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To study the mobility of the naturally radioactive materials (NORMs) in the sediments as a function of changing environmental conditions

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Abstract content
 (Max 300 words)

This presentation examines the radiological environmental issues associated with the nuclear fuel cycle as affected by the recent increase of the effects of acid mine drainage (AMD) and considering the role played by solid-to-liquid distribution ratio (K_d). The convective-diffusion transport model is used to discuss the mobility of radionuclides in the sediments. The K_d value predicts the rapidity and reversibility between the dissolved (C_w , Bq.l⁻¹) and the adsorbed (C_s , Bq.kg⁻¹) phases of Uranium and Thorium (and some of their progeny). The identification and quantification of radioactive species using radiometric and non radiometric techniques was done. Low background Gamma-Spectrometry, ICP-MS (Inductively Coupled Plasma-Mass Spectrometry), NAA (Neutron Activation Analysis) and LSC (Liquid Scintillation Counting) techniques were used. The distribution of the radionuclides in the solid and liquid phases obtained in the simulated AMD (acid mine drainage) leaching experiments was evaluated.

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Yes

Level for award
 (Hons, MSc,
 PhD)?

MSc

Main supervisor (name and email)
and his / her institution

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Would you like to
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Yes

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