



**MARCUS KLAUS**

*From Sweden to France*



Project: **Constraining the role of freshwaters in the carbon cycle**

Research topic: **Environment**

Swedish Institution: **Swedish University of Agricultural Sciences (SLU)**

French Institution: **Hydrogeochemical Observatory of the Environment (OHGE)**

Dates of mobility: **07/09/2023 to 13/09/2023**

Program: **SFVE-A**



## PRESENTATION

[Marcus Klaus](#) is a Researcher at the [Department of Forest Ecology and Management](#) of the Swedish University of Agricultural Sciences ([SLU](#)) in Umeå. He obtained his PhD in Physical Geography from [Umeå University](#) in 2017. He is interested in the carbon and greenhouse gas cycling in the boreal landscape, specialising in land-water interfaces and groundwater, addressing challenges of the mechanistic understanding of small-scale gas exchange processes and the statistical modelling and prediction of large-scale land use and climate effects.

## ACTIVITIES IN FRANCE

Klaus' objective with his mobility to France was to collect field data in mountain streams for evaluation of air-water gas exchange processes, part of his research project "Microbubbles – hidden gateways for greenhouse gas emissions from inland waters?", funded by the [Swedish Research Council](#). He was joined by French and Italian colleagues with specific expertise in hydraulic engineering and gas measurements, also making use of unique infrastructure (e.g., automated stream sampling stations, weather stations) established in French and Italian streams, at the [Valfredda watershed](#) near Falcade, Dolomites, and the Hydrogeochemical Observatory of the Environment ([OHGE](#)), Strengbach Watershed near Saint-Marie-aux-Mines. Data was collected at 16 sampling sites on water flow, air bubbles and dissolved gases, in order to upscale experimental results. The trip provided an essential basis for several research papers on gas exchange in mountain streams to be written shortly by groups of collaborators. Klaus met and discussed with Dr. [Eliot Chatton](#) and [David Vilbert](#) from the [University of Rennes](#), [Matthieu Fraticelli](#) from the Laboratory of Perceptive Systems ([LSP](#)) at the [Department of Cognitive Studies](#) of the [Ecole Normale Supérieure](#) in Paris, Dr. [Solenn Cotel](#) from the [Institut Terre & Environment](#) of the [University of Strasbourg](#), and Prof. [Gianluca Botter](#), Dr. [Nicola Durighetto](#) and Dr. [Paolo Peruzzo](#) from the [Department of Civil, Environmental and Architectural Engineering](#) at the [Padova University](#).