

POST-DOCTORAL POSITION at CEREGE, Aix-en-Provence



“Assessing the environmental degradability of nanoproducts using an integrated approach”

Nanomaterials are constantly finding new industrial applications, but nanotechnologies will only truly take off if they are part of a sustainable development for both human and the environment. To date research on metallic nanoparticles has shown the essential role of micro- and macro-organisms in the degradation of nanomaterials and nanoproducts in the ecosystems. The biological activity combined with the action of water or sediments contributes to the release of nanoscale residues of degradation of nanoproducts during their use, storage or disposal.

The postdoctoral fellow will study the role of biota in aquatic ecosystems on the biogeochemical degradation of nanoproducts currently under development. He/she will elucidate the principles that govern their degradation, the fate and impact of the degradation residues on organisms living in aquatic ecosystems. The postdoctoral fellow will be in charge of using aquatic mesocosms as tools to study the environmental degradability of nanoproducts under realistic exposure conditions.

Degradation mechanisms at the molecular level will be studied with complementary analytical techniques (XAS, STXM, NMR, XRD, FTIR, XRF, micro and ultraCT). The biological effects will be studied via a multi-biomarker analysis. All acquired data will be integrated into the LABEX SERENADE database (Safe (r) Ecodesign Research and Education Applied to NANomaterial DEvelopment).

The candidate must hold a PhD thesis preferably in physical- chemistry, environmental sciences, with a good record of publications in relationship with the targeted field of activities. The Post Doctorate candidate must be highly dynamic, sociable, feel comfortable to speak and write in English, be very autonomous and strongly motivated by collaborative and collective works.

Location: CEREGE in Aix-en-Provence, France.

Duration of contract: 24 months

Starting date: January 2019

Contact: Mélanie Auffan auffan@cerege.fr

Applications must be submitted in English by email:

- a Curriculum Vitae (2 pages max)
- a list of publications
- a cover letter (1 page)

*Closing date for applications: **31th October 2018.***