

1. Record Nr.	UNINA9910672445003321
Autore	Demchenko A. P (Aleksandr Petrovich)
Titolo	Introduction to Fluorescence Sensing : Volume 2: Target Recognition and Imaging / / by Alexander P. Demchenko
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2023
ISBN	9783031190896 9783031190889
Edizione	[3rd ed. 2023.]
Descrizione fisica	1 online resource (772 pages)
Disciplina	543.56
Soggetti	Medicine - Research Biology - Research Measurement Measuring instruments Biophysics Biomedical Research Measurement Science and Instrumentation
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	1. Principles of molecular recognition -- 2. Theoretical Aspects -- 3. Molecular Recognition Units in Sensor Constructions -- 4. Binding blocks and Interfaces Designed for Sensing -- 5. Probing the properties of continuous media and interfaces -- 6. Detection of Ions and Low-molecular Targets -- 7. Detection of Biological Macromolecules and Recognition of harmful microbes -- 8. Sensing Inside the Living Cells -- 9. Ex-vivo Clinical Diagnostics -- 10. Imaging in vivo -- 11. Theranostics: Combining Targeting, Imaging and Therapy -- 12. Opening new horizons.
Sommario/riassunto	Fluorescence is the most popular technique in chemical and biological sensing because of its ultimate sensitivity, high temporal and spatial resolution and versatility that enables imaging within the living cells. It develops rapidly in the directions of constructing new molecular recognition units, new fluorescence reporters and in improving sensitivity of response up to detection of single molecules. Its

application areas range from control of industrial processes to environment monitoring and clinical diagnostics. This book provides systematic knowledge of basic principles in design of fluorescence sensing and imaging techniques together with critical analysis of recent developments. Being a guide for students and young researchers, it also addresses professionals involved in active basic and applied research. Making a strong link between education, research and product development, this book discusses prospects for future progress.

---