



## METADATA

**Title:** Environmental radiation and humans

**Other Titles:** -

**Language:** Greek

**ISBN:** 978-960-603-187-8

**Subject:** MEDICINE AND HEALTH SCIENCES, LIFE SCIENCES, BIOLOGICAL SCIENCES, NATURAL SCIENCES AND AGRICULTURAL SCIENCES, LAW AND SOCIAL SCIENCES

**Keywords:** Radon And Progeny / Gamma-radiation / Cosmic Radiation / Electromagnetic Radiation / Environmental Radionuclides

**Bibliographic Reference:** Nikolopoulos, D., Giannakopoulos, P., & Kottou, S. (2015). Environmental radiation and humans [Undergraduate textbook]. Kallipos, Open Academic Editions. <http://dx.doi.org/10.57713/kallipos-502>

### Abstract

This electronic textbook attempts to fill a gap in Greek literature on the symbiotic relationship between human life and radiation. From conception to death, humans are subject to direct and indirect radiation from a variety of sources, such as alpha, beta, and gamma radiation from radon and its derivatives, protons, mesons, gamma and electromagnetic radiation from the universe, as well as alpha, beta, and gamma radiation from various environmental radioisotopes in the air, water, soil, building materials, and the human body. Background radiation, also known as the Natural Radiation Environment (NREV), varies with human influence, such as the mining and processing of natural uranium and the use of lignite. Added to this is the impact from sources originating from technological and military uses, nuclear accidents (Three

Mile Island, Chernobyl, and Fukushima), nuclear testing, the use of depleted uranium and, more generally, the development of nuclear technology. Electromagnetic radiation from power transmission pylons, telecommunications, radar and radio can now also be considered as sources of NREV. In particular, the last few decades have seen a dramatic increase in the number of mobile phone base stations due to the widespread use of mobile phones. Special mention should be made of the medical uses of radiation in radiology, nuclear medicine, and radiotherapy. Additional sources of radiation include other applications such as spa treatments and cave visits. The energy deposited in the human body by radiation poses risks that are quantified on the basis of dosimetry and epidemiology studies of highly exposed populations.

