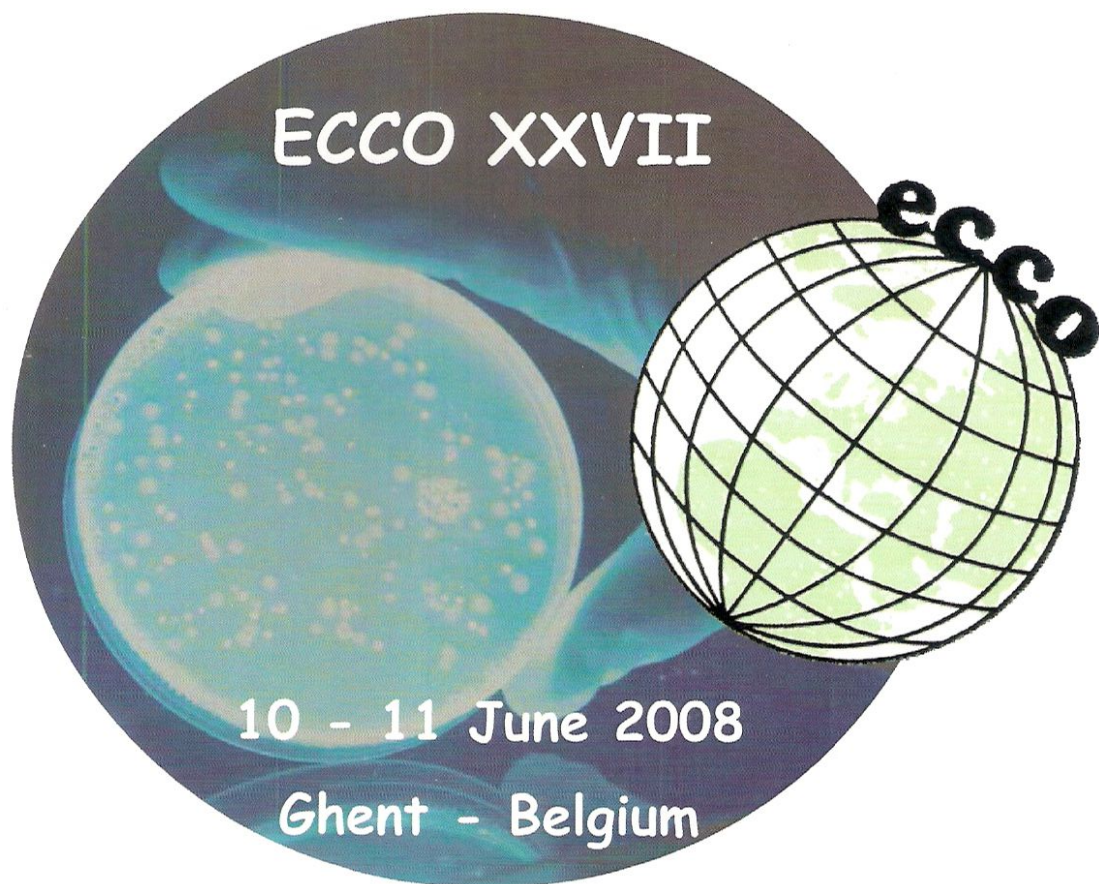


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**HARMONISATION & VALIDATION OF
METHODS**

**THE WAY FORWARD FOR EUROPEAN CULTURE
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BELGIAN SCIENCE POLICY



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BELGIAN CO-ORDINATED
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SURVEY OF INDOOR FUNGI IN HOSPITAL ENVIRONMENTS

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As a result of the ever more prolonged permanence of people inside buildings which are constructed to conserve energy and therefore to minimize exchanges between inside and outside air, indoor air quality and occupational health have become important issues in modern society. Fungi are among the most common microbiota in indoor environments. Human exposure to high levels of particles of fungal origin has been related with a multiplicity of health problems ranging from allergies and respiratory diseases to toxicosis. Children and elderly people are particularly vulnerable to such hazards. Furthermore, the air quality in hospitals is a very sensitive issue, as considerable risks may also be presented to immunocompromised patients, as well as to hospital workers due to their long-lasting exposure and daily contact with possible sources of microbiological contamination. The data presented here are part of a broader survey conducted throughout one year in three hospitals in the North of Portugal, aiming at identifying the microbiological agents contaminating indoor air in different facilities within the hospital, in order to develop a strategy to identify the associated biological risks and consequently to define and implement an appropriate overall methodology to control biological risks in hospitals and other health units. Air sampling was performed twice a month in each of the hospitals over a period of eight months, using a Merck MAS-100 air sampler and 90 mm Petri dishes containing Dichloran Rose Bengal Chloranphenicol Agar (DRBC). Air samples of 100 L were collected in neonatology, intensive care unit and internal medicine, whereas samples of 50 L were collected in the emergency room and the main entrance hall, as well as in the outside. Two samples were collected in each sampling point. The plates were incubated 3-5 days at 25 °C, after which colony forming units were counted and the colonies were isolated and identified. Regardless the differences between the three hospitals, concerning location, size, services and facilities, the results have shown a prevailing presence of *Cladosporium* and *Penicillium* species. In two of the hospitals *Aspergillus* species were also found, in particular *A. niveus* and *A. fumigatus*. Another common factor is the lower bioload in samples collected in more confined environments within the hospital, like neonatology and intensive care unit in contrast with internal medicine, emergency room and the main entrance Hall. The latter revealed a higher fungal load, often greater than in the samples collected outside. This study allowed for the identification of indoor fungi in the hospital environment, in order to further assess the main biological risks inherent to exposure of patients and hospital workers, in health units.