

From radioecology to environmental radiochemistry, what do we need to learn?

Christophe DEN AUWER

(Institut de Chimie de Nice, Université Côte d'Azur, Nice, France)

Lundi 17 septembre 2018 – 14h00
Amphithéâtre SOLEIL

What are the propagation mechanisms of the radionuclides resulting from dissemination in the environment (geosphere), are scientific but also political and social issues. The magnitude 9.0 Tohoku earthquake and subsequent tsunami, leading to accidents in three reactors and release of radionuclides into the environment is one of the latest examples. Hence, the need in managing the risk, controlling environmental fate and transport, and preventing human exposure through direct contact and indirectly through the food chain are essential. It is therefore of crucial necessity to attempt performing direct determination of the physico-chemical species or speciation of radionuclides and understanding their transfer mechanisms in the various compartments of the geosphere (hydrosphere and biosphere).

To achieve this goal, spectroscopic and analytical techniques must be combined in order to shift our description from large scale inventories to molecular scale description of the chemical transfer mechanisms. We have focused our later studies on seawater and marine organisms, because it contains traces of radionuclides from previous atmospheric nuclear tests or accidental releases. It is also the largest final repository within the hydrosphere. Our investigation of early actinide elements covers U, Np, Pu and Am at oxidation states spanning from +III (Am) to +VI (U), model natural systems and *in vivo* studies.

The presentation will highlight the need to combine space resolved probes with speciation techniques and will discuss future possible trends to link radioecology with environmental radiochemistry.



Ce séminaire sera suivi d'une pause café

Formalités d'entrée : accès libre dans l'amphi du pavillon d'Accueil.

Si la manifestation a lieu dans le Grand Amphi SOLEIL du Bâtiment Central merci de vous munir d'une pièce d'identité (à échanger à l'accueil contre un badge d'accès)

SYNCHROTRON SOLEIL

L'Orme des merisiers - Saint-Aubin - BP48 - 91192 GIF S/YVETTE cedex

<https://www.synchrotron-soleil.fr/fr/evenements>

CONTACT : sandrine.vasseur@synchrotron-soleil.fr

SEMINAIRE