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Altri autori (Persone)	MasonW. T
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Nota di contenuto	Front Cover; Fluorescent and Luminescent Probes for Biological Activity: A Practical Guide to Technology for Quantitative Real-Time Analysis; Copyright Page; Series Preface; Preface; Contributors; Contents; Part I: Introduction to Fluorescence Microscopy; Chapter One. Fluorescence Microscopy; 1.1 Introduction; 1.2 Microscope design; 1.3 Types of illumination; 1.4 Light sources; 1.5 Filters; 1.6 Objectives and eyepieces; References; Part II: Optical Probes and Their Applications; Chapter Two. Introduction to Fluorescent Probes: Properties, History and Applications; 2.1 Introduction 2.2 Nature of fluorescence and properties of fluorescent probes 2.3 Historical developments; 2.4 Applications of fluorochromes in histology and microbiology; 2.5 Introduction of acridine orange into cell physiology, cytology and cytochemistry; 2.6 General applications of fluorescent probes; Acknowledgements; References; Chapter Three. Intracellular Ion Indicators; 3.1 Introduction; 3.2 General properties of intracellular ion indicators; 3.3 Examples of intracellular ion indicators; 3.4 Conclusions; Acknowledgements; References Chapter Four. Fluorescent Imaging of Nucleic Acids and Proteins in Gels 4.1 Introduction; 4.2 General properties of fluorescent nucleic acid stains; 4.3 Examples of fluorescent nucleic acid gel stains; 4.4 General

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 Organelles  
5.1 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 electroporation  
6.8 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

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### 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

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