AIRBORNE (BIO)ALLERGENS, CLIMATE CHANGE AND OCCUPATIONAL HEALTH

PREFACE

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Occupational exposure to allergens and sensitizers in general is a matter of concern for outdoor workers and has to be properly addressed in risk assessment and management. In this regard, biological aeroallergens (pollens and fungal spores in particular) are of crucial importance, given their spread into both outdoor and indoor environment. Exposure patterns to biological aeroallergens is greatly affected by geographical location, season and meteorological conditions as well as by time spent outdoor, job performed, personal protection, co-exposures and, for workers performing their job partly indoor and partly outdoor, the amount of aeroallergens penetrating a confined environment. Solar radiation plays and important role in the dynamics connected to aeroallergens exposure, but it is also involved in modulating the biological response of the exposed individuals. The wide range of biological and health effects induced by solar radiation at the skin, eye and systemic level includes both local and systemic immune suppression, whose potential consequences are not yet fully understood in terms of antigen response and health outcomes in relation to a lot of environmental and occupational exposures as well as to individual features. The ongoing climate change is projected to have a profound impact on the exposure patterns to aeroallergens, overlapping with other factors and conditions affecting them, including solar radiation. The four papers reported in this section represent an update in this regard, providing a framework to read this complex interplay between factors involved in determining aeroallergen exposure and individual response, also reporting authors’ experience in airborne allergen monitoring. Moreover, study perspectives and research priorities are indicated, focusing on the issue represented by the impact of climate change.