

Robert E Campbell

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

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	Improved monomeric red, orange and yellow fluorescent proteins derived from <i>Discosoma</i> sp. red fluorescent protein. <i>Nature Biotechnology</i> , 2004 , 22, 1567-72	44.5	3513
134	A monomeric red fluorescent protein. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002 , 99, 7877-82	11.5	2019
133	Creating new fluorescent probes for cell biology. <i>Nature Reviews Molecular Cell Biology</i> , 2002 , 3, 906-18	48.7	1654
132	An expanded palette of genetically encoded Ca ²⁺ indicators. <i>Science</i> , 2011 , 333, 1888-91	33.3	895
131	Reducing the environmental sensitivity of yellow fluorescent protein. Mechanism and applications. <i>Journal of Biological Chemistry</i> , 2001 , 276, 29188-94	5.4	821
130	New biarsenical ligands and tetracysteine motifs for protein labeling in vitro and in vivo: synthesis and biological applications. <i>Journal of the American Chemical Society</i> , 2002 , 124, 6063-76	16.4	773
129	All-optical electrophysiology in mammalian neurons using engineered microbial rhodopsins. <i>Nature Methods</i> , 2014 , 11, 825-33	21.6	487
128	The Growing and Glowing Toolbox of Fluorescent and Photoactive Proteins. <i>Trends in Biochemical Sciences</i> , 2017 , 42, 111-129	10.3	368
127	Directed evolution of a monomeric, bright and photostable version of <i>Clavularia</i> cyan fluorescent protein: structural characterization and applications in fluorescence imaging. <i>Biochemical Journal</i> , 2006 , 400, 531-40	3.8	323
126	Fluorescent protein FRET pairs for ratiometric imaging of dual biosensors. <i>Nature Methods</i> , 2008 , 5, 401-3	21.6	278
125	Genetically encoded biosensors based on engineered fluorescent proteins. <i>Chemical Society Reviews</i> , 2009 , 38, 2833-41	58.5	261
124	Exploration of new chromophore structures leads to the identification of improved blue fluorescent proteins. <i>Biochemistry</i> , 2007 , 46, 5904-10	3.2	232
123	Autofluorescent proteins with excitation in the optical window for intravital imaging in mammals. <i>Chemistry and Biology</i> , 2009 , 16, 1169-79		213
122	Structural basis for reversible photobleaching of a green fluorescent protein homologue. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007 , 104, 6672-7	11.5	189
121	Improved orange and red Ca ²⁺ indicators and photophysical considerations for optogenetic applications. <i>ACS Chemical Neuroscience</i> , 2013 , 4, 963-72	5.7	155
120	Bright and fast multicoloured voltage reporters via electrochromic FRET. <i>Nature Communications</i> , 2014 , 5, 4625	17.4	142
119	pHuji, a pH-sensitive red fluorescent protein for imaging of exo- and endocytosis. <i>Journal of Cell Biology</i> , 2014 , 207, 419-32	7.3	136

118	Designs and applications of fluorescent protein-based biosensors. <i>Current Opinion in Chemical Biology</i> , 2010 , 14, 30-6	9.7	136
117	Voltage imaging and optogenetics reveal behaviour-dependent changes in hippocampal dynamics. <i>Nature</i> , 2019 , 569, 413-417	50.4	130
116	Genetically encoded FRET-based biosensors for multiparameter fluorescence imaging. <i>Current Opinion in Biotechnology</i> , 2009 , 20, 19-27	11.4	123
115	A Bright and Fast Red Fluorescent Protein Voltage Indicator That Reports Neuronal Activity in Organotypic Brain Slices. <i>Journal of Neuroscience</i> , 2016 , 36, 2458-72	6.6	115
114	Palmitoylation is the switch that assigns calnexin to quality control or ER Ca ²⁺ signaling. <i>Journal of Cell Science</i> , 2013 , 126, 3893-903	5.3	110
113	Hue-shifted monomeric variants of Clavularia cyan fluorescent protein: identification of the molecular determinants of color and applications in fluorescence imaging. <i>BMC Biology</i> , 2008 , 6, 13	7.3	107
112	mMaple: a photoconvertible fluorescent protein for use in multiple imaging modalities. <i>PLoS ONE</i> , 2012 , 7, e51314	3.7	98
111	The First Structure of UDP-Glucose Dehydrogenase Reveals the Catalytic Residues Necessary for the Two-fold Oxidation. <i>Biochemistry</i> , 2000 , 39, 7012-7023	3.2	98
110	Engineered fluorescent proteins: innovations and applications. <i>Nature Methods</i> , 2009 , 6, 713-17	21.6	97
109	A genetically encoded near-infrared fluorescent calcium ion indicator. <i>Nature Methods</i> , 2019 , 16, 171-174	21.6	96
108	Red fluorescent genetically encoded Ca ²⁺ indicators for use in mitochondria and endoplasmic reticulum. <i>Biochemical Journal</i> , 2014 , 464, 13-22	3.8	94
107	Ratiometric biosensors based on dimerization-dependent fluorescent protein exchange. <i>Nature Methods</i> , 2015 , 12, 195-8	21.6	91
106	The structure of UDP-N-acetylglucosamine 2-epimerase reveals homology to phosphoglycosyl transferases. <i>Biochemistry</i> , 2000 , 39, 14993-5001	3.2	91
105	Dimerization-dependent green and yellow fluorescent proteins. <i>ACS Synthetic Biology</i> , 2012 , 1, 569-75	5.7	88
104	Fluorescent-protein-based biosensors: modulation of energy transfer as a design principle. <i>Analytical Chemistry</i> , 2009 , 81, 5972-9	7.8	82
103	Optogenetic control with a photocleavable protein, PhoCl. <i>Nature Methods</i> , 2017 , 14, 391-394	21.6	68
102	Emerging fluorescent protein technologies. <i>Current Opinion in Chemical Biology</i> , 2015 , 27, 10-7	9.7	65
101	A monomeric photoconvertible fluorescent protein for imaging of dynamic protein localization. <i>Journal of Molecular Biology</i> , 2010 , 401, 776-91	6.5	64

100	Supramolecular hosts that recognize methyllysines and disrupt the interaction between a modified histone tail and its epigenetic reader protein. <i>Chemical Science</i> , 2012 , 3, 2695	9.4	63
99	A fluorogenic red fluorescent protein heterodimer. <i>Chemistry and Biology</i> , 2012 , 19, 353-60		63
98	A long Stokes shift red fluorescent Ca ²⁺ indicator protein for two-photon and ratiometric imaging. <i>Nature Communications</i> , 2014 , 5, 5262	17.4	62
97	Portable self-contained cultures for phage and bacteria made of paper and tape. <i>Lab on A Chip</i> , 2012 , 12, 4269-78	7.2	62
96	Properties and kinetic analysis of UDP-glucose dehydrogenase from group A streptococci. Irreversible inhibition by UDP-chloroacetol. <i>Journal of Biological Chemistry</i> , 1997 , 272, 3416-22	5.4	60
95	Genetically encoded fluorescent indicators for imaging intracellular potassium ion concentration. <i>Communications Biology</i> , 2019 , 2, 18	6.7	59
94	A genetically encoded Ca indicator based on circularly permuted sea anemone red fluorescent protein eqFP578. <i>BMC Biology</i> , 2018 , 16, 9	7.3	56
93	Excited-state structural dynamics of a dual-emission calmodulin-green fluorescent protein sensor for calcium ion imaging. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014 , 111, 10191-6	11.5	53
92	Red fluorescent protein pH biosensor to detect concentrative nucleoside transport. <i>Journal of Biological Chemistry</i> , 2009 , 284, 20499-511	5.4	51
91	Intelligent image-activated cell sorting 2.0. <i>Lab on A Chip</i> , 2020 , 20, 2263-2273	7.2	48
90	Highlightable Ca ²⁺ indicators for live cell imaging. <i>Journal of the American Chemical Society</i> , 2013 , 135, 46-9	16.4	48
89	Genetically Encoded Glutamate Indicators with Altered Color and Topology. <i>ACS Chemical Biology</i> , 2018 , 13, 1832-1837	4.9	45
88	Förster resonance energy transfer-based biosensors for multiparameter ratiometric imaging of Ca ²⁺ dynamics and caspase-3 activity in single cells. <i>Analytical Chemistry</i> , 2011 , 83, 9687-93	7.8	44
87	Simultaneous detection of Ca ²⁺ and diacylglycerol signaling in living cells. <i>PLoS ONE</i> , 2012 , 7, e42791	3.7	41
86	Fluorescent biosensors illuminate calcium levels within defined beta-cell endosome subpopulations. <i>Cell Calcium</i> , 2015 , 57, 263-74	4	40
85	Engineering and characterizing monomeric fluorescent proteins for live-cell imaging applications. <i>Nature Protocols</i> , 2014 , 9, 910-28	18.8	38
84	Realization of beta-lactamase as a versatile fluorogenic reporter. <i>Trends in Biotechnology</i> , 2004 , 22, 208-11	11.1	38
83	The first structure of UDP-glucose dehydrogenase reveals the catalytic residues necessary for the two-fold oxidation. <i>Biochemistry</i> , 2000 , 39, 7012-23	3.2	38

82	Optogenetic reporters. <i>Biology of the Cell</i> , 2013 , 105, 14-29	3.5	33
81	Engineering of mCherry variants with long Stokes shift, red-shifted fluorescence, and low cytotoxicity. <i>PLoS ONE</i> , 2017 , 12, e0171257	3.7	32
80	UDP-Glucose Analogues as Inhibitors and Mechanistic Probes of UDP-Glucose Dehydrogenase. <i>Journal of Organic Chemistry</i> , 1999 , 64, 9487-9492	4.2	32
79	Microfluidic cell sorter-aided directed evolution of a protein-based calcium ion indicator with an inverted fluorescent response. <i>Integrative Biology (United Kingdom)</i> , 2014 , 6, 714-25	3.7	31
78	Challenges for Therapeutic Applications of Opsin-Based Optogenetic Tools in Humans. <i>Frontiers in Neural Circuits</i> , 2020 , 14, 41	3.5	31
77	Unraveling ultrafast photoinduced proton transfer dynamics in a fluorescent protein biosensor for Ca(2+) imaging. <i>Chemistry - A European Journal</i> , 2015 , 21, 6481-90	4.8	30
76	Pharmacological inhibition of lipid droplet formation enhances the effectiveness of curcumin in glioblastoma. <i>European Journal of Pharmaceutics and Biopharmaceutics</i> , 2016 , 100, 66-76	5.7	28
75	An engineered monomeric <i>Zoanthus</i> sp. yellow fluorescent protein. <i>Chemistry and Biology</i> , 2013 , 20, 1296-304		27
74	Computational prediction of absorbance maxima for a structurally diverse series of engineered green fluorescent protein chromophores. <i>Journal of Physical Chemistry B</i> , 2008 , 112, 2533-41	3.4	27
73	Engineering genetically encoded fluorescent indicators for imaging of neuronal activity: Progress and prospects. <i>Neuroscience Research</i> , 2020 , 152, 3-14	2.9	27
72	A Bioluminescent Ca Indicator Based on a Topological Variant of GCaMP6s. <i>ChemBioChem</i> , 2019 , 20, 516-520	3.8	26
71	Covalent Adduct Formation with a Mutated Enzyme: Evidence for a Thioester Intermediate in the Reaction Catalyzed by UDP-Glucose Dehydrogenase. <i>Journal of the American Chemical Society</i> , 1998 , 120, 6613-6614	16.4	26
70	Engineering Dark Chromoprotein Reporters for Photoacoustic Microscopy and FRET Imaging. <i>Scientific Reports</i> , 2016 , 6, 22129	4.9	26
69	A bacteria colony-based screen for optimal linker combinations in genetically encoded biosensors. <i>BMC Biotechnology</i> , 2011 , 11, 105	3.5	25
68	Structure- and mechanism-guided design of single fluorescent protein-based biosensors. <i>Nature Chemical Biology</i> , 2021 , 17, 509-518	11.7	24
67	Distinct intracellular Ca dynamics regulate apical constriction and differentially contribute to neural tube closure. <i>Development (Cambridge)</i> , 2017 , 144, 1307-1316	6.6	23
66	Excited state structural events of a dual-emission fluorescent protein biosensor for Ca ²⁺ imaging studied by femtosecond stimulated Raman spectroscopy. <i>Journal of Physical Chemistry B</i> , 2015 , 119, 2204-18	3.4	22
65	Circularly permuted monomeric red fluorescent proteins with new termini in the beta-sheet. <i>Protein Science</i> , 2010 , 19, 1490-9	6.3	21

64	Bright and High-Performance Genetically Encoded Ca Indicator Based on mNeonGreen Fluorescent Protein. <i>ACS Sensors</i> , 2020 , 5, 1959-1968	9.2	20
63	Assessing the structural stability of designed beta-hairpin peptides in the cytoplasm of live cells. <i>ChemBioChem</i> , 2006 , 7, 1147-50	3.8	20
62	Understanding the Fluorescence Change in Red Genetically Encoded Calcium Ion Indicators. <i>Biophysical Journal</i> , 2019 , 116, 1873-1886	2.9	19
61	Red fluorescent proteins (RFPs) and RFP-based biosensors for neuronal imaging applications. <i>Neurophotonics</i> , 2015 , 2, 031203	3.9	19
60	In vivo photoacoustic difference-spectra imaging of bacteria using photoswitchable chromoproteins. <i>Journal of Biomedical Optics</i> , 2018 , 23, 1-11	3.5	19
59	Uridine Diphospho- β -D-gluco-hexodialdose: Synthesis and Kinetic Competence in the Reaction Catalyzed by UDP-Glucose Dehydrogenase. <i>Angewandte Chemie International Edition in English</i> , 1997 , 36, 1520-1522		18
58	Identification of sites within a monomeric red fluorescent protein that tolerate peptide insertion and testing of corresponding circular permutations. <i>Photochemistry and Photobiology</i> , 2008 , 84, 111-9	3.6	18
57	Ratiometric Detection of Nerve Agents by Coupling Complementary Properties of Silicon-Based Quantum Dots and Green Fluorescent Protein. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 33478-33488	9.5	17
56	Monomerization of far-red fluorescent proteins. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, E11294-E11301	11.5	17
55	Blue-Shifted Green Fluorescent Protein Homologues Are Brighter than Enhanced Green Fluorescent Protein under Two-Photon Excitation. <i>Journal of Physical Chemistry Letters</i> , 2017 , 8, 2548-2554	6.4	16
54	Circularly permuted red fluorescent proteins and calcium ion indicators based on mCherry. <i>Protein Engineering, Design and Selection</i> , 2013 , 26, 763-72	1.9	16
53	High-Performance Intensiometric Direct- and Inverse-Response Genetically Encoded Biosensors for Citrate. <i>ACS Central Science</i> , 2020 , 6, 1441-1450	16.8	15
52	Optimization of a genetically encoded biosensor for cyclin B1-cyclin dependent kinase 1. <i>Molecular BioSystems</i> , 2014 , 10, 191-5		14
51	Improved genetically encoded near-infrared fluorescent calcium ion indicators for in vivo imaging. <i>PLoS Biology</i> , 2020 , 18, e3000965	9.7	14
50	All-optical electrophysiology reveals brain-state dependent changes in hippocampal subthreshold dynamics and excitability		14
49	The Role of Amino Acids in Neurotransmission and Fluorescent Tools for Their Detection. <i>International Journal of Molecular Sciences</i> , 2020 , 21,	6.3	14
48	Illuminating Photochemistry of an Excitation Ratiometric Fluorescent Protein Calcium Biosensor. <i>Journal of Physical Chemistry B</i> , 2017 , 121, 3016-3023	3.4	12
47	Wide-Area All-Optical Neurophysiology in Acute Brain Slices. <i>Journal of Neuroscience</i> , 2019 , 39, 4889-4908	10.6	11

46	Surveying the landscape of optogenetic methods for detection of protein-protein interactions. <i>Wiley Interdisciplinary Reviews: Systems Biology and Medicine</i> , 2018 , 10, e1415	6.6	10
45	Altered Escherichia coli membrane protein assembly machinery allows proper membrane assembly of eukaryotic protein vitamin K epoxide reductase. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, 15184-9	11.5	9
44	A Tandem Green-Red Heterodimeric Fluorescent Protein with High FRET Efficiency. <i>ChemBioChem</i> , 2016 , 17, 2361-2367	3.8	8
43	Enhancing fluorescent protein photostability through robot-assisted photobleaching. <i>Integrative Biology (United Kingdom)</i> , 2018 , 10, 419-428	3.7	8
42	Validating tyrosinase homologue melA as a photoacoustic reporter gene for imaging Escherichia coli. <i>Journal of Biomedical Optics</i> , 2015 , 20, 106008	3.5	8
41	In vivo screening identifies a highly folded beta-hairpin peptide with a structured extension. <i>ChemBioChem</i> , 2007 , 8, 880-3	3.8	8
40	Mutational analysis of a red fluorescent protein-based calcium ion indicator. <i>Sensors</i> , 2013 , 13, 11507-213.8	3.8	7
39	Engineering Photosensory Modules of Non-Opin-Based Optogenetic Actuators. <i>International Journal of Molecular Sciences</i> , 2020 , 21,	6.3	7
38	Inverse-response Ca indicators for optogenetic visualization of neuronal inhibition. <i>Scientific Reports</i> , 2018 , 8, 11758	4.9	6
37	A genetically encoded fluorescent biosensor for extracellular L-lactate. <i>Nature Communications</i> , 2021 , 12, 7058	17.4	6
36	Controlled Osteogenic Differentiation of Human Mesenchymal Stem Cells Using Dexamethasone-Loaded Light-Responsive Microgels. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 7051-7059	9.5	6
35	A photochromic and thermochromic fluorescent protein. <i>RSC Advances</i> , 2014 , 4, 56762-56765	3.7	5
34	Far-red fluorescent genetically encoded calcium ion indicators		5
33	Ratiometric and photoconvertible fluorescent protein-based voltage indicator prototypes. <i>Chemical Communications</i> , 2016 , 52, 14153-14156	5.8	4
32	An engineered tryptophan zipper-type peptide as a molecular recognition scaffold. <i>Journal of Peptide Science</i> , 2009 , 15, 523-32	2.1	4
31	Switching between Ultrafast Pathways Enables a Green-Red Emission Ratiometric Fluorescent-Protein-Based Ca Biosensor. <i>International Journal of Molecular Sciences</i> , 2021 , 22,	6.3	4
30	Unnaturally aglow with a bright inner light. <i>Science</i> , 2018 , 359, 868-869	33.3	3
29	Fluorescent Reporter Proteins3-40		3

28	Teal fluorescent proteins: characterization of a reversibly photoswitchable variant 2008 ,		3
27	Absolute measurement of cellular activities using photochromic single-fluorophore biosensors		3
26	Design and Prototyping of Genetically Encoded Arsenic Biosensors Based on Transcriptional Regulator AfArsR. <i>Biomolecules</i> , 2021 , 11,	5.9	3
25	Outlook on FRET: The Future of Resonance Energy Transfer 2013 , 757-765		2
24	Fluorescent Proteins for Neuronal Imaging 2015 , 57-96		2
23	Improved genetically encoded near-infrared fluorescent calcium ion indicators for in vivo imaging		2
22	Improved Photocleavable Proteins with Faster and More Efficient Dissociation		2
21	Genetically encoded ratiometric indicators for potassium ion		2
20	A single-phase flow microfluidic cell sorter for multiparameter screening to assist the directed evolution of Ca sensors. <i>Lab on A Chip</i> , 2019 , 19, 3880-3887	7.2	2
19	Photocleavable proteins that undergo fast and efficient dissociation. <i>Chemical Science</i> , 2021 , 12, 9658-9672	9.7	2
18	Spying on Cells: Toward a Perfect Sleeper Agent. <i>Cell Chemical Biology</i> , 2016 , 23, 756-758	8.2	1
17	Fluorescence-based characterization of genetically encoded peptides that fold in live cells: progress toward a generic hairpin scaffold 2007 ,		1
16	A sensitive and specific genetically encodable biosensor for potassium ions		1
15	Live cell tracking of macrophage efferocytosis during embryo development in vivo.. <i>Science</i> , 2022 , 375, 1182-1187	33.3	1
14	Absolute measurement of cellular activities using photochromic single-fluorophore biosensors and intermittent quantification.. <i>Nature Communications</i> , 2022 , 13, 1850	17.4	1
13	Barcodes, co-cultures, and deep learning take genetically encoded biosensor multiplexing to the nth degree.. <i>Molecular Cell</i> , 2022 , 82, 239-240	17.6	0
12	Fluorescent Indicators For Biological Imaging of Monatomic Ions.. <i>Frontiers in Cell and Developmental Biology</i> , 2022 , 10, 885440	5.7	0
11	Neurophotonic tools for microscopic measurements and manipulation: status report.. <i>Neurophotonics</i> , 2022 , 9, 013001	3.9	0

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9 Engineered Fluorescent Proteins Bring Biochemistry To Light. *Microscopy and Microanalysis*, **2014**, 20, 1354-1355 0.5

8 Synthese von Uridindiphospho- β -D-gluco-hexodialdose und deren Rolle in der durch UDP-Glucose-Dehydrogenase katalysierten Reaktion. *Angewandte Chemie*, **1997**, 109, 1593-1595 3.6

7 pHuji, a pH-sensitive red fluorescent protein for imaging of exo- and endocytosis. *Journal of General Physiology*, **2014**, 144, 1446OIA52 3.4

6 Improved genetically encoded near-infrared fluorescent calcium ion indicators for in vivo imaging **2020**, 18, e3000965

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4 Improved genetically encoded near-infrared fluorescent calcium ion indicators for in vivo imaging **2020**, 18, e3000965

3 Improved genetically encoded near-infrared fluorescent calcium ion indicators for in vivo imaging **2020**, 18, e3000965

2 Improved genetically encoded near-infrared fluorescent calcium ion indicators for in vivo imaging **2020**, 18, e3000965

1 Improved genetically encoded near-infrared fluorescent calcium ion indicators for in vivo imaging **2020**, 18, e3000965