A photochromic and thermochromic fluorescent protein. *RSC Advances*, **2014**, 4, 56762-56765	3.7	5
70	pHuji, a pH-sensitive red fluorescent protein for imaging of exo- and endocytosis. *Journal of Cell Biology*, **2014**, 207, 419-32	7.3	136
69	Microfluidic cell sorter-aided directed evolution of a protein-based calcium ion indicator with an inverted fluorescent response. *Integrative Biology (United Kingdom)*, **2014**, 6, 714-25	3.7	31
68	A long Stokes shift red fluorescent Ca2+ indicator protein for two-photon and ratiometric imaging. *Nature Communications*, **2014**, 5, 5262	17.4	62
67	Bright and fast multicoloured voltage reporters via electrochromic FRET. *Nature Communications*, **2014**, 5, 4625	17.4	142
66	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, 10191-6	11.5	53
65	All-optical electrophysiology in mammalian neurons using engineered microbial rhodopsins. *Nature Methods*, **2014**, 11, 825-33	21.6	487

64	Red fluorescent genetically encoded Ca2+ indicators for use in mitochondria and endoplasmic reticulum. *Biochemical Journal*, **2014**, 464, 13-22	3.8	94
63	Engineered Fluorescent Proteins Bring Biochemistry To Light. *Microscopy and Microanalysis*, **2014**, 20, 1354-1355	0.5	
62	pHuji, a pH-sensitive red fluorescent protein for imaging of exo- and endocytosis. *Journal of General Physiology*, **2014**, 144, 1446OIA52	3.4	
61	An engineered monomeric Zoanthus sp. yellow fluorescent protein. *Chemistry and Biology*, **2013**, 20, 1296-304		27
60	FRET with Fluorescent Proteins **2013**, 431-473		
59	Circular permutated red fluorescent proteins and calcium ion indicators based on mCherry. *Protein Engineering, Design and Selection*, **2013**, 26, 763-72	1.9	16
58	Palmitoylation is the switch that assigns calnexin to quality control or ER Ca2+ signaling. *Journal of Cell Science*, **2013**, 126, 3893-903	5.3	110
57	Outlook on FRET: The Future of Resonance Energy Transfer **2013**, 757-765		2
56	Mutational analysis of a red fluorescent protein-based calcium ion indicator. *Sensors*, **2013**, 13, 11507-21	3.8	7
55	Highlightable Ca2+ indicators for live cell imaging. *Journal of the American Chemical Society*, **2013**, 135, 46-9	16.4	48
54	Optogenetic reporters. *Biology of the Cell*, **2013**, 105, 14-29	3.5	33
53	Improved orange and red Ca□ indicators and photophysical considerations for optogenetic applications. *ACS Chemical Neuroscience*, **2013**, 4, 963-72	5.7	155
52	Dimerization-dependent green and yellow fluorescent proteins. *ACS Synthetic Biology*, **2012**, 1, 569-75	5.7	88
51	Supramolecular hosts that recognize methyllysines and disrupt the interaction between a modified histone tail and its epigenetic reader protein. *Chemical Science*, **2012**, 3, 2695	9.4	63
50	Portable self-contained cultures for phage and bacteria made of paper and tape. *Lab on A Chip*, **2012**, 12, 4269-78	7.2	62
49	mMaple: a photoconvertible fluorescent protein for use in multiple imaging modalities. *PLoS ONE*, **2012**, 7, e51314	3.7	98
48	A fluorogenic red fluorescent protein heterodimer. *Chemistry and Biology*, **2012**, 19, 353-60		63
47	Simultaneous detection of Ca2+ and diacylglycerol signaling in living cells. *PLoS ONE*, **2012**, 7, e42791	3.7	41

46	An expanded palette of genetically encoded Ca□+ indicators. *Science*, **2011**, 333, 1888-91	33.3	895
45	A bacteria colony-based screen for optimal linker combinations in genetically encoded biosensors. *BMC Biotechnology*, **2011**, 11, 105	3.5	25
44	F□ster resonance energy transfer-based biosensors for multiparameter ratiometric imaging of Ca2+ dynamics and caspase-3 activity in single cells. *Analytical Chemistry*, **2011**, 83, 9687-93	7.8	44
43	A monomeric photoconvertible fluorescent protein for imaging of dynamic protein localization. *Journal of Molecular Biology*, **2010**, 401, 776-91	6.5	64
42	Designs and applications of fluorescent protein-based biosensors. *Current Opinion in Chemical Biology*, **2010**, 14, 30-6	9.7	136
41	Circularly permuted monomeric red fluorescent proteins with new termini in the beta-sheet. *Protein Science*, **2010**, 19, 1490-9	6.3	21
40	Red fluorescent protein pH biosensor to detect concentrative nucleoside transport. *Journal of Biological Chemistry*, **2009**, 284, 20499-511	5.4	51
39	An engineered tryptophan zipper-type peptide as a molecular recognition scaffold. *Journal of Peptide Science*, **2009**, 15, 523-32	2.1	4
38	Engineered fluorescent proteins: innovations and applications. *Nature Methods*, **2009**, 6, 713-17	21.6	97
37	Autofluorescent proteins with excitation in the optical window for intravital imaging in mammals. *Chemistry and Biology*, **2009**, 16, 1169-79		213
36	Genetically encoded FRET-based biosensors for multiparameter fluorescence imaging. *Current Opinion in Biotechnology*, **2009**, 20, 19-27	11.4	123
35	Genetically encoded biosensors based on engineered fluorescent proteins. *Chemical Society Reviews*, **2009**, 38, 2833-41	58.5	261
34	Fluorescent-protein-based biosensors: modulation of energy transfer as a design principle. *Analytical Chemistry*, **2009**, 81, 5972-9	7.8	82
33	Fluorescent protein FRET pairs for ratiometric imaging of dual biosensors. *Nature Methods*, **2008**, 5, 401-3	21.6	278
32	Computational prediction of absorbance maxima for a structurally diverse series of engineered green fluorescent protein chromophores. *Journal of Physical Chemistry B*, **2008**, 112, 2533-41	3.4	27
31	Teal fluorescent proteins: characterization of a reversibly photoswitchable variant **2008**,		3
30	Identification of sites within a monomeric red fluorescent protein that tolerate peptide insertion and testing of corresponding circular permutations. *Photochemistry and Photobiology*, **2008**, 84, 111-9	3.6	18
29	Hue-shifted monomeric variants of Clavularia cyan fluorescent protein: identification of the molecular determinants of color and applications in fluorescence imaging. *BMC Biology*, **2008**, 6, 13	7.3	107

28	In vivo screening identifies a highly folded beta-hairpin peptide with a structured extension. *ChemBioChem*, **2007**, 8, 880-3	3.8	8
27	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, 6672-7	11.5	189
26	Fluorescence-based characterization of genetically encoded peptides that fold in live cells: progress toward a generic hairpin scaffold **2007**,		1
25	Exploration of new chromophore structures leads to the identification of improved blue fluorescent proteins. *Biochemistry*, **2007**, 46, 5904-10	3.2	232
24	Assessing the structural stability of designed beta-hairpin peptides in the cytoplasm of live cells. *ChemBioChem*, **2006**, 7, 1147-50	3.8	20
23	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, 531-40	3.8	323
22	Improved monomeric red, orange and yellow fluorescent proteins derived from Discosoma sp. red fluorescent protein. *Nature Biotechnology*, **2004**, 22, 1567-72	44.5	3513
21	Realization of beta-lactamase as a versatile fluorogenic reporter. *Trends in Biotechnology*, **2004**, 22, 208-14	13.1	38
20	Creating new fluorescent probes for cell biology. *Nature Reviews Molecular Cell Biology*, **2002**, 3, 906-18	48.7	1654
19	New biarsenical ligands and tetracysteine motifs for protein labeling in vitro and in vivo: synthesis and biological applications. *Journal of the American Chemical Society*, **2002**, 124, 6063-76	16.4	773
18	A monomeric red fluorescent protein. *Proceedings of the National Academy of Sciences of the United States of America*, **2002**, 99, 7877-82	11.5	2019
17	Reducing the environmental sensitivity of yellow fluorescent protein. Mechanism and applications. *Journal of Biological Chemistry*, **2001**, 276, 29188-94	5.4	821
16	The structure of UDP-N-acetylglucosamine 2-epimerase reveals homology to phosphoglycosyl transferases. *Biochemistry*, **2000**, 39, 14993-5001	3.2	91
15	The First Structure of UDP-Glucose Dehydrogenase Reveals the Catalytic Residues Necessary for the Two-fold Oxidation *Biochemistry*, **2000**, 39, 7012-7023	3.2	98
14	The first structure of UDP-glucose dehydrogenase reveals the catalytic residues necessary for the two-fold oxidation. *Biochemistry*, **2000**, 39, 7012-23	3.2	38
13	UDP-Glucose Analogues as Inhibitors and Mechanistic Probes of UDP-Glucose Dehydrogenase. *Journal of Organic Chemistry*, **1999**, 64, 9487-9492	4.2	32
12	Covalent Adduct Formation with a Mutated Enzyme: Evidence for a Thioester Intermediate in the Reaction Catalyzed by UDP-Glucose Dehydrogenase. *Journal of the American Chemical Society*, **1998**, 120, 6613-6614	16.4	26
11	Properties and kinetic analysis of UDP-glucose dehydrogenase from group A streptococci. Irreversible inhibition by UDP-chloroacetol. *Journal of Biological Chemistry*, **1997**, 272, 3416-22	5.4	60

10	Uridine Diphospho-□-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		18
9	Synthese von Uridindiphospho-□-D-gluco-hexodialdose und deren Rolle in der durch UDP-Glucose-Dehydrogenase katalysierten Reaktion. *Angewandte Chemie*, **1997**, 109, 1593-1595	3.6	
8	Fluorescent Reporter Proteins3-40		3
7	A sensitive and specific genetically encodable biosensor for potassium ions		1
6	Improved genetically encoded near-infrared fluorescent calcium ion indicators for in vivo imaging		2
5	Absolute measurement of cellular activities using photochromic single-fluorophore biosensors		3
4	Far-red fluorescent genetically encoded calcium ion indicators		5
3	Improved Photocleavable Proteins with Faster and More Efficient Dissociation		2
2	Genetically encoded ratiometric indicators for potassium ion		2
1	All-optical electrophysiology reveals brain-state dependent changes in hippocampal subthreshold dynamics and excitability		14