

1. Record Nr.	UNINA9910558484403321
Titolo	Biomarkers of Radiation in the Environment : Robust Tools for Risk Assessment / / edited by Michael D. Wood, Carmel E. Mothersill, Gohar Tsakanova, Tom Cresswell, Gayle E. Woloschak
Pubbl/distr/stampa	Dordrecht : , : Springer Netherlands : , : Imprint : Springer, , 2022
ISBN	94-024-2101-7
Edizione	[1st ed. 2022.]
Descrizione fisica	1 online resource (333 pages)
Collana	NATO Science for Peace and Security Series A: Chemistry and Biology, , 1874-6527
Disciplina	610.28
Soggetti	Biochemical markers Radiation dosimetry Environmental chemistry Biochemistry Biomarkers Radiation Dosimetry and Protection Environmental Chemistry Biological Chemistry
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	TECHNIQUES FOR BIOMARKER DEVELOPMENT -- Chapter 1. Reducing Uncertainties In Live Monitoring Of Radiation In Wildlife -- Chapter 2. Synchrotron Light Facilities And Applications In Life Sciences -- Chapter 3. Elemental Imaging In Biology Using Synchrotron X-Ray Fluorescence Microscopy -- LOW-DOSE EFFECT MECHANISMS Chapter 4. Modelling Direct And Indirect Effects Of Radiation: Experimental, Clinical And Environmental Implications -- Chapter 5. Immune Networks In The Context Of Low Dose Ionizing Radiation -- Chapter 6. Learning From Nato Biomarker Research For Humans -- BIOMARKERS FOR RISK EVALUATION -- Chapter 7. Exosomes As Radiation Biomarkers -- Chapter 8. Monitoring Very Low Dose Radiation Damage In Dna Using "Field-Friendly" Biomarkers -- Chapter 9. The Development Of Bio-Assays Based On Non-Targeted Effects Of Radiation; A Potential Worm-Hole Into Ecosystem Level Biomarkers --

BIOMARKERS IN WILDLIFE Chapter 10. Birds As Bioindicators Of Radioactive Contamination And Its Effects -- Chapter 11. Amphibians In Field Radioecology: A Review And Perspective -- Chapter 12. Measuring Adaptive Responses Following Chronic And Low Dose Exposure In Amphibians -- Chapter 13. Are There Ecosystem-Relevant Endpoints For Measuring Radiation Impacts?.-Chapter 14. Biomarkers And Ecological Indicators For Environmental Radioactivity In Invertebrates.-BIOMARKER USE AND RESPONSES -- Environment, Workers And Public -- Chapter 16. Application Of The International System Of Radiation Protection In Fit-For-Purpose Assessment Of Impacts -- Chapter 17. Practicalities Of Mainstreaming Biomarker Use – A Canadian Perspective -- Index.

Sommario/riassunto

This proceedings volume results from the NATO Advanced Research Workshop on 'Biomarkers of Radiation in the Environment: Robust Tools for Risk Assessment (BRITE)'. The BRITE workshop discussed insights from cancer research, epigenetics, non-human and human risk assessment, since many of the state-of-the-art biomarkers being developed for humans deserve consideration for environmental applications and vice versa. Sessions were very wide-ranging covering methods, mechanisms, cross disciplinary application and regulation. The chapters in this book have been grouped into five major themes that were covered by the BRITE workshop: · Techniques for biomarker development · Low-dose effect mechanisms · Biomarkers for risk evaluation · Biomarkers in wildlife · Biomarker use and responses Each chapter has been written independently and reflects the views of the chapter author(s). Therefore, the readers can form their own balanced view of the different perspectives on biomarkers of radiation in the environment. Given the breadth of topics covered and the state-of-the-art perspectives shared by leading experts in their respective fields, this book should form a valuable resource for anyone with an interest in how biomarkers can be used to improve our understanding of radiation in the environment and its potential impacts.
