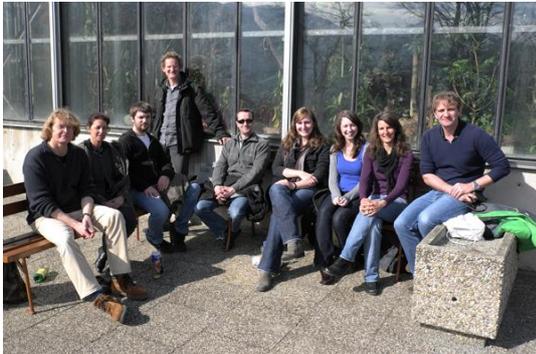


Prof. Ulrike TAPPEINER

Institut für Ökologie

1 Feb. – 15 March 2011

Kooperationspartnerin: Sandra LAVOREL



The objectives of the visit were to advance the collaborative projects between the Alpine Ecology Laboratory (LECA), Grenoble, and the Institute of Botany, regarding namely:

- The quantification of ecosystem processes depending on plant traits (projects BIOATCH and VITAL)
- The modelling of ecosystem services at landscape to regional scale (projects VITAL, and also AlpS at UIBK)
- The definition of land use scenarios and their implementation to project ecosystem services in the Stubai Valley and at the Lautaret site by 2030 (project VITAL)

Progress on these topics can be summarized as follows:

- A statistical model of water fluxes depending on weather, soil and vegetation parameters across three sites (Stubai, Lautaret, Furka Pass in CH) has been established and will be refined to account for indirect plant functional composition effects on water fluxes through its effects on biomass production.
- The procedures for data preparation, and the main hypotheses on the linkages between plant traits, microbial traits and diversity, and ecosystem processes associated with the nitrogen cycle, were established. In particular a workshop gathering 10 VITAL participants was run on the 3-4 March. Two collective papers are planned as an outcome of planned data analyses.
- The transfer between the two collaborating institutions (CNRS and UIBK) of landscape models of ecosystem services has been decided. CNRS will provide models for agricultural value (fodder production, fodder digestibility, phenology) and cultural value. UIBK will provide models for water availability during the growing season and soil erosion. CNRS and UIBK will produce models of soil fertility and soil organic matter jointly with other VITAL partners.

- A one-day workshop was run on the 2 March to decide on the strategy for scenario development and modelling. Common scenarios for socio-economic context will be used across the Stubai Valley and at the Lautaret site. These will be coupled to climate scenarios that will be site-specific (e.g. increasing drought at Lautaret). The scenarios will be translated into land use / management change through a participative approach to be developed at each site. At UIBK this work will involve the collaboration of Prof. Markus Schemer, Department of Sociology. Impacts on ecosystem service provision and multifunctionality will be projected using the common ecosystem services models.
- The scenario approach will be communicated to students and a wider public using a role playing game. Collaboration on this has been established with Suzanne Kapelari.
- The programme for the VITAL plenary meeting in Innsbruck 16-18 May 2011 was established.

These plans will result in the continuation of sustained exchange visits across the two institutions, including:

- Participation of 6 LECA members to the VITAL plenary meeting in May
- A visit by Dr Georg Leitinger to Lautaret in July in order to appraise ecosystem service models developed by LECA
- A visit by Pénélope Lamarque (PhD student) to UIBK in November to implement the water availability model for Lautaret
- A planned research stay by Dr Sandra Lavorel at UIBK in February 2012 for the writing of common papers from the VITAL project.