

Conceptual Reference Database for *Building Envelope Research*

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Related Concept

[\[+\]fungi: assessment, sampling and analysis : biomarker](#)

[\[+\]fungi: components and products](#)

Related Articles

- [Bioaerosols, Fungi and Mycotoxins](#), Ed. by Johanning, E. "papers presented at the September, 1998 Third International Conference in Saratoga Springs, New York. clinical and epidemiological studies and technical reports on an emerging public health topic affecting people in indoor environments at work and at home."

Author:	Biagini, R. E.
Year	2001
Title	From fungal exposure to disease: a biological monitoring conundrum
Source	In "Bioaerosols, Fungi and Mycotoxins: Health Effects, Assessment, Prevention and Control", Edited by Johanning, E., Boyd Printing, Albany, New York
Keyword	Biological Monitoring; Legacy Biomonitoring; Stachybotrys chartarum
Citation:	Biagini, R. E., (2001), "From fungal exposure to disease: a biological monitoring conundrum", In "Bioaerosols, Fungi and Mycotoxins: Health Effects, Assessment, Prevention and Control", Edited by Johanning, E., Boyd Printing, Albany, New York.

Notes:

Abstract:

Biological monitoring is the estimation of exposure to an agent through the measurement of biomarker(s) resulting from an internal dose of an agent. The biomarker(s) are typically the agent or its metabolite(s) in a biologically derived specimen. For example, styrene in expired air, styrene in blood, and mandelic and phenylglyoxylic acids (metabolites of styrene) in urine. The biomarker also can be a highly specific, validated effect of the agent, such as elevated levels of zinc protoporphyrin in blood caused by exposure to lead. Due to advances in molecular biology, genetics, analytical chemistry, and other basic sciences, it is now possible to detect smaller amounts of analytes and contaminants and smaller biological changes, as well as to identify mechanisms at the cellular and molecular levels. These advances can be exploited for biological monitoring, in some cases. Legacy biological monitoring, is the measurement of a specific biological monitoring determinant which contains none of the atoms of the molecule to which the organism was exposed. The most common example of this is an antibody produced against small molecular weight molecules or altered constitutive proteins. Numerous investigators have implicated putative exposure to macrocyclic tricothecenes and other compounds from *Stachybotrys chartarum* as being associated with a plethora of signs and symptoms of disease. To date, no compelling biological marker for exposure to *Stachybotrys chartarum* mycotoxins or other metabolites has

been presented. There is no doubt that exposure to *Stachybotrys chartarum* is associated with an increased prevalence of self-reported symptoms. However, evidence of the association of these complaints with frank disease is lacking. More biological monitoring research is needed to solidify these associations, if present.

Author Information and Other Publications

[Notes](#)

Biagini, R. E.

1. [Manufacturing, classification, and selection of brick - classification, part 2](#)
2. [Overview group on weathertightness of buildings](#)
3. [Overview of building code requirements for masonry structures \(ACI 530-02/ASCE 5-02/TMS 402-02\) and Specification for Masonry Structures \(ACI 530.1-02/ASCE 6-02/TMS 602-02\)](#)
4. [The relationship between symptoms and IgG and IgE antibodies in an office environment](#)

[CRDBER](#), at [Building Envelope Performance Laboratory](#), [CBS](#), [BCE](#), [Concordia](#), May 2004