RÉPUBLIQUE FRANÇAISE
*Liberté*
*Égalité*
*Fraternité*

INERIS
maîtriser le risque pour un développement durable

# PHD OFFER

# UNDERSTANDING OF CONTAMINATED SOIL FUNCTIONALITY UNDER ECOLOGICAL REHABILITATION

**Type of contract :** Doctoral contract.

**Start date :** 1st October 2026

**Location :** Verneuil-en-Halatte (60), 40 mn north of Paris.

**Access** : A free private bus ensures the connection between the Creil station and the Ineris site.

**Telework** : 100 days/year

**Contacts for more information :** valerie.bert@ineris.fr (+33 6 24 54 62 76)

## CONTEXT

The French National Institute for Industrial Environment and Risks (Ineris) is an industrial and commercial public establishment under the aegis of the Ministry of the Environment. The Institute's mission is to contribute to the prevention of risks caused by economic activities to health, environment, and the safety of people and goods.

## OBJECTIVES OF THE THESIS

In urban areas, many communities face soil pollution. This may lead them to consider new uses for these soils, in line with their budgetary, environmental, and societal constraints and commitments. Recent laws and funding mechanisms encourage them to protect, restore, and use soils sustainably and to rehabilitate polluted soils for other uses, such as creating green spaces in the city. While still relatively uncommon, ecological rehabilitation techniques based on the use of plant species allow for the in-situ management of polluted land, preserving soil resources and providing other benefits related to the presence of vegetation cover and soil functions. Many species can thrive on polluted soils and contribute to urban greening objectives. Emerging in the market for remediation and management of contaminated sites and soils (SSP), the use of plant cover instead of conventional techniques (excavation, containment) has both benefits and potential drawbacks. These are poorly documented due to a lack of feedback from practical experience and field initiatives.
By applying tools to represent the functionality of contaminated soils, this thesis aims to evaluate, in terms of ecological gains, the management implemented on several urban

contaminated sites, going beyond the chemical approach typically used in the national SSP methodology. Various physicochemical and biological parameters contribute to characterizing soil quality and functionality in relation to different plant cover species, as well as the quality and health of these species.

## PROFILE

Master's degree connected to environmental sciences.

### Skills / Knowledge

The candidate should:

- Hold or in the process of obtaining a Master's degree or diploma allowing enrollment in a Doctoral School on October 1, 2026;
- Have a good level course, a minimum grade of 12/20 is required (provide transcripts of Master's or equivalent);
- Have skills in plant biology, ecology, soil sciences, analytical chemistry and statistics (eg. mastery of R software; ACP, ANOVA). Knowledge on polluted sites and soils (SSP) and digital ecology would be a plus;
- Have a taste for the field, the laboratory and teamwork.
- Be autonomous, rigorous, organized and have good analytical and synthesis skills;
- Be fluent in French and English.

## GENERAL INFORMATION

31 paid leave days and 18 « RTT » days off per year
Flexible hours
Company restaurant