



Celebrating the International Year of Planet Earth

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George R. Brown Convention Center

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742-2 Kinetics of Arsenic Transformations in the Soil Environment.

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George R. Brown Convention Center, 360C

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Arsenic (As) contamination of soil and water is of concern at the local, national, and international level. Sources of As from agriculture in the USA, include herbicides, sewage sludge, and animal manures. The application of poultry manure on Delaware soils has raised concerns about As contamination of drinking water supplies. Many soil constituents impact As transformations including microorganisms and manganese oxides. Ultimately, reactions such as adsorption and redox transformation control the speciation, toxicity, mobility, and bioavailability of As in soils. The objective of this research is to understand the role that bacteria and reactive mineral surfaces (manganese and iron oxides) play in As reaction rates and pathway(s) in soils. This objective was investigated using stirred-flow kinetic studies and *in situ* attenuated total reflectance (ATR) Fourier transform infrared (FTIR) spectroscopy.

See more of: [Oxyanions in Soil Environments: II](#)

See more of: [S02 Soil Chemistry](#)