

## **Post-Doctoral Position Available : Modeling of soil organic matter dynamics at the molecular scale.**

Input of plant litter to soil exhibits a high diversity of molecular compounds. Depending on their properties and on their reactivity, these molecules are preferentially mineralised, bio-transformed into microbial metabolites or stabilised. **The objective of this project is to develop a model simulating the dynamics of individual molecules in the organic matter. Such a model will offer the opportunity to explain the changing chemistry of organic matter during litter decay and to quantify the individual mean residence time of specific compounds in soil.**

Assumptions on the frame of the model and model parameterization will be based on results recently obtained by several French groups working on the quantification of mean residence time of a range of compounds in soil (lignin, carbohydrate, amino-acid, lipid) - ANR blanc DYNAMOS project (<http://dynamos.lsce.ipsl.fr>). The project is based on stable and radioactive carbon isotopes determinations in specific compounds at two C3C4 devices, one in France, the other in Congo.

### Qualification

Experience with modeling is required. Knowledge in isotope geochemistry, biochemistry or on soil organic matter dynamics would be appreciated

### Location

The position is affiliated at the French National Institute of Agronomy in Nancy, France  
Group of Forest Ecosystem Biogeochemistry  
<https://www2.nancy.inra.fr/unites/bef/>

Monthly income: 2200 euros

Contact : Please submit your application before the 15th of February to Delphine Derrien, [delphine.derrien@nancy.inra.fr](mailto:delphine.derrien@nancy.inra.fr), by sending a curriculum vita with a short statement of research interests; and a list of publications