

Abstract of Presentation

Presentation Title:

Strategies for Arsenic Pollution Control in China and Innovative Technologies Based on *In Situ* Coating and Embedded Regeneration Processes

Abstract:

More than 2 million persons, especially in rural areas, are now exposing to drinking water with arsenic concentration higher than $50 \mu\text{g L}^{-1}$ in China. Much effort has been devoting to minimizing arsenic in drinking water and the subsequent arsenism risks. The development of innovative technologies, with promising availability and cost-effectiveness, is crucial for arsenic control in drinking water.

This research proposed a novel adsorbent, which was prepared through *in situ* coating and regenerated through *in situ* embedding with Fe-Mn binary oxides onto porous diatomite (FMBO-DE), for the simultaneous removal of As(III) and As(V). The maximum adsorption capacities of FMBO were as high as 350 mgAs(III) /g and 200 mgAs(V)/g , respectively. Continuous field tests demonstrated the feasibility, availability and high capacity for arsenic removal, which increased after *in situ* embedded regeneration and ascribing to the higher BET surface areas and more Fe-Mn binary oxides coated after regeneration.