Record Nr. UNINA9910437829903321 Autore Haim Abraham Titolo Light pollution as a new risk factor for human breast and prostate cancers / / Abraham Haim and Boris A. Portnov Pubbl/distr/stampa Dordrecht, : Springer, 2013 **ISBN** 94-007-6220-8 Edizione [1st ed. 2013.] Descrizione fisica 1 online resource (165 p.) Altri autori (Persone) PortnovB. A (Boris Adol'fovich) Disciplina 616.99449071 Soggetti Breast - Cancer - Risk factors Prostate - Cancer - Risk factors Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Preface -- Introduction -- PART 1: ARTIFICIAL LIGHT AND HUMAN TEMPORAL ORGANIZATION -- Artificial light and its physicochemical properties (by Fabio Falchi) -- Light and dark cycles as a basis of temporal organization -- The biological clock and its entrainment by photoperiod -- LAN exposure and its potential effects on daily rhythms and seasonal disruptions -- Melatonin (MLT) - "hormone of darkness" and a "jack of all traits" -- PART II: LIGHT POLLUTION, ITS KNOWN HEALTH EFFECTS AND IMPACT ON ENERGY CONSERVATION --Introduction and spread of artificial illumination – a human history retrospective -- Biological definition of light pollution -- Light pollution as a general stressor -- The effects of light pollution on animal rhythms and ecology -- Light pollution and hormonedependent cancers: summary of accumulated empirical evidence --PART III: LIGHT POLLUTION AND ITS POTENTIAL LINKS TO BREAST AND PROSTATE CANCERS -- Geographic patterns of breast and prostate cancers (BC&PC) worldwide -- Light pollution and its association with breast and prostate cancers (BC&PC) in population-level studies --Selected methodological issues of Light-at-Night (LAN) – Breast and

ADDITIONAL READING.

Sommario/riassunto

Prostate Cancers (BC&PC) research -- Dark-less world – what is next? (Conclusions and prospects for future research) -- BIBLIOGRAPHY --

Humans are diurnal organisms whose biological clock and temporal organization depend on natural light/dark cycles. Changes in the

photoperiod are a signal for seasonal acclimatization of physiological and immune systems as well as behavioral patterns. The invention of electrical light bulbs created more opportunities for work and leisure. However, exposure to artificial light at night (LAN) affects our biological clock, and suppresses pineal melatonin (MLT) production. Among its other properties, MLT is an antioncogenic agent, and therefore its suppression increases the risks of developing breast and prostate cancers (BC&PC). To the best of our knowledge, this book is the first to address the linkage between light pollution and BC&PC in humans. It explains several state-of-the-art theories, linking light pollution with BC&PC. It also illustrates research hypotheses about health effects of light pollution using the results of animal models and population-based studies.