Post-Doctoral position

Carbon in deep soil in France. Controlling factors analysis and mapping

Deadline for application: September 5th, 2012

**Duration:** 12 to 24 months  
**Salary:** Between 1820 and 2095 €/month, net of charges depending on experience with the possibility to apply for an additional gross mobility allowance of 1360 € / month in case of eligibility to the Agreenskills programme ([http://www.agreenskills.eu](http://www.agreenskills.eu))  
**Location:** INRA (National Institute for Agronomic Research) InfoSol Unit, Orléans, France  
**Starting date:** November 1st, 2012 to January 1st, 2013

**Rationale**

It is well established that carbon in deep soil layers is a key component the dynamics of which should be understood to better model carbon sequestration and emissions from soils. However, most soil carbon maps and estimates at national level are restricted to topsoil with maximal depths typically ranging 0.15 – 0.3 m (for France, see Meersmans *et al.* 2012 and Martin *et al.* 2011). In this work, we will use data from:

- The systematic soil monitoring network of French soils (i.e. ca 2200 sites, distributed according to a 16 to 16 km grid, SOC data available for the 0 to 0.3 and the 0.3 to 0.5 m layers).
- Numerous legacy SOC profile data (from soil inventory and mapping, irregularly spread over the French territory, various soil depths, years of sampling from 1960 to nowadays).

We will address the following issues:

- What are the main controlling factors of deep SOC distribution? Are they different from the ones that control topsoil SOC?  
- How much SOC do the deep layers of French soils store? Can we map their geographical distribution?

**Skills**

PhD  
Soil science, soil carbon  
Ability to work with R packages  
GIS – spatial analysis  
Data mining, regression and classification tools, statistics  
Scientific English reading, speaking and writing

**Scientific referents**

Dr Manuel Martin [manuel.martin@orleans.inra.fr](mailto:manuel.martin@orleans.inra.fr)  
Dr Dominique Arrouays [dominique.arrouays@orleans.inra.fr](mailto:dominique.arrouays@orleans.inra.fr)

**How to apply?**

Send a mail including CV and a cover letter to the referents
Relevant recent publications


