**UMR CNRS 6023 Laboratoire Microorganismes : Génome et Environnement, Université Clermont Auvergne (T. Sime-Ngando)**

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**Fate and effects of plastics contamination in river ecosystems**

Tourism in mountains tends to accumulate in natural spaces of great interest such as natural parks and Natura 2000 zones. Mountain rivers draining these natural spaces are vulnerable to contamination of anthorpic origin, and especially to that derived from plastic litter. The main objective of this thesis will be to assess the effect of plastics’ contamination on the functioning of mountain rivers, their potential to be recycled and their colonisation by aquatic microorganisms. A second objectif will investigate the microbial biodegradation of different types of biodegradable-bioplastics subjected (or not) to artificial ageing in the laboratory. The study of microbial strains with an enhanced capacity for decomposition of these bioplastics will be continued in order to characterize the metabolic pathways involved. A third objective will investigate how the potential of microbial communities to degrade bioplastics will evolve in a climate change scenario. This objective will be achieved by setting up a microcosm experiment where the effect of warming and droughts will be tested on the capacity of aquatic microbial communities to degrade plastics.

Carles L, Artigas J (2020) Interaction between glyphosate and dissolved phosphorus on bacterial and eukaryotic communities from river biofilms. Science of the Total Environment, [doi.org/10.1016/j.scitotenv.2020.137463](https://doi.org/10.1016/j.scitotenv.2020.137463).