

Annual Congress on

# Mycology and Fungal Infections

November 16-17, 2017 Atlanta, Georgia, USA

## E-babe- bioremediation potential of fungi isolated from uranium mine in Brazil

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The Osamu Utsumi was one of the most important uranium (U) mine in Brazil and since its activities had ceased in 1995 the decommissioning process has been considered a important environmental challenge. The aim of this study was to identify and evaluate the bioremediation potential of fungal species recovered from soil, water and sediment samples collected from uranium mine. A total of 65 fungi were isolated and molecularly identified using ITS region (rDNA). *Penicillium* was the most prevalent genus isolated (53%). The characterization of the samples showed that the U concentration was high in all substrates (soil: 58 to 268 mg/kg; water: 4.46 to 1.05 mg/L; sediment: 283 to 488 mg/kg). The pH of the water samples was 3.2 and the water activity (Aa) of the soil samples was 0.98. Fourteen fungal isolates showed the U minimum inhibitory concentration (MIC) of 2000 mg/L, while 51 isolates were able to grow up to the maximum concentration tested (2000 mg/L). The uranium tolerance index showed that *Talaromyces amestolkiae* was the most tolerant species. However, *Trichoderma koningiopsis* demonstrated the best U biosorption capacity, removing 5.8 mg of uranium per gram of live biomass. Our finds indicate that fungi isolated from U-contaminated sites presents great metal tolerance and high bioaccumulation capacity, which makes them potential candidates for bioremediation.

### Biography

Ednei Coelho has completed his Master's degree in Microbiology at the University of São Paulo (USP), has experience in Microbiology, with emphasis on Mycology, mycotoxins, gamma radiation and electron beam, physical-chemical food analysis, HPL/CLAE analysis. Currently holds a PhD in Microbiology at the Institute of Biomedical Sciences of the University of São Paulo (ICB-USP), where he works with isolation and identification of fungi in a contaminated uranium mine, which will later be used in bioremediation.

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