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Elemental hyper-accumulation in mushrooms with a focus on arsenic

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MONTCLAIR STATE
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The Doctoral Program in Environmental Science & Management
and MSU Sustainability Seminar Series Present:

Elemental hyper-accumulation in mushrooms with a focus on arsenic

WHEN: March 22, 3:45 pm WHERE: Online via Zoom

Dr. Walter Goessler
Institute of Chemistry University of Graz, Austria



My research focuses on the development and improvement of analytical methods with emphasis on inorganic analysis. The developed methods answer questions related to human health and our environment. Speciation analysis of nonmetals with element-selective detection (ICPMS/MS) and the biotransformation of arsenic compounds play a central role in my research. Current projects are focused on questions related to arsenic and ultrafine particles in our air.

Mushrooms play an important role in the biogeochemical cycling of trace elements. They do neither belong to plants nor to animals but form their own kingdom. Some mushrooms live in symbiosis with plants or as parasites on other living organisms. Mushrooms are abundant worldwide. Although omnipresent, they only become noticeable when fruiting bodies are produced. Mushrooms are becoming a more important part of our diet and are used in various aspects of our life. They are used for antibiotics production, in the food industry (wine, cheese...) but also as biological pesticides. New applications cover plastics degradation and use as a leather replacement.

Some mushrooms can grow very fast and are able to (hyper)accumulate elements from the surrounding soil. This presentation will cover elemental accumulation by mushrooms with a focus on the unique arsenic speciation in mushrooms.