# Luke D Lavis

## List of Publications by Year in Descending Order



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| 125 papers | 9,052 citations | 46 h-index | 94 g-index |
| 154 ext. papers | 11,550 ext. citations | 11.9 avg, IF | 6.67 L-index |

| # | Paper | IF | Citations |
|---|---|---|---|
| 125 | Direct detection of SARS-CoV-2 RNA using high-contrast pH-sensitive dyes.. *Journal of Biomolecular Techniques*, **2021**, 32, 121-133 | 1.1 | 0 |
| 124 | What if we just give everything away?. *ELife*, **2021**, 10, | 8.9 | 1 |
| 123 | Biosensors based on peptide exposure show single molecule conformations in live cells. *Cell*, **2021**, 184, 5670-5685.e23 | 56.2 | 2 |
| 122 | The HaloTag as a general scaffold for far-red tunable chemigenetic indicators. *Nature Chemical Biology*, **2021**, 17, 718-723 | 11.7 | 21 |
| 121 | A General Method to Improve Fluorophores Using Deuterated Auxochromes. *Jacs Au*, **2021**, 1, 690-696 | | 17 |
| 120 | Live and Let Dye. *Biochemistry*, **2021**, 60, 3539-3546 | 3.2 | 2 |
| 119 | Single-molecule imaging of chromatin remodelers reveals role of ATPase in promoting fast kinetics of target search and dissociation from chromatin. *ELife*, **2021**, 10, | 8.9 | 3 |
| 118 | Enabling Photocatalytic Activation of Rapid Bioorthogonal Chemistry by Repurposing Silicon-Rhodamine Fluorophores as Cytocompatible Far-Red Photocatalysts. *Journal of the American Chemical Society*, **2021**, 143, 10793-10803 | 16.4 | 12 |
| 117 | Spatiotemporal coordination of transcription preinitiation complex assembly in live cells. *Molecular Cell*, **2021**, 81, 3560-3575.e6 | 17.6 | 11 |
| 116 | Caveat fluorophore: an insiders guide to small-molecule fluorescent labels.. *Nature Methods*, **2021**, | 21.6 | 5 |
| 115 | Directed Evolution of a Selective and Sensitive Serotonin Sensor via Machine Learning. *Cell*, **2020**, 183, 1986-2002.e26 | 56.2 | 34 |
| 114 | 3D ATAC-PALM: super-resolution imaging of the accessible genome. *Nature Methods*, **2020**, 17, 430-436 | 21.6 | 24 |
| 113 | A general approach to engineer positive-going eFRET voltage indicators. *Nature Communications*, **2020**, 11, 3444 | 17.4 | 18 |
| 112 | Live-cell single particle imaging reveals the role of RNA polymerase II in histone H2A.Z eviction. *ELife*, **2020**, 9, | 8.9 | 22 |
| 111 | Nanoscale subcellular architecture revealed by multicolor three-dimensional salvaged fluorescence imaging. *Nature Methods*, **2020**, 17, 225-231 | 21.6 | 41 |
| 110 | Rational Design of Bioavailable Photosensitizers for Manipulation and Imaging of Biological Systems. *Cell Chemical Biology*, **2020**, 27, 1063-1072.e7 | 8.2 | 7 |
| 109 | A general method to optimize and functionalize red-shifted rhodamine dyes. *Nature Methods*, **2020**, 17, 815-821 | 21.6 | 58 |

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| 108 | Novel Fluorescent Ligands Enable Single-Molecule Localization Microscopy of the Dopamine Transporter. *ACS Chemical Neuroscience*, **2020**, 11, 3288-3300 | 5.7 | 3 |
| 107 | Accurate measurement of fast endocytic recycling kinetics in real time. *Journal of Cell Science*, **2020** , 133, | 5.3 | 12 |
| 106 | Rational Design of Fluorogenic and Spontaneously Blinking Labels for Super-Resolution Imaging. *ACS Central Science*, **2019**, 5, 1602-1613 | 16.8 | 66 |
| 105 | Probing Nicotinic Acetylcholine Receptor Function in Mouse Brain Slices via Laser Flash Photolysis of Photoactivatable Nicotine. *Journal of Visualized Experiments*, **2019**, | 1.6 | 4 |
| 104 | Multi-Color Single-Molecule Imaging Uncovers Extensive Heterogeneity in mRNA Decoding. *Cell*, **2019**, 178, 458-472.e19 | 56.2 | 59 |
| 103 | Chemistry of Photosensitive Fluorophores for Single-Molecule Localization Microscopy. *ACS Chemical Biology*, **2019**, 14, 1077-1090 | 4.9 | 42 |
| 102 | Improved HaloTag Ligand Enables BRET Imaging With NanoLuc. *Frontiers in Chemistry*, **2019**, 7, 938 | 5 | 13 |
| 101 | Isomeric Tuning Yields Bright and Targetable Red Ca Indicators. *Journal of the American Chemical Society*, **2019**, 141, 13734-13738 | 16.4 | 23 |
| 100 | Bright and photostable chemigenetic indicators for extended in vivo voltage imaging. *Science*, **2019** , 365, 699-704 | 33.3 | 206 |
| 99 | Bioorthogonal labeling with tetrazine-dyes for super-resolution microscopy. *Communications Biology*, **2019**, 2, 261 | 6.7 | 47 |
| 98 | Whole-Cell, 3D, and Multicolor STED Imaging with Exchangeable Fluorophores. *Nano Letters*, **2019**, 19, 500-505 | 11.5 | 64 |
| 97 | Measuring the Global Substrate Specificity of Mycobacterial Serine Hydrolases Using a Library of Fluorogenic Ester Substrates. *ACS Infectious Diseases*, **2018**, 4, 904-911 | 5.5 | 7 |
| 96 | Synthetic and genetically encoded fluorescent neural activity indicators. *Current Opinion in Neurobiology*, **2018**, 50, 101-108 | 7.6 | 26 |
| 95 | Visualizing long-term single-molecule dynamics in vivo by stochastic protein labeling. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, 343-348 | 11.5 | 46 |
| 94 | Photoactivatable drugs for nicotinic optopharmacology. *Nature Methods*, **2018**, 15, 347-350 | 21.6 | 26 |
| 93 | Fluorogenic structure activity library pinpoints molecular variations in substrate specificity of structurally homologous esterases. *Journal of Biological Chemistry*, **2018**, 293, 13851-13862 | 5.4 | 7 |
| 92 | Optimization of fluorophores for chemical tagging and immunohistochemistry of Drosophila neurons. *PLoS ONE*, **2018**, 13, e0200759 | 3.7 | 12 |
| 91 | Cell-Specific Chemical Delivery Using a Selective Nitroreductase-Nitroaryl Pair. *ACS Chemical Biology*, **2018**, 13, 2888-2896 | 4.9 | 27 |

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| 90 | A toolbox for multiplexed super-resolution imaging of the E. coli nucleoid and membrane using novel PAINT labels. *Scientific Reports*, **2018**, 8, 14768 | 4.9 | 40 |
| 89 | Imaging dynamic and selective low-complexity domain interactions that control gene transcription. *Science*, **2018**, 361, | 33.3 | 454 |
| 88 | Nicotinic Cholinergic Receptors in VTA Glutamate Neurons Modulate Excitatory Transmission. *Cell Reports*, **2018**, 23, 2236-2244 | 10.6 | 25 |
| 87 | Robust model-based analysis of single-particle tracking experiments with Spot-On. *ELife*, **2018**, 7, | 8.9 | 104 |
| 86 | Teaching Old Dyes New Tricks: Biological Probes Built from Fluoresceins and Rhodamines. *Annual Review of Biochemistry*, **2017**, 86, 825-843 | 29.1 | 122 |
| 85 | Unraveling cell-to-cell signaling networks with chemical biology. *Nature Chemical Biology*, **2017**, 13, 564-568 | 10.7 | 17 |
| 84 | Development of photostable fluorophores for molecular imaging. *Current Opinion in Chemical Biology*, **2017**, 39, 32-38 | 9.7 | 101 |
| 83 | Deconstructing behavioral neuropharmacology with cellular specificity. *Science*, **2017**, 356, | 33.3 | 66 |
| 82 | Quantifying transcription factor binding dynamics at the single-molecule level in live cells. *Methods*, **2017**, 123, 76-88 | 4.6 | 49 |
| 81 | A dynamic interplay of enhancer elements regulates expression in naïve pluripotency. *Genes and Development*, **2017**, 31, 1795-1808 | 12.6 | 31 |
| 80 | Nuclear microenvironments modulate transcription from low-affinity enhancers. *ELife*, **2017**, 6, | 8.9 | 65 |
| 79 | Synthesis of Janelia Fluor HaloTag and SNAP-Tag Ligands and Their Use in Cellular Imaging Experiments. *Methods in Molecular Biology*, **2017**, 1663, 179-188 | 1.4 | 46 |
| 78 | Cohesin Can Remain Associated with Chromosomes during DNA Replication. *Cell Reports*, **2017**, 20, 2749-2755 | 12.8 | 43 |
| 77 | Desensitized D2 autoreceptors are resistant to trafficking. *Scientific Reports*, **2017**, 7, 4379 | 4.9 | 25 |
| 76 | General Synthetic Method for Si-Fluoresceins and Si-Rhodamines. *ACS Central Science*, **2017**, 3, 975-985 | 16.8 | 93 |
| 75 | Semisynthetic fluorescent pH sensors for imaging exocytosis and endocytosis. *Nature Communications*, **2017**, 8, 1412 | 17.4 | 53 |
| 74 | Chemistry Is Dead. Long Live Chemistry!. *Biochemistry*, **2017**, 56, 5165-5170 | 3.2 | 66 |
| 73 | A general method to fine-tune fluorophores for live-cell and in vivo imaging. *Nature Methods*, **2017**, 14, 987-994 | 21.6 | 289 |

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| 72 | Bright photoactivatable fluorophores for single-molecule imaging. *Nature Methods*, **2016**, 13, 985-988 | 21.6 | 214 |
| 71 | Glutamate-induced RNA localization and translation in neurons. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, E6877-E6886 | 11.5 | 101 |
| 70 | Design and Synthesis of a Calcium-Sensitive Photocage. *Angewandte Chemie*, **2016**, 128, 8503-8506 | 3.6 | 2 |
| 69 | Design and Synthesis of a Calcium-Sensitive Photocage. *Angewandte Chemie - International Edition*, **2016**, 55, 8363-6 | 16.4 | 10 |
| 68 | Virginia Orange: A Versatile, Red-Shifted Fluorescein Scaffold for Single- and Dual-Input Fluorogenic Probes. *Bioconjugate Chemistry*, **2016**, 27, 474-80 | 6.3 | 44 |
| 67 | Synthesis of a Far-Red Photoactivatable Silicon-Containing Rhodamine for Super-Resolution Microscopy. *Angewandte Chemie*, **2016**, 128, 1755-1759 | 3.6 | 32 |
| 66 | High-density three-dimensional localization microscopy across large volumes. *Nature Methods*, **2016**, 13, 359-65 | 21.6 | 192 |
| 65 | A platform for brain-wide imaging and reconstruction of individual neurons. *ELife*, **2016**, 5, e10566 | 8.9 | 246 |
| 64 | Real-time imaging of Huntingtin aggregates diverting target search and gene transcription. *ELife*, **2016**, 5, | 8.9 | 47 |
| 63 | Live-cell single-molecule tracking reveals co-recognition of H3K27me3 and DNA targets polycomb Cbx7-PRC1 to chromatin. *ELife*, **2016**, 5, | 8.9 | 67 |
| 62 | RNA Polymerase II cluster dynamics predict mRNA output in living cells. *ELife*, **2016**, 5, | 8.9 | 140 |
| 61 | Evaluation of the Ser-His Dipeptide, a Putative Catalyst of Amide and Ester Hydrolysis. *Organic Letters*, **2016**, 18, 3518-21 | 6.2 | 15 |
| 60 | Innenr□ktitelbild: Synthesis of a Far-Red Photoactivatable Silicon-Containing Rhodamine for Super-Resolution Microscopy (Angew. Chem. 5/2016). *Angewandte Chemie*, **2016**, 128, 1961-1961 | 3.6 | |
| 59 | Steroid Receptors Reprogram FoxA1 Occupancy through Dynamic Chromatin Transitions. *Cell*, **2016**, 165, 593-605 | 56.2 | 193 |
| 58 | Synthesis of a Far-Red Photoactivatable Silicon-Containing Rhodamine for Super-Resolution Microscopy. *Angewandte Chemie - International Edition*, **2016**, 55, 1723-7 | 16.4 | 107 |
| 57 | Real-time quantification of single RNA translation dynamics in living cells. *Science*, **2016**, 352, 1425-9 | 33.3 | 242 |
| 56 | Rapid dynamics of general transcription factor TFIIB binding during preinitiation complex assembly revealed by single-molecule analysis. *Genes and Development*, **2016**, 30, 2106-2118 | 12.6 | 34 |
| 55 | A general method to improve fluorophores for live-cell and single-molecule microscopy. *Nature Methods*, **2015**, 12, 244-50, 3 p following 250 | 21.6 | 845 |

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|---|---|---|---|
| 54 | Ketamine inside neurons?. *American Journal of Psychiatry*, **2015**, 172, 1064-6 | 11.9 | 23 |
| 53 | A Sensitive and Robust Enzyme Kinetic Experiment Using Microplates and Fluorogenic Ester Substrates. *Journal of Chemical Education*, **2015**, 92, 385-388 | 2.4 | 17 |
| 52 | Imaging live-cell dynamics and structure at the single-molecule level. *Molecular Cell*, **2015**, 58, 644-59 | 17.6 | 330 |
| 51 | Bright building blocks for chemical biology. *ACS Chemical Biology*, **2014**, 9, 855-66 | 4.9 | 319 |
| 50 | Making biology transparent. *Nature Biotechnology*, **2014**, 32, 1104-5 | 44.5 | 4 |
| 49 | Distinct substrate selectivity of a metabolic hydrolase from Mycobacterium tuberculosis. *Biochemistry*, **2014**, 53, 7386-95 | 3.2 | 16 |
| 48 | Single-molecule tracking of the transcription cycle by sub-second RNA detection. *ELife*, **2014**, 3, e01775 | 8.9 | 50 |
| 47 | Integrated action of pheromone signals in promoting courtship behavior in male mice. *ELife*, **2014**, 3, e03025 | 8.9 | 62 |
| 46 | Evolved differences in larval social behavior mediated by novel pheromones. *ELife*, **2014**, 3, e04205 | 8.9 | 46 |
| 45 | 3D imaging of Sox2 enhancer clusters in embryonic stem cells. *ELife*, **2014**, 3, e04236 | 8.9 | 146 |
| 44 | Author response: 3D imaging of Sox2 enhancer clusters in embryonic stem cells **2014**, | | 2 |
| 43 | Caged naloxone reveals opioid signaling deactivation kinetics. *Molecular Pharmacology*, **2013**, 84, 687-95 | 4.3 | 21 |
| 42 | The chemistry of small-molecule fluorogenic probes. *Progress in Molecular Biology and Translational Science*, **2013**, 113, 1-34 | 4 | 92 |
| 41 | Rhodium(III)-catalyzed indazole synthesis by C-H bond functionalization and cyclative capture. *Journal of the American Chemical Society*, **2013**, 135, 7122-5 | 16.4 | 247 |
| 40 | Decoupled roles for the atypical, bifurcated binding pocket of the ybfF hydrolase. *ChemBioChem*, **2013**, 14, 1134-44 | 3.8 | 15 |
| 39 | Carbofluoresceins and carborhodamines as scaffolds for high-contrast fluorogenic probes. *ACS Chemical Biology*, **2013**, 8, 1303-10 | 4.9 | 140 |
| 38 | Large scale structural rearrangement of a serine hydrolase from Francisella tularensis facilitates catalysis. *Journal of Biological Chemistry*, **2013**, 288, 10522-35 | 5.4 | 25 |
| 37 | Excitation spectra and brightness optimization of two-photon excited probes. *Biophysical Journal*, **2012**, 102, 934-44 | 2.9 | 76 |

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| 36 | Selective esterase-ester pair for targeting small molecules with cellular specificity. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 4756-61 | 11.5 | 126 |
| 35 | The structural basis for the narrow substrate specificity of an acetyl esterase from Thermotoga maritima. *Biochimica Et Biophysica Acta - Proteins and Proteomics*, **2012**, 1824, 1024-30 | 4 | 27 |
| 34 | Synthesis and utility of fluorogenic acetoxymethyl ethers. *Chemical Science*, **2011**, 2, 521-530 | 9.4 | 71 |
| 33 | Synthesis of rhodamines from fluoresceins using Pd-catalyzed C-N cross-coupling. *Organic Letters*, **2011**, 13, 6354-7 | 6.2 | 78 |
| 32 | Advances in the chemistry of small molecule fluorescent probes. *Current Opinion in Chemical Biology*, **2011**, 15, 752-9 | 9.7 | 197 |
| 31 | Facile and General Synthesis of Photoactivatable Xanthene Dyes. *Angewandte Chemie*, **2011**, 123, 11402-5 | 316 | 405 15 |
| 30 | Facile and general synthesis of photoactivatable xanthene dyes. *Angewandte Chemie - International Edition*, **2011**, 50, 11206-9 | 16.4 | 93 |
| 29 | Histochemistry: live and in color. *Journal of Histochemistry and Cytochemistry*, **2011**, 59, 139-45 | 3.4 | 12 |
| 28 | Cellular uptake of ribonuclease A relies on anionic glycans. *Biochemistry*, **2010**, 49, 10666-73 | 3.2 | 38 |
| 27 | Fluorogenic affinity label for the facile, rapid imaging of proteins in live cells. *Organic and Biomolecular Chemistry*, **2009**, 7, 3969-75 | 3.9 | 19 |
| 26 | Onconase cytotoxicity relies on the distribution of its positive charge. *FEBS Journal*, **2009**, 276, 3846-57 | 5.7 | 40 |
| 25 | Bright ideas for chemical biology. *ACS Chemical Biology*, **2008**, 3, 142-55 | 4.9 | 937 |
| 24 | Ester bonds in prodrugs. *ACS Chemical Biology*, **2008**, 3, 203-6 | 4.9 | 91 |
| 23 | Trimethyl lock: a stable chromogenic substrate for esterases. *Molecules*, **2008**, 13, 204-11 | 4.8 | 17 |
| 22 | A highly sensitive fluorogenic probe for cytochrome P450 activity in live cells. *Bioorganic and Medicinal Chemistry Letters*, **2008**, 18, 5864-6 | 2.9 | 26 |
| 21 | Intraspecies regulation of ribonucleolytic activity. *Biochemistry*, **2007**, 46, 13131-40 | 3.2 | 9 |
| 20 | Cytotoxic ribonucleases: the dichotomy of Coulombic forces. *Biochemistry*, **2007**, 46, 10308-16 | 3.2 | 46 |
| 19 | Tuning the pK(a) of fluorescein to optimize binding assays. *Analytical Chemistry*, **2007**, 79, 6775-82 | 7.8 | 126 |

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| 18 | Latent blue and red fluorophores based on the trimethyl lock. *ChemBioChem*, **2006**, 7, 1151-4 | 3.8 | 40 |
| 17 | Fluorogenic label for biomolecular imaging. *ACS Chemical Biology*, **2006**, 1, 252-60 | 4.9 | 170 |
| 16 | Sensitivity optimization of a rhodopsin-based fluorescent voltage indicator | | 1 |
| 15 | Time-tagged ticker tapes for intracellular recordings | | 1 |
| 14 | Kinetic principles underlying pioneer function of GAGA transcription factor in live cells | | 1 |
| 13 | Bright photoactivatable fluorophores for single-molecule imaging | | 5 |
| 12 | Cohesin can remain associated with chromosomes during DNA replication | | 1 |
| 11 | Spot-On: robust model-based analysis of single-particle tracking experiments | | 2 |
| 10 | Optimization and functionalization of red-shifted rhodamine dyes | | 2 |
| 9 | Bright and tunable far-red chemigenetic indicators | | 5 |
| 8 | Deuteration improves small-molecule fluorophores | | 2 |
| 7 | Spatio-Temporal Coordination of Transcription Preinitiation Complex Assembly in Live Cells | | 6 |
| 6 | Dynamic and Selective Low-Complexity Domain Interactions Revealed by Live-Cell Single-Molecule Imaging | | 4 |
| 5 | Bright and photostable chemigenetic indicators for extended in vivo voltage imaging | | 10 |
| 4 | Multi-color single molecule imaging uncovers extensive heterogeneity in mRNA decoding | | 2 |
| 3 | Super-resolution Imaging Reveals 3D Structure and Organizing Mechanism of Accessible Chromatin | | 3 |
| 2 | A general method to fine-tune fluorophores for live-cell and in vivo imaging | | 1 |
| 1 | Direct detection of SARS-CoV-2 RNA using high-contrast pH-sensitive dyes | | 1 |