DESCRIPTION

This textbook covers the spectrum from basic concepts of photochemistry and photophysics to selected examples of current applications and research.

Clearly structured, the first part of the text discusses the formation, properties and reactivity of excited states of inorganic and organic molecules and supramolecular species, as well as experimental techniques. The second part focuses on the photochemical and photophysical processes in nature and artificial systems, using a wealth of examples taken from applications in nature, industry and current research fields, ranging from natural photosynthesis, to photomedicine, polymerizations, photoprotection of materials, holography, luminescence sensors, energy conversion, and storage and sustainability issues.

Written by an excellent author team combining scientific experience with didactical writing skills, this is the definitive answer to the needs of students, lecturers and researchers alike going into this interdisciplinary and fast growing field.

ABOUT THE AUTHOR

Vincenzo Balzani is Emeritus Professor of Chemistry at the University of Bologna, Italy. His scientific activity is documented by six books and more than 550 papers in the fields of photochemistry, supramolecular chemistry, molecular machines, and solar energy conversion. His overall h-index is 87. The high international reputation of his studies and the appreciation for his innovative work is testified by various awards and the great number of invitations (more than 300) to present lectures and seminars all over the world.
**Paola Ceroni** is an Associate Professor at the University of Bologna. In 1998 she obtained her PhD degree in Chemical Sciences at the University of Bologna, after a period in the United States (Prof. Allen J. Bard's laboratory). Her PhD thesis was awarded by the Semerano prize from the Italian Chemical Society. Current research is focused on photochemistry and electrochemistry of molecular and supramolecular systems with particular emphasis towards photoactive dendrimers and nanomaterials. She is co-author of about 140 scientific papers. She is the principal investigator of an ERC Starting Grant for the development of hybrid materials for solar energy conversion.

**Alberto Juris** is former Associate Professor of General and Inorganic Chemistry at the University of Bologna. His research activity focused on photochemistry and photophysics of mono- and polynuclear transition metal compounds, including those with dendritic structure, solar energy conversion processes, and luminescent sensors. He is co-author of about 100 papers. Among these, a review article published in 1988 on Ru(II) polypyridine complexes has been cited in the scientific literature more than 3000 times.

For additional product details, please visit [https://www.wiley.com/en-us](https://www.wiley.com/en-us)