

1. Record Nr.	UNINA9910503007203321
Titolo	Handbook of cell biosensors // Gerald Thouand, editor-in-chief
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2022] ©2022
ISBN	3-030-23217-4
Descrizione fisica	1 online resource (997 pages)
Classificazione	UPP
Disciplina	610.28
Soggetti	Biosensors
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Intro -- Preface -- Contents -- About the Editor-in-Chief -- Section Editors -- Contributors -- Part I: Introduction -- 1 Introduction to Cell Biosensors Through 55 Years of Scientific Production -- Introduction -- What Is a Cell Biosensor? -- Evolution of the Research Topics from 1965 to 2020 -- The ``Ideal'' Bibliography -- Conclusions and Future Directions -- References -- References Related to Fig. 3 -- 1965-1990 -- 1991-2000 -- 2001-2010 -- 2011-2020 -- Part II: Fundamentals and Genetics for Cell Biosensors Applications -- 2 Stress Response-Based Whole-Cell Biosensor Development: Sentinels, Serendipity, and Circuitry -- Introduction -- Foundation -- Precedents -- Baltimore -- New Haven -- Palo Alto -- Wilmington, DE -- Other Technologies Were also Advancing -- Serendipity Intervened in the Form of the Sulfonylurea Herbicides -- The Heat Shock Response -- Environmental Biotechnology -- State of the Art -- The Ames Test (Ames et al. 1973) -- Microtox (Blaise et al. 1994) -- Metal-Detecting Biosensors -- Stress Response Induction -- Conceptual Protection of Wastewater Treatment Plant Bacterial Flora -- Concept Validation -- Expanding the Paradigm at DuPont -- Parallel Efforts -- Advantages of lux-Based Whole-Cell Biosensors -- Screening for Stress-Responsive Promoters -- An Ordered Array of E. coli Promoter::lux Whole-Cell Biosensors -- Comparison of Whole-Cell Biosensor and Nucleic Acid Hybridization Measures of Gene Expression -- Coda -- References -- 3 Engineering Autobioluminescent Eukaryotic Cells as Tools for Environmental and Biomedical Surveillance -- Introduction -- Whole-

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