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UNIVERSITÄT  
BERN



Bern, October 21, 2009

National Research Programme "Sustainable Water Management" (NRP 61) [www.nfp61.ch](http://www.nfp61.ch)

***Project AQUA MONTANA - Approaching Water Stress in the Alps – Water Management Options in the Crans-Montana-Sierre Region (Valais, Switzerland)***

**Four PhD and one Post-Doc researcher (80%) positions in hydrology, water management, social and human geography research**

In the framework of the National Research Programme NRP 61 the Geographic Institutes of the Universities of Bern, Fribourg and Lausanne will conjointly conduct the project AQUA MONTANA between 2010 and 2012.

The main objective of this transdisciplinary study is to develop strategies moving towards a more sustainable water resources management in the Crans-Montana-Sierre region (Valais), together with actors involved. The study will be based on in-depth evaluation of the impacts of the climate/environmental and socio-economic changes on water resources, and on a detailed survey of water use and of current water management systems at a regional scale. The study region is situated in the driest part of Switzerland and has been subject to dynamic economic, tourism and urban development during the last decades.

The research project will be implemented through three work packages (WP) and one synthesis package (SP): "Evaluation of the water resources" (WP1), "Study of the water use systems and their interaction" (WP2), "Assessment of the socio-economic and institutional setting" (WP3), and "Water Management Options - Multifunctionality of the landscape in the context of hydrological, land use and institutional change" (Synthesis Package).

We offer PhD positions for each work package, the synthesis package is open for a Post-Doc position:

**Common requirements are:**

- Motivated for excellent research and implementation work
- Interested and willing to work in an interdisciplinary team
- Good team player
- Start: January 1, 2010 or by arrangement
- Duration: 3 years
- Knowledge of French (requirements cf. individual positions)

**Salary:** following the rules of Swiss National Science Foundation [www.snf.ch](http://www.snf.ch), except one PhD of WP1 who's salary follows the rules of Berne University.

**Applications** (deadline November 15 for PhDs; December 13 for Post-doc): send your complete application in German, French or English including photo exclusively by e-mail to: [bruno.schaedler@giub.unibe.ch](mailto:bruno.schaedler@giub.unibe.ch). Please clearly indicate the position you are applying for. Use only one pdf file for the entire application.

## 1. Two PhD positions for WP1: Evaluation of the water resources

### Tasks:

- a. (PhD\_1) Assessment of the actual water resources in a complex terrain including setup and operation of a measurement network. Study of the influence of different agricultural land management practices on the water balance. In close cooperation with PhD\_2.
- b. (PhD\_2) Detailed modelling - in time and scale - of the present and future (climate/global change influenced) water resources of the Siere-Crans-Montana region. In close cooperation with PhD\_1.

**Profile:** master degree in geography, environmental, natural or social sciences; sound hydrological knowledge, skills in spatial analysis (GIS) and statistics (R). PhD\_1: Interested in field work, skills to install and maintain a hydro-meteorological network, detailed data analysis and small scale modelling of water vapour exchange. PhD 2: Skills in water balance modelling in mountainous regions. Knowledge of German advantageous, French (oral) and English.

**Place of work:** Bern (and field work in Crans-Montana region)

**Infos:** Prof. Rolf Weingartner and Dr. Bruno Schädler, Institute of Geography of Bern University, bruno.schaedler@giub.unibe.ch

## 2. PhD position for WP2: Study of the water use systems and their interaction

**Tasks:** Analysis, quantification and mapping of water uses in the Crans-Montana-Sierre region; modelling of future uses (2050) by using the WEAP model.

**Profile:** master degree in geography, natural or social sciences, skills in GIS processing, good knowledge of French, English, and if possible German.

**Place of work:** Lausanne (and field work in Crans-Montana region)

**Infos:** Prof. Emmanuel Reynard, Institute of Geography of Lausanne University, Emmanuel.Reynard@unil.ch

## 3. PhD position for WP3: Assessment of the socio-economic and institutional setting

**Tasks:** Institutional and political analysis of water management setting in the Crans-Montana-Sierre region (Valais).

**Profile:** Master degree in human geography or other social sciences, skills in qualitative research methods and analysis software, fluent in French with good knowledge in English, and if possible German.

**Place of work:** Fribourg (and field work in Crans-Montana region)

**Infos:** Prof. Olivier Graefe, Geography Unit of the University of Fribourg, Graefe@unifr.ch

## 4. Post-Doc Researcher (80%) for Synthesis package: Water Management Options - Multifunctionality of the landscape in the context of hydrological, land use and institutional change

### Tasks:

- a. Interdisciplinary integration of research on water and land use dynamics, and on institutional and political aspects of water management in the Crans-Montana-Sierre region (Valais), by relating disciplinary research results with the multifunctionality of the landscape under study.
- b. Assure the transdisciplinary integration of the research findings with the views and expectations of the stakeholders involved, through participatory approaches of land use and landscape planning.

**Profile:** Qualified expertise in inter- and transdisciplinary research is required. Disciplinary background is preferably human or social geography. Consolidated knowledge about qualitative and quantitative methods of social sciences in inter- and transdisciplinary research projects and basic knowledge in physical geography are important. Good skills in moderating communication between scientific and stakeholder communities are required too. Fluent knowledge in French (speaking) and if possible, German and English knowledge are needed

**Place of work:** Bern (and field work in Crans-Montana region)

**Infos:** PD Dr. Stephan Rist, Institute of Geography and the Centre for Development and Environment (CDE) of the University of Berne, Stephan.Rist@cde.unibe.ch.