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properties of fluorophore labels used to detect nucleic acids; 4.5 General properties of fluorescent protein gel stains; 4.6 Examples of fluorescent protein gel stains; 4.7 Protein labelling; 4.8 Conclusions; Acknowledgements; References; Part III: Using Optical Probes in Cells - Practicalities, Problems and Pitfalls
Chapter Five. Introducing and Calibrating Fluorescent Probes in Cells and Organelles5.1 Introduction; 5.2 General principles of the loading process; 5.3 General principles of the calibration process; 5.4 Putting principles into practice; Acknowledgements; References; Chapter Six. Electroporation: A Method for Introduction of Non-permeable Molecular Probes; 6.1 Introduction; 6.2 Basic concept of electroporation; 6.3 Electric field generation and monitoring; 6.4 Polarization of the outer membrane; 6.5 Electropore formation and resealing; 6.6 Transmembrane transport
6.7 Practical considerations of electroporation6.8 Experimental evidence; 6.9 Summary; Acknowledgements; References; Chapter Seven. Imaging Reality: Understanding Maps of Physiological Cell Signals Measured by Fluorescence Microscopy and Digital Imaging; 7.1 Introduction; 7.2 Generic considerations for the use of fluorescent indicators; 7.3 Optimization of fluorescent light detection and background light correction; 7.4 3-D spatial maps of fluorescent signals; Acknowledgements; References; Chapter Eight. Fluorescent Probes in Practice - Potential Artifacts; 8.1 Introduction
8.2 Photobleaching

Sommario/riassunto

The use of fluorescent and luminescent probes to measure biological function has increased dramatically since publication of the First Edition due to their improved speed, safety, and power of analytical approach. This eagerly awaited Second Edition, also edited by Bill Mason, contains 19 new chapters and over two thirds new material, and is a must for all life scientists using optical probes.The contents include discussion of new optical methodologies for detection of proteins, DNA and other molecules, as well as probes for ions, receptors, cellular components, and gene expression. Emergi