

Postdoctoral Research Fellow
in « Hydrology and biogeochemistry of ponds : pesticide transfers »
at EcoLab-CNRS within the framework of the ANR Project « PESTIPOND »

OFFER TITLE : Role of ponds in input/output pesticide transfers and concentrations in the different compartments

DETAIL of the OFFER : <http://bit.ly/2FOQ88x>

MISSIONS : Postdoc position within the framework of ANR Project PESTIPOND « Role of ponds in the transfer and impact of pesticides in surface waters of the critical zone in agricultural environment ».

PESTIPOND: a focused 48-month innovative collaborative research project associating 4 research units in France, and 15 socio-economic partners. The innovative concept of the agricultural pond-centered PESTIPOND workflow is to constrain *in situ* processes of pesticide transformation in pond compartments to feed into an integrative modelling framework of risk and spatial predictions of pesticide transfer at the catchment scale, including the cumulative role of inter-connected ponds. PESTIPOND will target factors and processes controlling the pond capacities to degrade mixtures of pesticides, far beyond their primary role of delaying pesticide transfer or transforming parent molecules into transformation products. PESTIPOND is organized in 3 tasks: (T1) *Biogeochemistry of pesticide behavior under field conditions*; (T2) *Pesticide dissipation pathways in ponds*; (T3) *Modelling assessment of the impact of ponds on pesticide transfer to surface waters*.

The project partners have access to experimental ponds, implanted in catchments belonging to IR OZCAR and IR RZA (French LTSER), in 3 French regions : Auradé in Gascogne, Hohrain in Alsace and Rampillon in Brie. EcoLab is in charge of Auradé catchment and of Sub-Task 1.3.

The postdoc will be focused on T1 by investigating different ponds located in and around Auradé catchment, and will contribute to some experiments in T2.

ACTIVITIES

- To set up an experimental sampling design for one or two selected ponds to measure the input-output concentrations of selected pesticides, MES and nutrients and water discharge during one year. To follow high resolution measurements using a probe with different sensors and to calibrate the field values by laboratory analyses.
- To collect and analyse the pesticide contents and physico-chemical parameters in the different compartments of the ponds (water column, bottom sediments, plants living in the ponds) during 2 contrasted seasons and a major hydrological event.
- To participate with the engineer in charge of the analytical platform to the preparation of the samples and to the analyses of pesticides with GC-MS/MS Triple Quadrupole with a thermal desorption.
- To participate to the the different scientific meetings and to exchange with the researchers, postdoctorates and PhD working in the different laboratories involved in PESTIPOND.
- To treat the data, to communicate them during the meetings and to participate to the annual report and to prepare peer-reviewed scientific publications and presentations for scientific conferences.

REQUIRED SKILLS

- Hydrology and biogeochemistry of catchments,
- Chemical background on pesticides ; stable C, N and water isotope background are well come.
- Field survey experiments and sample collection of surface waters (rivers and lakes) and sediments.
- Licence (B) to drive a vehicule to go in the field regularly
- Ability to collaborate within a multidisciplinary team and with external socio-economic partners
- Strong english working knowledgge and practice

WORK CONTEXT

The postdoc will be based at EcoLab which is a joint research unit between CNRS- UPS Toulouse 3 and Toulouse INP. The work is located at Auzeville-Tolosane in the Campus of ENSAT. The researches in field will concern the Aurade catchment and the surrounding areas, located 40 km from Toulouse.

APPLICATION : please send your CV and lettre of motivation to jean-luc.probst@ensat.fr and anne.probst@ensat.fr
Don't forget also to submit your application on the CNRS website for Job Offers: <http://bit.ly/2FOQ88x>